

The Role of Climate Change in ESA Decisions

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Table of Contents

I. Introduction	1
II. Background—Endangered Species Act Overview	2
A. Section 4: Listing, Delisting, Critical Habitat, and Recovery Planning.....	2
B. Section 7 Consultation with the Service.....	5
C. Section 9 Take Prohibition.....	5
III. Climate Change and the ESA: The Experience Thus Far	6
A. <i>NRDC v. Kempthorne</i>	6
B. <i>San Luis & Delta-Mendota Water Authority v. Jewell</i>	7
C. Polar Bear	7
1. Polar Bear ESA litigation as Complex Litigation: The MDL Panel	9
2. The Polar Bear Listing Rule Litigation	11
3. Polar Bear 4(d) Rule Litigation	13
4. Polar Bear Critical Habitat Designation and Litigation	15
5. Recovery Planning and Five Year Status Review	16
D. Ribbon Seal	16
E. Bearded Seal	17
1. Status Review	17
2. Rulemaking.....	18
3. Challenge to the Rulemaking	20
F. Wolverine.....	22
G. American Pika.....	23
IV. Discussion—Lessons on Climate Change From These Examples.....	23

¹ The positions, opinions, and conclusions in this paper are solely those of the individual authors and do not reflect the position of any client or organizational affiliation of the authors.

A. Litigation Teachings.....	23
B. The Challenges Faced by the Federal Agencies and Their Responses	24
V. Suggestions for Participants in ESA Decisions.....	25
VI. Conclusion—The ESA/Climate Change Interface: What Comes Next?	26

I. Introduction

This past August, President Obama traveled to Alaska to speak at the U.S. Department of State's GLACIER² Conference and highlight his administration's agenda for addressing climate change. While there, the President saw firsthand some of the consequences of recent climate change trends, including his hike to Exit Glacier in Kenai Fjords National Park. That glacier has receded more than a mile over the past 200 years.³

In his remarks, President Obama noted that "the Arctic is the leading edge of climate change," and that over the past 60 years, "Alaska has warmed about twice as fast as the rest of the United States."⁴ Among other impacts, the President noted the potential for "[w]armer, more acidic oceans and rivers, and [that] the migration of entire species" could be affected. Indeed, the President went so far as to state that "[c]limate change is already disrupting our . . . ecosystems" now and "will accelerate changes to the way that we all live." The President noted emphatically his view that "human activity is changing the climate," and that "[e]verything else is politics if people are denying the facts of climate change." But at the same time, he acknowledged that "[w]e can have a legitimate debate about how we are going to address this problem" and offered that "we are going to do some adaptation."⁵

While discussing climate change issues and governmental, societal, and policy responses at that broad level, President Obama's remarks also highlight the ongoing consideration and development of the role of climate change and climate change effects in ESA decisionmaking. Currently the Services, conservation scientists, industry, environmental groups, and others are working to address, understand, and apply those concepts.

The role of climate change considerations in ESA processes first gained widespread visibility in 2008 with the Fish and Wildlife Service's listing of the polar bear as a threatened species, the first charismatic megafauna species to be listed based on future threats to its habitat attributed to climate change effects. Since that time, the Services have addressed several species listings—and delistings—that incorporated climate change considerations, and have had to integrate climate change considerations into Section 7 consultations and biological opinions. A number of these decisions, consistent with the President's observations, concerned Arctic

² The acronym stands for "Global Leadership in the Arctic: Cooperation, Innovation, Engagement & Resilience." See <http://www.state.gov/e/oes/glacier/index.htm>.

³ See Julie Hirschfeld Davis, "Paring His Bucket List, Obama Relishes Hiking at an Alaskan Glacier," *N.Y. Times*, Sept. 2, 2015, at A17.

⁴ The White House, Office of the Press Secretary, "Remarks by the President at GLACIER Conference—Anchorage, AK" (Aug. 31, 2015), <https://www.whitehouse.gov/the-press-office/2015/09/01/remarks-president-glacier-conference-anchorage-ak>.

⁵ *Id.*

species, while others addressed marine species or terrestrial or aquatic species found primarily within the continental United States.⁶

From this developing body of decisions, we can sift through some of the patterns of how climate change considerations and effects are both influencing and being factored into ESA decisions. To date, there is no overarching single paradigmatic approach to addressing climate change in ESA decisions. Rather—as the President hinted—there is an adaptation of existing ESA frameworks and processes to incorporate climate change considerations and effects on a case-by-case basis as these situations arise in both the administrative and judicial decisionmaking contexts. From examples of the polar bear, ribbon seal, bearded seal, wolverine, American pika, and more, we can begin to see what lessons may be drawn from these situations and what policy, regulatory, or other suggestions there may be for a continuing adaptation of considering climate change factors in ESA decisions. That is the focus of this paper.

II. Background—Endangered Species Act Overview

The ESA was enacted, in part, “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species.”⁷ The Act is administered by the U.S. Fish and Wildlife Service (FWS) in the Department of the Interior and the Department of Commerce’s National Oceanic and Atmospheric Administration—National Marine Fisheries Service (NMFS) (collectively, the Services).⁸

A. Section 4: Listing, Delisting, Critical Habitat, and Recovery Planning

Once listed as threatened or endangered under section 4,⁹ species are subject to a range of protections under the ESA, including critical habitat designation, recovery planning, consultation requirements for federal actions, and prohibitions on take of the species.¹⁰ An endangered

⁶ Readers may be interested in two recent books that explore in depth the potential threat posed by climate to change to the world’s fauna: Anthony D. Barnosky, *Heatstroke: Nature in an Age of Global Warming* (2009); and Elizabeth Kolbert, *The Sixth Extinction* (2014). Kolbert’s book won the 2015 Pulitzer Prize for General Nonfiction. <http://www.pulitzer.org/awards/2015>.

⁷ 16 U.S.C. § 1531(b).

⁸ In general, the FWS is responsible for terrestrial and freshwater species. NMFS is responsible for marine species, including anadromous fish such as salmon and steelhead that hatch in freshwater, spend most of their adult life in the ocean, and then return to freshwater to spawn. See 50 C.F.R. §§ 17.2(b), 402.01(b). For the most part, the two agencies follow similar or joint regulations in implementing their ESA responsibilities, although there are both regulatory and policy differences in their approaches. The term “the Services” is used when it is not necessary to distinguish between the two agencies. Specific references will be made to FWS or NMFS where appropriate.

⁹ *Id.* § 1533.

¹⁰ See 5 *Am. L. of Mining* §§ 175.04-.07 (2d ed. 2010), and the other papers in this Special Institute collection, for a detailed discussion of the protective measures applied to listed species.

species is one that is “in danger of extinction throughout all or a significant portion of its range.”¹¹ A “threatened” species is one that is “likely to become an endangered species within the foreseeable future.”¹²

The ESA requires the Services to designate a species as endangered or threatened based on the presence of any one of the following five factors:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.¹³

The Services must make this determination “solely on the basis of the best scientific and commercial data available,”¹⁴ and after taking into consideration efforts by the states or foreign governments to protect the species by conservation practices or other measures. The Services also consider whether the species has been identified as in danger of extinction by a state agency or agency of a foreign government that is responsible for the conservation of fish, wildlife, or plants.¹⁵

Listing can be accomplished on the initiative of the Services or in response to a petition from “an interested person.”¹⁶ When either of the Services receive a petition to list a species, within 90 days the agency must determine whether the petition presents “substantial scientific or commercial information indicating that the petitioned action may be warranted”—the “90-day finding.”¹⁷ If the 90-day finding is affirmative, within 12 months the Services must make a finding that either: (1) listing is not warranted; (2) listing is warranted; or (3) listing is warranted, but precluded by higher priority listing decisions and expeditious progress is being made toward those higher priority activities—the “12-month finding.”¹⁸ Species for which a listing is “warranted, but precluded” are given a priority number and placed on the candidate

¹¹ 16 U.S.C. § 1532(6).

¹² *Id.* § 1532(20).

¹³ *Id.* § 1533(a)(1)(A)-(E); 50 C.F.R. § 424.11(c).

¹⁴ 16 U.S.C. § 1533(b)(1)(A).

¹⁵ *Id.* § 1533(b)(1)(B); 50 C.F.R. § 424.11(e).

¹⁶ *See* 16 U.S.C. §§ 1533(a)(1), (b)(3).

¹⁷ *Id.* § 1533(b)(3)(A).

¹⁸ *Id.* § 1533(b)(3)(B)(i)-(iii); 50 C.F.R. § 424.14(b)(3).

species list for yearly status review.¹⁹ If the applicable Service determines listing is warranted, within 12 months it must propose a rule listing the species.²⁰

A decision to delist a species or downlist from endangered to threatened follows the same process and requires the applicable Service to consider the same five factors considered for a listing action.²¹ ESA regulations indicate that a species may be delisted if the petition-submitted information “substantiate[s] that [the species] is neither endangered nor threatened for one or more of the following reasons:” (1) the species is considered to be extinct; (2) the species has recovered to the point that “protection under the Act is no longer required;” or (3) the initial classification of the species as endangered or threatened was in error.²²

When a species is listed under Section 4, the Services generally also designate “critical habitat” for the species.²³ Critical habitat includes specific areas within the geographic area occupied by the species at the time it is listed, which are essential to the conservation of the listed species and that require special management or protection.²⁴ Critical habitat designations must be based on “the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat.”²⁵

ESA Section 4(f) requires the development of recovery plans for the conservation and survival of species upon their listing as threatened or endangered.²⁶ The ultimate goal of recovery plans is removal of the species from the endangered or threatened list, which is to be achieved through “objective, measurable criteria” specified in the plan.²⁷ Plans are also supposed to include estimates of the time required and the costs necessary to carry out those measures.²⁸ Public notice and comment are required on recovery plans.²⁹ The Services are

¹⁹ 16 U.S.C. § 1533(b)(3)(C)(i).

²⁰ *Id.* § 1533(b)(5).

²¹ *Id.* § 1533(a)(1); 50 C.F.R. § 424.

²² *See* 50 C.F.R. § 424.11(d)(1)-(3).

²³ 16 U.S.C. § 1533(b)(2). The Service may decline to designate critical habitat if doing so would not be prudent (i.e., where publicizing the location of a species is likely to lead to illegal collection) or where critical habitat is not determinable. *Id.* § 1533(a)(3)(A); *see also* 50 C.F.R. § 424.12(a).

²⁴ 16 U.S.C. § 1532(5)(A)(i).

²⁵ *Id.* § 1533(b)(2) (emphasis added).

²⁶ 16 U.S.C. § 1533(f).

²⁷ *Id.* § 1533(f)(1)(B).

²⁸ *Id.*

²⁹ *Id.* § 1533(f)(4).

given broad latitude, however, in giving priority to species deemed most likely to benefit from recovery plans and in developing site-specific management actions.³⁰

B. Section 7 Consultation with the Service

Section 7(a)(2) of the ESA requires every federal agency to consult with the appropriate Service to ensure that any action that the federal agency authorizes, funds, or carries out will not “jeopardize” the continued existence of a listed species or “adversely modify or destroy” designated critical habitat.³¹ Section 7 consultation may be formal or informal. If, during informal consultation, the Service determines or concurs with the action agency that the proposed action either has no effect or is “not likely to adversely affect” listed species or critical habitat, then the consultation process is terminated and no further action is necessary.³² If the agency determines that its action may affect listed species or critical habitat, it must undertake formal consultation with the Service.³³

The product of the formal consultation process is generally a biological opinion issued by the Service indicating whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a “jeopardy” opinion), or is not likely to result in such effects (a “no jeopardy” opinion).³⁴ A “jeopardy” biological opinion must include reasonable and prudent alternatives, if any, that would alter the action to avoid the likelihood of jeopardizing a listed species or resulting in the destruction or adverse modification of critical habitat.³⁵

When the proposed activity will result in an incidental taking of a listed species, but will not jeopardize the continued existence of the species, the biological opinion will include an incidental take statement that serves as a shield from liability under Section 9 for any take of a listed species committed during activities that are otherwise lawful and in compliance with the reasonable and prudent measures and terms and conditions provided in the incidental take statement.³⁶

C. Section 9 Take Prohibition

Section 9 of the ESA broadly prohibits the taking of any endangered species of fish or wildlife by “any person.”³⁷ The “take” prohibition applies directly only to species of fish and wildlife listed as “endangered.” The Act directs the Service to issue regulations as it deems

³⁰ *Id.* § 1533(f)(1).

³¹ *Id.* § 1536(a)(2); 50 C.F.R. § 402.01(a).

³² 50 C.F.R. § 401.13(a).

³³ *Id.* § 402.14(a).

³⁴ *See id.* § 402.14(h)(3).

³⁵ *Id.* §§ 402.14(h)(3), 402.02.

³⁶ 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

³⁷ 16 U.S.C. § 1538(a)(1).

necessary for the conservation of threatened species, which may include a less expansive definition of “take.”³⁸ FWS has promulgated a regulation making the full statutory definition of “take” applicable to a threatened species, absent a special rule to the contrary.³⁹ NMFS, on the other hand, takes a species-by-species approach to establishing the prohibitions for a particular threatened species.⁴⁰

Both federal and non-federal actions are within the Section 9 statutory prohibition.⁴¹ The statute defines “take” as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”⁴² In its *Sweet Home* decision, the U.S. Supreme Court upheld the FWS’s regulatory definition of “harm” as including significant habitat modification or destruction that causes actual death or injury to a listed species on federal or nonfederal land.⁴³

III. Climate Change and the ESA: The Experience Thus Far

Section I showed that—as emphasized by the recent GLACIER conference, the President’s visit to Alaska, and the upcoming December 2015 United National Climate Change Conference in Paris—climate change is a current environmental issue. The questions repeatedly asked are how we might respond to climate change and, in the ESA context, how we might address its effects on species and habitats. To better understand what the future might hold it is useful to consider the experience, over the last several years, of the courts and the agencies on this front.

The science and scientific inquiry framed by the ESA’s commands are difficult and complex. This focus on the available science and the agency record is common to contemporary ESA litigation. The facts that the courts, agencies, and stakeholders are grappling with that complexity in the climate change context are further illustrated in the examples discussed below.

A. *NRDC v. Kempthorne*

In 2007, a federal district court put the Services on notice that climate change was an issue that needed to be reckoned with in Section 7 consultations. The delta smelt (*Hypomesus transpacificus*) is a threatened fish endemic to the Sacramento-San Joaquin Delta. The case of *Natural Resources Defense Council v. Kempthorne*⁴⁴ addressed the consultation process for two

³⁸ *Id.* § 1533(d).

³⁹ 50 C.F.R. § 17.31.

⁴⁰ *See id.* §§ 223.201 *et seq.*

⁴¹ For non-federal actions, a private party may obtain an incidental take permit under Section 10 of the ESA, which requires submission of a habitat conservation plan. 16 U.S.C. § 1539(a). To date, it does not appear that any climate change issues have been raised in connection with Section 10 permits.

⁴² 16 U.S.C. § 1532(19).

⁴³ *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687 (1995).

⁴⁴ 506 F. Supp. 2d 322 (E.D. Cal. 2007),

large-scale water projects, the federal Central Valley Project and the State Water Project, that divert large volumes of water from the Sacramento-San Joaquin Delta. The biological opinion based its no-jeopardy conclusion, in part, on historical records of water availability and the assumption that neither the climate nor the hydrology of the Delta would change. It did not address the available data regarding the potential effects of climate change on the Delta's hydrology and temperature, which could in turn effect the smelt.

The Natural Resources Defense Council (NRDC) an environmental organization, alleged that this omission was legal error. The district court agreed and ruled that FWS had acted arbitrarily and capriciously in issuing its biological opinion. The court, unsurprisingly, found that the absence of discussion of climate change in the biological opinion constituted "a failure to analyze a potentially important aspect of the problem."⁴⁵ The delta smelt case stands for the proposition that the ESA requirements to review the best available scientific data during Section 7 consultation may also include the effects of climate change. This proposition necessarily increases (and appropriately so) the duty on the agencies to, where relevant, incorporate climate science into their Section 7 analyses.

B. San Luis & Delta-Mendota Water Authority v. Jewell

In *San Luis & Delta-Mendota Water Authority v. Jewell*,⁴⁶ water districts, water users and state water contractors, representing a total of six complainants, brought an ESA challenge to the latest biological opinion addressed to the impact of the Central Valley and State Water Projects' continued operations on the delta smelt. This biological opinion incorporated the climate change analysis the district court had previously required in the litigation initiated by NRDC. The plaintiffs prevailed in the district court, which set aside the FWS's biological opinion.

As it struggled to address the myriad of issues before it, the district court departed from established administrative law and record review principles. Perhaps seeking a path through the maze posed by an enormous administrative record, the district court relied upon a number of extra-record declarations submitted by the plaintiffs over the vigorous objections of the federal defendants and environmental organization intervenors.⁴⁷ On review, the Ninth Circuit reversed the district court's approach, holding that it had overstepped its bounds in departing from established principles of administrative law.⁴⁸ Ultimately, the Ninth Circuit reversed the district court and upheld the FWS's biological opinion.

C. Polar Bear

At the same time they were suing over the delta smelt, NRDC as well as other environmental groups were focused on an effort to bring the issue of climate change to the fore in efforts to preserve an unarguably more charismatic species: the polar bear (*Ursus maritimus*). This effort arose in the context of the FWS's Section 4 responsibilities. In 2005, the Center for

⁴⁵ *Id.* at 370.

⁴⁶ 747 F.3d 581 (9th Cir. 2014).

⁴⁷ *Id.* at 603.

⁴⁸ *Id.* at 604.

Biological Diversity (the Center) petitioned the Secretary of the Interior and the FWS to list the polar bear under the ESA.

The petition filed by the Center focused on the threats to the bear, and more specifically the bear's Arctic habitat, from climate change. Specifically, the Center argued that the bear should be listed due to observed and anticipated declines in the Arctic sea ice upon which the polar bear relies for its habitat needs and certain life-history function. When the FWS did not act on the petition within the ESA statutory deadlines, the petitioners filed a complaint in the United States Federal District Court for the Northern District of California. After several years of legal wrangling, the FWS finally acted on the petition to list the bear.

With considerable fanfare on May 14, 2008, then-Secretary of the Interior Dirk Kempthorne announced that the polar bear was being listed as a threatened species under the ESA. To some, the Secretary's decision may have seemed grudging. Kempthorne explained that he believed "this decision is most consistent with the record and legal standards of the Endangered Species Act—perhaps the least flexible law Congress has ever enacted."⁴⁹ It was, according to Kempthorne, "a difficult decision. But in light of the scientific record and the restraints of the inflexible law that guides me, I believe it was the only decision I could make."⁵⁰ The "difficult decision" to list the polar bear as threatened did not end the controversy over the bear's ESA status or conservation.

The listing rule filled more than 90 pages in the Federal Register.⁵¹ In listing the polar bear as "threatened" and not "endangered," the FWS had necessarily determined that the polar bear was "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."⁵² That determination was based on a collection of agency studies and reports that had been accumulated in the three years since the Center had petitioned for the listing. This information ultimately reduced to three component parts. First, polar bears are dependent on sea ice for their survival; second, sea ice extent is declining across the polar bear's circumpolar range; and third, climatic change has and will continue to reduce the extent of sea ice to a degree that polar bear populations were likely to become endangered within the foreseeable future.⁵³ Notably, in determining that the polar bear was "threatened," the FWS concluded that 45 years, or approximate mid-century, was the appropriate foreseeable time period.⁵⁴ The listing rule was immediately challenged in court by a number of stakeholders and the foreseeability determination became one of several issues in the litigation.

⁴⁹ U.S. Dep't of the Interior, Remarks by Secretary Kempthorne, Press Conference On Polar Bear Listing (May 14, 2008), at 1.

⁵⁰ *Id.* at 6.

⁵¹ *See generally*, Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range, 73 Fed. Reg. 28,212 (May 15, 2008) (hereinafter "the Listing Rule").

⁵² 16 U.S.C. § 1532(20).

⁵³ Listing Rule, 73 Fed. Reg. at 28,212.

⁵⁴ *Id.* at 28,253-55.

Another major focus of litigation surrounding the polar bear listing decision was the Section 4(d) Rule for the polar bear issued by the FWS. In conjunction with listing a species as threatened, Section 4(d) of the ESA authorizes the FWS to promulgate such rules as it deems “necessary and advisable to provide for the conservation of [threatened] species.”⁵⁵ The ESA provides that the FWS may afford all, some, or none of the protections to a threatened species that it would to an endangered species under ESA Section 9(a)(1).⁵⁶ Thus, pursuant to Section 4(d), in conjunction with listing a species as threatened, the FWS undertakes an analysis of which protections should be extended. Section 9 of the ESA prohibits the direct and incidental take of a listed species.⁵⁷ In its 4(d) Rule, the FWS provided that none of the ESA’s Section 9 prohibitions would apply to any taking of polar bears that is incidental to, but not the purpose of, carrying out an otherwise lawful activity, unless that taking is caused by an activity occurring within the current range of the polar bear in the United States. Thus, greenhouse gas (GHG) emissions that originated outside of the polar bear’s range, and the potential effects of such emissions on climate change, were not subject to the restrictions in the 4(d) Rule.⁵⁸

The Listing Rule was challenged by a number of organizations and individuals including: (1) the State of Alaska (concerned about the management of the State’s and adjoining federal natural resources); (2) the Safari Club International and the Safari Club Foundation (concerned about lost hunting opportunities, including foreign trophy hunts and conservation funding that such hunts supported); (3) the California Cattlemen’s Association and the Congress on Racial Equality (with an averred interest on the effect of ESA citizen suits on business and minority owned businesses); (4) the Center for Biological Diversity, the Natural Resources Defense Council and Greenpeace (environmental groups interested in wildlife conservation); (5) Conservation Force, the Inuvialuit Game Council, and other groups and individuals who trophy hunt or have an interest in polar bear trophy hunts in Canada.

The challenges from most of the environmental groups were filed in the U.S. District Court for the Northern District of California, and the other challenges were filed in the U.S. District Court for the District of the District of Columbia. Another conservation group, the Defenders of Wildlife, challenged the Listing and 4(d) Rules in the U.S. District Court for the District of the District of Columbia. The number of parties to the litigation, their varied interests and concerns, and the number civil actions and courts made this litigation difficult to manage from the start.

1. Polar Bear ESA litigation as Complex Litigation: The MDL Panel

Complex litigation is a hallmark of ESA litigation and, as illustrated by the polar bear case, this complexity is driven in part by climate change issues. The initial procedural difficulty

⁵⁵ 16 U.S.C. § 1533(d).

⁵⁶ 16 U.S.C. § 1538(a)(1).

⁵⁷ 16 U.S.C. § 1538(a)(1).

⁵⁸ *See generally*, Special Rule for the Polar Bear, Interim Final Rule, 73 Fed. Reg. 28306 (May 15, 2008); *see also* 78 Fed. Reg. 11,766 (Feb. 20, 2013) (repromulgated 4(d) Rule) (subsequently codified at 50 C.F.R. § 17.40(q)).

presented by the vast array of polar bear listing lawsuits was resolved when all of the challenges were consolidated as a Multidistrict Litigation (MDL) case in the U.S. District Court for the District of Columbia. This result was surprising because, on its face, these cases are outside the norm for MDL litigation and deserve brief exploration.

In 1968, Congress enacted 28 U.S.C. § 1407 (the MDL Statute) which permits the transfer and consolidation of related cases pending in federal districts throughout the United States. Specifically, the MDL Statute provides that civil actions pending in different districts and involving one or more common questions of fact may be transferred to any district court for coordination of consolidated pretrial proceedings. The court to which these actions are transferred is, for ease of reference, referred to as the MDL court.

A transfer pursuant to Section 1407(a) is authorized upon a finding that the transfer will “promote the just and efficient conduct” of the case and provide for “the convenience of parties and witnesses.” Section 1407 creates a Judicial Panel on Multidistrict Litigation (the MDL Panel) that oversees the consolidation of related cases. The Panel is composed of seven federal circuit and district court judges appointed by the Chief Justice of the United States, with the restriction that no two members may be from the same circuit.

Pursuant to the MDL Statute, transfer proceedings can be initiated by motion of a party, or by the MDL panel *sua sponte*. Before the Panel will transfer an action it must be satisfied that the three express statutory requirements have been satisfied. First, as noted, the civil actions must involve “one or more common questions of fact,” and second must be for the “convenience of parties and witnesses” on the whole. Third, the transfer must “promote the just and efficient conduct of such actions.”⁵⁹

A former Chairman of the MDL panel, the Honorable John G. Heyburn II (W.D. Ky), has explained that the MDL docket “encompasses litigation categories as diverse as single accidents, such as airplane crashes, train wrecks, and hotel fires, mass torts, such as those involving asbestos and hormone replacement therapy drugs, other types of product liability; patent validity and infringement; antitrust price fixing; securities fraud; and employment practices.”⁶⁰ Notably, missing from this list is any mention of environmental or natural resources litigation. Because the MDL process was created to govern pre-trial proceedings, it is not obvious that it would also apply in cases, like ESA litigation, that are governed by the Administrative Procedure Act (APA),⁶¹ and are limited to review of an administrative record and resolved through motions for summary judgment. The MDL panel recognized that the polar bear litigation was different from the typical MDL case, but nonetheless concluded that assigning the cases to a single MDL court was appropriate and would “avoid potentially conflicting obligations placed upon the federal

⁵⁹ 28 U.S.C. § 1407(a).

⁶⁰ John G. Heyburn II, “A View from the Panel: Part of the Solution,” 82 *Tul. L. Rev.* 2225, 2230-2231 (2007-2008).

⁶¹ 5 U.S.C. § 551 *et seq.*

defendants.”⁶² The panel assigned all of the litigation to the Honorable Emmet G. Sullivan of the District of the District of Columbia.⁶³

2. The Polar Bear Listing Rule Litigation

The Fish and Wildlife Service listed the polar bear as threatened throughout its range in 2008.⁶⁴ Under the ESA, a threatened species is one likely to become endangered in the foreseeable future throughout all or a significant portion of its range.⁶⁵ An endangered species is any species that is in danger of extinction throughout all of a significant portion of its range.⁶⁶ Of note, in the polar bear case, the first question addressed by the court was what does the phrase “in danger of extinction” in the definition of an endangered species mean.⁶⁷ Judge Sullivan held that the phrase was ambiguous even though the issue had never arisen in thirty-seven years of litigation under the ESA. This situation alone demonstrates that even applying existing legal and policy frameworks to developing climate change issues may highlight new or unexplored aspects of those frameworks.

The practical argument made by the environmental organization plaintiffs was that if the present climate modeling shows adverse effects to the species in fifty years, then the species is presently “in danger of” extinction and must be listed as an endangered species. The FWS and others countered that the phrase “in danger of” had always been construed to have a temporal element, and that it means “currently on the brink of extinction.” The FWS further argued that

⁶² *In re Polar Bear Endangered Species Act Listing*, 588 F. Supp. 2d 1376, 1377 (J.P.M.L. 2008).

⁶³ Utilization of the MDL process to manage the polar bear litigation was somewhat, but not entirely, unusual. The process had previously been utilized to manage multiple challenges to the Corps of Engineers’ management of the Missouri River system. *In re Operation of the Missouri River System Litig.*, MDL No. 1555, 277 F. Supp. 2d 1378 (J.P.M.L. 2003). And since the polar bear listing decision, the MDL panel has assigned another set of cases to a MDL court. *In re Endangered Species Act Section 4 Deadline Litigation*, 716 F. Supp. 2d 1369 (J.P.M.L. 2010) involved a dozen cases brought in several courts seeking to designate wildlife species as threatened or endangered species. The MDL panel, in consolidating this action before a single court, again observed that consolidation would conserve the resources of the parties and the judiciary as well as result in more consistent rulings. More recently, however, the MDL panel has expressed reluctance to utilize this process in environmental and natural resources litigation. *See, e.g.*, *In re Clean Water Rule: Definition of “Waters of the United States,”* MDL No. 2663, ___ F. Supp. 3d ___, 2015 WL 6080727 (J.P.M.L. Oct. 13, 2015) (denying centralization of regulatory challenges that would be decided on the administrative record); *In re Lesser Prairie-Chicken Endangered Species Act Litig.*, MDL No. 2629, ___ F. Supp. 3d ___, 2015 WL 3654675, at *1 (J.P.M.L. June 9, 2015) (same).

⁶⁴ 73 Fed. Reg. 28,212 (May 15, 2008).

⁶⁵ 16 U.S.C. § 1532(20).

⁶⁶ 16 U.S.C. § 1532(6).

⁶⁷ *In re Polar Bear ESA Listing and § 4(d) Rule Litigation*, 794 F. Supp. 2d 65, 79 (D.D.C. 2011), *aff’d on other grounds*, 709 F.3d 1 (D.C. Cir. 2013).

there were two distinct degrees of imperilment (threatened and endangered), and that the ESA’s legislative history supported this view of providing flexibility, and using the threatened category to bring species within the regulatory ESA program at an earlier point than waiting until they were already endangered. That is, with the addition of the “threatened” listing category, there was no need to wait until a species was “on the brink” of extinction before being regulated under the ESA.

Why was there such concern over this issue? Because of the ESA Section 9 take prohibition. When a species is listed as endangered, the take prohibition applies by statute⁶⁸ and cannot be altered or changed by the FWS. If a species is listed as threatened, then the take prohibition applies by regulation, but the Service can adopt species-specific standards providing otherwise, as it did for the polar bear.⁶⁹

The D.C. District Court ultimately upheld the FWS’s conclusion that the bear was not endangered, and accepted the “on the brink” approach to construing the “in danger of extinction” phrase in the definition of endangered.⁷⁰ Thus, the district court held, the FWS properly considered the bear as threatened, and not endangered, based on the record before the Service. That record included the overall abundance of the species, as well as the facts that fourteen of nineteen range-wide populations were stable, that only one population was in a statistically significant decline, and that no population decline was precipitous and reproduction and recruitment were still ongoing even in the declining populations.

The State of Alaska and hunting and conservation group challenges in the polar bear case focused on various aspects of the listing decision. For example, these groups challenged the FWS’ application of climate data to its determination that the polar bear would become endangered in the foreseeable future. The FWS concluded that 45 years was the appropriate foreseeable time period and, in arriving at that conclusion, relied on the most widely accepted climate models.

Judge Sullivan rejected these arguments from the other plaintiffs, who urged that the species should not have been listed at all.⁷¹ In the end, faced with this situation of attacks on the polar bear listing decision from both sides (i.e., those seeking more regulation under the ESA and those seeking less), the court took a Solomonic, middle-ground approach and upheld the FWS’s threatened determination.

The court of appeals, like the district court before it, rejected the substantive State of Alaska and hunting groups challenges on the Listing Rule.⁷² The D.C. Circuit was persuaded by the agency’s record in support of its decision. The court stated that where, among other things,

⁶⁸ 16 U.S.C. § 1538(a).

⁶⁹ 16 U.S.C. § 1533(d); *see, e.g.*, 73 Fed. Reg. 76,249, 76,269 (Dec. 16, 2008); *In re Polar Bear*, 818 F. Supp. 2d 214, 239 (D.D.C. 2011).

⁷⁰ *In re Polar Bear*, 794 F. Supp. 2d at 82-90.

⁷¹ *Id.* at 91-113.

⁷² *In re Polar Bear Endangered Species Act Listing*, 709 F.3d 1, 15-16 (D.C. Cir. 2013).

“scientific experts (by a wide majority) support the agency’s conclusion” the court is required to uphold the Listing Rule.⁷³ This focus on the agency science and record is common to the delta smelt Section 7 litigation and the polar bear Section 4 litigation.

3. Polar Bear 4(d) Rule Litigation

Following the polar bear listing decision, which was upheld on appeal, and as part of the same Multidistrict Litigation consolidated cases, action turned to the 4(d) Rule that the FWS had adopted. Under the 4(d) Rule, the Service essentially provided that any activity that was in compliance with a Marine Mammal Protection Act authorization was also in compliance with the ESA and would not constitute an impermissible take of a listed species. The Service also provided that the take prohibition did not apply to any taking incidental to carrying out an otherwise lawful activity within the United States, except for incidental taking caused by activities in areas subject to U.S. jurisdiction within the range of the polar bear.⁷⁴

Thus, the Service adopted a causation standard for the take prohibition to apply, as opposed to a molecule chasing standard. This is significant for GHG emissions and efforts to regulate climate change effects through the Endangered Species Act. Essentially, the Service was saying that unless greenhouse gas emissions from a particular facility could be shown to cause the take of a listed polar bear, then the take prohibition did not apply, and general diffuse contributions to overall GHG emissions would not be regulated as impermissible take of polar bears or polar bear habitat.

The Service applied the same standard to determining whether general greenhouse gas-emitting activities might require Section 7 consultations to evaluate adverse effects on the polar bear. In concluding that they generally would not, the Service in its original 4(d) rulemaking noted that: “The consultation requirement is triggered only 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.”⁷⁵

The Service went on to note that:

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 any and all species that may be impacted by climate change. As described above, the regulatory analysis of indirect effects of the proposed action requires the determination that a causal linkage exists between the proposed action, the effect in question (climate change), and listed species. There must be a traceable connection from one to the next, and the effect must be “reasonably certain to occur.” This

⁷³ *Id.* at 9.

⁷⁴ *See* 73 Fed. Reg. at 76,269.

⁷⁵ 73 Fed. Reg. 76,249, 76265 (Dec. 16, 2008); *see also* 78 Fed. Reg. 11,766, 11,785 (Feb. 20, 2013) (same discussion in repromulgated polar bear 4(d) rule).

causation linkage narrows section 7 consultation requirements to listed species in the “action area” rather than to all listed species. Without 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 that may be affected by climate change. . . .

There is currently no way to determine how the emissions from a specific action both influence climate change and then subsequently affect specific listed species, including polar bears. As we now understand them, the best scientific data currently available do not draw a causal connection between GHG emissions resulting from a specific Federal action and effects on listed species or critical habitat by climate change.⁷⁶

Ultimately, Judge Sullivan upheld the 4(d) Rule against the ESA challenges raised, but vacated the rule and reinstated the prior Interim Rule based on the Service’s failure to prepare a National Environmental Policy Act (NEPA) evaluation for the 4(d) Rule.⁷⁷ The Service subsequently prepared an environmental assessment on the 4(d) Rule, and repromulgated a 4(d) rule substantially similar to the original 4(d) Rule, including maintaining the exceptions to the take prohibition from the original rule and continuing the requirements of the causation standard for the standard for the take prohibition to apply.⁷⁸

The FWS’ determination, as set forth in the 4(d) and Listing Rules, that greenhouse gas emissions that originate outside of the polar bear’s range, and the potential effects of such emissions on climate change, would not be affected by the listing of the polar bear as threatened was a disappointment to the environmental plaintiff organizations that sought through the listing to provide an additional mechanism for regulating such emissions. To ignore the emissions was after all to ignore the primary threat to the species from greenhouse gas emissions and the loss of the bear’s sea ice habitat.

Judge Sullivan, however, held that in the polar bear situation the FWS had appropriately decided to exempt greenhouse gas emissions from the ESA Section 9 take prohibitions. Judge Sullivan explained that the 4(d) Rule survived rational basis review where the record compiled by the FWS amply supported the agency’s conclusion that there was no way to currently determine how emissions from a specific facility influence climate change and then subsequently affect specific listed species including polar bears.⁷⁹

⁷⁶ 73 Fed. Reg. at 76,266; *see also* 78 Fed. Reg. at 11,785 (current 4(d) rule preamble statement expressing similar concepts but without the “no way to determine” language).

⁷⁷ *In re Polar Bear*, 818 F. Supp. 2d 214, 235-39 (D.D.C. 2011).

⁷⁸ 78 Fed. Reg. 11,766, 11,785 & 11,788 (Feb. 20, 2013).

⁷⁹ *In re Polar Bear Endangered Species Act Listing*, 818 F. Supp. 2d 214, 231 (D.D.C. 2011).

Judge Sullivan endorsed Interior’s conclusion that the ESA is not a legal mechanism that can be used to regulate greenhouse gas emissions. This ruling is correct to the extent that using a molecule-chasing standard—i.e. attempting to establish actual or proximate harm to a species from particular greenhouse gas emissions—would be immensely difficult if not impossible, as FWS noted in the 4(d) Rule. Hence, Professor J.B. Ruhl has warned that any effort to use the ESA to regulate greenhouse gas emissions risks squandering the Services’ resources on a futile effort beyond the ESA’s reach.⁸⁰

4. Polar Bear Critical Habitat Designation and Litigation

After the polar bear Listing and 4(d) Rule challenges, attention turned to the next step in the ESA process, FWS’s designation of critical habitat for the species. The FWS promulgated an expansive designation, including over 187,000 square miles of Alaska’s coastline (including the resource-rich North Slope area) and adjacent state and federal waters.⁸¹

When the designation was challenged in federal district court in Alaska, the court set aside the entire designation.⁸² The court sent it back to FWS to reconsider a designation that complies with all of ESA’s legal requirements. As the court noted, “in its current form, the critical habitat designation presents a disconnect between the twin goals of protecting a cherished resource and allowing for growth and much needed economic development. The current designation went too far and was too extensive.”⁸³

The court specifically faulted FWS for designating broad areas of the North Slope and offshore barrier island habitat without documenting the necessary physical or biological features in those areas that would support such a designation.⁸⁴ In these areas, the state owned 20 percent of the designated terrestrial habitat denning area (or some 1,131 square miles), and 65 percent of the barrier island habitat (some 2,625 square miles).⁸⁵ The court also held that FWS failed to follow the required procedures by not providing the State of Alaska with an adequate justification for adopting a final rule that was in conflict with the state’s comments on the proposed designation.⁸⁶

As a result of the decision, natural resource projects and municipal developments like roads, infrastructure, ports, bridges, and airport improvements, and oil and gas exploration and

⁸⁰ J.B. Ruhl, “Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future,” 88 *B.U. L. Rev.* 1, 60 (2008).

⁸¹ 75 Fed. Reg. 76,086 (Dec. 7, 2010).

⁸² *Alaska Oil and Gas Ass’n v. Salazar*, 916 F. Supp. 2d 974, 1004 (D. Alaska 2013), *appeal docketed*, Nos. 13-35619 et al. (9th Cir. July 12, 2013) (Ninth Circuit oral argument heard Aug. 11, 2015).

⁸³ *Id.* at 1004.

⁸⁴ *Id.* at 998-1003.

⁸⁵ *See* 75 Fed. Reg. at 76,121.

⁸⁶ 916 F. Supp. 2d at 1003-04.

development in the North Slope and related areas that may require federal permits or approvals can now proceed without having to address the potential for the destruction or adverse modification of polar bear critical habitat. There is now no designated polar bear critical habitat in place.⁸⁷ The polar bear itself remains protected under numerous state, federal, and international programs, including the Marine Mammal Protection Act, State of Alaska Comprehensive Wildlife Conservation Strategy, conditions or limitations imposed on state oil and gas leases to benefit the bear, and the bear's present listing status as "threatened" under the ESA.⁸⁸

As this example shows, even when a species is listed based on climate change-based threats (i.e., declining sea-ice habitat in the polar bear's case), other ESA procedures will be carefully scrutinized upon judicial review for appropriate compliance with all required findings and determinations under the statute. Here the district court found that the polar bear critical habitat designation did not meet these standards, and set it aside. The district court's decision is currently on appeal to the Ninth Circuit Court of Appeals.

5. Recovery Planning and Five Year Status Review

The polar bear is perhaps the first species listed based on a climate change threat to go through all the major steps in the Section 4 processes—with the exception of delisting—including listing, special 4(d) rule, critical habitat designation, and now recovery planning⁸⁹ and a recently announced Five-Year Status Review.⁹⁰ Thus the polar bear continues to be both a pioneer and harbinger of how climate change considerations may be incorporated into the range of ESA Section 4 processes.

D. Ribbon Seal

The ribbon seal is a sub-Arctic, pelagic species, the regulatory and judicial treatment of which provides an interesting contrast to the polar bear. The ribbon seal occurs in the Bering Sea and the Sea of Okhotsk, with a rangewide population of approximately 200,000.⁹¹ The species is one of the prey species for some populations of the polar bear. However, as compared to the polar bear, the ribbon seal has a different geographic range, a different sea-ice environment, and a different life history.

On a petition from an environmental organization for listing the ribbon seal as threatened or endangered under the ESA, NMFS determined that listing the species, despite potential

⁸⁷ See U.S. Fish & Wildlife Service, Marine Mammals Management, *available at* www.fws.gov/alaska/fisheries/mmm/polarbear/esa.htm#critical_habitat.

⁸⁸ See, e.g., 73 Fed. Reg. at 28,281-88; 73 Fed. Reg. at 76,261-62.

⁸⁹ 80 Fed. Reg. 38,458 (July 6, 2015) (FWS notice of availability of draft polar bear conservation management plan).

⁹⁰ 80 Fed. Reg. 61,443 (Oct. 13, 2015) (FWS notice of and request for information for 5-year status review for polar bear).

⁹¹ 73 Fed. Reg. 79,822, 79,823-24 (Dec. 30, 2008).

climate-induced changes in the species' sea-ice environment, was not warranted. The factors that NMFS identified as supporting the not warranted determination included the presently robust population of that species, that adequate sea-ice remained available in all key life history times for the ribbon seal, that it was an adaptable population and had survived historically under a variety of climatic and sea-ice conditions, and that hunting was not a threat to the species' continued existence.⁹²

Upon judicial review challenging NMFS's determination, the federal District Court for the Northern District of California upheld NMFS's determination. The court held that NMFS's application of a foreseeable future period in the definition of "threatened" as fifty years was permissible, that NMFS applied the best science in making its determination, including that it did not ignore better available data and did not have to undertake independent studies. As to the challenges that NMFS failed to consider the relevant factors, the court held that NMFS had indeed considered that information, and where questions were raised it went only to the weight of and not the actual consideration by the agency of that information.⁹³

The environmental organization then appealed. NMFS resolved the appeal by agreeing to conduct a new species status review, including the possibility of applying a longer foreseeable future period. The resolution of this first phase of the litigation indicated that even victory may be fleeting in the climate change/ESA litigation context. However, after undertaking a new status review and further responding to the petition to list, NMFS again determined that listing was not warranted, even though its new determination included a longer (one hundred-year) foreseeable future time period for climate change-related threats.⁹⁴

E. Bearded Seal

As recounted above in Section III.C., it took three years from the filing of a petition to list the polar bear as an endangered species to its ultimate listing as a threatened species. This three-year period reflects, in part, the complexity of the task before the agency. Consider also, for example, the efforts that went into making a listing decision for another Arctic species, the bearded seal, another species under the regulatory purview of NMFS.

1. Status Review

On March 28, 2008, NMFS initiated a status review of bearded, spotted, and ringed seals, pursuant to the ESA.⁹⁵ On May 28, 2008, NMFS received a petition from the Center for Biological Diversity to list those seals as threatened or endangered under the ESA, primarily due to concerns about threats to the species' habitat from the warming climate and the resultant loss of sea ice. On September 4, 2008, NMFS made a 90-day finding pursuant to ESA Section

⁹² *Id.* at 79824-28.

⁹³ *Ctr. for Biological Diversity v. Lubchenco*, 758 F. Supp. 2d 945, 947, 962-76 (N.D. Cal. 2010).

⁹⁴ 78 Fed. Reg. 41,371, 41,373 & 41,383 (July 10, 2013).

⁹⁵ 73 Fed. Reg. 16,617.

4(b)(3)(A),⁹⁶ that the petition presented substantial scientific information indicating that the petitioned actions may be warranted and commenced a review of the status of bearded, spotted, and ringed seals.⁹⁷ A scant four days later, on Sept. 8, 2009, the Center filed a lawsuit alleging that NMFS failed to make the requisite 12-month finding on its petition to list the three seal species. NMFS settled by agreeing to finalize the status review of the bearded seal and to submit a 12-month finding by December 3, 2010.

NMFS established a Biological Review Team (BRT) to compile the best scientific and commercial data available concerning the status of the bearded seal and past, present, and future threats to the species, and to prepare a status review report.⁹⁸ The BRT consisted of eleven experts from NMFS's Alaska and Northwest Fisheries Centers, the National Oceanographic and Atmospheric Administration's Pacific Marine Environmental Laboratory, and the FWS. It included eight marine mammal biologists; a fishery biologist; a marine chemist; and a climate scientist.

In conducting the status review, the BRT had two main but very different tasks: (1) to delineate the taxonomic groups under consideration for each species; and (2) to conduct an extinction risk assessment to serve as the scientific basis for determining whether any bearded seal subspecies or distinct population segment (DPS) is threatened or endangered. NMFS submitted the BRT's draft status review report to five peer reviewers. On December 10, 2010, NMFS issued a 12-month finding pursuant to ESA Section 4, in which it concluded that the bearded seal exists as two subspecies: *Erignathus barbatus nauticus*, inhabiting the Pacific sector, and *Erignathus barbatus barbatus*, inhabiting the Atlantic sector. NMFS further concluded that the *E. b. nauticus* subspecies consisted of two DPSs: the Okhotsk DPS and the Beringia DPS. NMFS proposed to list the Okhotsk and Beringia DPSs as threatened; no listing was proposed for the Atlantic subspecies of bearded seal, *E. b. barbatus*.

2. Rulemaking

NMFS made the proposed rule available for a public review and comment, which included three public hearings. NMFS extended the deadline for a final listing determination by six months so that it could: (1) address a substantial disagreement relating to the sufficiency or accuracy of the model projections and analysis of future sea ice for the Beringia DPS; and (2) conduct a special independent peer review of the sections of the status review report over which there was substantial disagreement. Through this process, NMFS obtained additional peer review from two marine mammal scientists with knowledge of bearded seals, consolidated the comments from the two reviewers in a supplemental peer review report, and made the report available for a 30-day public comment period.

⁹⁶ 16 U.S.C. 1533(b)(3)(A).

⁹⁷ 73 Fed. Reg. 51,615.

⁹⁸ 76 Fed. Reg. 77,465.

NMFS published the final rule listing the Beringia and Okhotsk DPSs of bearded seals as threatened on December 28, 2012.⁹⁹ The Beringia DPS is the subject of ongoing litigation¹⁰⁰ and we focus on that species here.

NMFS based its listing determination on threats to the Beringia DPS's sea-ice habitat under Listing Factor A. NMFS identified its main concern for the conservation of bearded seals as modification of sea-ice habitat in the foreseeable future (i.e., through the end of this century) because of climate change, and a secondary concern as the modification of bearded seal habitat by ocean acidification. Because the available scientific models provide climate projections through the end of the century, NMFS assessed the impacts from climate change through 2100.¹⁰¹ For other threats, where the data and projections do not extend as far into the future, such as for disease or parasitic outbreak occurrences and projections, the analysis was limited to the extent of such data.¹⁰²

The main functions of sea ice relating to bearded seal life-history are: (1) a dry and stable platform for whelping and nursing of pups in April and May; (2) a rearing habitat that allows mothers to feed and replenish energy reserves lost while nursing; (3) a habitat that allows a pup to gain experience diving, swimming, and hunting with its mother, and that provides a platform for resting, relatively isolated from most terrestrial and marine predators; (4) a habitat for rutting males to hold territories and attract post-lactating females; and (5) a platform suitable for extended periods of hauling out (getting/being out of the water) during molting in May and June.¹⁰³ As the final rule explains regarding the impacts of the projected sea ice loss on the Beringia DPS, in the Bering Sea where a “substantial portion (about 70 percent) of the Beringia DPS currently whelps,”¹⁰⁴ “early springtime sea ice habitat for bearded seal whelping should be sufficient *in most years* through 2050 and out to the second half of the 21st century.”¹⁰⁵ In the middle of the century, “less ice is forecasted on average, manifested as more frequent years in which the spring retreat occurs earlier and the peak ice extent is lower.”¹⁰⁶

But by the end of the 21st century, projections for the Bering Sea indicate that there will commonly be years with little or no ice in May, and none in June.¹⁰⁷ Moreover, in minimal ice years, projections indicate there will be inadequate ice for whelping over the shelf zone of the

⁹⁹ 77 Fed. Reg. 76,740.

¹⁰⁰ Alaska Oil and Gas Ass'n v. Pritzker, 2014 WL 3726121 (D. Alaska July 25, 2014), *appeal docketed*, Nos. 14-35806 & 14-35811 (9th Cir. Sept. 26, 2014).

¹⁰¹ 77 Fed. Reg. at 76,741.

¹⁰² *Id.*

¹⁰³ *Id.* at 76,742.

¹⁰⁴ *Id.* at 76,744.

¹⁰⁵ *Id.* at 76,743 (emphasis added)

¹⁰⁶ *Id.* at 76,744.

¹⁰⁷ *Id.*

Bering Sea, “perhaps *commencing as early as the next decade*.”¹⁰⁸ Projections also show that, in the Bering Sea, conditions for molting will be poor in *typical years* by mid-century.¹⁰⁹ “To adapt to this modified sea ice regime, bearded seals would have to shift their nursing, rearing, and molting areas to the ice covered seas north of the Bering Strait, potentially with poor access to food, or to coastal haul-out sites on shore, potentially with increased risks of disturbance, predation, and competition.”¹¹⁰ The Rule states that the need to make such adaptations would likely compromise the seal’s reproduction and survival rates.¹¹¹ “Accordingly, we conclude that the projected changes in sea ice habitat pose significant threats to the persistence of the Beringia DPS throughout all of its range.”¹¹²

In short, because large portions of the Beringia DPS’s sea-ice habitat were forecast disappear or be substantially diminished as a result of climate change, particularly in the areas where a majority of seals in the DPS currently whelp, rear pups, and molt, NMFS determined that it is likely that within the foreseeable future the ability of bearded seals in the DPS to perform vital life functions would be compromised, placing the species in danger of extinction.¹¹³

3. Challenge to the Rulemaking

The listing decision was subsequently challenged by three groups of plaintiffs (State of Alaska; Alaska Oil and Gas Association and the American Petroleum Institute; and the North Slope Borough, Arctic Slope Regional Corporation, NANA Regional Corporation, Inc., Northwest Arctic Borough, and Inupiat Community of the Arctic Slope) in the U.S. District Court for the District of Alaska. The court granted the Center’s motions to intervene and consolidated the three cases. The parties moved for summary judgment. In its July 25, 2014, memorandum decision the court held that plaintiffs lacked standing to challenge the listing of the Okhotsk DPS but granted summary judgment against the federal government on two issues related to the Beringia DPS.

The court held that the rule listing the Beringia DPS was arbitrary and capricious “given the lack of evidence upon which the listing was based.”¹¹⁴ The court stated that “NMFS acknowledges that it lacks sufficient data on the resilience of bearded seals to cope with climatic changes; or to define an extinction threshold for bearded seals and assessing the probability of reaching that threshold within a specified time; and that, because the existing body of information regarding bearded seal population and trends was limited, additional studies were

¹⁰⁸ *Id.* (emphasis added).

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.* at 76,748.

¹¹⁴ Slip op. at 7.

needed to understand the population dynamics and habitat of the bearded seal.”¹¹⁵ The court stated: “Troubling to this Court is that it does not appear from the Listing Rule that any serious threat of a reduction in population of the Beringia DPS, let alone extinction, exists prior to the end of the 21st century. Indeed, the Listing Rule itself concedes that, at least through mid-21st century, there will be sufficient sea-ice to sustain the Beringia DPS at or near its current population levels.”¹¹⁶

The court continued that, with respect to the second half of the century, “it appears that no significant threat to the Beringia DPS is contemplated before 2090. Even as to that date, NMFS acknowledges that it lacks any reliable data as to the actual impact on the bearded seal population as a result of the loss of sea-ice.”¹¹⁷ The court expressly stated that it was *not* holding that the use of projections that extend out more than 50 years is impermissible in all cases.¹¹⁸ Rather, the court stated that its holding “is limited to the facts presented in the record before it, i.e., that an unknown, *unquantifiable population reduction*, which is not expected to occur until nearly 100 years in the future, is too remote and too speculative to support a listing as threatened.”¹¹⁹ The court further stated that if it were to hold otherwise, “such a holding could logically render every species in the [A]rctic and sub-[A]rctic areas potentially ‘threatened.’”¹²⁰

In summarizing its holding, the court stated that these two factors led to its determination that NMFS’s listing of the species is arbitrary and capricious: “(1) the lack of any articulated discern[i]ble, quantified threat of extinction within the *reasonably* foreseeable future; and (2) the express finding that, because existing protections were adequate, no further protective action need be taken at this time.”¹²¹ The court further stated that

listing the Beringia DPS as “endangered” [sic] had no effect except to require all federal agencies to consult with NMFS before carrying out any action that might jeopardize the continued existence of the Beringia DPS throughout its range. A listing under the ESA based upon speculation, that provides no additional action intended to preserve the continued existence of the listed species, is inherently arbitrary and capricious.¹²²

NMFS has appealed this judgment.

¹¹⁵ Slip op. at 29.

¹¹⁶ *Id.* at 30 (boldface formatting removed).

¹¹⁷ *Id.* at 30-31.

¹¹⁸ Slip op. at 31 n. 69.

¹¹⁹ *Id.* at 31 n. 69 (emphasis added).

¹²⁰ *Id.*

¹²¹ Slip op. at 31.

¹²² *Id.* at 31-32.

Without weighing in on the merits of the district court’s decision—an issue upon which the authors of this article must necessarily disagree—the foregoing example demonstrates how much complexity climate change considerations add to agency ESA listing decisions. These listing decisions present difficult judgment situations, and litigation frequently follows regardless of the agency’s ultimate conclusion.

F. Wolverine

In 2013, the FWS proposed to list the wolverine (*Gulo gulo*), a large (up to 40 pounds) but elusive member of the weasel family found in the Mountain West. At that time, the wolverine population in the continental United States was estimated to be only about 250 to 300 individuals. The basis for the proposed listing was the species’ decreased ability to persist in the face of climate change, the effects of which were thought likely to reduce its habitat, including the persistent, stable snow slopes required for denning. An overall loss of spring snow across the region of the wolverine’s habitat was one of the drivers of the proposed listing.

In August 2014, the FWS withdrew its proposed listing. At that time, the Service determined that the effects of climate change were not likely to put the species in danger of extinction now or within the foreseeable future, and that the species therefore did not meet the ESA’s listing criteria. According to the Service, the factors affecting the species were not as significant as originally thought, and a different interpretation of the climate change information led to a scientific disagreement on the status of the species.

In the wolverine case, as the FWS’s decisions documented, there was a difficulty in applying downscaled global climate modeling to the specific habitat needs, locations, and projected effects for the wolverine. As FWS Director Dan Ashe stated, “While impacts to many species are clear and measurable, for others the consequences of a warming planet are less certain. This is particularly true in the Mountain West, where differences in elevation and topography make fine-scale prediction of climate impacts ambiguous.”¹²³ Added Ashe, “[i]n this case, based on all the information available, we simply do not know enough about the ecology of the wolverine and when or how it will be affected by a changing climate.”¹²⁴ There was significant evidence that the climate within the wolverine range is changing including effects on snow patterns and effects on associated wolverine habitat. However, the specific responses of the species to the forecasted changes involved considerable uncertainty, and thus the FWS withdrew the listing proposal.

In the federal district court in Montana, environmental groups have challenged the FWS’s decision not to list the North American Wolverine as threatened or endangered. The agency acknowledges that a warming climate is not good for the wolverine, but has observed that the

¹²³ FWS Press Release, Aug. 12, 2014.

¹²⁴ *Id.*

species has benefitted from reductions in intentional take of the species.¹²⁵ States and industry groups have intervened in defense of the FWS decision.

G. American Pika

For the American pika (*Ochotona princeps*), the FWS similarly reached a determination that listing was not warranted.¹²⁶ The pika story, in a nutshell, is that due to changing ecosystems because of climate effects (i.e., high alpine tundra high zones moving to higher and higher elevations in the montane environments where the pika lives, thus shrinking the species' habitat as it runs out of habitable mountaintop areas), the pika may experience a decline in habitat that may negatively affect its population. But for the pika, despite potential climate change effects, the level of risk, FWS determined, did not support the existence of a threat to the pika's continued existence within the foreseeable future.¹²⁷ The lesson to be drawn from the pika determination, as well as the ribbon seal and wolverine, is that not all climate-affected species may be listed under the ESA. As noted above, it is still a case-by-case determination, and the same overarching themes apply also to critical habitat designation steps for climate-affected species.¹²⁸

IV. Discussion—Lessons on Climate Change From These Examples

A. Litigation Teachings

Several lessons emerge from the delta smelt, polar bear, and other litigated cases. First, the courts recognize, as they must, that climate change is an issue that must be addressed in ESA decisions under Sections 4 and 7. Second, at the same time, it is notable in the polar bear

¹²⁵ Threatened Status for the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States; Establishment of a Nonessential Experimental Population of the North American Wolverine in Colorado, Wyoming, and New Mexico; Proposed Rule, 79 Fed. Reg. 47,522 (August 13, 2014) (withdrawing the proposed rule, and observing, *id.* at 47,544, that intentional takes of wolverines are modest in number).

¹²⁶ 75 Fed. Reg. 6,438, 6,456-57 & 6,462-63 (Feb. 9, 2010).

¹²⁷ *Id.*

¹²⁸ Although the examples in this Section III all concerned fish or wildlife species, climate change considerations apply to plant species evaluated or regulated under the ESA as well. *See, e.g.*, 12-Month Finding on a Petition to Delist *Cirsium vinaceum* (Sacramento Mountains thistle), 75 Fed. Reg. 30,757, 30,763 (June 2, 2010) (declining to delist this plant species in part because climate change was “a potential exacerbating factor” affecting habitat degradation threats, including “water loss resulting from prolonged periods of drought and increased temperature, and the allocation of water for use by the human population and livestock in the area,” although FWS did “not currently consider climate change itself to be a factor affecting [the thistle’s] persistence, because the information available on the subject is insufficiently specific to the species”); Stephen L. Buchman, “Our Vanishing Flowers,” *N.Y. Times*, Oct. 17, 2015, Op-Ed (“An estimated 68 percent of the world’s flowering plants are now threatened or endangered . . . due to anthropogenic causes, including habitat loss, degradation and invasive species.”).

litigation that the district court agreed that the ESA is not a proper mechanism for addressing greenhouse gas emissions: the ultimate cause of climate change.¹²⁹ Third, ESA issues present difficult and complex matters for the courts.

In the polar bear litigation the plethora of lawsuits prompted the unusual step of assignment of the litigation to an MDL panel. In the delta smelt litigation, the daunting record prompted the lower court to attempt (an inappropriate reliance) on expert declarations prepared in the course of the litigation. Ultimately, the Ninth Circuit held, in the delta smelt case, that the district court should not have departed from fundamental principles of administrative record review, and it seems likely and appropriate that these principles will continue to govern review of agency ESA decision making. But federal agency decisionmaking at the intersection of the ESA and climate change, as we explore next, is also increasingly complex.

B. The Challenges Faced by the Federal Agencies and Their Responses

Given the relative certainty that listing decisions will be followed by some litigation, agency science will more likely than not have to stand up to the “hard look” associated with APA review. Hence, the Services are necessarily working hard—in this very challenging area—to make sure that they are getting the science needed to support their ESA listing decisions.

Examples of these efforts are chronicled in the December 2013 issue of the scientific journal *Conservation Biology*, which includes a special section on “Incorporating Climate Change into Risk Analyses under the U.S. Endangered Species Act.” The articles in this special edition, most prepared by agency scientists, show how the agencies are working to account for climate change in the execution of their ESA mission duties. The titles of the papers include “Incorporating Climate and Ocean Change into Extinction Risk Assessments for 82 Coral Species,” “Choosing and Using Climate-Change Scenarios for Ecological-Impact Assessments and Conservation Decisions,” and “Structuring Decisions for Managing Threatened and Endangered Species in a Changing Climate.” Above all, these peer-reviewed papers show agency scientists gamely adapting to—as President Obama suggested in his GLACIER Conference remarks—a new and rapidly changing world. The statutory missions of the wildlife agencies in this world are considerably harder and more complex to implement than previously, before climate change considerations had risen to the forefront of being incorporated into these decision processes.

Consider the challenges associated with the drafting of a recovery plan for Elkhorn Coral (*Acropora palmata*) and Staghorn Coral (*A. cervicornis*).¹³⁰ These species are threatened by disease, elevated seawater temperatures, and ocean acidification. The recovery plan goal is to increase the abundance of these species while sufficiently abating threats to warrant delisting.

¹²⁹ See, e.g., U.S. Dep’t of the Interior, U.S. Geological Survey, *Evaluating and Ranking Threats to the Long-Term Persistence of Polar Bears*, Open-File Report 2014-1254 (2015), at 2 (“The long-term persistence of polar bears may be achieved through ameliorating the loss of sea ice habitat, which will likely require stabilizing CO₂ emissions at or below the ceiling represented by [representative concentration pathway] 4.5.”).

¹³⁰ sero.nmfs.noaa.gov/.../documents/faqs_final_recovery_plan_elkhorn...

This is no easy lift. Contaminants, nutrients, and sediments must be managed and reduced. Marine construction and recreational impacts must be monitored and reduced. There are other stressors as well including pervasive pollution from plastics and other materials.¹³¹

All of these efforts to reduce stress to these species do nothing to limit climate change, perhaps the greatest threats to these species. In sum, climate change has made the job of the agencies much more difficult. And these difficulties will likewise challenge stakeholders and the courts. Where will this all lead? In our view, the complexities associated with the climate change/ESA interface, both in the courts and the agencies, must portend innovation and adaptation. That is a topic we address in the Conclusion Section, after discussing some practical suggestions for participants in ESA decisionmaking in light of the developing role of climate change considerations.

V. Suggestions for Participants in ESA Decisions.

While the interface between climate change and ESA decisions is continually developing, there are some basic practical steps to apply for non-Service participants in those ESA decision processes. First is to become involved in the various ESA regulatory processes as may be applicable to your company's or your client's endeavor. For ESA listing decisions, for example, it is more productive to address the listing, information, and data issues at the administrative agency stage before the Services than it is at the litigation or policy stages. Similarly, you should strive to bring good environmental data and information into the process, the potential application of which was documented in the ribbon seal and other examples.

Next, drawing from the examples of both listing and not warranted determinations, including the ribbon seal and American pika among the latter, can help highlight those unique life history aspects, geographic factors, climate projection factors, and other aspects of the species and habitats of concern for your project that may help document—even in the face of potential climate change effects—that a species listing is not warranted. All other things being equal, advocating for a threatened versus an endangered listing status and adoption of a flexible 4(d) rule can help ameliorate potentially harsh or costly effects of an ESA listing decision on your company's or client's operations. Also, for listing determinations, be cognizant of the foreseeable future period determination and calculation, and provide appropriate input to the Services on that point, including on whether the effects at distant time periods are indeed foreseeable so as to satisfy the legal and policy requirements for the application of that statutory term.

For Section 7 consultations, it is a similar situation of adapting an old framework to new factors and scenarios. Under ESA Section 7(a)(2), federal agencies are to ensure that their actions are not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of any designated critical habitat for such species.¹³² Climate change considerations may affect consultation in various ways.

¹³¹ For a recent assessment of the precarious state of our oceans, see, Richard W. Spinard & Ian Boyd, "Our Deadened, Carbon Soaked Seas," *N.Y. Times*, Oct. 16, 2015, <http://www.nytimes.com/2015/10/16/opinion/our-deadened-carbon-soaked-seas.html>.

¹³² 16 U.S.C. § 1536(a)(2).

Although the overall case law is still limited, the guidance and approach applied by the Services is somewhat similar to that applied in NEPA issues. That is, there are two key considerations: (1) the effect of climate change on a project or the effects of the project, and (2) the effect of the project itself on climate change, i.e. its potential contributions to overall factors contributing to climate change, but limited by the ESA causation principles as outlined in the polar bear ESA Section 4(d) Rule.¹³³

Items to watch for in a consultation context include the causation issues and ensuring that the Services are consistently following agency policy on causation. Also, obtaining applicant status¹³⁴ in the consultation can be important for stakeholders seeking a seat at the table for what otherwise can be a closed process with limited opportunities for public or stakeholder input. As with listing determinations, participants in the consultation process should be active and provide input, including on the potential effects of an action, review and comment on draft biological opinions, and on the development of reasonable and prudent alternatives and reasonable and prudent measures. Finally, you should make sure that the consultation addresses both (i) the effects of climate change on the project, the need for it, and project's impacts (cumulative effects and other project impacts); and (ii) the effects of the action itself on climate change including GHG contributions, species effects, and similar factors.

VI. Conclusion—The ESA/Climate Change Interface: What Comes Next?

As noted above, complexity in ESA litigation and science concerning climate change influences on species and habitats is here to stay. And that complexity seems certain to bring forward new approaches to species conservation. As an article in the *New York Times* recently made plain, a common criticism of the ESA and similar conservation efforts is that

Traditional approaches to species conservation have focused on saving individual animals or plants in specific locations, with the goal of restoring as much land as possible to its former pristine condition. Conservation efforts—walling off areas to preserve habitat, for example—have been structured around a particular species' needs, with little or no attempt to reconcile those protections with the larger needs of human society. And regulatory solutions have taken precedence over financial or other incentive-based tactics, with landowners and companies often viewed as hostile actors.¹³⁵

¹³³ See 78 Fed. Reg. at 11,784-85.

¹³⁴ See 50 C.F.R. §§ 402.02 & 402.14(d)-(g) (consultation regulations concerning applicant status and Service responsibilities to an applicant).

¹³⁵ Erica Goode, "A Shifting Approach to Saving Endangered Species," *N.Y. Times*, Oct. 6, 2015, at D1.

The Obama administration recently announced a decision not to add the greater sage grouse to the endangered species list.¹³⁶ This announcement, made with considerable fanfare, marked what may prove to be a break from the past when it comes to species conservation. In the FWS's own words, the "decision follows an unprecedented conservation partnership across the western United States that has significantly reduced threats . . . across 90 percent of the species' breeding habitat."¹³⁷ This unprecedented plan includes stringent amended federal resource plans promulgated by federal public land managers in the areas of the sage grouse's range, a strong commitment to conservation on state and private lands, and a proactive strategy to reduce the risk of rangeland fires.

These efforts are reflective of the threat posed to the species by climate change. The primary threats to the greater sage grouse, as described by the FWS include fragmentation and degradation of sagebrush habitat, invasive grasses, and West Nile virus. The intense rangeland fires that destroy habitat and allow cheatgrass to take hold (a species that contributes to more frequent and intense wildfires) and also West Nile virus are threats that can be exacerbated by climate change.¹³⁸ The FWS's overall greater sage grouse plan reflects an effort to adapt novel approaches to species conservation within the framework of the new normal of climate change.

Of course, such efforts will not please everyone. On October 14, 2015, the Wyoming Stock Growers Association filed suit against the Bureau of Land Management's plans for greater sage grouse conservation.¹³⁹ Other challenges by the Governor of Idaho, certain Nevada counties, and others had previously been filed.¹⁴⁰ It is unlikely, of course, that additional innovative and adaptive approaches to species and habitat situations affected by climate change will soon stem the stakeholder lawsuits that follow many ESA listing (or non-listing) decisions.

Yet the fact that FWS's greater sage grouse approach has garnered some praise from a diverse group of stakeholders, including both industry and environmentalists, provides some hope that a third way of collaborative conservation and meaningful stakeholder involvement may yield additional opportunities for further innovative and adaptive approaches to the incorporation and consideration of climate change factors in ESA decisions. Doing so would be consistent with Congress's intent in the 1982 ESA amendments, where it noted, for instance, that "[t]he expertise of the States in managing wildlife is well recognized and respected and it is clearly in the best interest of any Federal wildlife conservation program to draw on and benefit from the

¹³⁶ 12-Month Finding on a Petition to List Greater Sage-Grouse (*Centocercus urophasianus*) as an Endangered or Threatened Species, 80 Fed. Reg. 59858 (October 2, 2015).

¹³⁷ <http://www.fws.gov/greatersagegrouse/>.

¹³⁸ See *Government Study: Climate Change Could Reduce sage grouse habitat*, Caspar Star Trib., April 15, 2015; http://trib.com/news/state-and-regional/government-study-climate-change-could-reduce-sage-grouse-habitat/article_efc3bd4d-27d3-5539-8fe5-6479bbf073d5.html.

¹³⁹ http://trib.com/business/energy/wyoming-stock-growers-file-legal-challenge-to-fed-s-sage/article_27dd4878-099c-5ed3-9cb0-7c1dc1891b09.html; see *Wyoming Stock Growers Ass'n v. U.S. Dep't of the Interior*, No. 15-cv-181-R (D. Wyo. filed Oct. 14, 2015).

¹⁴⁰ *W. Exploration LLC, et al. v. U.S. Dep't of the Interior, et al.*, No. 3:15-cv-00491 (D. Nev. filed Sept. 23, 2015); *Otter v. Jewell*, No. 1:15-cv-01566 (D.D.C. filed Sept. 25, 2015).

State's knowledge and experience.”¹⁴¹ Thus, the no-analog future described by Professor Ruhl and others¹⁴² may include federal and state wildlife agencies, industry, landowners, NGOs, conservation interests, scientists, and other stakeholders seeking adaptive approaches and common ground to the significant and complex species and habitat effects posed by climate change, as well as using the tools available in the existing ESA framework, as appropriate, to address these issues.

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¹⁴¹ S. Rep. No. 97-418 at 27 (1982).

¹⁴² See Ruhl, *supra*, n.80.