

SPECIES CONSERVATION & RECOVERY THROUGH ADEQUATE REGULATORY MECHANISMS

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INTRODUCTION

The world is experiencing its sixth episode of mass extinction of life. In rhetoric typically used by bloggers rather than scientists, the National Academy of Sciences reports that this “biological annihilation” is more dire than previously believed,¹ and that the decimation of biodiversity and of the ecosystem services resulting from it is nothing less than a “frightening assault on the foundations of human civilization.”²

Unlike previous episodes of mass extinction, this one is caused by human overpopulation, overconsumption, and anthropogenic climate change. The United States has been a world conservation leader for over a century, but its commitment to supporting biodiversity is flagging while its contributions to the causes of extinction, including responsibility for 14 percent of global greenhouse gas emissions,³ are growing. Although the United States is only one player in this crisis, its legal mandates for biodiversity protection, including those contained in the Endangered Species Act,⁴ have proved essential for combatting extinction when assessed in the context of both global leadership and on-the-ground impacts.

Due to its broad influence on the field of biodiversity law and its overarching goal to conserve threatened and endangered species, this article focuses on the Endangered Species Act (“ESA” or “Act”) and analyzes whether and when regulatory mechanisms are adequate for conservation and recovery purposes under the Act. Within the United States, identifying effective measures for the coordination of conservation efforts across federal, state, tribal, and local jurisdictional boundaries is critical for the preservation of species. To date, most of the attention on the efficacy of such measures has been focused on the pre-listing phase and the private-public candidate conservation agreements aimed at forestalling or preventing the listing of an imperiled species. Little attention has

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1. Gerardo Ceballos, Paul R. Ehrlich & Rodolfo Dirzo, *Biological Annihilation Via the Ongoing Sixth Mass Extinction Signaled by Vertebrate Population Losses and Declines*, 114 PROC. NAT'L ACAD. SCI. E6089, E6090 (2017).

2. *Id.*

3. Brad Plumer, *Carbon Dioxide Emissions Hit a Record in 2019, Even as Coal Fades*, N.Y. TIMES (Dec. 3, 2019), <https://perma.cc/A8QW-2477>.

4. 16 U.S.C. §§ 1531–1544 (2018).

been paid to the post-listing phase of species recovery and the critical question of whether the continued recovery of recently delisted species would be enhanced by keeping adequate regulatory mechanisms in place after the ESA's statutory protections have fallen away. Strengthening provisions for species recovery requires political connectivity and coordination. In particular, the population health of apex predators such as grizzly bears and wolves, as well as many fish and bird species, depends on cooperation between the several entities charged with conservation responsibility.

The degree of threat of extinction faced by a species dictates its listing category under the ESA.⁵ A species that is in danger of extinction throughout "all or a significant portion of its range" is listed as an "endangered" species.⁶ A "threatened" species is one that "is likely to become endangered in the foreseeable future throughout all or a significant portion of its range."⁷ Accordingly, ESA listing and delisting decisions often turn on the "inadequacy of existing regulatory mechanisms" beyond the ESA that have been adopted to protect species and their habitat within and across jurisdictional lines.⁸ At the pre-listing stage, such mechanisms are often included in candidate conservation agreements ("CCAs") between federal agencies, state and local governments, and private actors.⁹ Listing may be avoided if a CCA provides an effective tool for conserving the species. Similarly, delisting or downlisting may occur if adequate mechanisms are in place to manage a recovered species and to ensure that it does not wind up on the ESA list again or, worse yet, go extinct. Instead of CCAs, regulatory mechanisms at the delisting or downlisting stage are sometimes included in memoranda of understandings or other agreements, which tend to be more variable in nature than CCAs.¹⁰

The U.S. Fish & Wildlife Service ("FWS"), as the ESA listing agency, has a spotty litigation track record when it comes to assessing the adequacy of regulatory mechanisms and deploying them as a substitute for ESA protections.¹¹ On both ends of the listing and delisting spectrum, objective, measurable, and enforceable criteria, secured by sufficient funding and a clear implementation timeline, are key. Although there have been far fewer instances of delisting than there have been of listing a species, much of the relevant information about best

5. *Id.* § 1532(6).

6. *Id.*

7. *Id.* § 1532(20).

8. *Id.* § 1533(a)(1)(D).

9. See U.S. FISH & WILDLIFE SERV., CANDIDATE CONSERVATION AGREEMENTS 1 (2017), [hereinafter CCA FACTSHEET] <https://perma.cc/PQQ6-NLQV>.

10. See *infra* Part IV (Adequate and Inadequate Regulatory Mechanisms in the Delisting Context).

11. The ESA delegates authority for terrestrial species to FWS, and to the National Oceanic and Atmospheric Administration ("NOAA") Fisheries for marine and anadromous species, sometimes collectively referred to as "the Services." 16 U.S.C. § 1532(15) (2018).

practices for species conservation and recovery comes from delisting decisions because delisting is, or should be, the culmination of recovery under the ESA.¹²

We begin by examining the use of regulatory mechanisms in the listing process to identify circumstances where the adoption of such measures in CCAs are adequate for a decision not to list a species, or to list it as threatened rather than endangered. We then turn to delisting decisions and assess the various tools that have been used to justify removing ESA protections for a species.

We examine four controversial, high-stakes listing decisions: the Barton Springs salamander, coastal steelhead, Arctic grayling, and greater sage-grouse. We then turn to two delisting decisions—the Greater Yellowstone Ecosystem (“GYE”) grizzly bear and the Great Lakes gray wolf—and assess the judicial treatment of regulatory measures chosen to support these decisions. One theme emerges: the potential for relisting under the ESA is not, by itself, an adequate regulatory mechanism for species recovery and conservation. Reinitiating the listing process takes too long due to political controversy and the FWS’s limited budget and other priorities. Meanwhile, the species that was supposedly recovered may have lost the ground that was gained prior to delisting and may even be closer to the brink of extinction, contrary to the overarching conservation goal of the ESA.¹³

In Part I of this Article, we discuss the conservation goals of the ESA and the statutory requirements for listing and delisting species, highlighting the origins and requirements of CCAs, which have become a key tool for keeping species off the endangered species list. Part II considers the nature of recovery, recovery plans, and the adequacy of regulatory mechanisms in the delisting context. Part III assesses the judicial reception to the use of CCAs in listing decisions, while Part IV looks at litigation over adequate regulatory mechanisms in the delisting context. In Part V, we analyze the potential for employing something akin to a CCA in the delisting context, so that the FWS can retain meaningful control and responsibility for species conservation even after delisting and important players, including other federal agencies, states, tribes, and private landowners, can maintain mechanisms that are truly adequate for species conservation and readily enforceable by agencies and interested members of the public. We consider the merits of recovery plans and CCAs, and we ultimately recommend the creation of a new tool for species conservation and recovery, the Recovery Conservation Agreement, and flesh out a few essential components of such an agreement. Finally, the article draws lessons from listing

12. Dale D. Goble, *The Endangered Species Act: What We Talk About When We Talk About Recovery*, 49 NAT. RESOURCES J. 1, 1 (2009) [hereinafter Goble, *Talk*]

13. Noah Greenwald et al., *Extinction and the U.S. Endangered Species Act*, 7 PEERJ e6803, at 5 (2019), <https://perma.cc/SJU2-TPXC> (finding that 47 species went extinct while waiting to be listed); see also *Greater Yellowstone Coal. v. Servheen*, 665 F.3d 1015, 1029 (9th Cir. 2011) (“We reject out of hand any suggestion that the future possibility of relisting a species can operate as a reasonable justification for delisting.”).

and delisting controversies in an effort to illuminate pathways for political, legal, and biological coordination and connectivity, which in turn supports conservation and recovery of imperiled species and biodiversity.

I. MEETING THE ESA'S CONSERVATION GOALS THROUGH LISTING, DELISTING, AND RECOVERY

As the nation's premier federal wildlife conservation statute, the ESA "is a powerful, focused statute that can bring species back from the brink of extinction."¹⁴ Once a species comes within the ambit of the ESA through a listing decision, the law provides a comprehensive panoply of protections to that species to promote its recovery. Simply put, no other federal or state law provides similarly focused and comprehensive protections against common threats facing imperiled species.¹⁵ Other measures, including statutes, regulations, conservation easements, and land use provisions, incidentally protect wildlife habitat while advancing other explicit objectives, such as maintaining water quality, but do not ensure ongoing, species-specific management like the ESA.¹⁶ The ESA provides protection to listed species that is "all but irreplaceable," as no other federal or state laws are capable of providing the same level of protection for these species.¹⁷ But these protective measures are not intended to last forever; rather, they are a means to an end. The ESA envisions a point at which a recovered species no longer needs statutory protection and can be delisted.

Delisting a recovered species counts as a success story for the species and, in many cases, for the ecosystem it occupies. It also provides assurances of an "end point" to what some perceive as heavy-handed federal control and frees up federal resources for other species in need. However, while the delisting of a species is fairly characterized as the ultimate "win" under the ESA—a formerly threatened or endangered species has recovered to the point that it no longer requires the ESA's protective umbrella—it also reveals the binary nature of species protection in the United States, where the uniqueness of the ESA and its domination of the field of species protection can turn from an advantage to a disadvantage. A delisted species suddenly moves from nurture to nature, left mostly to its own devices as it continues its often still tenuous path to long-term viability. This abrupt shift, along with the lack of transitional legal and regulatory protective mechanisms, can present a significant challenge to delisted species. In some cases, it can lead to a relisting of a species that fails to thrive without the protections of the ESA.

14. Goble, *supra* note 12, at 16–17.

15. *Id.*

16. *Id.* at 17.

17. Dale D. Goble, *Recovery*, in AM. BAR ASS'N SECTION OF ENV'T, ENERGY, & RES, EN-DANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES 70, 75 (Donald C. Baur & Wm. Robert Irvin eds., 2d ed. 2010) [hereinafter Goble, *Recovery*]

The time has come to reconsider the on/off dichotomy of species conservation under the ESA. By utilizing protective mechanisms, such as CCAs, that have proven effective in some cases in avoiding the necessity of listing a species to provide transitional protections in the post-delisting phase, the chances of a successful recovery for a delisted species can be improved.

A. Conservation and Recovery

The ESA strives to conserve threatened and endangered species and the “ecosystems upon which endangered species and threatened species depend.”¹⁸ The statute defines conservation as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.”¹⁹ Digging deeper into the statutory definitions shows how conservation, for purposes of the ESA, turns in part on extinction prevention and, ultimately, species recovery.²⁰

For a species to be “endangered” means it is “in danger of extinction,” while a “threatened” species is “likely to become . . . endangered . . . within the foreseeable future.”²¹ Thus, in its listing decisions, the FWS must consider both the probability of extinction and the time period within which extinction may occur.²² The ESA requires the FWS to employ science, rather than politics or economics, in making these decisions,²³ but even when utilizing the best available data about the health of a species, the likelihood of its extinction in any given temporal horizon is inherently uncertain.²⁴

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18. 16 U.S.C. § 1531(b) (2018); *see also* Samuel J. Panarella, *For the Birds: Wind Energy, Dead Eagles, and Unwelcome Surprises*, 20 HASTINGS W.-N.W. J. ENVTL. L. & POL'Y 3, 38 n.135 (2014) (“[T]he Act’s failure to define the term ‘ecosystems’ and its lack of any ecosystem protection requirements has resulted in the ESA’s primary use being the preservation of individual species.”).
 19. 16 U.S.C. § 1532(3).
 20. *See* *Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434, 441 (5th Cir. 2001) (“‘Conservation’ is a much broader concept than mere survival,” it also “speaks to the recovery” of listed species.); *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004) (indicating that “conservation” includes both survival and recovery).
 21. 16 U.S.C. § 1532(6), (20); *see also* 50 C.F.R. § 424.11(d) (2019) (providing that, for a “threatened” determination, 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”).
 22. *See* 16 U.S.C. § 1532(6), (20); 50 C.F.R. § 424.11(d). The ESA delegates authority to the Secretaries of the Interior and Commerce, acting through the FWS and, for marine species, the National Marine Fisheries Service (“NMFS”). 16 U.S.C. §§ 1532(15), 1533(a)(1). For ease of reference, we use FWS throughout this article.
 23. 16 U.S.C. § 1533(b)(1)(A).
 24. *See* Goble, *Talk, supra* note 12, at 7; *see also id.* at 11 (“Extinction is a complex, poorly understood *probabilistic* process. Thus, the science of extinction would be indeterminate even

The science of conservation biology can provide mortality rates, reproduction rates, and other quantifiable measurements of a population, and it can shed light on genetic robustness and essential habitat structure and processes, but other key variables are extremely difficult—if not impossible—to predict. These include natural fluctuations in the physical environment, such as temperature, precipitation, invasive species (especially competitors and parasites), diseases, and catastrophes that occur at random intervals, such as hurricanes, floods, wildfires, and earthquakes.²⁵ Questions of scientific certainty aside, how much risk society is willing to tolerate of extinction for particular species is even more uncertain, and science cannot answer that question.²⁶ Risk tolerance is a question of ethics, policy, and law, not science.²⁷ It also depends on factors based in human emotion, such as the affection for and appeal of a particular species, that data-driven science cannot capture. For example, there appears to be a much greater generalized sense of societal concern about the possible extinction of a charismatic (and in this case, totemic) species such as the bald eagle than there is for lesser known species of insects, such as the American burying beetle, which few people outside of a small group of entomologists know exist.²⁸

The ESA sets tight deadlines for listing decisions,²⁹ yet it takes more than twelve years, on average, to provide a species with statutory protection.³⁰ Broad policy shifts between political administrations and the amount of funding allocated to listing processes have played a role in the slow pace of listing in the

if we had complete knowledge of all the factors that affect the process—and our knowledge is far from complete.”).

25. See *id.* at 9 (quoting Mark L. Shaffer, *Minimum Population Sizes for Species Conservation*, 31 *BIOSCIENCE* 131, 132 (1981)).
26. See *id.* at 12 (“Although science can inform this judgment (by shedding light on the risk), it cannot—given the gap between the descriptive and the prescriptive—make the actual acceptability decision.”).
27. Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act’s Best Available Science Mandate*, 34 *ENVTL. L.* 397, 420 (2004).
28. See James Ming Chen, *The Fragile Menagerie: Biodiversity Loss, Climate Change, and the Law*, 93 *IND. L.J.* 303, 343 (2018) (noting “the longstanding legal preference for large, charismatic fauna over all other forms of biodiversity”); Jason C. Rylander, *Recovering Endangered Species in Difficult Times: Can the ESA Go Beyond Mere Salvage?*, 42 *ENVTL. L. REP.* 10,017, 10,022 (2012) (“A disproportionate amount of funding has gone to popular vertebrate species at the expense of many others.”).
29. See 16 U.S.C. § 1533(b)(3) (2018).
30. Emily E. Puckett, Dylan C. Kesler & Noah Greenwald, *Taxa, Petitioning Agency, and Lawsuits Affect Time Spent Awaiting Listing Under the US Endangered Species Act*, 201 *BIOLOGICAL CONSERVATION* 220, 225 (2016).

past forty years.³¹ Prolonged delays in listing may perpetuate population declines and obstruct species recovery efforts.³²

Once a species is listed, the ESA's recovery goal comes into focus. Although "recovery" is not defined in the ESA, it could be read to mean that a recovered species is one that is no longer at risk of near-term or foreseeable extinction, and by implication is no longer in need of the ESA's protection.³³ FWS policy defines the term "recovery" as "the process by which the decline of an endangered or threatened species is arrested or reversed, and threats to its survival neutralized, so that its long-term survival in nature can be ensured."³⁴ The objective, according to the FWS, is the "maintenance of secure, self-sustaining wild populations of species."³⁵ There are two fundamental components to species recovery: (1) biological recovery, where the population and distribution of the species has improved to the point at which it no longer faces an unacceptable risk of extinction, and (2) ongoing regulatory measures that manage any remaining threats "so that the species will not fall back below the viability threshold that led to its delisting."³⁶

If recovery is achieved, delisting will follow.³⁷ However, recovery is not the only reason for delisting. As of February 2020, the FWS has delisted 90 species (just over 1% of listed species) since the passage of the ESA, but only 59 of those delisted were due to recovery.³⁸ Others were taken off the list because

31. *Id.* at 226–27; Rylander, *supra* note 28, at 10,021–22. Also, the track record for plants and invertebrates is slower than for vertebrates, *id.*, especially "charismatic megafauna."
32. See Greenwald et al., *supra* note 13, at 5 (finding that "[p]rotection under the ESA came too late for the 71 species last seen prior to listing," and that 42 species went extinct while under consideration for listing).
33. See Goble, *Talk*, *supra* note 12, at 2 (citing 16 U.S.C. § 1532(3)).
34. U.S. FISH & WILDLIFE SERV., POLICY AND GUIDELINES FOR PLANNING AND COORDINATING RECOVERY OF ENDANGERED AND THREATENED SPECIES 1 (1990), <https://perma.cc/EEM5-JSX3> [hereinafter RECOVERY POLICY]. This definition remains in place today. See, e.g., *Glossary*, U.S. FISH & WILDLIFE SERV.: MIDWEST REGION ENDANGERED SPECIES, <https://perma.cc/HJ64-2PUG> (retaining a near-identical definition of recovery).
35. RECOVERY POLICY, *supra* note 34, at 1.
36. See Goble, *Recovery*, *supra* note 17, at 74–75, 85.
37. 16 U.S.C. § 1533(f)(1)(B)(ii). New regulations were issued on Aug. 27, 2019, that, among other things, revise the language of 50 C.F.R. § 424.11(d) to eliminate species recovery as a key basis for delisting. See generally Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020 (Aug. 27, 2019) (to be codified at 50 C.F.R. pt. 424). FWS claims that it removed the word "recovery" from § 424.11(d) "because the existing regulatory language, which was intended to provide examples of when a species should be removed from the lists, has been, in some instances, misinterpreted as establishing criteria for delisting." *Id.* at 45,035. It states that "the language will continue to include species that have recovered, because recovered species would no longer meet the definition of either an 'endangered species' or a 'threatened species.'" *Id.* According to FWS, "[t]his provision does not undermine the importance or effectiveness of recovery plans." *Id.*
38. *Delisted Species*, U.S. FISH & WILDLIFE SERV.: ECOSYSTEM CONSERVATION ONLINE SYSTEM (Feb. 23, 2020) [hereinafter *Delisted Species*], <https://perma.cc/LM72-M2GB>; Kevin

they went extinct, the FWS determined that the listed species is in fact not a distinct taxonomic species, or new information demonstrated that the species was in fact not threatened or endangered in the first place.³⁹

B. Listing and Delisting Factors

Section 4 of the ESA requires the FWS to analyze five factors in determining whether to list or delist a species:

- (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.⁴⁰

A finding that any one of these factors is met may support a listing decision.⁴¹ A delisting decision requires consideration of the same five factors, but a recovery-based delisting decision will only be upheld if none of these factors presents an ongoing threat to the species.⁴²

By listing relevant factors without providing any hierarchy or structure for their application, Congress has left broad discretion to the FWS to decide “how much weight to give each factor.”⁴³ The FWS’s discretion is limited somewhat, however, by the statutory requirement that listing and delisting decisions must be made “solely on the basis of the best scientific and commercial data available . . . taking into account those efforts, if any, being made by any State . . . to protect such species whether by predator control, protection of habitat and food supply, or other conservation practices.”⁴⁴ The requirement to take state species

Anderton, *After 45 Years The Endangered Species Act Continues To Make Progress*, FORBES (Apr. 23, 2018), <https://perma.cc/6SE8-B4RF>.

39. *Delisted Species*, *supra* note 38; *see, e.g.*, Removal of the Hualapai Mexican Vole from the Federal List of Endangered and Threatened Wildlife, 82 Fed. Reg. 28,582, 28,586 (June 23, 2017) (codified at 50 C.F.R. pt. 17) (concluding that delisting was warranted because the listed subspecies was “not a valid taxonomic entity”).

40. 16 U.S.C. § 1533(a)(1).

41. 50 C.F.R. § 424.11(c) (2019).

42. *See id.* § 424.11(e); *see also* Greenwald et al., *supra* note 13 (discussing FWS’s removal of the word “recovery” from its revised regulations).

43. *Wildwest Inst. v. Kurth*, 855 F.3d 995, 1007 (9th Cir. 2017) (“We conclude that nothing in the ESA, its legislative history, or FWS’s own guidelines requires FWS to make its listing decisions based solely on the [Listing Priority Number] assigned under the guidelines or on the degree of threat a species faces.”).

44. 16 U.S.C. § 1533(b)(1)(A).

conservation efforts into account applies to a decision by the FWS to list or reclassify a species.⁴⁵ Despite other priorities or influences, listing and delisting decisions must be driven by science, not by economics⁴⁶ or politics.⁴⁷

In addition to the requirement that the FWS consider in its listing decisions efforts being made by states to protect imperiled species,⁴⁸ the ESA also encourages “States and other interested parties . . . to develop and maintain conservation programs” to safeguard fish and wildlife.⁴⁹ One central purpose of the Act is to foster federal-state cooperation in the conservation of threatened or endangered species.⁵⁰ Requiring the FWS to take state and local regulatory mechanisms to protect species into account in its listing, reclassification, and delisting decisions is one means of fostering cooperation. By focusing on existing regulatory mechanisms, Factor D brings this requirement to the forefront. The remainder of this section will define regulatory mechanisms and describe how they are (or can be) developed and implemented through private-public agreements in the listing and delisting processes.

1. Regulatory Mechanisms

Four of the five Section 4 factors were present in the 1969 version of the ESA⁵¹ and were carried over to the modern ESA, enacted in 1973.⁵² Factor D—the inadequacy of existing regulatory mechanisms—was added in 1973.⁵³ Although the legislative history is silent regarding the addition of Factor D, it

45. 50 C.F.R. § 424.11(c), (e), (f).

46. See *Ariz. Cattle Growers' Ass'n v. Salazar*, 606 F.3d 1160, 1172 (9th Cir. 2010); H.R. REP. NO. 97-567, at 20 (1982) (emphasizing the intent to remove economic considerations from “any phase of the listing process”).

47. See Madeline June Kass, *Strategic Dodging of ESA Listing Determinations*, 29 NAT. RESOURCES & ENV'T 54, 55 (2015) (“Congressional listing exceptions, motivated by political exigencies and special interests, aim to circumvent the ESA’s science-based approach to listing.”); Holly Doremus, *Adaptive Management, the Endangered Species Act, and the Institutional Challenges of “New Age” Environmental Protection*, 41 WASHBURN L.J. 50, 87 (2001) (“If flexibility comes without accountability, the agencies, subjected to intense political pressure, will use it to duck controversy rather than to incorporate the best new science into their decisions.”); see also *Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 25 n.4, 26 (D.D.C. 1996) (overturning decision not to list the Archipelago wolf in part because the factors listed by FWS as weighing against listing included minimizing conflict with Alaska’s congressional delegation).

48. See 16 U.S.C. § 1533 (b)(1)(A).

49. *Id.* § 1531(a)(5).

50. *Humane Soc’y of U.S. v. Zinke*, 865 F.3d 585, 598 (D.C. Cir. 2017).

51. Endangered Species Act of 1969, Pub. L. No. 91-135, § 3, 83 Stat. 275, 275 (1969).

52. Kevin Cassidy, *Endangered Species’ Slippery Slope Back to the States: Existing Regulatory Mechanisms and Ongoing Conservation Efforts Under the Endangered Species Act*, 32 ENVTL. L. 175, 196 (2002).

53. See *id.*

appears that “the perception that [existing] state and local regulations to protect wildlife were inadequate was a major impetus.”⁵⁴ In all likelihood, Congress added Factor D “to prod states and localities into adopting more adequate laws to protect imperiled species and their habitat.”⁵⁵

The plain language of Factor D suggests that, to be given weight in the listing or delisting decision, the protective mechanism must be *existing*, not prospective, and it also must be *regulatory*, not voluntary or otherwise non-binding.⁵⁶ The FWS has interpreted both of these requirements relatively liberally, however, with mixed results in court.⁵⁷ Key cases addressing this are discussed below in Parts III and IV. On the listing side of the ledger, state and local regulatory mechanisms protecting imperiled species are often included in candidate conservation agreements, discussed in the next section.

2. Candidate Conservation Agreements as Regulatory Mechanisms

Another mechanism for fostering cooperation among various regulatory bodies is through the use of candidate conservation agreements (“CCAs”). CCAs are agreements between the FWS and private or non-federal public parties designed to encourage implementation of protective measures for species that are candidates for listing.⁵⁸ In some circumstances, the creation and implementation of a CCA may obviate the need to list the species.⁵⁹

54. *Id.* (citing 93 CONG. REC. 25,679 (1973) (statement of Sen. Tunney (D-CA) (“Some argue that the States should have their chance [to protect endangered species]. I argue that the States have had their chance.”))).

55. *Id.*

56. See 16 U.S.C. § 1533(a)(1)(D) (2018) (emphasis added).

57. Courts have rejected reliance on future measures to avoid listing. See *In re Polar Bear Endangered Species Act Listing & 4(d) Rule Litig.*, 794 F. Supp. 2d 65, 113 n.56 (D.D.C. 2011), *aff'd*, 709 F.3d 1 (D.C. Cir. 2013) (“[T]he ESA does not permit FWS to consider speculative future conservation actions”); *Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 26 (D.D.C. 1996) (“[T]he Secretary . . . cannot use promises of future actions”); *Or. Nat. Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1154 (D. Or. 1998) (“NMFS may only consider conservation efforts that are currently operational”); *Friends of Wild Swan, Inc. v. U.S. Fish & Wildlife Serv.*, 945 F. Supp. 1388, 1398 (D. Or. 1996) (“[FWS] cannot rely upon its own speculations as to the future effects of another agency’s management plans”); *Sw. Ctr. for Biological Diversity v. Babbitt*, 939 F. Supp. 49, 52 (D.D.C. 1996) (“promises of proposed future actions [are not] an excuse” for not listing). Courts also rejected reliance on voluntary measures. See *Or. Nat. Res. Council*, 6 F. Supp. 2d at 1155 (voluntary actions are “necessarily speculative” and cannot be relied on to preclude listing); *cf. Defs. of Wildlife v. Zinke*, 849 F.3d 1077, 1082 (D.C. Cir. 2017) (non-binding measures in Wyoming’s wolf management plan were sufficient for delisting where the state was required to meet the explicit requirement of maintaining at least 10 breeding pairs and 100 wolves on state land).

58. See CCA FACTSHEET, *supra* note 9; see, e.g., *Defs. of Wildlife & Ctr. for Biological Diversity v. Jewell*, 815 F.3d 1, 5 (D.C. Cir. 2016).

59. See CCA FACTSHEET, *supra* note 9.

The institutional history of CCAs began in the early 1980s, when the FWS implemented a policy for voluntary agreements, called Conservation Agreements (“CAs”), as an alternative to listing.⁶⁰ These agreements allowed the FWS to provide technical assistance to private landowners and state agencies to address the threats posed to “candidate” species on the verge of listing.⁶¹ Oriented towards the possibility of future resource use restrictions, CAs allowed landowners and states to give input and share insight into future restrictions governing the management of the candidate species.⁶²

The FWS entered into CAs as long as the agreements “removed all known threats [to the candidate species] that would otherwise warrant listing.”⁶³ As initially envisioned, CAs were not meant to substitute for the protections offered by the ESA. If the threats to the continued viability of a species were such that listing was justified, a CA was not intended to provide an alternative to listing. Rather, CAs were intended to provide prophylactic protections for a species that had reached the point of being a candidate for listing that might forestall or, in some rare cases, avoid the necessity of listing.⁶⁴ According to FWS’s 1983 policy:

The Service should never approach CAs as compromises foreclosing the possibility of listing. The CA approach may not be a permanent alternative to listing the species: in some cases it will only be an interim measure postponing listing for tractable species helped by others for some time period. It could be a permanent solution for those few species which are recovered.⁶⁵

In 1985, the FWS discontinued its use of CAs.⁶⁶ But the FWS resumed the use of CAs in 1992, with instructions to continue utilizing the 1983 Policy

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60. Conservation Agreements for Candidate Species, Final Policy and Guidelines, at 2, *attached to Memorandum from John L. Spinks, Jr., Regional FWS Director, to Associate Director Regarding Conservation Agreement Policy* (Jan. 3, 1983) [hereinafter “1983 Policy”]; *see also* U.S. GEN. ACCOUNTING OFFICE, GAO/RCED-93-152, ENDANGERED SPECIES: FACTORS ASSOCIATED WITH DELAYED LISTING DECISIONS (1993) [hereinafter ENDANGERED SPECIES FACTORS].
 61. *See* Announcement of Draft Policy for Candidate Conservation Agreements, 62 Fed. Reg. 32,183, 32,184–85 (June 12, 1997) [hereinafter 1997 CCA Draft Policy].
 62. *See id.* at 32,185.
 63. ENDANGERED SPECIES FACTORS, *supra* note 60, at 9.
 64. Francesca Ortiz, *Candidate Conservation Agreements as a Devolutionary Response to Extinction*, 33 GA. L. REV. 413, 467–68 (1999).
 65. 1983 Policy, *supra* note 60, at 2–3. The policy subsequently evolved away from this position. *See* 1997 CCA Draft Policy, *supra* note 61, at 32,185 (“The ultimate goal of Candidate Conservation Agreements developed under this policy is to encourage, to the extent feasible and controllable by a participating property owner or State or local land management agency, the removal of threats to the covered species so as to nullify the need to list them as threatened or endangered under the Act.”).
 66. Ortiz, *supra* note 64, at 466–67; ENDANGERED SPECIES FACTORS, *supra* note 60, at 10.

until a new policy could be developed.⁶⁷ The 1992 initiative identified CAs as “an appropriate mechanism to use to maximize the protection of a candidate endangered or threatened species when [the agreement] effectively removes known threats.”⁶⁸ Its main thrust was to encourage states to protect species within their borders and provide them with incentives to adopt measures that would keep species off the ESA list.⁶⁹

In 1994, the Clinton Administration sought an approach that would conserve species while encouraging economic development and participation by private landowners.⁷⁰ One piece of this approach was a new policy for CAs, now renamed CCAs. Formalized in 1997, this policy encouraged landowners to enter into voluntary agreements that include conservation measures to reduce the probability of listing a candidate species.⁷¹ Under a CCA, a landowner or a state or local agency promises to engage in efforts designed to conserve a candidate species. Such efforts might include commitments to avoid harmful land uses, to restore habitat, to monitor the species’ status, and to undertake other efforts to minimize deleterious impacts on the candidate species.⁷² The explicit goal was to “nullify the need to list” the species.⁷³ To this end, each CCA was required to include: (1) a description of the habitat requirements necessary to sustain the population of candidate species; (2) the management activities each landowner or state land management agency is willing to undertake to protect the species; (3) an assessment of the resulting benefits to the species; (4) assurances from the FWS that it will not require stricter management measures than those originally agreed to; (5) monitoring to determine the efficacy of the management activities; and (6) notification to the FWS when an authorized taking of the species will occur.⁷⁴

To satisfy the 1997 CCA policy, the FWS had to reasonably expect that these actions would remove the threat to the species.⁷⁵ If a species subject to a

67. Ortiz, *supra* note 64, at 466.

68. ENDANGERED SPECIES FACTORS, *supra* note 60, at 9.

69. See Martha E. Phelps, *Candidate Conservation Agreements and the Endangered Species Act: Prospects and Perils of an Administrative Experiment*, 25 B.C. ENVTL. AFF. L. REV. 175, 176 (1997).

70. See Ortiz, *supra* note 64, at 464 (“Because many endangered and threatened species are located on private lands, participation by the private sector was critical to the efficacy of any management initiative.”). Also in 1994, the Services entered into a memorandum of understanding with the Forest Service, the Bureau of Land Management, and the National Park Service “to establish a general framework for cooperation and participation . . . in the conservation of species that are tending toward federal listing” and to provide for the use of conservation agreements for imperiled species on federal public lands. *Id.*

71. See 1997 CCA Draft Policy, *supra* note 61, at 32,185.

72. See *id.*; Ortiz, *supra* note 64, at 465.

73. 1997 CCA Draft Policy, *supra* note 61, at 32,185.

74. *Id.* at 32,186–87.

75. *Id.* at 32,185.

CCA was eventually listed under the ESA, the FWS would ensure that no additional “management actions” would be required of participating private landowners and agencies beyond those adopted in the CCA.⁷⁶ Also, in the event of listing, the 1997 CCA policy gave “assurances” to the participating parties that, upon a proper application and showing, they would receive an incidental take permit to allow them to continue permissible activities under the CCA that might otherwise violate the ESA’s section 9 take prohibitions.⁷⁷ This use of assurances to entice non-federal parties to participate in CCAs was the precursor to the modern candidate conservation agreements with assurances (“CCAA”), adopted in 1999.⁷⁸

The 1999 CCAA Policy explicitly provides assurances to non-federal participants that no additional conservation measures will be required of them if the species subject to the CCAA is listed in the future.⁷⁹ According to the FWS:

[P]roperty owners are reluctant to implement conservation measures for declining species because of possible future land, water, or resource use restrictions that may result from the Act’s section 9 “take” prohibitions if their conservation efforts cause a species to colonize their lands or increase in numbers and the species is subsequently listed as threatened or endangered. This policy is designed to provide these property owners with the necessary assurances to remove these concerns and encourage them to implement conservation measures for these species.⁸⁰

Unlike the 1997 CCA policy, the 1999 CCAA policy offered specific guarantees to non-federal landowners that they would not be prosecuted for continuing activities allowed in the CCAA in the event of a future listing.⁸¹ In

76. *Id.* at 32,186–87.

77. *Id.*

78. *Id.*

79. Final Policy for Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32,726, 32,727 (June 17, 1999). Federal agencies may enter into a CCA to conserve candidates or other unlisted species, but without the assurances. *See* U.S. FISH & WILDLIFE SERV., DRAFT CANDIDATE CONSERVATION AGREEMENTS WITH ASSURANCES HANDBOOK 8 (2003) (citing federal conservation and consultation obligations under sections 2(c)(1) and 7(a)(1) of the ESA). Federal agencies must instead comply with Section 7 requirements for jeopardy-avoiding measures and incidental take statements. 16 U.S.C. § 1536(b)(4) (2018).

80. 64 Fed. Reg. at 32,727.

81. *See id.* (“This policy is intended to facilitate the conservation of proposed and candidate species, and species likely to become candidates in the near future by giving citizens, States, local governments, Tribes, businesses, organizations, and other non-Federal property owners incentives to implement conservation measures for declining species by providing certainty with regard to land, water, or resource use restrictions that might be imposed should the species later become listed as threatened or endangered under the Act.”).

the event of listing, landowners with a CCAA would be granted an incidental take permit or an enhancement of survival permit to continue engaging in the activities covered by the CCAA.⁸²

The CCAA must identify reasonably anticipated changed circumstances that could undermine the plan's provisions, such as modifications to covered activities or drought, along with corresponding contingency responses.⁸³ However, if unforeseen circumstances arise during the term of the CCAA, the permittee is shielded from the imposition of additional restrictions. The permittee may voluntarily adopt responsive measures beyond those specified in the CCAA or other partners, including federal and state agencies, may address the issues caused by the unforeseen circumstance.⁸⁴

To evaluate the efficacy of CCAAs and other conservation measures, the FWS adopted the Policy for Evaluation of Conservation Efforts ("PECE") in 2003.⁸⁵ PECE identified criteria to be used "in determining whether formalized conservation efforts that have yet to be implemented or to show effectiveness contribute to making listing a species as threatened or endangered unnecessary."⁸⁶ PECE established a two-part test for evaluating CCAs and CCAAs. First, the FWS evaluates the certainty that the conservation efforts will be implemented, given available resources, authority, and applicable mechanisms for implementation.⁸⁷ Second, the FWS evaluates the certainty that the efforts will be effective at reducing threats to the species.⁸⁸ PECE added that, in determining the effectiveness of the conservation efforts of other entities, the FWS should "consider both current actions that affect a species' status and suffi-

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82. 50 C.F.R. § 17.32(d)(1) (2019). In effect, the CCAA serves as the requisite habitat conservation plan under Section 10 for actions that would otherwise "take" the species. 16 U.S.C. § 1539(a)(1)(A).
83. Amelia Orton-Palmer, *Candidate Conservation Agreements and Candidate Conservation Agreements with Assurances Under the ESA*, 2 MIN. L. SERIES: ROCKY MOUNTAIN MIN. L. FOUND. 1, 9–11 (2012).
84. *Id.* at 9–13.
85. Policy for Evaluation of Conservation Efforts When Making Listing Decisions, 68 Fed. Reg. 15,100 (Mar. 28, 2003) [hereinafter PECE].
86. *Id.*
87. *Id.* at 15,101. In evaluating the certainty that conservation efforts will be implemented, the Services consider the high level of certainty that the resources necessary to carry out the conservation efforts are available; the authority of the parties to the conservation efforts to carry them out; the regulatory or procedural mechanisms in place to carry out the efforts; the schedule for completing and evaluating the efforts; and if the conservation efforts rely on voluntary participation, whether the incentives provided will ensure the requisite level of participation. *Id.*
88. *Id.* In evaluating the certainty of whether the conservation efforts will be effective, the Services consider the nature and extent of the threats to be addressed and how those threats are reduced by the conservation effort; the specific conservation objectives; the appropriate steps to reduce threats to the species; and "quantifiable performance measures to monitor for both compliance and effectiveness." *Id.*

ciently certain future actions—either positive or negative—that affect a species’ status.”⁸⁹

Although the ESA does not specifically authorize the FWS to enter into CCAAs, the use of such agreements to conserve listed species finds support in several sections of the statute.⁹⁰ Under Section 7(a), in particular, all federal agencies “shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this chapter.”⁹¹ Other relevant sections of the ESA give the FWS authority to cooperate with states for conservation of species,⁹² arguably including both listed and unlisted species.⁹³

A common-sense interpretation of the Act also argues for the use of conservation agreements to ameliorate and, in some circumstances even reverse, a species’ downward slide. The ultimate goal of the ESA is to conserve species that might disappear without its protections. More often than not, humans are the principal actors responsible for the conditions that threaten a species’ continued existence, either directly, through, for example, overharvesting, or indirectly, through, for example, anthropogenic climate change. Human-caused threats to species do not begin when a species is listed under the ESA. Rather, a species is listed as threatened or endangered *as a result* of pre-listing impacts on its viability from humans. Given this, it makes sense to allow for the use of pre-listing conservation agreements with the participants best able to take action to reduce these impacts before listing becomes necessary. Waiting to adopt conservation measures until after a species is listed is likely to require more expensive efforts to address the degraded condition of the species’ habitat and to limit recovery options.⁹⁴

In the decades since their creation, the use of conservation agreements as a regulatory tool to forestall or prevent the listing of an imperiled species has become a widely accepted practice in the ESA’s pre-listing process. While there is general agreement that the FWS has the authority to use conservation agreements to facilitate cooperation between private and public actors, litigants and courts have disagreed over the requisite content of CCAs and CCAAs, as well as the weight that these agreements should be given in the listing and recovery context.⁹⁵ These controversies are addressed below.⁹⁶

89. *Id.* at 15,114.

90. *See* Ortiz, *supra* note 64, at 488 (citing Sections 2, 5, 6, 7, and 10 of the ESA).

91. 16 U.S.C. § 1531(c)(1) (2018).

92. *Id.* § 1531(a)(5).

93. *Id.* § 1534(a).

94. Orton-Palmer, *supra* note 83, at 9–13. Equally troubling, “[i]n some cases, property owners might even choose to eliminate or reduce the species’ habitat before listing occurs to avoid liability in the future.” *Id.*

95. Michael Margherita, *Candidate Conservation Agreements and ESA Listing Decisions: Underlying Incentives That Drive Stakeholder Behavior*, 18 VT. J. ENVTL. L. 570, 579 (2017).

II. RECOVERY PLANS, DELISTING FACTORS, AND ADEQUATE REGULATORY MECHANISMS

This Part of the Article considers the nature and requirements of recovery plans in relation to the ESA's conservation goal. It also addresses delisting factors, especially Factor D—adequate existing regulatory mechanisms—and sets the stage for a more in-depth analysis of listing and delisting cases in subsequent parts. The overarching species conservation goal of the ESA, which by any common-sense definition must include within it an objective to maximize the chances that a recently recovered species will not again require listing under the Act, is poorly served by existing regulatory approaches. Specifically, as detailed in this section, the recovery plans and post-listing monitoring utilized to usher a listed species to and through the recovery process too often leave a recently delisted species inadequately protected and at risk of once again requiring listing under the ESA. This analysis of recovery plans, delisting factors, and adequate regulatory mechanisms leads to the primary question of this article. Namely, is there an intermediate step the FWS could take upon delisting to ensure that adequate mechanisms remain in place for species protection and to require states and other key players to enforce their regulations while the federal agencies retain some control over the process? In particular, could something equivalent to CCAs, utilized to avoid listing a species in the first instance, be deployed to strengthen the delisting process and bring it more closely into alignment with the ESA's overall conservation objective? We return to this question in Part V of this article.

Recovery plans have a complex relationship to the delisting criteria and, in particular, adequate regulatory mechanisms.⁹⁷ Although not originally included in the ESA, the requirement for recovery plans was codified in 1978.⁹⁸ Recovery plans are “a basic road map to recovery, *i.e.*, the process that stops or reverses the decline of a species and neutralizes threats to its existence.”⁹⁹

To the “maximum extent practicable,” recovery plans must include three elements: (1) a description of site-specific management actions that may be necessary to recover the species; (2) objective and measurable criteria which, when met, would result in a determination that the species be removed from the list; and (3) estimates of the time and cost required to carry out those measures needed to recover the species and to achieve intermediate steps towards that goal.¹⁰⁰ The first and third elements involve a great deal of discretion,¹⁰¹ but

96. See *infra* Part III.

97. See Daniel J. Rohlf, *Section 4 of the Endangered Species Act: Top Ten Issues for the Next Thirty Years*, 34 ENVTL. L. 483, 548–49 (2004) (assessing incentives and disincentives behind recovery plans and delisting decisions, and identifying inadequacies of existing regulatory mechanisms in delisting decisions).

98. 16 U.S.C. § 1533(f).

99. *Fund for Animals v. Babbitt*, 903 F. Supp. 96, 103 (D.D.C. 1995).

100. 16 U.S.C. § 1533(f)(1)(B)(i)–(iii).

the second element, “objective, measurable criteria,” places substantive parameters on recovery planning.¹⁰² Notably, the quality of protection—the inclusion of “legally sufficient risk-management mechanisms to replace the ESA when a species is delisted”—is more important than the quantity of included criteria.¹⁰³

Not all listed species have recovery plans, despite the central role envisioned for these plans in species recovery.¹⁰⁴ Since 1978, 1660 species have been listed under the ESA.¹⁰⁵ Of those, 379 eligible species do not have recovery plans.¹⁰⁶ One reason for this gap is that the ESA grants the FWS authority to “develop and implement plans for the conservation and survival of endangered species and threatened species . . . unless he finds that such a plan will not promote the conservation of the species.”¹⁰⁷ The agency’s judgment regarding the conservation benefit of a recovery plan (or lack thereof) receives deference in judicial review, but it must be reasonable.¹⁰⁸ The default expectation in the Act is that a recovery plan will be created for each listed species.¹⁰⁹ It is only where the FWS expressly determines that a recovery plan will not promote conservation of a species that one need not be created; otherwise, the FWS must develop and implement a recovery plan for each listed species.¹¹⁰

Another reason that not all listed species have recovery plans is that, since 2009, the number of species listed has outpaced the relatively slow rate of recovery plan completion.¹¹¹ Where the FWS used to take a little over two years to develop a recovery plan, a contemporary recovery plan takes over five years to complete, in part due to the increased scientific robustness of a modern recovery plan compared to those created in the past.¹¹² While the improved quality of modern recovery plans is generally seen as a positive development, this benefit may be outweighed by the considerable time it takes the FWS to develop and implement them. In the interim, circumstances for the listed species may and

101. See *Fund for Animals*, 903 F. Supp. 96 at 106–07 (finding that FWS has discretion to recommend a wide range of “management actions” in developing and implementing recovery plans; Congress has delegated the authority to make policy choices representing a reasonable accommodation of conflicting policies to the FWS).

102. See *infra* notes 112–20 and accompanying text.

103. Goble, *Talk*, *supra* note 12, at 38.

104. *Sierra Club v. Lujan*, No. 90-4091, 1993 WL 151353, at *10 (W.D. Tex. Feb 1, 1993).

105. Jacob W. Malcolm & Ya-Wei Li, *Missing, Delayed, and Old: The Status of ESA Recovery Plans*, 11 CONSERVATION LETTERS e12601 (2018).

106. *Id.*

107. 16 U.S.C. § 1533(f) (2018) (emphasis added).

108. See *Ctr. for Biological Diversity v. Kempthorne*, 607 F. Supp. 2d 1078, 1093 (D. Ariz. 2009) (finding that FWS’s decision not to prepare a recovery plan for the jaguar was inconsistent with its own guidance and practice).

109. *Id.*

110. *Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 35 F. Supp. 3d 1137, 1151 (N.D. Cal. 2014).

111. Malcolm & Li, *supra* note 105.

112. *Id.*

often do change significantly, meaning the final recovery plan may reflect an outdated assessment of the listed species' health and habitat. This limits the utility of the plan and, in turn, makes recovery an elusive target.¹¹³

Even when recovery plans are developed, they are not always followed by the FWS, which has long maintained that these plans provide nonbinding guidance informing their recovery-based actions on behalf of a listed species, rather than binding authority that must be followed to the letter.¹¹⁴ Yet the Act indicates that recovery plans are not just pointless assignments. The ESA compels the FWS to report to Congress every two years "on the status of efforts to develop and implement recovery plans" for all listed species, and "on the status of all species for which such plans have been developed."¹¹⁵ There would be no need for ongoing reports if the FWS were not expected to meet the goals described in its recovery plans. "Congress expected the FWS to engage in earnest and conscientious activity to use the recovery plans to try to remove the species from the protection of the ESA."¹¹⁶

The end result of a successful recovery plan is delisting, downlisting, or, at minimum, survival of the covered species. However, satisfaction of a recovery plan's goals, while an important consideration in a subsequent decision to delist or downlist the species, may not be sufficient justification for such a decision.¹¹⁷ And, in at least one case, a delisting decision has been upheld even though the recovery plan's "objective, measurable criteria" had not been met.¹¹⁸

The relationship between delisting and the satisfaction of "objective, measurable criteria" of a recovery plan was considered by the U.S. Court of Appeals for the D.C. Circuit in *Friends of Blackwater v. Salazar*,¹¹⁹ which involved a challenge to a delisting rule for the West Virginia Flying Squirrel.¹²⁰ The court gave deference to the FWS's method for collecting data about the population of the squirrel, which deviated from the method specified in the recovery plan, because estimating population numbers across a representative sample of the

113. *Id.*

114. See *infra* notes 122–28 and accompanying text.

115. 16 U.S.C. § 1533(f)(3) (2018).

116. *Sw. Ctr. for Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1137 n.16 (S.D. Cal. 2006), *appeal dismissed*, 409 F. App'x 143 (9th Cir. 2011).

117. See Crystal D. Anderson, *Reconsidering a Weakened Regulation: A Critical Analysis of Delisting in the Endangered Species Act*, 9 FLA. A&M U. L. REV. 207, 221 (2013) ("Though recovery plans are intended to be a road map to species' recovery and have the purpose of helping bring species to a level where delisting is appropriate, the plans are not always followed, causing the journey to delisting to be hindered."); see also *supra* note 37 (discussing the FWS's removal of "recovery" from its listing regulation).

118. *Friends of Blackwater v. Salazar*, 691 F.3d 428, 433 (D.C. Cir. 2012) (quoting 16 U.S.C. § 1533(f)).

119. *Friends of Blackwater v. Salazar*, 691 F.3d 428 (D.C. Cir. 2012).

120. *Id.* at 436.

entire range of the squirrel “was simply too difficult and too costly.”¹²¹ In keeping with similar holdings from other courts,¹²² the court characterized recovery plans as non-binding “statements of intention.”¹²³ It noted that, while the ESA states that the Secretary “shall” develop and implement a recovery plan,¹²⁴ the ESA also specifically requires the same criteria for delisting a species as the five factors listed in Section 4(a).¹²⁵ Although the court conceded that the ESA “is not entirely clear” regarding “[w]hether an agency must account for a departure from a prior non-binding statement of intent” found in a recovery plan,¹²⁶ it agreed with the FWS that recovery criteria “are predictive of the Service’s delisting analysis rather than controlling that analysis.”¹²⁷ In the end, the court likened the recovery plan to a map: “although a map may help a traveler chart his course, it is the sign at the end of the road, here the five statutory factors indicating recovery, and not a mark on the map that tells him his journey is over.”¹²⁸

Although a “predictive” recovery plan may not be directly enforceable in and of itself, the failure to observe its provisions when engaging in consultation or issuing incidental take permits under the ESA may render the outcome arbi-

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121. *Id.* The method called for in the recovery plan would “require many thousands of nest boxes and traps” because “squirrels were ‘extremely difficult to collect and study.’” *Id.* at 435.
122. *See* *Friends of the Wild Swan v. U.S. Fish & Wildlife Serv.*, 745 F. App’x 718, 721 (9th Cir. 2018) (“The recovery plan does not create any legal rights or obligations for the Service or any third parties.”); *Cascadia Wildlands v. Bureau of Indian Affairs*, 801 F.3d 1105, 1114 n.8 (9th Cir. 2015) (“[The] ESA does not mandate compliance with recovery plans.”); *Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 547 (11th Cir. 1996) (“[R]ecovery plans are for guidance purposes only.”); *Friends of the Wild Swan v. Thorson*, 260 F. Supp. 3d 1338, 1344 (D. Or. 2017), *aff’d*, 745 F. App’x 718 (9th Cir. 2018) (highlighting the fact that that although plans have “real world consequences” they are “non-binding in nature”); *Nat’l Wildlife Fed’n v. Nat’l Park Serv.*, 669 F. Supp. 384, 389 (D. Wyo. 1993) (refusing to “second guess the Secretary’s motives for not following the recovery plan”). The D.C. Circuit has consistently followed this reasoning. *See* *Defs. of Wildlife v. Lujan*, 792 F. Supp. 834, 835 (D.C. Cir. 1992) (stating that the wolf recovery plan “has never been an action document” because it “left open different approaches and contemplated that when an agency or group made specific proposals for achieving a particular objective of the plan, there would be a need for further study”); *Nat’l Audubon Soc’y v. Hester*, 801 F.2d 405, 408 (D.C. Cir. 1986) (upholding FWS’s decision to remove endangered condors from the wild despite the recovery plan’s commitment to extensive tracking and study of wild birds).
123. *Friends of Blackwater*, 691 F.3d at 433.
124. *Id.* at 432–33.
125. *See id.* at 432–33 (“§ 4(c) makes clear that a decision to delist ‘shall be made in accordance’ with the same five factors.”) (citing 16 U.S.C. § 1533(a), (c) (2018)).
126. *Id.* at 435.
127. *Id.* at 433. The court added, “If the plan is overtaken by events, then there is no need to change the plan; it may simply be irrelevant.” *Id.* at 434.
128. *Id.* at 434; *see also* *Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 547 (11th Cir. 1996) (“[R]ecovery plans are for guidance purposes only.”).

trary and capricious, unless the FWS explains why it diverged from the plan.¹²⁹ By the same token, a failure to consider the plan's provisions, and to explain a deviation from them, could cause the extinction of the listed species. Thus, recovery plans are highly relevant to the conservation objective, even if they are not always enforceable in court.

Upon delisting, the ESA requires the FWS, in cooperation with the relevant state(s), to monitor recovered species for at least five years to assess their ability to sustain themselves without the ESA's protection.¹³⁰ A draft of the post-delisting monitoring strategy is made available when the FWS publishes the delisting proposal in the Federal Register.¹³¹ If monitoring shows that threats to the species have changed or unforeseen events have affected the stability of the species population, the response delineated by the ESA is highly circumscribed. The FWS may either extend the monitoring period or reinstate the listing process for the species.¹³²

In making a decision to delist a species as "recovered," the FWS's determination regarding the adequacy of existing regulations (other than the ESA itself) is closely tied to the threats listed in Section 4(a).¹³³ In assessing and managing the risk to the species, the FWS must address both the threats that prompted the listing in the first place as well as new threats that may have emerged since listing.¹³⁴

Returning to *Friends of Blackwater v. Salazar*, the plaintiffs argued that the FWS should analyze the adequacy of regulatory mechanisms independently of the possible threats to the West Virginia Flying Squirrel.¹³⁵ The D.C. Circuit disagreed, noting that "having considered all the other types of threats listed in § 4(a)(1) and found no existing conditions such as disease or destruction of

129. *See Sw. Ctr. For Biological Diversity v. Bartel*, 470 F. Supp. 2d 1118, 1136 (S.D. Cal. 2006), *appeal dismissed*, 409 F. App'x 143 (9th Cir. 2011) (remanding an incidental take permit because its terms were inconsistent with the recovery plan); *Nat'l Wildlife Fed'n v. Babbitt*, 128 F. Supp. 2d 1274, 1283 (E.D. Cal. 2000) (placing weight on recovery plan provisions for an endangered snake in evaluating the merits of the Natomas Basin Habitat Conservation Plan); *cf. Defs. of Wildlife v. U.S. Dep't of the Interior*, 931 F.3d 339, 358–60 (4th Cir. 2019) (concluding FWS's reliance on vague and outdated data in a recovery plan to justify its finding that the endangered clubshell would not be jeopardized by a pipeline was arbitrary). *But see Cascadia Wildlands v. Thraikill*, 806 F.3d 1234, 1244 (9th Cir. 2015) (finding that FWS was not obligated to follow or explain its departure from spotted owl recovery plans when rendering a jeopardy opinion under Section 7, because the opinion properly focused on jeopardy rather than on perfect compliance with recovery plans, and recovery and jeopardy are "two distinct concepts").

130. 16 U.S.C. § 1533(g)(1).

131. U.S. FISH & WILDLIFE SERV., DELISTING A SPECIES: SECTION 4 OF THE ENDANGERED SPECIES ACT 2 (2011), <https://perma.cc/VYX3-5SDM>.

132. *Id.*

133. 16 U.S.C. § 1533(a)(1)(A)–(E).

134. Goble, *Talk*, *supra* note 12, at 42.

135. 691 F.3d 428, 436 (D.C. Cir. 2012); *see supra* notes 120–28 and accompanying text (discussing the court's treatment of the recovery plan and delisting decision for the squirrel).

habitat threatened the subspecies, the Service could reasonably, indeed readily, conclude the squirrel did not require additional regulatory protection.”¹³⁶ Further, if the adequacy of regulations were to be judged in a vacuum, “without considering the level, or even the existence, of any threat the regulation is designed to meet, then it would follow that the Service could *never* delist a species.”¹³⁷ According to the court, this would result in “an absurd overabundance of regulation.”¹³⁸

This decision and the Service’s current all-or-nothing stance on post-listing monitoring reflect an approach to recovery that fails to recognize the salutary potential of a more active approach to collaborative federal, state, and private engagement in the recovery of newly-delisted species. As discussed in Part V of this article, rather than passively monitoring the viability of a newly delisted species and intervening only when recovery has failed, the Service should utilize the engaged and active multiparty approach to implementing regulatory measures to improve a species’ welfare used in successful pre-listing conservation agreements. To understand this approach, where, how, and why it has worked in the pre-listing context, and how it could be extended to the post-listing recovery phase, we examine several illustrative pre-listing examples of CCAs in the next Part.

III. THE USE OF REGULATORY MECHANISMS IN CCAs TO AVOID LISTING

In the nearly half century of its existence, the ESA and its dense statutory language (to say nothing of the tomes of Byzantine regulations and policies created to effectuate its purposes) have been fodder for countless academic papers on the law, policy, and science of species protection. Many of these papers have wrestled with the difficult task of making sense of the Act’s requirements and seeking solutions to its shortcomings that remain true to its conservation goal while being palatable to parties with a more pro-development bent.

Of course, this dynamic remains true today, though with an enhanced urgency. In the first two decades of the twenty-first century, the deleterious impacts of climate change on the continued viability of species has moved from a theoretical to an existential threat. Simply put, the extinction of species worldwide has reached crisis proportions, with species loss at nearly one thousand times the historical background of two species per year.¹³⁹ The United States,

136. *Id.*

137. *Id.* (emphasis added). When the squirrel was listed, population declines were attributed to forest clearing and other human disturbances. *Id.* at 430. In its delisting rule, FWS found that “monitoring data provide[d] strong evidence of [its] continued presence” throughout 80% of its range, and that “habitat trends [were] moving in a positive direction in terms of forest regeneration and conservation.” *Id.* at 431.

138. *Id.* at 436.

139. Ceballos et al., *supra* note 1, at 114.

long a beacon of species conservation for the world to follow with a robust slate of federal and state wildlife conservation laws, is not immune from this crisis.

The scope and scale of this threat puts even greater importance on the delisting process for formerly threatened and endangered species. The FWS cannot afford to allow newly recovered species to slip back into danger because of inadequate post-listing protections. Federal and state resources devoted to species conservation are extremely unlikely to expand in proportion to the ever-growing demand as more and more species qualify for ESA listing. Even putting aside the question of moral and ethical duties owed to these newly-recovered species, rational resource allocation and sound financial practices argue for more investment in shoring up post-listing protections, which are comparatively cheaper than the long-term costs associated with relisting a species.¹⁴⁰ The exact nature of these additional investments is, as with seemingly all matters touching the ESA, a matter of some debate. What is beyond debate, however, is that as we near the close of the second decade of the twenty-first century on a rapidly warming planet, the time has come to transition from generalized discussion to an actionable plan to improve post-listing outcomes. A logical starting point for this transition is to apply, with appropriate modifications, the conservation agreement approach used to keep a species from being listed in the first place to newly-recovered species to keep them from requiring relisting.

The FWS has successfully utilized CCAs to avoid listing a species in a number of cases. However, not all CCAs provide adequate regulatory mechanisms to avoid listing. This Part examines the use of CCAs to avoid listing the Barton Springs Salamander, west coast steelhead populations, Arctic grayling, and greater sage-grouse. Our discussion of the first two species is brief because the take-away lesson is relatively straightforward—proposed future measures are not adequate if the species requires immediate intervention. The latter two species demonstrate more nuanced and complex concepts, and accordingly they are given more in-depth treatment. Part IV shifts to the delisting process, and considers whether utilizing strategies similar to CCAs in the delisting context could facilitate recovery.

A. Salamanders and Steelhead

Courts generally agree that the FWS may not rely on prospective conservation actions in a CCA to avoid listing an imperiled species if listing is otherwise appropriate.¹⁴¹ In *Save Our Springs v. Babbitt*,¹⁴² a federal district court

140. See John Copeland Nagle, *Playing Noah*, 82 MINN. L. REV. 1171, 1186 n.48 (1998) (providing estimates of costs for the process of listing, recovery, and delisting species); Orton-Palmer, *supra* note 83, at 9–13.

141. See *Desert Survivors v. U.S. Dep't of the Interior*, 321 F. Supp. 3d 1011, 1075 (N.D. Cal. 2018) (future conservation efforts were not sufficiently certain to improve the status of the Bi-State sage grouse); *In re Polar Bear Endangered Species Act Listing & 4(d) Rule Litig.*,

found that a decision not to list the Barton Springs salamander was arbitrary, despite the State of Texas's agreement to implement 28 conservation actions in a CCA.¹⁴³ The CCA contained relatively vague words such as "identify," "evaluate," "review," and "work with," and failed to "take any tangible steps to reduce the immediate threat to the species," even if the CCA were to be fully implemented.¹⁴⁴ As for the CCA's description of "possible future actions of the State of Texas to protect the species," the court found that the FWS "cannot use promises of proposed future actions as an excuse for not making a [listing] determination based on the existing record."¹⁴⁵

Similarly, a California district court in *Federation of Fly Fishers v. Daley*¹⁴⁶ found that reliance on prospective measures set forth in a steelhead conservation agreement was "inconsistent with the aggressive preventive posture of the ESA because '[t]here are no assurances that the measures will be carried out, when they will be carried out, nor whether they will be effective in eliminating the threats to the species.'"¹⁴⁷ The court noted that some courts had found that the FWS can rely on a CCA despite its provisions being "newly implemented,"¹⁴⁸ but that is a far cry from relying on prospective actions that may never be implemented.¹⁴⁹ The former provides a definite and measurable, albeit new, protection to the species, while the latter is conditional and uncertain. In particular, the court found that where "adequate State funding is critical" to effectuate the conservation agreement, mere "commitments to seek such fund-

794 F. Supp. 2d 65, 113 n.56 (D.D.C. 2011), *aff'd*, 709 F.3d 1 (D.C. Cir. 2013) ("[T]he ESA does not permit FWS to consider speculative future conservation actions."); Trout Unlimited v. Lohn, 645 F. Supp. 2d 929, 956–57 (D. Or. 2007) (emphasis added) ("[A]ssumptions about the future effect of Oregon Plan proposed measures . . . cannot be relied upon."); Or. Nat. Res. Council v. Daley, 6 F. Supp. 2d 1139, 1154 (D. Or. 1998) ("NMFS may only consider conservation efforts that are currently operational."); Sw. Ctr. for Biological Diversity v. Babbitt, 939 F. Supp. 49, 52 (D.D.C. 1996) ("promises of proposed future actions [are not] an excuse" for not listing); *see also* Colorado v. U.S. Fish & Wildlife Serv., 362 F. Supp. 3d 951, 981 (D. Colo. 2018) (affirming a listing decision where the CCA relied on future measures when, "[w]ithout some indication of who would enroll and the measures they would select, there were no numbers, projections, or proposed efforts for the Service to evaluate"). *But see* Permian Basin Petroleum Ass'n v. Dep't of the Interior, 127 F. Supp. 3d 700 (W.D. Tex. 2015) (faulting FWS for failing to project future funding and future enrollment in a CCA when it listed the lesser prairie chicken).

142. *Save Our Springs v. Babbitt*, 27 F. Supp. 2d 739 (W.D. Tex. 1997).

143. *Id.* at 748.

144. *Id.* at 744.

145. *Id.* at 747.

146. 131 F. Supp. 2d 1158 (N.D. Cal. 2000).

147. *Id.* at 1165 (quoting *Save Our Springs*, 27 F. Supp. 2d at 744).

148. *Id.* at 1166 (quoting *Defs. of Wildlife v. Babbitt*, No. 97-CV-2330, 1999 WL 33537981 (S.D. Cal. June 14, 1999), *rev'd sub nom.* *Defs. of Wildlife v. Norton*, 258 F.3d 1136 (9th Cir. 2001)).

149. *Id.* at 1169.

ing” did not justify a decision that listing was not warranted, especially when no funding “had been definitively earmarked toward realizing [California’s] commitments.”¹⁵⁰ Read together, these cases show a clear judicial unwillingness to accept platitudes in place of required action in conservation agreements.

B. Arctic Grayling

Arctic grayling (*Thymallus arcticus*) are native to far north drainages of the Arctic Ocean, Hudson Bay, and the Northern Pacific Ocean. Two distinct populations historically inhabited clear, cold waters in Michigan and Montana, but the Michigan population has been extinct since the early 1900s.¹⁵¹ Arctic grayling are still present in Montana, though there has been a significant decline in their range and abundance due to riparian habitat destruction and curtailment. The remaining twenty Arctic grayling populations reside in the Upper Missouri River Basin. “Two of them—the Big Hole River and Ennis Reservoir/Madison River populations—are located primarily on private land, while the remaining eighteen are found primarily on federal land.”¹⁵²

In 2010, the FWS considered the status of the Arctic grayling and found that listing was “warranted but precluded” by higher priority actions.¹⁵³ The 2010 finding identified a variety of significant threats to the Arctic grayling, including low stream flows and high stream temperatures, present and threatened destruction of its habitat, and climate change.¹⁵⁴

In 2014, FWS reversed course and determined that listing the Arctic grayling was not warranted.¹⁵⁵ In deciding not to list the grayling, the FWS relied in

150. *Id.* at 1167–68; *see also* *Rocky Mountain Wild v. Walsh*, 216 F. Supp. 3d 1234, 1253 (D. Colo. 2016) (invalidating FWS’s withdrawal of its proposed listing of beardtongue wildflowers when FWS concluded less than one year previously in its proposed listing that existing regulatory mechanisms were not adequate, and when references to future regulatory mechanisms did not show how previously identified regulatory gaps had been filled).

151. Dani Knoph, *What Will it Take for Michigan’s Wild Arctic Grayling to Return Home?*, MY-NORTH (May 23, 2018), <https://perma.cc/AE73-DA59>. The last reported native Arctic grayling in Michigan was caught in 1936 on the Otter River in the Upper Peninsula. *Id.*

152. *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1059 (9th Cir. 2018).

153. Revised 12-Month Finding to List the Upper Missouri River Distinct Population Segment of Arctic Grayling as Endangered or Threatened, 75 Fed. Reg. 54,708 (Sept. 8, 2010) (to be codified at 50 C.F.R. pt. 17), [hereinafter 2010 Arctic Grayling Finding]. FWS initially considered whether to list the arctic grayling in 1982, determining that listing was “possibly appropriate,” but deciding not to list due to a lack of sufficient data. Review of Vertebrate Wildlife for Listing as Endangered or Threatened Species, 47 Fed. Reg. 58,454, 58,454 (Dec. 30, 1982).

154. 2010 Arctic Grayling Finding, *supra* note 153, at 54,715, 54,728.

155. Revised 12-Month Finding on a Petition to List the Upper Missouri River Distinct Population Segment of Arctic Grayling as an Endangered or Threatened Species, 79 Fed. Reg. 49,384, 49,384 (Aug. 20, 2014) (to be codified at 50 C.F.R. pt. 17) [hereinafter 2014 Arctic Grayling Finding].

large part on the Big Hole River CCAA.¹⁵⁶ The Big Hole River CCAA, which was adopted in 2006, covers over 158,000 acres within the Big Hole management area.¹⁵⁷ It is intended to remove barriers to grayling migration through fish ladders, streamflows, and other means of facilitating connectivity of cold-water streams, to reduce entrainment threats, and to improve and protect the function of riparian habitats.¹⁵⁸ Thirty-one private landowners agreed to participate in the CCAA.¹⁵⁹

Environmental petitioners challenged the FWS's decision on several grounds, including the lack of adequate regulatory mechanisms.¹⁶⁰ They argued that the FWS's reliance on voluntary conservation efforts in the Big Hole CCAA was inappropriate, and that removing the grayling from its status as a candidate for listing eradicated any reason for more landowners to sign the CCAA.¹⁶¹ The district court disagreed, highlighting the evidence in the record that the CCAA had a positive impact on the Big Hole Arctic grayling habitat.¹⁶² Further, the court saw no evidence in the record that "at some unspecified point in the future the agreement itself or its participants will disappear."¹⁶³ It also found that the 2014 decision provided "an exhaustive list of each state and federal regulatory mechanism, and how it protects the Arctic grayling."¹⁶⁴

When the petitioners appealed, the State of Montana highlighted its efforts to confront threats to the Arctic grayling by addressing "low stream flows, degraded riparian habitat, entrainment in irrigation ditches, and barriers to grayling migration."¹⁶⁵ Specifically, the Big Hole CCAA requires participating landowners to comply with water rights, reduce irrigation withdrawals, and improve irrigation management.¹⁶⁶ Montana argued that these provisions facilitate

156. *Id.* at 49,400.

157. *Ctr. for Biological Diversity v. Jewell*, No. 15-CV-4, 2016 WL 4592199, at *7 (D. Mont. Sept. 2, 2016), *rev'd in part sub nom.* *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1059 (9th Cir. 2018).

158. 2014 Arctic Grayling Finding, *supra* note 155, at 49,402.

159. *Id.* at 49,407. Although most of the Arctic grayling populations in the Upper Missouri River occur on federal land, the Big Hole River population occurs on primarily (90 percent) private land. *Id.* at 49,400. The CCAA implements a broader Habitat Conservation Plan for the grayling, which includes federal participants. *Ctr. for Biological Diversity*, 900 F.3d at 1062.

160. *Ctr. for Biological Diversity*, 2016 WL 4592199 at *8.

161. *Id.* at *3.

162. *Id.* at *7.

163. *Id.* The court also found that the species was "responding positively to the existing conditions in conjunction with voluntary conservation efforts." *Id.* at *8.

164. *Id.* at *8.

165. Brief of Defendant-Intervenor-Appellee State of Montana & Montana Department of Fish Wildlife & Parks at 7, *Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053 (9th Cir. 2017) (No. 16-35866), 2017 WL 2493502, at *7 (describing Montana's Arctic Grayling Recovery Program and the Big Hole CCAA).

166. *Id.*

recovery by connecting 98% of the core grayling habitat, increasing stream-flows, and decreasing water temperature.¹⁶⁷

On appeal, the Ninth Circuit reversed, and found that the Big Hole CCAA could not “save the agency’s flawed 2014 Finding.”¹⁶⁸ According to the court, Montana’s efforts to improve fish passage through fish ladders and other means “would be of little value if the water in the tributaries is still too warm.”¹⁶⁹ The FWS also failed to explain why it had reversed course so dramatically since its earlier finding in 2010, when the FWS concluded that regulatory mechanisms did not adequately protect the species,¹⁷⁰ and that the CCAA would reduce but not eliminate threats of dewatering.¹⁷¹ The Ninth Circuit noted that, while minimum flow targets had been achieved 78 percent of the time since the CCAA’s measures took effect, that was not sufficient to avoid listing because the FWS had previously stated that the flow target represented *minimum* values to promote recovery of the Arctic grayling.¹⁷²

Since the Ninth Circuit’s decision, the FWS, the State of Montana, and other potential cooperating parties such as counties and conservation organizations have drafted a CCAA for the Centennial Valley population of the Arctic grayling. As with the Big Hole CCAA, Montana will take a lead role in implementing and enforcing the CCAA’s provisions related to landowner enrollment, fish entrainment surveys, instream flow plans, data collection, negotiation and implementation of site-specific conservation plans, and enforcement of participants’ water rights.¹⁷³ For its part, the FWS will ensure that the CCAA’s terms and conditions are being implemented and will work with the agencies and participating landowners to resolve compliance issues.¹⁷⁴ The FWS has not yet issued a revised delisting rule,¹⁷⁵ but the coordinated, sus-

167. *Id.* at *7–8.

168. *Ctr. for Biological Diversity*, 900 F.3d at 1070.

169. *Id.* at 1071.

170. *Id.* at 1070.

171. *Id.* at 1070 n.16.

172. *Id.* The Ninth Circuit also found that the FWS arbitrarily ignored credible scientific evidence that the Big Hole grayling population was decreasing. *Id.* at 1069.

173. See Candidate Conservation Agreement With Assurances for Arctic Grayling in the Centennial Valley, Montana Between Montana Dept. of Fish, Wildlife & Parks and U.S. Fish & Wildlife Serv. 21–22, 41 (Jan. 26, 2018), <https://perma.cc/X9EY-ZKNT>. Site specific plans are habitat conservation plans “specific to an enrolled property and designed to address the conservation needs of Arctic grayling as well as the needs of the landowner.” *Id.* at 2. They complement the Enhancement of Survival Permit issued to Montana in association with the CCAA under ESA Section 10(a)(1)(A), which authorizes specified “take” of the species resulting from CCAA implementation and associated land uses. See *id.* at 1, 41.

174. *Id.* at 42.

175. See Patrick Reilly, *FWP Takes Comments on Grayling Reintroduction*, MISSOULIAN (Feb. 6, 2020), <https://perma.cc/HDG5-2XA5> (reporting that the FWS faces a July 2020 deadline for its proposed listing decision).

tained, cooperative efforts between the state, other collaborators, and the FWS are notable. Even so, it is not clear whether the species can recover in the face of climate change and warming stream temperatures, despite extensive conservation measures.¹⁷⁶

C. Greater Sage-Grouse

One well-publicized example of the use of conservation agreements to avoid listing involves the greater sage-grouse (*Centrocercus urophasianus*).¹⁷⁷ The greater sage-grouse inhabits sagebrush landscapes in eleven western states and two Canadian provinces.¹⁷⁸ It is sometimes described as an “umbrella species” for the wide variety of plants and animals that occupy the same sagebrush steppe landscape.¹⁷⁹ An umbrella species is one whose population health is a bellwether for other similarly situated species. In the case of the greater sage-grouse, conservation efforts that benefit its long-term viability are also likely to benefit the hundreds of plants and animals occupying the same ecosystem.¹⁸⁰

Male sage-grouse are known for performing elaborate, days-long communal mating dances on leks, sparsely vegetated patches of breeding ground specifically chosen by the male for optimum viewing opportunities for females. Nesting sites are often located near leks, which appear to be selected at least in part based on their distance from significant human land disturbances from agriculture and other development activities.¹⁸¹

Protecting the sagebrush ecosystem is of particular importance to the health of greater sage-grouse populations, which as a “sagebrush obligate” species requires large expanses of undisturbed and healthy sagebrush to thrive. Today, greater sage-grouse occupy approximately 56 percent of the range they occupied in 1800, prior to white settlers arriving in the western United States.¹⁸²

176. *Ctr. for Biological Diversity*, 900 F.3d at 1059, 1071.

177. See Justin R. Pidot, *Public-Private Conservation Agreements and the Greater Sage-Grouse*, 39 PUB. LAND & RES. L. REV. 161, 198 (2018) (expressing optimism that “collaboration and compromise aimed at achieving both increased economic and ecological certainty is possible”).

178. 12-Month Finding on a Petition To List Greater Sage-Grouse (*Centrocercus urophasianus*) as an Endangered or Threatened Species, 80 Fed. Reg. 59,858, 59,864 (Oct. 2, 2015) [hereinafter 2015 Sage-Grouse Findings].

179. Audubon Editors, *Umbrella Species: Greater Sage Grouse*, AUDUBON MAG. (Mar.–Apr. 2013), <https://perma.cc/Z8B6-SUWL>.

180. *Id.*

181. See Steven T. Knick, Steven E. Hanser & Kristine L. Preston, *Modeling Ecological Minimum Requirements for Distribution of Greater Sage-Grouse Leks: Implications for Population Connectivity Across their Western Range, U.S.A.*, 3 ECOLOGY & EVOLUTION 1539, 1545 (2013) (finding that 99 percent of active leks were located in areas with less than 3 percent of human disturbance of the land within a 5 kilometer radius of the lek).

182. 2015 Sage-Grouse Findings, *supra* note 178, at 59,864.

This habitat loss, coupled with fragmentation of the sagebrush habitat that remains, has had a profound impact, causing a significant reduction in greater sage-grouse populations.¹⁸³ The fragmentation of what was once a contiguous greater sage-grouse range encompassing over 460,000 square miles led to the current conservation efforts being conducted in seven separate management zones located across the West.¹⁸⁴

In 2010, the FWS found that rangewide, sage-grouse were experiencing a long-term decline in abundance from habitat loss and fragmentation, primarily caused by energy and infrastructure development, agriculture and grazing, urbanization, invasive plants, wildfire, and climate change.¹⁸⁵ The picture the FWS painted of the greater sage-grouse's prospects was grim: "Overall, the range of the species is now characterized by numerous relatively small populations existing in a patchy mosaic of increasingly fragmented habitat, with diminished connectivity."¹⁸⁶ The FWS found that sagebrush restoration techniques utilized at the time were "limited and generally ineffective," providing little hope for a reversal of habitat loss in the future.¹⁸⁷ In fact, the FWS opined that the best science available pointed to a bleak future for the greater sage-grouse, driven by continued habitat loss and fragmentation, marked by "reduced abundance and further isolation . . . increasing their vulnerability to extinction."¹⁸⁸ Given this litany of bad news, it is unsurprising that the FWS ultimately found that listing the greater sage-grouse rangewide as threatened or endangered under the ESA was warranted.¹⁸⁹ However, the FWS also determined that listing at that time was precluded by higher priority listing actions.¹⁹⁰

The 2010 warranted-but-precluded finding came on the heels of a successful challenge to a previous status review that determined that listing the sage-grouse was not warranted.¹⁹¹ A federal district court vacated that finding because (1) the FWS failed to utilize the best science available in reaching its finding, and (2) politically-motivated interference by the FWS's deputy assistant secretary in the listing analysis "to steer the 'best science' to a pre-ordained outcome" independently justified a conclusion that the finding was arbitrary

183. *See id.* at 59,867.

184. *Id.* at 59,864–65.

185. *See* 12-Month Findings for Petitions to List the Greater Sage-Grouse, 75 Fed. Reg. 13,909, 13,986 (Mar. 23, 2010) [hereinafter 2010 Sage-Grouse Findings].

186. *Id.* at 13,988.

187. *Id.* at 13,986 ("[T]he destruction and modification of habitat has been substantial in many areas across the range of the species, it is ongoing, and it will continue or even increase in the future.").

188. *Id.*

189. *Id.* at 13,988.

190. *Id.*

191. *See* 12-Month Findings for Petitions to List the Greater Sage-Grouse, 70 Fed. Reg. 2244 (Jan. 12, 2005).

and capricious.¹⁹² While it did not specifically mention this reputational black eye in the 2010 finding, the FWS did acknowledge that its “understanding of the status of the species and the threats affecting it has changed substantially since our decision in 2005.”¹⁹³

In making its 2010 determination that listing the greater sage-grouse across its range was warranted, the FWS specifically noted the lack of adequate regulatory mechanisms at the local or state levels.¹⁹⁴ At the local level, the FWS found little in the way of regulatory mechanisms that provided direct or indirect protections to the sage-grouse or its habitat.¹⁹⁵ State-level protections were found to be similarly lacking, limited in most states to hunting limits and other measures that provided “little or no protection to greater sage-grouse habitat.”¹⁹⁶ Protections for greater sage-grouse and its habitat on federal land were stronger on balance.¹⁹⁷ However, the FWS noted a significant variation across the sage-grouse’s range in the adoption and implementation of conservation measures by these agencies.¹⁹⁸

The FWS summarized its review of existing regulatory mechanisms by concluding that, not only were they inadequate, they posed a significant threat to the greater sage-grouse “now and in the foreseeable future.”¹⁹⁹ Although the 2010 finding made note of existing public-private conservation efforts for the sage-grouse and its habitat, describing them as effective in limited geographic areas, the FWS found that these efforts were “neither individually nor collectively at a scale that is sufficient to ameliorate threats to the species or populations.”²⁰⁰ Interestingly, in light of the significant impact of the multi-party sage-grouse conservation effort that was to come, the FWS concluded its analysis by noting that, while it was aware of other conservation efforts being planned, there was “substantial uncertainty as to whether, where, and when they will be implemented, and whether they will be effective.”²⁰¹

A series of lawsuits filed by environmental plaintiffs followed the FWS’s 2010 warranted-but-precluded greater sage-grouse finding. WildEarth Guardi-

192. See *W. Watersheds Project v. U.S. Forest Serv.*, 535 F. Supp. 2d 1173, 1185, 1188–89 (D. Idaho 2007).

193. 2010 Sage-Grouse Findings, *supra* note 185, at 13,987.

194. See *id.*

195. See *id.* The FWS stated “[T]o our knowledge, no current local land use or development planning regulations provide adequate protection to sage-grouse from development or other harmful land uses. Development and fragmentation of private lands is a threat to greater sage-grouse (see discussion under Factor A), and current local regulations do not adequately address this threat.” *Id.* at 13,982.

196. *Id.* at 13,987.

197. *Id.*

198. *Id.*

199. *Id.*

200. *Id.* at 13,988.

201. *Id.*

ans and the Center for Biological Diversity, along with other environmental groups, had spent the previous decade submitting hundreds of petitions to list as endangered or threatened a myriad of species.²⁰² The FWS's failure to take action on many of these petitions within ESA statutory deadlines, along with its "parking" of hundreds of candidate species in warranted but precluded status where they received no protection under the ESA, formed the basis of these lawsuits.²⁰³ In 2011, the FWS entered settlement agreements to resolve the litigation.²⁰⁴ In exchange for a commitment from the plaintiffs to slow the pace of their listing petitions and to forebear from filing additional petition deadline litigation, the FWS agreed to speed up its review of existing petitions and to issue proposed listing or not warranted findings for 251 candidate species, including completing its review of the greater sage-grouse by no later than 2015.²⁰⁵

Spurred by this deadline, and newly motivated by the specter of ESA-imposed restrictions on public and private uses of sage-grouse habitat should the bird be listed, a coalition of federal and state agencies, private landowners, and conservation groups mounted a massive movement to put in place regulatory measures sufficient to avoid listing.²⁰⁶ The expected impacts of listing on ranchers, energy developers, mining companies, and other users of western sagebrush lands were dramatic. Were the FWS to list the sage-grouse across its historic range, 173 million acres would have been subject to ESA protections; roughly 45-percent of sage-grouse habitat includes private lands, so listing could have drastically curtailed ranching and other interests.²⁰⁷ With this backdrop, the parties who had previously struggled to compromise reached agreement on the need to strike an appropriate regulatory balance between protecting greater sage-grouse habitat and populations on the one hand and allowing for continued economic uses of that habitat on the other.

Given the number of interested parties, the conservation effort that resulted was necessarily multipronged, complex, and wide-ranging. Among its federal components were amendments to land use plans that forbade BLM and the Forest Service from granting new authorizations to applicants whose proposed activities would disturb sage-grouse habitat unless compensatory mitigation efforts would "more than fully offset those impacts,"²⁰⁸ and new

202. See *Pidot*, *supra* note 177, at 189.

203. See *In re Endangered Species Act Section 4 Deadline Litig.*, 716 F. Supp. 2d 1369, 1369 (J.P.M.L. 2010).

204. *Pidot*, *supra* note 177, at 189.

205. *Id.*

206. Joshua Zaffos, *Conservation Agreements Try to Head Off Species Listings*, HIGH COUNTRY NEWS (June 1, 2012), <https://perma.cc/7PHT-ND5H>.

207. Press Release, Jessica Kershaw, U.S. Dep't of the Interior, Historic Conservation Campaign Protects Greater Sage-Grouse (Sept. 22, 2015), <https://perma.cc/3PRX-9VMA>.

208. See *Pidot*, *supra* note 177, at 186.

Department of the Interior rangeland wildfire management rules to protect the ecosystem relied on by greater sage-grouse.²⁰⁹ In addition, the Sage Grouse Initiative, led by the U.S. Department of Agriculture's Natural Resources Conservation Service, worked with landowners on voluntary sage-grouse conservation efforts such as conservation easements, which resulted in restoration or conservation of over four million acres of critical sage-grouse habitat on privately-owned land.²¹⁰ As for the states, ten of the eleven with greater sage-grouse populations updated their state-level sage-grouse management plans.²¹¹ Finally, the FWS used CCAAs and CCAs extensively, securing commitments from numerous landowners to engage in activities that protect greater sage-grouse habitat (or forbear from activities harmful to sage-grouse habitat) on millions of acres of non-Federal lands.²¹²

In 2015, when the FWS next considered listing the greater sage-grouse, it found that these landscape-scale conservation efforts had sufficiently reduced the threat such that listing was no longer warranted.²¹³ The FWS made a point of emphasizing the key role that sage-grouse CCAs on private property played in its determination, writing that, in conjunction with new federal and state regulatory measures, they represented "a substantial increase in sage-grouse conservation since 2010 [that] provide conservation for sage-grouse now and into the future and ensure that the most important habitats will remain distributed across the landscape to support the populations identified as critical to the long-term conservation of the species."²¹⁴

However, the coalition behind the extensive public-private conservation efforts has begun to fray under the Trump Administration. In 2017, the BLM issued a notice of intent to amend land use plans in the greater sage-grouse conservation area.²¹⁵ The BLM then issued records of decision on the proposed amendments in March 2019.²¹⁶ After nearly a decade of partnership building

209. 2015 Sage-Grouse Findings, *supra* note 178, at 59,896.

210. *See* Kershaw, *supra* note 207.

211. 2015 Sage-Grouse Findings, *supra* note 178, at 59,873.

212. *See id.* at 59,886 ("As an example, landowners enrolled in the Oregon CCAA have agreed to maintain contiguous habitat by avoiding further fragmentation. The objective for this required conservation measure is for no net loss in: (1) Habitat quantity (as measured in acres) and (2) habitat quality (as determined by the ecological state). Additionally, every enrolled landowner must have at least one conservation measure in place to address each threat identified during the baseline assessment of individual properties.").

213. *See id.* at 59,887 ("Since 2010, there have been several major changes in the regulatory mechanisms that minimize impacts to sage-grouse and their habitats.").

214. *Id.*

215. Notice of Intent to Amend Land Use Plans Regarding Greater Sage-Grouse Conservation and Prepare Associated Environmental Impact Statements or Environmental Assessments, 82 Fed. Reg. 47,248 (Oct. 11, 2017).

216. *Notice of Intent to Amend the Greater Sage-Grouse Resource Management Plan Revisions and Amendment(s)*, BUREAU OF LAND MGMT., <https://perma.cc/5EZN-E64C>.

between private landowners, western states, and federal agencies, these amendments signal a weakening of the BLM's commitment to holding up its side of the groundbreaking sage-grouse conservation bargain.²¹⁷ While couched in language of compromise and conservation, the BLM's description of its motivation for issuing these amendments indicates a desire to open sage-grouse habitat to more recreational and industrial uses, weighting the balance between conservation and use in sagebrush landscapes in favor of use.²¹⁸

Even with signs of federal retreat from the shared conservation commitments that form the backbone of the public-private sage-grouse coalition, by some measures the coalition was a resounding success.²¹⁹ Beyond the obvious achievement of putting in place commitments to preserve greater sage-grouse and their habitat sufficient to avoid listing, it also showed a potential way forward for conserving other imperiled species through utilizing conservation agreements on private lands in conjunction with coordinated state and federal efforts that could also prove useful in the delisting process, as discussed in Part V.

IV. ADEQUATE AND INADEQUATE REGULATORY MECHANISMS IN THE DELISTING CONTEXT

When it comes to recovery and delisting, “a particularly nettlesome” factor is “the inadequacy of existing regulatory mechanisms” for the listed species.²²⁰ To warrant delisting, the regulatory situation must have improved significantly since the listing decision, at least for those species that were imperiled in part by a lack of adequate legal protections regarding habitat conservation, degradation, or other significant threats. Moreover, in making a delisting decision, as Professor Goble observed, the analysis “necessarily must include an evaluation of the risk management that will be available if the species were delisted.”²²¹ Not only must the FWS find that the species is no longer at risk, but it must also find that removing the ESA's protection will not place the species again at

217. *See id.*

218. *See BLM Greater Sage-Grouse Plans*, BUREAU OF LAND MGMT., <https://perma.cc/239W-WE9A> (“Increased access to public lands and resources ensures shared stewardship of sagebrush landscapes to benefit wildlife and recreation and support local economies.”)

219. Challenges to development in sage-grouse habitat previously covered by the initiative are pending. *See, e.g.*, Complaint at 4, *W. Watersheds Project v. Zinke*, No. 01:18-cv-187 (D. Idaho Apr. 30, 2018), 2018 WL 2015857 at ¶ 11 (claiming that the “BLM has offered and sold—without prior review or analysis of site-specific and cumulative impacts to greater sage-grouse populations and habitat—hundreds of thousands of acres of oil and gas leases within or affecting sage-grouse habitats designated in the Sage-Grouse Plan Amendments” in violation of “Sage-Grouse Plan Amendments’ provisions and requirements, including that oil and gas leasing be prioritized outside sage-grouse habitats”).

220. Rohlf, *supra* note 97, at 547–48.

221. Goble, *Talk*, *supra* note 12, at 16.

risk. “In other words, is the ESA all that is preventing the species’ downward spiral into extinction?”²²²

In theory, at least, the delisting process should be somewhat less difficult than the listing process. One key difference between the listing and delisting processes is the quantity and quality of data available to the decision-maker. The amount of information known about a species when it is proposed for listing often pales in comparison to the large body of information on the species and the management actions that have proven successful in recovering the species available for review in the delisting process.²²³

As we look at these important delisting cases, we consider whether strategies similar to CCAs may translate to the delisting process and if so how they might improve the delisting process to bring it closer into alignment with the ESA’s conservation goal. The conservation incentives provided in CCAs and CCAAs are designed to promote the recovery of the threatened or endangered species, albeit somewhat indirectly.²²⁴ A commitment to continue the regulatory mechanisms found in an applicable CCA or CCAA for a listed species may both support a delisting decision and facilitate the continued recovery of the species post-delisting.²²⁵ In its PECE policy, the FWS acknowledged that the recovery plan is more appropriate for providing guidance for delisting, in comparison to CCAs and CCAAs.²²⁶ However, the FWS encouraged the development of CCAs and CCAAs “even if they will not be completed prior to a final

222. *Id.* See Holly Doremus, *Delisting Under the ESA: An Aspirational Goal, Not a Realistic Expectation*, 30 ENVTL. L. REP. 10,434, 10,446 (2000) (arguing that many species have no protection outside the ESA, and such species “are likely to need the special protections of the ESA forever”); Federico Cheever, *The Rhetoric of Delisting Under the ESA: How to Declare Victory Without Winning the War*, 31 ENVTL. L. REP. 11,302, 11,306 (2001) (noting that the notion that ESA can keep species away from the brink of extinction so they require no further protection “implies that once the magic delisting level has been achieved, species habitat may be destroyed and species members killed without any legal ramifications. For the vast majority of species, this notion is a complete delusion”).

223. Goble, *Talk*, *supra* note 12, at 16.

224. PECE, *supra* note 85, at 15,107.

225. *See id.* at 15,102 (“If we receive new information . . . after we have decided to list a species, then we will consider this new information along with other measures that reduce threats to the species and may use this information in downlisting . . . or delisting. However, PECE will not control our analysis of the downlisting of the species.”).

226. *Id.*; *see also supra* Part II (discussing non-binding nature of recovery plans). The FWS seems to have backed away from this position with its new 2019 regulations, which, among other things, eliminated species recovery as a reason for delisting. Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat, 84 Fed. Reg. 45,020 (Aug. 27, 2019) (codified at 50 C.F.R. § 424.11(e)). Seventeen states and several other plaintiffs have challenged the new regulations, arguing that this revision is contrary to 16 U.S.C. §§ 1531(b) & (c), 1532(3), 1533(f), and 1536(a)(1) of the ESA. First Amended Complaint at 43, *California v. Bernhardt*, 4:19-cv-06013 (N.D. Cal. Oct. 22, 2019).

listing decision,” because the agreements “could serve as the foundation . . . for a recovery plan, and could lead to earlier recovery and delisting.”²²⁷

A. Great Lakes Gray Wolf

The adequacy of state regulatory mechanisms in the delisting context was questioned in a high-profile case involving western Great Lakes gray wolves. By the mid-twentieth century, gray wolves had been hunted, trapped, and poisoned to near extinction throughout the lower 48 states. The timber wolf (*Canis lupus lycaon*) was given federal protection in 1967,²²⁸ followed by the Northern Rocky Mountain wolf (*Canis lupus irremotus*) in 1973.²²⁹ Some populations began to rebound, and a successful reintroduction effort in the Greater Yellowstone region, undertaken pursuant to a recovery plan, enhanced the viability of the Rocky Mountain wolves.²³⁰ After a barrage of litigation and congressional intervention, the Rocky Mountain populations were delisted, and the FWS turned its attention to the Great Lakes populations. Its attempt to delist those populations has been decidedly checkered.²³¹

In 2011, after two successful legal challenges to its previous delisting rules,²³² the FWS issued yet another rule to delist the western Great Lakes gray wolf.²³³ This rule proposed to revise the listing of the gray wolf by expanding a distinct population segment (“DPS”) of Great Lakes gray wolves to eight states

227. PECE, *supra* note 85, at 15,114.

228. Endangered Species, 32 Fed. Reg. 4001 (March 11, 1967).

229. Amendments to Lists of Endangered Fish and Wildlife, 38 Fed. Reg. 14,678 (June 4, 1973). The remaining two populations, the Mexican wolf (*Canis lupus baileyi*) and the Texas wolf (*Canis lupus monstrabilis*), were added to the list in 1976. Determination That Two Species of Butterflies Are Endangered Species and Two Species of Mammals Are Endangered Species, 41 Fed. Reg. 17,736, 17,737 (April 28, 1976); Endangered Status for 159 Taxa of Animals, 41 Fed. Reg. 24,062, 24,066 (June 14, 1976).

230. For details, see Martha Williams, *Lessons from the Wolf Wars: Recovery v. Delisting Under the Endangered Species Act*, 27 FORDHAM ENVTL. L. REV. 106, 131–42 (2015).

231. See, e.g., *Humane Soc’y of the U.S. v. Kempthorne*, 579 F. Supp. 2d 7, 9 (D.D.C. 2008) (vacating a Western Great Lakes delisting rule for “fail[ing] to acknowledge and address crucial statutory ambiguities” concerning the creation of distinct population segments for the purpose of delisting); *Humane Soc’y of the U.S. v. Zinke*, 865 F.3d 585 (D.C. Cir. 2017) (vacating a Western Great Lakes delisting rule and detailing the regulatory and litigation history).

232. See Final Rule to Reclassify and Remove the Gray Wolf From the List of Endangered and Threatened Wildlife in Portions of the Conterminous United States, 68 Fed. Reg. 15,804, 15,804 (Apr. 1, 2003) (to be codified in 50 C.F.R. pt. 17); Final Rule Designating the Western Great Lakes Populations of Gray Wolves as a Distinct Population Segment; Removing the Western Great Lakes Distinct Population Segment of the Gray Wolf From the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 6052, 6052 (Feb. 8, 2007) (to be codified in 50 C.F.R. pt. 17).

233. See Proposed Rule to Revise the List of Endangered and Threatened Wildlife for the Gray Wolf (*Canis lupus*) in the Eastern United States, Initiation of Status Reviews for the Gray

in addition to Minnesota, and then delisting that new DPS.²³⁴ In its delisting rule, the FWS concluded that delisting posed no threat to the western Great Lakes population.²³⁵ The FWS relied heavily on the Minnesota Wolf Management Plan (“MWMP”) to demonstrate adequate regulatory mechanisms upon delisting.²³⁶

The district court was unconvinced. It characterized the MWMP as establishing an “unregulated killing zone.”²³⁷ It also criticized the FWS for discounting the lack of regulatory mechanisms for other states in the DPS.²³⁸ For example, the court highlighted the fact that North Dakota does not have an endangered species act, and in South Dakota, wolves are not listed as threatened or endangered species.²³⁹ The closest thing to an adequate regulatory mechanism was that some of the involved states had “closed seasons” for wolf hunting. The FWS argued that six of the nine states in the DPS had very few, if any, wolves. The court noted in response that the absence of established wolf packs “[did] not foreclose the possibility of an increased presence there, since the Final Rule makes clear that wolves show ‘a high degree of mobility.’”²⁴⁰ The court held that the agency failed to explain how current and future killing of wolves would not “impact the recovered wolf populations in the DPS now or in the foreseeable future.”²⁴¹

On appeal, the D.C. Circuit found that the state management plans were adequate,²⁴² and specifically rejected the district court’s conclusion that the MWMP created an “unregulated killing zone.”²⁴³ Rather, the two zones created by the MWMP authorized wolf-killing in limited circumstances. Within Northeastern Minnesota, which is “the core of the wolves’ territory, wolves can only be legally killed in defense of a human life, in situations of ‘immediate threat’ to the life of a guard animal or domestic pet, or immediately after a verified loss of livestock, domestic animals, or pets.”²⁴⁴ Within the rest of the state, a controlled killing area can be opened for a lengthier period of time following a verified loss of livestock, domestic animals, or pets.²⁴⁵ The D.C.

Wolf and for the Eastern Wolf (*Canis lycaon*) (the “NPRM”), 76 Fed. Reg. 26,086 (May 5, 2011) (to be codified in 50 C.F.R. pt. 17).

234. See *Humane Soc’y of the U.S. v. Jewell*, 76 F. Supp. 3d 69, 96 (D.D.C. 2014).

235. *Id.* at 133; see also 16 U.S.C. § 1533(a)(1)(D) (2018).

236. See *Humane Soc’y*, 76 F. Supp. 3d at 133–36.

237. *Id.* at 134.

238. See *id.* at 133–36.

239. See *id.*

240. *Id.* at 134.

241. *Id.*

242. *Humane Soc’y of the U.S. v. Zinke*, 865 F.3d 585, 609 (D.C. Cir. 2017).

243. *Id.* at 610.

244. *Id.* (citing MINN. STAT. § 97B.645, subdvs. 3, 5, 6 (2012)).

245. *Id.* (citing MINN. STAT. § 97B.671, subd. 4(b) (2012)).

Circuit noted that these measures had been in place previously and the Minnesota wolf population had increased nonetheless.²⁴⁶

Regarding the district court's concern about the lack of conservation plans in some involved states, the D.C. Circuit agreed with the FWS's assertion that regulatory measures were not necessary given the near-absence of gray wolves in those states,²⁴⁷ reasoning that the mortality of a lone wolf wandering into one of these states would not threaten the sustainability of the DPS as a whole.²⁴⁸ The court observed that the ESA "tasks the Service with determining whether the species is endangered or threatened, not whether the species could reach still higher population levels if given more protection."²⁴⁹

In the end, however, the D.C. Circuit upheld the district court's vacatur of the 2011 delisting rule due to the "seriousness of the Rule's deficiencies" regarding the impacts of DPS delisting on the remaining populations of listed wolves throughout the lower 48 states.²⁵⁰ In particular, the FWS's determination that the Great Lakes DPS was no longer threatened or endangered throughout all or a significant portion of its range was arbitrary because the FWS wrongly disregarded the wolves' lost historical range, which could impact the species' survival in its current range.²⁵¹ "Range loss can 'result[] in a species for which distribution and abundance is restricted, gene flow is inhibited, or population redundancy is reduced to such a level that the entity is now vulnerable to extinction or likely to become so within the foreseeable future throughout all or a significant portion of its current range.'"²⁵²

Although the wolf delisting rule was remanded, two aspects of it are relevant to our consideration of adequate regulatory measures. First, as for state requirements, it seems that the wolf management plans in the Great Lakes states were "adequate" despite being rather minimal because they did not appear to impede, and may have even aided, the growth of wolf populations.²⁵³ Second, as for federal requirements, the court took comfort in the fact that the FWS is required to continue monitoring the gray wolf for five years after delisting and to make "prompt use" of its emergency powers "to prevent a significant risk to

246. *Id.* at 608.

247. *Id.*

248. *Id.* at 612.

249. *Id.*

250. *Id.* at 615 (internal citations omitted).

251. *Id.* at 605.

252. *Id.* at 606 (citing Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions, 79 Fed. Reg. 37,578, 37,584 (July 1, 2014) (to be codified at 50 C.F.R. chpts. I, II)).

253. *Id.* at 612 (quoting 16 U.S.C. § 1533(g)(2)). Parallels can be seen in the Rocky Mountain Gray Wolf recovery efforts. See Michael D. Jimenez et al., *Wolf Dispersal in the Rocky Mountains, Western United States: 1993–2008*, 81 J. WILDLIFE MGMT. 581, 581 (2017); see also Williams, *supra* note 230, at 131–46.

the well-being of any such recovered species.”²⁵⁴ However, as we discuss below, monitoring and the deployment of the rarely-used emergency listing power are no panacea for a species at risk.²⁵⁵

B. *Yellowstone Grizzly Bear*

Like wolves, populations of grizzly bears (*Ursus arctos horribilis*) plummeted as European settlers and their livestock spread across the western United States.²⁵⁶ Once abundant in mountain ranges from Canada to Mexico and from the Great Plains to California, their numbers had dropped from around 50,000 in the nineteenth century to between 800 and 1,000 individuals by the early 1970s, and the species had been extirpated from 98% of its habitat in the lower 48 states.²⁵⁷

When the ESA was passed in 1973, grizzlies were one of the first species to be listed as threatened.²⁵⁸ A recovery plan was adopted in 1982, and an Inter-agency Grizzly Bear Committee (“IGBC”) was formed by members of FWS, the National Park Service, the Forest Service, the states of Montana, Idaho, Washington, and Wyoming, and the province of British Columbia.²⁵⁹

With a concerted effort by these partners, the grizzly population in the Greater Yellowstone Area (“GYA”) began to rebound. By the early 2000s, the GYA grizzly population had been increasing at a rate of 4.2% to 7.6% per year and had expanded its range by 48% since the 1970s. In 2006, the total grizzly population in the GYA was estimated at more than 500 bears, and scientists concluded that grizzlies were approaching the carrying capacity of Yellowstone National Park.²⁶⁰

254. *Id.* at 610 (citing 16 U.S.C. § 1533(g)(2)). The court added, “Concerned entities also remain free to petition the Service to relist the gray wolf should it be threatened once more.” *Id.* (citing 16 U.S.C. § 1533(b)(3)); *see also* *Def. of Wildlife v. Zinke*, 849 F.3d 1077, 1084 (D.C. Cir. 2017) (noting that the decision to delist Rocky Mountain gray wolves “in the absence of legal certainty is compatible with the ESA’s requirement for monitoring of the species after delisting . . . and its emergency provisions authorizing the Secretary to take immediate action to ensure the delisted species does not become threatened or endangered again”).

255. *See infra* notes 297–99 and accompanying text.

256. *See* *Greater Yellowstone Coal. v. Servheen*, 665 F.3d 1015, 1019 (9th Cir. 2011) (noting that humans fear grizzlies, but, ironically, grizzlies have been “the more vulnerable ones,” due to “widespread hunting, trapping, poisoning, and habitat destruction”).

257. *Id.* at 1020.

258. Amendment Listing the Grizzly Bear of the 48 Conterminous States as a Threatened Species, 40 Fed. Reg. 31,734, 31,734–36 (July 28, 1975).

259. Grizzly Bears; Yellowstone Distinct Population; Notice of Petition Finding; Final Rule, 72 Fed. Reg. 14,866, 14,866–69 (Mar. 29, 2007).

260. *Greater Yellowstone Coal.*, 665 F.3d at 1020.

The FWS attempted to delist the GYA population in 2007 and then again in 2017.²⁶¹ Habitat protection and human-caused bear mortality were persistent issues, both turning in part on the adequacy of existing regulatory mechanisms outside of the ESA itself.

Steps along the way to the delisting decision included the 1982 recovery plan, which aimed to foster self-sustaining grizzly populations in the GYA as well as the Northern Continental Divide Ecosystem in Montana, the North Cascades area in Washington, and the Selkirk and Cabinet–Yaak areas of northern Idaho, Montana, and Washington.²⁶² The recovery plan was revised in 1993, when the FWS delineated a “Recovery Zone” for each of these regions, along with updated demographic recovery criteria and a commitment to the development of a conservation strategy for each grizzly population to guide management after delisting.²⁶³ The FWS subsequently added habitat-based recovery criteria to the Grizzly Bear Recovery Plan following a successful legal challenge to its adequacy.²⁶⁴

The FWS’s 2007 delisting decision relied heavily on the 2007 GYA Conservation Strategy for the Grizzly Bear, which was adopted in consultation with the states of Montana, Idaho, and Wyoming.²⁶⁵ The Conservation Strategy refers to forty federal laws, rules, guidelines, strategies, and reports and thirty-three State laws, statutes, and regulations applicable to GYA grizzly management.²⁶⁶ Eight federal and state entities signed a memorandum of understand-

261. Tom France & Daniel Brister, *Bringing Back The Great Bear: Challenges and Opportunities Of Grizzly Restoration in the Northern Rockies*, 42 PUB. LAND & RESOURCES L.R. 1, 11–15 (2020).

262. *Greater Yellowstone Coal.*, 665 F.3d at 1019–20.

263. *Id.* (stating that recovery zones are areas “large enough and of sufficient habitat quality to support a recovered bear population within which habitat and population would be monitored”).

264. *See* *Fund for Animals v. Babbitt*, 903 F. Supp. 96 (D.D.C. 1995), *amended by* 967 F. Supp. 6 (1997) (finding that the recovery plan did not satisfy the ESA’s “objective, measurable criteria” requirement and that FWS had not provided a rational reason for the plan’s monitoring methods). The Center for Biological Diversity has lodged a new challenge to the Grizzly recovery plan, which has not seen a comprehensive update since 1993. *See* Complaint, Ctr. for Biological Diversity v. Bernhardt, No. 19-cv-00109 (D. Mont. June 27, 2019), 2019 WL 2745642.

265. *See Greater Yellowstone Coal.*, 665 F.3d at 1019 (citing INTERAGENCY CONSERVATION STRATEGY TEAM, FINAL CONSERVATION STRATEGY FOR THE GRIZZLY BEAR IN THE GREATER YELLOWSTONE AREA (2007)) (describing the Strategy as “an impressive inter-agency, multi-state cooperative blueprint for long-term protection and management of a sustainable grizzly population”).

266. Grizzly Bears; Yellowstone Distinct Population; Notice of Petition Finding; Final Rule, 72 Fed. Reg. 14,865, 14,922–23 (Mar. 29, 2007). Many of these provisions predated the initial listing in 1975. On appeal, Judge Sidney R. Thomas, concurring in part and dissenting in part, noted that the requirements were not sufficient to prevent listing in the first place, and that “most of the listed laws and regulations do not specifically relate to grizzly protection; rather, they involve generic environmental and resource management.” *Greater Yellowstone*

ing agreeing to implement the Conservation Strategy: the FWS; the U.S. Forest Service; the National Park Service; the U.S. Geological Survey; the Bureau of Land Management; the Montana Department of Fish, Wildlife, and Parks; the Wyoming Game and Fish Department; and the Idaho Department of Fish and Game.²⁶⁷

In *Greater Yellowstone Coalition v. Servheen*,²⁶⁸ a federal district court vacated the delisting rule for failing to ensure adequate, legally binding regulatory mechanisms upon delisting, and for failing to address potential bear mortality due to declining food sources, especially whitebark pine, among other things.²⁶⁹ With regard to regulatory mechanisms, the court held that the Service relied on too many measures that were not legally binding and, for those measures that were legally binding, failed to explain how they would actually protect the GYA grizzly population from sliding into decline.²⁷⁰

The Conservation Strategy establishes habitat standards inside the Primary Conservation Area (PCA) for permissible changes to secure habitat, the number and capacity of developed sites, and livestock allotments. . . . However, it does not contain analogous standards for lands outside the PCA; instead, it states that “agencies will cooperate with the appropriate state wildlife agency in development of additional *future*, area-specific grizzly bear management goals.”²⁷¹

The district court observed that “promises of future, speculative action are not existing regulatory mechanisms.”²⁷² It also found that the Conservation

Coal., 665 F.3d at 1035 (Thomas, J., concurring in part and dissenting in part). As an example, Thomas noted that the Strategy cited “a federal act establishing a highway between national parks as a statute aimed at protecting the grizzly.” *Id.*

267. *Id.* at 1021.

268. *Greater Yellowstone Coal. v. Servheen*, 672 F. Supp. 2d 1105 (D. Mont. 2009), *aff’d in part, rev’d in part*, 665 F.3d 1015, 1030 (9th Cir. 2011).

269. *Id.* at 1126.

270. *Id.* at 1113–15.

271. *Id.* at 1115 (emphasis in original). The PCA is a 9,210 square-mile area encompassing Yellowstone National Park and adjacent, primarily public, land. The area is 98% Park Service and Forest Service land, and includes approximately 51% of suitable habitat in the GYA and between 84% and 90% of the GYA’s population of female grizzlies with cubs. *Greater Yellowstone Coal.*, 665 F.3d at 1021.

272. *Greater Yellowstone Coal.*, 672 F. Supp. 2d at 1116 (citing *Or. Nat. Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1155 (D. Or. 1998); *Fed’n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1165, 1169 (N.D. Cal. 2000)). Pursuant to the Conservation Strategy, the state management plans “*recommend and encourage* [state] land management agencies to maintain or improve habitats that are important to grizzly bears and to monitor habitat conditions.” *Greater Yellowstone Coal.*, 665 F.3d at 1022 (emphasis added). The state plans “are premised on monitoring and future actions, and they contain few, if any, enforceable standards.” *Greater Yellowstone Coal.*, 672 F. Supp. 2d at 1117. The Wyoming plan, for example, contained “only ‘general management guidelines’ for habitat and managing nuisance bears, which can-

Strategy's monitoring protocols were similarly lacking. Not only were the protocols unenforceable, "[t]he Service and other agencies are not required to take any concrete response to protect grizzlies if monitoring shows population or habitat declines, but only to 'identify' the problems and make recommendations for changes."²⁷³

For the district court, the coup de grâce was the FWS's lack of authority to enforce *any* of the measures contained within the Conservation Strategy, state or federal, except for one: keeping the GYA grizzly population above 500 bears.²⁷⁴ According to the court, even if the Conservation Strategy contained sufficient standards, there was no evidence that the state and federal agencies could be compelled to comply.²⁷⁵ The court quoted the FWS's response to comments found in the final delisting rule:

We [the FWS] have no authority to compel the States to enact laws. . . . While *the Strategy cannot legally compel any of the signatories to implement management policies* or obligate funding, the various Federal agencies and State governments' signatures on the Strategy clearly indicate their intention to manage grizzly bears according to the Strategy.²⁷⁶

According to the district court, "[a]n 'intention' or 'commitment' to manage grizzly bears a certain way is not a regulatory mechanism," and it cannot satisfy the ESA's delisting requirements.²⁷⁷

On appeal, the Ninth Circuit affirmed the lower court's ruling that the Service failed to support its determination that whitebark pine declines were not a threat, "given the lack of data indicating grizzly population stability in the face of such declines, and the substantial data indicating a direct correlation between whitebark pine seed availability and grizzly survival and reproduction."²⁷⁸

The Ninth Circuit also highlighted the importance of adequate regulatory mechanisms to the delisting decision.²⁷⁹ In particular, the potential for relisting, if post delisting monitoring data shows population declines, is not adequate:

not legally be enforced because guidelines are discretionary." *Id.* In addition to treating delisted bears as "trophy" game, Wyoming "flatly states that it will not allow grizzlies to reoccupy certain mountain ranges, and that it will enforce that policy through sport hunting and removal." *Greater Yellowstone Coal.*, 665 F.3d at 1035 (Thomas, J., concurring in part and dissenting in part).

273. *Greater Yellowstone Coal.*, 672 F. Supp. 2d at 1116.

274. *Id.* at 1115–16.

275. *Id.* at 1116.

276. *Id.* (emphasis in original) (quoting from the administrative record).

277. *Id.* at 1116.

278. *Greater Yellowstone Coal. v. Servheen*, 665 F.3d 1015, 1020 (9th Cir. 2011).

279. *Id.* at 1030.

We reject out of hand any suggestion that future possibility of relisting a species can operate as a reasonable justification for delisting. *Whatever comfort may be taken in relisting as a safety net, it is no answer to conclude that a species is not threatened simply because it can be relisted if it is threatened.*²⁸⁰

However, unlike the district court, the Ninth Circuit found that the Conservation Strategy's regulatory mechanisms were adequate because monitoring and relisting were not the only measures adopted in the delisting decision; rather, there were other "clearly binding regulatory mechanisms" in the Conservation Strategy.²⁸¹ The court expressed approval for the "breadth of these measures" provided in the Conservation Strategy, which it described as a "tribute to the comprehensive multi-jurisdictional cooperative effort between federal and state agencies, as well as private interest groups."²⁸² Ultimately, the Ninth Circuit found that the federal provisions incorporated by the Conservation Strategy, including the National Forest Plans, National Park Compendia, and the protections afforded by the Wilderness Act, were sufficiently enforceable, and therefore adequate regulatory mechanisms, to pass muster for delisting.²⁸³

In his partial dissent in *Greater Yellowstone Coalition*, Judge Thomas pointed out that no state or federal regulation actually enforced the grizzly bear mortality standards.²⁸⁴ He explained, "[n]ot only did the Service rely on voluntary, rather than 'regulatory,' measures, but it did not explain adequately how existing regulatory mechanisms actually prevent grizzly bear mortality."²⁸⁵

280. *Id.* at 1029 (emphasis added). The court remarked, "For adaptive management of a potential threat to suffice as a basis for a delisting determination, we believe that more specific management responses, tied to more specific triggering criteria, are required." *Id.*

281. *Id.* at 1032.

282. *Id.* ("The multi-state commitment to implement the Strategy represents a substantial wildlife conservation planning achievement—and one that, we have no doubt, ultimately improves the lot of the Yellowstone grizzly bear. . . . [W]e need not, and do not, consider those measures, some or all of which may not be binding, because we hold that the clearly binding regulatory mechanisms discussed above suffice.").

283. *See id.* at 1031. The majority described a Compendium as "'a summary of the rulemaking implemented under the discretionary authority of the Park Superintendent' in a particular National Park, and consist[ing] of regulations which augment the generally applicable Park Service regulations Therefore, the incorporation of the Strategy's population standards [into the Compendia] gives these standards . . . federal regulatory force, and the Park Service must adhere to them." *Id.* The majority also concluded that, within the PCA designated, both the Forest Service and the Park Service were "legally bound to uphold key Strategy standards . . . because these agencies collectively own and manage 98% of the land there." *Id.* Beyond the boundaries of the PCA, "roughly 30 percent of all suitable habitat . . . is within a designated Wilderness Area [which] does not allow road construction, new livestock allotments, or new oil, gas, and mining developments." *Id.*

284. *See id.* at 1034 (Thomas, J., concurring in part and dissenting in part).

285. *Id.* at 1033 (Thomas, J., concurring in part and dissenting in part). "Merely compiling a list of potentially applicable statutes and regulations is not sufficient; the agency must explain

Good intentions are not rules of law. Unenforceable aspirational goals are not regulatory mechanisms. Promises to monitor, review, and convene committees do not satisfy the statutory requirement.²⁸⁶

Because the Service had taken a detour from its repeated recognition of the need for *binding* conservation measures to protect grizzlies from the very same threats that led to their decline in the first place, Judge Thomas would have affirmed the district court's decision in its entirety.²⁸⁷

In the aftermath of *Greater Yellowstone Coalition*, on remand, the Service determined that decreased whitebark pine seed did not pose a substantial threat to the continued viability of the GYA grizzly population due to the availability of other natural food sources.²⁸⁸ The Service initiated a new delisting process, approved a new Conservation Strategy, and issued a new rule to delist the GYA population in 2017.²⁸⁹

The Crow Indian Tribe and a coalition of environmental and animal rights groups challenged the 2017 delisting rule on the grounds that the Service failed to analyze the impact of delisting the GYA grizzly population on the other remaining grizzly populations within the continental United States, and that its application of the five-factor threats analysis required by the ESA was arbitrary and capricious.²⁹⁰ Plaintiffs alleged that the FWS acted arbitrarily "when it isolated and delisted a distinct population segment without considering the legal and functional impact on the remainder of the species."²⁹¹ They also challenged the adequacy of regulatory mechanisms for minimizing grizzly mortality. According to the plaintiffs, the FWS had unlawfully relied on the

why these laws and regulations constitute adequate regulatory mechanisms for grizzly protection." *Id.* at 1036 (Thomas, J., concurring in part and dissenting in part).

286. *Id.* at 1034 (Thomas, J., concurring in part and dissenting in part) (citing *Norton v. So. Utah Wilderness All.*, 542 U.S. 55, 72 (2004) (noting that monitoring is not a legally binding nor enforceable commitment under the Administrative Procedure Act)). Judge Thomas went on to say that "[m]ere citation to potentially applicable statutes and regulations without analysis does not fulfill the Service's obligation to explain how they act as adequate regulatory mechanisms for protection of the grizzly." *Id.* at 1036 (Thomas, J., concurring in part and dissenting in part); *see also* Goble, *Talk, supra* note 12, at 17 (regarding generally applicable, but not necessarily adequate, federal and state statutes such as the Clean Water Act and zoning regulations).
287. *Greater Yellowstone Coal.*, 665 F.3d at 1034, 1036 (Thomas, J., concurring in part and dissenting in part).
288. Removing the Greater Yellowstone Ecosystem Population of Grizzly Bears from the Federal List of Endangered & Threatened Wildlife, 82 Fed Reg. 30,502, 30,539 (June 30, 2017) [hereinafter Grizzly Bear Delisting Rule].
289. *Id.* at 30,502–05.
290. *Crow Indian Tribe v. United States*, No. 17-89, 2018 WL 4145908, at *2 (D. Mont. Aug. 30, 2018) (citing *Humane Soc'y of the U.S. v. Zinke*, 865 F.3d 585, 614–15 (D.C. Cir. 2017)).
291. *Id.*

states' general promises to manage mortality.²⁹² In the delisting rule, the FWS concluded that the states have been "funding and performing the majority of grizzly bear recovery, management, monitoring, and enforcement efforts within their jurisdictions for decades."²⁹³ It believed there was "not a reasonable basis" to suppose the states would not fully fund GYA grizzly recovery efforts.²⁹⁴

Plaintiffs attempted to distinguish the 2017 delisting rule from the previous rule's treatment of adequate regulatory mechanisms, which the Ninth Circuit upheld in *Greater Yellowstone Coalition*.²⁹⁵ The district court, finding itself bound by that precedent, upheld the FWS's decision that, through the regulatory mechanisms specified in the Conservation Strategy, the states would adequately manage the GYA population upon delisting.²⁹⁶

In particular, the court noted that, in both delisting rules, human-caused bear mortality had been a major focus of both grizzly recovery and planning for post-delisting management.²⁹⁷ The 2017 Conservation Strategy includes population/mortality management standards to maintain a recovered grizzly population in the future, and requires monitoring to ensure that a viable GYA population is maintained.²⁹⁸ It specifies objective, measurable habitat and population criteria, and delineates specific state and federal management responses if deviations occur.²⁹⁹ All of the state and federal parties signed a memorandum of understanding in which they agreed to implement the Conservation Strategy.³⁰⁰ In turn, Wyoming, Idaho, and Montana entered into a Tri-State Memorandum of Agreement ("MOA"), in which they agreed to implement the mortality criteria in the Conservation Strategy and to allocate discretionary mortality, through hunting licenses, among the states.³⁰¹ The court refused to "second-guess the states' willingness and ability to manage a delisted grizzly population."³⁰²

292. *Crow Indian Tribe v. United States*, 343 F. Supp. 3d 999, 1015–16 (D. Mont. 2018).

293. *Id.* at 1016 (citing Grizzly Bear Delisting Rule, *supra* note 288, at 30,603).

294. *Id.*

295. *Id.* (citing *Greater Yellowstone Coal. v. Servheen*, 672 F. Supp. 3d 1015, 1032 (9th Cir. 2011)).

296. *Id.*

297. *Id.* at 1015–16.

298. *See* Grizzly Bear Delisting Rule, *supra* note 288, at 30,515.

299. *Id.* The Conservation Strategy states that maintenance of grizzly populations in accordance with the population standards is a state responsibility. *Id.* at 30,516.

300. *Id.*

301. *Id.* at 30,502; *see also* Opening Brief of Appellees the Humane Society of the U.S. & the Fund for Animals at 46–7, *Crow Indian Tribe v. United States*, Nos. 18-36030, 18-36038, 18-36042, 18-36050, 18-36077, 18-36078, 18-36079, and 18-36080 (9th Cir. Aug. 5, 2019) (noting that the grizzly bear Conservation Strategy "allocates 'discretionary mortality' quotas—for recreational hunting and management kills—in accordance with the total allowable mortality limit," which, in turn, "directly influence state management actions").

302. *Crow Indian Tribe*, 343 F. Supp. 3d at 1015.

Despite finding adequate regulatory mechanisms, the court vacated the 2017 delisting rule because the FWS had acted arbitrarily in several other ways, in large part due to the intense pressure exerted by the states upon the FWS to delist the GYA population.³⁰³ According to the court, “by dropping a key commitment—the commitment to ensure that any population estimator adopted in the future is calibrated to the estimator used to justify delisting—the Service illegally negotiated away its obligation to apply the best available science in order to reach an accommodation with the states of Wyoming, Idaho, and Montana.”³⁰⁴ It added, “all the evidence cited by the parties supports the Plaintiffs’ position that (1) the Service and other scientists viewed a recalibration provision as essential; and (2) the Service chose to forego such a provision in order to get a deal with the states.”³⁰⁵ In the end, “[r]ather than maintain heightened protections in the face of a recognized threat to the health of the Greater Yellowstone grizzly, the Service accepted a ‘compromise’ that was in effect a capitulation.”³⁰⁶

Per the court, the FWS’s final deficiency was their failure to analyze how reducing protection for the GYA population would affect the remaining members of the lower-48 grizzly designation.³⁰⁷ According to the court, “the Service is engaged in a process of real-time ‘balkanization’ criticized by the D.C. Circuit in *Humane Society*: ‘when a species is already listed, the Service cannot review a single segment with blinders on, ignoring the continuing status of the species’ remnant. The statute requires a comprehensive review of the entire listed species and its continuing status.”³⁰⁸

303. *Id.* at 1016–18.

304. *Id.* at 1004. This issue turns on technical decisions related to population modeling. The court found that “[b]etween the draft and final versions of the Conservation Strategy, the Service removed its commitment to recalibration—the mechanism by which estimates generated by a new population estimator, if adopted, would be brought in line with those generated by the current estimator, the Chao2 model.” *Id.* at 1015. FWS admitted that the Chao2 model is “highly conservative” and likely to underestimate population size. *Id.* at 1018. The court noted, “Given that Chao2 is known to create low estimates, it stands to reason that a more accurate model would generate a higher population estimate.” *Id.*

305. *Id.* (“[A]ll available evidence demonstrates that the Service made its decision not on the basis of science or the law but solely in reaction to the states’ hardline position on recalibration.”).

306. *Id.* at 1018.

307. *Id.* at 1013.

308. *Id.* at 1008–09 (citing *Humane Soc’y of the U.S. v. Zinke*, 865 F.3d 585, 601 (D.C. Cir. 2017)). The other rationale for vacating the delisting rule is less illuminating for the central thesis of this article. One court found that the FWS’s reliance on two studies that it had “cobbled together” to support its determination that the GYA grizzly could be independent and genetically self-sufficient was “illogical, as both studies conclude that the long-term health of the Greater Yellowstone grizzly depends on the introduction of new genetic material.” *Id.* at 1004, 1020.

The states filed an appeal to the Ninth Circuit, and the federal government soon followed.³⁰⁹ As of this writing, the appeal is pending. Regardless of the outcome of this case on appeal, the district court's decision in *Crow Indian Tribe* offers a compelling lesson about the appropriate role of the FWS in maintaining some degree of oversight of the population health of a recently delisted species. The decision is a clear rebuke of the FWS too quickly stepping aside and ceding control of the still-recovering GYA grizzly population to non-federal decision-makers. This delegation was particularly problematic in this case, where the involved states had consistently demonstrated a troubling eagerness to avoid hard, science-based commitments for monitoring the post-delisting health of the GYA grizzly population. While the district court did not put it in these terms, its decision can be fairly read to argue for an ESA delisting process that provides the species with a gradual and thoughtful transition from the comprehensive protections of the ESA to its post-delisting reality. In other words, it points to a "soft release" that seeks to ensure the species is best-positioned for post-listing success through adequate regulatory mechanisms before stepping away rather than a "hard release" that may leave too much to chance and result in a relisting of the species. The question for the remainder of this Article is what such a "soft release" would entail and whether it may be a viable alternative to the status quo.

V. A "SOFT RELEASE": RECOVERY CONSERVATION AGREEMENTS AND OTHER POTENTIAL TOOLS

In this Part, we argue for a "soft release" alternative to delisting, where the FWS continues to play a supervisory role with responsibility for the newly recovered species, and the species automatically or quickly goes back on the list if thresholds, triggers, and standards are not met. We reject the possibility of relisting as a backstop to a failed "hard release," as many courts have held, and we explore the use of enhanced Recovery Plans with components of CCAs as part of a successful "soft release" strategy.

In *Greater Yellowstone Coalition*, the FWS relied on monitoring, adaptive management, and the potential for relisting, if necessary, to justify its decision to delist the GYA Grizzly bear population despite scientific uncertainty. The Ninth Circuit was clear that relisting is *not* an adequate regulatory mechanism, even when coupled with monitoring and adaptive management. In fact, the court flatly rejected the notion that the potential for relisting in the future could serve as a rationale for delisting. It admonished, "[w]hatever comfort may be taken in relisting as a safety net, *it is no answer to conclude that a species is not threatened simply because it can be relisted if it is threatened.*"³¹⁰

309. *Crow Indian Tribe v. United States*, No. 18-36077 (9th Cir. 2018).

310. *Greater Yellowstone Coal. v. Servheen*, 665 F.3d 1015, 1029 (9th Cir. 2011) (emphasis added).

Thus, the potential for relisting is not sufficient to correct for situations when species have been delisted too hastily, or when circumstances change, placing the species in peril once again. The typical delisting rule provides that the FWS will monitor delisted species for five years, and states that “[i]f evidence acquired during this monitoring period shows that endangered or threatened status should be reinstated to prevent a significant risk to the species, the Service may use the emergency listing authority provided for by the Act.”³¹¹ As Professor Dan Rohlf notes, “the Services to date have conducted monitoring and reviews only on an ad hoc basis—to the limited extent that they have complied with these requirements at all.”³¹² Whether due to lack of data, lack of finances, or lack of political will, the FWS rarely reinitiates relisting absent a court order.³¹³

The FWS could invoke its authority to issue an emergency listing, which takes effect immediately and lasts up to 240 days.³¹⁴ However, this power has been used sparingly and it does not provide an adequate response to the recurring problems of funding shortfalls, political pressure, and other priorities.³¹⁵ Absent an emergency listing, it takes twelve years, on average, to list a species; during that time, the unprotected species may experience further population declines and habitat losses, or even go extinct.³¹⁶ Thus, to rely on the possibility of relisting is far from adequate.

Could enhanced recovery plans be utilized to achieve a successful delisting “soft release”? One piece of the delisting–recovery puzzle may be to amend the ESA to make recovery plans mandatory for all listed species, and to require the

311. See, e.g., Removal of Arctic Peregrine Falcon From the List of Endangered and Threatened Wildlife, 59 Fed. Reg. 50,803 (Oct. 5, 1994).

312. Rohlf, *supra* note 97, at 543. Rohlf found “no indication[] that FWS has an organized effort to monitor any ‘warranted but precluded’ species on an ongoing basis, though informal assessments may occasionally occur.” Among all delisted species, the agencies have monitored, at best, “on an ad hoc basis,” three of them. *Id.* at 544.

313. *Id.* at 543 & n.230. One of the authors conducted a simplistic survey of the Federal Register database in Westlaw, using search terms related to reinitiating listing, or relisting, and found less than 20 actions since 1999.

314. 16 U.S.C. § 1533(b)(7) (2018); see also 50 C.F.R. § 424.20(a) (2019) (“the Secretary may at any time issue a regulation . . . in regard to any emergency posing a significant risk to the well-being of a species of fish, wildlife, or plant. Such rules shall, at the discretion of the Secretary, take effect immediately on publication in the Federal Register.”)

315. John Charles Kunich, *Preserving the Womb of the Unknown Species with Hotspots Legislation*, 52 HASTINGS L.J. 1149, 1176 (2001) (citing *City of Las Vegas v. Lujan*, 891 F.2d 927 (D.C. Cir. 1987); James C. Kilbourne, *The Endangered Species Act under the Microscope: A Closeup Look from a Litigator’s Perspective*, 21 ENVTL. L. 499, 520 (1991)). Kunich explains that, because “they merely postpone rather than obviate the need for the usual array of procedural steps, [emergency listings] have not been much of an answer to the ESA’s problems with delay and administrative tangle.” Kunich, *supra*, at 1176; see also Rohlf, *supra* note 97, at 543 & n.230 (noting the small number of emergency listings of warranted but precluded species).

316. See *supra* notes 30–32 and accompanying text.

FWS to ensure that the plans are updated regularly and that the criteria contained within recovery plans are met before a species could be delisted.³¹⁷ Recovery plans include site specific management actions necessary to recover the species; objective, measurable recovery and delisting criteria; and estimates of the time and cost required to carry out those measures needed to recover and conserve the species.³¹⁸ Recovery plans are typically developed by scientists, and meeting the plan's goals should be a decent indication that a species is recovered.³¹⁹

In promoting or defending its recovery plans, the FWS has asserted that they are “based on the best scientific information available, address[] the scientific peer reviewers’ comments, and include [] recent scientific information [such as] climate change and habitat modeling.”³²⁰ Advocates involved in the long-running northern spotted owl controversy are on point when they observe that “[r]ecover plans are more than a paper exercise, and they must mean something,” especially given the amount of time, money, and energy devoted to them.³²¹

Skeptics would argue that recovery plans are “necessarily tentative,” due to the uncertainties inherent in conservation biology.³²² Given the unforeseen variables that play a role in species recovery and conservation, “[a] species might recover in a way not contemplated by the recovery plan, or conversely, meeting all the recovery plan goals might fail to recover a species.”³²³ If recovery plans were both mandatory and adaptable, however, the FWS could not ignore the carefully considered factors that are designed to result in recovery of the species.³²⁴ The FWS would be required to ensure that recovery goals are met, but the means of meeting these goals could be flexible. If recovery goals are inad-

317. Martin F. J. Taylor et al., *The Effectiveness of the Endangered Species Act: A Quantitative Analysis*, 55 *BIO SCIENCE* 360, 366 (2005). For details on the contents, strengths, and weaknesses of recovery planning as implemented under the ESA, see Part II, *supra*.

318. See *supra* notes 98–100 and accompanying text (discussing requirements for ESA recovery plans).

319. Lauren Hudson, *Flying in the Face of the Endangered Species Act? Delisting the West Virginia Northern Flying Squirrel*, 40 *ECOLOGY L.Q.* 549, 553 (2013); see also Anderson, *supra* note 117, at 221, 225 (stating that “recovery plans . . . have the purpose of helping bring species to a level where delisting is appropriate, [but] the plans are not always followed,” and citing the grizzly bear as an example of a delisting failure due to an inadequate recovery plan).

320. Susan Jane M. Brown & Jordan Beckett, *A Case Study for the Implementation of Recovery Plans to Conserve Listed Species*, 30 *NAT. RESOURCES & ENV'T* 18, 19 (2016); see also *id.* at 19–21 (discussing the northern spotted owl recovery plan).

321. *Id.* at 21.

322. Goble, *Recovery*, *supra* note 17, at 90.

323. Hudson, *supra* note 319, at 553.

324. *Id.* (citing Erik Harvey et al., *Recovery Plan Revisions: Progress or Due Process?*, 12 *ECOLOGICAL APPLICATIONS* 682, 682 (2002)) (“The . . . ESA . . . provides for flexibility and responsiveness in the recovery planning process by authorizing revision of recovery plans when new information arises or when the status of the species changes.”). But see *supra* Part II (discussing how infrequently recovery plans are issued and revised).

quate, the recovery plan should be revised to reflect new data and current understanding about the needs of the species.

In terms of successful delisting-recovery components, the PECE policy could be utilized to determine whether formalized conservation efforts by federal and non-federal collaborators are effective in sustaining recovered populations and their habitat.³²⁵ Only the second prong of the PECE test for evaluating CCAs, the certainty that the conservation efforts contained in the CCA will be effective at reducing threats to the species, would be relevant in the delisting context. When it makes a delisting decision, the FWS already knows that proposed conservation efforts have been implemented.³²⁶ All that is left to do is to evaluate the certainty that the efforts will be effective at continuing to mitigate or eradicate threats to the species.³²⁷ Granted, this is no easy task, but evaluative criteria could be revised to fit the delisting context in the form of a Recovery Conservation Agreement, as follows:

In evaluating the certainty of whether the conservation efforts will continue to be effective, the FWS considers:

the nature and extent of the [present and reasonably foreseeable future] threats to the species to be addressed and how these threats [will continue to be reduced by the conservation effort;] the . . . specific conservation objectives [at present and over time;] the appropriate steps to reduce threats to the species [in the absence of ESA requirements and prohibitions;] who must take those steps, and how infractions will be enforced;] [a]nd . . . quantifiable performance measures to monitor for both compliance and effectiveness[.]³²⁸

This may sound straightforward, but of course it is anything but, given the changing nature of our landscapes and our land uses, and the synergistic effects of these changes on communities of species. Even so, the lessons learned from CCAs that have been successful in the front end of the ESA process—the listing context—should be considered in the delisting context, to strengthen

325. See *supra* notes 83–87 and accompanying text.

326. PECE, *supra* note 85, at 15,101.

327. *Id.*

328. *Id.* The FWS's 2019 listing regulation revises the definition of "foreseeable future" to extend "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." Factors for listing, delisting, or reclassifying species, 50 C.F.R. § 424.11(d) (2019). This definition is too narrow with respect to listing, delisting, and recovery. Limiting the "foreseeable future" to a chronological endpoint where harmful conditions are "likely" may prevent the FWS from factoring long-range climate change projections into its analysis of continuing or future threats to the species.

Memoranda of Understanding and other types of agreements that have become relatively commonplace at the back end of the ESA process.³²⁹

CONCLUSION

As the Arctic grayling, gray wolf, Grizzly bear, and greater sage-grouse cases indicate, coordinated efforts across jurisdictional lines through cooperative federalism and private initiatives provide a crucial means for imperiled species to make progress toward recovery.³³⁰ Enhanced recovery plans and CCA-like agreements could play a similar role in the delisting process, working in concert to provide a roadmap to lasting recovery. Rather than relying on the possibility of relisting a species as a kind of “do over” when a poorly planned and executed delisting process fails, the FWS should apply the lessons learned from successful CCAs to the delisting process. Among these lessons are the importance of bringing all critical players (federal, state, tribal, and private) in a species’ health to the table to receive their input and obtain their commitments to implementing measures to assist in the species’ recovery, the critical need for the FWS to provide consistent and informed oversight throughout the recovery process, and an insistence on the primacy of science-based solutions over political compromise. Reconfiguring the delisting process in this manner will undoubtedly require a greater investment of time, effort, and resources than currently expended in the hard release paradigm utilized today, which is no small thing in the current political and fiscal environment. Ultimately, however, it is a small price to pay for the improved post-listing results that a shift to a soft release approach would give to the recovering species.

329. See Williams, *supra* note 230, at 113 (“Some of the creativity and shared responsibility that has allowed the USFWS to not list a species should apply to delisting as well.”). As this article goes to press, another means of addressing the binary nature of listing–delisting decisions has been proposed by Justin Pidot, who advocates “contingent delisting,” which would treat a recovered species’ listing as dormant, rather than non-existent, thereby facilitating expedient restoration of a listing “if certain foreseeable events materialize that signal renewed danger to a species’ viability.” Justin R. Pidot, *Contingent Delisting*, 91 U. COLO. L. REV. 649, 652 (2020). We support the idea, and believe that the triggering events could be included in a Recovery Conservation Plan.

330. See Robert L. Fischman & Jaelith Hall-Rivera, *A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery Under the Endangered Species Act*, 27 COLUM. J. ENVTL. L. 45, 72 (2002) (“The conservation imperative of comprehensive planning requires the Services to enlist the help of state and local jurisdictions with the authority, experience, and desire to incorporate species recovery needs into land use controls.”).

