

**NMFS West Coast Region’s Draft Responses to Frequent  
Comments on the 2015 Draft Environmental Impact  
Statement on the Makah Tribe Request to Hunt Gray Whales**  
*November 2019*

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## Introduction

On March 13, 2015, the West Coast Region of the National Marine Fisheries Service (NMFS) published notice of availability of a Draft Environmental Impact Statement (DEIS), pursuant to the National Environmental Policy Act (NEPA), concerning the Makah Indian Tribe's February 2005 request to resume limited hunting of eastern North Pacific (ENP) gray whales for ceremonial and subsistence purposes. We made the DEIS available for public review for 90 days (80 FR 13373, March 13, 2015) and, in response to several stakeholder requests, later extended that initial public comment period by an additional 50 days (80 FR 30676, May 29, 2015). We also held two public meetings on the DEIS on April 27 (Seattle, WA) and April 29 (Port Angeles, WA) (80 FR 14912, March 20, 2015).

We received more than 57,000 comments on the 2015 DEIS by mail, fax, email, and submissions to [www.regulations.gov](http://www.regulations.gov) (Docket ID: NOAA-NMFS-2012-0104). Over 99% of comments were submitted as form letters. Individual commenters included state and federal entities, tribal governments, and both nonprofit organizations and interested individuals from the United States and around the world.

The NMFS West Coast Region has prepared two documents providing the Region's initial responses to the comments we received. Final responses to these comments will be prepared by NMFS when a final EIS regarding this proposed action is issued. In this document we highlight 17 topics frequently raised by commenters and provide detailed responses to them. A separate document includes the Region's initial responses to all comments received on the DEIS.

### 1. Potential for a hunt to cause pain or suffering to whales

Some commenters object to a Makah gray whale hunt on moral or emotional principles, stating that a hunt is cruel and would subject whales to unnecessary suffering. Several commenters assert that whales cannot be humanely hunted, that the Makah Tribe's proposed hunting method is not humane, and/or that the Draft Environmental Impact Statement (DEIS; NMFS, 2015) does not provide adequate information to demonstrate that hunting would be humane. Some commenters consider the death of the whale in the 1999 authorized whale hunt to be inhumane, while some state that the inexperience of Makah whalers will make it less likely that whales would be killed humanely. Some commenters point to the prolonged death of a gray whale in the unauthorized 2007 hunt by Makah tribal members as evidence of the inhumanity of a hunt and/or the lack of skill of Makah tribal hunters. Some commenters recommend the use of explosive projectiles rather than a rifle to kill whales and other commenters express opinions about the appropriate caliber of rifle.

#### **Response**

We understand that hunting in general—and whale hunting in particular—can elicit strong reactions. The DEIS evaluates and describes those likely human reactions under the different

alternatives in Subsection 4.8, Social Environment. Nevertheless, Section 101 (a)(3)(A) of the U.S. Marine Mammal Protection Act (MMPA) provides for a waiver of the moratorium on take for hunting, among other actions, if certain conservation standards are met.

If a waiver of the moratorium is authorized, Section 104 of the MMPA provides for a separate permit process to evaluate a subsequent permit application addressing the method of hunting. Section 104 of the MMPA provides that before it can issue a permit NMFS must determine that the hunting method is 'humane,' which the MMPA and its implementing regulations define as "that method of take which involves the least possible degree of pain and suffering practicable to the mammal involved." (16 U.S.C. 1362(4)). We prepared the DEIS to assist in our review of the Makah Tribe's request to waive the MMPA moratorium and authorize the tribe to hunt ENP gray whales, including the evaluation of any permit application that might be submitted by the Makah Tribe in the future if the take moratorium is waived and regulations are issued. Before NMFS could issue a permit in response to an application by the tribe, it would need to determine that the proposed taking was humane. To inform that future determination, the DEIS provides factual information and analyzes in detail the impact on individual whales of alternative hunt scenarios by considering the manner and time to death associated with each alternative, as well as the feasibility of alternative methods of hunting (Subsection 4.4.2.5, Welfare of Individual Whales – Method of Striking and Killing; Time to Death; Hunting Efficiency). The DEIS also includes as an Appendix the Makah Tribe's 2013 Ordinance to govern any authorized hunt and provide for training and a certification processes for the whaling team and rifleman. (DEIS Appendix B). As required by the MMPA, the public would be provided with an opportunity to review and comment on the Tribe's permit application, including the method of hunting proposed by the Tribe, prior to NMFS' decision whether to issue a permit.

The DEIS does not attempt to resolve the question of whether any particular method of hunting would meet the humaneness test of MMPA Section 104, which defines 'humane' as "that method of taking which involves the least possible degree of pain and suffering practicable to the mammal involved." Ultimate decision-making on whether a method of taking is 'humane' will happen during the permit process and be informed by what is practicable. (16 U.S.C. 1374(b)). The United States participates in the IWC Working Group on Whale Killing Methods and Associated Welfare Issues that regularly reviews whale killing methods as the science and methodology is evolving (see Annex A of IWC, 2014). That group regularly reviews data on the Chukotkan Russian gray whale hunt, as well as the Alaskan bowhead hunt. The IWC has focused on reducing the time to death of a whale (i.e., reducing the amount of time between the strike and death of a whale) to improve the humaneness of whaling (IWC, 2004; IWC, 2007; IWC, 2012a), while taking into account hunter safety. During review of a permit application, NMFS would seek to include relevant information developed by this work group to ensure that permits incorporate best available science and methods as they are developed.

To help evaluate potential scenarios regarding the manner and time to death of a whale killed in a Makah tribal hunt, the DEIS examines the May 1999 hunt. It also compares the results of that hunt to the results from Chukotkan gray whale hunts and concludes that it is reasonable to expect that average time to death in a Makah hunt using a .50 or .577 caliber rifle as the killing

weapon would be shorter than average time to death in the Chukotka Native hunt because the Makah Tribe would use a higher caliber rifle, which would kill a gray whale more effectively than a lower caliber rifle used by the Chukotka Native hunters.

The DEIS describes the unauthorized hunt by Makah tribal members in 2007, including the weapons possibly used and time to death (Subsection 3.4.3.5.4, Method of Killing and Time to Death). Our evaluation does not assume that this experience would be predictive of the likely manner and time to death of whales in a possible future hunt, because the unauthorized hunt did not follow any of the procedures recommend by the tribe in its application (such as training of the shooter), the main killing weapon was lost overboard, and the Coast Guard intervened and stopped the hunt.

Regarding concerns that the inexperience of Makah hunters could result in a less humane hunt, as described in the DEIS, the tribe's proposal and the Whaling Ordinance adopted by the Makah Tribal Council in 2013 include provisions to improve the humaneness of a hunt, such as required training for hunters (Subsection 2.3.2.2.12, Other Environmental Protection Measures). The DEIS concludes that these proposed measures could help mitigate impacts to the welfare of individual whales, as could improved enforcement of the moving exclusionary zone and allowing a hunt during better weather conditions (Subsection 3.4.3.5.4, Method of Killing and Time to Death).

The DEIS evaluates the effect of different killing weapons on the manner and time to death of whales, such as a .50 caliber rifle, a .577 rifle, or an explosive projectile (Subsection 3.4.3.5.4, Method of Killing and Time to Death).

## 2. Aboriginal subsistence whaling (ASW) status of the Makah Tribe and U.S. request to the IWC on behalf of the Makah Tribe.

Several commenters assert that the Makah Tribe does not qualify under the ASW provisions of the International Convention for the Regulation of Whaling (ICRW), or the Whaling Convention Act (WCA), which is the domestic law implementing the ICRW. Commenters raise a number of arguments including the 70-year hiatus in the tribe's whaling tradition, the lack of a 'subsistence need,' and the process by which the International Whaling Commission (IWC) allocated the United States an ASW quota for ENP gray whales. One commenter stated: "any claim of an ASW right must be legitimate, substantiated and incontrovertible," citing the position of the IWC that the ASW exception should not undermine the conservation of whales.

### **Response**

These assertions have been routinely raised and reviewed in public forums, facilitated by NMFS and the State Department to hear from interested parties and to develop the United States' positions before the IWC, since 1996 when the United States first submitted a request and needs statement on behalf of the Makah Tribe for international review pursuant to the ICRW and domestically pursuant to the Whaling Convention Act. The United States has supported the Makah Tribe's request at the IWC, and the IWC has repeatedly reviewed and approved

catch limits for ENP gray whales in response to the joint U.S.-Russia request for “aborigines or a Contracting Government on behalf of aborigines, and then only when the meat and products of such whales are to be used exclusively for local consumption by the aborigines” (IWC, 2012b). The current 7-year harvest limit runs through 2025 and is for 980 ENP gray whales with an annual cap of 140 whales (IWC 2018a). A bilateral agreement between the United States and the Russian Federation sets overall and annual limits for the two countries (Fominykh and Wulff, 2018). The DEIS describes the position taken by the United States on this issue, which is that the Tribe does qualify within the meaning of the 1946 ICRW (United States, 1996). The United States has also consistently taken the position that the Makah tribe are qualified under the current IWC definition of aboriginal subsistence whaling that was agreed by the Commission in 1982:

*Definitions for aboriginal subsistence whaling (IWC, 1982)*

- 1) Aboriginal subsistence whaling means whaling for purposes of local consumption carried out by or on behalf of aboriginal, indigenous or native peoples who share strong community, familial, social, and cultural ties related to a continuing traditional dependence on whaling and on the use of whales.
- 2) Local aboriginal consumption means the traditional uses of whale products by local aboriginal, indigenous or native communities in meeting their nutritional, subsistence and cultural requirements. The term includes trade in items which are by-products of subsistence catches.
- 3) Subsistence catches are catches of whales by aboriginal subsistence whaling operations.

The current comments provide no new information or analysis to support their assertions. The DEIS details the factors supporting the United States’ determination that the Makah Tribe’s request meets the ICRW standards for aboriginal subsistence whaling as articulated by the IWC (Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah, p. 1-31):

“United States delegates and Makah representatives responded that the Makah Tribe had continued aspects of its whaling tradition through names, dance, songs, and other cultural traditions (United States, 1996; IWC, 1997). The United States also noted that nutritional need is a factor in considering and setting aboriginal subsistence whaling catch limits, but not a threshold requirement. United States delegates used the example of the IWC setting a catch limit for the bowhead stock for many years after considering the United States’ requests on behalf of the Alaska Eskimos, even though the Nutrition Panel at the 1979 workshop for aboriginal subsistence whaling of bowhead concluded that nutritional needs of Eskimos could be met through local subsistence or western-type foods (IWC 1979b; United States 1996). Moreover, the Makah needs statement (Renker 1996), had demonstrated a continued subsistence reliance on traditional marine foods available to the Makah, and a nutritional need based on poverty and economic conditions on the Makah Reservation (Renker 1996; United States 1996). The United States noted that federal agents in the last 5 decades had actively prevented Makahs from consuming and utilizing whales that drifted onto Makah beaches, by

burying or burning the drift whales and by threatening Makah members, who tried to access the products, with jail and other federal sanctions (United States 1996). As late as the 1970s, federal agents were still entering Makah households and searching freezers for the presence of marine mammal products (United States 1996).”

The DEIS also describes the process at the IWC by which the United States requested and received an ASW quota on behalf of the Makah Tribe, including U.S. actions at the 1996 IWC meeting, where some delegates opposed the U.S. request for an ASW quota on behalf of the Makah Tribe (Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah, p. 1-30):

“At the annual meeting of the IWC in 1996, the United States, on the Makah’s behalf, requested that the IWC revise the Schedule to set a catch limit for the ENP gray whale stock of 20 ENP gray whales over 5 years (with no more than five in any one year) from 1997 through 2000. At the Aboriginal Subsistence Whaling Subcommittee meeting, many delegates supported the United States’ request. Other delegates indicated they would vote against the proposal. One reason given for this opposition was that the United States did not ask the Russian Federation to share the existing 1995 to 1997 catch limit of 140 ENP gray whales per year, which was based on the cultural and nutritional needs of the Chukotka Natives (IWC 1997; 63 Fed. Reg. 16701, April 6, 1998). Instead, the United States adhered to a prior position that each contracting government requesting a revision to the Schedule for aboriginal subsistence whaling catch limits must submit its own proposal before the IWC (IWC 1997; 63 Fed. Reg. 16701, April 6, 1998). Opponents noted that granting the United States’ request would increase the total ENP gray whale catch limit beyond what had already been set by the IWC in paragraph 13(b)(2) of the Schedule (IWC 1997). At the 1996 meeting, the Russian Federation had also requested a catch limit of five bowhead whales a year but withdrew its request when a consensus could not be reached among delegates. The bowhead stock catch limit was already set for the United States and was not shared with Russia (IWC 1997).

Another reason for the opposition was that some delegates questioned whether the Makah had a “continuing traditional dependence” on whaling (IWC 1997), a component of the working definition for aboriginal subsistence whaling developed by the 1981 Ad Hoc Technical Working Group (Subsection 1.4.1.2.1, Relevant Overview of Requests for Bowhead Whales on Behalf of Alaska Eskimos). The delegates noted that the Makah had not hunted gray whales since the 1920s (IWC 1997).”

The United States delegation responded to this concern as noted above that “the Makah Tribe had continued aspects of its whaling tradition through names, dance, songs, and other cultural traditions.” (Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah, p. 1-31)

Before its actions at the IWC, the United States delegation conducted an internal review and a public review, as it does before making any request to revise catch limits in the IWC schedule (e.g., 83 FR 33210, July 17, 2018). As described in the DEIS (Subsection 1.2.4.1.4, United States' IWC Interagency Consultation, p. 1-24):

“When the United States receives a request (needs statement) from a Native American tribe to whale for subsistence purposes, NOAA’s Office of International Affairs, the United States Commissioner to the IWC, and the Department of State first review the needs statement. The United States Commissioner may also consult with other federal agencies as appropriate. Before each IWC meeting, the United States Commissioner presents the draft United States’ position on whaling issues, including proposals to revise aboriginal subsistence whaling catch limits, to the public at the IWC Interagency Committee meeting. These interagency meetings take place before each full meeting of the IWC, in the Washington D.C. area, and they are open to any United States citizen with an interest in whaling, except for individuals representing foreign interests. Representatives of environmental and animal rights groups, Native American groups, sustainable use groups, and other concerned citizens typically attend. When relevant, Makah whaling issues have been discussed at public IWC Interagency meetings since May of 1995.”

The United States has promoted IWC efforts to standardize need statements and better understand the relationship between needs and consumption patterns for ASW hunts (see, for example, the report of the meeting of the Aboriginal Subsistence Whaling Working Group - IWC/67/ASW/Rep/01 (IWC, 2018b)).

The Makah Tribe’s request for MMPA authorization to hunt whales refers to the international catch limit authorized by the IWC under the ICRW (IWC, 2018a). The MMPA has no eligibility requirement similar to the ICRW’s ASW requirement. If NMFS waives the MMPA take moratorium for ENP gray whales and issues regulations governing a tribal hunt, the Makah Tribe and NMFS will need to complete procedures established in the domestic law that implements the ICRW, the WCA and its implementing regulations at 50 CFR Part 230. Any authorization granted under the WCA to allocate a domestic catch limit for ENP gray whales would need to be consistent with the IWC schedule and bilateral agreement between the U.S. and the Russian Federation.

### 3. Makah Tribe’s desire to revive its whaling tradition

Several commenters assert the Tribe does not have a cultural or subsistence need for whale products. This argument is made both to support a claim that the tribe does not qualify for an ASW quota (Frequent Comment No. 2) and to support a variety of arguments against the tribe’s waiver request, including that whaling is outdated and anachronistic, no longer a central aspect of Makah culture and tradition, and unlikely to benefit the tribe culturally, spiritually, materially or otherwise. They also question surveys of tribal members used by the tribe to support their request and question the objectivity of anthropologists conducting surveys and/or assessments

of tribal views on the resumption of whaling. Several commenters assert that the right to whale is not guaranteed by the Treaty of Neah Bay (Frequent Comment No. 8). A number of commenters also state that authorization of a tribal hunt would circumvent the protections of the MMPA (Frequent Comment No. 17).

### **Response**

The DEIS acknowledges that whale hunting under the action alternatives would inspire a wide range of feelings among persons and groups who oppose the hunt, including sorrow, frustration, and anger (see Subsections 3.8.3.3 and 4.8.2.3, Other Individuals and Organizations). Although whaling may seem outdated to some people, it is up to the Makah Tribe, as a sovereign nation, to decide which cultural traditions it pursues, within the bounds of applicable law.

Regarding the assertion that whaling is no longer a central aspect of Makah culture and tradition, the DEIS describes the United States' position that whaling has continued to be a part of various Makah cultural traditions (Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah, quoted above in response to Frequent Comment No. 2). The Makah Tribe asserts that a revival of tribal culture is necessary to combat social ills and that a resumption of whaling is necessary to pursue cultural revival (Makah 2005a). The DEIS concludes that the hunting and harvest of gray whales under all action alternatives are likely to have beneficial impacts on the Tribe's cultural identity, including its traditional knowledge and activities and its spiritual connection to whaling.

Some commenters questioned the objectivity of anthropologists Dr. Ann Renker and Dr. Stephen Braund, both of whom provided information for the DEIS regarding the history, culture, and significance of Makah whale hunts that support the U.S. position noted above. Dr. Renker has conducted extensive research on the Makah Tribe since the 1980s and served for several years as the Executive Director of the Makah Cultural and Research Center. Since 1996, Dr. Renker has conducted four household whaling surveys of the Makah Tribe forming the basis of four reports (needs statements) prepared for the IWC. The U.S. has adopted all of these reports as part of its joint request with Russia for a gray whale quota, and the IWC's Aboriginal Subsistence Whaling Sub-committee has consistently accepted these needs statements. The DEIS includes a discussion of the limitations of the data from the surveys. We have also included the information that Dr. Renker has lived on the reservation for many years.

For nearly four decades Dr. Braund has conducted dozens of anthropological and cultural resource assessments on native American communities, and he visited the Makah reservation and interviewed tribal members as part of our NEPA assessment. He also reviewed Dr. Renker's work and included references to it in his report. We also retained cultural anthropologist Dr. Dorothy Kennedy to review our presentation of Dr. Renker's work and provide comments. The names of both of these cultural anthropologists appear in the list of preparers. The DEIS discusses the social or cultural effects of authorizing or not authorizing a Makah whale hunt as, for example, this passage from Subsection 4.10.3.2.5, Cultural Identity (p. 4-204):



“With a resumption of whale hunting under Alternative 2, the amount of satisfaction tribal members might derive from the practice of traditional activities and the application of traditional knowledge would increase beyond that of the No-action Alternative (Subsection 4.10.3.2.3 Traditional Knowledge and Activities).

Under Alternative 2, the ability to resume whale hunting could increase the Makah’s spiritual connection to whale hunting over the No-action Alternative, as whale-hunting activity could resume and recur year after year. This is because the connection would be current and ongoing, rather than a connection to a past activity that can no longer be pursued (Braund and Associates 2007) (Subsection 4.10.3.2.4 Spiritual Connection to Whale Hunting).

The opportunity under Alternative 2 to regularly harvest, process, share, and consume whale products could lead to increased communal activities and an increase in tribal members’ sense of community. The whale hunting ceremonies that whalers and family members would follow for the hunt could provide the Makah with an additional social framework, which could contribute to social and spiritual community stability.”

The DEIS also describes the subsistence effects to tribal members of authorizing or not authorizing a whale hunt (Subsection 4.10.3.2.2, Subsistence Use). Although tribal members may have access to other food sources, the DEIS concludes that the ability to hunt whales would increase the Tribe’s opportunities to pursue subsistence practices and increase the satisfaction of tribal members as a result of those opportunities.

Regarding legal arguments about the role and scope of the Treaty of Neah Bay, in evaluating application of the MMPA to the Tribe’s gray whale hunt, the Ninth Circuit stated in *Anderson v. Evans* that “[u]nlike other persons applying for a permit or waiver under the MMPA the Tribe may urge a treaty right to be considered in the NMFS’s review of the application submitted by the Tribe under the MMPA.” *Anderson v. Evans*, 371 F.3d 475, 501 n.26 (9th Cir. 2004). The DEIS describes the treaty and issues surrounding its negotiation as context for the examination and analysis of effects of alternatives on the human environment. The DEIS describes other relevant federal laws also for background and context. See also the responses below to Frequent Comments No. 8 regarding the Treaty of Neah Bay and Frequent Comment No. 17 regarding lawfulness of a waiver.

The Makah Tribe is seeking a waiver of the MMPA take moratorium , pursuant to the Ninth Circuit’s decision in *Anderson v. Evans*, and as allowed for in Section 101(a)(3)(A) of the MMPA. The DEIS describes the waiver process and requirements in more detail in Subsections 1.2.3.3, Section 101(a)(3)(A)—Waiver of the Take Moratorium, and 3.17.3.1, Waivers of the MMPA Take Moratorium. NMFS is responding to the tribe’s request through the legal processes of the MMPA. Thus, we disagree with the comment that a waiver would circumvent MMPA provisions.

#### 4. Precedential effect of waiver internationally and domestically

Several commenters assert that if NMFS waives the MMPA take moratorium and authorizes a tribal hunt, it will lead to increased requests for and take of marine mammals in the United States, including whales, and/or increased whaling world-wide. They point to evidence that other coastal tribes historically whaled and would therefore request authorization to whale. Members of the public recently submitted additional comments regarding a case in which the Ninth Circuit Court of Appeals held that historic whaling by the Quinault and Quileute Tribes counted as “fishing” for purposes of interpreting their treaties and establishing their usual and accustomed (U&A) fishing areas (*Makah Indian Tribe v. Quileute Indian Tribe*, 873 F.3d 1157 (9th Cir. 2017), *cert. denied*, No. 17-1592, 2018 WL 2364652 (U.S. Oct. 1, 2018)). These commenters state that the Court’s decision could renew the interest of those tribes to resume whaling.

One commenter suggests that other tribes have not requested MMPA waivers as a strategic maneuver in support of the Makah Tribe’s request.

Some commenters also note that if the Makah Tribe receives authorization to hunt gray whales, they may seek to hunt other species in the future, such as the recently delisted humpback whale.

Some commenters suggest that if the Makah Tribe resumes whaling it will prompt First Nations in Canada to resume whaling.

Regarding whaling worldwide, several commenters assert that authorizing a Makah gray whale hunt will increase whaling worldwide and several commenters assert that the DEIS does not adequately treat the potential precedential effect on the efforts by Japan to promote small-type coastal whaling by traditional Japanese peoples.

#### **Response**

The DEIS examines the potential for authorization of a gray whale hunt to have precedential effects on hunts for marine mammals in the United States and whaling world-wide (Subsection 4.17, Regulatory Environment Governing Harvest of Marine Mammals) using three criteria: (1) the potential change in requests for waiver of the MMPA take moratorium to allow harvest in the United States of marine mammals other than whales; (2) the potential change in requests for regulatory action to authorize harvest of whales in the United States, which would require application to the IWC for a catch limit, waiver of the MMPA take moratorium (with associated MMPA regulatory actions following NEPA review), and completion of a cooperative agreement under the Whaling Convention Act (WCA); and (3) the potential change in IWC regulation of commercial, scientific, or aboriginal subsistence whaling. The response below is organized around the comments we received rather than the three evaluation criteria in the DEIS.

#### **(1) Additional requests for MMPA waivers for marine mammals other than whales**

Regarding requests for MMPA waivers, the DEIS (Subsection 4.17.2.1, National Regulation of Marine Mammal Harvest, p. 4-261) notes that authorization of a gray whale hunt by NMFS, and a gray whale hunt by the Makah tribe:

“...could lead other parties to seek similar authorizations to harvest marine mammals other than whales. Some Northwest Indian tribes traditionally harvested and used products from seals, sea otters, and other marine mammals. Northwest Indian tribes have, in the past, expressed an interest in harvesting marine mammals (Schmitt 1994). Authorization of a Makah gray whale hunt could revive the interest of the Makah or other tribes in hunting marine mammals. It could also lead to interest by non-Indians in sport or commercial hunting of marine mammals. Such interest could lead to additional requests for MMPA waivers from Indian tribes or non-Indians, and ultimately to the federally authorized harvest of additional marine mammals.”

The DEIS (Subsection 4.17.3.2.1, National Regulation of Marine Mammal Harvests, p. 4-265) concludes that under the action alternatives:

“...there would be an increased likelihood of future [waiver] requests. We consider the increased likelihood to be small. First, as described in Subsection 3.17.3.1, Waivers of the MMPA Take Moratorium, there have been very few requests for waiver of the take moratorium, and none since 1987 except the Makah Tribe’s request. This is likely the result of the complexity of the waiver process, the length of time required to complete the process, and the lack of resulting harvest opportunities. These factors would continue to limit interest in seeking MMPA waivers, even if a Makah whale hunt were authorized under one of the action alternatives. The most likely increase in waiver applications would come from other treaty tribes, who might view the approval of the Makah’s application as a precedent for approval of additional waiver applications to take marine mammals that they had harvested traditionally and that remained important to them for cultural or other reasons. If authorization of a hunt under one of the action alternatives (Alternatives 2 through 6) did lead to additional waiver requests, the outcome of any process to consider them would depend on a number of facts specific to the requests that are not presently known, making it speculative to conclude that the harvest of marine mammals nationally would change as a result of implementing Alternatives 2 through 6. Any additional waiver requests for marine mammals other than whales would be subject to analyses under NEPA as well as the MMPA.”

None of the commenters submitted new information that would change this conclusion or that supports the assertion that other tribes are strategically withholding waiver requests. We therefore conclude this assertion to be speculative.

## **(2) Additional requests for MMPA waivers for large whales**

Regarding additional requests for whale hunts in the United States, the DEIS (Subsection 4.17.3.2.2, National Regulation of Whaling, p. 4-265) states:

“Although it has been over 35 years since Alaska Natives first received a WCA allocation and over 15 years since the Makah Tribe received its [original] allocation, no other Indian tribe or Alaska native group has requested an allocation or inquired about receiving an allocation for whales under the WCA. This history suggests that beyond the Makah and the Alaska Eskimo Whaling Commission there is little interest by other native groups to seek authorization to harvest whales. In addition, the complexity of the process and length of time required to complete it would probably limit the interest of most potential applicants. It therefore seems unlikely that implementation of Alternatives 2 through 6 would lead other Indian tribes to seek authorization to hunt whales.

Nevertheless, tribes other than the Makah traditionally hunted gray whales (Subsection 3.4.3.6.1, Aboriginal Subsistence Whaling), and authorization of a Makah gray whale hunt could encourage them to seek a similar authorization. If authorization of a hunt under Alternatives 2 through 6 did lead to additional requests to hunt gray whales, the outcome of any process would depend on a number of facts specific to those requests that are not presently known, making it speculative to conclude that the harvest of gray whales nationally would change as a result of implementing Alternatives 2 through 6.”

The recent Ninth Circuit decision does not change this conclusion, which is based on the complexity of the international and domestic processes and not the underlying potential existence of a claim to aboriginal subsistence whaling. For example, if the tribes in that case wished to assert a whaling right they would need to satisfy domestic and international requirements regarding ASW claims, MMPA waiver, and WCA authorization. The commenters point to no additional information and we are not aware of any other new information that would change the conclusion in the DEIS. As with marine mammals generally, the suggestion that other tribes are strategically withholding requests is speculative.

### **(3) Future requests by the Makah Tribe to hunt other large whale species**

Regarding future requests by the Makah Tribe to hunt other large whale species, the request currently being considered by NMFS is a hunt only of ENP gray whales (see Subsection 2.3.2.2, Gray Whale Hunt Details). Hunting of any whale species other than gray whales would require evaluation and approval via separate processes under the IWC, NEPA, MMPA, and WCA. Before the Tribe could receive authorization to hunt any other species of large whale, the United States would have to request a quota on behalf of the Tribe and present a needs statement to the IWC, which would have to approve a catch limit in light of that request. NMFS would then have to complete a NEPA evaluation of the request, engage in formal rulemaking under the MMPA, and enter into a cooperative agreement under the WCA. For these reasons we conclude the analysis in the DEIS regarding requests by other tribes for ENP gray whale hunts is

equally applicable to the likelihood of a request by the Makah Tribe for hunts of other large whale species besides gray whales.

#### **(4) Increased whaling worldwide**

Regarding an increase in whaling worldwide, the DEIS examines in detail all whaling under the IWC—commercial, scientific, and aboriginal—before and after NMFS’ authorization of Makah whaling in 1999 and 2000 and finds no change or pattern that would lead one to conclude another authorization more than a decade later would cause increased whaling world-wide. The DEIS notes that since 1997 “there have been no requests from additional countries for an aboriginal subsistence catch limit and no requests on behalf of additional aboriginal groups” (Subsection 4.17.3.2.3, International Regulation of Whaling, p. 4-269).

The DEIS specifically examines claims, repeated by some commenters, that Japan could use domestic authorization of a Makah whale hunt under the MMPA to justify its request for small-type coastal whaling:

“Though Japan attempted to use the United States’ bowhead catch limit request in 2002 in its pursuit of small-type coastal whaling, there is no evidence that this move led to a fundamental change in the United States’ position, in the positions of other countries, or in the international regulation of whaling. There is also no evidence that whaling proponents such as Japan could successfully use the United States’ authorization of a Makah hunt under domestic law as leverage to change the regulation of commercial or scientific whaling. It is more likely that the outcome of Japan’s requests for small-type coastal whaling, or the pro-whaling nations’ efforts to remove the moratorium on commercial whaling, depends on the balance of power in the IWC rather than on strategic maneuvers such as those that took place in 2002 over the bowhead catch limit.

The support of Japan and the other pro-whaling countries for the ENP gray whale catch limit even as they were opposing the bowhead catch limit in 2002 (3.17.3.2.3 Aboriginal Subsistence Whaling) also suggests that pro-whaling countries do not view the Makah hunt as leverage to change the regulation of commercial or scientific whaling. In 2007, bowhead and ENP gray whale aboriginal subsistence catch limits were set by consensus at the annual meeting of the IWC (Subsection 1.4.1.2.1, Relevant Overview of Requests for Bowhead Whales on Behalf of Alaska Eskimos; Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah). The IWC set these catch limits again in 2012 in a block vote with the humpback catch limit request of St. Vincent and the Grenadines (Subsection 1.4.1.2.2, Overview of Requests for ENP Gray Whales on Behalf of the Makah) and most recently in 2018 (IWC 2018a). Pro-whaling nations have argued that all whaling should be treated equally, limited only by principles of sound science and management. These nations could argue that the resumption of whaling by the Makah Tribe justifies an increase in other types of whaling. They might also argue that the ability of the Makah Tribe to sell handicrafts made from inedible parts (which would be authorized under Alternatives 2 through 6) makes the hunt “commercial,” although this is allowed under the IWC’s definitions for “subsistence use” and “aboriginal subsistence whaling.” We consider it

unlikely, however, that pro-whaling nations would be able to use this argument as leverage to change the regulation of commercial or scientific whaling. The United States and several other countries have a long history of opposing commercial and scientific whaling while supporting aboriginal subsistence whaling; thus, authorization of a Makah hunt would not introduce a new element into the long-standing debate over whether there is a difference between commercial and subsistence hunts. Moreover, Alaska Natives have been authorized under domestic law to make and sell handicrafts made from bowhead whales.

A final piece of evidence suggests that aboriginal subsistence whaling generally, and authorization of a Makah hunt in particular, would not influence the debate over commercial and scientific whaling. The working group proposal presented at the 2010 IWC meeting included trade-offs between scientific and commercial whaling (Subsection 3.17.3.2.2, Commercial and Scientific Whaling). Aboriginal subsistence whaling appears not to have been a consideration in the proposed compromise between scientific and commercial whaling interests.” (DEIS Subsection 4.17.3.2.3, International Regulation of Whaling, Commercial and Scientific Whaling, p. 4-267)

The DEIS also notes that the Canadian government and First Nations reached an agreement in 2006 in which the First Nations agreed to forego whaling for 25 years in exchange for land, a share of mineral and timber resources, and a cash settlement (Subsection 1.2.1.1, Worldwide Catch Limits). Because First Nations on the West Coast of Vancouver Island are affiliated with the Makah Tribe, it is possible that at the conclusion of their 25-year agreement, a gray whale hunt by the Makah Tribe could encourage them not to continue their whaling hiatus. It is speculative at this time to consider what would happen in that regard in 2031.

We also note that Japan recently withdrew from the ICRW (<https://iwc.int/statement-on-government-of-japan-withdrawal-from-t>), prior to our proposal to authorize a limited whale hunt by the Makah Tribe. This suggests there are larger issues driving the position of Japan at the IWC. Although some commenters made assertions about the intentions of other countries, particularly Japan, and past deal-making within the IWC, they did not bring forward any new evidence beyond what was considered in the DEIS. We have also examined the IWC proceedings since the DEIS was released and found no new information that would change the conclusions in the DEIS.

## 5. Stock status of the Pacific Coast Feeding Group (PCFG) of ENP gray whales

Several commenters assert the PCFG should be designated and/or treated as a marine mammal population stock under the MMPA. Commenters present scientific, policy, and legal arguments supporting this position. Some commenters also state that NMFS is biased and has avoided designating the PCFG as a stock to protect the ability of the Makah Tribe to whale.

## **Response**

Section 117 of the MMPA directs NMFS to complete stock assessment reports (SARs), which, among other things, serve to identify marine mammal “population stocks,” the fundamental unit of legally mandated conservation under the MMPA. The MMPA provides general guidance on preparing SARs, and more detailed guidance is contained in agency “Guidelines for Assessing Marine Mammal Stocks” (GAMMS), which undergo public review and comment, including by the Marine Mammal Commission, and are periodically updated. The most recent GAMMS includes a section on “Definition of Stock,” which describes a stock as an MMPA management unit that identifies a demographically independent biological population. “Demographic independence means that the population dynamics of the affected group is more a consequence of births and deaths within the group (internal dynamics) rather than immigration or emigration (external dynamics).”

NMFS scientists develop SARs according to the GAMMS. Section 117 of the MMPA requires that the SARs be reviewed by regional scientific review groups (SRG) and made available for public comment and review. The Marine Mammal Commission routinely reviews and comments on the SARs during the public comment period (e.g., Carretta et al., 2019; 84 FR 28489, June 19, 2019). The SARs are officially published by the NMFS Scientific Publications Office as part of the NOAA Technical Memorandum series. This statutory process is the appropriate mechanism for designating population stocks of marine mammals under the MMPA and NMFS will continue to rely on it to consider the best available scientific information to identify stocks and their population parameters.

The first SAR in 1995 (Small and DeMaster, 1995) stated that “gray whales have been reported feeding in the summer in waters off Southeast Alaska, British Columbia, Oregon, and Washington.” The 2005 SAR was the first to refer to such whales as a “Pacific coast feeding aggregation.” The term “feeding aggregation” is used by biologists to describe concentrations of whales that forage in a specific area but is not used to signify a stock as defined in the MMPA. In 2011 the International Whaling Commission (IWC) referred to this feeding aggregation as the “Pacific coast feeding group” (PCFG) and defined it as gray whales observed (i.e., photographed) in multiple years between 1 June and 30 November in the PCFG area (between 41°N and 52°N) (IWC, 2011). The IWC does not have a stock identification process similar to the MMPA. NMFS has used the term ‘PCFG’ since the 2012 SAR (Carretta et al., 2013), which was the first to estimate various population metrics for such whales (e.g., minimum abundance estimates and levels of potential biological removal (PBR)). In their comments on the 2012 SAR, the Alaska SRG recommended NMFS not recognize the PCFG as a separate stock, and (consistent with views expressed by the Pacific SRG) also recommended that NMFS not refer to this group as a “prospective stock.” In 2012 the Pacific SRG assumed responsibility for reviewing the gray whale SAR. In 2014 the Pacific SRG deliberated whether a PBR should be calculated for the PCFG since it is not a separate stock under the MMPA and doing so would set a precedent for reporting an “informational PBR.” Ultimately the SRG recommended that a separate PBR be calculated for the PCFG “for informational purposes only as the evidence was not persuasive enough at that time for the SRG to recommend that it be considered a separate

stock.” As of the most recent update to the ENP SAR in May 2019, the PCFG is still defined as a feeding aggregation of ENP stock with a separate informational PBR (Carretta et al. 2019).

In 2012, we asked agency scientists to further evaluate PCFG whales, which included convening a Task Force of agency scientists (Weller et al. 2013) specifically tasked with providing advice on the primary question: Is the PCFG a ‘population stock’ under the MMPA? The DEIS notes that this question has immediate management implications, including how future SARs will address gray whale stock structure in the North Pacific, and how to respond to the Makah Tribe’s waiver request. The Task Force reviewed all available information regarding the demographic independence of the PCFG. The Task Force framed their task as follows:

“That is, if the PCFG experiences little external recruitment then it would be considered demographically independent and should be recognized as a stock. If most of the recruitment into the PCFG were external, however, then it would not be considered demographically independent and would not be recognized as a stock. The [Task Force] concurred that the resolution of the existing photo-identification data in combination with uncertainly[sic] surrounding the accuracy of assigning whales as external or internal recruits prevent this question from being fully resolved. Increased genetic sampling in tandem with increased photo-id effort over both space and time may be the only way to better address this question.” (Weller et al., 2013, p. 20)

The Task Force reviewed the available genetic information and noted that various studies had found differences in mitochondrial DNA (mtDNA) between PCFG whales and whales from northern feeding areas, indicating some level of demographic independence. At the same time they noted the lack of support for differences in nuclear DNA between PCFG whales and the rest of the ENP and concluded “it is most likely that PCFG animals are interbreeding with animals coming from other areas” (Weller et al., 2013, p. 31). The Task Force “agreed that the critical issue for additional research to address was better determining the levels of internal versus external recruitment in the PCFG” (Weller et al., 2013, p. 30) as that was the key to determining the demographic independence of the PCFG.<sup>1</sup>

These scientists used a structured decision-making process to allocate votes among plausible scenarios. The conclusion of the Task Force was reviewed during the SAR process by the Pacific SRG and made available for public review and comment; except for the Makah Tribe, none of the commenters on the DEIS have provided comments or information addressing ENP stock structure during the public process/review of the gray whale SARs. After reviewing the best scientific information available from photo-identification, genetics, tagging, and other studies, the Task Force applied the GAMMS guidance to conclude that there is a substantial level of uncertainty in the strength of the lines of evidence supporting demographic independence of the PCFG. Consequently, the Task Force was unable to provide definitive advice as to whether the PCFG is a population stock under the MMPA and the GAMMS guidelines. The Task Force

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<sup>1</sup> Appendix 4 of the NMFS Biological Report on the Eastern North Pacific (ENP) Stock of Gray Whales (NMFS, 2018) summarizes the NMFS research and monitoring activities addressing North Pacific gray whales.



report was reviewed during the SAR process which, since 2012, has continued to result in NMFS finding that the PCFG is a feeding group that “may one day warrant consideration as a distinct stock” (Carretta et al., 2019).

Subsequent to the Task Force findings and in response to our 2015 DEIS, the MMC acknowledged the uncertainty surrounding the status of PCFG whales and, consistent with recommendations by other commenters, supported the precautionary approach in the DEIS of including alternatives that separately manage impacts to the PCFG and analyzing impacts to the PCFG, in a sense treating it as if it were a population stock. Specifically, the MMC recommended that we adopt a hunt management scheme that would “keep [the PCFG] within its OSP [optimum sustainable population level] or some proxy for OSP” (MMC 2015). While it is not known whether the PCFG is within a theoretical OSP (Punt and Moore, 2013), the analysis in the DEIS considers how the alternatives might affect the abundance and viability of the PCFG.

Contrary to the assertions of some commenters, NMFS has not delayed the analysis of ENP gray whale stock structure. Rather, as described in the DEIS, NMFS has engaged in an ongoing review of ENP gray whale stock structure for more than 15 years, including convening the Task Force, and its determinations on stock structure have been routinely reviewed during the SAR process and published as NOAA Technical Memoranda (see DEIS Subsection 3.4.3.4.1, PCFG Population Structure). Commenters on the DEIS provided no new information for our review on this issue. We will continue to review and evaluate the stock structure of North Pacific gray whales through the SAR process.

## 6. Waiver of the take moratorium for WNP whales and/or PCFG whales

Several commenters suggest that tribal hunters would not be able to distinguish between ENP and WNP whales, or between PCFG and non-PCFG whales, and therefore waiver determinations must be made for WNP and PCFG whales as well as for the ENP stock of whales. Many commenters cite the 1988 court decision in *Kokechik Fishermen’s Ass’n v. Sec’y of Commerce*, 839 F.2d 795 (D.C. Cir. 1988) (“*Kokechik*”), to support this contention. Regarding WNP whales, commenters argue they are listed as endangered under the Endangered Species Act (ESA), are therefore considered depleted under the MMPA, and are therefore not eligible for waiver under the MMPA. Regarding PCFG whales, commenters argue that since NMFS has concluded the PCFG “may qualify for stock status in the future” NMFS should treat the group as a stock in making a determination on the Makah Tribe’s waiver request. Some commenters also suggest that if the PCFG were designated as a stock in the future, additional decision-making would be required to waive the take moratorium for PCFG whales.

### **Response**

The Makah Tribe has requested a waiver of the MMPA take moratorium, pursuant to the court’s decision in *Anderson v. Evans*, for ENP gray whales only, and has requested approval of a gray whale hunt under the WCA for ENP gray whales only. The Tribe has not requested and the alternatives do not contemplate waiver of the take moratorium for WNP whales (or any other species of whale). The DEIS describes a supporting analysis completed in 2013 (Moore and Weller 2013) which shows that the risk of whalers encountering a WNP whale during an

ENP gray whale hunt is slight compared with the likelihood of encountering an ENP gray whale due to large differences in population size (estimated at the time to be approximately 155 WNP gray whales compared to 19,126 ENP gray whales) and the limited seasonal presence of WNP whales in the area of the hunt. The analysis was updated in 2018 to account for new data and NMFS' revised draft proposal for governing the hunt (Moore and Weller, 2018), and again in 2019 to reflect new population size estimates and a new estimate of the proportion of WNP whales mixing with ENP whales during migration (Moore and Weller, 2019); both updated analyses reached the same general conclusions as the initial analysis regarding the low likelihood of encountering WNP whales during an ENP whale hunt. Further the DEIS provides information and analyses regarding the likelihood of the Makah Tribe killing, attempting to strike, and approaching a WNP whale under various action alternatives (see, for example, Subsection 4.4.3.2.2, Change in Abundance and Viability of the WNP Gray Whale Stock) during an ENP gray whale hunt. See also frequent comment No. 12 regarding Risks to WNP whales, which vary depending on the alternative. As required by NEPA, the DEIS provides the factual basis for and analyzes and illuminates the potential impacts of different alternatives to the environment to inform decision-making regarding authorization of an ENP hunt pursuant to criteria under applicable law. Relevant laws are described in DEIS Table 1-2, International, national, state, and tribal treaties, laws, regulations, policies, and processes that may be required for Makah whaling.

Regarding the argument that NMFS must separately waive the take moratorium for PCFG whales, as described in the DEIS and the response to Frequent Comment No. 5, NMFS considers the PCFG to be a feeding aggregation within the ENP gray whale stock and does not recognize the PCFG as a separate marine mammal stock as defined under the MMPA (Carretta et al. 2019). A waiver of the MMPA take moratorium for ENP gray whales would therefore apply to PCFG whales, which are a component of the ENP stock. NMFS uses the SAR process prescribed by the MMPA to identify stocks. NMFS has concluded that while the PCFG could be recognized as a stock in the future, currently available evidence is insufficient to support designating the group as an MMPA stock. In consideration of the role of the PCFG in the local environment, the tribe's application identified a management goal of avoiding local depletion of the PCFG. The action alternatives in the DEIS also incorporate a management goal of avoiding local depletion by including various protections for PCFG whales.

The DEIS contains sufficient information regarding the alternatives' potential impacts to ENP, WNP, and PCFG whales to inform future decision-making.

If the PCFG were designated a population stock pursuant to Section 117 of the MMPA in the future, we would consider whether additional decision-making was needed at that time.

## 7. Calculation and use of 'potential biological removal' (PBR) for a PCFG mortality limit

Some commenters take exception to the method used in the SAR for calculating a PBR for the PCFG, or the way in which the action alternatives in the DEIS used the PBR formula to establish

a mortality limit for PCFG whales in a hunt. Objections include: the PBR formula should use the default reproductive rate for marine mammals instead of the rate for ENP gray whales; the PBR formula should use a different recovery factor, similar to that used for endangered whale stocks; more of the hunt alternatives should have used a PBR based on a subset of the PCFG and not the entire PCFG; and a mortality limit set for the tribe should account for the fact that the PCFG is a “transboundary stock” that experiences human-caused mortality outside U.S. waters. One commenter also faults the DEIS analysis as failing to analyze impacts at the local level because only one alternative would establish a PCFG mortality limit based on the PBR of whales in the OR-SVI survey areas. One commenter notes that if abundance estimates become stale it compromises the value of PBR in managing mortality. One commenter questioned whether the SARs used the appropriate net productivity rate to calculate PBR, stating that the rate “increased from 3.2% to 6.25%” and noting there was no evidence to support a doubling of the rate and that such a doubling would be biologically impossible.

### **Response**

NMFS calculates PBRs for marine mammal stocks through the SAR process according to the requirements of the MMPA Section 117 and as outlined in the GAMMS. That process includes scientific review and the opportunity for comment by the public and the Marine Mammal Commission and publication by the NMFS Scientific Publications Office. We consider the SAR process the appropriate mechanism for establishing PBRs for marine mammal stocks. None of the commenters participated in this public process to bring forward the views expressed in these comments for consideration during the SAR process. The DEIS relies on the ENP gray whale SAR, which contains the best available scientific information on the status of the PCFG, to inform the PBR estimate.

The SAR uses the reproductive rate of the ENP stock to calculate an informational PBR for both ENP and PCFG whales. This is appropriate in light of the fact that the PCFG is considered a subset of ENP gray whales and the product of interbreeding within the ENP stock and to some extent between PCFG whales and non-PCFG whales within the larger ENP stock. The SAR uses a reproductive rate for ENP gray whales from Punt and Wade (2012), which is the best available information regarding that rate. Where an actual estimate of reproductive rate exists, it would not make sense to use the NMFS default rate (which is 4 percent for cetaceans). Commenters provide no information to suggest that the ENP reproductive rate should be something other than the Punt and Wade (2012) estimate. They provide no new information or rationale to support a claim that it would be more scientifically sound to use the NMFS default reproductive rate than the reproductive rate measured for ENP whales to calculate a PBR for the PCFG.

The SAR (Carretta et al., 2019) uses a recovery factor for the PCFG of 0.5, giving the following explanation:

“Use of the recovery factor of 0.5 for PCFG gray whales, rather than 1.0 used for ENP gray whales, is based on uncertainty regarding stock structure and guidelines for preparing marine mammal stock assessments which state that “Recovery factors of 1.0 for stocks of unknown status should be reserved for cases where there is assurance that

Nmin, Rmax, and the kill are unbiased and where the stock structure is unequivocal” (NMFS 2005, Weller et al. 2013). Given uncertainties in external versus internal recruitment levels of PCFG whales, the equivocal nature of the stock structure, and the small estimated population size of the PCFG, NMFS will continue to use the default recovery factor of 0.5 for PCFG gray whales.”

The recovery factor used in NMFS’ SARs is based on the overall status of the population stock (or in the case of the PCFG, the feeding aggregation) in question. For example, blue whales and sperm whales are listed as endangered and therefore have an appropriately low recovery factor. The PCFG, in contrast, has remained stable over the past nearly two decades. There is no evidence that it is at risk and warrants the same level of concern as an endangered group of whales. The SAR authors did err on the side of caution, with the agreement of the scientific review group and Marine Mammal Commission, in using a 0.5 recovery factor in the PBR equation. The ENP as a whole has a recovery factor of 1.0, which was another option considered during the SAR process but rejected because the GAMMS states a recovery factor of 1.0 is only appropriate where stock structure is unequivocal (Carretta et al. 2019).

Alternative 2 in the DEIS represents the Tribe’s 2005 proposal, which includes a PBR-based harvest limit on PCFG whales that is calculated using the abundance of whales in the survey areas from Oregon to southern Vancouver Island (OR-SVI). The Tribe’s proposal was submitted several years before the IWC considered the PCFG as a separate management unit (applying different standards for defining management units from those that apply under the MMPA) and was based on the recommendation of Calambokidis et al. (2004) that the OR-SVI area was the appropriate region for estimating an abundance level to be used in an abundance-based harvest regime. In 2012, through the SAR process, NMFS described the PCFG as a feeding aggregation and adopted a definition of the PCFG based on a considerable body of new information. The SAR adopted the definition agreed by the IWC, which is whales that are observed in more than one year in the area from Northern California to Northern British Columbia during the months of June through November. The SAR also calculates an informational PBR for the PCFG based on its estimated abundance in the entire summer range, not just the OR-SVI region within that range. We consider the SAR to represent the best scientific information available regarding delineation of this feeding aggregation. Because the SAR identifies the PCFG as a unit of interest to managers, we designed the management regimes for the other action alternatives in the DEIS, alternatives 3 through 6, around that unit of interest rather than the smaller group of whales frequently seen in the OR-SVI.

Regardless of how the various alternatives use PBR to calculate an allowable mortality limit for PCFG whales, the DEIS analyzes impacts to PCFG whales at all scales mentioned by commenters—the entire PCFG, the OR-SVI survey areas, and the Makah U&A. This provides information on impacts at several scales that will aid future decision-making by NMFS.

This approach is adequate to meet NEPA’s requirement to analyze impacts at a local scale, contrary to the assertions of commenters. The Ninth Circuit Court of Appeals in *Anderson v. Evans* (2004), required NMFS’ NEPA analysis to consider the impact of the alternatives on the

“local” area, which the court stated was the Makah Tribe’s U&A. *Anderson*, 371 F.3d at 489–93. The DEIS does analyze impacts to that area, as directed by the court, and also the larger OR-SVI area (for example, Subsection 4.4.3.2.4, Change in Numbers of Gray Whales in the Makah U&A and OR-SVI Survey Areas). The court’s ruling did not require that management alternatives focus on any particular area, only that impacts be analyzed at the local scale. In constructing action alternatives other than the tribe’s proposal, we selected the area identified by the IWC and the NMFS SAR process as the relevant area for considering management of PCFG whales.

We agree with the comment that any hunting regime should take into account the fact that the PCFG spends time outside of U.S. waters and experiences human-caused mortality beyond the mortality in U.S. waters. We agree with comments that the human-caused mortality reported in the SARs does not represent the total of human-caused mortality experienced by the PCFG. We also agree that stale abundance estimates have the potential to compromise the use of PBR in setting mortality limits. Our proposed waiver and regulations do not rely on a PBR-based mortality limit, in part in response to these comments. The information developed in the DEIS analysis regarding PBR nevertheless informed our evaluation of the likely impacts of the proposed regulations on PCFG whales.

Regarding the comment about the net productivity rate used in the SAR, the PBR formula uses ‘R’ to represent the population’s net productivity rate, which is the ratio of births to deaths. A population that is growing will have more births than deaths. For example, a population that has 104 births and 100 deaths is said to have an R of .04, or 4%. If a population is at carrying capacity (K), it will have an equal number of births and deaths, or an R of zero. At some level of abundance below carrying capacity, a population will have the maximum possible rate of net productivity (R<sub>max</sub>). This level of abundance is known as the ‘maximum net productivity level’ or MNPL. In the absence of data to establish an R<sub>max</sub> to use in the PBR calculations, NMFS generally uses a default value of 4% for large whales. As a population grows from MNPL toward K, the rate of reproduction will decrease toward zero.

This commenter states that R<sub>max</sub> in the gray whale SARs has “grown” from 3.2 to 6.25%, which is “biologically impossible.” There are two problems with this statement. The first is that the SAR has never set R<sub>max</sub> at 3.2%. Rather, the first gray whale SAR in 1995 stated that abundance estimates for the period 1967-68 to 1993-94 indicated an R<sub>max</sub> of 3.3% but the IWC Scientific Committee regarded this conclusion as questionable. That SAR recommended using the default R<sub>max</sub> (4%) until scientific consensus could be reached. The 1996 SAR evaluated updated abundance estimates for the period 1967-68 to 1995-96, which yielded an R<sub>max</sub> of 4.4%. Because that value was not significantly different from the 4% default value for large whales the SAR recommended an R<sub>max</sub> value of 4% for the ENP gray whale stock.

By the time of the 2000 SAR, there were new analyses of the abundance data to suggest that R<sub>max</sub> was actually higher and the SAR therefore used a value of 4.7% in the PBR formula. This change did not represent a change in the net productivity rate of gray whales, but rather a change in our method of estimating that rate for ENP gray whales.

In the 2010 SAR, NMFS lowered its estimate of  $R_{max}$  back to 4%, based on a revised abundance time series and revised analysis of population parameters. Most recently, beginning with the 2012 SAR, NMFS raised its estimate of  $R_{max}$  to 6.2%, based on new abundance data and new analyses of population parameters. Again, this does not signal that NMFS believes the ENP population's maximum potential rate of increase "grew" from 4% to 6.2%. It instead represents a revision in our estimate of such productivity, based on the new and best available information.

The second problem with this comment is that the commenter appears to confuse the concept of "the estimated annual rate of increase," which is an average over a period of time, with  $R_{max}$ , which is a measure of the rate of increase at a single point in time. The 2013 SAR reports that Punt and Wade (2012) found that the annual "rate of increase," (i.e., the average annual net gain in abundance), based on the entire abundance series from 1967-68 through 2006-07, was 3.2%. This means that over the period from 1967-68 through 2006-07, the population grew 3.2% on average each year. As would be expected, the stock's rate of increase would be higher when the abundance was low. As the population approaches  $K$ , the rate of increase would be very low. Combining the early high rate of increase (estimated to be 6.2%) and the low rate of increase as the population approaches  $K$  (approaching zero) yields an average rate of increase of 3.2%.

## 8. The Treaty of Neah Bay

Several commenters assert that the United States abrogated the Treaty of Neah Bay between the United States and the Makah Tribe when the United States entered into the ICRW or enacted the MMPA or both. They argue that the United States therefore no longer has "the legal right" to authorize whaling by the Makah Tribe or anyone else.

Several commenters also assert that the tribe's treaty does not give it the right to whale. Some commenters suggest the tribe's right to whale ended when adoption of the WCA prohibited other U.S. citizens from whaling. In other words, it is not possible for tribal members to whale "in common with" other citizens. Other commenters invoke other reasons for why the treaty provisions regarding whaling are no longer valid or argue only that whaling is outdated, without analysis.

### **Response**

The Tribe submitted its application for a waiver of the MMPA consistent with the Ninth Circuit's holding in *Anderson v. Evans*. The purpose of the NEPA process is not to litigate the role or scope of the Makah's treaty right in pursuing an ENP gray whale hunt. Rather the purpose of the DEIS is to analyze potential impacts of alternatives to inform decision-making under the MMPA and the WCA. The relevance and/or weight attributed to the Makah's Treaty will be addressed as appropriate during decision-making pursuant to the relevant processes and criteria defined in the MMPA and WCA.

## 9. Non-lethal action alternatives

Several commenters considered the NEPA process deficient, arguing that the DEIS did not fully analyze non-lethal alternatives, including compensation by the federal government, federal support of an alternative activity such as a whale watching operation, or a ceremonial type hunt. One commenter suggested that NMFS could remove the speculation about alternative compensation to the Tribe by negotiating the deal first, then conducting the NEPA analysis.

### **Response**

The DEIS did consider non-lethal alternatives, including one that would provide other means of compensation to the Tribe, such as to establish a whale-watching business. Such an alternative was considered in the DEIS but eliminated from detailed analysis for several reasons (Subsection 2.4.7, Alternative Compensation to the Makah Tribe), including that it was too speculative to consider and would not illuminate for the decision-maker different impacts than the No-action Alternative. If the Tribe received assistance in establishing a whale-watching business, such a business could potentially lead to an increase in disturbance of whales in and around the Makah U&A. Without knowing the likely number and location of whale watching trips per year, it would be speculative to analyze potential impacts

As noted in the DEIS and described by some commenters, the tribe declined a 1990s offer by a private party for money in exchange for a voluntary moratorium on hunting. Commenters offer no evidence to suggest the tribe would be interested in an offer at this time, and the tribe's application for a waiver of the MMPA take moratorium is evidence that the tribe's desired course of action is a hunt rather than compensation. The suggestion that NMFS could remove the speculation by negotiating a deal first is outside the scope of the NEPA analysis. When an applicant to a federal agency proposes an action, NEPA does not require the agency to negotiate a different course of action with the applicant before analyzing the impacts of the applicant's proposal, along with a reasonable range of alternatives.

A non-lethal, ceremonial type hunt alternative was also considered in the DEIS but eliminated from detailed analysis (Subsection 2.4.1, Non-lethal Hunt) also because it would not result in different impacts than the No-action Alternative.

The non-lethal alternatives, similar to the No-action Alternative, would preclude a hunt, and our analysis of their potential effects on the human environment revealed that the impacts would not be different from the No-action Alternative. Detailed analysis of these alternatives would provide no additional information to inform a reasoned choice for the public or decision-maker. Nor do the commenters identify information on any additional or different impacts that these additional alternatives might reveal, beyond the potential economic impact to the tribe. Because the tribe expressed no willingness to entertain such a negotiation, providing speculative information to the decision-maker regarding potential economic benefit that the tribe has not requested and has previously rejected would not further inform the decision-making process.

## 10. Response of gray whales to being hunted

Some commenters raise concerns that PCFG and non-PCFG whales would alter their distribution and avoid the hunt area as a result of disturbance from hunt-related activity. They disagree with the analysis in the DEIS that analogizes Makah hunt-related activity with hunting by Chukotkan Natives, whale watching operations that involve pursuit and close approaches, and research-related activity that involves pursuit, close approaches, and biopsies. One commenter suggests that PCFG whales not exposed to hunting by Chukotkan Natives would experience hunting as a “novel threat” and recommended we compare whale reactions to other novel threats. One commenter asserts there is a high probability of WNP gray whales being approached, then asserts the DEIS is inadequate because the analysis of the impacts of unsuccessful harpoon attempts on WNP gray whales is deficient.

### **Response**

The DEIS considers the potential for PCFG whales to change their distribution in the PCFG feeding area, including abandoning the Makah U&A, in response to a hunt (see Subsection 4.4.2.4, Change in Numbers of Gray Whales in the Makah U&A and OR-SVI Areas). To assess potential impacts of a Makah tribal hunt on gray whale behavior, the DEIS examined available information on how gray whales and other baleen whales respond to pursuit by vessels, including approaches by whale watching vessels, approaches and biopsies by researchers, and hunts by Chukotkan natives. We also considered gray whale responses to other types of human activities such as activities that produce sound. We found evidence that these activities could cause immediate reactions such as diving, swimming away, altering breathing patterns, etc. In one case human-generated sounds appear to have caused gray whales to abandon a breeding lagoon during the season in which the sounds occurred. Some of these sources of human activity may have been familiar to whales while others may have been novel.

Commenters took exception to the comparisons with other activities, noting the differences in the activities or the incompleteness of the information, and therefore took exception to the conclusion drawn in the DEIS that it is unlikely a Makah tribal hunt would cause gray whales to abandon the Makah U&A or otherwise significantly alter their distribution. Commenters offered no additional information beyond what was considered in the DEIS that would better inform the analysis. Lacking direct information about how gray whales in the Makah U&A might react over time to a Makah tribal hunt, we considered the hunt components—that is, approaching whales in motorized and non-motorized vessels, throwing harpoons at whales, and making noise—and examined available information about how gray whales react to similar activities.

Subsection 3.4.3.6.6, Vessel Interactions, describes studies of whale watching operations that show proximate changes in behavior of individual whales but do not show long-term changes in distribution of whales in response to whale watching operations. That subsection also describes changes in gray whale tagging that show no long-term behavioral changes and studies of other baleen whales subjected to biopsies, showing dramatic short-term responses but no long-term behavioral changes. None of these studies show a permanent shift in gray whale distribution, which supports the conclusion in the DEIS that none of the action alternatives is likely to



appreciably alter ENP gray whale distribution (e.g., Subsection 4.4.3.2.3, Change in Abundance and Viability of PCFG Whales).

We disagree with the assertion that a comparison with the Chukotkan hunt is not informative and that different gray whales use the PCFG feeding areas than use the Chukotkan feeding areas. The DEIS notes that the PCFG range includes a large number of animals that do not return to the PCFG seasonal range each year, so it is reasonable to expect that some of the whales sighted in the PCFG seasonal range may have been exposed to Chukotkan hunts. It is also reasonable to conclude that whales frequenting the PCFG feeding areas would become habituated to hunting, as whales frequenting Chukotkan feeding areas appear to have. There is no information to support a conclusion that whales feeding in the PCFG range would have vastly different reactions compared to whales feeding off Chukotka. Regarding the suggestion that we seek out information on how gray whales might react to novel threats, Subsection 3.4.3.6.5, Offshore Activities and Underwater Noise, does describe gray whale responses to noise suddenly introduced in breeding lagoons. That subsection describes a number of studies involving gray whale reactions to noise. Such reactions include diving, changing course, changing calls, etc. In one study whales largely abandoned a breeding lagoon following a month of noise transmission, although they returned to the lagoon the following year (Jones et al. 1994).

The DEIS notes that although the gray whale population is exposed to whale-watching vessels and other disturbances on the wintering grounds and along much of the migration route, it has demonstrated a tolerance and resiliency to whale watching and other noisy human activities as reflected by the successful recovery of the population from over-exploitation. Thus available evidence suggests that gray whales will return to the area of disturbance and resume normal activities and behaviors, contrary to the concern raised by commenters that a Makah hunt would cause whales to abandon the Makah U&A.

While the DEIS was informed by the best available information, we acknowledge that there is limited information specific to gray whale responses to the types of approaches, attempted strikes, and strikes associated with a canoe-based hunt. The agency typically uses a 100-yard threshold in MMPA research permits as a criterion to account for approaches that might disrupt whale behavior. Such approaches do not always disrupt whale behavior. Our reference to possible similarities between whales reacting to hunting approaches and tagging is based on discussions with researchers involved in tagging efforts. Commenters question the conclusions reached in the DEIS and suggest theories about how gray whales might react to a whale hunt in the Makah Tribe's U&A, but they offer no new information that would support alternative conclusions. We therefore continue to conclude that a limited gray whale hunt in the Makah Tribe's U&A would be unlikely to cause PCFG whales to abandon the area or alter their distribution. In particular, the proposed regulations would limit the number of PCFG whales that could be approached to ensure that approaches of PCFG whales do not exceed the maximum numbers analyzed in the DEIS.

Commenters stated there is a high probability of an approach and a strong likelihood of an attempted strike on a WNP gray whale and that we are required to conduct more studies on the effects of this level of interaction on WNP whales. The DEIS estimates that under the Tribe's proposal there is about a 46% probability of a WNP gray whale being approached per year and about a 7% probability of a WNP gray whale being subjected to a harpoon attempt per year (Table 4-4). The best available information suggests such interactions would result in varying levels of response from whales that would be temporary and not have lasting effects (Subsection 4.4.3.2.2, Change in Abundance and Viability of WNP Gray Whale Stock). We disagree with the commenter's assertion that the DEIS analysis is deficient because we are required to conduct additional studies in the face of incomplete or uncertain information (and the commenter points to no studies that could be done to address their concerns). We have analyzed whale reactions to analogous activities, including aboriginal subsistence hunting by Chukotkan Natives that have harvested over 100 whales per year, with the highest percentage consistently being harvested in Mechigmansky Bay (e.g., see Borodin et al. 2012; Blokhin et al. 2012 and 2017) and using significantly more harpoons and bullets than are expected to be used in a Makah hunt. We will continue to evaluate any additional studies that could better inform this portion of the analysis. The proposed regulations include a 10-year term for regulations authorizing a hunt, which would create an opportunity to assess the effect a hunt is having on gray whale distribution (including WNP whales) in the Makah U&A and more generally in the PCFG area. All of the action alternatives contemplate ongoing monitoring. In addition, the proposed rule limits the number of approaches that may be made in total on gray whales, whether for training purposes or during an active hunt, in part to limit the number of WNP gray whales potentially exposed to an approach.

## 11. Safety of gray whale products for human consumption.

Several commenters raise concerns about contaminant levels in gray whales that would be consumed by Makah tribal members. Some commenters urge NMFS to prohibit a hunt based on human health concerns. Some commenters assert that the DEIS analysis is inadequate because we did not conduct additional studies to compare contaminant levels in foods that would be replaced if Makah tribal members consumed gray whale products in place of foods they currently consume. One commenter asserts that no gray whale products would pass Washington State standards for safe consumption. One commenter notes that the DEIS does not identify state and federal food safety standards relevant to edible gray whale products and does not compare contaminants found in gray whales with those standards except for PCBs.

### **Response**

The DEIS presents available information regarding nutrients found in gray whale products (Subsection 3.16.3.1, Nutritional and Health Benefits from Consuming Whale Food Products and Other Traditional Subsistence Foods). It also describes contaminants found in gray whales sampled to date (Subsection 3.16.3.2, Environmental Contaminants in Gray Whales) and risks of exposure to food-borne pathogens from consuming subsistence foods (Subsection 3.16.3.3, Exposure to Food-Borne Pathogens).

Regarding contaminants in the sampled gray whale products, including the one whale harvested by the tribe in 1999, the DEIS reports:

“[C]oncentrations for some of these contaminants in whale blubber can be quite high, resulting in quite low “allowable consumption rates.” For example, the unweighted average PCB concentration for the 11 gray whale blubber samples in Table 3-47 is 440 µg/kg. While the Washington State Department of Health has not developed screening levels for gray whale blubber, this value—combined with the estimated per capita blubber consumption rates in the Tribe’s needs statement (approximately 20-25 grams/day; Renker 2012) and other values applied by the Washington Department of Health (e.g., an 8-oz [227-gram] meal size)—yields a calculated “allowable consumption rate” of 0.43 meals of blubber per month. This level would likely result in a ‘no consumption’ recommendation by the Washington State Department of Health. The lowest PCB concentration observed in gray whale blubber (137 µg/kg) would yield an allowable consumption rate of 1.34 meals of blubber per month, which would likely result in a recommended maximum of one 8-oz (227 gram) meal per month (D. McBride, Washington State Department of Health, pers. comm., September 30, 2014).” (Subsection 3.16.3.2, Environmental Contaminants in Gray Whales, p. 3-378)

In other words, whether it would be considered safe under the Washington State Department of Health PCB guidelines to consume gray whale blubber would depend on the PCB concentrations in a particular whale. The DEIS notes that contaminants are not a concern for whale meat (Table 3-47). It is therefore an overstatement to claim that no consumable part of a harvested gray whale would pass Washington State standards for safe consumption, although it is correct to raise concerns about consumption of more than 6 pounds of gray whale blubber per year under the most favorable assumptions.

In terms of the net effect of consuming whale products on tribal members, the DEIS notes:

“Whether consuming freshly harvested gray whale food products would affect contaminant exposure in Makah tribal members would depend largely on the types and levels of contaminants present in an individual tribal member’s existing diet relative to several factors: 1) what part(s) of the whale and how much of each would be consumed, 2) what currently consumed food items (and associated contaminants) would be replaced by gray whale food products, 3) the age and sex of the whale, 4) possibly the time of year and body condition of the whale, and 5) how each food item would be collected, stored, and prepared for consumption. None of this information is currently available or could reasonably be obtained.” (Subsection 4.16.2.2 Environmental Contaminants, p. 4-257)

The DEIS makes the same conclusion regarding net nutritional benefit to Makah tribal members of consuming gray whale products.

Federal and state regulations regarding contaminants in food do not apply to subsistence foods harvested by Indian Tribes. Nevertheless, we agree it would be useful to include references to relevant food safety standards in our environmental analysis. The U.S. Food and Drug Administration (FDA) publishes The FDA Compliance Policy Guide,<sup>2</sup> which has action levels for pesticides, some of which are found in gray whales, as reported in DEIS Table 3-47. None of the pesticides found in gray whale muscle samples exceeded the FDA action levels. For blubber, one whale sampled slightly exceeded the FDA guidance for Chlordane. FDA regulations at 21 CFR 109.30 contain an action standard for PCBs of 2 ppm, which was not exceeded in any of the gray whale blubber samples reported in Table 3-47. However, the Environmental Protection Agency (EPA) does recommend safe consumption amounts of seafood based on PCB levels, as reported in the DEIS and discussed above. The FDA does not regulate most metals in food. The FDA and EPA provide joint guidance<sup>3</sup> for pregnant women on mercury consumption but this would appear not to be a concern for gray whales, which have low levels of mercury in their muscle and no detectable mercury in their blubber (Table 3-48). The State of Washington guidance follows EPA and FDA guidance<sup>4</sup>. We will include information regarding the FDA and EPA guidance in a final EIS.

Regardless of the limited information regarding the effect of the DEIS alternatives on human health, the information in the DEIS is adequate to describe in general terms the potential positive and negative health effects of consuming gray whale products, and to compare the alternatives based on the amount of gray whale products that would be available for consumption under each of the action alternatives.

Executive Order #12898 on Environmental Justice, with regard to subsistence consumption of fish and wildlife, requires federal agencies “whenever practicable and appropriate” to “collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence.” Federal agencies are to communicate risks associated with those consumption patterns to the public. We have met this requirement by collecting the available data and including it in the DEIS and we have continued to collect and analyze gray whale tissue samples. For example, in 2018 scientists at the NMFS Northwest Fisheries Science Center completed an analysis of persistent organic pollutants in the blubber from 25 gray whales sampled during 2011-2017 (Ylitalo et al., 2018). That analysis concluded that overall rates of contaminants in gray whales were lower than previous results. For example, the mean concentrations of PCBs measured in the 2011-2017 sampled gray whales are 5 to 200 times lower than the values determined in blubber of the other gray whale groups. We will include the results of this updated analysis in a final EIS. The Makah Tribe is aware of the results of our analyses and the potential risks of consuming gray whale blubber.

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<sup>2</sup> Available at

<https://www.fda.gov/ICECI/ComplianceManuals/CompliancePolicyGuidanceManual/ucm074604.htm#Note%20A> (last visited April 10, 2019).

<sup>3</sup> Available at <https://www.epa.gov/fish-tech/epa-fda-fish-advice-technical-information> (last visited April 10, 2019).

<sup>4</sup> See Fish and Shellfish Reports at

<https://www.doh.wa.gov/DataandStatisticalReports/EnvironmentalHealth/FishandShellfish>

The EO also requires federal agencies “whenever practicable and appropriate” to work together “to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or wildlife.” Although NMFS does not have expertise regarding safe consumption levels of contaminants, the agency does coordinate with the FDA and EPA through the seafood safety program. EPA has issued guidance on safe consumption levels for various contaminants, which is available to state, tribal, and local authorities for consideration. During development of the DEIS we consulted with the Washington State Department of Health regarding concentrations of certain contaminants found in gray whale tissue samples, in particular PCB levels in blubber. While there are no known contaminant screening levels for gray whale blubber, we did provide guidance in the DEIS regarding likely ‘allowable consumption rates’ based on observed levels of PCBs (3.16.3.2 Environmental Contaminants in Gray Whales). If the tribe is allowed to resume hunting gray whales then it may be possible to conduct real-time studies on harvested whales to more rigorously evaluate contaminants and human health risks.

A memorandum from the President accompanying E.O. No. 12898 clarifies that federal agencies are to analyze effects on human health under NEPA, “including effects on minority communities and low-income communities.” It also requires that federal agencies provide for minority and low-income communities to have input into the environmental review process. The DEIS has met these requirements as well.

## 12. Risks to WNP gray whales

Several commenters object to the risk posed to WNP gray whales from a tribal hunt, asserting that too little is known about the stock and any risk is too high for this endangered stock. Several commenters note that tribal hunters would be unable to distinguish WNP whales from ENP whales and some commenters stated that hunters would not be able to identify and therefore avoid killing a pregnant female WNP whale. Some commenters urged adoption of non-lethal hunt alternatives to avoid any risks to WNP gray whales.

### **Response**

The DEIS presents the risk of killing a WNP whale for each of the action alternatives, based on analyses completed at that time (Moore and Weller 2015), which ranges from a zero percent chance under Alternative 4 (Summer Hunt) to a 1.2 percent chance per year under Alternative 2 (Tribe’s Proposed Action) (Table 4-1). (Note that this risk analysis for the regulations as proposed was updated with new information just prior to the 2019 trial-type hearing.) We included Alternative 4 in response to comments on the previous DEIS and comments made during scoping that we should consider authorizing a hunt at a time when WNP whales would not be present. Alternative 5 (Split Season Hunt) was also developed to avoid killing a WNP whale and to minimize the chance of killing a PCFG whale. The hunting seasons under Alternative 5 were designed to occur when WNP whales would be expected to be traveling to or from the feeding grounds off Sakhalin Island. The DEIS analysis revealed that there is insufficient information to support an assumption that WNP whales would not be present during the hunting seasons proposed in Alternative 5. The DEIS notes that the death of a single WNP whale would be a conservation concern because of the small population size, and several

commenters echoed this concern. In response to concerns raised in these comments, we present the following additional discussion based on information from the most recent WNP gray whale SAR. The current PBR for WNP whales in U.S. waters is 0.12 whales per year, which translates to about 1 whale every 8 years (Carretta et al. 2019). As analyzed in the DEIS, the 1.2 percent chance of killing a WNP whale each year under Alternative 2 estimated by Moore and Weller (2015) would translate to about 0.012 WNP whales being killed annually or 1 WNP whale being killed every 83 years. In other words, under Alternative 2 (which carries the greatest risk to WNP whales), the likely mortality level would be about one-tenth of the current PBR. The new information presented in the SAR provides additional context by placing the mortality risk for WNP whales in the terms of the MMPA's PBR calculation, but it does not change the fundamental conclusions in the DEIS about the likelihood of a WNP gray whale being killed in a Makah tribal hunt. In the final EIS we will include this additional contextual information from the SAR as well as any updated estimates of the probability of striking a WNP gray whale.

As potential mitigating measures for alternatives that would authorize hunting at a time when WNP whales may be present, the DEIS discusses photo-identification procedures to determine whether a struck whale was a WNP whale and cessation of a hunt if a WNP whale is struck. In response to these comments we identified additional potential mitigation measures, which could include: (1) requiring a waiting period after a whale is struck, to allow for identification of a struck whale before additional whales are struck and to avoid the possibility of striking multiple WNP whales that may be traveling together and (2) allowing only one hunting party on the water at a time to avoid the possibility of a second whale being struck before there is an opportunity to identify a whale that is struck. We will consider such measures in future decision-making.

The DEIS also presents the risk that WNP gray whales would be subjected to attempted strikes and approaches by vessels (Table 4-1). As discussed in the response to frequent comment No. 10 regarding the response of gray whales to being hunted, available information suggests these activities would result in minor short-term reactions that would not harm the viability of individual whales or cause WNP whales to abandon the hunt area.

Since 2010 (i.e., when WNP gray whales were first satellite-tracked to the ENP), NMFS has completed over 45 ESA consultations to determine whether such whales might be affected by various proposed activities. Typically, these consultations have concluded that effects would be insignificant due to the nature of the activities and/or discountable because the potential exposure of WNP gray whales to actions that occur along the U.S. west coast is very limited given the small population size of the WNP stock and the rarity of sightings off the U.S. west coast. The limited risks or extent of adverse impacts that could be anticipated was considered in context of risk for the entire population of gray whales that may migrate through the U.S. west coast each year.

On January 29, 2018 (83 FR 4032) NMFS initiated an ESA 5-year review for the WNP gray whale DPS and requested any new information concerning the status of these whales, including

information pertaining to species biology, habitat conditions, status and trends of threats, and conservation measures. NMFS is currently reviewing the new information as a basis for any recommendations for additional conservation measures and or listing corrections. NMFS would supplement this NEPA analysis as appropriate, for example if “[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.” 40 C.F.R. § 1502.9(c).

None of the comments regarding risks to WNP whales present evidence that was not considered in the DEIS or that contradicts or augments the analysis in the DEIS.

We agree that tribal hunters would not be able to distinguish between ENP and WNP whales (except known whales with highly visible and unique markings), and that it may be difficult to identify pregnant females (both WNP and ENP whales) during certain times of the year. The DEIS analysis of risks to WNP whales is based on that premise.

Regarding non-lethal action alternatives, we agree they would pose less risk to WNP gray whales. Please see the response to frequent comment No. 9 regarding non-lethal action alternatives.

### 13. Risks to PCFG whales

Several commenters express concern about risks to PCFG whales in general as a result of a Makah hunt, and to those PCFG whales that frequent the Makah U&A in particular (referred to in some comments as the 33 “resident whales”). Commenters also express concern about ecosystem effects in the Makah U&A if whales are killed that frequently spend summers feeding in that area. One commenter notes that allowing more than one hunting party to hunt at a time could lead to hunters exceeding the limits on PCFG whales. Several commenters urge NMFS to pursue the precautionary principle and treat the PCFG as a stock because of uncertainties surrounding its stock status. One commenter notes that if NMFS treated the PCFG as a stock and prepared a dedicated stock assessment report it would allow for a more informed decision. Some commenters assert that under Alternative 1, even though the same number of ENP whales might be killed, at least there will be no risk to PCFG whales.

#### **Response**

Although NMFS does not recognize the PCFG as a stock under the MMPA, the Makah Tribe proposed protections for PCFG whales, as reflected in Alternative 2, and all of the action alternatives similarly contain varying levels of protection for PCFG whales. To conserve PCFG whales, and in response to these comments, the proposed waiver and regulations contain a number of protections for PCFG whales that are more restrictive than Alternative 2. The term of the waiver is 10 years, which ensures a timely reassessment of all factors related to a hunt, in particular potential impacts on PCFG whales and whales that frequent the Makah U&A. The proposed regulations limit the number of PCFG whales that may be killed over 10 years to 16 whales and also set a PCFG abundance threshold below which no hunting would be allowed. For hunts during the feeding period, when only about half of the whales present are PCFG

whales, any whale killed will be counted towards the overall PCFG limit. Also, for hunts during the feeding period, once a whale is harvested, whale hunts must stop, even though the strike limit during that hunting period allows for 2 strikes. While there may be more than one hunting party out at a time, once a whale is struck, hunting must cease until the whale has been identified. There are also limits on the numbers of PCFG whales that may be approached and that may be subjected to attempted harpoon throws. Although there is no direct evidence that a Makah whale hunt would cause PCFG whales to abandon the Makah Tribe's U&A, these limits are intended to minimize that possibility.

Regarding concerns about removals from the group commenters refer to as the "33 resident whales," this comment is misleading. As reported in Calambokidis et al. (2014) and reflected in DEIS Table 3-7, there were an estimated 81 Makah U&A (MUA) whales, with an average of 33 MUA whales in any single year. Calambokidis et al. (2017) recently updated those numbers to 105 MUA whales, with an average of 37 sighted in any single year. The proposed regulations restrict the potential mortality of PCFG whales to no more than 16 over a 10-year period and the actual number may be smaller because of the protections in place, as described above. Even if a hunt killed the maximum number of 16 PCFG whales, that would be out of a total of 105, not a total of 33. In addition, as reported in the DEIS, PCFG whales range widely throughout the feeding season and are likely attracted to areas based on availability of prey, thus if a tribal hunt removed MUA whales, there is a likelihood that new whales would recruit to the area to take advantage of prey resources (Subsection 4.4.2.4, Change in Numbers of Gray Whales in the Makah U&A and OR-SVI Areas).

We disagree that the removal of PCFG whales from the Makah U&A will have an effect on the local ecosystem. As noted in the DEIS, the area where the hunt would occur is highly energetic and shaped by large-scale environmental forces and the effects of hunting would not be appreciable either as a result of hunt activities or the removal of PCFG whales (e.g., Subsections 4.3.3.2.1, Pelagic Environment and 4.3.3.2.2, Benthic Environment). Commenters present no new information that is contrary to that contained in the DEIS and supporting its conclusions.

Regarding a separate stock assessment for the PCFG, we note that NMFS has devoted considerable resources to studying, monitoring, and evaluating the PCFG (see summary of research in Appendix 4 of NMFS 2018). While the PCFG is considered to be a feeding aggregation but not a stock, the information on PCFG whales contained in the ENP gray whale SAR is generally equivalent to what would be contained in a separate PCFG SAR. We therefore disagree that having a separate SAR for PCFG whales would improve our information base.

The 33 "resident whales" referred to in these comments are presumably members of the larger group of PCFG whales. DEIS Subsection 4.4.2.4 (Change in Numbers of Gray Whales in the Makah U&A and OR-SVI Areas, p. 4-71) notes that "It is possible that a killed PCFG whale that would otherwise have spent all or part of the summer in the Makah U&A or OR-SVI areas (whether returning or not) could be replaced during the same year by a whale from outside those areas, as many whales feeding during the summer throughout the PCFG range move great distances among survey areas, likely attracted by the presence of prey. During the course



of the summer feeding period, it is therefore possible that whales from outside the Makah U&A or the OR-SVI survey areas (e.g., from West Vancouver Island or northern California) would be traveling through these areas and stay to feed on available prey. Whether replacement would occur in the same year would depend on the number of whales removed, the availability of prey within the local survey areas relative to its availability in outside areas, and the opportunity for whales from outside the area to discover an unexploited source of prey." The DEIS acknowledges that for the PCFG, the No-action Alternative would result in zero whales killed by hunting versus Alternative 2, which could result in up to 25 PCFG whales killed by hunting over 6 years (Table 4-13).

#### 14. Cumulative effects and the future health of the ENP gray whale population in the face of climate change and other threats

Several commenters raise concerns about waiving the take moratorium to allow a tribal hunt of ENP gray whales, asserting that the whales face an uncertain future from climate change, ocean acidification, and increased human activities such as shipping, ocean energy projects, and military exercises. Some commenters point to the ENP gray whale die-off in 1999-2000 as evidence of an uncertain future. Some commenters assert that our analysis is inadequate because it is limited to the project area. Some commenters express concern that lack of funds for future monitoring or the lag time associated with monitoring the population could result in delayed and untimely management responses to drops in abundance. One commenter presented additional scientific information related to gray whale biology and threats that was not included in the DEIS.

##### **Response**

The DEIS contains a thorough discussion of the best available information regarding threats to the future viability of the ENP gray whale population (Subsection 3.4.3.6, Known and Potential Anthropogenic Impacts). This subsection specifically deals with climate change and expected future impacts to ENP gray whales in Subsections 3.4.3.6.11, Climate Change, and Ocean Acidification. This subsection of the DEIS addresses threats to ENP gray whales across their migration range and life history, contrary to the assertion of some commenters that it is limited to the project area. The information contained in the DEIS is sufficient to support an analysis of the effects of the proposed action and alternatives on ENP gray whales (e.g., Subsection 4.4.3.2.1, Change in Abundance and Viability of the ENP Gray Whale Stock) as well as cumulative effects (Subsection 5.4, Gray Whales).

The DEIS analysis includes a number of scientific studies, including a 2008 report on ecological impacts of climate change by the National Academy of Sciences that noted there is only a very limited understanding of how global climate change might affect whole ocean ecosystems (Subsection 5.1.3.9, Climate Change and Ocean Acidification). Contrary to the assertions of some commenters, this Subsection does refer to gray whales. For example, we note that "Moore (2008) characterized gray whales as useful "sentinels" of climate change, citing various lines of evidence that the health and habits of gray whales seem to be tracking changes in the North Pacific and western Arctic ecosystems" and Bluhm and Gradinger (2008) who noted that

"marine mammal species that exhibit trophic plasticity (such as gray whales that feed on both benthic and pelagic prey) will adapt better than trophic specialists" (Subsection 5.1.3.9, Climate Change and Ocean Acidification, p. 5-30). We have examined the papers cited by commenters that were not included in the DEIS and found they do not change the conclusions in the DEIS. We will include any additional relevant references in a final EIS.

The thrust of these comments is that the DEIS does not adequately account for threats to ENP gray whales that could have a cumulative impact when combined with the effects of the action alternatives. We disagree for the following reasons. The first is that it is reasonable to expect that if the Makah Tribe does not harvest any ENP gray whales, the Chukotka Natives will continue to harvest them instead, as they have since the United States originally secured an ENP gray whale quota on behalf of the Makah Tribe and entered into a bilateral agreement with Russia to share the quota. Even if the Chukotka Natives did not harvest the Makah Tribe's share of the quota, the number of whales not killed in a Makah hunt (a maximum of 7 per year under Alternative 2) is so small (less than a tenth of a percent of the ENP gray whale population) that the effect would be undetectable (4.4.3.2.1 Change in Abundance and Viability of the ENP Gray Whale Stock). In addition, the purpose of a cumulative effects analysis is to ensure that the agency has considered whether there might be effects to a resource beyond those identified in the analysis because they would combine with the effects of other factors to in some way magnify those effects. Given how minor the effects of a tribal hunt would be on the ENP gray whale population, it is unlikely that those minor effects would cumulate with the effects of other threats to result in effects not considered in the DEIS.

The die-off ("unusual mortality event," or UME) of ENP gray whales between 1998 and 2000 remains a concern, as does the current ENP gray whale UME that began in January 2019, though the recovery of the population from the previous UME is encouraging. The DEIS describes the 1999/2000 UME and reviews the scientific literature analyzing it (Subsection 3.4.3.1.7, Strandings). It is difficult to draw inferences about future abundance trends based on the 1999/2000 die-off. The DEIS evaluates potential scenarios for the future of the population in the discussion of cumulative effects (Subsection 5.4, Gray Whales). In addition, all of the action alternatives include a management regime that would respond a decline in PCFG abundance, via the PBR calculation, and Alternative 6 includes a 10-year limit on hunt regulations to provide an opportunity for managers to reconsider any hunting regime based on experience.

Past, present, and reasonably foreseeable future actions considered in our cumulative impact analysis included: harvest, shipping, fisheries, tourism, marine energy and mining projects, scientific research, natural mortality, climate change and ocean acidification, U.S. government policy, and military exercises (including Navy sonar).

Past and present actions are reflected in the current status of the ENP gray whale population. An attempt to project future population trends based on reasonably foreseeable future actions would be speculative and is not necessary to support an analysis of how such reasonably

foreseeable future actions would combine with the proposed action to result in effects beyond those considered in Chapter 4 of the DEIS.

Chapter 4 of the DEIS examines the effects of the proposed action and alternative actions on affected resources. Chapter 5 examines the effects of other actions to determine whether the proposed action, when combined with these other actions, will have effects beyond those analyzed in Chapter 4. The cumulative effects analysis must be sufficient for that purpose, but need not provide an exhaustive quantitative analysis of every activity that may affect a given resource.

Section 5.4, Gray Whales, explores a wide range of potential future activities and describes how each might affect ENP and WNP gray whales, with a conclusion at the end of each activity. This discussion is followed by an analysis that states that all of the factors affecting the overall ENP population are likely to similarly affect PCFG whales.

The DEIS presents an extensive analysis of the status of the ENP gray whale population, more than sufficient to support an analysis of the effects of the proposed action considered alone and in combination with other past, present, and reasonably foreseeable future actions. The individual factors mentioned in this comment are described and considered in the DEIS.

## 15. Use of modern weapons

Several commenters assert that if the Makah Tribe wants to have a traditional whale hunt, they should use only traditional weapons and not use modern weapons such as rifles and motorized vessels. Some commenters support the tribe's proposed use of both traditional and modern weapons. Some commenters offer opinions against or in favor of particular weapons, such as a .577 caliber rifle or penthrite grenades.

### **Response**

Section 104 of the MMPA requires that if the take moratorium is waived and animals are killed, the method of killing must be "humane," which the MMPA defines as "that method of take which involves the least possible degree of pain and suffering practicable to the mammal involved." The IWC has focused on reducing the time to death of a whale (i.e., reducing the amount of time between the strike and death of a whale) to improve the humaneness of whaling (IWC 2004; IWC 2007; IWC2018c). The Makah Tribe proposes to use both traditional and modern methods for hunting whales to balance the preservation of traditional cultural methods with safety and the need for increased hunting efficiency. See Subsection 2.3.2.2.10, Proposed Hunting Method. The tribe's proposal to use a .50 caliber rifle, fired by a rifleman on board a motorized vessel, to dispatch a harpooned whale is in consideration of MMPA requirements as well as the safety of the public and hunting party. The DEIS also examines the possibility of using a darting gun with a penthrite grenade.

## 16. Amount of time allowed to comment on the DEIS

Several commenters raised concerns that the initial 100-day comment period was not sufficient given the size and complexity of the DEIS.

### **Response**

The DEIS was published on May 9, 2015. On May 29, 2015, the Environmental Protection Agency published a Federal Register notice (80 FR 30676) at our request that extended the 90-day comment period by an additional 50 days, until July 31, 2015. Thus the comment period was open for a total of 140 days, which is much longer than the required minimum of 45 days.

## 17. Lawfulness of a waiver

Several commenters assert that if NMFS waives the MMPA take moratorium and authorizes a whale hunt by the Makah Tribe, NMFS will be “breaking a law” and undermining the MMPA.

### **Response**

We disagree that a waiver of the take moratorium and authorization of a gray whale hunt by the Makah would amount to “breaking a law.” The MMPA authorizes waivers of the “take” moratorium if the Secretary of Commerce determines that the waiver would be compatible with the MMPA (16 U.S.C. § 1371(a)(3)(A)). Preparation of the DEIS is one step in the evaluation of the Tribe’s request to waive the MMPA take moratorium. As provided for in the MMPA, that evaluation includes initial and final waiver determinations, formal rulemaking, and permit processing. For a more detailed discussion of the waiver process, see Subsections 1.2.3.3 and 3.17.3.1 of the DEIS. NMFS’s final decision in response to the Tribe’s request is subject to judicial review.

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