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Endangered Species Act Listings and Climate Change: Avoiding the Elephant in the Room

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Kya B. Marienfeld**

The Endangered Species Act (ESA), with its reputation as the nation's strongest environmental law, might be expected to impose some limits on greenhouse gas (GHG) emissions adversely affecting listed species due to rising global temperatures. Although the federal government recently ended a long period of denial by conceding that some species warrant listing because of climate change, the accompanying listing decisions revealed a federal refusal to apply the ESA to constrain GHG emissions. In this article, we explain those decisions—involving the American pika, the polar bear, the wolverine, and the Gunnison sage-grouse—and their implications. We conclude with some surprising observations about the Obama Administration's apparent endorsement of Justice Scalia's approach to the ESA's habitat protections, the Administration's endorsement of constitutional standing rules to limit the effective scope of the statute, the growing significance of the distinction between endangered and threatened species, and the unintended boomerang effects of the administrative reforms of the statute in the 1990s.

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Introduction

For most of its forty years, the Endangered Species Act (ESA)¹ has developed a widespread reputation for being the most hard-edged of the nation's environmental laws, the alleged "pit-bull" of the environment, according to Professor Rohlf and others.² With the release of the fifth report of the United Nations' Intergovernmental Panel on Climate Change just a few days ago, a report that for the first time endorsed a carbon-emissions cap and concluded that there was a virtual certainty that the cause of warming global temperatures was anthropogenically caused,³ we thought it would be instructive to assess how the nation's leading environmental law was combatting the greatest environmental and animal challenge of our time.

The short answer is: not well at all. Although the listing agencies now seem prepared to acknowledge the existence of climate change-inducing gases warming global temperature and the adverse effects on species' habitat in making listing decisions, they have fashioned accompanying rules, primarily through section 4(d) of the statute,⁴ that largely eliminated any capability of the ESA to confront the climate

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¹ 16 U.S.C. § 1531 et seq.

² Daniel J. Rohlf, *There's Something Fishy Going on Here: A Critique of the National Marine Fisheries Service's Definition of Species Under the Endangered Species Act*, 24 *Envtl. L.* 617, 619 (1994).

³ Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis* at TS-25 (available at http://www.climatechange2013.org/images/uploads/WGIAR5_WGI-12Doc2b_FinalDraft_All.pdf) (accessed Dec. 5, 2013) (concluding that it is "extremely likely [95-100% certainty] that human activities caused more than half of the observed increase in global average surface temperature from 1951 to 2010).

⁴ 16 U.S.C. §1533(d).

change-induced causes of the listings. The effect is Sisyphean:⁵ the listing agencies can recognize and publicly disclose the peril that climate change is causing to species and their habitat, but they have made themselves powerless to do anything about it.

In this article, we examine four climate change-imperiled species and the ESA's reaction thus far. One species was denied listing;⁶ one was listed but denied any meaningful ESA protections;⁷ and two are proposed as of this writing, one as an "endangered" species,⁸ the other as a "threatened" species.⁹ The results are hardly happy ones for the species we consider. The listing agencies seem determined to prevent the ESA from becoming an agent of climate-change mitigation. Perhaps this aversion to taking any meaningful climate-change action will prevent a hostile Congress from amending the ESA,¹⁰ but these developments are unwelcome news for those concerned about the mounting climate-change crisis,¹¹ and they are certainly unhappy news for species listed under the ESA due to warming global temperatures.

I. The American Pika

The American pika is a small mammal related to rabbits and hares that inhabits high elevation talus fields in alpine and subalpine areas extending south from Western

⁵ Sisyphus was, according to Greek mythology, a king punished by the god Zeus for chronic deceitfulness and sentenced to roll a boulder up a hill, watch it roll back, and repeat the action forever.

⁶ See § I (discussing the pika).

⁷ See § II (discussing the polar bear).

⁸ See § III (discussing the Gunnison sage-grouse).

⁹ See § IV (discussing the North American wolverine).

¹⁰ See, e.g. Elly Pepper, *March/April 2013 Legislative Threats to the Endangered Species Act*, http://switchboard.nrdc.org/blogs/epepper/marchapril_2013_legislative_th.html (May 2, 2013) (accessed Dec. 5, 2013).

¹¹ See, e.g. Andrew Revkin, *New York Times*, *Climate Panel's Fifth Report Clarifies Humanity's Choices*, http://dotearth.blogs.nytimes.com/2013/09/27/ipcc-global-warming-report-clarifies-humanitys-choices/?_r=0 (Sept. 27, 2013) (accessed Dec. 5, 2013).

Canada into the Rocky Mountains and the Sierra Nevada.¹² Like the polar bear, wolverine, and sage-grouse, the pika faces serious threats from climate change.¹³

A. The Pika and Climate Change

A fundamental characteristic of the American pika is its temperature sensitivity— individuals can die after even brief exposure temperatures greater than 77.9 degrees Fahrenheit.¹⁴ Because of this temperature sensitivity, the range and suitable habitat of pikas increases with elevation in the southern extent of its geographic range.¹⁵ In Canada, populations occur at sea level, but in the American Southwest, the species rarely exists below 8,202 feet.¹⁶

The restriction of American pikas to their existing distribution is relatively recent.¹⁷ Pika occupied low-elevation areas in the Great Basin and further south between 7,000 and 5,000 years ago, but warming and drying climactic trends forced populations into high-elevation refugia.¹⁸ Climate change and the resulting effects on vegetation shaped this shift in habitat range.¹⁹ Ongoing climate change has the potential continue to this restricted range changed pika habitat through negative ecological and

¹² Center for Biological Diversity, *Petition to List the American Pika (Ochotona princeps) as Threatened or Endangered Under the United States Endangered Species Act*, 1 (October 1, 2007) (available at http://www.biologicaldiversity.org/species/mammals/American_pika/pdfs/American-pika-federal-petition-10-01-2007.pdf) (accessed Dec. 5, 2013).

¹³ 12-month Finding on a Petition to List the American Pika as Threatened or Endangered, 75 Fed. Reg. 6438, 6439 (Feb. 9, 2010).

¹⁴ *Id.* at 6440.

¹⁵ *Id.*

¹⁶ *Id.* at 6440-41.

¹⁷ *Id.* at 6440.

¹⁸ *Id.*

¹⁹ *Id.*

anthropogenic change.²⁰ Climate variables having physiological, ecological, and demographic consequences on American pika include the number of extremely hot or cold days, the average summer temperatures, and the duration of snow cover.²¹

B. The Pika Listing Decision

On October 2, 2007, the U.S. Fish and Wildlife Service (“FWS” or “Service”) received a petition from environmental groups to list the American pika under the ESA.²² The environmentalists argued that although the entire species qualified for listing as “threatened,” five subspecies inhabiting the Great Basin merited listing as “endangered” due to their small population size, declining population trends and ranges, and the “substantial long-term threat that global warming poses to their persistence.”²³

Initially, the Service responded to the petitioners by stating that it could not address the listing petition because other listing actions and court-ordered settlements consumed nearly all the agency’s listing funding.²⁴ This response prompted a suit, challenging the agency’s failure to list the pika.²⁵ In 2009, the conservationists and the FWS settled the suit, with the Service agreeing to submit a preliminary determination

²⁰ *Id.* at 6444.

²¹ *Id.* at 6445.

²² *See Petition to List the American Pika, supra* n. 12.

²³ *Id.* at ii. Under the Endangered Species Act, the Service or NMFS may list a species as “endangered” if it is “in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C.A. §1532 (6). The agencies may list a species as “threatened” if it is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” 16 U.S.C.A. §1532 (20). This distinction is important because, although every protection of the ESA applies to species listed as “endangered,” the Service has the authority under § 4(d) of the statute to promulgate rules that can reduce protections for “threatened” species. *See infra* nn. 87-110 (discussing the polar bear’s 4(d) rule) and 152-167 (discussing the proposed 4(d) rule for the wolverine) and accompanying text.

²⁴ 75 Fed. Reg. at 6438.

²⁵ *Id.*

concerning the status of the pika by May 1, 2009, and, if warranted, make a final listing decision by February 1, 2010.²⁶

The agency initially decided that the petition presented substantial information indicating that the pika was threatened because of the present or threatened destruction, modification, or curtailment of its habitat or range as a result of effects related to climate change.²⁷ Consequently, the Service issued a notice that the pika may be warranted for ESA listing, thus beginning an in-depth status review in May 2009.²⁸

Recognizing that climate change posed a major threat to the American pika, the Service collaborated with the National Oceanic and Atmospheric Administration (NOAA) in assessing the best available climate science on warming predictions across the pika's range.²⁹ Using this information, the agency conducted a risk assessment concerning the effects of increasing global surface temperatures on the pika.³⁰ However, after analyzing the species' biology, population trends, and major threats, including the dangers to pika from climate change, the Service decided in 2008 that the American pika did not warrant listing either for the species as a whole or the five subspecies for which the environmentalists sought endangered status.³¹

According to the FWS, there were a number of ways the American pika could be adversely affected by global warming, which the agency claimed throughout its listing

²⁶ *Id.*

²⁷ 90-Day Finding on a Petition To List the American Pika a Threatened or Endangered, 74 Fed. Reg. 21301 (May 7, 2009).

²⁸ 75 Fed. Reg. at 6438.

²⁹ *Id.* at 6445.

³⁰ *Id.*

³¹ *Id.* at 6438.

decision were “documented and . . . attributable to anthropogenic climate change.”³² For example, pikas rely on subsurface shelters to escape hot summer daytime temperatures and to obtain insulation during cold winter months. Because American pikas are small and do not hibernate, reduced snowpack due to warming temperatures can mean a lack of insulation from cold winter temperatures.³³ Conversely, the Service thought that warmer summer temperatures may affect the ability of juvenile pikas to successfully disperse and colonize new area, resulting in a decline in range for an entire pika metapopulation if territorial juveniles are unable to colonize new patches.³⁴

Despite these identified threats to the species from climate change, FWS decided that it did not anticipate the pika to be adversely affected on a range-wide basis by increased summer temperatures because the low elevation areas most at risk from climate change did not represent a substantial amount of pika habitat.³⁵ Since increased summer temperatures from climate change would not have an adverse effect on the majority of pika populations, the agency claimed that the species was not threatened due to climate change, and therefore did not warrant ESA listing.³⁶ Consequently, the pika will confront increased global temperatures without ESA protection. As Professor Ruhl memorably predicted, the pika may be toast.³⁷

II. The Polar Bear

³² *Id.*

³³ *Id.* at 6446.

³⁴ *Id.*

³⁵ *Id.* at 6452.

³⁶ *Id.*

³⁷ J.B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. Rev. 1, 2 (2008).

Polar bears are the largest living bear species, characterized by a large, stocky body and fur color that varies from white to yellow.³⁸ Polar bears evolved in sea ice habitats and have unique physiological and biologic adaptations because of this unique habitat, including water-repellant guard hairs and dense underfur, teeth specialized for a carnivorous (rather than omnivorous) diet, feet with tiny papillae (small, soft bumps used for friction) on the underside for increased traction on ice, and large, paddle-like feet.³⁹

The polar bear is usually considered a marine mammal, because its primary habitat is Arctic sea ice.⁴⁰ Polar bears are distributed throughout most ice-covered areas of the Northern Hemisphere.⁴¹ Across most of their range, polar bears remain on the sea ice year-round or spend only short periods on land, and they show a preference for sea ice located over and near the continental shelf, likely due to higher biological productivity in these areas and the availability of prey as compared to deep-water regions in the central part of the species' range.⁴²

A. The Polar Bear and Climate Change

³⁸ Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range, 73 Fed. Reg. 28212 (May 15, 2008).

³⁹ *Id.*

⁴⁰ *Id.* Because they spend the majority of their time on sea ice or in the ocean, polar bears are legally a "marine mammal." 16 U.S.C.A. § 1362 (6) ("The term 'marine mammal' means any mammal which (A) is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia and Cetacea), or (B) primarily inhabits the marine environment (such as the polar bear); and, for the purposes of this chapter, includes any part of any such marine mammal, including its raw, dressed, or dyed fur or skin.").

⁴¹ 73 Fed. Reg. at 28212.

⁴² *Id.* at 28213.

Both summer sea ice and sea ice extent are important factors for polar bear survival.⁴³ Since October 1978, scientific papers and studies have documented an overall downward trend in Arctic sea ice extent of roughly 4.5 percent per decade.⁴⁴ Observed and predicted changes in sea ice cover due to climate change have profound effects on polar bears.⁴⁵ As sea ice becomes more fragmented, available food resources are likely to decline, resulting in reduced residency times for polar bears and increased energetic costs to polar bears that can reduce body weight and condition, adversely affecting reproduction and survival rates.⁴⁶

Reduced sea ice due to climate warming will alter ringed seal distribution, abundance, and availability for polar bears.⁴⁷ Since ringed seals are a crucial food source for polar bears, this prey reduction will decrease polar bear body condition, affecting the ability of female polar bears to successfully breed and decreasing the opportunities for the species to increase feeding and recover necessary fat stores lost in the winter when fat stores are lowest and energetic demands are highest.⁴⁸

B. The Polar Bear Listing

In February 2005, conservation groups petitioned to list the polar bear as threatened under the ESA due to global warming.⁴⁹ After receiving no response from the

⁴³ *Id.* at 28220.

⁴⁴ *Id.*

⁴⁵ *Id.* at 28256.

⁴⁶ *Id.* at 28257.

⁴⁷ *Id.* at 28266.

⁴⁸ *Id.* at 28267.

⁴⁹ Center for Biological Diversity, *Petition to List the Polar Bear as Threatened Under the Endangered Species Act* (Feb. 16, 2005) (available at http://www.biologicaldiversity.org/species/mammals/polar_bear/pdfs/15976_7338.pdf) (accessed Dec. 5, 2013).

Service, conservationists filed a lawsuit, seeking to force the agency to make a decision.⁵⁰ In 2006, the Service reached another settlement, in which it agreed to issue a proposed ruling on the polar bear listing by the end of 2006.⁵¹ Although the FWS proceeded to propose the polar bear as a threatened species in December 2006, it missed the statutory deadline for making a final decision.⁵² Consequently, in March 2008, conservationists again filed suit.⁵³ A month later, a federal judge concluded that the Service violated the ESA by delaying its final listing decision on the polar bear, ordering the agency to make a final decision by May 2008.⁵⁴

The Service listed the polar bear as a threatened species⁵⁵ by the judicially imposed deadline.⁵⁶ As conservationists hoped, the polar bear became a galvanizing symbol of the species-level effects of climate change. If humans did not act soon to stop the advance of carbon dioxide emissions, polar bears' principal habitat—sea ice—would melt. In listing this “poster-child of the Arctic,”⁵⁷ the FWS connected the dots between greenhouse gas [GHG] emissions, rising temperatures, melting sea ice, and the survival

⁵⁰ See U.S. Fish and Wildlife Service, Marine Mammals Management, *Polar Bear: Endangered Species Act* (available at <http://www.fws.gov/alaska/fisheries/mmm/polarbear/esa.htm>) (accessed Dec. 5, 2013).

⁵¹ See 72 Fed. Reg. 1064 (January 9, 2007).

⁵² Under the ESA, the listing agency must, “to the maximum extent practicable,” make a finding within 90-days of receiving a listing petition as to whether the petition presents “substantial scientific or commercial information indicating that the petitioned action may be warranted.” 16 U.S.C. § 1533(b)(3)(A). If the agency, at this 90-day stage, finds that a listing may be warranted, it must make a finding within 12 months after receiving the petition that the petitioned action is not warranted, warranted, or warranted but precluded by other pending listings. *Id.* at (b)(3)(B).

⁵³ See *Center for Biological Diversity v. Kempthorne*, 2008 WL 1902703 at *1 (N.D. Cal. Apr. 28, 2008). (Apr. 28, 2008).

⁵⁴ See *id.*

⁵⁵ 73 Fed. Reg. at 28212. See also *supra* n. 23, discussing distinction between threatened and endangered species under the ESA.

⁵⁶ See *supra* n. 54 and accompanying text.

⁵⁷ Clare Palmer, *Harm to Species? Species, Ethics, and Climate Change: The Case of the Polar Bear*, 23 Notre Dame J.L. Ethics & Pub. Pol'y 587, 588 (2009).

of a charismatic species for the first time in the agency's long history of ESA implementation.⁵⁸

Under the ESA, the Service may list a species as threatened or endangered on the basis of any of five "listing criteria," included in the Act, using the "best scientific and commercial information available."⁵⁹ If the agency lists a species as "threatened," the Service must also define what time frame it chose to use as the "foreseeable future" within which this threatened species is likely to become endangered.⁶⁰

From the outset in the polar bear listing decision, the Service was forced to address global climate change and its likely causes. Much of the listing rule's preamble and the Service's responses to public and scientific comment addressed threats to sea ice from climate change, especially the effects of anthropogenically-caused GHGs.⁶¹ For example, in response to a public comment that claimed that atmospheric carbon dioxide is only an indicator of global warming, not a major contributor, the Service maintained that since the beginning of the industrial era, the effect of increasing GHGs in the

⁵⁸ 73 Fed. Reg. at 28212.

⁵⁹ A species may be added to the list when the listing agency determines the species is endangered or threatened because of any of five criteria enumerated in the statute: (a) the present of 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; and (e) other natural or manmade factors affecting its survival. 16 U.S.C. §1533(a)(1).

⁶⁰ See, e.g., U.S. Fish and Wildlife Service, Office of the Solicitor, *The Meaning of "Foreseeable Future" in Section 3(20) of the Endangered Species Act* (Jan. 16, 2009) (available at <http://www.doi.gov/solicitor/opinions/M-37021.pdf>) (accessed Dec. 5, 2013).

⁶¹ See, e.g., 73 Fed. Reg. at 28245 ("the [Intergovernmental Panel on Climate Change ("IPCC")] has concluded that (1) most of the observed increase in globally-averaged temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic GHG concentrations; and (2) it is likely there has been significant anthropogenic warming over the past 50 years averaged over each continent...").

atmosphere has been widespread warming of the global climate.⁶² This warming, the agency observed, has disproportionately affected large areas of the Arctic, the result being notable reductions in Arctic sea ice.⁶³ Citing numerous studies and climate projections that point to GHGs as the cause or large contributor to the loss of Arctic sea ice,⁶⁴ the agency decided that the “best available science” indicated that anthropogenic GHGs contribute to warming, which in turn contributes to Arctic sea ice loss.⁶⁵

In evaluating the “foreseeable future” time frame, the agency cited the loss of sea ice as the key threat to the species and determined that “the best available evidence is that Arctic sea ice will continue to be affected by climate change.”⁶⁶ After a lengthy discussion of global climate predictions, the Service explained why it chose to identify forty-five years as the “foreseeable future” for the species.⁶⁷ This time frame, the Service ascertained, was the period over which the best available scientific data allowed the agency to reliably assess the effects of threats to the polar bear.⁶⁸

After deciding that forty-five years was the proper time frame within which to evaluate threats to the polar bear, the Service evaluated the polar bear petition in light

⁶²See *id.* at 28244 (“Since the start of the industrial era, the effect of increased GHG concentrations in the atmosphere has been widespread warming of the climate, with disproportionate warming in large areas of the Arctic (IPCC 2007, p. 37). A net result of this warming is a loss of sea ice, with notable reductions in Arctic sea ice.”).

⁶³ *Id.*

⁶⁴ See, e.g. *id.* at 28227 (“For Arctic sea ice, model simulations unanimously project declines in areal coverage and thickness *due to increased GHG concentrations*” (citing E. DeWeaver, *Uncertainty in climate model projections of Arctic sea ice decline, administrative report*, 47 U.S. Geol. Surv. (2007)) (emphasis in original)).

⁶⁵ See, e.g., *id.* at 28244.

⁶⁶ *Id.* at 28253.

⁶⁷ *Id.* at 28253-93.

⁶⁸ *Id.*

of the ESA's five listing criteria.⁶⁹ The agency looked primarily to "the present or threatened destruction, modification, or curtailment of [the polar bear's] habitat or range."⁷⁰ This factor, habitat loss, is often crucial in the Service's evaluation of whether to list species.⁷¹ For the polar bear, the Service devoted over twenty pages of the Federal Register to analyze the threats to the polar bear's habitat, nineteen pages of which concerned the effects of climate change.⁷²

The FWS determined that polar bears are evolutionarily adapted to life on sea ice.⁷³ The agency described polar bears as "ice-obligate," due to their reliance on sea ice as a platform for resting, breeding, and hunting.⁷⁴ Discussing the projected effects of sea ice changes on polar bears, the Service recognized that extinction theory suggests that species most vulnerable to habitat loss are those which are "specialized [and] long-lived with long generation times and low reproductive output, and carnivorous with large

⁶⁹ See *supra* n. 59, concerning the ESA's listing criteria.

⁷⁰ 16 U.S.C. §1533(a)(1). So crucial were the effects of climate change on polar bears that, according to the FWS, the "key issue in determining what timeframe to use for the foreseeable future" concerned the "uncertainty associated with climate model projections at various points in the future." 73 Fed. Reg. 28253. Much of the uncertainty past 2050, the Service maintained, is because "there is less confidence in what changes might take place to affect GHG emissions beyond 40-50 years from now." *Id.* The agency made the direct link between GHG emissions as a primary cause of climate change again: because scientists were uncertain about GHG emissions past 50 years in the future, they could obviously not be certain about climate change past this time frame. Therefore, forty-five years became the logical "foreseeable future" within which to evaluate threats to the polar bear because, based on available evidence, it was foreseeable that the polar bear would become endangered within this time frame.

⁷¹ David S. Wilcove, et al. *Quantifying Threats to Imperiled Species in the United States*, 48 *BioScience* No. 8 at 609 (1998) (explaining that, of the species studied, "habitat destruction and degradation emerged as the most pervasive threat to biodiversity, contributing to the endangerment of 85% of [species]").

⁷² 73 Fed. Reg. at 28255-28277.

⁷³ *Id.* at 28212.

⁷⁴ *Id.* at 28255.

geographic extents and low population densities.”⁷⁵ Polar bears fit into most of these vulnerable categories.⁷⁶

Without actually discussing the causes of climate warming, as it had in the listing rule’s preamble,⁷⁷ responses to public comment,⁷⁸ and determination of “foreseeable future,”⁷⁹ the Service concluded that polar bears were already being affected by rapidly retreating sea ice, which it projected to worsen in the future.⁸⁰ Even more dramatically, the Service concluded not only that receding sea ice will continue to negatively affect polar bear life functions, but that as the rate of habitat loss becomes more severe, mass die offs and other catastrophic mortality events were likely.⁸¹ After discussing how climate change and disappearing sea ice will cause polar bear habitat loss, the agency stated that “[c]ontinued warming will lead to reduced numbers and reduced distribution of polar bears range-wide,”⁸² and that “within the foreseeable future, all polar bear populations will be negatively impacted.”⁸³ However, the FWS failed to mention the GHGs that the Service had earlier determined were the root cause of global warming.⁸⁴

⁷⁵ *Id.* at 28270.

⁷⁶ *Id.* at 28270.

⁷⁷ *See, e.g., id.* at 28227 (“For Arctic sea ice, model simulations unanimously project declines in areal coverage and thickness *due to increased GHG concentrations...*” (emphasis added)).

⁷⁸ *See id.* at 28237-28252.

⁷⁹ *Id.* at 28253.

⁸⁰ *See id.* at 28275 (“[p]olar bears currently are exposed to rapidly changing sea ice platform, and in many regions of the Arctic already are being affected by these changes. Sea ice changes are projected to continue and positive feedbacks are expected to amplify changes in the arctic which will hasten sea ice retreat.”).

⁸¹ *See id.* (“[a]s changes in habitat become more severe and seasonal rates of change more rapid, catastrophic mortality events [such as mass seasonal die-offs and lack of breeding] that have yet to be realized on a large scale are expected to occur.”).

⁸² *Id.* at 28276.

⁸³ *Id.* at 28275.

⁸⁴ *See supra* n. 77.

The Service concluded that the best available scientific information warranted a determination that polar bear habitat “is declining throughout the species’ range, that this decline is expected to continue for the foreseeable future, and that this loss threatens the species throughout all of its range.”⁸⁵ Thus, the best available scientific evidence justified the species’ listing as “threatened” under the ESA.⁸⁶

C. The Polar Bear 4(d) Rule

Concurrently with its polar bear listing, the Service published a 4(d) rule⁸⁷ for polar bears. The rule defined prohibitions against “take” of the threatened polar bear so narrowly that the agency effectively exempted most of the reasons it previously gave for listing the polar bear from any possible regulation under the ESA.⁸⁸

The polar bear 4(d) rule specified the prohibitions necessary to provide for the conservation of the species.⁸⁹ The agency defined a proscribed “take” of the polar bear that was largely coextensive with the prohibitions already imposed by the Marine

⁸⁵ *Id.* at 28212.

⁸⁶ Interestingly, the Service’s determination that threats to polar bear habitat due to climate change warranted listing the species as “threatened” was also the reason that the Service initially declined to designate critical habitat for the polar bear. Section 4(a)(3) of the ESA requires that, to the maximum extent practicable, the Service to designate critical habitat at the same time the agency makes a listing decision. 16 U.S.C. §1533(4)(a)(3). However, under the agency’s regulations, the Service may decide that critical habitat is not determinable when there is insufficient information to analyze impacts of the critical habitat designation, or the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat. 50 C.F.R. § 424.12(1)(2). Reasoning that it lacked the necessary information to carefully assess the designation of critical habitat due to the potential for climactic phenomena to cause a rapidly changing environment, the Service concluded that critical habitat was not determinable and required further evaluation “in light of projected climate change and other threats.” 73 Fed. Reg. at 28297-98.

⁸⁷ Section 4(d) of the ESA authorizes the Secretary of the Interior (“Secretary”) to authorize takes by regulation of threatened species. *See* 16 U.S.C.A. § 1533(d) (“*Protective Regulations*: Whenever any species is listed as a threatened species pursuant to subsection (c) of this section, the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species.”).

⁸⁸ Special Rule for the Polar Bear, 73 Fed. Reg. 28306 (May 15, 2008) (draft final rule) and Special Rule for the Polar Bear, 73 Fed. Reg. 76249 (December 16, 2008) (amended final rule).

⁸⁹ *See generally* 73 Fed. Reg. 76249.

Mammal Protection Act (“MMPA”).⁹⁰ The MMPA forbids the “take” (that is, hunting, killing, capturing, and/or harassing) of polar bears, along with imposing a ban on the import, export, and sale of its parts and products.⁹¹ The 4(d) rule announced that these same activities would also constitute a “take” of a polar bear under the ESA,⁹² even though the ESA authorizes a much larger scope of prohibitions than does the MMPA.⁹³

Because the Service decided in the polar bear listing that GHG emissions were a major cause of global warming, and therefore of sea ice decline,⁹⁴ the agency could have drawn certain conclusions in fashioning its regulatory responsibilities for the newly-listed species. First, the Service could have extended the “take” prohibitions in section 9 of the ESA to include new and existing sources of GHGs. Second, the agency could have

⁹⁰ 16 U.S.C.A. § 1362(6), discussed *supra* n. 40.

⁹¹ 16 U.S.C. §1361.

⁹² Because the Service adopted the MMPA’s definition of “take” in its 4(d) rule for the polar bear, the agency also adopted the MMPA’s authorizations and exemptions from this definition, including 1) Alaska Natives may hunt polar bears for subsistence purposes; 2) a polar bear may be legally killed or harassed in the defense of life or property; and 3) the regulating agency may permit the “incidental take” of the protected species by individuals and commercial or government entities in the course of other activities. 16 U.S.C. §1361. After adopting almost every exemption from “take” contained in the MMPA, the only new prohibition contained in the 4(d) rule was the Service’s determination that all polar bears sport-hunted in Canada could no longer legally imported, even with MMPA authorization. 73 Fed. Reg. at 28308.

⁹³ The MMPA defines “take” to mean “harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill.” 16 U.S.C. §1362(13). The MMPA’s inclusion of harassment in its take definition was a groundbreaking action by Congress, as it broadened the ways a marine mammal could be “taken” by including any act of pursuit, torment, or annoyance which has the potential to injure or disrupt the normal behavior patterns of a marine mammal. 16 U.S.C. §1362(18). The ESA definition of take, however, includes “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct.” 16 U.S.C. §1532(19). The ESA’s inclusion of the word “harm” its take definition is particularly important, because it offers protection for listed species against habitat destruction. *See Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 718 (1995), discussed *infra* n. 162. Although the MMPA includes habitat protection as a purpose (*See* 16 U.S.C. §1361(2) (“In particular, efforts should be made to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man’s actions.”)), it does not include habitat destruction as a proscribed activity and, unlike the ESA, does not provide for the designation of critical habitat. *See Endangered Species Act: Definition of “Harm,”* 64 Fed. Reg. 60727 (November 8, 1999) (“This final rule defines the term “harm” to include any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.”).

⁹⁴ 73 Fed. Reg. at 28212.

concluded that the government's duty under section 7 to insure that its actions are not likely to jeopardize a listed species or its habitat meant that all new federal sources of GHGs had to undergo polar-bear specific consultation.⁹⁵

However, the polar bear 4(d) rule that the Service did adopt merely included the MMPA's definition of "take," and expressly declined to reach activities outside the species' current range, such as GHG-emitting energy projects, under either section 7 or section 9.⁹⁶

Although the final version of the 4(d) rule carefully specified that it did not alter existing section 7 consultation requirements of the ESA,⁹⁷ the Service nonetheless used the rule to suggest that there was little possibility that an agency would actually be required to consult on an action authorizing GHG emissions if it occurred outside the

⁹⁵ According to the ESA regulations:

Section 7(a)(2) directs all Federal agencies to insure that any action they authorize, fund, or carry-out does not jeopardize the continued existence of an endangered or threatened species or designated or proposed critical habitat (collectively, referred to as protected resources). The implementing regulations, 50 CFR 402, specify how Federal agencies are to fulfill their section 7 consultation requirements. Under the implementing regulations (50 CFR 402), Federal agencies must review their actions and determine whether the action may affect federally listed and proposed species or proposed or designated critical habitat. To accomplish this, Federal agencies must request from the Service a list of species and critical habitat that may be in the project area. Once a species list is obtained or verified as accurate, Federal agencies need to determine whether their actions may affect any of those species or their critical habitat. If no species or their (sic) critical habitat are affected, no further consultation is required. If they may be affected, consultation with the Service is required. This consultation will conclude either informally with written concurrence from the Service or through formal consultation with a biological opinion provided to the Federal agency.

U.S. Fish and Wildlife Service, *Endangered Species: S. 7 Consultation Overview* (available at <http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>) (accessed Dec. 5, 2013).

⁹⁶ 73 Fed. Reg. at 28312-13.

⁹⁷ See Final Special Rule for the Polar Bear, 73 Fed. Reg. 76249, 76251 (December 16, 2008) ("the special rule does not remove or alter in any way the consultation requirements under section 7 of the ESA.").

polar bear's geographic range.⁹⁸ By exempting any taking of polar bears under section 9 incidental to "an otherwise lawful activity within any area ... except Alaska," in the 4(d) rule, the Service expressly stated that it did not intend the polar bear listing to affect activities in the lower 48 states, even those that directly resulted in GHG emissions that may adversely affect polar bear habitat.⁹⁹ The FWS concluded that this exemption applied to the ESA's section 7 consultation requirement as well, and that the potential for a federal project to cause more GHG emissions would not be the sole trigger for section 7 consultation on behalf of polar bears. ¹⁰⁰

The Service justified this exclusion from section 9 and implied exclusion from section 7 on what it saw as the lack of a clear causal connection between activities outside the polar bear's current range and the climate change effects that contributed to the polar bear's habitat loss.¹⁰¹ For GHG effects beyond the footprint of the a federal agency action or authorization, the agency, in its draft 4(d) rule, explained that "effects are only appropriately considered in a section 7 analysis if there is a causal connection between the proposed action and a discernible effect to the species or critical habitat that is reasonably certain to occur."¹⁰² The Service's final 4(d) rule claimed that the agency had been unable to trace a path "between an effect of [sic] proposed action and

⁹⁸ *Id.* ("We have specifically considered whether a Federal action that produces GHG emissions is a 'may affect' action that requires section 7 consultation with regard to [species] or critical habitat that may be impacted by climate change... [causation] narrows section 7 consultation requirements to listed species and critical habitat in the 'action area' rather than to all listed species or all designated critical habitats.")

⁹⁹ 73 Fed. Reg. at 28318.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.* at 28312.

[that effect's] impact to the species."¹⁰³ Moreover, the Service asserted that indirect effects must both be "caused by the action under consultation" and be "reasonably certain to occur."¹⁰⁴ Citing a 2001 Ninth Circuit case, *Arizona Cattlegrowers' Association v. USFWS*,¹⁰⁵ as support, the agency claimed that section 7 consultations must demonstrate a direct causal connection between the action under consultation and an actual take of a listed species.¹⁰⁶ "Speculation" concerning a take, the agency maintained, "is not a sufficient rational connection to survive judicial review."¹⁰⁷ This interpretation imposed an extremely high standard of proof before activities producing GHG emissions would trigger ESA section 7 consultation on listed GHG-affected species. Therefore, under the FWS's policy, as explained in the 4(d) rule, GHGs that are emitted from a project categorized as a "federal action"¹⁰⁸ would not trigger section 7 consultation on behalf of polar bears unless it were possible to establish that adverse effects on the polar bear were reasonably certain to occur.

The Service explained its decision to narrow its interpretation of section 7 consultation requirements in the context of GHG emissions by invoking a "floodgates" rationale: claiming that unless there was a demonstrated causal connection between an action under consultation and its effects on listed species, every agency action

¹⁰³ 73 Fed. Reg. at 76265.

¹⁰⁴ *Id.*

¹⁰⁵ 273 F.3d 1229 (9th Cir. 2001) The Arizona Cattle Growers challenged the Service's issuance of several incidental take statements in connection with federal grazing permits issued by the BLM and the U.S. Forest Service. The Ninth Circuit upheld the district court's conclusion that the statements were arbitrary and capricious, in part because the Service failed to provide evidence that the listed species were in fact present on the land, or that the federal grazing permits would result in any actual take of the listed species, since any harm to listed species due to habitat modification caused by grazing was speculative. 73 Fed. Reg. at 76265.

¹⁰⁶ 73 Fed. Reg. at 76266.

¹⁰⁷ *Id.*

¹⁰⁸ A federal action outside Alaska, the polar bear's current range.

contributing to any GHGs to the atmosphere would require consultation for every listed species possibly affected by climate change.¹⁰⁹ Because the allegedly best available scientific data failed to show a close causal connection between a specific federal action and effects to listed species or habitat due to climate change, the FWS maintained that future section 7 consultations on listed species and their critical habitat would be limited to federal proposals in a so-called “action area” immediately around the proposal.¹¹⁰ This reasoning amounted to an unprecedented use of a 4(d) rule to signal the agency’s intent to narrowly interpret its section 7 consultation duties and effectively eliminate the polar bear listing from becoming a means to impose federal limits on GHG emissions.

D. Litigation Over the Polar Bear Listing and 4(d) Rule

Conservation organizations, industry groups, and state and local governments all soon challenged the 2008 polar bear listing and its accompanying 4(d) rule,¹¹¹ claiming that the Service misinterpreted the ESA in listing the polar bear as threatened species¹¹² The threatened designation was especially significant in the case of the polar bear listing because there are no 4(d) exemptions for endangered species.

¹⁰⁹ *Id.* (discussing the Service’s allegation that “[w]ithout the requirement of a causal connection between the action under consultation and effects to species, literally every agency action that contributes greenhouse gases to the atmosphere would arguably result in consultation with respect to every listed species or critical habitat that may be affected by climate change.”).

¹¹⁰ *Id.* (explaining that this required “causation linkage narrows section 7 consultation requirements to listed species and critical habitat in the ‘action area’ [the area immediately in and around a proposed project] rather than to all listed species or all designated critical habitats.”).

¹¹¹ *In re Polar Bear Endangered Species Act Listing and §4(d) Rule Litigation*, 748 F.Supp.2d 19 (D.D.C. 2010).

¹¹² *Id.*

Judge Emmett Sullivan of the District of Columbia District Court agreed with the environmentalists' contention that the Service misinterpreted the ESA by interpreting the statute to require an imminent danger of extinction before listing a species as endangered.¹¹³ According to Judge Sullivan, the FWS should have treated the term "endangered" as ambiguous, justifying its definition based as a permissible construction of the statute supported by evidence and explanation. The court therefore remanded the listing rule to the agency to provide an interpretation of "endangered species" consistent with the statute,¹¹⁴ although keeping the 2008 listing rule in force during the Service's re-evaluation.¹¹⁵

Following the 2010 remand, the Service explained why it concluded that the polar bear did not qualify for endangered status at the time of listing.¹¹⁶ Now acknowledging the ambiguous nature of the term "endangered species," the Service concluded that although threats to the polar bear did not need to place it in imminent danger of extinction, the species still did not show the kind of significant population declines or severe retractions in its range necessary to show that it was currently "on the brink" of extinction.¹¹⁷ Judge Sullivan proceeded to accept this explanation as an

¹¹³ *Id.* at 22.

¹¹⁴ *Id.* at 29 (concluding that because the Service failed to acknowledge ambiguities in the term "endangered species," the court was not required to defer to the agency's existing interpretation).

¹¹⁵ *Id.* at 30.

¹¹⁶ See *In re Polar Bear Endangered Species Act Listing and §4(d) Rule Litigation*, 794 F.Supp.2d. 65 (D.D.C. 2011) (explaining the Service's supplemental explanation for its May 15, 2008 determination of threatened status for polar bears).

¹¹⁷ *Id.* at 84 ("According to FWS, the administrative record in this case demonstrates that, at the time of listing, the polar bear fit none of the four general categories of endangered species identified by the agency as representative of its past listing decisions. Rather, the evidence before the agency showed that at the time of listing the polar bear was a widespread, circumpolar species that had not been restricted to a critically small range or critically low numbers, nor had it suffered precipitous reductions in numbers or range.").

adequate interpretation of the ESA and upheld the 2008 polar bear listing as a threatened species.¹¹⁸

The court also considered the validity of the Service's 4(d) rule.¹¹⁹ The conservationists claimed that the rule violated the ESA by failing to provide adequate conservation measures for the polar bear, maintaining that the Service could not effectively conserve of the polar bear without addressing greenhouse gases in its prohibitions against take.¹²⁰ Judge Sullivan rejected this argument, concluding that the plain language of the ESA did not require the FWS to demonstrate a conservation-based reason for its decision not to apply general species protection regulations (such as new take prohibitions and consultation requirements); therefore, the agency's 4(d) exemptions were not arbitrary and capricious.¹²¹

In the polar bear 4(d) rule, the Service explained that the best available science made identifying an individual source of GHG emission as the cause of specific adverse warming effects at an exact location was infeasible.¹²² The court decided that the agency's decision to decline to extend the ESA's incidental take prohibitions outside the range of the polar bear had a rational basis since there was insufficient evidence to

¹¹⁸ *Id.*

¹¹⁹ *In re Polar Bear Endangered Species Act Listing and §4(d) Rule Litigation*, 818 F.Supp.2d.214, 218 (D.D.C. 2011).

¹²⁰ *See id.* (claiming that the Service "[could not] effectively provide for the conservation of the polar bear without addressing global greenhouse gas emissions, which the agency itself identified as the cause of increasing Arctic temperatures that are expected to lead to a significant decline of the polar bear's sea ice habitat.").

¹²¹ *Id.* at 229 (noting that "[n]othing in the regulation, or in the ESA itself, requires the agency to demonstrate a conservation basis for not applying the general regulation at 50 C.F.R. § 17.31(a). Indeed, courts have recognized that the ESA does not require regulations protecting threatened species from taking at all. Section 4(d) itself merely provides that the Secretary 'may ... prohibit with respect to threatened species any act prohibited under section 9(a)(1)'").

¹²² 73 Fed. Reg. at 28312-13.

suggest that regulating offsite GHG-producing activities would produce direct conservation benefits to polar bear.¹²³ Judge Sullivan agreed that “based on the evidence before it[,] Section 4(d) of the ESA is not a useful or appropriate tool to alleviate the particular threat to the polar bear from climate change caused by global greenhouse gas emissions.”¹²⁴ This 4(d) rule is still in effect.

E. The Polar Bear’s Critical Habitat Designation and Its Challenge

Several months after designating the polar bear as a threatened species and promulgating the 4(d) rule, the FWS also issued a critical habitat determination (“CHD”) for the species.¹²⁵ Assessing the best available scientific information, and in light of the dependence of polar bears on sea ice habitat located over the continental shelf, the Service determined that sea ice on the shallower waters of the continental shelf “is an essential physical feature for polar bears in the southern Beaufort, Chukchi, and Bearing Seas” for both future individual and population growth and for normal species’ behavior.¹²⁶ The Service determined that potential adverse effects that could harm this critical habitat included reductions in the extent of Arctic sea ice due to climate change, oil and gas exploration, human disturbance, and commercial shipping.¹²⁷

¹²³ *In re Polar Bear*, *supra* n. 119, at 232 (“The Service found not evidence to suggest that extending the ESA incidental take provisions outside the range of the polar bear would produce similar conservation benefits, however. With respect to these indirect impacts, in the event that an incidental take can be identified and attributed to a specific cause originating outside the species’ range, the Service found the incidental take provisions of the MMPA are sufficient to address this violation.”).

¹²⁴ *Id.*

¹²⁵ Designation of Critical Habitat for the Polar Bear (*Ursus maritimus*) in the United States, 75 Fed. Reg. 76086 (December 7, 2010).

¹²⁶ *Id.* at 76112.

¹²⁷ *Id.* at 76115.

In January 2013, the U.S. District Court for Alaska set aside the Service's critical habitat designation for the polar bear. Judge Ralph Beistline reasoned that the agency failed to comply with the ESA's definition of critical habitat as "the specific areas within the geographical area occupied by the species... on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection."¹²⁸ The court faulted the Service for designating vast areas of the North Slope and offshore barrier islands without specifying these special physical or biological features (referred to as "primary constituent elements"¹²⁹ in the ESA's regulations).¹³⁰ Because the FWS failed to demonstrate the existence of each particular primary constituent element in all the designated critical habitat areas,¹³¹ Judge Beistline overturned the polar bear's CHD designation.¹³²

III. The North American Wolverine

¹²⁸ *Alaska Oil & Gas Ass'n v. Salazar*, 916 F. Supp. 2d 974 (D. Alaska 2013)(quoting 16 U.S.C. §1532(5)(A)).

¹²⁹ See 50 C.F.R. 424.12(b) (ESA regulations) ("When considering the designation of critical habitat, the Secretary shall focus on the principal biological or physical constituent elements within the defined area that are essential to the conservation of the species. Known primary constituent elements shall be listed with the critical habitat description. Primary constituent elements may include, but are not limited to, the following: roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinator, geological formation, vegetation type, tide, and specific soil types.").

¹³⁰ *Id.*

¹³¹ The Service concluded that the primary constituent elements for the polar bear in the United States were (1) sea ice habitat over waters 300 meters or less in depth that occurs over the continental shelf and is used for feeding, breeding, denning, and movements; (2) terrestrial denning habitat with certain topographic features; and (3) barrier island habitat used for denning, refuge from human disturbance, and coastal access to maternal dens and optimal feeding habitat, which includes all barrier islands along the Alaska coast within the polar bear's range and the water, ice, and terrestrial habitat within 1.6 kilometers of these islands. 75 Fed. Reg. at 76115.

¹³² *Id.*

The 2008 polar bear rule was the first ESA listing based primarily on climate change-induced threats, but other recent listing decisions have followed. For example, like the polar bear, the wolverine is a species greatly affected by climate change, particularly the effects of increasing temperatures on its habitat.

A. Wolverines and Climate Change

Although wolverines do not depend on sea ice like polar bears, they are as dependent on sufficiently cold temperatures for suitable habitat.¹³³ Wolverine year-round habitat use takes place almost entirely within areas defined by deep and persistent spring snow.¹³⁴ Within the contiguous United States, wolverine year-round habitat exists at largely high elevations near the tree line in conifer forests and in rocky alpine areas in the northern Rocky Mountains, with a few scattered populations in the North Cascades, the Sierra Nevada, and the southern Rocky Mountains.¹³⁵

In all wolverine habitat, the species is limited by its need for cold conditions and persistent spring snow, as individuals use only the coldest available landscapes.¹³⁶ Snowpack is critical to the species' survival because female wolverines only use natal dens that are excavated in snow, and wolverines require deep snow to travel the long distances between widely distributed metapopulations to successfully breed.¹³⁷

B. The Wolverine Listing Decision

¹³³ Threatened Status for the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States, 78 Fed. Reg. 7864 (Feb. 4, 2013).

¹³⁴ *Id.* at 7868.

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.* at 7866-7867.

Recognizing the wolverine population decline and facing a court-ordered deadline,¹³⁸ in February 2013, the Service proposed listing the distinct population segment¹³⁹ of the North American wolverine occurring in the contiguous United States as a threatened species under the ESA.¹⁴⁰ Almost five years after its polar bear listing decision, the Service determined that the wolverine, like the polar bear, was likely to face habitat loss due to the effects of increasing temperatures and climate change on high-altitude snowpack, and that climate change represented “present or threatened destruction, modification, or curtailment of [the wolverine’s] habitat or range.”¹⁴¹ The agency also concluded this habitat destruction was likely to continue in the future, to the point that the wolverine would be in danger of extinction within the foreseeable future.¹⁴² Analyzing the listing criteria of habitat loss,¹⁴³ the Service recognized that wolverines require deep snowpack that persists into the late spring for both successful

¹³⁸ On September 9, 2011, the D.C. District Court approved two broad settlement agreements between the Center for Biological Diversity, WildEarth Guardians, and the Service. These settlements required the Service to make listing decisions under the ESA on more than 251 species that it had previously found were “warranted but precluded” over the following five years (by 2016). Under the settlements, the agency must review the 251 “candidate species” and either propose listing or make a finding that listing is not warranted. See *In re Endangered Species Act Section 4 Deadline Litigation*, Center for Biological Diversity Stipulated Settlement Agreement, (July 12, 2011) (available at http://www.biologicaldiversity.org/programs/biodiversity/species_agreement/pdfs/proposed_settlement_agreement.pdf) (accessed Dec. 5, 2013) and *In re Endangered Species Act Section 4 Deadline Litigation*, WildEarth Guardians Stipulated Settlement Agreement, (May 10, 2011) (available at <http://thecre.com/pdf/esamlssettlement.pdf>) (accessed Dec. 5, 2013); See also James Jay Tutchton, *Getting Species on Board the Ark One Lawsuit at a Time Won’t Work: How the Failure to “List” Deserving Species Has Undercut the Effectiveness of the Endangered Species Act and a Recent Attempt to Fix this Problem*, 20 Animal L. [Forthcoming] (2014).

¹³⁹ A “distinct population segment” (“DPS”), a non-scientific term, is the smallest division of a species that may be individually protected under the ESA. The Service may choose to list a certain geographic population of a species as a DPS if the population is discrete from the rest of the species to which it belongs and is significant to the species to which it belongs. Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (February 7, 1996).

¹⁴⁰ 78 Fed. Reg. at 7864.

¹⁴¹ *Id.*

¹⁴² *Id.* (explaining that “[i]n the future, wolverine habitat is likely to be reduced to the point that the wolverine in the contiguous United States is in danger of extinction”).

¹⁴³ See 16 U.S.C. §1533(a)(1)(A) (a species may be listed as threatened or endangered due to “present or threatened destruction, modification, or curtailment of its habitat or range.”).

reproduction and dispersal.¹⁴⁴ Just as the Service ascertained that disappearing sea ice was a critical threat to polar bear survival and viability,¹⁴⁵ the agency acknowledged that diminished snowpack was a major contributor to wolverine population decline and habitat fragmentation.¹⁴⁶

Although the Service concluded that climate change was the major stressor for both the polar bear and the wolverine in its listing rules, the agency distinguished the wolverine listing by noting that “the best scientific and commercial information available indicates that only the projected decrease and fragmentation of wolverine habitat or range due to future climate change [because of decreased snowpack] is a threat to the species now and in the future.”¹⁴⁷ The wolverine, the Service determined, *only* faces present or threatened destruction, modification, or curtailment of its habitat or range from climate change.¹⁴⁸ The polar bear, on the other hand, faces threats from other habitat stressors like oil and gas drilling, overharvest, and human encroachment,

¹⁴⁴ 78 Fed. Reg. at 7877.

¹⁴⁵ See 73 Fed. Reg. at 28255.

¹⁴⁶ Citing many of the same reasons that the agency concluded made polar bear critical habitat designation impracticable (because the Service needed more time to assess the habitats qualifying as “critical” in light of climate change projections), the Service proposed to delay designation of critical wolverine habitat until a later date. 78 Fed. Reg. at 7889 (stressing the need for “a thorough assessment in light of projected climate change and other threats”). See also *id.* at 7889 (“We need additional time to assess the potential impact of a critical habitat designation, including whether there will be any benefit to wolverine from such a designation. A careful assessment of the habitats that may qualify for designation as critical habitat will require a thorough assessment in light of projected climate change and other threats. At this time, we also need more time to analyze the comprehensive data to identify specific areas appropriate for critical habitat designation. Accordingly, we find designation of critical habitat to be ‘not determinable’ at this time.”).

¹⁴⁷ *Id.* at 7880.

¹⁴⁸ *Id.*

although climate change is the biggest contributor to the species' habitat decline and subsequent ESA designation.¹⁴⁹

The Service's conclusion that wolverines were "threatened" only by the loss of snow due to climate change and rising temperatures represented an unprecedented step by the federal government.¹⁵⁰ Although conservation advocates sought listing for several temperature-sensitive species on the basis of climate change threats to habitat, the Service had never before confirmed that any species was warranted for listing solely on the basis of climate-caused habitat loss.¹⁵¹

C. The Wolverine 4(d) Rule

The Service's proposed wolverine listing also included a proposed 4(d) rule.¹⁵² Although this proposed rule mentioned nothing about GHG emissions, it included exemptions from take that would otherwise be statutorily proscribed. The proposed rule would prohibit take of any wolverine from "any activity where wolverines are attempted to be, or are intended to be trapped, hunted, shot, captured, or collected," and also would prohibit the incidental trapping, hunting, shooting, capturing, pursuit, or

¹⁴⁹ See 73 Fed. Reg. at 28255.

¹⁵⁰ The proposed wolverine listing is not without strong opposition, both from private landowners and state wildlife and game regulators. As of this writing, states have asked for a third extension to the proposed wolverine rule's comment period. Among these agencies' concerns are the value of wolverines for their fur, and the belief that climate change alone is not enough to justify listing the species. See Scott Bickard, University Herald Online, *Wolverine's Status Change to Threatened Species Thwarted by Western United States Wildlife Agencies Interested in Fur* (Dec. 3, 2013) (<http://www.universityherald.com/articles/5974/20131203/wolverines-status-to-threatened-species-thwarted-by-western-united-state-wildlife-agencies-interested-in-their-fur.htm>) (accessed Dec. 5, 2013) (quoting a Utah wildlife manager, "Climate change models are not a reason to list species under the Endangered Species Act,").

¹⁵¹ The closest the Service came to listing a species only on the basis of climate change threats was its consideration of the American Pika for listing. See *supra* nn. 22-28 and accompanying text (concerning the pika listing petition).

¹⁵² See 78 Fed. Reg. at 7888.

collection of wolverines in the course of otherwise legal activities.¹⁵³ However, the proposal would have exempted “all otherwise legal activities involving wolverines and their habitat that are conducted in accordance with applicable State, Federal, tribal, and local laws and regulations” from consideration as a “take” under the ESA.¹⁵⁴ The Service justified this exemption, which would amount to the agency protecting the wolverine only against direct intentional harm, reasoning that risk factors like dispersed winter recreation, land management activities by federal agencies and private landowners, and infrastructure development occurred at a relatively small scale compared to the average size of the wolverine’s home range.¹⁵⁵

The Service concluded that the proposed 4(d) rule could exempt these activities from the ESA’s take prohibitions because the evidence did not suggest that these incidental activities were a threat to the wolverine or would become so in the foreseeable future.¹⁵⁶ The proposed rule mirrored the the Service’s conclusions in the proposed listing that climate change, not other habitat disruptors, was the primary threat to the wolverine’s survival and recovery.

Both the polar bear and the proposed wolverine 4(d) rule would thus have remarkably similar effects: they each adopted minimal new protections against direct intentional harm to the species but will have no real effects on the activities that are causing climate change, the acknowledged primary factor contributing to both species’ decline. Although the proposed wolverine 4(d) rule did not parallel the polar bear 4(d)

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

rule exactly,¹⁵⁷ the Service again refused to use the ESA to regulate greenhouse gas emissions to confront to climate-induced threats to wolverines, stating simply that if it determined that the wolverine warranted listing, the agency would not regulate GHG emissions to preserve wolverine habitat.¹⁵⁸

Since the polar bear 4(d) rule survived court challenges,¹⁵⁹ it is perhaps not surprising that the Service dismissed the prospect of GHG regulation resulting from the proposed wolverine listing. Because listing the wolverine as threatened, coupled with the 4(d) rule, would not regulate GHGs, the agency acknowledged that the rule “[would] not have a direct impact on the loss of deep, persistent, late spring snowpack or the reduction of greenhouse gases.”¹⁶⁰ The Service essentially admitted that listing the wolverine under the ESA would not affect what the agency recognized as the only major factor threatening wolverine survival into the foreseeable future—loss of critical snowpack due to climate change.¹⁶¹

In both the wolverine and polar bear listing decisions, the fact that the Service listed a species due to climate change led the agency to simultaneously list a species while denying it any meaningful regulatory protections. In both listing rules, the Service

¹⁵⁷ In the wolverine 4(d) rule, the Service did not specifically address the regulation of GHGs through sections 7 or 9 of the ESA, as it did in the polar bear listing. *See supra* nn. 87-110 (discussing the polar bear’s 4(d) rule) and accompanying text.

¹⁵⁸ 78 Fed. Reg. at 7888 (explaining that “[a] determination to list the contiguous United States DPS of the North American wolverine as a threatened species under the Act... will not regulate greenhouse gas emissions.”).

¹⁵⁹ *See supra* nn. 111-124 and accompanying text on polar bear court challenges.

¹⁶⁰ 78 Fed. Reg. at 7887.

¹⁶¹ *Id.* (“While we acknowledge that listing will not have a direct impact on the loss of deep, persistent, late spring snowpack or the reduction of greenhouse gases, we expect that it will indirectly enhance national and international cooperation and coordination of conservation efforts, enhance research programs, and encourage the development of mitigation measures that could help slow habitat loss and population declines.”).

recognized that climate change was the biggest threat to the species but refused to take any regulatory action to prevent it.

These two listing rules produced a series of proscriptions and exemptions that, ironically, fit squarely into Justice Scalia's dissenting opinion in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*.¹⁶² Although the *Sweet Home* majority upheld the Service's definition of "harm" as including habitat modification,¹⁶³ the Scalia dissent would have limited takes to those resulting from direct intentional actions.¹⁶⁴ The polar bear 4(d) and the proposed wolverine rule echo the *Sweet Home* dissent by excluding climate change-based "harm" from each rule's list of proscriptions, prohibiting only actions which directly and intentionally "take" each species. By regulating only wolverine and polar bear hunting, trapping, collection, and trade, but not the activities that cause climate change. In these rules, the Service effectively ignored "significant habitat modification or degradation" contained in the ESA regulations,¹⁶⁵ choosing instead to focus only on "affirmative conduct intentionally directed against a particular

¹⁶²*Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 718 (1995) ("It is obvious that "take" in this sense—a term of art deeply embedded in the statutory and common law concerning wildlife—describes a class of acts (not omissions) done directly and intentionally (not indirectly and by accident) to particular animals (not populations of animals).").

¹⁶³ The ESA forbids any person from "taking" a listed species, 16 U.S.C.A. § 1538(a)(1)(B), which the statute defines as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C.A. § 1532(19). The agency regulations before the Court in *Sweet Home* further defined "harm" to include "significant habitat modification or degradation where it actually kills or injures wildlife." 50 CFR §17.3.

¹⁶⁴ See *Sweet Home*, 515 U.S. at 720 ("What the nine other words in § 1532(19) have in common—and share with the narrower meaning of "harm" described above, but not with the Secretary's ruthless dilation of the word—is the sense of affirmative conduct intentionally directed against a particular animal or animals.").

¹⁶⁵ 50 C.F.R. §17.3(1993). See *Sweet Home*, 515 U.S. at 708 ("based on the text, structure, and legislative history of the ESA, that the Secretary reasonably construed the intent of Congress when he defined "harm" to include "significant habitat modification or degradation that actually kills or injures wildlife.").

animal or animals,”¹⁶⁶ a position squarely rejected by the *Sweet Home* majority when it upheld the agency’s regulations nearly two decades ago.¹⁶⁷

IV. The Gunnison Sage-grouse

Another species that the Service has recognized as imperiled due to climate change is the Gunnison sage-grouse, a ground-dwelling bird found almost exclusively in seven genetically-isolated population segments in Colorado and Utah.¹⁶⁸ Unlike the polar bear, the Gunnison sage-grouse requires a variety of habitats for its life functions, such as large expanses of sagebrush with a variety of grasses and forbs as well as riparian habitat specifically used for breeding.¹⁶⁹ In 2000, after scientists noticed that the grouse had plumage and a mating display that were completely different from other sage-grouse, biologists recognized and classified the Gunnison sage-grouse as the first new bird species in continental North America in a century.¹⁷⁰

A. Gunnison Sage-grouse and Climate Change

The Gunnison sage-grouse faces threats from climate change primarily because of the fragile sagebrush and wetland riparian habitat the grouse requires for its essential

¹⁶⁶ *Id.* at 720 (dissenting opinion of Scalia, J.).

¹⁶⁷ See, e.g. *id.* at 697 (noting that “unless the statutory term ‘harm’ encompasses indirect as well as direct injuries, the word has no meaning that does not duplicate the meaning of other words that § 3 [the ESA’s definitional section] uses to define ‘take.’”).

¹⁶⁸ Endangered Status for Gunnison Sage-Grouse, 78 Fed. Reg. 2486, 2488 (Jan. 11, 2013).

¹⁶⁹ *Id.* at 2507.

¹⁷⁰ See John W. Fitzpatrick, *Newly Discovered, Nearly Extinct*, N.Y. Times Online (Mar. 6, 2013) (available at http://www.nytimes.com/2013/03/07/opinion/the-plight-of-the-gunnison-sage-grouse.html?_r=1&) (accessed Dec. 5, 2013).

life functions.¹⁷¹ The necessity of sufficient moisture in wetland riparian areas means that warming temperatures have the potential to negatively affect the Gunnison sage-grouse by decreasing summer precipitation, reducing summer perennial grasses, and drying up summer feeding and breeding habitat.¹⁷²

Temperature increases may also increase the competitive advantage of invasive plant species, such as cheatgrass, in areas where the grouse's preferred sagebrush currently dominates the vegetative landscape.¹⁷³ The invasion of cheatgrass and other nonnative species may increase associated fire frequencies (as cheatgrass is extremely flammable), further destroying Gunnison sage-grouse habitat.¹⁷⁴

B. Gunnison Sage-grouse Listing

In January 2000, the Service put the Gunnison sage-grouse on its list of candidates for ESA protection,¹⁷⁵ shortly before the agency received a petition for listing from several environmental organizations.¹⁷⁶ After determining that the Gunnison sage-grouse did not warrant protection under the Endangered Species Act in 2006,¹⁷⁷ the

¹⁷¹ Determination for the Gunnison Sage-grouse as a Threatened or Endangered Species, 75 Fed. Reg. 59804, 59805 (September 28, 2010) (12-month finding that Gunnison sage-grouse was warranted for listing but precluded by higher-priority species).

¹⁷² *Id.* at 59821.

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ U.S. Fish and Wildlife Service, *Species Profile for Gunnison sage-grouse (Centrocercus minimus)* ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0B0.

¹⁷⁶ Final Listing Determination for the Gunnison Sage-Grouse as Threatened or Endangered, 71 Fed. Reg. 19954 (Apr. 18, 2006) finding that listing for Gunnison sage-grouse was not warranted).

¹⁷⁷ *Id.* The agency based its negative determination on a lack of information showing population declines, deciding that threats to the Gunnison sage-grouse were neither imminent nor of a magnitude that they threatened or endangered the existence of the species. Although various threats could have caused the declining populations, the Service claimed that those factors had not caused significant declines in the species throughout its entire range. *Id.*

FWS withdrew the grouse from consideration for ESA protection.¹⁷⁸ Although the Service concluded that the grouse had a “high probability of extirpation in the foreseeable future” in three sub-populations, the agency decided that threats to these small and isolated sub-populations threatened the grouse did not rise to the required level of “significance” in a significant portion of its range.¹⁷⁹

Almost immediately, biologists and conservation organizations sued the Service, arguing that the agency had improperly decided that the Gunnison sage-grouse was not warranted for listing under the ESA.¹⁸⁰ They claimed that this decision not to list was inconsistent with the agency’s previous findings that the bird’s condition warranted listing.¹⁸¹ In 2010, the Service settled this suit by announcing that it would reinstate a status review to determine whether the grouse warranted ESA protection.¹⁸²

The agency proceeded to conduct a status review, which indicated that that the Gunnison sage-grouse warranted protection under the ESA, but delayed the species’ protection while the Service addressed the needs of higher priority species.¹⁸³ In making

¹⁷⁸ *Endangered and Threatened Wildlife and Plants; Final Listing Determination for the Gunnison Sage-Grouse as Threatened or Endangered; Final Rule*, 71 Fed. Reg. 19954 (Apr. 18, 2006).

¹⁷⁹ *Id.*

¹⁸⁰ *See County of San Miguel v. MacDonald*, Complaint for Declaratory and Injunctive Relief under the ESA and the APA (Nov. 14, 2006) (available at http://www.fws.gov/mountain-prairie/species/birds/gunnisonsagegrouse/GUSG_Complaint11142006.pdf) (accessed Dec. 5, 2013).

¹⁸¹ *See id.* at 17. The Service stated, “[a]pproximately six weeks after petitioners filed their Complaint, FWS published in the Federal Register a ‘Notice of Candidate Designation,’ in which FWS again acknowledged that Gunnison sage-grouse is threatened with extinction due to habitat loss, fragmentation, and degradation due to numerous human activities, that existing conservation efforts are inadequate to reverse the habitat loss or its effects, and that the species warrants listing under the ESA.” (citing Notice of Designation of the Gunnison Sage Grouse as a Candidate Species, 65 Fed. Reg. 82310, 82311 (Dec. 28, 2000)).

¹⁸² 75 Fed. Reg. at 59804.

¹⁸³ *Id.* (“After reviewing the best available scientific and commercial information, we find that the species is warranted for listing. Currently, however, listing the Gunnison sage-grouse is precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants.”).

this “warranted but precluded” finding, the Service considered threats to the grouse from climate change, concluding that the best available science showed that temperature increases from climate change were likely to alter fire frequency, which in turn would expand the range of fire-loving invasive species, such as cheatgrass.¹⁸⁴ This expansion of invasive species, the agency acknowledged, would “reduce the overall cover of native vegetation, reduce habitat quality, and potentially decrease fire return intervals, all of which would negatively affect the [Gunnison sage-grouse].”¹⁸⁵ However, the Service closed its discussion of climatological concerns by observing that, despite the potential for climatological change to produce habitat disruption and associated negative effects to the Gunnison sage-grouse, the agency did not consider climate change to be a significant threat to the species.¹⁸⁶

The Gunnison sage-grouse remained in regulatory limbo until a 2011 settlement with WildEarth Guardians and the Center for Biological Diversity required the Service to take action on listing several hundred species that the Service had placed in its “warranted but precluded” category.¹⁸⁷ In January 2013, pursuant to settlement, the Service proposed to list the Gunnison sage-grouse as endangered, due primarily to habitat loss, degradation, and fragmentation from residential, exurban, and commercial development, along with associated infrastructure such as roads and power lines.¹⁸⁸ In

¹⁸⁴ *Id.* at 59820.

¹⁸⁵ *Id.* at 59829.

¹⁸⁶ *Id.*

¹⁸⁷ See 2011 CBD/ WildEarth Guardians Settlement Agreements, *supra* n. 138 and accompanying text; See also James Jay Tutchton, *Getting Species on Board the Ark One Lawsuit at a Time Won't Work: How the Failure to “List” Deserving Species Has Undercut the Effectiveness of the Endangered Species Act and a Recent Attempt to Fix this Problem*, 20 *Animal L.* [Forthcoming] (2014).

¹⁸⁸ 78 Fed. Reg. at 2486.

its proposed listing rule, the Service also mentioned “invasive plants, fire, and climate change, and the interaction of these three factors” as other factors that may individually threaten the continued existence of the Gunnison sage-grouse.¹⁸⁹

Although the Gunnison sage-grouse is only proposed for listing as of this writing, at the time of listing, the Service may identify, to the maximum extent practicable, those activities that would or would not constitute a violation of the ESA’s section 9 “take” prohibition.¹⁹⁰ For the Gunnison sage-grouse, the Service suggested several categories of activities that, based on the agency’s threats analysis, could potentially result in “take” of the grouse, if listed.¹⁹¹ Along with the normal proscriptions against unauthorized collecting, handling, possessing, and selling the species, the agency pointed to likely prohibitions of activities that would result in the loss of sagebrush overstory plant cover or height and/or reduction in native herbaceous understory plant cover.¹⁹² These activities would include the removal of native shrub vegetation for infrastructure development, prescribed burning, and fire suppression activities.¹⁹³

C. The Gunnison Sage-grouse and a Potential Candidate Conservation Agreement

In April 2005, years before the Gunnison sage-grouse’s proposed ESA listing, but after the Service’s designation of the grouse as a “candidate species,” the Colorado Division of Wildlife applied to the Service for an “Enhancement of Survival Permit” for

¹⁸⁹ *Id.*

¹⁹⁰ See Notice of Interagency Cooperative Policy for Endangered Species Act Section 9 Prohibitions, 59 Fed. Reg. 34272 (July 1, 1994).

¹⁹¹ 78 Fed. Reg. at 2536.

¹⁹² *Id.* at 2536-37.

¹⁹³ *Id.*

the Gunnison sage-grouse.¹⁹⁴ The Colorado permit application included a proposed Candidate Conservation Agreement with Assurances (“CCA”) ¹⁹⁵ between the state agency and the Service.¹⁹⁶ The state and the Service completed the CCA and a corresponding environmental assessment in October 2006, and the agency issued the associated permit to the state on October 23, 2006.¹⁹⁷

Although CCAs do not insure that state and private actors’ conservation efforts will succeed in fending off the eventual listing of a candidate species, many affected parties who have entered into CCAs for the Gunnison sage-grouse believe that these

¹⁹⁴ Section 10(a)(1)(A) of the ESA authorizes “enhancement of survival permits” to promote endangered species conservation on non-federal lands by participating private landowners. Landowners use these permits in conjunction with safe harbor agreements (“SHAs”), which give formal assurances to property owners from the Service that if they fulfill the SHA conditions that the agency will not require any new management activities on participating private land without the landowner’s consent. The Enhancement of Survival Permit allows landowners to improve habitat for listed species without facing additional restrictions if the size of the area occupied by the species increases or the species’ number increases.

¹⁹⁵ The purpose of any CCA is to address the conservation needs of species that are candidates for listing as either threatened or endangered, before they are actually listed. A CCA may affect landowners in several ways: 1) if the conservation actions implemented avoid an ESA listing, the ESA does not regulate the landowner; and 2), if the conservation actions do not avoid a listing, the CCA becomes a permit authorizing the landowner’s incidental take of the species. Therefore, according to the Service, “the agreements provide landowners with assurances that their conservation efforts will not result in future regulatory obligations in excess of those they agree to at the time they enter into the Agreement.” U.S. Fish and Wildlife Service, *Endangered Species Permits: Candidate Conservation Agreements with Assurances* (<http://www.fws.gov/midwest/endangered/permits/enhancement/cca/>) (accessed Dec. 5, 2013). See also Announcement of Final Policy for Candidate Conservation Agreements with Assurances, 64 Fed. Reg. 32726 (June 17, 1999). Although “voluntary,” a CCA must contain regulatory effect and be enforceable. See *Oregon Natural Resources Council v. Daley*, 6 F.Supp.2d 1139, 1155 (D. Or. 1998) (vacating NMFS’ decision to withdraw a proposed rule listing Oregon coastal coho salmon because NMFS relied on potential effects of future and voluntary conservation measures; the court ruled that NMFS could rely only conservation efforts that were currently operational or enforceable; according to the court, “voluntary or future conservation efforts by a state should be given no weight in the listing decision... instead the [agency] must base its [listing] decision on current, enforceable measures.”).

¹⁹⁶ 78 Fed. Reg. at 2487.

¹⁹⁷ *Id.*

measures should be sufficient to preclude ESA listing.¹⁹⁸ Many landowners interpret these voluntary conservation agreements as an assurance that their efforts will remove the need to list the species under the ESA.¹⁹⁹

Actually, the CCAA will not prevent a listing,²⁰⁰ although the CCAAs will remain in place, authorizing the continued incidental take of Gunnison sage-grouse “due to

¹⁹⁸ See, e.g. Heather Sackett, *County coalition claims success at protecting Gunnison sage-grouse*, Telluride Daily Planet (Jan 5, 2014) (available at <http://www.telluridenews.com/articles/2014/01/05/news/doc52c74f91dfc67760100926.txt>) (accessed Jan 23, 2014).

¹⁹⁹ See, e.g. Katharhynn Heidelberg, *For the bird*, Montrose Daily Press (Nov. 21, 2013) (available at http://www.montrosepress.com/news/for-the-bird/article_55d232b6-527b-11e3-af12-0019bb2963f4.html) (accessed Jan. 12, 2014) (“The state has spent \$30 million on conservation easements to enhance the species, while participating landowners were given the impression that the easements would remove the need for an Endangered Species Act listing, Rep. Don Coram said. The assurances were part of the reason private landowners agreed to local and regional preservation efforts, he said.”).

²⁰⁰ Meanwhile, the Greater sage-grouse, cousin to the Gunnison sage-grouse, is also a candidate for ESA listing. In a much broader action spanning the entire Mountain West, the Service and the Bureau of Land Management are currently working to implement conservation measures and CCAAs to avoid the greater sage-grouse’s pending 2015 listing decision. In 2013, the Service made available an Environmental Assessment and a draft CCAA that would impose stricter controls over ongoing efforts to enhance distribution of the grouse throughout its historical range in Wyoming. See *Enhancement of Survival Permit Application; Draft Greater Sage-Grouse Umbrella Candidate Conservation Agreement with Assurances for Wyoming Ranch Management, and Environmental Assessment*, 78 Fed. Reg. 9066 (February 7, 2013). Also in 2013, the Service published a report designed to help guide conservation efforts of states and other CCAA partners to more effectively conserve the greater sage-grouse at the landscape level. See U.S. Fish and Wildlife Service, *Greater Sage-grouse, Conservation Objectives: Final Report* (Feb. 2013) (available at <http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/COT/COT-Report-with-Dear-Interested-Reader-Letter.pdf>) (accessed Dec. 5, 2013). Reflecting the strong incentives for state, local, and federal interests to avoid listing the greater sage-grouse, as of November 22, 2013, the BLM had proposed a range of specific protections for the greater sage-grouse across 10 million acres of federal lands in Eastern Oregon’s sagebrush desert. Addressing the causes of fire and habitat destruction that threatens the species most directly, the preferred alternative in the Oregon draft Environmental Impact Statement would, among other things, close approximately 118,000 acres of BLM land to grazing and require that grazing permit renewals trigger an analysis of how well suited the grazed land is to the persistence of greater sage-grouse. See Rob Davis, *BLM Gets Tough on Sage Grouse Protection to Avoid Harsher Listing*, *The Oregonian* (Nov. 22, 2013) (http://www.oregonlive.com/environment/index.ssf/2013/11/blm_gets_tough_on_oregon_sage.html) (accessed Dec. 5, 2013); Jeff Barnard, Associated Press, *Oregon BLM Proposes Sage Grouse Protection Plan*, *Casper Star Tribune Online* (Nov. 25, 2013) (http://trib.com/business/energy/oregon-blm-proposes-sage-grouse-protection-plan/article_7412a4cc-7ced-5beb-ac37-8c84cd87dabb.html) (accessed Dec. 5, 2013). This Oregon EIS is one of 15 separate plans that states, along with energy and agriculture interests, are supporting as part of a “National Greater Sage-Grouse Planning Strategy” that would stretch across 10 western states and over 47 million acres of the bird’s habitat on public land. Scott Streater, *Coalition urges BLM to let Utah lead on state sage grouse aid*, *E&E Reporter* (Jan. 27, 2014) (available at <http://www.eenews.net/eenewspm/2014/01/27/stories/1059993520>) (accessed Jan 27, 2014).

otherwise lawful activities specified in the CCAA, when performed in accordance with the terms of the CCAA,”²⁰¹ as long as the participating landowner performs conservation measures to which a landowner agreed.²⁰² Despite the CCAA, the Service faces a great deal of state and local resistance to listing the Gunnison sage-grouse. As of this writing, the Service has twice extended the public comment period on its proposed endangered listing.²⁰³ final listing decision may not be imminent.

Conclusion

In all four of the listing decisions discussed in this article, citizen action triggered the listing decisions: three by citizen petitions,²⁰⁴ the wolverine due to the “warranted but precluded settlement” of a citizen suit filed by environmentalists.²⁰⁵ The ability of citizens to petition for listings is one of the most notable, albeit often overlooked, contributions of the ESA to environmental law. Citizen petitions are by far the chief motivating force behind ESA listings in the 21st century.²⁰⁶

²⁰¹ *Id.*

²⁰² *Id.* In a programmatic CCAA, the federal government authorizes state, local, or tribal governments to hold the overall permit and then these entities may enroll individual property owners. To convey assurances and authorization to individual property owners, the permitted State, local, or Tribal entity must issue an individual “certificate of inclusion” to each individual landowner who elects to participate by performing voluntary conservation measures.

²⁰³ See 6-Month Extension of Final Determinations on the Proposed Endangered Status and Proposed Designation of Critical Habitat for Gunnison Sage-Grouse, 78 Fed. Reg. 43123 (July 19, 2013); Proposed Endangered Status for Gunnison Sage-Grouse and Proposed Designation of Critical Habitat for Gunnison Sage-Grouse, 78 Fed. Reg. 65936 (Nov. 4, 2013) (announcing the reopening of the public comment period on the January 2013 proposed rules until December 2, 2013).

²⁰⁴ See *supra* nn. 22 (pika), 49 (polar bear), 174 (Gunnison sage grouse) and accompanying text.

²⁰⁵ See CBD/ WildEarth Settlement Agreements, *supra* n. 138 and accompanying text.

²⁰⁶ See James Jay Tutchton, *Getting Species on Board the Ark One Lawsuit at a Time Won't Work: How the Failure to “List” Deserving Species Has Undercut the Effectiveness of the Endangered Species Act and a Recent Attempt to Fix this Problem*, 20 Animal L. [Forthcoming] (2014).

In each of these listing decisions, the Service acknowledged the effect of climate change on the species.²⁰⁷ In the polar bear listing, the agency explicitly tied climate change to GHG emissions.²⁰⁸ In the wolverine proposal, the only reason for the listing was climate change.²⁰⁹ Yet despite this recognition of the link between the listings and warming global temperatures, the Service managed to ensure that listings would have virtually no effect on the climate-change causes for the listings. All these decisions except the pika were made by the Obama Administration, which seems committed to keeping the ESA from having any substantial effect on the principal cause of the listings themselves. These unsettling realizations prompt several observations.

First, the 4(d) rules accompanying the polar bear and the wolverine proposal limited proscribed “takes” to direct, intentional acts, like hunting, shooting, trapping, and capturing the species.²¹⁰ This denial of any effect on indirect, unintentional takes—like land uses such as grazing, logging, or land developments—essentially adopted the approach of the dissenting opinion in the U.S. Supreme Court’s *Sweet Home* decision, where Justice Scalia opined that the Service lacked authority to promulgate a take regulation that went beyond intentional, direct takes.²¹¹ The District Court of the District of Columbia has, without apparent irony, ratified the agency’s adoption of the

²⁰⁷ See *supra* nn. 29 (pika), 58-65 (polar bear), 146-148 (wolverine), 189 (Gunnison sage-grouse) and accompanying text.

²⁰⁸ See *supra* nn. 61-65 and accompanying text.

²⁰⁹ See *supra* n. 148 and accompanying text.

²¹⁰ See *supra* nn. 162-167 and accompanying text.

²¹¹ See *supra* n. 164, discussing the dissent in *Babbitt v. Sweet Home* (“What the nine other words in § 1532(19) have in common—and share with the narrower meaning of “harm” described above, but not with the Secretary’s ruthless dilation of the word—is the sense of affirmative conduct intentionally directed against a particular animal or animals.”).

Scalia dissent in a case in which the Service succeeded in defending its regulation defining proscribed takes to include habitat degradation.²¹²

Second, the notion that 4(d) rule could be a vehicle for essentially exempting otherwise prohibited takes was not taken seriously until the Clinton Administration, when reformers in the Interior Department implemented a series of reforms such as expanding the use of habitat conservation plans that would provide “safe harbors” for landowners and which also included “no surprises” guarantees.²¹³ One of these reforms was the transformation of section 4(d) into a vehicle to authorize takes for threatened species, presumably making listing decisions less draconian for landowners, at least those affected by listings of threatened species. The 4(d) reform made the distinction between listed endangered species and listed threatened species significant for the first time.

The climate change-related ESA species considered in this article have amplified the importance of the distinction between listing a species as threatened as opposed to an endangered listing. The former may include generic (and perhaps widespread) exemptions from the statute’s take prohibition; the latter may not. In the climate change context, the 4(d) rules for the polar bear and proposed wolverine listings essentially exempt the principal (and in the case of the wolverine, the only) cause for the listing:

²¹² See *In re Polar Bear*, *supra* nn. 119-124 and accompanying text.

²¹³ These reforms were prompted by widespread concern that a hostile Congress would amend the ESA to remove controversial provisions like section 9’s take prohibition, which of course applies to private landowners as well as governments. See Habitat Conservation Plan Assurances (“No Surprises”) Rule, 63 Fed. Reg. 8859 (Feb. 23, 1998).

activities causing global temperatures to warm.²¹⁴ Even more surprisingly, the 4(d) rules suggest that activities that cause warming temperatures, such as emissions of GHG, that cause loss of listed species' habitat will not trigger section 7 consultation.²¹⁵ We wonder if the architects of the 1990s administrative reforms to the ESA, whose goal was to prevent Congress from eviscerating the statute,²¹⁶ would be happy about how their innovations are being employed to eliminate the ESA as a brake on GHG emissions.

Third, the 4(d) rules' decisions that we have discussed to not reach climate-change causes because of an alleged lack of "causal connection" between the activities causing climate change and particular adverse effects on individual species' habitat is disturbing because it seems to import federal judicial standing rules into ESA decisionmaking. Federal standing rules, as interpreted by the U.S. Supreme Court, require a concrete injury to an individual user of a specific natural resource in a given location that is redressable by a specific remedy issued by a court.²¹⁷ The Service's discretionary use of this sort of direct causal chain in ESA decisionmaking appears to

²¹⁴ See, *supra* nn. 62-65 (polar bear); *supra* nn. 147-150 (wolverine) and accompanying text.

²¹⁵ See Polar Bear 4(d) rule, *supra* n. 111 and accompanying text.

²¹⁶ These architects include Professors Joe Sax, then special assistant to the Secretary of Interior and the father of the modern public trust doctrine; see, e.g., Joseph L. Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 Mich. L. Rev. 471 (1970); and John Leshy, then Interior Solicitor and an author of leading casebooks on public land and water law. George Cameron Coggins, Charles F. Wilkinson, John D. Leshy & Robert L. Fischman, *Federal Public Land and Resources Law* (6th ed., Foundation 2007). Joseph L. Sax, Barton H. Thompson, Jr., John D. Leshy & Robert H. Abrams, *Legal Control of Water Resources* (4th ed., Thompson-West 2006)

²¹⁷ See, e.g. *Allen v. Wright*, 468 U.S. 737, 752 (1984) (In a challenge by parents of black schoolchildren to sufficiency of IRS standards for denying tax-exempt status to racially discriminatory schools, the Court determined that parents did not have standing to prevent the government from violating tax exemption law, absent an allegation of direct injury or an injury that was fairly traceable to the government's conduct. Although there was an injury, the Court found the nexus between the government's actions and the plaintiffs' injuries were too attenuated.)

impose an insurmountable obstacle to the ESA having any effect on the cause of species listed due to climate change.

Finally, given the growing importance of 4(d) rules, the distinction between threatened and endangered species seems now to be one of the chief issues in the implementation of the ESA. For example, if the Service proceeds to list the Gunnison sage-grouse as endangered, as proposed,²¹⁸ there will be no 4(d) rule exempting certain types of takes from the statute's prohibition as there is in the case of the polar bear²¹⁹ or proposed for the wolverine.²²⁰ The growing distinction between the effect of a threatened versus an endangered listing, coupled with the fact that the difference between the two is quite indistinct,²²¹ suggests that in the near future there will be considerably more litigation over this distinction, as perhaps presaged by the polar bear litigation.²²²

The results of this study show that the ESA's potential effects on curbing GHG emissions has been largely eliminated by the listing decisions discussed in this study. It is true that, even without the 4(d) exemptions provided by the rules discussed in this study, the burden of proving that particular GHG emissions produced a proscribe take of listed species would be daunting. But at least it would be possible. The 4(d) rules discussed in this study categorically eliminate the opportunity to make the case that particular causes of climate change take listed species or their habitat. Perhaps even

²¹⁸ See Endangered Status for Gunnison Sage-Grouse, *supra* n. 168 and accompanying text.

²¹⁹ See Special Rule for the Polar Bear, *supra* n. 88 and accompanying text.

²²⁰ See Threatened Status for DPS of Wolverine and 4(d) Rule, *supra* n. 133 and accompanying text.

²²¹ See 16 U.S.C.A. §1532 (6), (20), *supra* n. 23 (discussing differences between "endangered" and "threatened" listing designations).

²²² See *In re Polar Bear*, *supra* n. 111 and accompanying text.

more disturbingly, the 4(d) rules also seem to signal that there will be no section 7 federal consultation on federal actions that authorize GHG emissions which adversely affect listed species' habitat.²²³ Maybe it is unrealistic to think that a section 7 consultation on, say, increased federal coal leasing in the Northern Great Plains would lead to a reasonable and prudent alternative that would curb emissions to reduce effects on sea ice to preserve polar bear habitat or to save snowpack for the wolverine, but to take such considerations completely off the ESA table is disturbing.

If the study of these four species is any indication, the ESA is hardly a pit bull in the effort to combat climate change. Forty years after its enactment, the statute has instead become a coqui frog,²²⁴ a species that makes a whole lot of noise, but threatens no one.

²²³ See, e.g. Wolverine 4(d) Rule, *supra* nn. 152-167 and accompanying text.

²²⁴ Coqui frogs, a species endemic to Puerto Rico and invasive on the islands of Hawaii, have calls that can reach one hundred decibels from just three feet away, making them the loudest known amphibians. In Hawaii, the coqui is a notorious and unpopular pest, and fed up residents compare its calls to the sound of a lawnmower running all night. See National Geographic, *World's Loudest Animals—“Power Saw” Cricket, More, Loud as a Lawnmower* (Aug. 7, 2013) (http://news.nationalgeographic.com/news/2013/08/pictures/130807-animals-loud-loudest-cricket-bushcricket-science/#/loudest-animals-coqui-tree-frog_37392_600x450.jpg) (accessed Dec. 5, 2013).