

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

STATE OF ALASKA,

Plaintiff,

and

ESCOPETA OIL COMPANY,

Intervenor Plaintiff,

v.

**JANE LUBCHENCO, Administrator,
National Oceanic and Atmospheric
Administration, et al.,**

Defendants,

and

**ALASKA CENTER FOR THE
ENVIRONMENT, a nonprofit
corporation, et al.,**

Intervenor Defendants.

Civil Action No. 10-0927 (RCL)

MEMORANDUM OPINION

The absence of an expected change is sometimes indistinguishable from the presence of an observed one. So when the best available science predicts that a recently enacted ban on subsistence hunting will reverse the abrupt depletion of a species, a decade without any noticeable recovery in the species' population should raise a concern that the true cause of its decline has not been fully addressed. The species in this case—beluga whales in Alaska's Cook Inlet—was nearly wiped out by a catastrophic spree of subsistence whaling between 1994 and 1998. More than a decade later, and despite the passage of a legislative moratorium on

subsistence hunting in 1999, the population of Cook Inlet beluga whales has failed to show any appreciable signs of recovery. For this and other reasons, the National Marine Fisheries Service (“Service”) granted a petition to list the species as endangered under the Endangered Species Act (“ESA”), 16 U.S.C. § 1531 *et seq.* The Service’s decision is rational and is supported by the administrative record, and the defendants are therefore entitled to summary judgment.

I. BACKGROUND

Thirty years ago, the number of beluga whales in Cook Inlet—a glacial fjord reaching 180 miles from Anchorage to the Gulf of Alaska—likely exceeded 1,300, but now hovers around 350. *See generally* Administrative Record (“AR”) 00021 at 87-88. Although the population dwindled steadily through the 1980s and early 1990s, its decline was accelerated between 1994 and 1998 by Alaska Natives, who depend to some extent on beluga whales for subsistence. Aided by modern technology, Alaska Natives decimated the beluga population in Cook Inlet, harvesting nearly half of the remaining 650 whales in only four years. *Id.* This unregulated harvest led to what could fairly be described in conservation terms as an emergency.

The Service initially responded by designating the stock of Cook Inlet beluga whales as “depleted” under the Marine Mammal Protection Act (“MMPA”), 16 U.S.C. § 1371 *et seq.*, allowing the agency to regulate subsistence hunting. 65 Fed. Reg. 34590 (May 31, 2000). The Service also considered a petition to list the Cook Inlet beluga under the ESA, which defines an “endangered species” as one that is in “danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). Relying on the assumption that the legislative and regulatory action already taken to control subsistence hunting would allow the population to recover, the Service determined that ESA listing was not warranted at that time. 65 Fed. Reg. 38778 (June 22, 2000). That decision was previously upheld by this Court. *Cook Inlet Beluga*

Whale v. Daley, 156 F. Supp. 2d 16, 22 (D.D.C. 2001) (Robertson, J.). However, the Service determined that the stock of beluga whales in Cook Inlet is a distinct population segment (“DPS”), making it eligible for future listing under the ESA despite the existence of healthy populations in other parts of the world.¹ 65 Fed. Reg. 38778.

The fundamental assumption on which the Service based its 2000 decision proved too optimistic. Aerial surveys performed annually over Cook Inlet—the state-of-the-art method for estimating abundance of marine mammals—indicated that the population had not shown any appreciable signs of recovery since 1999, when hunting restrictions began. 72 Fed. Reg. 19855. Instead of the 2 to 6 percent annual population growth the Service expected, the abundance estimates for the next several years indicated that the population was still declining at a rate of 4.1 percent. *Id.* Concerned that the cause of the species’ decline was more complicated than the residual effects of subsistence whaling, the Service initiated a status review of the Cook Inlet beluga whale in March 2006.

To determine the probability of extinction, the Service developed a time-series model that extrapolated the negative population trend observed in Cook Inlet over 50, 100, and 300 years. The parameters for this model—which include a “constant mortality effect” for killer whale predation and an “unusual mortality effect” for irregular (but devastating) events such as mass strandings and oil spills—were subject to extensive peer review by independent researchers, including representatives from Alaska’s own Department of Fish and Game. *See* AR 00025 at 2. The Service also tested the model’s sensitivity to these parameters by varying assumptions about

¹ The ESA defines “species” to include “any distinct population segment of any species.” 16 U.S.C. § 1532(16); *see* Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996) (describing a DPS as isolated from and an important component of the species to which it belongs). Plaintiffs do not challenge the Service’s determination that the Cook Inlet beluga whale is a DPS.

growth rates, mortality effects, and the optimum sustainable population size for Cook Inlet (known as the “carrying capacity”). After performing over ten thousand trial runs, the Service selected a model that best fit the observed trend in the abundance estimates. The most realistic model resulted in a 1 percent risk of extinction in 50 years, a 26 percent risk of extinction in 100 years, and a 70 percent risk of extinction in 300 years. AR 00021 at 14. The Service concluded that “[t]aken as a whole, these modeling results indicate clearly that it is likely that the Cook Inlet beluga population will continue to decline or go extinct over the next 300 years unless factors determining its growth and survival are altered in its favor.” *Id.* at 86

Following another petition to designate the stock as endangered, the Service published a Proposed Rule to list Cook Inlet belugas under the ESA. 72 Fed. Reg. 19854 (April. 20, 2007). The effect of this publication was to initiate the public notice and comment process required by the Administrative Procedure Act (“APA”), 5 U.S.C. § 553(c). The majority of comments supported listing the Cook Inlet beluga whale as endangered. However, and of particular importance to this case, the State of Alaska opposed the listing determination, arguing that nothing had changed with respect to potential threats to the population since the Service’s 2000 determination that listing was not warranted. Alaska also disputed whether the population was actually trending downward, arguing that the ban on subsistence hunting had effectively stopped the population slide, and that growth could not reasonably be expected until the breeding age component of the population had stabilized.

In April 2008, the Service extended the one-year deadline for a final listing determination to October 2008, noting “substantial disagreement” regarding the population trend. 73 Fed. Reg. 21578 (April 22, 2008); *see* 16 U.S.C. § 1533(b)(6)(B)(i). This six-month extension allowed the Service to incorporate into its population viability analysis the results of the June 2008 aerial

survey of Cook Inlet. When the 2008 abundance estimate was included in the model, however, the rate of population decline was still 1.45 percent annually—not significantly less than zero, but significantly less than the expected growth rate of 2 to 6 percent for a healthy population. AR 00021 at 38.

Satisfied that listing the species as endangered was now appropriate, the Service published its Final Rule on October 22, 2008. 73 Fed. Reg. 62919. Alaska then sued for declaratory and injunctive relief under the APA, 5 U.S.C. § 702 *et seq.*, and the ESA’s citizen-suit provision, 16 U.S.C. § 1540(g), seeking to have the Service’s listing determination vacated by this Court. The State’s six-count complaint alleges that the Service failed to consider the relevant statutory factors and did not conform to the required procedures for making a listing determination. Compl. ¶¶ 48-72 (Doc. 1). On September 7, 2010, the Court allowed Escopeta Oil Company, LLC to file an intervenor complaint raising substantially identical claims.² Compl. ¶¶ 46-70 (Doc. 22). The Court also allowed Alaska Center for the Environment and several other nonprofit corporations to intervene as plaintiffs.³ The parties then moved for judgment on the administrative record, and the case is now ripe for summary judgment. *See* Mem. Supp. Alaska’s Mot. Summ. J. (“Alaska Mem.”) at 45 (Doc. 45); Mem. Supp. Defs.’ Mot. Summ. J. (“Defs.’ Mem.”) at 45 (Doc. 46-1). For the reasons that follow, the Court will deny plaintiffs’ motions for summary judgment and grant defendants’ cross-motions for summary judgment.

² Defendants argue that EOC lacks standing to challenge the Service’s listing determination. Defs.’ Mem. at 17. However, because defendants are entitled to summary judgment on all claims, it is not necessary to address whether EOC has established standing. There is no dispute that Alaska has standing to raise its claims.

³ As the Court noted in its 2001 decision upholding the Service’s prior determination that listing was not warranted, “[t]he naming of the Cook Inlet Beluga Whale as a plaintiff is acknowledged by the Court as a *beau geste*, but it has no legal significance.” *Daley*, 156 F. Supp. at 18 n.2 (citation omitted).

II. STANDARD OF REVIEW

This case is governed by the APA's strict limits on judicial review of agency decisions under the ESA. *See Cabinet Mountains Wilderness v. Peterson*, 685 F.2d 678, 685 (D.C. Cir. 1982). These limits permit a reviewing court to set aside agency action only when it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. §706(2)(A). Review under this standard is "highly deferential" and "presumes the agency's action to be valid." *Environmental Defense Fund, Inc. v. Costle*, 657 F.2d 275, 283 (D.C. Cir. 1981) (citations omitted).

In applying this standard, a federal court may not "substitut[e] its judgment for that of the agency." *Id.* Instead, the court's only role is to determine whether the agency "considered the relevant factors and articulated a rational connection between the facts found and the choice made." *Baltimore Gas & Elec. Co. v. Natural Resource Defense Council, Inc.*, 462 U.S. 87, 105 (1983) (citations omitted). Accordingly, the arbitrary and capricious standard "mandates judicial affirmance if a rational basis for the agency's decision is presented, even though [the court] might otherwise disagree." *Costle*, 657 F.2d at 283 (citations omitted).

The ESA requires an "endangered" designation to be made on the basis of five statutory factors, any one of which is sufficient to support a listing determination. 16 U.S.C. § 1533(a)(1). These factors include the present or threatened destruction of the species' habitat, overutilization, disease or predation, inadequacy of existing regulatory mechanisms, and other natural or manmade factors affecting the species' continued existence. *Id.* A decision whether or not 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." *Id.* § 1533(b)(1)(A). Applying this

standard, the Service must list a species as endangered or threatened if “any of § 1533(a)(1)’s five factors are sufficiently implicated.” *Southwest Center for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000).

A listing determination is inherently fact-specific and science-dependent, and federal courts are particularly deferential toward agency findings—like those here—that involve “scientific determination[s],” *Baltimore Gas*, 462 U.S. at 103, since those findings are presumed to be the product of agency expertise. In such cases, 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 minimum standards of rationality.” *Ethyl Corp. v. EPA*, 541 F.2d 1, 36 (D.C. Cir. 1976) (en banc).

Summary judgment is an appropriate mechanism for deciding the question of whether agency action is supported by the administrative record. *Occidental Engineering Co. v. INS*, 753 F.2d 766, 770 (9th Cir. 1985). In such cases, a federal district court “sits as an appellate tribunal” to review the purely legal question of whether the agency acted in an arbitrary and capricious manner. *Am. Bioscience, Inc. v. Thompson*, 269 F.3d 1077, 1083 (D.C. Cir. 2001). Thus, in the special context of reviewing agency factfinding, judicial review is limited to the administrative record, *see* 5 U.S.C. § 706, and the burden is on plaintiffs to prove the particular manner in which the Service’s actions are arbitrary and capricious. *City of Olmsted Falls, Ohio v. FAA*, 292 F.3d 261, 271 (D.C. Cir. 2002).

III. ANALYSIS

Defendants are entitled to summary judgment because the administrative record demonstrates that the Service acted rationally in listing the Cook Inlet beluga whale as

endangered. Plaintiffs attack this determination on three fronts, challenging the rationale behind the Service's decision, its basis in science, and the procedures through which it was promulgated. The record amply reflects, however, that the Service considered the statutory factors and articulated a rational basis for its listing determination, grounded that decision in the best available scientific data, and provided a full opportunity for public comment before publishing its Final Rule. These activities suffice to allow the agency's decision to survive judicial review under the "highly deferential" standard that applies to this case. *See Costle*, 657 F.2d at 283.

A. The Service rationally considered the ESA's listing factors.

The Service's decision to list the Cook Inlet beluga whale as endangered is rational because the small, isolated population has not shown any appreciable signs of recovery since 1999, when hunting restrictions began. Everyone agrees that the already-declining population suffered unsustainable losses from the mid- to late-1990s. Alaska Mem. at 7-8; *Daley*, 156 F. Supp. at 20. Although the Service reasonably expected that the regulation of subsistence whaling would result in immediate population growth, the most recent estimates show unmistakably that the population is not recovering and that there is a meaningful risk that the number of beluga whales in Cook Inlet is actually continuing to decline. As the Service explained, this unexpected development "strongly suggests other factors may now be involved in the lack of recovery," and that "cessation of excessive harvests is not enough to bring about recovery." 73 Fed. Reg. 62922. Because the regulation of subsistence whaling failed to reverse the downward trend in population numbers, the Service acted rationally in looking beyond this factor as the sole cause of the species' decline.

Recall that in identifying species that qualify for protection under the ESA, the Service must consider five statutorily prescribed factors, any one of which is sufficient to support a listing determination. 16 U.S.C. § 1533(a)(1). These factors include:

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

Id. The Service must list a species as endangered or threatened if “any of § 1533(a)(1)’s five factors are sufficiently implicated.” *Babbitt*, 215 F.3d at 60. Here, the administrative record demonstrates that the Service thoughtfully considered each of the § 1533(a)(1) factors and found that all five factors support a listing determination.

First, the Service found that the “habitat for this species has been modified by municipal, industrial, and recreational activities in upper Cook Inlet, where belugas concentrate.” 72 Fed. Reg. 19857. The Service cited examples of significant projects—including port expansions and coal mining—that threaten to destroy or modify beluga habitat. *Id.* at 19858. The Service also identified a number of ongoing activities that may impact this habitat, including:

(1) continued oil and gas exploration, development, and production; and (2) industrial activities that discharge or accidentally spill pollutants (e.g., petroleum, seafood processing waste, ship ballast discharge, effluent from municipal wastewater treatment systems, and runoff from urban, mining, and agricultural areas).

Id. In addition, the Service noted that with the contraction of the species’ range into the upper Cook Inlet, the population was more vulnerable to losses due to stranding, predation, or disease. AR 00021 at 41. Thus, the Service reasonably concluded that the cumulative effects of this development along Cook Inlet weigh in favor of listing the beluga as endangered because these

activities could result in the “present or threatened destruction, modification, or curtailment of its habitat or range.” 16 U.S.C. § 1533(a)(1)(A).

Second, the Service found that “[s]ubsistence removals reported during the 1990s are sufficient to account for the declines observed in this population and must be considered as a factor in the proposed classification of the Cook Inlet beluga whale DPS as endangered.” 73 Fed. Reg. 62927. Indeed, the agency found that residual effects from past subsistence hunting were “significant” and were sufficient—by themselves—to account for much of the decline observed in the Cook Inlet beluga population. 72 Fed. Reg. 19858. As the Service explained:

While subsistence harvest occurred at unknown levels for decades, the observed decline from 1994 through 1998 and the reported harvest (including estimates of whales that were struck but lost, and assumed to have perished) indicated these harvest levels were unsustainable. Annual subsistence take by Alaska Natives during 1995-1998 averaged 77 whales. The harvest was as high as 20 percent of the population in 1996.

73 Fed. Reg. 62927 (citations omitted). The Service also noted that there may be other residual effects on the stock from commercial and sport whaling operations that existed prior to the enactment of the MMPA in 1972. 72 Fed. Reg. 19858. Thus, the Service reasonably concluded that the “overutilization for commercial, recreational, scientific, or educational purposes” also contributed to the Cook Inlet beluga’s status as endangered. 16 U.S.C. § 1533(a)(1)(B).

Third, the Service considered whether “disease or predation” might be contributing to the population decline. *Id.* § 1533(a)(1)(C). The Service noted that “killer whales are thought to take at least one Cook Inlet beluga per year.” 72 Fed. Reg. 19858. Compared to the enormous impact on the species from subsistence whaling, the mortality effects of killer whale predation are obviously slight. But the Service was particularly concerned that mortality due to killer whales may be underestimated, and that the loss of more than one beluga whale annually could impede recovery. 73 Fed. Reg. 62921. And in any event, the precariously low level of beluga

whales predisposed the population to significant consequences from any increase in killer whale predation. Thus, the Service reasonably concluded that this factor too weighed in favor of an endangered designation.

Fourth, the Service found that the “absence of legal authority to control subsistence harvest prior to 1999 is considered a contributing factor” to the Cook Inlet beluga whale’s decline. 73 Fed. Reg. 62928. The Service noted that subsequent regulations promulgated pursuant to the MMPA “constitute an effective conservation plan regarding Alaska Native subsistence harvest, but they are not comprehensive in addressing the many other issues now confronting Cook Inlet beluga whales.” *Id.* Thus, the Service acted rationally in finding that the “inadequacy of existing regulatory mechanisms” contributed to the Cook Inlet beluga’s status as endangered. 16 U.S.C. § 1533(a)(1)(D).

Fifth, the Service found that the small population of beluga whales in Cook Inlet was vulnerable to “other natural or manmade factors”—including strandings, oil spills, noise from oil and gas exploration, ship strikes, and the effects of pollutants and urban runoff—that could affect its continued existence. *See* 16 U.S.C. § 1533(a)(1)(E). Specifically, the Service found:

Cook Inlet beluga whales are known to strand along mudflats in upper Cook Inlet, both individually and in number. The cause for this is uncertain, but may have to do with the extreme tidal fluctuations, predator avoidance, or pursuit of prey, among other possible causes. We have recorded stranding events of more than 200 Cook Inlet beluga whales. Mortality during stranding is not uncommon. We consider stranding to be a major factor establishing this DPS as endangered.

73 Fed. Reg. 62928. Of particular concern was a fundamental ecological shift: “[t]he contraction of the range of this population northward into the upper inlet,” which “makes it far more vulnerable to catastrophic events with the potential to kill a significant fraction of the population.” AR 00021 at 87. In sum, the Service concluded that each of the five statutory factors supports—to some extent—a determination that the Cook Inlet beluga whale is currently

“in danger of extinction throughout all or a significant portion of its range,” 16 U.S.C. § 1532(6); considered together, these factors present a strong case for listing under the ESA.

Plaintiffs’ principal argument in opposition is that nothing has changed with respect to potential threats to the population since the Service’s 2000 determination that listing was not warranted. Plaintiffs characterize the Service’s 2008 decision as an “about face” that was not justified by any change in circumstances. Alaska Mem. at 11. There is some appeal to this argument. After all, if it was rational to conclude that listing was “not warranted” in 2000, *see Daley*, 156 F. Supp. 2d at 22, why is the opposite conclusion—that listing is now required—not “arbitrary and capricious” when nothing has changed in the intervening eight years? But it is precisely the lack of changed circumstances that led the Service to conclude in 2008 that listing was now appropriate. The key assumption underlying the agency’s 2000 decision—that subsistence whaling was the only factor responsible for the decline in beluga abundance—has proven false. Instead of the expected 2 to 6 percent annual increase in abundance, the population has shown no appreciable signs of recovery, and the best available scientific data indicate a very high probability that the population is continuing to decline (albeit at a statistically insignificant rate). Under these circumstances, and after nearly a decade during which the expected recovery failed to materialize, the Service could rationally conclude that the species warranted protection under the ESA.

This Court all but held that listing would be necessary if the Service ultimately determined that the population was not recovering. As the Court explained in 2001, “[i]f a moratorium fails to control Native American harvesting in the future, ESA listing will be warranted. That much is agreed.” *Daley*, 156 F. Supp. at 20. Indeed, when the Service determined that listing was not warranted in 2000, it recognized that the logic of its decision was

heavily dependent on the assumption that cessation of the excessive harvest would reverse the decline in the beluga whale's population. As the agency explained in 2000, "a failure to restrict the subsistence harvest would likely cause CI beluga whales to become in danger of extinction in the foreseeable future." 65 Fed. Reg. 38783.

To be sure, the record reflects that excessive whaling by Alaska Natives remains the most significant factor in the declining whale population over the past thirty years. But that does not undermine the Service's choice to look beyond this factor after the regulation of subsistence harvest failed to reverse the negative population trend. Although subsistence hunting occurred at unknown levels prior to 1994, there is very little reliable information for the period between 1979 and 1994 to identify a mechanism for the apparent decline of this population from approximately 1,300 to 650 whales. And although listing is not required "simply because the agency is unable to rule out factors that could contribute to a population decline," *Daley*, 156 F. Supp. at 22, there is a world of difference between an inability to eliminate certain factors, on one hand, and a determination that a *single* factor no longer explains the observed population trend, on the other. Indeed, the agency affirmatively found that all five statutory factors were implicated to some extent. Under the circumstances, what the agency did here makes sense and therefore passes muster under the "highly deferential" standard of review that applies to this case. *See Costle*, 657 F.2d at 283.

Plaintiffs raise two other objections to the Service's reasoning, both unavailing. First, plaintiffs claim that the Service failed to consider Alaska's own conservation efforts in determining that the Cook Inlet beluga is endangered. Compl. [1] ¶¶ 51-53. Section 4(b)(1)(A) of the ESA provides that the Service shall make such a determination only "after taking into account those efforts, if any, being made by any State or foreign nation . . . to protect the

species.” 16 U.S.C. § 1533(b)(1)(A). This obligation is separate from—but similar to—the agency’s obligation to consider the “inadequacy of existing regulatory measures” under Section 4(a)(1)(D). *See id.* § 1533(a)(1)(D). The Service considers a State’s conservation efforts in accordance with its Policy for Evaluating Conservation Efforts When Making Listing Decisions (“PECE”), which requires that current conservation efforts demonstrate some degree of certainty as to their “implementation” and “effectiveness.” *See* 68 Fed. Reg. 15100 (Mar. 28, 2003). In other words, it is not enough for the State to identify conservation efforts that *may* be beneficial to a species’ preservation; those efforts must actually be in place and have achieved some measure of success in order to count under the Service’s policy. *See id.*

Plaintiffs argue that the Service failed to consider Alaska’s formal conservation programs designed to improve the habitat and food supply of beluga whales in Cook Inlet. Alaska Mem. at 34-35. But most of these conservation efforts are not specifically directed toward the protection of beluga whales, and instead address much broader conservation goals having only an incidental impact on the beluga’s chances for survival. For example, Alaska argues that its conservation measures directed at maintaining fisheries in Cook Inlet protect a source of food for beluga whales and therefore contribute to the preservation of their habitat. Alaska Mem. at 36. The State also points to its “extensive permitting program to address discharges into the waters of Cook Inlet.” *Id.* But the Service could reasonably conclude that these conservation efforts “lack the certainty of implementation and effectiveness so as to have removed or reduced threats to Cook Inlet belugas.” 72 Fed. Reg. 19860.

Likewise, the Service identified a Draft Conservation Plan for the Cook Inlet Stock of Beluga Whales, 70 Fed. Reg. 12853 (Mar. 16 2005), but noted that many of the Plan’s recommendations were unfunded, and it was therefore uncertain whether they would ever be

implemented. 72 Fed. Reg. 19860. Ultimately, whatever conservation efforts were already being made by the State or pursuant to the MMPA clearly had not demonstrated a degree of effectiveness sufficient to alleviate concern over the small population size in Cook Inlet, since the population had shown no signs of recovery and was indeed continuing to decline.⁴

Second, plaintiffs claim that the Service could have taken a less drastic step in response to the beluga population's failure to immediately recover. *See* Compl. [1] ¶¶ 54-58. Plaintiffs argue that the Service should have listed the Cook Inlet beluga as a "threatened species," which is defined as one that "is likely to become endangered in the foreseeable future." 16 U.S.C. § 1532(20). But this argument confuses a species that is "likely to become endangered in the foreseeable future" with one that is already "in danger of extinction." *See* 16 U.S.C. § 1532(6). There is no requirement that the Service separately consider a "threatened" designation for a species that *already* qualifies as "endangered" under the ESA. It is enough that the species is presently "in danger of extinction throughout all or a significant portion of its range." *Id.*

Under the Service's definition of an unacceptably high risk of extinction for large whales, the Cook Inlet beluga easily qualifies as endangered. The Service has previously concluded that a "reasonable, conservative definition" for endangered status for large whales is a probability of extinction greater than or equal to 1 percent in 100 years. 72 Fed. Reg. 19860. The results of the status review for the Cook Inlet beluga whale indicate a 26 percent risk of extinction in 100 years. AR 00021 at 17. Thus, the Service acted rationally in designating this species as

⁴ In its summary judgment briefing, Alaska also cited its Coastal Management Program ("ACMP") as a conservation measure that the Service should have considered in making its listing determination. Alaska Mem. at 10, 35-36. However, on July 1, 2011, the sunset provision of the ACMP was triggered, effectively repealing the program. *See* AK ST §§ 46.39.010-46.40.210; 2005 Alaska Sess. Laws Ch. 31 §§ 18 and 22. Though perhaps not relevant to the Service's obligation to consider conservation efforts in effect at the time it made the challenged listing determination, the subsequent expiration of Alaska's Coastal Management Program certainly does not help plaintiffs' argument that the Service somehow overlooked an important state-sponsored conservation effort.

endangered rather than threatened. Indeed, it would not be appropriate to designate as merely “threatened” a species that is already teetering on the edge of extinction.

B. The Service based its decision on the best available scientific data.

Unable to overcome the rationale behind this decision, plaintiffs attack the underlying science on which it rests. The ESA requires the Service to make its listing determinations “solely on the basis of the best scientific and commercial data available.” 16 U.S.C. § 1533(b)(1)(A). Here, the administrative record demonstrates that the Service’s listing decision is supported by the overwhelming weight of scientific evidence. To appreciate the strength of this evidence requires a crash course in population viability analysis—an exercise involving a “great deal of predictive judgment” that is “entitled to particularly deferential review.” *Trout Unlimited v. Lohn*, 559 F.3d 946, 959 (9th Cir. 2009).

The science underlying the Service’s listing determination is essentially a two-step process. In the first step, the Service gathered information about the estimated population of beluga whales in Cook Inlet over a period of fourteen years. These population estimates come from aerial surveys conducted each June from 1994 to 2008 using a consistent methodology: when a group of whales was sighted, researchers would circle the group several times to allow multiple counts and the collection of video data. AR 00021 at 48-49. The surveys documented a decline in abundance of nearly 50 percent between 1994 and 1998, from an estimated 653 whales to an estimated 347 whales.⁵ When the aerial surveys between 1999 and 2008 are included in the analysis, the results of these abundance estimates indicate that “the trend for the period 1999 to 2008 is a negative 1.45% annually.” 73 Fed. Reg. 62919.

⁵ Differences in survey methods prior to 1994 rule out a precise statistical assessment of trends using the available population estimate of 1,293 whales from 1979. However, a comparison of the 1,293 estimate in 1979 with 375 belugas in 2008 indicates a 71 percent decline in 29 years.

In the second step, the Service extrapolated this trend using a time-series model to determine the probability of extinction. This model focuses on the behavior of a declining population at sizes of less than 500 whales and incorporates several parameters specific to the Cook Inlet stock. For example, the model includes a “constant mortality effect” for killer whale predation and an “unusual mortality effect” for events—such as mass strandings and oil spills—that do not occur annually but that have a significant impact on the population’s chances for survival, particularly where the population is already small. AR 00021 at 13-14. The model was also “age-structured” to account for the time lag from birth to sexual maturity and the preference of hunters for adult animals. *Id.* at 47. A value of 1,300 belugas was used as the carrying capacity for Cook Inlet, and a control model—known as the “healthy population” model—included a “density-dependent component” which adjusted for an expected population growth rate of between 2 and 6 percent annually while the population remains below its carrying capacity.

The Service performed extensive testing on the model’s sensitivity to these variables by running more than ten thousand individual trials for further analysis. Using statistical methods, the Service then compared models with these different effects to the observed population trend from 1994 to 2008 in order to determine which model best matched the existing data. The model was also peer-reviewed by independent scientists, including researchers from Alaska’s own Department of Fish and Game. AR 00025. On the basis of this sensitivity analysis, the Service selected a model that most closely fit the observed population trends. The “most realistic” model predicted a 1 percent risk of extinction in 50 years, a 26 percent risk of extinction in 100 years, and a 70 percent risk of extinction in 300 years. AR 00021 at 14. But even under the “base case scenario” or “healthy population” model, there was 29 percent risk of extinction in 300 years.

AR 00021 at 87. As a measure of confidence in this negative trend, the model estimated that there is only a 5 percent probability that the population growth rate is above 2 percent, while there is at least a 62 percent probability that the population will decline further. *Id.*

There is no “better” way to assess a species’ likelihood of extinction. Plaintiffs do not suggest a more accurate method for estimating the abundance of marine mammals, nor do they point to a superior method of projecting the observed population trend into the future. “If no one propose[s] anything better, then what is available is the best.” *Massachusetts ex re. Div. of Marine Fisheries v. Daley*, 170 F.3d 23, 30 (1st Cir. 1999).

Nevertheless, Alaska criticizes several of the assumptions underlying these models, arguing that the models are very sensitive to the inputs the Service used. Renewing an objection raised during the public notice and comment period, Alaska first claims that the population has in fact stabilized since 1999, when hunting restrictions began, pointing to the Service’s conclusion that the trend of negative 1.45% “is not significantly different from zero.” 73 Fed. Reg. 62919. But regardless of whether the trend is static or ever-so-slightly negative, the Service emphasized that it is “significantly less than the expected growth for an un-harvested population (2-4 percent).” *Id.* This matters because the population is already less than one-third of the Cook Inlet carrying capacity for beluga whales, and a healthy population so far below carrying capacity would be expected to immediately begin growing. Stated differently, plaintiffs confuse the expected behavior of a population that is already functioning at carrying capacity, on one hand, with that of a smaller population that is no longer being actively depleted but is still below carrying capacity, on the other. The former would not be expected to show consistent annual growth, while a failure of the latter to immediately begin growing would raise a concern about the population’s health.

Alaska protests that the Service should not have expected population growth until five to seven years after the cessation of subsistence harvest because the population's breeding age component—those adults capable of reproduction—would require several years to stabilize after the cessation of subsistence harvest. Yet the record indicates that this “lag time” was already baked into the Service's model via its assumption of an “age-structured” population. As the Service explained in responding to comments on the Proposed Rule:

[E]ven if the age structure was significantly reduced through selective harvests ending in 1998, the recruitment into the adult population would have been expected to occur continuously, beginning the following year and continuing to the present. This would have resulted in a gradual increase in abundance figures and, by now, the “signal” from such selective removals would have grown through the population. The population model used to estimate the risk of extinction accounted for the reduction in the adult population during unrestricted harvest and the lag time of 9 or more years between birth and age of first reproduction.

73 Fed. Reg. 62926. Indeed, Alaska's own peer reviewer, who examined the Service's proposed rule, agreed that the expected 2 to 6 percent growth rate was reasonable:

Even with a disruption of the age structure of the population due to over harvest of adults, there were still at least 150 adults that would be capable of breeding in 1999. If 75 are female and one third give birth each year, a minimum of 25 calves per year could be produced since 1999 (~200 calves in 8 years).

AR 00025 at 2. Overall, the peer reviewers agreed that the assessment represented the best available science and that the conclusions were supported by the scientific findings presented in the status review. AR 00021 at 27. Thus, the Service's expectation that the population would immediately begin growing following the regulation of subsistence whaling is grounded in the best available scientific data.

Alaska also argues that Service did not justify its reliance on extinction risk at the 100- and 300-year ranges. Alaska Mem. at 23-24. But a shorter time horizon would be nonsensical given the longevity of the average beluga whale. Belugas typically live to be older than 60

years, with some living to be older than 70 years. AR 00250 at 14-15. Statistically, it is very unlikely that even a small population of animals that live 60-70 years in age will decline to zero within 50 years. Such a scenario would require the unrealistic assumption that the reproduction rate would be zero for 50 years. Thus, the long-lived nature of this species makes it appropriate to consider projections with longer time horizons.

Alaska also argues that the “most reasonable” population model was arbitrarily chosen from among the thousands of trial runs produced by the Service’s population viability analysis. Alaska Mem. at 20-24. But this argument misapprehends the purpose of testing the model through sensitivity analysis. The Service relied on a comparison of all of these trial runs—not merely the results of a single model—in determining that the population is declining. As the Service explained, “[w]hile several of the sensitivity trials showed some improvement in extinction risk, only the assumption of a growth rate greater than 2%, the least likely model, removed the risk of decline and extinction.” AR 00021 at 84. Alaska presses the point that the Service gave no explanation for relying on one model—the “most realistic” one—out of the thirty-one possible models that could result from mixing and matching the independent variables. Alaska Mem. at 20. But twenty-three of those model runs were based on unrealistic parameters and were run only for sensitivity analysis or to test the model’s assumptions. *See* AR 00021 at 65.

Finally, plaintiffs claim that the Service never justified its use of 1,300 as the value for carrying capacity in Cook Inlet. Alaska Mem. at 25-29. But the Service stated a rational basis for using this value: it represents the best estimate of the population in 1979. The Service explaining that “the 1979 estimate was based on a valid survey protocol that is documented and repeatable,” and is “the best available estimate” for the population prior to the commencement of

comprehensive aerial surveys in 1994. 73 Fed. Reg. 62924. If anything, the 1979 estimate may understate the carrying capacity for Cook Inlet, since subsistence whaling occurred at unknown levels prior to 1994 and there is very limited empirical data regarding the rate of harvest before this date. AR 00021 at 87. It is entirely possible that the number of beluga whales in Cook Inlet once numbered in the thousands. Under the circumstances, the Service's use of 1,300 for carrying capacity is totally reasonable and is probably a very conservative estimate of this value.

The most important thing to remember is that even if plaintiffs can poke some holes in the agency's models, that does not necessarily preclude a conclusion that these models are the best available science. Some degree of predictive error is inherent in the nature of mathematical modeling. The standard under the ESA is that "the Service must utilize the 'best scientific . . . data *available*,' not the best scientific data *possible*." *Building Indus. Ass'n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001) (emphasis in original). In this case, plaintiffs do not point to any *superior* data that the Service should have considered. *See id.* at 1246-47. And the State's own peer reviewer concluded that although the model assumptions "could have been more detailed" or "better discussed," "the assumptions made considering what is known about beluga biology and life history were reasonable." AR 00025 at 2-3. Thus, it ultimately makes no difference that plaintiffs can point to a few shortcomings here and there in the Service's modeling. The agency's population viability analysis represents the best available science and is therefore entitled to deference.

C. The Service provided a full opportunity for public comment.

That leaves plaintiffs' final argument—that the Service's listing determination did not comply with the required procedures for formal rulemaking. *See* 16 U.S.C. § 1533(b)(4) (requiring compliance with 5 U.S.C. § 553). Plaintiffs claim that the Service did not provide a

full opportunity for public comment on the Proposed Rule and did not respond to significant issues raised in the comments. *See* 5 U.S.C. § 553(c). But the record reflects that the Service held four public hearings—three in Alaska and one in Maryland—and received approximately 180,000 public comments on the Proposed Rule. The majority of these comments supported listing the Cook Inlet beluga whale as endangered. Thus, it appears that plaintiffs simply dislike the Service’s disagreement with the minority of comments opposing the listing determination. In any event, plaintiffs’ argument that the opportunity for public comment was somehow not “full” borders on the absurd.

Contrary to Alaska’s argument, the “substantial disagreement” concerning beluga whale population trends did not obligate the Service to provide *additional* public review of its post-comment period analysis. Plaintiffs argue that the Service should have considered—or at least requested—public comments on the supplemental status reviews that post-dated the Proposed Rule. But there is no requirement that the agency reopen the public comment period when using “supplemental” data that is consistent with the information presented in the proposed rulemaking. *Solite Corp. v. E.P.A.*, 952 F.2d 473, 484 (D.C. Cir. 1991); *see Kern County Farm Bureau v. Allen*, 450 F.3d 1072, 1080 (9th Cir. 2006). Were it otherwise, an agency could find itself stuck in an infinite feedback loop of public comments on responses to public comments.

What is more, plaintiffs can point to no way in which they were prejudiced by the inability to submit additional comments during the six-month extension period. Their summary judgment briefing suggests no basic insight they were foreclosed from presenting during the extension period that might have altered the agency’s final decision. Rather, the purpose of the six-month extension was to give the Service a chance to consider an update to its own data—the results of the June 2008 aerial survey—and to incorporate this update into the population

viability model that had already undergone extensive public review. Thus, the only update to the Proposed Rule was to rerun the model using data that were not available during the March 2006 status review. Because that update did not alter the agency's conclusions, it did not require the Service to reopen the public comment period. *See Solite*, 952 F.2d at 484.

Nor does the record provide any support for plaintiffs' claim that the Service failed to respond adequately to their comments. An agency "need not address every comment, but it must respond in a reasoned manner to those that raise significant problems." *City of Waukesha v. E.P.A.*, 320 F.3d 228, 257 (D.C. Cir. 2003) (citations omitted). Here, the record clearly demonstrates that the Service considered—and thoroughly responded to—each of Alaska's objections to the Proposed Rule. First, the Service acknowledged that the population viability model was sensitive to the parameters and responded to the State's comment by performing additional sensitivity runs to assess the effect of changing certain inputs. Second, the Service responded to Alaska's objection that the near-term risk of extinction was low by explaining that the longevity of this species required a longer time horizon. Third, the Service explained that its use of 1,300 as the value for carrying capacity was based on the best available population estimate from 1979, and explained why that value was ultimately unimportant to the model's projections. Finally, the Service explained that although the negative population trend observed in the data was not significantly different from zero, it was significantly less than the expected growth rate for a healthy population currently below its carrying capacity. In sum, the record reflects that the Service "clearly thought about the [State's] objections and provided reasoned replies—all the APA requires." *City of Portland v. E.P.A.* 507 F.3d 706, 714 (D.C. Cir. 2007).

Likewise, there is no merit to Alaska's contention that the Service's written justification for rejecting the State's position was not adequate or timely. *See Alaska Mem.* at 38-41.

Plaintiffs argue that the Service failed to comply with the requirements of Section 4(i) regarding the adoption of regulations inconsistent with the State's comments. That section provides:

If, in the case of any regulation proposed by the Secretary under the authority of this section, a State agency to which notice thereof was given . . . files comments disagreeing with all or part of the proposed regulation, and the Secretary issues a final regulation which is in conflict with such comments, . . . the Secretary shall submit to the State agency a written justification for his failure to adopt regulations consistent with the agency's comments.

16 U.S.C. § 1533(i). Alaska argues that the Service's "written justification" in this case—a "terse, one page letter" issued three months after the listing determination—was not sufficient to comport with the ESA's requirements. Alaska Mem. at 38.

There are at least two problems with this argument. First, it is not obvious that the "adequacy" of a written justification is even reviewable by a federal court because there are no statutory standards for evaluating the content of a Section 4(i) response. Plaintiffs concede that the term "written justification" is not defined in the ESA. Alaska Mem at 39. Nevertheless, they argue that the term should be construed as a requirement to "inform the State of a rational and legally sufficient basis, as measured by the statutory criteria for making the listing decision, for its decision to reject the State's comments." *Id.*

But even under that construction of the "written justification" requirement, the Service's response easily discharged its obligations under Section 4(i). The January 2009 letter references the exhaustive status review and supplemental status review, which in turn acknowledge the State's disagreement with the agency's trend data and the reasons this disagreement was ultimately rejected. AR 00484-a. Indeed, contrary to Alaska's argument, the letter itself goes to some length in explaining the Service's rejection of the State's recommendation:

[S]ystematic surveys on beluga whales in Cook Inlet have documented a decline in abundance of nearly 50 percent between 1994 and 1998, from an estimate of 653 whales to 347 whales. This decline has been mostly attributed to the subsistence harvest through 1998. However, despite restrictions on the harvest beginning in

1999, the beluga whale population has continued to decline by 1.45 percent per year from 1999 to 2008. Further, as the Status Review indicates, there is a 62 percent chance that the Cook Inlet beluga whale population will continue to decline and only a 5 percent chance that the population will increase annually by 2 percent or greater.

AR 00484-a. Thus, it appears—once again—that plaintiffs are expressing their disagreement with the result of the agency’s rulemaking rather than the process through which it was reached.

Plaintiffs protest that the Service’s letter was not sent to Alaska until three months after the final listing determination was made. But there is nothing in the text of the statute that requires a “written justification” to precede the final determination, and plaintiffs point to no legal authority to support that proposition. *See* 16 U.S.C. § 1533(i). Indeed, it would be strange to require an agency to “justify” in writing a decision that had not yet been made. Thus, a written justification received after a final rulemaking is sufficient to satisfy the agency’s obligation under Section 4(i).

IV. CONCLUSION

For these reasons, plaintiffs’ motions for summary judgment are denied and defendants’ cross-motions for summary judgment are granted. A separate order memorializing these conclusions will issue this day.

Date: November 21, 2011

_____/s/_____
Royce C. Lamberth
Chief United States District Judge