

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

IN RE POLAR BEAR ENDANGERED)
SPECIES ACT LISTING AND § 4(d))
RULE LITIGATION) Misc. No. 08-764 (EGS)
) MDL Docket No. 1993
)
)
This Document Relates To:)
)
Ctr. for Biological Diversity,)
et al. v. Salazar,¹ et al.,)
No. 08-2113; State of Alaska)
v. Salazar, et al., No. 08-1352;)
Safari Club Int'l, et al. v.)
Salazar, et al., No. 08-1550;)
California Cattlemen's Ass'n,)
et al. v. Salazar, et al., No.)
08-1689; Conservation Force,)
et al. v. Salazar, et al., No.)
09-245)
)

MEMORANDUM OPINION

In May 2008, the U.S. Fish and Wildlife Service ("FWS" or "the Service") issued its final rule listing the polar bear as a "threatened species" under the Endangered Species Act of 1973. See Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range, 73 Fed. Reg. 28,212 (May 15, 2008) (the "Listing Rule"). The Service concluded that the polar bear is likely to become endangered within the foreseeable

¹ Pursuant to Fed. R. Civ. P. 25(d), Interior Secretary Ken Salazar is automatically substituted as a defendant for his predecessor, Dirk Kempthorne, who was sued in his official capacity.

future because of anticipated impacts to its sea ice habitat from increasing Arctic temperatures, which have been attributed to global greenhouse gas emissions and related atmospheric changes. Numerous plaintiffs have challenged the Listing Rule under the Endangered Species Act ("ESA" or "the Act"), 16 U.S.C. §§ 1531-1544, and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 551-559, 701-706, claiming that the Service's decision to list the polar bear as a threatened species was arbitrary and capricious and an abuse of agency discretion. Pending before the Court are the parties' cross-motions for summary judgment.

As the briefing in this case makes clear, the question of whether, when, and how to list the polar bear under the ESA is a uniquely challenging one. The three-year effort by FWS to resolve this question required agency decision-makers and experts not only to evaluate a body of science that is both exceedingly complex and rapidly developing, but also to apply that science in a way that enabled them to make reasonable predictions about potential impacts over the next century to a species that spans international boundaries. In this process, the Service considered over 160,000 pages of documents and approximately 670,000 comment submissions from state and federal agencies, foreign governments, Alaska Native Tribes and tribal organizations, federal commissions, local governments, commercial and trade organizations, conservation organizations,

nongovernmental organizations, and private citizens. In addition to relying on its own experts, the agency also consulted a number of impartial experts in a variety of fields, including climate scientists and polar bear biologists.

In view of these exhaustive administrative proceedings, the Court is keenly aware that this is exactly the kind of decision-making process in which its role is strictly circumscribed. Indeed, it is not this Court's role to determine, based on its independent assessment of the scientific evidence, whether the agency could have reached a different conclusion with regard to the listing of the polar bear. Rather, as mandated by the Supreme Court and by this Circuit, the full extent of the Court's authority in this case is to determine whether the agency's decision-making process and its ultimate decision to list the polar bear as a threatened species satisfy certain minimal standards of rationality based upon the evidence before the agency at that time.

For the reasons set forth below, the Court is persuaded that the Listing Rule survives this highly deferential standard. After careful consideration of the numerous objections to the Listing Rule, the Court finds that plaintiffs have failed to demonstrate that the agency's listing determination rises to the level of irrationality. In the Court's opinion, plaintiffs' challenges amount to nothing more than competing views about

policy and science. Some plaintiffs in this case believe that the Service went too far in protecting the polar bear; others contend that the Service did not go far enough. According to some plaintiffs, mainstream climate science shows that the polar bear is already irretrievably headed toward extinction throughout its range. According to others, climate science is too uncertain to support any reliable predictions about the future of polar bears. However, this Court is not empowered to choose among these competing views. Although plaintiffs have proposed many alternative conclusions that the agency could have drawn with respect to the status of the polar bear, the Court cannot substitute either the plaintiffs' or its own judgment for that of the agency. Instead, this Court is bound to uphold the agency's determination that the polar bear is a threatened species as long as it is reasonable, regardless of whether there may be other reasonable, or even more reasonable, views. That is particularly true where, as here, the agency is operating at the frontiers of science.

In sum, having carefully considered plaintiffs' motions, the federal defendants' and defendant-intervenors' cross-motions, the oppositions and replies thereto, various supplemental briefs, the supplemental explanation prepared by FWS in response to this Court's November 4, 2010 remand order, arguments of counsel at a motions hearing held on February 23,

2011, the relevant law, the full administrative record, and for the reasons set forth below, the Court finds that the Service's decision to list the polar bear as a threatened species under the ESA represents a reasoned exercise of the agency's discretion based upon the facts and the best available science as of 2008 when the agency made its listing determination. Accordingly, the Court hereby **DENIES** plaintiffs' motions for summary judgment and **GRANTS** the federal defendants' and defendant-intervenors' motions for summary judgment.

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I. BACKGROUND

A. Statutory Background

Congress enacted the ESA "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."² 16 U.S.C. § 1531(b). An "endangered species" is "any species which is in danger of extinction throughout all or a significant portion of its range." *Id.* § 1532(6). A "threatened species" is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *Id.* § 1532(20). The term "species" is defined in the Act to include species, subspecies, and "any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." *Id.* § 1532(16).

The ESA requires the Secretary of the Interior to publish and maintain a list of all species that have been designated as

² Under the conservation program established by the ESA, a designation of "endangered" triggers a broad range of protections, including a prohibition on "taking" individual members of the species. See 16 U.S.C. § 1538(a)(1)(B); see also *id.* § 1532(19) (defining the term "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct"). The Act authorizes the Secretary to extend these prohibitions, in whole or in part, to threatened species as well. *Id.* § 1533(d). In addition, the Secretary shall "issue such regulations as he deems necessary and advisable to provide for the conservation of [threatened] species." *Id.*

threatened or endangered. *Id.* § 1533(c). Species are added to and removed from this list after notice and an opportunity for public comment, either on the initiative of the Secretary or as a result of a petition submitted by an "interested person." *Id.* §§ 1533(b)(1), (3), (5). The Secretary of the Interior and the Secretary of Commerce are responsible for making listing decisions.³ *Id.* §§ 1532(15), 1533(a)(2). The Secretary of the Interior has jurisdiction over the polar bear. See 50 C.F.R. § 402.01(b).

A listing determination is made on the basis of one or more of five statutorily prescribed factors:

- (a) the present or threatened destruction, modification, or curtailment of the species' 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 the species' continued existence.

16 U.S.C §§ 1533(a)(1)(A)-(E); see also 50 C.F.R. § 424.11(c).

The agency must list a species if "any one or a combination" of these factors demonstrates that the species is threatened or endangered. 50 C.F.R. § 424.11(c).

³ The Secretary of the Interior has delegated his responsibilities under the Act to FWS. See 50 C.F.R. § 402.01(b). The Secretary of Commerce has delegated his responsibilities under the Act to the National Marine Fisheries Service ("NMFS"). See *id.*

The ESA further provides that the decision to list a species must be made

solely on the basis of the best scientific and commercial data available . . . after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species

16 U.S.C. § 1533(b)(1)(A).

B. Factual and Procedural Background

Polar bears are marine mammals that are described as "ice-obligate," meaning that they are evolutionarily adapted to, and indeed completely reliant upon, sea ice for their survival and primary habitat. ARL 117259.⁴ They depend upon sea ice for critical functions such as hunting ice-dependent seals (their primary source of food), migrating between feeding areas and land-based maternity dens, and traveling long distances in search of mates or food. ARL 139259. Over most of their range, polar bears remain on the ice year-round. ARL 139245. The international Polar Bear Specialist Group - the authoritative source for information on the world's polar bears - has identified nineteen polar bear populations located within five countries in the ice-covered regions of the Northern Hemisphere:

⁴ The facts in this background section are excerpted from the administrative record for the Listing Rule. Citations to the administrative record for the Listing Rule are abbreviated "ARL."

the United States (in Alaska), Canada, Denmark (in Greenland), Norway, and Russia.⁵ ARL 117216-17, 117219.

On February 16, 2005, the Center for Biological Diversity submitted a petition to the Secretary of the Interior to list the polar bear as a threatened species under the ESA due to observed and anticipated declines in the Arctic sea ice upon which the polar bear relies for survival. See generally ARL 4040-4209. FWS ultimately issued a final rule listing the polar bear as a threatened species on May 15, 2008.⁶ See generally ARL

⁵ These nineteen populations are generally identified by their geographical location: Arctic Basin, Baffin Bay, Barents Sea, Chukchi Sea, Davis Strait, East Greenland, Foxe Basin, Gulf of Boothia, Kane Basin, Kara Sea, Lancaster Sound, Laptev Sea, M'Clintock Channel, Northern Beaufort Sea, Norwegian Bay, Southern Beaufort Sea, Southern Hudson Bay, Western Hudson Bay, and Viscount Melville Sound. ARL 117220, Figure 1. The United States Geological Survey ("USGS") recently re-evaluated the existing population boundaries to create an additional population - Queen Elizabeth - located on the northern border of Greenland. ARL 117222.

⁶ Prior to the action currently before this Court, the Center for Biological Diversity also initiated lawsuits to enforce various statutory deadlines throughout the listing process for the polar bear. To the maximum extent practicable, the Secretary must respond to listing petitions within 90 days with an initial finding stating 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). When the Secretary failed to timely respond to its listing petition, the Center for Biological Diversity filed an action in the Northern District of California in December 2005. *Ctr. for Biological Diversity v. Norton*, No. 05-5191 (N.D. Cal. filed Dec. 15, 2005). The Secretary ultimately published a 90-day finding on February 9, 2006, ARL 5597-98, and he agreed to issue the next required finding by December 27, 2006. The parties settled the case with a consent decree to

117215-117307. At the time of listing, there were estimated to be approximately 20,000 to 25,000 polar bears worldwide, distributed throughout the species' range.⁷ ARL 117219. These estimates further indicated that two of the nineteen polar bear populations were increasing in numbers (Viscount Melville Sound and M'Clintock Channel); six populations were stable (Northern Beaufort Sea, Southern Hudson Bay, Davis Strait, Lancaster Sound, Gulf of Boothia, Foxe Basin); and five populations were declining (Southern Beaufort Sea, Norwegian Bay, Western Hudson Bay, Kane Basin, Baffin Bay). ARL 117221. Insufficient data were available to identify trends for the remaining six populations (Barents Sea, Kara Sea, Laptev Sea, Chukchi Sea, Arctic Basin, East Greenland). ARL 117221.

that effect. See Settlement Agreement, *Ctr. for Biological Diversity v. Kempthorne*, No. 05-5191 (N.D. Cal. June 28, 2006). On January 9, 2007, FWS published in the Federal Register a proposed rule to list the species as threatened throughout its range. See generally ARL 59985-60021. The ESA imposes a nondiscretionary deadline of one year from the date a proposed rule is published within which the agency must publish a final rule. 16 U.S.C. § 1533(b)(6). After that one-year deadline passed, the Center for Biological Diversity filed a second action to compel FWS to issue its final rule. *Ctr. for Biological Diversity v. Kempthorne*, No. 08-1339 (N.D. Cal. filed Mar. 10, 2008). The Northern District of California granted plaintiff's motion for summary judgment and directed FWS to publish its final listing determination for the polar bear by May 15, 2008. *Ctr. for Biological Diversity v. Kempthorne*, No. 08-1339, 2008 U.S. Dist. LEXIS 34753 (N.D. Cal. Apr. 28, 2008).

⁷ The Service found that the polar bear occupied the full extent of its historical range at the time of listing. See ARL 117242.

In its Listing Rule, FWS acknowledged that sea ice conditions across the Arctic had changed over the past several decades. ARL 117227-28. Specifically, the agency cited data indicating that the summer/fall ice melt season in the Arctic lengthened by approximately two weeks per decade between 1979 and 2005. ARL 117227. The agency also cited data indicating that September (i.e., minimum) sea ice extent was at an all-time low during the period between 2002 and 2007. ARL 117224. FWS further noted that scientists had observed significant recent declines in winter (i.e., maximum) sea ice extent, ARL 117226, cumulative annual sea ice extent, ARL 117226, and overall sea ice age and thickness, ARL 117226-27.

Relying on complex climate models and related data from the International Panel on Climate Change ("IPCC") - which FWS acknowledged to be the leading international body in climate change science - FWS attributed these changes in sea ice to increased Arctic temperatures caused by greenhouse gas emissions and related changes in atmospheric and oceanic circulation.⁸ ARL 117227-30. As FWS described, due to a reported lag time in response between when greenhouse gases are emitted into the

⁸ In its final Listing Rule, FWS relied in particular on the IPCC Fourth Assessment Report ("AR4"), issued in 2007, which was the most recent climate change report available from the IPCC at the time FWS made its listing determination. ARL 117231; see generally ARL 151180-152632.

atmosphere and when the impacts of those emissions are felt on the ground, the IPCC concluded that the global climate system is committed to a continued warming trend through the end of the 21st century. ARL 117233-34. Indeed, FWS noted that average projected warming levels through mid-century were generally consistent across all IPCC climate models, regardless of differences in possible emission levels over that period. ARL 117257. FWS looked also to IPCC models of Arctic sea ice, which similarly projected declines in ice extent through the end of the 21st century. ARL 117234. As FWS noted, the ten models that most accurately reflected historical sea ice changes prior to 2007 all projected a decline in September sea ice extent of over thirty percent (30%) by mid-century. ARL 117236-37. On the basis of these IPCC models and associated analysis, FWS concluded that it could confidently predict a significant decline in the polar bear's sea ice habitat over the next 40 to 50 years. ARL 117279-81.

FWS further concluded that the extent of anticipated declines in sea ice will significantly impact polar bear population health. ARL 117279. As FWS described, sea ice losses have been tied to nutritional stress in polar bears because of lower overall numbers of ice-dependent prey, decreased access to the prey that remain, shorter hunting seasons and longer seasonal fasting periods, and higher

energetic demands from traveling farther and swimming longer distances across open water to reach sea ice. ARL 117279. FWS determined that this nutritional stress and other related factors will likely result in a decline in the physical condition of polar bears, leading to lower overall body weights and reduced cub survival rates. ARL 117270. FWS further found that consistent declines in physical condition and reproductive success will ultimately lead to population-level declines. ARL 117279.

In reaching this conclusion, FWS relied in part on long-term studies showing that these impacts had already been observed in some of the southern-most polar bear populations. According to FWS, monitoring reports indicated that the Western Hudson Bay population - one of the longest-studied polar bear groups - had experienced declines in body condition among both adult male and adult female bears over the past three decades, with an associated population decrease of approximately twenty-two percent (22%). ARL 117271. FWS noted that this Canadian population also experienced significant declines in body mass among female bears over that period. ARL 117270. A comprehensive review of the polar bear's status conducted prior to listing indicated that, between 1971 and 2001, the average date of spring break-up of the sea ice in the region advanced by three weeks, and temperatures increased by between 0.5°C and

0.8°C per decade. ARL 139286. The correlation between the timing of sea ice break-up and the body condition of adult female polar bears was found to be statistically significant. ARL 139286.

The same polar bear status review also indicated that scientists monitoring the Southern Beaufort Sea polar bear population - another long-studied group - observed similar changes in body condition and unusual hunting behaviors. ARL 139279. As noted in the status review, population estimates for this group between 1986 and 2006 also showed declines, although researchers were not confident enough in these estimates to assert that the observed declines were statistically significant. ARL 139279.

Prior to issuing its final rule, FWS commissioned the United States Geological Survey ("USGS") to conduct additional scientific analysis related to the polar bear listing decision.⁹ Among other things, USGS undertook an effort to forecast the status of polar bears in different parts of the Arctic at three future time periods in the 21st century (i.e., 45 years, 75 years, and 100 years). *See generally Forecasting the Range-Wide*

⁹ FWS commissioned USGS to prepare this additional analysis in February 2007, after the publication of the proposed listing rule to list the polar bear as a threatened species. ARL 117239. In response to the significant new information contained in the USGS reports, FWS re-opened the public comment period on the proposed rule through October 22, 2007. ARL 117239.

Status of Polar Bears at Selected Times in the 21st Century, ARL 161306-161436. USGS developed two models in an effort to predict potential future changes to polar bear population numbers across a range of scenarios, using climate models and the existing body of knowledge about polar bears. ARL 161313. A simple "carrying capacity" model was designed to estimate potential changes in numbers of bears based on current polar bear population densities and annual sea ice projections. ARL 161316. A more comprehensive "Bayesian Network" model was designed to determine the probability of certain population outcomes (e.g., "larger than now," "same as now," "smaller," "rare," or "extinct"), taking into account a wide range of factors including the seasonal availability of sea ice, as well as population stressors unrelated to sea ice loss. ARL 161317, 161325-26.

For the purpose of these models, USGS grouped the nineteen global polar bear populations into four "ecoregions" - Seasonal Ice, Divergent Ice, Convergent Ice, and Archipelago - based upon regional patterns of ice formation. ARL 117276. The Seasonal Ice Ecoregion, for example, occurs at the southern end of the polar bear range and is ice-free for a portion of the year. ARL 117221. In the Divergent Ice Ecoregion, which is located mainly in Alaska, ice formed at the shore drifts away from land as a result of wind and ocean currents. ARL 117222. In the

Convergent Ice Ecoregion, sea ice formed in the Divergent Ice Ecoregion moves toward land and collects at the shore. ARL 117222. The Archipelago Ecoregion, at the northernmost point of the Canadian Arctic, generally has thicker and more persistent ice year-round. ARL 117222. USGS determined that these variations in sea ice conditions generally correlate to differences in how polar bears interact with their sea ice habitat. ARL 117221.

Consistent with IPCC climate and sea ice models, both of the USGS models projected population declines in all four polar bear ecoregions over the next 100 years. ARL 161312. The simple carrying capacity model indicated that polar bear population levels range-wide will have moderately decreased by year 45, assuming average projected levels of future sea ice. ARL 161331. Assuming minimal levels of future sea ice, the carrying capacity model projected trends "toward extirpation" of bears in the Divergent Ice Ecoregion by year 45 and in the Seasonal Ecoregion by year 75. ARL 161331. Similarly, according to USGS, the Bayesian Network model results suggested that "multiple stressors will likely play important and deleterious roles on all polar bear populations, even starting at year 45, and generally increase in their effect through year 100." ARL 161332. For example, the Bayesian Network model projected an outcome of extinction for bears in the Seasonal and

Divergent Ice Ecoregions by year 45 and for bears in the Convergent Ice Ecoregion by year 75. ARL 161312-13. In the Archipelago Ecoregion, a "smaller" population was the dominant outcome at year 45 under all scenarios. ARL 161332.

In relying on the USGS population models, FWS emphasized that it had less confidence in the specific numerical outcomes of these models than in their "general direction and magnitude." ARL 117278. Specifically, FWS pointed to several caveats that USGS itself identified in the development of these models. As FWS described, USGS acknowledged that the carrying capacity model only accounted for changes in sea ice extent and could not account for several other important factors, including seasonal ice fluctuations and other population stressors. ARL 117277. Further, USGS indicated that this simple model assumed a linear relationship between sea ice and numbers of bears, which is not necessarily the case, and it also assumed that polar bear density will not change over time, which "is almost certainly not valid." ARL 161323. FWS similarly discounted the specific outcomes of the Bayesian Network model, which USGS described as a "first-generation 'alpha' level prototype," ARL 161338, because it reflected the judgment of only one polar bear expert and "still must be vetted through other polar bear experts." ARL 161338; see also ARL 117278. Insofar as these population models were generally consistent with the record as a whole,

however, FWS found that these models supported a conclusion that sea ice losses will negatively impact polar bears in a significant way within the foreseeable future. ARL 117278; ARL 117300.

Based on a voluminous administrative record, including the studies described above, and input from fourteen peer reviewers and numerous polar bear specialists, climate scientists, experts in Traditional Ecological Knowledge ("TEK"),¹⁰ state and federal agencies, foreign governments, Alaska Native tribes and tribal organizations, federal commissions, local governments, commercial and trade organizations, conservation organizations, nongovernmental organizations, and private citizens, FWS concluded that the polar bear was threatened throughout its range at the time of listing, within the meaning of the ESA. ARL 117296. Specifically, FWS determined that all polar bear

¹⁰ TEK is a formally-recognized body of knowledge developed by the native people who co-exist with the polar bear in its habitat. TEK principles and observations include where and when polar bears feed, how they hunt, where they den, how they respond to different types of ice habitat, and how they travel. See Defendant-Intervenor Arctic Slope Regional Corporation Cross-Motion and Memorandum in Opposition, Docket Nos. 146, 147 ("ASRC Def-Int. Mot.") at 3. This knowledge has been gained through traditional subsistence efforts, handed down over generations by oral tradition, and shared with scientists researching the species, including FWS scientists. ASRC Def-Int. Mot. at 3. TEK offers an opportunity for "clear observational records over relatively long temporal scales." ASRC Def-Int. Mot. at 11 (quoting ARL 130884). For the purposes of the Listing Rule, FWS accepted TEK as a relevant source of information on the ecology of polar bears. ARL 117252.

populations will be affected by substantial losses of sea ice within the foreseeable future (which it defined as 45 years), although different populations will be affected at different rates and to different degrees. ARL 117279-80. FWS further found that polar bears are unlikely to adapt to these anticipated habitat changes. ARL 117264-66.

However, notwithstanding these findings, FWS concluded that the polar bear was not endangered in any portion of its range at the time of listing. ARL 117301. The agency determined that at the time of listing the species was generally abundant throughout its range, the species continued to occupy the full extent of its historical range, and it had yet to experience precipitous population declines in any portion of its range. ARL 117299-301. Even in the Western Hudson Bay population, where a statistically-significant decline had been observed, the species continued to reproduce normally. ARL 117300. According to FWS, these countervailing facts demonstrated that the polar bear was not "in danger of extinction" at the time it made its listing decision, although the agency reiterated that the species would likely become an endangered species by mid-century. ARL 117301.

The publication of the Listing Rule triggered lawsuits by a number of organizations and individuals: (1) the State of Alaska

("Alaska")¹¹ (*State of Alaska v. Salazar, et al.*, No. 08-1352 (D.D.C. Aug. 4, 2008)); (2) Safari Club International and Safari Club International Foundation (collectively, "SCI")¹² (*Safari Club Int'l, et al. v. Salazar, et al.*, No. 08-1550 (D.D.C. Sept. 8, 2008)); (3) California Cattlemen's Association and the Congress on Racial Equality (collectively, "CCA")¹³ (*California Cattlemen's Ass'n, et al. v. Salazar, et al.*, No. 08-1689 (D.D.C. Oct. 2, 2008)); (4) Center for Biological Diversity, Natural Resources Defense Council, and Greenpeace (collectively, "CBD")¹⁴ (*Ctr. for Biological Diversity, et al. v. Salazar, et*

¹¹ The State of Alaska is a sovereign state with an averred interest in the management of its wildlife and natural resources, including the polar bear, and an averred interest in the impact of the Listing Rule on public services, tourism, transportation, and resource development within the state. Alaska Compl. ¶¶ 9, 10.

¹² Safari Club International and Safari Club International Foundation are not-for-profit public education and hunting advocacy organizations with an averred interest in the impact of the Listing Rule on sustainable use wildlife conservation efforts, including foreign trophy hunting programs. SCI Compl. ¶¶ 14-17.

¹³ California Cattlemen's Association and the Congress on Racial Equality are not-for-profit organizations that represent California's beef producers and poor and minority business owners, respectively, with an averred interest in ensuring that the Listing Rule does not expose their members to an elevated risk of citizen suits and increased costs of doing business. CCA First Am. Compl. ¶¶ 5, 6.

¹⁴ Center for Biological Diversity, Natural Resources Defense Council, and Greenpeace are not-for-profit environmental advocacy organizations with members that have an averred interest in the protection and conservation of wildlife species,

al., No. 08-1339 (N.D. Cal. Mar. 10, 2008));¹⁵ and (5) Conservation Force, the Inuvialuit Game Council, and numerous hunting and trapping organizations as well as individuals (collectively, "CF")¹⁶ (*Conservation Force, et al. v. Salazar, et al.*, No. 09-245 (D.D.C. Feb. 9, 2009)). These five actions were subsequently consolidated before this Court, along with six related actions, pursuant to an order of the Judicial Panel on Multi-District Litigation.¹⁷ See generally Certified Copy of Transfer Order, Docket No. 1.¹⁸

such as the polar bear, and their habitat. CBD Third Am. Compl. ¶¶ 20-23.

¹⁵ This case was subsequently transferred and assigned a new case number in this Court. See *Ctr. for Biological Diversity, et al. v. Salazar, et al.*, No. 08-2113 (D.D.C. Dec. 8, 2008).

¹⁶ Conservation Force is a not-for-profit wildlife conservation organization with an averred interest in managing and protecting game species, including polar bears. CF Compl. ¶ 16. Joining with Conservation Force in its lawsuit is the Inuvialuit Game Council, which represents the interests of the Inuvialuit people on all matters pertaining to wildlife management within Canada's Inuvialuit Settlement Region. CF Compl. ¶ 17. Also joining with these plaintiffs are a number of hunting and trapping organizations, sportsmen organizations and outfitters, and individuals who have participated in polar bear trophy hunting. CF Compl. ¶¶ 18-50.

¹⁷ On the same day that FWS issued its final rule listing the polar bear as a threatened species, the Secretary of the Interior published proposed regulations pursuant to 16 U.S.C. § 1533(d). See Special Rule for the Polar Bear, 73 Fed. Reg. 28,306 (May 15, 2008) ("Interim 4(d) Rule"). These regulations were later finalized and codified at 50 C.F.R. § 17.40(q) and are the subject of two additional actions before this Court. The four remaining actions challenge the Service's subsequent refusal to issue permits for importing sport-hunted polar bear

Several groups intervened to defend against plaintiffs' challenges to the Listing Rule. Specifically, this Court permitted the Alaska Oil and Gas Association ("AOGA") and the Arctic Slope Regional Corporation ("ASRC") to intervene as defendants in the challenge brought by plaintiff CBD. See Stipulation and Order Regarding Intervention, Docket No. 33, at 4-5. The Court also permitted SCI, a plaintiff in its own action, to intervene as a defendant in the action brought by plaintiff CBD. Plaintiff CBD was permitted to intervene as a defendant in the remaining challenges to the Listing Rule.

On October 20, 2009, plaintiffs filed their motions for summary judgment.¹⁹ Among other claims, plaintiff CBD contends

trophies under the Marine Mammal Protection Act ("MMPA"), 16 U.S.C. §§ 1371-1389 (2006). These six actions have been briefed separately from the Listing Rule cases; therefore, the Court does not address either the 4(d) Rule or the import ban challenges here.

¹⁸ Unless otherwise specified, all references to pleadings, proceedings, hearings, opinions, and orders can be found on the Misc No. 08-764 docket.

¹⁹ Plaintiffs Center for Biological Diversity, Natural Resources Defense Council and Greenpeace jointly filed a motion for summary judgment. See generally Motion for Summary Judgment by CBD, Docket No. 125 ("CBD Mot."). The remaining plaintiffs also filed a joint motion for summary judgment that addresses their common claims. See generally Joint Motion for Summary Judgment on Listing Rule Claims, Docket No. 127 ("JP Mot."). The Court also permitted each of these plaintiffs to submit supplemental motions and memoranda in support of summary judgment. See generally Alaska's Motion for Summary Judgment on Listing Rule Claims, Docket No. 128 ("Alaska Mot."); Motion and Supplemental Memorandum of CCA in Support of Motion for Summary

that the decision to list the polar bear as threatened was arbitrary and capricious because the polar bear met the definition of an endangered species under the ESA at the time of listing and thus qualified for a higher level of protection. The remaining plaintiffs (collectively, "Joint Plaintiffs") contend, among other things, that the decision to list the polar bear was arbitrary and capricious because the polar bear did not meet the definition of a threatened species at the time of listing and therefore did not qualify for ESA protections.

The federal defendants filed their cross-motion for summary judgment on December 7, 2009. *See generally* Federal Defendants' Combined Opposition and Cross-Motion for Summary Judgment on Listing Rule Claims, Docket No. 137 ("Fed. Def. Mot."). The various defendant-intervenors filed their cross-motions for summary judgment on January 19, 2010.²⁰

Judgment Challenging the Listing Rule, Docket No. 124 ("CCA Mot."); Motion for Summary Judgment and Supplemental Memorandum of Points and Authorities by SCI, Docket No. 123 ("SCI Mot."); Motion for Summary Judgment by CF, Docket No. 126, corrected at Docket No. 131 ("CF Mot.").

²⁰ *See generally* Defendant-Intervenor SCI Cross-Motion for Summary Judgment and Memorandum in Opposition, Docket Nos. 144, 145 ("SCI Def-Int. Mot."); Defendant-Intervenor ASRC Cross-Motion and Memorandum in Opposition, Docket Nos. 146, 147 ("ASRC Def-Int. Mot."); Defendant-Intervenor AOGA Cross-Motion for Summary Judgment, Docket No. 148 ("AOGA Def-Int. Mot."); Defendant-Intervenor CBD Cross-Motion for Summary Judgment, Docket No. 149 ("CBD Def-Int. Mot.").

This Court held an initial hearing on the parties' cross-motions for summary judgment on October 20, 2010. At that hearing, the Court focused only on a threshold question: whether it must review the agency's interpretation of the ESA listing classifications under step one or step two of the familiar framework set forth in *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). In a Memorandum Opinion issued on November 4, 2010, the Court held that FWS had improperly relied on an erroneous plain-meaning reading of the definition of an endangered species that could not be upheld under step one of *Chevron*. *In re Polar Bear Endangered Species Act Listing and § 4(d) Rule Litigation*, 748 F. Supp. 2d 19, 29 (D.D.C. 2010) [hereinafter *In re Polar Bear*]. Finding that the term "endangered species" under the ESA is instead ambiguous, the Court remanded the Listing Rule to the agency "to treat the statutory language as ambiguous." *Id.*

In response to the Court's remand order, on December 22, 2010, the federal defendants submitted the agency's memorandum of supplemental explanation. See generally Supplemental Explanation for the Legal Basis of the Department's May 15, 2008 Determination of Threatened Status for Polar Bears, Docket No. 237-1 ("Supp. Exp."). In their Supplemental Explanation, FWS concluded that, even treating the phrase "in danger of extinction" in the definition of an endangered species as

ambiguous, the administrative record does not support a finding that the polar bear qualified for endangered status at the time of listing. Because the agency determined that the species is likely to become endangered within the foreseeable future, however, FWS reiterated that the polar bear met ESA's the definition of a threatened species at the time of listing. Supp. Exp. at 16.

The Court gave the parties an opportunity to submit additional briefs responding to the agency's supplemental explanation. See generally Joint Plaintiffs' Response to Federal Defendants' Supplemental Explanation, Docket No. 240 ("JP Supp. Mem."); Plaintiff CBD's Response to Federal Defendants' Supplemental Explanation, Docket No. 241 ("CBD Supp. Mem."); AOGA and ASRC Defendant-Intervenors' Response to Federal Defendants' Supplemental Explanation, Docket No. 239 ("AOGA Supp. Mem."); Federal Defendants' Supplemental Reply, Docket No. 242 ("Fed. Def. Supp. Reply"). A second motions hearing was held on February 23, 2011, during which the Court heard arguments on all plaintiffs' Listing Rule claims. The parties' cross-motions for summary judgment are now ripe for determination by the Court.

II. STANDARD OF REVIEW

The Service's listing decisions are subject to review under the APA. See, e.g., *Am. Wildlands v. Kempthorne*, 530 F.3d 991,

997 (D.C. Cir. 2008). Under APA review, federal agency actions are to be held unlawful and set aside where they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). To make this finding, a court must determine whether the agency "considered the factors relevant to its decision and articulated a rational connection between the facts found and the choice made." *Keating v. FERC*, 569 F.3d 427, 433 (D.C. Cir. 2009) (citing *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 105 (1983)).

The standard of review under the APA is a narrow one. *Citizens to Pres. Overton Park v. Volpe*, 401 U.S. 402, 416 (1971). The court is not empowered to substitute its judgment for that of the agency. *Id.* Deference to the agency's judgment is particularly appropriate where the decision at issue "requires a high level of technical expertise." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 375-77 (1989); *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) ("[The court] must look at the decision not as the chemist, biologist or statistician that [it is] qualified neither by training nor experience to be, but as a reviewing court exercising [its] narrowly defined duty of holding agencies to certain minimal standards of rationality."). Specifically, with regard to FWS decisions, this Court has previously recognized that "[g]iven the expertise

of the FWS in the area of wildlife conservation and management and the deferential standard of review, the Court begins with a strong presumption in favor of upholding decisions of the [FWS]." *Am. Wildlands v. Kempthorne*, 478 F. Supp. 2d 92, 96 (D.D.C. 2007) (citing *Carlton v. Babbitt*, 900 F. Supp. 526, 530 (D.D.C. 1995)).

This narrow, deferential standard does not, however, shield the agency from a "thorough, probing, in-depth" review. *Overton Park*, 401 U.S. at 415. The court's inquiry into the facts must be both "searching and careful." *Id.* at 416. Administrative action must be invalidated as arbitrary where the agency

relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 43 (1983). This determination must be made solely on the basis of the record before the agency when it made its decision. *Camp v. Pitts*, 411 U.S. 138, 142 (1973).

Where the court reviews an agency's interpretation of a statute it is charged with administering, the Supreme Court's opinion in *Chevron* provides the appropriate framework of review. The first step in this review process is for the court to determine "whether Congress has directly spoken to the precise

question at issue." *Chevron*, 467 U.S. at 842. "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Id.* at 842-43. In determining whether the statute unambiguously expresses the intent of Congress, the court should use all the "traditional tools of statutory construction," see *id.* at 843 n.9, including looking to the text and structure of the statute, as well as its legislative history, if appropriate. See *Bell Atlantic Tel. Co. v. FCC*, 131 F.3d 1044, 1047 (D.C. Cir. 1997).

If the court concludes that the statute is either silent or ambiguous with respect to the precise question at issue, the second step of the court's review process is to determine whether the interpretation proffered by the agency is "based on a permissible construction of the statute." *Chevron*, 467 U.S. at 843. The court must defer to agency interpretations that are not "procedurally defective, arbitrary or capricious in substance, or manifestly contrary to the statute." *United States v. Mead*, 533 U.S. 218, 227 (2001) (citing *Chevron*, 467 U.S. at 843-44).

III. DISCUSSION

Plaintiffs have identified a number of purported deficiencies in the Listing Rule, each of which forms the basis for a claim that FWS violated both the ESA and the APA when it

listed the polar bear as a threatened species. Plaintiffs' claims can be classified into three general categories.

First, each of the plaintiffs in this case argues that the Service's decision to list the polar bear as a threatened species was based on a fundamentally flawed interpretation of the ESA's listing standards and a misguided application of the record evidence. Specifically, plaintiff CBD claims that FWS wrongly concluded that the polar bear did not qualify for endangered status at the time of listing, given the evidence in the record indicating that substantial anticipated sea ice losses will continue through the end of the 21st century. By contrast, Joint Plaintiffs claim that FWS failed to demonstrate that the polar bear is sufficiently likely to become endangered within the foreseeable future and, therefore, the agency wrongly concluded that the polar bear qualified for threatened status at the time of listing. In the alternative, a smaller subset of plaintiffs (including CBD, SCI, and CF) argues that FWS erred when it concluded that no polar bear population or ecoregion qualifies as a "distinct population segment," which would have allowed the Service to tailor ESA protections more narrowly across populations.

Second, plaintiffs argue that FWS ignored or otherwise failed to adequately address four listing factors that the ESA requires the agency to consider. Joint Plaintiffs claim that

the Service failed to adequately "take into account" foreign conservation programs, particularly Canadian sport-hunting programs, because it failed to ensure that its listing decision would not negatively impact those programs. Joint Plaintiffs also claim that the Service failed to demonstrate that it relied upon the "best available science," because the climate models, population models, and population monitoring studies the Service relied upon do not, in fact, support the agency's conclusion that the polar bear is likely to become endangered within the foreseeable future. Plaintiff CBD claims that FWS improperly downplayed the threat of hunting to the polar bear and wrongly concluded that the polar bear was not in danger of extinction at the time of listing as a result of the combined threats of habitat loss ("Listing Factor A") and overutilization ("Listing Factor B"). Joint Plaintiffs finally claim that FWS wrongly concluded that existing regulatory mechanisms ("Listing Factor D") will be insufficient to protect the polar bear despite future sea ice losses.

Third and finally, plaintiffs identify deficiencies in the Service's decision-making process for the Listing Rule. Plaintiff Alaska claims that FWS failed to provide an adequate "written justification" in response to the State's comments, as it was required to do under Section 4(i) of the ESA. Plaintiff

CF claims that FWS similarly erred by failing to respond to its comments on the Listing Rule.

Having carefully considered each of these arguments, the Court is simply not persuaded that the Service's decision to list the polar bear as a threatened species under the ESA was arbitrary and capricious. As the Supreme Court noted in *Babbitt v. Sweet Home*, "[t]he task of defining and listing endangered and threatened species requires an expertise and attention to detail that exceeds the normal province of Congress," and of the courts as well. 515 U.S. 687, 708 (1995). This Court is not empowered to substitute its own judgment for that of the agency but can only hold the agency to "minimal standards of rationality." *Ethyl Corp.*, 541 F.2d at 36. Accordingly, and for the reasons set forth below, the Court finds that the Listing Rule represents a reasoned exercise of the Service's discretion based on the facts and the best available science at the time the agency made its determination.

The Court will now address each of plaintiffs' claims in turn.²¹

²¹ As a threshold matter, the federal defendants contend that one set of plaintiffs - California Cattlemen's Association and the Congress on Racial Equality - failed to demonstrate standing to challenge the Listing Rule and, therefore, any claims uniquely raised by those plaintiffs must be dismissed. The Court finds, however, that these plaintiffs have raised no claims that were not also fully briefed by the larger group of Joint Plaintiffs. Accordingly, as the federal defendants

A. The Service Articulated a Rational Basis for Its Conclusion that the Polar Bear Met the Definition of a Threatened Species at the Time of Listing

1. Plaintiff CBD's Claim that the Polar Bear Should Have Been Considered Endangered at the Time of Listing

The Court turns first to plaintiff CBD's claim that FWS wrongly concluded that the polar bear did not qualify for endangered status as of 2008. The Court will begin by outlining the Service's interpretation of the definition of an endangered species under the ESA, as applied to the polar bear.

a. The Service's Findings

In their original briefs and at a motions hearing held on October 20, 2010, the federal defendants argued that the text, structure, and legislative history of the ESA plainly and unambiguously require that a species must be in imminent danger of extinction to be designated as an endangered species. This Court held in a November 4, 2010 Memorandum Opinion that neither

concede that the remaining plaintiffs in this action have demonstrated their standing to challenge the Listing Rule, see Fed. Def. Reply, Docket No. 195, at 71-72, the Court need not consider the federal defendants' standing challenge, and it declines to do so. See *Massachusetts v. EPA*, 549 U.S. 497, 518 (2007) ("Only one of the petitioners needs to have standing to permit us to consider the petition for review."); see also *Ass'n of Am. Physicians and Surgeons, Inc. v. FDA*, 539 F. Supp. 2d 4, 14 (D.C. Cir. 2008) (citing *Mountain States Legal Found. v. Glickman*, 92 F.3d 1228, 1232 (D.C. Cir. 1996) ("For each claim, if constitutional and prudential standing can be shown for at least one plaintiff, [the court] need not consider the standing of the other plaintiffs to raise that claim.'")).

the statute itself nor its legislative history compels the federal defendants' reading of the term "in danger of extinction" and that the term is, instead, ambiguous. *In re Polar Bear*, 748 F. Supp. 2d at 28-29. Accordingly, following D.C. Circuit precedent, the Court remanded the rule to agency decision-makers to "fill in the gap" in the statute by providing additional explanation for the agency's determination that the polar bear was not in danger of extinction at the time of listing. *Id.* at 29. On December 22, 2010, the federal defendants submitted the agency's Supplemental Explanation in response to the Court's remand order.

The Service emphasizes that its Supplemental Explanation is not intended to set forth a new statement of agency policy or a new "rule" pursuant to the APA, nor does the agency intend to adopt independent, broad-based criteria for defining the statutory term "in danger of extinction." Supp. Exp. at 1-2. Nonetheless, the agency claims that its starting point in making such a determination is the general understanding that the phrase "in danger of extinction" describes a species that is currently on the brink of extinction in the wild. Supp. Exp. at 3. According to FWS, to be "currently on the brink of extinction" does not necessarily mean that extinction is certain or inevitable; rather, whether a species is currently on the brink of extinction "depends on the life history and ecology of

the species, the nature of the threats, and the species' response to those threats." Supp. Exp. at 3.

As FWS describes, the agency's past "endangered" listings can be broken out into roughly four categories:

Category 1: Species facing a catastrophic threat from which the risk of extinction is imminent and certain. In this category, the timing of the threat alone is sufficient to deem the species in danger of extinction. The snail darter is the classic example of a species in this category. See *Tenn. Valley Auth. v. Hill*, 427 U.S. 153 (1978). This fish species was discovered shortly after the Tennessee Valley Authority had begun construction of the Tellico Dam on the Little Tennessee River and, at the time of listing, the dam project threatened to immediately and completely obliterate the only known population.

Category 2: Narrowly restricted endemics that, as a result of their limited range or population size, are vulnerable to extinction from elevated threats. This category applies to species found in an extremely limited range that, in addition, are facing increasing threats. A large portion of listed species fall in this category. An example of one of these species is the Devil's Hole pupfish, which lives in a single sinkhole in the southern Nevada desert that is experiencing a drop in groundwater level. See *Cappaert v. United States*, 426 U.S. 128 (1976).

Category 3: Species formerly more widespread that have been reduced to critically low numbers or restricted ranges and, consequently, are at a high risk of extinction due to threats that would not otherwise imperil the species. This category represents a class of species experiencing both a severe range reduction and/or precipitous population crash combined with ongoing threats. Some examples of species falling in this category include California condors, whooping cranes, and vernal pool species, many of which have been all but wiped out by development and related factors. These species experience such a restricted range that they are extremely vulnerable to both ongoing and chance threats.

Category 4: Species with relatively widespread distribution that have nevertheless suffered ongoing major reductions in numbers, range, or both, as a result of persistent threats. This category shares common characteristics with threatened species in that they have suffered some recent decline in numbers, range, or both, but to a more severe extent. An example of a species falling in this category is the red-cockaded woodpecker, which was formerly a common bird but experienced a precipitous decline in 1970 caused by an almost complete loss of its primary longleaf pine habitat. Currently, only small, isolated populations of this species remain, making the species more vulnerable to threats including reproductive isolation.

Supp. Exp. at 4-6. Although there is no single metric for determining if a species is "in danger of extinction," FWS contends that these four categories demonstrate the agency's largely consistent approach to endangered species listings. See Supp. Exp. at 4.

The Service asserts that its general understanding of the statutory definition of an "endangered species" and its approach to species listings is supported by the text, structure, and the legislative history of the ESA. The Service notes that, insofar as an endangered species is any species which "is in danger of extinction" and a threatened species is any species which is "likely to become an endangered species within the foreseeable future," the ESA recognizes species with "two distinct degrees of imperilment based on the temporal proximity of the risk of extinction." Supp. Exp. at 9. Within that general framework,

the agency must exercise its discretion and expert judgment to weigh multiple factors on a species-specific basis. The Service asserts that its past listing decisions, including the polar bear Listing Rule, represent a reasoned exercise of that discretion.²²

The Service contends that its species-specific listing determination for the polar bear constitutes a permissible construction of the ESA, given the life history and ecology of the species, the nature and timing of the threats, and the species' observed and anticipated responses to those threats. 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

²² As this Court observed in its November 4, 2010 opinion, the courts have not offered an interpretation of the phrase "in danger of extinction" in the context of reviewing a listing determination. *In re Polar Bear*, 748 F. Supp. 2d at 26 n.12. Nonetheless, FWS asserts that its approach is consistent with judicial interpretations indicating that Congress intended to delegate broad responsibility to the agency to make listing determinations. See, e.g., *Trout Unlimited v. Lohn*, 559 F.3d 946, 961 (9th Cir. 2009) (in which the court found that "[b]y leaving an 'explicit gap' for agency-promulgated regulations, the ESA expressly delegates authority to the [agency] to decide how such listing determination should be made.").

small range or critically low numbers, nor had it suffered precipitous reductions in numbers or range. See Supp. Exp. at 15.

Specifically, FWS found the following facts dispositive:

- At the time of listing, the polar bear was widely distributed in nineteen populations and numbered in abundance between 20,000 to 25,000 individuals. Supp. Exp. at 15.
- Fourteen of the nineteen polar bear populations were considered to be stable, increasing, or data deficient at the time of listing. Supp. Exp. at 15.
- Only one population - Western Hudson Bay - was verified to be in a statistically-significant decline, although two other populations were also actually or potentially declining. Supp. Exp. at 15.
- No population decline was found to be precipitous, and reproduction and recruitment were still occurring in declining populations. Supp. Exp. at 15.

In short, FWS determined, "there is simply no information in the Administrative Record to suggest that the species has experienced significant population declines or severe retractions in its range such that it is currently on the brink of extinction or that it faced a sudden and calamitous threat." Supp. Exp. at 15-16.²³ Accordingly, the agency concluded that

²³ Although population modeling for the species projected significant future declines in some polar bear populations, the agency ultimately determined that these model outcomes were too uncertain to support a specific conclusion about the actual rate of decline. See Supp. Exp. at 17. Similarly, although population monitoring showed evidence of significant declines in body condition in some polar bear populations, see Supp. Exp. at

the polar bear warranted listing as threatened range-wide but did not qualify as an endangered species at the time of listing.

b. Plaintiff CBD's Arguments

Plaintiff CBD contends that, despite this Court's remand order, the agency's interpretation of the term "endangered species" to exclude the polar bear continues to violate the ESA. First, CBD contends that the agency has not significantly departed from its original position that an endangered species must be at risk of both imminent and certain extinction. According to CBD, nothing in the text, structure, or legislative history of the ESA supports the Service's conclusion that the temporal proximity of an extinction threat is the controlling distinction between a threatened and an endangered species.²⁴ Such a narrow reading of the statute, CBD contends, sets the bar for an "endangered" listing impossibly high. Moreover, it contravenes the purpose of the ESA, which is to provide a flexible approach to protecting species so that they can be recovered and delisted.

17, FWS found them insufficient to warrant endangered status for any particular population at the time of listing. See Supp. Exp. at 18.

²⁴ As this Court noted in its remand order, the legislative history of the ESA indicates that Congress did not seek to make any single factor controlling when drawing the distinction between an endangered and a threatened species, nor did it seek to limit the applicability of the endangered category to only those species facing imminent extinction. See *In re Polar Bear*, 748 F. Supp. 2d at 28.

CBD also claims that the Service unlawfully discounted or otherwise failed to consider key scientific information in determining that the polar bear was not endangered in any portion of its range. Indeed, CBD claims that FWS never actually analyzed whether, at the time of listing, polar bears fit within any of the four categories of endangered species described in its Supplemental Explanation. According to CBD, the administrative record demonstrates that the polar bear fits within three of the four "endangered" classifications identified by the agency.

With respect to Category One, CBD asserts that FWS never considered whether global warming constitutes a "catastrophic threat." CBD contends, as it did in its original briefing, that polar bears in at least the Seasonal and Divergent Ice Ecoregions face such a threat, and did at the time of listing, because the best available science at the time indicated that a certain amount of warming is already committed through the end of the 21st century and that continued warming trends are unlikely to be reversed in the near future. CBD points specifically to the USGS population modeling exercises, which projected declines in all of the polar bear ecoregions through mid-century, or approximately over a 45-year period. CBD also cites to evidence in the record, including the Listing Rule itself, which suggests that these models are only conservative

estimates of the potential impacts to polar bears from sea ice losses. See ARL 117275 ("Simulated and projected rates of habitat loss during the late 20th and early 21st centuries by many [climate models] tend to be less than observed rates of loss during the past two decades; therefore, habitat losses based on [these models] were considered to be conservative."); ARL 117280 ("The record low sea ice conditions of 2007 are an extension of an accelerating trend of minimum sea ice conditions and further support the concern that current sea ice models may be conservative and underestimate the rate and level of change expected in the future.").

In addition to the USGS population monitoring exercises, CBD references population-specific studies to suggest that three populations - Western Hudson Bay, Southern Beaufort Sea, and Baffin Bay - were in danger of extinction at the time of listing. Reports in the record from the international Polar Bear Specialist Group indicate that six of the nineteen polar bear populations were declining at the time of listing, including these three. The Western Hudson Bay population saw a decline of twenty-two percent (22%) over an eighteen year period and showed statistically significant declines in body mass among female bears, ARL 117271, which must maintain a certain body weight to successfully reproduce, ARL 117270. Researchers estimated that cub production in this population would "probably

be negligible within the next 15-25 years." ARL 117270. Population numbers also declined in the Southern Beaufort Sea population, along with significant cumulative declines in observed cub survival and skull size and adult male body mass and skull size. See ARL 117272. Unprecedented instances of starvation and cannibalism among the Southern Beaufort Sea were also reported and attributed to nutritional stress. See ARL 117272.

Finally, CBD points to a letter from the Marine Mammal Commission ("MMC"),²⁵ the agency charged with advising FWS on marine mammal issues, which urged FWS to list the polar bear as endangered in light of the USGS population modeling reports. See ARL 126312. In its letter, MMC concluded that "[w]hen taken as a whole, [the USGS reports] present a bleak picture of the

²⁵ MMC is a non-executive agency created by the Marine Mammal Protection Act ("MMPA"). 16 U.S.C. §§ 1403, 1406. The MMPA does not require FWS to follow the MMC's recommendations but only requires FWS to respond to MMC and explain its reasoning if those recommendations are not followed. *Id.* § 1402(d); see also ARL 108484. The Court notes that MMC provided two sets of comments on the listing decision and comments as a peer reviewer on the Service's earlier status assessment for the polar bear. MMC's comments on the status assessment and its first set of comments on the proposed listing supported the Service's range-wide "threatened" designation for the polar bear. See ARL 18533; ARL 61800; ARL 126309. In its second set of comments, referenced here, MMC recommended listing the polar bear as endangered because of USGS population projections for the Seasonal and Divergent Ice ecoregions. See ARL 126309. FWS responded to MMC's recommendation by letter dated June 17, 2008. AR4D 14233 (final response dated June 17, 2008 included in the administrative record for the Interim 4(d) Rule); see also ARL 108485 (draft response dated Feb. 28, 2008).

survival prospects of most populations of polar bears, absent rigorous management of the underlying factors driving climate change." ARL 126315. According to CBD, this letter supports a conclusion that the agency acted arbitrarily in failing to find that the polar bear was endangered throughout a significant portion of its range at the time the agency made its decision.

With respect to Category Two, CBD asserts that FWS never considered whether the polar bear should be considered a "narrowly restricted endemic" species facing elevated threats. By contrast, CBD contends that the polar bear should be considered an endemic species because it relies exclusively on a particular type of sea ice habitat. FWS acknowledged that this habitat type is at risk from continued warming patterns; indeed, this conclusion forms the basis for the agency's decision to list the species as threatened. As such, CBD argues that the agency was obligated to consider whether the polar bear should have properly been classified as endangered because of its unique habitat needs and the particular threats to that habitat from climate change.

Finally, with respect to Category Four, CBD asserts that the agency failed to consider whether any polar bear population "suffered ongoing major reductions in its numbers, range, or both, as a result of factors that have not been abated.'" CBD Supp. Mem. at 24 (quoting Supp. Exp. at 6). At the least, CBD

contends that a twenty-two percent decline in the Western Hudson Bay population should have been considered a "major decline in numbers." CBD Supp. Mem. at 24.

CBD also points out that, although the polar bear was the first species to be listed due to climate change, FWS never considered whether the existence of a new threat might warrant the creation of an altogether new category. Instead, CBD contends, the agency relied on flawed conclusions, incorrect assumptions, and an unreasonably narrow interpretation of the statute to justify a lower level of protection for the polar bear than the species demands. According to CBD, the agency consistently failed to articulate a rational connection between the record evidence and the choice it made. For these reasons, CBD argues that the Service's interpretation of the definition of "endangered species" to exclude the polar bear was arbitrary, capricious, and manifestly contrary to the text, structure, and purpose of the ESA.

c. The Court's Analysis

As a threshold matter, the parties disagree on whether the Court is obliged to review the statutory interpretation set forth in the agency's Supplemental Explanation under the deferential *Chevron* framework, or whether another standard should guide the Court's review on remand. Before reaching the merits of the agency's Supplemental Explanation, the Court must

first determine the appropriate standard of review. The Court turns now to that question.

i. Standard of Review on Remand

As noted above, where a court reviews an agency's interpretation of a statute it is charged with administering, such as the ESA, the Supreme Court's opinion in *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.* provides the appropriate framework of review. Here, the federal defendants, the defendant-intervenors, and the Joint Plaintiffs concur that this Court, having found that the agency's plain-meaning interpretation of the definition of an endangered species fails under step one of the *Chevron* framework, should now analyze the agency's Supplemental Explanation under step two of *Chevron*, which requires the Court to uphold any reasonable agency interpretation of ambiguous statutory language. See 467 U.S. at 843-44. Plaintiff CBD contends, by contrast, that the agency's Supplemental Explanation here is not "*Chevron* step two-worthy." CBD Supp. Mem. at 4.

Under the Supreme Court's decision in *United States v. Mead*, an agency interpretation qualifies for *Chevron* review when it meets two requirements: (1) "when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law," and (2) "the agency interpretation claiming deference was promulgated in the exercise of that

authority." 533 U.S. at 226-27; see also *Pub. Citizen, Inc. v. HHS*, 332 F.3d 654, 659 (D.C. Cir. 2003) (citing *Mead* standard). According to CBD, the agency's Supplemental Explanation meets neither of these requirements. Indeed, CBD goes further, arguing that the agency's Supplemental Explanation is entitled to no deference at all. Where a *Chevron* analysis is inappropriate, the Supreme Court has held that an agency interpretation may nonetheless be entitled to "respect," but only to the extent that interpretation has the "power to persuade." *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944); see also *Power v. Barnhart*, 292 F.3d 781, 786 (D.C. Cir. 2002) ("Under *Skidmore*, we grant an agency's interpretation only so much deference as its persuasiveness warrants."). CBD asserts that the agency's Supplemental Explanation has no "power to persuade" because it is inconsistent with the statute's text, legislative history, and policy objectives, and because it is effectively *post hoc* rationalization, developed directly in response to litigation. Accordingly, CBD concludes, the agency's interpretation of the statutory phrase "in danger of extinction" does not warrant deference under either the *Chevron* or the *Skidmore* standard, and this Court "must decide for itself the best interpretation of 'in danger of extinction' as applied to the polar bear." CBD Supp. Mem. at 9 (citing *Landmark Legal Found. v. IRS*, 267 F.3d 1132, 1136 (D.C. Cir. 2001)).

After careful consideration of these arguments, the Court nevertheless concludes that *Chevron* provides the appropriate standard of review on remand. This Court remanded the Listing Rule to FWS for the very limited purpose of providing additional explanation for its listing determination for the polar bear. In other cases remanding an agency decision for a similarly limited purpose, the D.C. Circuit has subsequently reviewed the agency's supplemental analysis under the *Chevron* framework. See *Sec'y of Labor v. Nat'l Cement Co. of Cal.*, 573 F.3d 788, 793 (D.C. Cir. 2009) (concluding that "the Secretary's interpretation [on remand] is entitled to *Chevron* deference"); *PDK Labs., Inc. v. DEA*, 438 F.3d 1184, 1189-90 (D.C. Cir. 2006) ("This leaves us with the task of resolving at *Chevron's* second step whether the Deputy Administrator's resolution of that ambiguity [on remand] is based on a permissible construction of the statute.").

Indeed, the D.C. Circuit recently addressed this precise question in *Menkes v. U.S. Department of Homeland Security*, 637 F.3d 319 (D.C. Cir. 2011). In *Menkes*, as here, the D.C. Circuit remanded to the Coast Guard for a "forthright" agency interpretation of ambiguous statutory language in the Great Lakes Pilotage Act. Although the plaintiff in that case argued that the agency's response on remand was not entitled to deferential *Chevron* review, the D.C. Circuit disagreed.

Specifically, the court found that *Chevron* deference was appropriate because the Coast Guard was acting "pursuant to an express delegation from Congress" and because its interpretation addressed "interstitial questions" that the agency "deserve[d] deference to address." *Id.* at 331-32 (citing *Barnhart v. Walton*, 535 U.S. 212, 222 (2002); see also *Mylan Labs., Inc. v. Thompson*, 389 F.3d 1272, 1280 (D.C. Cir. 2004)). The court found that the agency was not required to conduct notice-and-comment rulemaking procedures or engage in a formal adjudicatory process for its statutory interpretation to warrant deferential review. *Menkes*, 637 F.3d at 332-33. Rather, the court concluded that "the Coast Guard's enunciation of the aforecited statutory interpretations and rules has the 'force of law,' . . . especially given the instruction from this court to the agency to 'come to grips with the meaning of the statute.'" *Id.* at 332.

Because this Court finds that the court's opinion in *Menkes* bears directly on the question before it, it is bound to follow the D.C. Circuit's approach. Here, as in *Menkes*, the Court required the Service to grapple with the ambiguities in the ESA's definition of the term "endangered species," pursuant to the agency's express authority to make listing determinations case-by-case in light of the best available science for each species. The Court expressly did not require the agency to

adopt independent, broad-based criteria or prospective policy guidance regarding the interpretation of the phrase "in danger of extinction" in the ESA. Further, the Court expressly did not require the agency to conduct notice-and-comment rulemaking procedures or to engage in additional fact-finding. Given the narrow scope of the remand order in this case, the Court is persuaded that the agency's Supplemental Explanation qualifies for deferential review under *Chevron*.²⁶

ii. Merits

As set forth below, having carefully considered the agency's Supplemental Explanation, the parties' arguments contained in both the original and supplemental briefing, and the relevant case law, the Court finds that it must uphold the Service's conclusion that the polar bear was not endangered at the time of listing under step two of the *Chevron* framework.

²⁶ While the Court is sensitive to CBD's concerns that the agency's Supplemental Explanation may constitute *post hoc* rationalization, it finds persuasive the D.C. Circuit's reasoning in *Alpharma, Inc. v. Leavitt*, 460 F.3d 1,6 (D.C. Cir. 2006), in which the court noted that it would make no sense for a court to order a remand for supplemental explanation only to then reject that explanation as *post hoc* rationalization. Moreover, the Court is persuaded that the agency's Supplemental Explanation does not constitute impermissible *post hoc* rationalization because the agency decision-makers themselves developed and approved it. See *Pub. Citizen v. FMCSA*, 374 F.3d 1209, 1218 (D.C. Cir. 2004) (noting that "[t]he expertise of the agency . . . must be brought to bear" (citation omitted)).

As an initial matter, the Court finds that the agency's general understanding that an endangered species is "on the brink of extinction" is not clearly out of line with Congressional intent.²⁷ With that said, however, the agency's general understanding of the definition of an endangered species is not the primary focus of the Court's inquiry. Rather, as the Court recognized in its remand order, the decision to list a species as threatened or endangered is highly fact-specific. See *In re Polar Bear*, 748 F. Supp. 2d at 28. On remand, the agency maintains that the facts in the administrative record show that the polar bear was not endangered as of 2008. The relevant question before this Court, therefore, is whether that conclusion was a reasonable one.

As discussed above, plaintiff CBD contends that the agency's conclusion is flawed because FWS improperly ignored or discounted relevant factors. This Court disagrees. The Court is not persuaded that the agency ignored or otherwise failed to

²⁷ The agency's determination that an endangered species is "on the brink of extinction" draws from the primary distinction between the categories of threatened and endangered species as set forth in the text of the ESA. As this Court has previously observed, there is a temporal element to the distinction between the categories of endangered and threatened species. See *In re Polar Bear*, 748 F. Supp. 2d at 26. This temporal distinction is also frequently noted in the legislative history. See *id.* at 28 (noting that the legislative history emphasizes that an endangered species "is" (currently or presently or actually) in danger of extinction, whereas a threatened species is "likely to become" so endangered).

consider any of the information cited by plaintiff CBD. All of that information - including the population modeling data and polar bear monitoring reports - is included in the voluminous administrative record that was before the agency and, indeed, much of that data was cited by the agency as a basis for designating the polar bear as a threatened species. Notably, CBD cites to the agency's findings in the Listing Rule itself for much of the evidence that it claims the agency ignored.

To the extent that CBD is asking this Court to find that FWS drew improper conclusions from the scientific information it considered, the Court declines to do so. Although the evidence emphasized by CBD is very troubling, the Court finds that the agency acted well within its discretion to weigh the available facts and scientific information before it in reaching its conclusion that the polar bear was not endangered at the time of listing.²⁸ Where an agency has exercised its Congressionally-

²⁸ Certainly, where global warming has been identified as the primary threat to the polar bear's sea ice habitat and the agency has acknowledged that the global warming trend is unlikely to reverse itself, a conclusion that the species is, in some sense, "in danger of extinction" has undeniable appeal. The USGS population models, which predict a trend of extinction across three of the four polar bear ecoregions in as little as 75 years, particularly give the Court pause. However, the Court cannot agree with CBD that the agency's conclusions based on the record, including these population models, rise to the level of irrationality. Specifically, the Court accepts as reasonable the agency's explanation that it declined to find that these preliminary, alpha-level population models, which came relatively late in the decision-making process, were

authorized discretion to weigh the relevant factors, and it has made a listing determination based on a reasoned choice, the Court will not disturb its conclusion. *See Animal Legal Def. Fund v. Glickman*, 204 F.3d 229, 235 (D.C. Cir. 2000) ("Where Congress delegates power to an agency to regulate on the borders of the unknown, courts cannot interfere with reasonable interpretations of equivocal evidence."). While CBD would have weighed the facts differently, the Court is persuaded that FWS carefully considered all of the available scientific information before it, and its reasoned judgment is entitled to deference.

Finally, the Court is satisfied that the agency has complied with its remand order to provide additional explanation for the agency's original "threatened" listing. Plaintiff CBD has identified no compelling evidence demonstrating that the agency's proffered interpretation of the ESA is manifestly contrary to the statute. Accordingly, the Court concludes that the agency's Supplemental Explanation sufficiently demonstrates that the Service's definition of an endangered species, as applied to the polar bear, represents a permissible construction of the ESA and must be upheld under step two of the *Chevron*

sufficiently persuasive to warrant an "endangered" listing for the polar bear.

framework.²⁹ See *Serono Labs. v. Shalala*, 158 F.3d 1313, 1321 (D.C. Cir. 1998) (under deferential *Chevron* framework, a court must uphold a reasonable construction of the statute, even if it believes that another interpretation is more reasonable).

2. Joint Plaintiffs' Claim that the Polar Bear Should Not Have Been Considered Threatened at the Time of Listing

The Court turns now to Joint Plaintiffs' claim that FWS similarly misinterpreted and misapplied the ESA when it concluded that the polar bear is likely to become endangered within the foreseeable future and thus qualified for threatened status at the time the agency made its listing determination. Joint Plaintiffs argue, first, that FWS failed to demonstrate that the polar bear is sufficiently "likely" to become endangered and, second, that FWS arbitrarily selected a 45-year time period as the "foreseeable future" for the polar bear, when a shorter time period would have been more appropriate. Each of these arguments is addressed in turn.

²⁹ Because the Court finds that the agency reasonably concluded that the polar bear was not in danger of extinction in any portion of its range at the time of listing, the Court will not address CBD's related argument that the Seasonal and Divergent Ice Ecoregions constitute a "significant portion" of the polar bear range. See 16 U.S.C. § 1532(6).

a. Joint Plaintiffs' Argument that the Service Failed to Demonstrate that the Polar Bear Is 67-90% Likely to Become Endangered

A threatened species under the ESA is a species that is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. § 1532(20). Joint Plaintiffs claim that FWS failed to prove that the polar bear is sufficiently "likely" to become endangered within the meaning of this definition. Specifically, Joint Plaintiffs contend that FWS failed to demonstrate a 67-90% likelihood that the polar bear will become endangered within the foreseeable future.

As an initial matter, Congress did not define the term "likely" in the ESA. FWS has not adopted regulations or other guidance defining the term. Nor has any court defined the term.³⁰ Joint Plaintiffs look instead to the IPCC's Fourth Assessment Report ("IPCC AR4"), which provides that, for the purposes of its climate models and projections, a "likely"

³⁰ The District of Oregon in *Trout Unlimited v. Lohn* is the only court to have significantly discussed the term "likely" as it appears in the ESA. 645 F. Supp. 2d 929 (D. Or. 2007). In that case, the district court declined to define the term but upheld as reasonable the National Marine Fisheries Service's interpretation of the term to mean "more likely than not." *Id.* at 944. The "more likely than not" standard has also previously been adopted by FWS in interpreting the "threatened" designation under the ESA. See *W. Watersheds Project v. U.S. Forest Serv.*, 535 F. Supp. 2d 1173, 1184 (D. Idaho 2007).

outcome is one that has a 67-90% probability of occurring.³¹ ARL 151195 n.6. Joint Plaintiffs assert that this standard of likelihood is relevant not only because FWS relied in part on the climate models in the IPCC AR4 in reaching its "threatened" determination for the polar bear, but also because FWS itself purportedly adopted this numerical standard of likelihood for the purposes of making its listing decision. In support of this argument, Joint Plaintiffs point specifically to a statement in the agency's response to comments on the proposed rule, in which FWS noted that it "attempted to use [the terms "unlikely," "likely," and "very likely"] in a manner consistent with how they are used in the IPCC AR4." ARL 117241. According to Joint Plaintiffs, therefore, this statement indicates that the agency adopted this high numerical standard of likelihood for all purposes, including statutory interpretation of the term "likely" as it appears in the ESA.³²

³¹ According to IPCC standards, a "more likely than not" outcome has a 50-66% probability of occurring. A "very likely" outcome is one that has more than a 90-95% probability of occurring; an "extremely likely" outcome has a 96-99% probability of occurring; and a "virtually certain" outcome has a greater than 99% probability of occurring. ARL 151195 n.6.

³² In their reply brief, Joint Plaintiffs raise the alternative argument that even if FWS did not specifically adopt this particular numerical standard, the Listing Rule should then be overturned because the agency failed to adopt any standard for determining whether the polar bear is "likely" to become endangered. See JP Reply, Docket No. 170, at 14. To the extent the Court considers this new argument that was raised improperly

In making this argument, it is not Joint Plaintiffs' position that FWS adopted an impermissible construction of the statute. To the contrary, Joint Plaintiffs appear to suggest that a 67-90% standard of likelihood would be reasonable. See JP Mot. at 10 (noting that 67-90% is consistent with dictionary definition of the term "likely"). Instead, Joint Plaintiffs assert that, having adopted this high standard, FWS subsequently failed to meet that standard when it relied on highly uncertain climate and population modeling. For this reason, Joint Plaintiffs conclude, the agency's determination that the polar bear is likely to become endangered was arbitrary and capricious.

The federal defendants respond that FWS did not adopt any numerical definition of the term "likely" in the Listing Rule, let alone the unreasonably high standard of 67-90%. They assert that Joint Plaintiffs have simply taken out of context a statement that was intended to refer only to the standards used to assess the reliability of climate models, which is "entirely separate from the ultimate standard under the ESA for determining whether a species meets the statutory definition of threatened based on the entirety of the available science and

for the first time on reply, the Court is persuaded that the agency articulated a reasoned basis for its listing determination for the polar bear, notwithstanding the fact that it did not purport to define the term "likely" in its Listing Rule.

the five listing factors." Fed. Def. Mot. at 56. Indeed, the federal defendants point out that the very next sentence of the agency's response to comments refers explicitly to "the limitations and uncertainties of the climate models and their projections." ARL 117241. This statement suggests that the agency intended to apply the numerical standard cited by Joint Plaintiffs only to those climate models, which are only part of a voluminous administrative record, and not more broadly. According to the federal defendants, because Joint Plaintiffs incorrectly assume that the agency adopted a quantitative definition of the term "likely," their attempt to show non-compliance with this standard must fail.³³

The threshold question before the Court, therefore, is whether FWS in fact adopted the Joint Plaintiffs' proffered numerical definition of the term "likely." Having carefully reviewed the administrative record, the Court is not persuaded that FWS adopted a numerical standard of 67-90% probability in determining whether the polar bear is "likely" to become endangered. Although the only arguable definition of the term "likely" in the Listing Rule appears in the response to comments that Joint Plaintiffs have highlighted, the Court agrees with

³³ The federal defendants also argue that, regardless of how the term "likely" could be numerically defined, the agency's determination for the polar bear easily would meet that standard.

the federal defendants that this lone statement does not demonstrate the agency's intent to adopt the IPCC's numerical standards for all purposes, including statutory construction.

Indeed, a close review of the record belies any such intention. The record reveals that FWS used the terms "likely" and "very likely" interchangeably throughout its Listing Rule. See, e.g., ARL 117245 ("Because of the habitat changes anticipated in the next 40-50 years, and the corresponding reductions in reproduction and survival, and, ultimately, population numbers, we have determined that the polar bear is likely to be in danger of extinction throughout all or a significant portion of its range by 2050." (emphasis added)); ARL 117252 ("[W]e conclude that the species is not currently in danger of extinction throughout all or a significant portion of its range, but is very likely to become so within the foreseeable future." (emphasis added)). The Court concludes that if FWS had intended to imbue these terms with the mathematical precision urged by Joint Plaintiffs for the purposes of statutory construction, it would have used these terms more deliberately.

Because the Court finds that FWS did not adopt a statutory interpretation that would require a showing that at the time of listing the polar bear had a 67-90% likelihood of becoming endangered within the foreseeable future in order to be listed

as a threatened species, the Court declines to reach Joint Plaintiffs' claim that the agency failed to make such a showing. Accordingly, the Court concludes that the Listing Rule is not arbitrary and capricious on these grounds.

b. Joint Plaintiffs' Argument that the Service Arbitrarily Selected 45 Years As the "Foreseeable Future" Timeframe for the Polar Bear

The Court turns now to Joint Plaintiffs' argument that the Service's choice of a "foreseeable future" timeframe over which the polar bear is likely to become endangered was arbitrary and capricious. In its Listing Rule, FWS defined the "foreseeable future" as "the timeframe over which the best available scientific data allow us to reliably assess the effects of threats on the polar bear," and it concluded based on record evidence that it could confidently predict potential impacts to the polar bear from sea ice losses over a 45-year period. ARL 117257. Joint Plaintiffs argue that the agency's choice of 45 years as the foreseeable future for the polar bear was arbitrary and was based on inappropriate factors.³⁴ They further contend

³⁴ Plaintiff CBD also challenges the Service's choice of a 45-year timeframe for the polar bear. Plaintiff CBD contends that the "foreseeable future" for the polar bear should be extended beyond 45 years to the year 2100. The Court finds CBD's claim perplexing. The basis of CBD's argument appears to be that impacts to the polar bear over the next 100 years were not only foreseeable at the time of listing but were also drastic enough to warrant listing the species as endangered. By definition, however, a "foreseeable future" determination is only relevant

that FWS erred when it failed to consider whether any time period shorter than 45 years would be more appropriately foreseeable. The Court will address these arguments in turn.

Joint Plaintiffs raise two significant arguments in support of their claim that the 45-year time period was arbitrarily chosen. First, Joint Plaintiffs claim that the agency's choice of a 45-year time period was inappropriately based only on biological factors (e.g., life history characteristics of the polar bear) rather than on what the agency could actually foresee. Citing to the proposed rule for the polar bear, Joint Plaintiffs assert that FWS initially chose a 45-year timeframe because it corresponds roughly to three polar bear generations.³⁵ According to Joint Plaintiffs, FWS later modified its analysis at the final rule stage in an attempt to justify its arbitrary

for threatened species. See 16 U.S.C. § 1532(20). FWS determined that impacts to the polar bear over the next 45 years were sufficiently foreseeable to warrant listing the species as threatened as of 2008. Therefore, impacts to the polar bear beyond year 45 were not relevant to the agency's listing determination.

³⁵ Joint Plaintiffs also argue that, to the extent FWS relied on biological considerations, FWS incorrectly calculated the generation length of a polar bear. As the federal defendants point out, Joint Plaintiffs never raised this point before the agency, and it is well-established in this Circuit that issues not raised before the agency are waived. See *Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 562 (D.C. Cir. 2002). Even assuming the argument is not waived, however, plaintiffs point to no evidence suggesting that a different calculation of polar bear generation length would render the agency's conclusion arbitrary and capricious.

choice by pointing to sources of scientific data, including IPCC reports and other climate projections. Second, Joint Plaintiffs argue that FWS should have considered what is "foreseeable" with respect to all five of the ESA's statutory listing factors (i.e., habitat loss, overutilization, regulatory mechanisms, disease, and other manmade factors). This kind of comprehensive review, Joint Plaintiffs argue, would have enabled the agency to make a more accurate assessment of the species' likelihood of becoming endangered because other factors may offset a foreseeable threat. Focusing specifically on regulatory mechanisms ("Listing Factor D"), Joint Plaintiffs contend that "because the Service cannot reasonably 'foresee' or predict anything about existing regulatory mechanisms in 45 years, that period is too long." JP Mot. at 14.

The federal defendants respond that FWS reasonably defined the foreseeable future as 45 years because it found that it could make confident forecasts about polar bear population trends up to that point, based on climate modeling and other reliable data. Specifically, the federal defendants assert, climate change projections from the IPCC AR4 supported a 45-year foreseeable future timeframe at the time of listing. As the federal defendants describe, model outcomes reported in the IPCC AR4, which FWS accepted as the best available science on climate change, consistently predict a certain base level of overall

warming through mid-century, regardless of whether actual emissions increase or decrease over that period. Fed. Def. Mot. at 73 (citing ARL 117279). FWS found, relying on these IPCC reports, that beyond that point the choice of emission scenario begins to influence model outcomes more significantly. See ARL 117233. According to FWS, therefore, at the time the agency made its listing decision minimum impacts to Arctic sea ice could be predicted with confidence for up to fifty years but projections became more speculative beyond that point.

As the federal defendants point out, FWS also acknowledged that a 45-year period roughly corresponds to three polar bear generations. However, according to the federal defendants, the agency found this correlation to be relevant because population status projections will generally be even more reliable if they correspond in some way to the life history characteristics of the species. See ARL 117258. Specifically, the federal defendants assert, FWS determined that population projections that can be made over multiple polar bear generations are more reliable than projections that only span one generation. The federal defendants contend that it was not irrational for FWS to rely on biological factors in this way to support its choice of a foreseeable future timeframe for its listing decision.

With respect to Joint Plaintiffs' argument that FWS erred when it failed to consider what is "foreseeable" for all five

listing factors, and particularly Listing Factor D ("existing regulatory mechanisms"), the federal defendants respond that the statute contains no such requirement. Indeed, the federal defendants assert, the "suggestion that the Service could forego listing the polar bear under Factor D based on wholly speculative and uncertain future regulatory mechanisms is contrary to the ESA." Fed. Def. Mot. at 75. Moreover, there is no evidence in the record, according to the federal defendants, that any regulatory mechanisms have been or will be implemented that would effectively address the loss of sea ice within the foreseeable future. As such, the federal defendants conclude, Joint Plaintiffs' argument lacks merit.

As with the term "likely," Congress has not defined the term "foreseeable future" under the ESA, and FWS has not promulgated any regulations or other policy guidance defining the term. At least one court has recognized that what is "foreseeable" is likely to vary from species to species depending on a number of factors and, therefore, a bright-line rule of foreseeability is inappropriate. See *W. Watersheds Project v. Foss*, No. 06-1574, 2005 U.S. Dist. LEXIS 45753, at *44-45 (E.D. Pa. Aug. 19, 2005) (noting that "the definition of 'foreseeable future' may vary depending on the particular species - for example, 'foreseeable future' may be defined differently for a sequoia tree . . . than for the slickspot

peppergrass, which is an annual or biennial plant"). In the absence of a quantitative standard, a "foreseeable future" determination is made on the basis of the agency's reasoned judgment in light of the best available science for the species under consideration. See *id.* (declining to establish a bright-line rule but noting that the agency must articulate a satisfactory explanation for its definition).

Having carefully considered the parties' arguments and the administrative record, the Court rejects Joint Plaintiffs' argument that the choice of a 45-year foreseeable future timeframe for the polar bear was arbitrary and based on improper considerations. Contrary to Joint Plaintiffs' assertions, FWS does not appear to have based its choice solely on biological factors, even at the proposed rule stage. To the extent this Court considers the agency's proposed rule, which is not the action before it on review, the Court finds that the agency sufficiently explained that its decision was based on "IUCN criteria,³⁶ the life-history and population dynamics of polar bears, documented changes to date in both multi-year and annual

³⁶ A 45-year time period for the foreseeable future is consistent with the work of the international Polar Bear Specialist Group, which reassessed the status of the polar bear in June 2005 for the purposes of the International Union for the Conservation of Nature's ("IUCN") Red List classification, a list of species considered to be threatened. ARL 117258. Although the standards for Red Listing classification differ from ESA listing standards, FWS nonetheless found the IUCN assessment to be instructive. See ARL 117254.

sea ice, and the direction of projected rates of change of sea ice in future decades," which all supported a 45-year or three-generation timeframe for the foreseeable future. ARL 59992. Moreover, the final Listing Rule indicates that the climate change projections found in the IPCC AR4 - and not biological factors - were the primary basis for the Service's determination of the foreseeable future timeframe. See ARL 117257. In light of the IPCC AR4 findings, the Court is satisfied that the agency articulated a rational basis for its choice.

The Court also rejects Joint Plaintiffs' argument that FWS erred by failing to "foresee" future developments with respect to all five listing factors over the next 45 years. Notably, Joint Plaintiffs do not contend that the ESA required FWS to conduct such an analysis; they assert only that it would have resulted in a more accurate conclusion. Here, however, a review of the Listing Rule reveals that the agency in fact took all five listing factors into account, and it considered whether those factors would affect the likelihood that the polar bear will become endangered within the foreseeable future. With respect to overutilization ("Listing Factor B"), for example, the agency found that harvest "is likely exacerbating the effects of habitat loss in several populations" and that polar bear mortality from harvest "may in the future approach unsustainable levels for several populations" as these

populations begin to experience the stresses of habitat change. ARL 117284. Further, with respect to regulatory mechanisms ("Listing Factor D"), the agency concluded that there are no known regulatory mechanisms that could effectively address the primary threat to the polar bear from future sea ice losses.³⁷ To the extent the agency was required to consider other listing factors, the Court is satisfied that FWS did so.

Finally, Joint Plaintiffs argue that even though FWS considered impacts to the polar bear over a 45-year time period to be reasonably foreseeable, FWS nonetheless erred when it failed to consider a shorter timeframe, which would likely be more foreseeable. The applicable standard, however, is not whether the agency could have taken a more reasonable approach. The agency must only show that the approach it took was a rational one. See *Env'tl. Def. Fund v. Costle*, 657 F.2d 275, 283 (D.C. Cir. 1981) ("[The APA standard] mandates judicial affirmance if a rational basis for the agency's decision is presented . . . even though [a court] might otherwise disagree."). Although Joint Plaintiffs may have less confidence

³⁷ The ESA does not require FWS to "foresee" what regulatory mechanisms will be in place in the future - it is only required to take existing regulatory mechanisms into account in its listing determination. 16 U.S.C. § 1533(a)(1)(D); *Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 26 (D.D.C. 1996); see also *Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1153-54 (D. Or. 1998).

than FWS in the conclusions that the agency reached, that is not an appropriate basis for invalidating an agency's rational choice, particularly in matters requiring scientific or technical expertise. See *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 375-77 (1989). Accordingly, the Court concludes that FWS appropriately exercised its discretion in selecting a 45-year "foreseeable future" timeframe for the polar bear.

B. The Service Articulated a Rational Basis for Its Conclusion that No Polar Bear Population or Ecoregion Qualifies As a "Distinct Population Segment"

Whereas plaintiff CBD and Joint Plaintiffs primarily focus on the question of whether the polar bear warranted endangered or threatened status throughout its range in 2008, a subset of plaintiffs argue, in the alternative, that FWS should have differentiated among the various polar bear populations and/or ecoregions according to their relative levels of risk in making its listing decision. Specifically, plaintiffs CBD, SCI, and CF assert that FWS erred when it declined to designate any polar bear population or ecoregion as a distinct population segment ("DPS") under the ESA, which would have allowed the agency to tailor ESA protections more narrowly. The common question presented by these three plaintiffs is whether FWS arbitrarily determined that no polar bear population or ecoregion is

sufficiently "discrete" for the purposes of a DPS designation.³⁸
The Court turns now to that question.

1. The Service's Policy

The term "species" as it is used in the ESA includes "any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(16) (emphasis added). Congress did not further define the term "distinct population segment," nor is the term defined in scientific discourse. In 1996, however, FWS and NMFS jointly promulgated a "Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act" ("DPS Policy"), 61 Fed. Reg. 4722 (Feb. 7, 1996), which provides

³⁸ In a related claim, plaintiffs SCI and CF further assert that FWS arbitrarily failed to consider using its authority to list the polar bear in only part of its range. Essentially, these plaintiffs claim that FWS erred by failing to consider whether any portion of the polar bear range did not warrant listing as threatened. The Court concludes that this claim has no merit. As a threshold matter, in light of recent court opinions, it is unclear whether the agency has the authority to list a species in only a portion of its range without going through the process of a DPS designation. See generally Federal Defendants' Notice of Withdrawal of M-37013, Docket No. 258 (citing *Defenders of Wildlife v. Salazar*, 729 F. Supp. 2d 1207 (D. Mont. 2010)). Further, the Court finds that FWS sufficiently considered whether any portion of the polar bear population did not warrant listing under the ESA. This assessment is implied in the agency's conclusion that the polar bear did warrant listing throughout its range. FWS provided ample explanation in its Listing Rule for why polar bears range-wide are likely to become endangered within the foreseeable future and, as a result, warranted at least a "threatened" designation. The Court is therefore persuaded that FWS did not arbitrarily fail to consider this issue.

guidance to both agencies in applying the term "distinct population segment" for the purposes of an ESA listing. Pursuant to this policy, FWS may designate a DPS to avoid listing an entire species where only a portion of its population warrants ESA protections. See *Nat'l Ass'n of Home Builders v. Norton*, 340 F.3d 835, 842 (9th Cir. 2003).

The DPS Policy outlines three elements to be considered in evaluating a possible DPS:

1. The discreteness of the population segment in relation to the remainder of the species to which it belongs;
2. The significance of the population segment to the species to which it belongs; and
3. The population segment's conservation status in relation to the Act's standards for listing

DPS Policy, 61 Fed. Reg. at 4725. These considerations are to be evaluated sequentially - i.e., FWS must first determine that the population segment is discrete before it can consider whether that segment is also significant. *Id.* If, however, a population segment is found to be both discrete and significant, FWS may consider whether that segment is threatened or endangered as defined by the ESA. *Id.*

A population segment is "discrete" when it satisfies either one of the following conditions:

1. It is "markedly separated" from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological

discontinuity may provide evidence of this separation.

2. It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of [the five ESA listing factors].

Id. The test for discreteness under the agencies' DPS Policy is not intended to be particularly rigid. *Id.* at 4724. For example, it does not require absolute reproductive isolation but allows for some interchange among population segments. *Id.* The purpose of the distinctness criterion is merely to ensure that a DPS can be reasonably defined and described in order to ensure effective administration and enforcement of the Act. *Id.*

Nonetheless, both the "discreteness" criterion and the "significance" criterion were adopted to ensure that FWS uses its authority to list DPS's "sparingly," at the urging of Congress. *Id.* at 4725 (citing S. Rep. No. 96-151, at 7 (1979)). DPS designation is primarily intended to enable protection and recovery of declining organisms in a more timely and less costly manner, and on a smaller scale, than would be required for an entire species or subspecies. DPS Policy, 61 Fed. Reg. at 4725. It is not a tactic for subdividing a larger population that FWS has already determined, on the same information, warrants listing across a larger range. *See Friends of the Wild Swan v. U.S. FWS*, 12 F. Supp. 2d 1121, 1133 (D. Or. 1997).

At least two courts have acknowledged that the term "distinct population segment" in the ESA is ambiguous, and, therefore, the agency's interpretation and application of that term falls within step two of a *Chevron* analysis and is entitled to deference. See *Nw. Ecosystem Alliance v. U.S. FWS*, 475 F.3d 1136, 1141-43 (9th Cir. 2007); *State of Maine v. Norton*, 257 F. Supp. 2d 357, 385 (D. Me. 2003). Both courts upheld the agency's 1996 DPS Policy as a reasonable interpretation of the ESA.³⁹ *Nw. Ecosystem Alliance*, 475 F.3d at 1145; *State of Maine v. Norton*, 257 F. Supp. 2d at 387.

2. Plaintiffs CBD, SCI, and CF's Claim that the Service Wrongly Concluded that No Polar Bear Population or Ecoregion Is "Discrete"

In its Listing Rule, FWS considered whether any distinct population segments exist for the polar bear. As an initial matter, FWS considered whether any polar bear population or ecoregion is "discrete" within the meaning of its DPS Policy. The agency determined that, while different populations exhibit minor differences of behavior, genetics, and life-history parameters, no population or geographic area is markedly separated as a consequence of physical, physiological, ecological, or behavioral factors. ARL 117298. In the Service's estimation, the minor differences between individual

³⁹ The DPS Policy itself has not been challenged by any party in this case and is not before this Court on review.

populations and ecoregions do not outweigh the similarities that are most relevant to the polar bear's conservation status - in particular, the species' universal reliance on sea ice habitat for critical life functions. ARL 117298. As the federal defendants note, "[w]hile polar bears adopt different strategies to deal with the seasonal absence of sea-ice . . . their response to declining sea ice is essentially the same, with the same negative result: they suffer nutritional stress because they spend longer amounts of time outside of their preferred sea-ice habitats where seals are accessible." Fed. Def. Mot. at 104 (citing ARL 117274). Accordingly, FWS concluded that no portion of the polar bear population is sufficiently "discrete" to qualify for designation as a DPS.

Plaintiffs CBD, CF, and SCI contend that, contrary to record evidence, FWS arbitrarily determined that no polar bear population is "markedly separated" from other populations.⁴⁰ In

⁴⁰ In addition to its claim that FWS reached a conclusion that is contrary to the evidence, CBD raises two additional claims: (1) that the agency failed to consider behavioral differences among the polar bear populations; and (2) that the agency failed to consider whether any ecoregion qualifies as a DPS. The Court cannot agree that the agency failed to consider either issue. First, FWS did acknowledge behavioral differences among polar bear populations but deemed these differences to be minor in comparison to their relevant similarities. See ARL 117298. Second, FWS appears to have considered whether any polar bear population segment - including ecoregions - qualifies as a DPS:

Although polar bears within different populations or ecoregions (as defined by Amstrup et al. 2007) may

support of their argument, plaintiffs point to evidence from the record which purportedly demonstrates that USGS scientists, polar bear experts, and the MMC all have identified distinctions among the world's polar bear populations and, particularly, the four ecoregions. In light of this record evidence, plaintiffs argue that the Service's conclusion that there is no marked separation among polar bear population groups was irrational.

Plaintiff CBD points primarily to comments from various reviewers suggesting that the draft final listing rule did not adequately reflect the importance of the ecoregion structure for polar bears. For example, USGS reviewers noted:

An important, and fairly emphatic, conclusion from the body of 2007 USGS work was that the life-history dynamics, demography, and present and future status of polar bears in the 4 ecoregions are different, owing largely to different ice dynamics, its spatiotemporal availability, how it has responded to global warming and how it is predicted to respond in the future. In these Ecoregions, the relationships between polar bears and their sea ice habitat are fundamentally different.

See CBD Mot. at 38 (citing ARL 88920).

have minor differences in demographic parameters, behavior, or life history strategies, in general polar bears have a similar dependence upon sea ice habitats, rely upon similar prey, and exhibit similar life history characteristics throughout their range.

ARL 117298 (emphasis added). Finally, FWS separately determined that the polar bear was not endangered in any portion of its range at the time of listing, including three specific populations and at least two ecoregions. See ARL 117299-301.

USGS commenters also rejected the agency's assessment in the draft final rule that "there are no morphological, or physiological differences across the range of the species that may indicate adaptations to environmental variations." CBD Mot. at 38 (citing ARL 96589). In response to this statement, USGS reviewers wrote:

This statement does not seem to us to be true. We do see unique life history components that are related to where a polar bear lives within the overall range. That is, the polar bears in the seasonal ice ecoregion come ashore and fast for 4-8 months while polar bears in the polar basin may be on ice and never come to land - they may den on ice. . . . This statement seems to contradict the ecoregion idea - that there are some major differences in the ice regimes that do influence how polar bears make a living in the different parts of their range.

ARL 96841.

One particularly troubling comment that CBD highlights is USGS's statement that "a careful reading of Amstrup et al (2007) [the polar bear status report that formed the basis for the Listing Rule] might lead to a different conclusion than that reached by the Service." ARL 101097. USGS goes on:

Taken at face value, the outcomes from the Bayesian Network Modeling are that polar bear populations living in the Seasonal and Divergent ecoregions are most likely extinct within the foreseeable future The fates of the populations living in the Convergent and Archipelago ecoregions are different, with a much smaller probability of being smaller than the present or extinct. The Draft Final Rule does not clearly articulate the scientific reasoning behind dismissing an "endangered" designation for parts of the range How did the scientific evidence lead

to the status determination of "threatened" vs "endangered"?

ARL 101097 (emphasis added).⁴¹

The federal defendants respond that FWS reached a reasonable conclusion, even in light of this record evidence. The defendants assert that, on balance, the agency found that there are no significant morphological or physiological differences (i.e., differences in physical form or function) among polar bears that indicated physical, evolutionary adaptations to environmental differences in the particular areas, and that the small genetic differences among polar bears in different areas are "not sufficient to distinguish population segments." ARL 117298. According to defendants, the record does not show the "marked separation" among either populations

⁴¹ Plaintiff CBD also points to a 2008 report from Canadian polar bear researchers, which concluded that polar bears may be appropriately managed in "designatable units." ARL 127663. The Canadian Species at Risk Act ("SARA"), like the ESA, allows for the protection of sub-units of species that are genetically and/or geographically distinct (so-called "designatable units" or "DUs"). ARL 127663. The authors of this Canadian study noted that "polar bears belong to ecosystems that differ fundamentally in their structure and functioning (e.g., sea ice regime, biological productivity, prey species and availability, etc.). . . . Thus, it appears that, although all polar bears in Canada belong to a single species they do not share a single, uniform conservation status." ARL 127668. On this basis, the authors recommended analyzing the Canadian polar bear population in terms of five distinct genetic units that also represent distinct ecological and geographic groups. ARL 127680. Plaintiff CBD cites to this study as further evidence that polar bear populations are sufficiently distinct to qualify for designation as DPS under the ESA.

or ecoregions that is a pre-requisite for designating a DPS. Therefore, the defendants contend, FWS reasonably concluded that no polar bear population or ecoregion is "discrete," applying the standards set out in the agency's DPS Policy.

3. The Court's Analysis

Having carefully considered the parties' arguments and the administrative record, the Court finds that it must defer to the agency's application of its DPS Policy. The Court notes that, as FWS has acknowledged, there are some recognized differences among polar bear ecoregions and even some differences from population to population. Each population is apparently distinguishable enough to be identified as discrete for management purposes, and the boundaries of these populations have been identified and confirmed over decades of scientific study and monitoring. See ARL 139247. Nonetheless, while these recognized distinctions would seem to be enough to satisfy the minimal criterion that a DPS must be "adequately defined and described," 61 Fed. Reg. at 4724, the Court is not persuaded that the agency's contrary conclusion rises to the level of irrationality.

The Court recognizes that FWS has adopted a formal policy for designating a DPS, which was promulgated through notice-and-comment rulemaking and has been expressly upheld as reasonable by at least two other courts. Relying on this policy, FWS

engaged in weighing the facts to determine whether or not any polar bear population segment is "markedly separated" from other populations. The Court finds that FWS articulated a reasonable basis for its conclusion that no polar bear population or ecoregion is meaningfully "discrete" for the purposes of DPS designation: even if there are behavioral differences among polar bear population segments, polar bears are universally similar in one crucial respect - namely, their dependence on sea ice habitat and negative response to the loss of that habitat. The Court must defer to the agency's reasoned conclusion. See *Env'tl. Def. Fund v. Costle*, 657 F.2d at 283.⁴² Accordingly, the

⁴² Further, the only case law cited by any party on this issue weighs in favor of deference to the agency. In an unpublished decision, the Ninth Circuit upheld the Service's finding that interior mountain quail are not sufficiently discrete from the remainder of the population to warrant listing as a DPS. *W. Watersheds Project v. Hall*, 338 Fed. Appx. 606, 608 (9th Cir. 2009). Despite significant record evidence showing that the mountain quail is geographically and ecologically isolated from other quail, the lower court nonetheless upheld the Service's finding that no mountain quail population is "discrete" because there is no "physical barrier" that precludes intermixing among populations. *W. Watersheds Project v. Hall*, No. 06-0073, 2007 U.S. Dist. LEXIS 70710, at *11-13 (D. Idaho 2007). The appellate court affirmed the district court's finding that FWS had articulated a rational connection between the facts found and the agency's conclusion that there was no "marked separation" among quail populations. *W. Watersheds Project*, 338 Fed. Appx. at 608. In that case, both courts upheld the Service's determination as rational, even in the face of significant countervailing facts.

Court concludes that FWS reasonably declined to designate any polar bear population or ecoregion as a DPS.⁴³

C. The Service Did Not Arbitrarily Fail to Consider Other Listing Factors

Plaintiffs also argue that the Listing Rule should be overturned because of deficiencies in the Service's analysis of several of the listing factors the ESA requires the agency to consider. First, Joint Plaintiffs contend that FWS arbitrarily and capriciously failed to adequately "take into account" foreign conservation efforts, as required by 16 U.S.C. § 1533(b)(1)(A) ("§ 1553(b)(1)(A)"). Second, Joint Plaintiffs contend that FWS arbitrarily and capriciously failed to demonstrate that it relied upon the "best available science," which is also required by § 1533(b)(1)(A). Third, plaintiff CBD contends that FWS arbitrarily and capriciously failed to find

⁴³ Plaintiffs CF and SCI assert that because the polar bear species is clearly "delimited by international boundaries," FWS should have concluded that polar bear populations are discrete on this basis as well. See CF Mot. at 14. In its Listing Rule, FWS considered whether international boundaries might satisfy the discreteness requirement of the DPS Policy. The agency concluded that differences in management across the polar bear's range do not qualify any polar bear population segment as "discrete" because each range country shares management obligations with other range countries and, therefore, the differences in management between polar bear populations are not significant. Moreover, the agency noted that any differences in management across international boundaries are irrelevant because the threat of sea ice loss is a global one that cannot be limited to or managed by one country alone. ARL 117298. The Court declines to find that this conclusion was irrational.

that overharvest or overutilization is a significant threat to polar bear populations ("Listing Factor B"). Finally, Joint Plaintiffs contend that FWS arbitrarily and capriciously concluded that regulatory mechanisms (both existing and future) are insufficient to protect the polar bear despite the threat of substantial habitat losses ("Listing Factor D"). Each of these claims is addressed in turn.

1. Joint Plaintiffs' Claim that the Service Failed to "Take Into Account" Foreign Conservation Efforts to Protect the Polar Bear

The ESA requires that any listing decision must be made

solely on the basis of the best scientific and commercial data available . . . after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas.⁴⁴

16 U.S.C. § 1533(b)(1)(A) (emphasis added). Joint Plaintiffs contend that FWS failed to satisfy this requirement primarily because it did not devote a separate section of its Listing Rule to an assessment of foreign conservation programs that impact polar bears, particularly Canadian sport-hunting programs.

⁴⁴ As the parties acknowledge, Congress did not define the phrase "taking into account," nor has it been defined or otherwise clarified by regulation, by agency policy, or by any court.

In its supplemental memorandum, plaintiff CF takes this essentially procedural argument a step further. Relying on a dictionary definition of the phrase "to take into account," plaintiff CF contends that FWS was required not only to "consider" but also to "allow for" the existence of foreign conservation programs. See CF Mot. at 8. In other words, CF contends that FWS is required to ensure that existing conservation efforts are not negatively impacted by its listing decisions.

CF contends that Congress specifically intended to encourage sport trophy hunting through the ESA. According to CF, Congressman John Dingell envisioned this goal when he introduced the ESA as a bill in 1973. CF asserts that Rep. Dingell described the Act as having been

carefully drafted to encourage . . . foreign governments to develop healthy stocks of animals occurring naturally within their borders. If these animals are considered valuable as trophy animals . . . they should be regarded as a potential source of revenue to the managing agency and they should be encouraged to develop to the maximum extent compatible with the ecosystem upon which they depend.

CF Mot. at 10 (citing ARL 152657). Further, CF asserts that the House of Representatives "clearly elucidated its intent" when it explained:

[T]he section requires the Secretary to give full consideration to efforts being currently made by any foreign country to protect fish or wildlife species within that country, in making a determination as to

whether or not those species are endangered or threatened. There is provided ample authority and direction to the Secretary to consider the efforts of such countries in encouraging the maintenance of stocks of animals for purposes such as trophy hunting.

CF Mot. at 9 (citing H. Rep. No. 93-412, at 150 (1973)). CF contends that this passage represents a consensus on the agency's "obligation to support the use of trophy hunting to pursue conservation goals." CF Mot. at 9.⁴⁵

The federal defendants generally respond that FWS adequately "took into account" the conservation efforts being made in the polar bear range countries - both regulatory and non-regulatory - and concluded that none of those efforts offsets or significantly reduces the primary threat to the polar bear's survival: loss of sea ice habitat. See Fed. Def. Mot. at 142 (citing ARL 117246). According to the defendants, this is all the ESA requires.

⁴⁵ According to CF, its reading of the ESA also makes sense because trophy hunting programs are essential to the efficacy of the statute. These programs purportedly provide a useful lever by which the United States can exercise its influence to accomplish conservation goals in countries that are beyond the ESA's reach. Specifically, CF contends that the United States can encourage a foreign country to comply with ESA conservation standards (and thus protect a species that is endangered outside our borders) by threatening the country with import restrictions, so long as that country has an economically valuable and viable trophy hunting program. CF contends that Congress intended to use trade to manage the actions of foreign individuals and nations in this way. Therefore, CF concludes, all listing decisions must take foreign programs into account by ensuring that those programs remain an effective tool for furthering conservation goals.

Having carefully considered the parties' arguments and the administrative record, this Court agrees with the federal defendants. Although an explicit finding might have been clearer, the Court is satisfied that FWS sufficiently considered conservation efforts in the polar bear range countries before it decided to list the polar bear as threatened range-wide. As part of its analysis of Listing Factor B, the agency discussed harvest management programs in each of the range countries, along with the relevant conservation benefits of those programs. FWS also addressed the conservation and economic benefits of polar bear sport-hunting programs in its response to comments on the Listing Rule. See ARL 117240. As part of its analysis of Listing Factor D, the agency enumerated the regulatory mechanisms that govern polar bears in each of the range countries - including legal protections and on-the-ground habitat protections - as well as bilateral and multilateral agreements and overarching international frameworks that govern management of the polar bear range-wide, such as the 1973 Agreement on the Conservation of Polar Bears and the Convention on International Trade in Endangered Species ("CITES"). See ARL 117285-92. Beyond sport-hunting programs and regulatory mechanisms, FWS also considered voluntary agreements between indigenous peoples for jointly managing polar bear populations,

national parks and nature reserves, and a variety of other foreign conservation efforts.

Joint Plaintiffs have not identified a single foreign conservation effort that FWS failed to take into account. Indeed, Joint Plaintiffs have not even explained why the agency's exhaustive analysis is deficient, except to say that the agency did not expressly state that it was taking foreign conservation efforts "into account." The Court declines to invalidate the Listing Rule on this basis.

The Court also rejects plaintiff CF's related claim that the agency was obligated to avoid making a listing decision for the polar bear that would negatively impact sport-hunting programs. Although CF has cited some isolated passages from the legislative history that express support for trophy hunting programs, neither the statute itself nor its legislative history makes clear that the ESA requires FWS to avoid making listing decisions that might affect those programs.⁴⁶ Rather, the ESA

⁴⁶ In fact, the Court notes that in the quote from Congressman Dingell that plaintiff CF frequently cites for support, plaintiff repeatedly and disingenuously omits key language. In full, this quote reads: "If these animals are considered valuable as trophy animals and they are not endangered they should be regarded as a potential source of revenue to the management agency[.]" Comm. on Env't and Public Works, 97th Cong., *A Legislative History of the Endangered Species Act of 1973, as Amended in 1976, 1977, 1978, and 1981*, at 195 (1982) (emphasis added). This statement would suggest that the agency may promote trophy hunting programs only to the extent that those programs do not impact a listed species.

only requires the agency to consider how foreign conservation efforts might impact the decision to list a particular species as threatened or endangered. See 16 U.S.C. § 1533(b)(1)(A) (requiring the Secretary to make listing decisions "solely on the basis of the best scientific and commercial data available . . . after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas.").⁴⁷ That is

⁴⁷ Similarly, the 1973 House Report cited by plaintiff CF states that ESA Section 4(b) "requires the Secretary to give full consideration to efforts being currently made by any foreign country to protect fish or wildlife species within the country, in making a determination as to whether or not those species are endangered or threatened." H. Rep. No. 93-412, at 11 (1973) (emphasis added). The Court notes that this is the same interpretation adopted by FWS in its "Policy for Evaluation of Conservation Efforts When Making Listing Decisions" ("PECE Policy"), which specifies the conditions under which FWS may consider conservation efforts that have not yet been implemented. 68 Fed. Reg. 15,100, 15,100 (March 28, 2003) ("While the Act requires us to take into account all conservation efforts being made to protect a species, the policy identifies criteria we will use in determining whether formalized conservation efforts that have yet to be implemented or to show effectiveness contribute to making listing a species as threatened or endangered unnecessary." (emphasis added)). This is also the very same interpretation set out in those listing decisions that Joint Plaintiffs cite as examples of where the agency properly took foreign conservation programs into account. Proposed Status for DPS of Rockfish in Puget Sound, 74 Fed. Reg. 18,516, 18,537 (Apr. 23, 2009) ("Section 4(b)(1)(A) of the ESA requires the Secretary of Commerce to take

exactly what FWS did here. After considering a variety of foreign conservation efforts, FWS concluded that, while these efforts may have been sufficient to protect the species from overharvest and disturbance, they will not be sufficient to offset sea ice loss, which is the primary threat to the polar bear's survival, and thus these efforts did not affect the agency's conclusion that the polar bear warranted listing under the ESA. See ARL 117292. This is all the statute requires. Accordingly, the Court concludes that the agency properly discharged its duty under § 1533(b)(1)(A) to take foreign conservation programs into account.

2. Joint Plaintiffs' Claim that the Service Failed to Rely upon the "Best Available Science"

Joint Plaintiffs argue that FWS also failed to demonstrate that it relied upon the "best scientific and commercial data available," as required by § 1533(b)(1)(A). Joint Plaintiffs put forward the following three arguments in support of this claim: First, they contend that climate change science and

into account efforts being made to protect a species that has been petitioned for listing. Accordingly, we will assess conservation measures being taken to protect these six rockfish DPSs to determine whether they ameliorate the species' extinction risks." (emphasis added); Status Determination for the Gulf of Maine DPS of Atlantic Salmon, 74 Fed. Reg. 29,344, 29,377 (June 19, 2009) ("We then assess existing efforts being made to protect the species to determine if these conservation efforts improve the status of the species such that it does not meet the ESA's definition of a threatened or endangered species." (emphasis added)).

predictions related to sea ice loss at the time the agency made its listing decision were too uncertain to support the agency's conclusion that polar bears are threatened. Second, they point to weaknesses in the carrying capacity and Bayesian Network models developed by USGS and claim that these models were likewise insufficient to support the agency's listing determination. Third, and finally, Joint Plaintiffs assert that FWS ignored all but five years of data for the Southern Beaufort Sea polar bear population and drew improper scientific conclusions from this limited data set. The Court will address each of these arguments in turn.

a. Joint Plaintiffs' Argument that Climate Science Is Too Uncertain to Support the Service's Conclusion

First, Joint Plaintiffs contend that the polar bear did not warrant listing under the ESA at the time of listing because the administrative record shows "tremendous uncertainty" about the nature and extent of future global climate change and the impact of any such change on the Arctic ecosystem and on the polar bear. JP Mot. at 17. Specifically, Joint Plaintiffs point to a 2007 "Uncertainty Report" from the administrative record, which notes that "uncertainty in projections of Arctic climate change is relatively high" as a consequence of its smaller spatial scale and high sensitivity to climate change impacts and the complex processes that control ice development. See JP Mot. at

18 (citing ARL 128805). Further, Joint Plaintiffs note that the IPCC reports themselves, which are widely acknowledged to be the definitive source of modern climate change knowledge, indicate that complex systems like the Arctic are "inherently unpredictable" and have "high scientific uncertainties," which range from "inadequate scientific understanding of the problem, data gaps and general lack of data to inherent uncertainties of future events in general." JP Mot. at 19 (citing IPCC's Special Report on Emissions Scenarios Section 1.2, Box 1-1: Uncertainties and Scenario Analysis, <http://grida.no/climate/ipcc/emission/025.htm>). This inherent uncertainty, according to Joint Plaintiffs, is compounded by the predictive nature of the USGS forecasting reports, which attempt to forecast sea ice conditions up to 100 years into the future on the basis of mathematical modeling that cannot replicate the complex Arctic system.

Joint Plaintiffs contend that FWS failed to explain how, despite the high degree of uncertainty in climate science, it nonetheless found that polar bears are "likely" to be in danger of extinction within the foreseeable future.⁴⁸ According to

⁴⁸ As discussed above, according to Joint Plaintiffs, the proper standard for determining whether the polar bear is "likely" to become endangered is 67-90% likelihood. However, as the Court has concluded, FWS did not adopt such a high standard and thus need not demonstrate that it met that high standard.

Joint Plaintiffs, the uncertainty surrounding future climate change impacts should have prevented FWS from being able to discern any such trend with confidence. JP Mot. at 20-21 (citing *Bennett v. Spear*, 520 U.S. 154, 176 (1997) ("The obvious purpose of the requirement that each agency 'use the best scientific and commercial data available' is to ensure that the ESA not be implemented haphazardly, on the basis of speculation or surmise.")).

The federal defendants respond that Joint Plaintiffs' arguments must fail as a matter of law because they incorrectly assume that scientific certainty (or even a "high degree" of certainty) is required before the Service may list a species as threatened under the ESA. The federal defendants point out that Joint Plaintiffs have neither challenged the IPCC reports directly nor identified better climate change data. Joint Plaintiffs merely assert that the available climate science at the time of listing was "too uncertain" for the Service to rely upon, a position which the federal defendants contend is contrary to D.C. Circuit precedent. See *Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F. 3d 58, 60 (D.C. Cir. 2000) (finding that the Service is required to rely on the best available scientific data, even if that data is "quite inconclusive").

The federal defendants further respond that Joint Plaintiffs have overstated the uncertainty of climate change

science. According to the federal defendants, mainstream climate science at the time of listing, as reflected in the IPCC AR4, accepted that further global and regional Arctic warming is very likely to occur, based on the levels of greenhouse gases in the atmosphere and those likely to be emitted. See Fed. Def. Mot. at 81 (citing ARL 152436; ARL 151205). Moreover, the federal defendants contend that FWS found that any uncertainty in climate change projections could be reduced by considering an "ensemble" of climate change models - in other words, by averaging the results of a group of models that most closely reflect actual observed conditions - and it did so here. See Fed. Def. Mot. at 81 (citing ARL 117232; ARL 128806). According to the federal defendants, uncertainties surrounding climate change impacts did not prevent the Service from making a credible assessment of the likely direction and magnitude of those impacts, even if it was not possible to make such predictions with precision.

Having considered the parties' arguments, the Court agrees with the federal defendants. Joint Plaintiffs' claim boils down to an argument that the available data were not certain enough to adequately support the outcome of the agency's listing decision for the polar bear. It is well-settled in the D.C. Circuit that FWS is entitled - and, indeed, required - to rely upon the best available science, even if that science is

uncertain or even "quite inconclusive." *Sw. Ctr. for Biological Diversity*, 215 F. 3d at 60. The "best available science" requirement merely prohibits FWS from disregarding available scientific evidence that is better than the evidence it relied upon. *Id.* (citing *City of Las Vegas v. Lujan*, 891 F.2d 927, 933 (D.C. Cir. 1989)); see also *Building Indus. Ass'n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001) ("Assuming the studies the Service relied on were imperfect, that alone is insufficient to undermine those authorities' status as the 'best scientific . . . data available' [T]he Service must utilize the 'best scientific . . . data available,' not the best scientific data possible."). Joint Plaintiffs have pointed to no information that was superior to the IPCC AR4 reports at the time the agency made its listing decision. The Court declines to find that it was arbitrary for the agency to rely upon what were generally accepted to be the best available climate change data at the time the agency made its listing decision, particularly when the agency also took steps to reduce uncertainty to the extent feasible.

Moreover, an agency is entitled to particular deference where it has drawn conclusions from scientific data. *Ethyl Corp.*, 541 F.2d at 36. As this Court has observed, "some degree of speculation and uncertainty is inherent in agency decisionmaking" and "though the ESA should not be implemented

'haphazardly' . . . an agency need not stop in its tracks when it lacks sufficient information." *Oceana v. Evans*, 384 F. Supp. 2d 203, 219 (D.D.C. 2005) (citing cases). Notwithstanding a handful of references to uncertainty that appear in record documents, Joint Plaintiffs have failed to persuade this Court that FWS implemented the ESA "haphazardly." Accordingly, the Court concludes that FWS did not act arbitrarily in relying on and drawing reasonable conclusions from the IPCC reports and climate models in making its listing determination for the polar bear.

b. Joint Plaintiffs' Argument that the USGS Population Models Do Not Support the Service's Conclusion

Second, Joint Plaintiffs contend that FWS similarly failed to demonstrate a rational connection between the USGS population models and the conclusions that the agency drew from those models. Specifically, Joint Plaintiffs assert (i) that the two USGS population models FWS considered - the carrying capacity and Bayesian Network models - are fundamentally flawed, (ii) that FWS failed to address the shortcomings of both models in its Listing Rule, and (iii) that the agency also failed to explain how these models sufficiently support its listing decision.

Joint Plaintiffs identify two primary flaws with the carrying capacity model: first, that the term "carrying

capacity" is misleading because USGS did not use the term according to its traditional definition,⁴⁹ and second, that the model improperly assumes that current estimated polar bear densities will remain constant through time, an assumption which USGS itself admitted is "'almost certainly not valid.'" See JP Mot. at 28 (quoting ARL 82463). As a result, Joint Plaintiffs contend that the carrying capacity model gives a false impression that every unit change in sea ice habitat will result in a corresponding unit change in polar bear population numbers. With regard to the Bayesian Network model, Joint Plaintiffs point out that the model was only at a preliminary stage at the time of listing because it was developed based on the input of only one polar bear expert and, therefore, requires further development before it can be considered reliable.

As an initial matter, the federal defendants respond that Joint Plaintiffs focus too narrowly on the weaknesses of these two models. These models were not the sole basis for the agency's listing decision; rather, the federal defendants contend that FWS merely found that these two models were consistent with the other record evidence before it, including published literature and the opinions of numerous peer

⁴⁹ The traditional definition of the term "carrying capacity" refers to "[t]he maximum number of individuals that a given environment can support without detrimental effects." JP Mot. at 28 (quoting *American Heritage Dictionary of the English Language* (4th ed. 2009)).

reviewers. As a legal matter, the federal defendants note, the question is not whether these two models alone support the agency's decision but instead whether the agency's decision is supported by the record as a whole. See Fed. Def. Mot. at 85 (citing *Van Valin v. Locke*, 671 F. Supp. 2d 1, 8 (D.D.C. 2009)). Here, according to the federal defendants, the full record adequately supports the agency's listing decision.

In any event, the federal defendants contend that FWS fully disclosed the weaknesses in both models and discounted them accordingly by relying only upon their general direction and magnitude and that FWS was entitled to draw reasonable conclusions from the USGS population models, despite their acknowledged flaws. According to the federal defendants, these models were the best available scientific information of their kind when FWS made its listing decision, and the law requires the agency to consider them. Fed. Def. Mot. at 87 (citing *Building Indus. Ass'n*, 247 F.3d at 1246). The federal defendants further note that it is well-settled that an expert agency has wide latitude to consider and weigh scientific data and information within its area of expertise. Fed. Def. Mot. at 90 (citing *Am. Bioscience v. Thompson*, 269 F.3d 1077, 1083 (D.C. Cir. 2001)).

Having considered the parties' arguments, the Court concludes that Joint Plaintiffs' second argument must also fail.

Despite plaintiffs' criticisms, they have not, in fact, challenged the USGS models as the best available science of their kind at the time of listing. Instead, Joint Plaintiffs appear to take the position that FWS should have drawn different conclusions from these models or, indeed, disregarded them entirely. The Court cannot agree.

Again, it is well-settled in the D.C. Circuit that an agency must rely upon the best available science, even if that science is imperfect. *See Building Indus. Ass'n*, 247 F.3d at 1246.⁵⁰ Moreover, Joint Plaintiffs have failed to demonstrate that FWS drew wholly arbitrary conclusions from the USGS population models. As this Court has observed, "[t]here is nothing inherently problematic about using predictions of population trends to analyze the status of a species. . . ." *Oceana, Inc. v. Evans*, 384 F. Supp. 2d 203, 221 n.21 (D.D.C. 2005). FWS candidly acknowledged the weaknesses in both models and tempered its reliance on them accordingly, as it is

⁵⁰ The Court notes, further, that although the "best available science" mandate does not require FWS to generate new scientific data, *see Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 59, 60-61 (D.C. Cir. 2000), FWS essentially did so here when it commissioned USGS to conduct additional analysis, including these population models. The federal defendants point out that population modeling data is not required for a listing decision and in many cases this type of data is not available. *See Fed. Def. Reply* at 49, n.22. The Court declines to find that it was irrational for FWS to consider available population models, even if they were imperfect.

permitted to do in weighing scientific information. See *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983) (noting that a reviewing court must be "at its most deferential" when examining conclusions made "at the frontiers of science"); see also *Int'l Fabricare Inst. v. EPA*, 972 F.2d 384, 389 (D.C. Cir. 1992) ("The rationale for deference is particularly strong when the [agency] is evaluating scientific data within its technical expertise: '[I]n an area characterized by scientific and technological uncertainty[,]. . . this court must proceed with particular caution, avoiding all temptation to direct the agency in a choice between rational alternatives.'" (quoting *Env'tl. Def. Fund v. Costle*, 578 F.2d 337, 339 (D.C. Cir. 1978))).⁵¹ Given the deference courts must grant to an

⁵¹ In their opening brief, Joint Plaintiffs argue that the FWS improperly relied upon the USGS population models because these models bear no "rational relationship" to the reality that they are purported to represent. JP Mot. at 27 (citing *Greater Yellowstone Coal. v. Kempthorne*, 577 F. Supp. 2d 183, 198 (D.D.C. 2008) ("[A] model must be rejected as arbitrary and capricious 'if there is simply no rational relationship between the model and the known behavior of [the items] to which it is applied.'" (internal citation omitted)). In their reply brief, however, Joint Plaintiffs clarify that they do not challenge the agency's choice of models; rather, they challenge the Service's application of those models. See JP Reply at 36. To the extent Joint Plaintiffs have challenged the Service's choice of models, they have failed to show that the carrying capacity and Bayesian Network models are not "rationally related" to the reality they purport to represent, and as such their citation to *Greater Yellowstone Coalition* is inapt. In *Greater Yellowstone Coalition*, this Court rejected sound level modeling that was at odds with recorded sound levels and that formed the exclusive basis for the agency's snowmobile plan. 577 F. Supp. 2d at 198-

agency in this area, this Court declines to find that the agency's reliance on and evaluation of the USGS population models was arbitrary and capricious.

c. Joint Plaintiffs' Argument that the Service Ignored Scientific Data and Made Improper Findings Regarding the Southern Beaufort Sea Population

As noted above, in its Listing Rule FWS relied in part on long-term studies of the Southern Beaufort Sea population as evidence suggesting that polar bears experience nutritional stress as a result of sea ice loss. Joint Plaintiffs challenge the Service's specific findings as to the Southern Beaufort Sea population. Joint Plaintiffs raise three arguments: (1) that FWS improperly concluded that the Southern Beaufort Sea polar bear population had experienced population declines as a result of diminishing sea ice at the time of listing; (2) that FWS ignored all but five years of data when it reached this conclusion; and (3) that record evidence does not, in fact, show declines in polar bear vital rates and reproductive success in the Southern Beaufort Sea population. In particular, Joint Plaintiffs point to two studies - Hunter, et al. (2007) (ARL 82291-341) and Regehr, et al. (2007) (ARL 131467-516) - which purportedly demonstrate, based on data from as early as 1979,

99. Here, the Court is persuaded that the projections of the USGS population models are generally consistent with observed facts about sea ice decline and its impacts on polar bears at the time of listing.

that FWS overstated the significance of the past trend in the number of ice-free days per year in the Southern Beaufort Sea.

The federal defendants respond, first, that Joint Plaintiffs misstate the agency's actual finding with regard to the Southern Beaufort Sea polar bear population. According to the federal defendants, FWS did not, in fact, find that the Southern Beaufort Sea population had experienced statistically-significant population declines at the time the agency made its listing determination.⁵² Instead, the agency relied upon modeling and related data indicating a significant future decline in polar bear numbers in that population. See Fed. Def. Mot. at 96. According to the federal defendants, this significant future decline adequately supports the agency's conclusion based on the record as a whole that the polar bear qualified for threatened status at the time of listing, both in the Southern Beaufort Sea and throughout its range.

Second, the federal defendants respond that FWS did not ignore past data related to the Southern Beaufort Sea polar bear population. Indeed, the federal defendants point out that FWS explicitly considered both of the studies identified by Joint Plaintiffs in its Listing Rule. See ARL 117248, 117272.

⁵² Indeed, FWS found that there was not a statistically-significant decline in polar bear numbers in the Southern Beaufort Sea from 1986-2006 based upon the available data. See ARL 117272.

However, according to the federal defendants, the agency determined that the best available data at the time of listing was one five-year study that directly compared the number of ice-free days in the Southern Beaufort Sea to the population growth rate among polar bears in that area. See Fed. Def. Mot. at 98. As the federal defendants note, Joint Plaintiffs have identified no other studies that make that same direct comparison over a larger data set. Therefore, although the agency, like Joint Plaintiffs, would have preferred more data, the federal defendants contend that this five-year study was the "most comprehensive and complete" data of its kind and, as such, FWS properly relied upon it. Fed. Def. Mot. at 98 (quoting ARL 110135).

Finally, the federal defendants reject Joint Plaintiffs' argument that no declines in vital rates had been observed in the Southern Beaufort Sea prior to listing. They respond that researchers studying this population found that a number of measures of polar bear physical condition and reproductive success had declined prior to the agency's listing determination. For example, the federal defendants assert that in a study covering the period of 1982-2006, USGS scientists determined that mass, length, and skull sizes of young males had declined; mass, length, and skull sizes of young females had declined; skull sizes and/or lengths of adult males and females

had declined; and the number of yearling cubs per female had declined, suggesting reduced cub survival. See Fed. Def. Mot. at 98-99 (citing ARL 117272-73; ARL 82418, 82429-30). To the extent Joint Plaintiffs disagree with the evidence FWS considered, the federal defendants respond that FWS is the expert finder of fact and was permitted to draw reasonable conclusions about "equivocal evidence." Fed. Def. Mot. at 99-100 (citing *Animal Legal Def. Fund*, 204 F.3d at 235).

Largely for the reasons given by the federal defendants and based upon the standards it has already articulated, the Court is persuaded that Joint Plaintiffs' final argument must fail as well. Joint Plaintiffs have simply not met the very high burden of showing that the conclusions that the agency drew from the best available scientific information for the Southern Beaufort Sea population were arbitrary and capricious.⁵³

⁵³ Although plaintiff CBD generally agrees that FWS relied on the best available science in reaching its listing determination for the polar bear, it has raised a related issue: whether FWS is required to give the "benefit of the doubt to the species" in drawing conclusions based on the best available scientific information. See CBD Mot. at 3 (citing *Center for Biological Diversity v. Lohn*, 295 F. Supp. 2d 1223, 1239 (W.D. Wash. 2003)); see also *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988). Defendant-Intervenor AOGA and the federal defendants disagree that this standard applies in a listing case. The Court finds that it need not decide that question because this case does not resemble any of the cases where courts have chosen to apply the "benefit of the doubt" standard. See *Conner*, 848 F.2d at 1454 (FWS failed to rely on the best available science in reaching a jeopardy determination); *Ctr. for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223, 1239

3. Plaintiff CBD's Claim that the Service Failed to Consider Whether the Threat of Overutilization Warranted Listing the Polar Bear As Endangered ("Listing Factor B")

As discussed throughout, the ESA requires FWS to list a species on the basis of one or more of the following five criteria or "listing factors":

- (a) the present or threatened destruction, modification, or curtailment of the species' 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 the species' continued existence.

16 U.S.C. § 1533(a)(1). In this case, FWS determined, based upon the record before it, that the polar bear is threatened throughout its range solely based upon Listing Factor A, the present or threatened destruction of the species' habitat.

Plaintiff CBD contends that FWS downplayed the equally severe

(W.D. Wash. 2003) (FWS failed to rely on the best available science when it refused to list the orca), *vacated and remanded on other grounds*, 483 F.3d 984 (9th Cir. 2007); *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 680-81 (D.D.C. 1997) (FWS failed to rely upon the best available science when it refused to list the Canada Lynx). Here, the Court finds that FWS properly relied upon the best available scientific information for the polar bear when it decided to list the polar bear as threatened range-wide. CBD has cited no instance where a court has found that the Service was required to list a threatened species as endangered based on the "benefit of the doubt" standard, nor is the Court aware of any such authority.

threat of hunting to the polar bear and, consequently, failed to adequately consider Listing Factor B, overutilization.

Specifically, plaintiff CBD asserts that FWS was wrong to conclude that overutilization does not "by itself" pose a sufficient threat to justify listing the species. CBD Mot. at 45. As a threshold matter, according to CBD, this standard improperly raises the bar for listing because the ESA requires FWS to analyze whether the threat of overharvest in combination with the threat of global warming renders the polar bear currently in danger of extinction. Moreover, CBD contends that the Service's conclusion does not follow from the available evidence. In support of this argument, CBD cites to statements in the record indicating that FWS scientists believe overharvest is a threat to the species, as well as statements from the Listing Rule itself indicating that five polar bear populations may have been harvested at unsustainable levels, based upon anecdotal evidence. See CBD Mot. at 41-43. Finally, plaintiff CBD asserts that FWS inappropriately relied upon uncertain future management actions when it concluded that current management mechanisms are "'flexible enough to allow adjustments in order to ensure that harvests are sustainable.'" CBD Mot. at 44 (quoting ARL 117284).

The federal defendants generally respond that FWS took harvest rates into account, among other factors, when it

considered whether any of the polar bear populations was endangered. On the basis of this analysis, FWS concluded that polar bear harvests may approach unsustainable levels in the future, as polar bears begin to experience more nutritional stress and declining population numbers. The federal defendants maintain that the agency's analysis, as well as its reasoned conclusion, did not contravene the ESA. Moreover, because FWS found that the polar bear is primarily threatened by habitat loss, the defendants assert that it is essentially a moot point whether the species is also threatened based on overutilization.

Having carefully considered the parties' arguments and the administrative record, the Court is not persuaded that either the agency's analysis or its conclusion on this issue was arbitrary, capricious, or contrary to law. As an initial matter, to the extent FWS may have erred when it determined that harvest is not "by itself" a sufficient basis for listing the polar bear as threatened, the Court finds that this error would not be a sufficient basis for invalidating the Listing Rule. The ESA is clear that a species may be listed based on "any one" of the five listing factors. 16 U.S.C. § 1533(a)(1). Here, FWS reasonably determined that the polar bear qualified for threatened status range-wide based on habitat loss ("Listing Factor A") alone.

The relevant question, however, is whether FWS unreasonably concluded that the polar bear was not endangered at the time of listing, taking the threat of future habitat losses in combination with any threat of overharvest. The Court concurs with plaintiff CBD that the agency's own regulations require FWS to list a species if "any one or a combination" of the five listing factors demonstrates that it is threatened or endangered. 50 C.F.R. § 424.11(c) (emphasis added); see also *Wildearth Guardians v. Salazar*, 741 F. Supp. 2d 89, 103 (D.D.C. 2010) (finding that the Service's failure to consider cumulative impact of listing factors rendered the agency's decision not to reclassify the Utah prairie dog arbitrary and capricious). Nonetheless, the Court finds that FWS did consider whether the threat of overharvest might impact the polar bear in conjunction with projected habitat losses.

Specifically, the agency found that harvest "is likely exacerbating the effects of habitat loss in several populations," and that polar bear mortality from harvest "may in the future approach unsustainable levels for several populations" as these populations begin to experience the stresses of habitat change. ARL 117284. FWS concluded, however, that the polar bear was not in danger of extinction on this basis at the time of listing and, moreover, that harvest regulations, where they exist, are "flexible enough to allow

adjustments in order to ensure that harvests are sustainable." ARL 117284. Even if the evidence cited by plaintiff CBD persuasively demonstrates that overharvest was a threat to the polar bear at the time of listing, the Court is not persuaded that this evidence demonstrates that the agency's conclusion was an irrational one.

Moreover, the Court is not persuaded that FWS inappropriately relied upon uncertain future management actions when it reached this conclusion. FWS expressly considered only existing mechanisms in making its listing determination for the polar bear. ARL 117284 ("[I]n making our finding we have not relied on agreements that have not been implemented."). As documented in the Listing Rule, most polar bear range countries have regulatory mechanisms in place that address polar bear hunting. See ARL 117284. The Listing Rule indicates that, while overharvest could be occurring in approximately five populations for which no data were available at the time of listing, see ARL 117282, hunting was below maximum sustainable levels in all populations for which data were available, see ARL 117283, Table 2. FWS concluded therefore that existing mechanisms to control overharvest had been generally demonstrated to be effective and, moreover, that effective management of hunting will continue to be important to "minimize effects for populations experiencing increased stress." ARL

117283. The Court declines to find, in the absence of clear evidence to the contrary, that it was arbitrary for the agency to assume that the adaptive management principles, which appear to be working for the majority of polar bear populations, will continue to be flexible enough to account for future population reductions.⁵⁴

Accordingly, the Court concludes that FWS articulated a rational basis for its determination that the polar bear was not in danger of extinction at the time of listing because of the threat of anticipated sea ice losses, even taking into account potential threats from overharvest.

4. Joint Plaintiffs' Claim that the Service Wrongly Concluded that Existing Regulatory Mechanisms Will Not Protect Polar Bears despite Anticipated Habitat Losses ("Listing Factor D")

Joint Plaintiffs argue, finally, that FWS drew an improper conclusion from the evidence when it found that existing regulatory mechanisms are not sufficient to protect polar bears despite anticipated sea ice losses. According to Joint Plaintiffs, even if there are no regulatory mechanisms that would "eradicate" the threat of sea ice loss, existing regulatory mechanisms such as conservation plans and other

⁵⁴ To the extent CBD further contends that FWS failed to consider the impacts of illegal hunting, the Court is persuaded that FWS took illegal hunting into account to the extent feasible. See ARL 117245-46; ARL 117284.

federal, state, and foreign laws are not necessarily insufficient to protect a "viable population" of bears over the foreseeable future.⁵⁵ JP Mot. at 22. Given that overall polar bear population numbers had risen in the years prior to listing, Joint Plaintiffs assert that existing regulatory mechanisms were not only adequate to protect the species at the time of listing but they will continue to adequately protect the species into the future.

The federal defendants respond that FWS rationally concluded that existing regulatory mechanisms at the time of listing will be inadequate to protect the polar bear despite future habitat losses. The defendants explain that, while the agency found that existing regulatory mechanisms had adequately addressed previous threats to the polar bear (e.g., overhunting)

⁵⁵ Joint Plaintiffs have also argued that FWS unlawfully failed to establish either a "minimum viable population" size or to determine the "minimum amount of habitat" necessary to "support a viable population." JP Mot. at 32. At least two circuits have rejected similar arguments. See *Home Builders Ass'n of N. Cal. v. U.S. FWS*, 321 Fed. Appx. 704, 705 (9th Cir. 2009) ("The FWS is not required to state a threshold level of habitat loss that is necessary to find a species is threatened."); *Heartwood v. Kempthorne*, No. 05-313, 2007 U.S. Dist. LEXIS at *27 (S.D. Ohio June 19, 2007) (rejecting the argument that FWS was required to "identify a number that represents the point at which the Indiana bat will survive, a number that represents the point at which the Indiana bat will recover, and a number that represents the point at which the total population will become extinct"), *aff'd*, 302 Fed. Appx. 394 (6th Cir. 2008). This Court concurs with those courts that the ESA itself articulates the appropriate standard for listing, which is limited to the five factors outlined in 16 U.S.C. § 1533. Accordingly, Joint Plaintiffs' related claim must fail.

and presumably will remain adequate to protect against those threats, there is no evidence in the record that these existing regulatory mechanisms are sufficient to ensure that polar bears will not become in danger of extinction within the foreseeable future.

The Court declines to find that FWS improperly concluded that existing regulatory mechanisms are inadequate to protect the polar bear. Joint Plaintiffs have pointed to no record evidence suggesting that existing mechanisms will offset the potential impacts to the polar bear from significant future losses of its sea ice habitat. Therefore, plaintiffs have given the Court very little basis from which to conclude that the agency's finding was irrational, arbitrary and capricious; accordingly, the Court declines to overturn the agency's reasoned determination on these grounds.⁵⁶

⁵⁶ In a related claim, plaintiff SCI argues that FWS also failed to consider whether future regulatory and non-regulatory mechanisms would substantially mitigate the threat of sea ice loss. Although SCI concedes that Listing Factor D only requires FWS to consider the inadequacy of "existing" regulatory mechanisms, SCI argues that FWS should have considered future mechanisms under other listing factors. The Court finds that plaintiff SCI's argument is without merit. As other courts have found, the ESA does not permit FWS to consider speculative future conservation actions when making a listing determination. *See, e.g., Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 26 (D.D.C. 1996) ("[T]he Secretary . . . cannot use promises of future actions as an excuse for not making a determination based on the existing record."); *see also Fund for Animals v. Babbitt*, 903 F. Supp. 96, 113 (D.D.C. 1996). Moreover, established agency policy requires that in making a listing

D. The Service Followed Proper Rulemaking Procedures

The Court turns finally to two purported procedural deficiencies that have been identified by plaintiffs. First, plaintiff State of Alaska claims that FWS failed to satisfy its obligation under Section 4(i) of the ESA to provide a "written justification" explaining why it issued a final rule that conflicts with comments it received from the State. Second, plaintiff CF claims that FWS failed to adequately respond to specific comments that were raised during the notice-and-comment period for the proposed Listing Rule. Each of these procedural claims is addressed briefly below.⁵⁷

1. Plaintiff Alaska's Claim that the Service Violated Section 4(i) of the ESA by Failing to Provide a Sufficient "Written Justification" in Response to Comments

Under Section 4(i) of the ESA, if FWS receives comments from a State (or state agency) disagreeing with all or part of a proposed listing, and the agency subsequently issues a final

determination FWS may only consider formalized conservation efforts that have been implemented and have been shown to be effective. PECE Policy, 68 Fed. Reg. at 15,100. Accordingly, the Court finds that FWS was not required to consider speculative future efforts to reduce greenhouse gas emissions.

⁵⁷ The federal defendants have also responded at length to what they characterize as a "claim" by plaintiff CBD that the polar bear listing rule was improperly influenced by political considerations. See Fed. Def. Mot. at 128-32. Plaintiff CBD did not in fact raise any such claim. Accordingly, the Court will not address the federal defendants' arguments on this issue.

rule that conflicts with those comments, it must then provide the State with a "written justification" explaining its failure to adopt regulations consistent with the agency's comments. 16 U.S.C. § 1533(i). The parties agree that on April 9 and October 22, 2007, the State of Alaska and the Alaska Department of Fish and Game submitted comments that disagreed with the proposed listing rule for the polar bear and, specifically, with the agency's reliance on population modeling efforts conducted by the USGS. See ARL 84248-84274; ARL 124961-125006. The parties also agree that on June 17, 2008, after the final Listing Rule was issued, FWS sent a lengthy letter to the Governor of Alaska with specific responses to the State's comments pursuant to 16 U.S.C. § 1533(i). See ARL 11361-11408. Plaintiff State of Alaska nonetheless contends that FWS failed to comply with Section 4(i) because its responses to five particular comments did not adequately "justify" the agency's actions. Alaska Mot. at 7-15.

The ESA recognizes that states play a crucial role in the listing process, and their advice and involvement "must not be ignored." See Alaska Mot. at 6 (citing S. Rep. No. 97-418, at 12 (1982)). Here, Alaska argues that FWS "effectively ignored" the State's concerns, Alaska Mot. at 10, by failing to provide an adequate response to the following comments:

1. Comments on deficiencies in the USGS Carrying Capacity Model (Alaska Mot. at 7-10);
2. Comments on deficiencies in the USGS Bayesian Network Model (Alaska Mot. at 10-11);
3. Comments on the status of the Southern Beaufort Sea polar bear population (Alaska Mot. at 11-13);
4. Comments on the agency's inappropriate choice of 45 years as the "foreseeable future" (Alaska Mot. at 13-14); and
5. Comments on uncertainty in climate change modeling (Alaska Mot. at 14-15).⁵⁸

In support of its position, State of Alaska cites *San Luis & Delta-Mendota Water Auth. v. Badgley*, the only legal precedent that deals with a claim under ESA Section 4(i). 136 F. Supp. 2d 1136 (E.D. Cal. 2000). In that case, regional water authorities challenged the listing of a fish species as threatened, and the NMFS failed to respond to the authorities' comments with any kind of written justification. *Id.* at 1150-51. The court subsequently reversed the NMFS's listing decision (on other grounds, in addition to the 4(i) violation) and remanded to the agency. *Id.* at 1151-52. Alaska contends that this Court should do the same. Alaska Mot. at 9-10.

The federal defendants respond that FWS fully complied with Section 4(i) of the ESA when it provided Alaska with its written

⁵⁸ The content of Alaska's comments is identical to the substantive claims raised by the Joint Plaintiffs, which have been discussed at length above. The Court therefore will not recount the substance of Alaska's comments and the agency's responses thereto.

justification on June 17, 2008.⁵⁹ The federal defendants point out that all of Alaska's comments were addressed, including the five at issue here, in the final Listing Rule itself as well as in the agency's response to the State. See Fed. Def. Mot. at

⁵⁹ As a threshold matter, the defendants contend that the substance of the agency's letter is not reviewable, for two reasons: (1) the letter of written justification does not constitute "final agency action," as is required for APA review (5 U.S.C. § 704); and (2) the agency's response to comments is committed to its discretion by law (5 U.S.C. § 701(a)(2)). Fed. Def. Mot. at 122 (citing *Bennett v. Spear*, 520 U.S. 154, 175 (1997) ("The APA, by its terms, provides a right to judicial review of all 'final agency action for which there is no other adequate remedy in a court,' and applies universally 'except to the extent that (1) statutes preclude judicial review; or (2) agency action is committed to agency discretion by law.'")) (internal citations omitted). Alaska responds that, at a minimum, the Service's letter is reviewable as part of a review of the final Listing Rule, pursuant to section 704 of the APA. Alaska Reply at 9 (citing 5 U.S.C. § 704 (a "procedural . . . agency action . . . not directly reviewable is subject to review on the review of the final agency action"))).

Case law provides little guidance on this question. Indeed, the only case that addresses a failure to comply with ESA Section 4(i) is one where FWS failed to provide any response whatsoever, a clear violation of Section 4(i). See *San Luis*, 136 F. Supp. 2d at 1151. The Court agrees with Alaska's assessment that the agency's justification letter is a procedural step that becomes reviewable upon review of the final agency action (here, the Listing Rule). The ESA mandates that the FWS "shall" submit an explanatory written justification to a state or state agency if it issues a regulation that conflicts with the state's comments. See *Bennett*, 520 U.S. at 175 ("[A]ny contention that the relevant provision of 16 U.S.C. § 1536(a)(2) is discretionary would fly in the face of its text, which uses the imperative 'shall.'"). "It is rudimentary administrative law that discretion as to the substance of the ultimate decision does not confer discretion to ignore the required procedures of decisionmaking." *Id.* at 172. The Court is persuaded, however, that the standard of review set out in Section 4(i) is not a rigorous one.

126. While Alaska may have preferred a different or a more detailed explanation, the defendants contend that none is required.

This Court agrees. Section 4(i) requires only that FWS provide a "written justification for [the Secretary's] failure to adopt regulations consistent with the [State] agency's comments or petition." 16 U.S.C. § 1533(i). FWS did so here. There is no dispute that FWS responded in writing to two sets of comments from the State of Alaska. Moreover, FWS specifically addressed each of the issues identified by Alaska, both in its response letter and in the response to comments that appears in the Listing Rule itself. See, e.g., ARL 11394-95 (carrying capacity model);⁶⁰ ARL 11405-08 (Bayesian Network model); ARL 11389, 11399-404 (Southern Beaufort Sea population); ARL 11365-66, 11382-84 ("foreseeable future"); ARL 11363-70, 11395-98 (scientific uncertainty and climate change modeling). Indeed, Alaska's own pleadings make clear that FWS did at least attempt to respond to each of the State's concerns. Having carefully

⁶⁰ The Court was unable to locate many of the specific concerns that Alaska purports to have raised in its comments with regard to the carrying capacity model. The Court therefore notes that FWS was not obligated to respond to arguments that were not, in fact, raised. See *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 553-54 (1978) (agency proceedings "should not be a game or forum to engage in unjustified obstructionism by making cryptic and obscure references to matters," and then seeking to invalidate agency action on grounds that the agency failed to consider the matters).

reviewed the parties' arguments, the State's comments, and the agency's responses, the Court is satisfied that FWS did not ignore any of Alaska's concerns. Accordingly, the Court concludes that FWS fulfilled its duty to respond to Alaska's comments under ESA Section 4(i).

2. Plaintiff CF's Claim that FWS Failed to Respond to Significant Comments

In its supplemental motion for summary judgment, plaintiff CF contends that FWS also failed to respond to certain "significant" comments which "if true, would require a change in the proposed rule." See CF Mot. at 20 (citing *Am. Mining Cong. v. EPA*, 907 F.2d 1179, 1188 (D.C. Cir. 1990)).⁶¹ Plaintiff CF

⁶¹ CF identifies nine concerns which it purports to have raised in comments on the proposed rule and which, it claims, were never addressed. Specifically, CF highlights:

1. The agency's failure to consider the role of sun spot cycles as a primary climate factor;
2. The agency's failure to consider literature on the dynamics of solar irradiation;
3. The agency's failure to explain why it relied so heavily on a declining trend among the Western Hudson Bay polar bear population when that trend is offset by gains in polar bear numbers in other populations;
4. The agency's failure to objectively review data;
5. The agency's failure to specify the degree and nature of impacts to polar bears from receding sea ice;
6. The agency's failure to explain how a decline in the Western Hudson Bay polar bear population is attributable to global warming;
7. The agency's failure to address why the polar bear survived two historical warming periods;

did not, however, pursue this claim in its reply brief.

Accordingly, because plaintiff CF appears to have abandoned this procedural claim, the Court will not consider it further. See *Bd. of Regents of the Univ. of Wash. v. EPA*, 86 F.3d 1214, 1222 (D.C. Cir. 1996) (declining to rule on a claim that "petitioners appear to have dropped").⁶²

IV. CONCLUSION

For the foregoing reasons, plaintiffs' motions for summary judgment are hereby **DENIED**, the federal defendants' cross-motion for summary judgment is hereby **GRANTED** and the defendant-intervenors' cross-motions for summary judgment are hereby **GRANTED**. An appropriate Order accompanies this Memorandum Opinion.

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8. The agency's failure to explain projected declines in the Southern Beaufort Sea polar bear population when reports indicate "no correlation between demographic changes and ice melt" in that region; and
 9. The agency's failure to consider that warming will actually improve polar bear habitat in the northernmost Arctic region.

See CF Mot. at 20-22.

⁶² Even if this claim were not abandoned, for the reasons set out in the federal defendants' response brief and on the basis of the administrative record the Court is persuaded that FWS adequately addressed plaintiff CF's comments, to the extent any response was required. See Fed. Def. Mot. at 133-37.

SO ORDERED.

Signed: Emmet G. Sullivan
United States District Judge
June 30, 2011