



Animal Welfare Institute

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BY ELECTRONIC MAIL

Mr. Steve Stone
National Marine Fisheries Service
West Coast Region,
1201 NE Lloyd Blvd., Suite 1100,
Portland, OR 97232.

Dear Mr. Stone:

On behalf of the Animal Welfare Institute, Cetacean Society International, International Marine Mammal Project of Earth Island Institute, Origami Whales Project, Whale and Dolphin Conservation, and the Whaleman Foundation (hereafter "Coalition"), I submit the following comments on the Draft Environmental Impact Statement (DEIS) on the Makah Tribe Request to Hunt Gray Whales (80 Federal Register 14,912 (March 20, 2015)). The Coalition notes with appreciation the decision by the National Marine Fisheries Service ("NMFS") to extend the deadline for public comments on this important issue (80 Federal Register 30,676 (May 29, 2015)). However, the Coalition concludes that NMFS cannot issue the requested MMPA waiver to the Makah Tribe, for reasons detailed below.

The Animal Welfare Institute (AWI) is one of the nation's oldest animal advocacy organizations. Since its founding in 1951, AWI has sought to alleviate the suffering inflicted on animals by people. AWI and the Society for Animal Protection Legislation (AWI's legislative companion organization until a 2004 merger), played a role in the passage of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA), among other key environmental and animal protection statutes. AWI staff members attend meetings of the International Whaling Commission (IWC) to preserve the ban on commercial whaling, and we work to protect all marine life against the proliferation of human-generated ocean noise, including that from active sonar and seismic air guns. For decades, AWI has been opposed to the Makah Tribe resuming its hunt of gray whales, and for the reasons stated herein, we remain strongly opposed to this day. Other Coalition organizations have also been engaged in campaigns to protect marine mammals, many regularly attend IWC meetings, and all strongly oppose any resumption of whaling by the Makah Tribe.

It is troubling that, after two lawsuits, several environmental analyses, and decades of controversy that NMFS continues to endeavor to permit the Makah Tribe to resume the

hunting of gray whales after a nearly 90-year hiatus in whaling. Indeed, with the exception of a single whale killed “legally” in 1999 and a second illegal kill in 2007, the Makah Tribe has not engaged in whaling since the 1920s. Even that date may not accurately reflect when the Makah largely ceased whaling which, based on evidence provided in past Makah needs statements, started to wane in the middle of the 19th century.

Despite this significant gap in whaling and without any apparent concern for international whaling standards or federal law, NMFS continues to commit valuable time and financial resources to this issue, seemingly because of a treaty right that may have been abrogated and its federal trust responsibility to the Makah Tribe.

Furthermore, other overarching concerns with the proposed hunt include the potential conservation implications to Eastern North Pacific (ENP), including Pacific Coast Feeding Group (PCFG), and Western North Pacific (WNP) gray whales by adding intentional take to the litany of threats to these animals. This is especially true for PCFG and WNP gray whales that, at present, number only a total of approximately 209 and 140 animals, respectively, with even smaller numbers in the PCFG regions considered in the DEIS (e.g., the Oregon-Southern Vancouver Island (OR-SVI) and Makah Usual and Accustomed hunting grounds (Makah U&A)). For the larger ENP population of gray whales, considering the significant changes occurring in the Arctic due to climate change and the unknown consequences of such ecosystem-wide alterations on gray whales, now is not the time to allow the Makah to hunt whales.

Such threats, of course, are not limited to the Arctic, as the gray whale has one of the longest migrations of any species on the globe and, throughout that journey, they face an increasing barrage of both anthropogenic and natural threats. Adding to such threats by authorizing a hunt is biologically reckless and unwise. Combine these threats with the hunt’s risk to public safety and the basic fact that the chances of an instantaneous death of a swimming gray whale hunted from a moving boat on a rolling ocean are nil, particularly with the cold harpoon proposed by the Makah Tribe, and the evidence against granting the MMPA waiver and authorizing a hunt is insurmountable.

Based on these and other facts and as explained in detail throughout this comment letter, such efforts, including the current National Environmental Policy Act (NEPA) decision-making process, must end, the Tribe’s MMPA waiver application must be denied, the United States must advise the International Whaling Commission (IWC) that its 2012 Aboriginal Subsistence Whaling (ASW) quota for gray whales is no longer valid, and it must cease attempting to secure the IWC’s allocation of ASW quotas for the Makah Tribe.

For these and other reasons articulated in this letter, the Coalition strongly supports Alternative 1: the No Action Alternative. This is the only alternative that would comply with both

international convention standards and US law. It also represents the most precautionary approach available which, in this case, is mandatory considering the critically endangered status of WNP gray whales, the small numbers of PCFG gray whales, and the myriad (and increasing) threats to ENP gray whales (and to the WNP and PCFG whales) throughout their range. This is not to suggest that the Makah Tribe cannot “use” gray whales, but such use must not involve the intentional lethal take of a single whale. Indeed, as described in this comment letter, there are alternatives NMFS failed to adequately consider in the DEIS that would substantially benefit all Makah tribal members while also facilitating the “use” of gray whales in a humane, non-lethal manner that would create jobs, generate revenue, attract tourists to Neah Bay, and provide a platform for the Makah to promote and celebrate their history, culture, and traditions.

While the Coalition strongly opposes whaling by the Makah Tribe, it does respect the Makah’s whaling culture, traditions, and history. Contrary to claims made by the Tribe, however, no compelling evidence has been offered in the DEIS or elsewhere to prove that the Makah Tribe needs to kill whales to sustain its culture, to enhance its efforts at cultural revitalization, or to continue to engage in the ceremonies, rituals, dances, or songs celebrating its whaling heritage. For that matter, the DEIS contains evidence to suggest that such traditions have not been continually practiced as the Makah Tribe or its representatives have consistently claimed. Nevertheless, to the extent the tribe, including individual tribal families, need to engage in such traditions, even if they have only recently been resurrected, the annual Makah Days celebration provides the perfect venue for the Makah Tribe to embrace its cultural and historical links to whaling through dance, song, and ceremonies without any need to kill a whale. Similarly, throughout the year, whether whaling traditions are family-specific, secret, or available to celebrate with the entire tribe and/or non-tribal members, there is no reason why these traditions cannot be practiced at family or community events without requiring the resumption of whaling.

Ultimately, however, the Coalition’s overarching concern is for the welfare of the whales – as well as the humans – who would or could be adversely impacted as a result of the proposed hunt. More specifically, it is concerned about: the impact of the hunt on gray whales, including WNP and PCFG gray whales; the hunt’s legality; the cruelty inherent to whaling; public safety; the precedent that would be set if the hunt proceeds; and cumulative (and increasing) anthropogenic impacts to gray whales and their habitat.

While the Coalition commends NMFS for its 2008 decision to terminate a previous NEPA decision-making process based on new scientific information relevant to PCFG and WNP whales that became available, the present DEIS is replete with deficiencies. In general, those deficiencies include the failure to:

- Demonstrate how allowing the Makah to hunt whales is consistent with US law and international convention standards relevant to ASW;
- Consider a reasonable and feasible range of alternatives;
- Fully disclose all relevant information and provide a clear, consistent, and accurate analysis of the environmental consequences of the no action alternative and action alternatives on, among other variables, gray whales, tourism, economics, the social environment, and public health;
- Accurately assess the precedential effects of granting an MMPA waiver to the Tribe;
- Define or provide meaningful, quantifiable, and measurable impact thresholds to permit the public to distinguish between the direct and indirect impacts of the no action and action alternatives;
- Adequately evaluate the cumulative impacts of the analyzed alternatives in regard to other past, present, and reasonably foreseeable actions undertaken by federal, state/provincial, municipal, or private parties.

Furthermore, before proceeding with this decision-making process, it is imperative that NMFS render a determination as to whether PCFG whales constitute a population stock under the MMPA. Given the implications of such a determination to gray whales and the Makah Tribe's hunt proposal, continuing to delay this determination is improper. Even if making this determination requires additional scientific study of PCFG whales, this should be undertaken expeditiously so that a stock determination can be made as a prerequisite for the continuation of the present planning process.

There are two fundamental legal arguments that demonstrate why the MMPA waiver cannot be granted. These arguments are addressed below.

NMFS cannot issue a MMPA waiver to the Makah Tribe:

The MMPA sets forth general criteria to use in determining if a waiver to the MMPA's take prohibitions should be granted. Specifically, the Secretary, in consideration of the "distribution, abundance, breeding habits, and times and lines of migratory movements of such marine mammals" is authorized to determine "when, to what extent, if at all, and by what means it is compatible with this chapter to" issue a waiver to allow the taking of a marine mammal. 16 U.S.C. § 1371(a)(3)(A). In addition, the Secretary "must be assured that the taking of such marine mammals is in accord with sound principles of resource protection and conservation as provided in the purposes and policies of this chapter." *Id.* To be compatible with the MMPA and in accord with sound principles of resource protection and conservation, such a finding must ensure, at a minimum, that the marine mammals in question are not "permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem

of which they are a part and, consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population.”¹ *Id.* at § 1361(2).

If NMFS grants an MMPA waiver, it also must promulgate regulations to govern the number, location, and manner of the permitted take as well as permits to formally authorize the take. In promulgating such regulations, the Secretary is allowed to consider all factors that may affect the extent to which such animals may be taken. This includes existing and future levels of marine mammal species and population stocks, international treaty and agreement obligations, and marine ecosystem and related environmental considerations, 16 U.S.C. § 103(b)(1-3), but does not require it to consider any treaty obligations with Native American tribes.

Based on the best available scientific evidence, including the myriad studies cited in the DEIS, it is not possible for NMFS to make the required determination for ENP gray whales. In this case, however, the decision to be made is not limited to ENP gray whales, despite the fact that the Makah’s waiver application covers that particular population of gray whales. Because the MMPA’s waiver language is applicable to “marine mammals” and is not limited to species or population stocks, since ENP, PCFG, and WNP gray whales can all share a common range (both geographically and temporally), and given that it is impossible to distinguish between ENP, PCFG, and WNP gray whales by observation alone, any MMPA waiver determination for ENP gray whales also must be made for WNP and PCFG whales. Indeed, it would be illogical and illegal for NMFS to issue an MMPA waiver to the Makah Tribe to allow the take, including lethal take, of ENP gray whales if by doing so it would cause WNP or PCFG gray whales to “cease to be a significant functioning element in the ecosystem of which they are a part” or if it could diminish WNP or PCFG gray whales below their “optimum sustainable population.” This dilemma is similar to that addressed in *Kokechik Fishermen’s Ass’n v. Secretary of Commerce* (839 F.2d 795 (D.C. Cir. 1988)), where the court ruled the issuance of an incidental take permit by NMFS was deemed to be “contrary to the requirements of the MMPA in that it allowed incidental taking of various species of protected marine mammals without first ascertaining as to each such species whether or not the population of that species was at the OSP level.”

For the WNP gray whales, the current population estimate is 140 animals. Although the International Union for Conservation of Nature (IUCN) designates this subpopulation’s demographic trend as increasing (Reilly et al. 2008), it remains classified as critically endangered. While our knowledge of this population of gray whales is increasing, much remains

¹ Optimum sustainable population or OSP is defined as “the number of animals which will result in the maximum productivity of the population or species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem in which they form a constituent element.” 16 U.S.C. §§ 1362(9) and 3-51/52. NMFS further defines this term in regulations implementing the MMPA to mean “a population size which falls within a range from the population level of a given species or stock which is the largest supportable within the ecosystem to the population level that results in the maximum net productivity level.” 50 CFR § 216.3 and DEIS at 3-51/52.

unknown, including a complete understanding of migratory patterns. Based on tagging data, DNA analysis from biopsy samples, and photographic identification, 27 WNP gray whales (19 percent of the entire known population) have migrated from Russia, across the Bering Sea, and to the west coast of the United States and Mexico over the past several years. While all 27 WNP gray whales returned to Russia in the spring/summer, it is not known whether they bred with any ENP gray whales, whether any ENP gray whales have migrated to Russia, the total number of WNP gray whales that have emigrated to the ENP range, and whether any WNP whales have remained with the ENP gray whales in the Arctic or within the PCFG.

More importantly, in regard to the MMPA waiver criteria, the carrying capacity of the WNP habitat has not been determined and, consequently, the population's OSP is unknown. According to Punt (2015) the WNP population (which he separates into an Asian and Sakhalin stocks) is approximately 10 percent of their carrying capacities. Consequently, notwithstanding the ongoing need for more information about the migratory patterns and reproductive habits of WNP gray whales, without knowledge of carrying capacity or OSP, the Secretary cannot ensure that the issuance of a waiver to the Makah Tribe to permit the take of ENP gray whales will not diminish WNP gray whales below their OSP. Indeed, as mentioned repeatedly in the DEIS, while Moore and Weller (2013) report that there is only a seven percent chance for a single WNP gray whale being struck by the Makah over six years (under the Makah Tribe's proposal), it cautions that "loss of a single whale, particularly if it were a reproductive female, would be a conservation concern." Moreover, if Moore and Weller underestimated the risk to WNP gray whales from a Makah whale hunt, then the adverse conservation implications of a Makah hunt would be more severe.

Similarly, for PCFG whales, no one has determined the carrying capacity for these whales within the PCFG region or any of its sub-regions and, therefore, its OSP is also unknown. This was confirmed by Punt and Moore (2013), who determined "it was not possible to draw a definitive conclusion as to whether the PCFG is within OSP." DEIS at 3-156. More recently, Punt (2015) found the PCFG "sub-stock" is approximately at 50 percent of its carrying capacity. Even if NMFS determines that it need not consider PCFG whales in making a waiver decision for ENP whales (since PCFG whales have not yet been designated a stock), since NMFS has itself reported that the PCFG may qualify as a stock in the future and considering the precautionary principle, for the purpose of the waiver determination, NMFS should treat the PCFG gray whales as a stock.

Based on the foregoing analysis, and recognizing that with the exception of a handful of PCFG whales that may be known to Makah tribal biologists or other officials based on easily distinguishable markings, it is impossible to differentiate WNP, ENP, and PCFG gray whales through observation alone within the Makah U&A, NMFS must select the no action alternative. Alternatively, if NMFS does allow this process to proceed, the Secretary must not issue the

requested waiver at this time. In the future, after further research begins to elucidate answers to many of the remaining questions about stock structure, demographics, reproductive characteristics, genetics, migratory patterns, and behaviors, this waiver request could be revisited but, at present, the waiver application must be denied.

The current NEPA process is invalid and must be terminated because the Makah Tribe cannot qualify for an ASW quota:

The DEIS designates a purpose and need for action for both the Makah Tribe and NMFS. For the Makah Tribe, its purpose is “to resume its traditional hunting of gray whales under its treaty right” while its need “is to exercise its treaty whaling rights to provide a traditional subsistence resource to the community and to sustain and revitalize the ceremonial, cultural, and social aspects of its whaling traditions.” DEIS at 1-27. For NMFS, its purpose is “to implement the laws and treaties that apply to the Tribe’s request, including the Treaty of Neah Bay, MMPA, and WCA,” while its need is “to implement its federal trust responsibilities to the Makah Tribe with respect to the Tribe’s reserved whaling rights under the Treaty of Neah Bay.” *Id.*

The Coalition does not dispute that the Treaty of Neah Bay includes language recognizing the Makah Tribe’s whaling right, but, as explained below, this treaty language may have been abrogated by the passage of the MMPA and the Makah Tribe cannot qualify for an ASW quota under the Whaling Convention Act (WCA) or IWC standards and, therefore, is not able to engage in whaling.

Given that the United States recognizes the legal authority of the IWC to regulate whaling, including ASW, if the Makah Tribe cannot qualify for an ASW quota (as is made clear below), then the United States should not request a quota, no quota should be approved, and, no quota can be allocated to the Makah. Therefore, as explained previously, since the Makah Tribe cannot satisfy the “continuing traditional dependence on whaling and the use of whales” language in the definition of “aboriginal subsistence whaling” and cannot demonstrate either a subsistence or nutritional need for whales or their products, it does not satisfy the basic criteria to obtain an IWC-approved quota (and any previously approved quotas should not be considered valid).

Since the Makah Tribe not qualify for an ASW quota from the IWC, its purpose and need (and the purpose and need proffered by NMFS) cannot be met without violating US law or an international treaty and are, therefore, invalid. In turn, without a legitimate purpose and need, the DEIS is unnecessary and the current decision-making process should be terminated.

If NMFS must select an alternative that satisfies its own or the Makah Tribe’s purpose and need (additional discussion of this issue is below), then the overall outcome of this NEPA process has been predetermined in that the Makah will be granted a waiver and will be allowed to kill

whales because that is the only option available given the purpose and need statements. Under this scenario, the only question is when, where, how, and how many whales the Makah Tribe will be allowed to kill. Consequently, any interested stakeholder that supports the no action alternative, regardless of the quality or substantive content of their comments, is wasting its time because NMFS will claim that it cannot select the No Action Alternative since it would not meet its or the Makah Tribe's purpose and need. Not only is there nothing in the NEPA statute or its implementing regulations that support this approach, but this effectively undermines the intent of NEPA and the importance of public participation in the NEPA process.

Consequently, to ensure that the decision-making process is meaningful for everyone, NMFS must eliminate the Makah Tribe's stated purpose and need for action and restate its purpose and need so that the no action alternative is a legally viable option at the conclusion of this process. In regard to the Makah Tribe's purpose and need, it is irrelevant what the Makah want, since this DEIS is being used by NMFS to assist in its decision-making process. Indeed, it is unusual for any DEIS to include dual purposes and needs – one set from the applicant and one set from the agency.

For NMFS, if it were to restate its purpose to be “to determine if the Makah Tribe's interest in resuming whaling under the Treaty of Neah Bay qualifies for a waiver of the moratorium on the take of marine mammals under the Marine Mammal Protection Act and is consistent with other federal laws,” and its purpose to be “to determine if the Makah Tribe's whaling proposal is consistent with all federal laws,” then the no action alternative is relevant. If this were the purpose and need stated in the DEIS, NMFS could decide that despite the treaty language, whaling by the Makah Tribe is not consistent with the MMPA, WCA, or other relevant federal laws and that, therefore, a waiver would not be granted, and thereby the No Action Alternative would be a legally viable selection.

Additional comments:

The remainder of this comment letter will provide additional evidence and analysis to support the deficiencies identified above, while also documenting other inadequacies in the analysis. The analysis will largely be based on the relevant international conventions and US statutes and regulations that govern ASW.

International Convention for the Regulation of Whaling, IWC Schedule, and Whaling Convention Act

As a result of the overexploitation resulting in the near extinction of the gray whale, “the United States signed in 1946 the International Convention for the Regulation of Whaling (Convention or ICRW) in order ‘to provide for the proper conservation of whale stocks and thus

make possible the orderly development of the whaling industry....”² The ICRW does not explicitly permit Aboriginal Subsistence Whaling (ASW), but exceptions to restrictions on commercial whaling were incorporated into predecessor treaties to the ICRW and have been a part of the whaling regime since the Convention was approved.

The Convention enacted a schedule of whaling regulations (Schedule) and established the IWC, to be comprised of one member from each signatory country. The ICRW “granted the IWC the power to amend the Schedule by ‘adopting regulations with respect to the conservation and utilization of whale resources,’ including quotas for the maximum number of whales to be taken in any one season.”³ In 1982, the IWC voted to place a moratorium on commercial whaling, which is still in place today. Even those ASW hunts where the products are actively sold (e.g., Greenland), are not considered to be commercial whaling; although the sale of certain ASW products has been used to question if these hunts qualify as ASW. The Schedule provides regulations with which IWC Contracting Governments must comply in regard to whaling and the conservation of whale stocks. Under the auspices of the ICRW, ASW “is permitted, but such whaling must conform to quotas issued by the IWC for various whale stocks.”⁴

The WCA (16 U.S.C. 916 et seq.), enacted in 1949, is the legal instrument in the United States that implements the ICRW domestically. The WCA prohibits whaling in violation of the ICRW, the Schedule, or any whaling regulation adopted by the Secretary of Commerce. *See id.* § 916c. The WCA also tasks the National Oceanic and Atmospheric Administration (“NOAA”) and the National Marine Fisheries Service (“NMFS”), within the Department of Commerce, with promulgating regulations to implement the provisions of the WCA. *See id.* § 916 et seq.; 50 C.F.R. § 230.1 (1998). As the DEIS states, under the WCA, NMFS must regulate whaling in accordance with the ICRW and IWC regulations. DEIS at 1-26.

For the purposed of this comment letter, the most relevant portion of the Schedule is paragraph 13 and, specifically, subparagraph (b)(2), which pertains to Eastern North Pacific gray whales. That language defines when, where, and how ENP gray whales can be killed by aboriginal subsistence whalers. The current text provides that:

2) The taking of gray whales from the Eastern stock in the North Pacific is permitted, but only by 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. (emphasis added)

² *See Metcalf v. Daley*, 214 F.3d 1135, 1138, 9th Cir. (2000), quoting the International Convention for the Regulation of Whaling, 62 Stat. 1716, 1717 (1946). See also, 161 United Nations Treaty Series 72.

³ *Metcalf v. Daley*, *Id.*, citing 62 Stat. 1718-19.

⁴ *Anderson v. Evans*, 371 F.3d 475, 483 (2002).

(i) For the years 2013, 2014, 2015, 2016, 2017 and 2018, the number of gray whales taken in accordance with this sub-paragraph shall not exceed 744, provided that the number of gray whales taken in any one of the years 2013, 2014, 2015, 2016, 2017 and 2018 shall not exceed 140.

The WCA requires the United States to comply with the ICRW and the Schedule. The only time when such compliance is not required is if the United States were to file an objection to a Schedule amendment agreed to by the IWC. In the context of ASW, the WCA prohibits the United States from, for example, self-allocating ASW quotas in the event the IWC does not approve such quotas.⁵ Furthermore, as made clear by Wold and Kearney (2015) (Attachment 1), even if the WCA allowed the United States to self-allocate ASW quotas, the historic pattern and practice within the IWC, which the United States has repeatedly endorsed, is for ASW countries to obtain approval from the IWC for their ASW quotas based on their documented need and concurrence from the IWC's Scientific Committee that the quotas are sustainable.

There are a number of definitions relevant to ASW used or agreed to by the IWC, contained in the ICRW or Schedule, historically used by the IWC, or included in the WCA. The most relevant definitions are provided below.

A 1981 Ad Hoc Technical Working Group on Development of Management Principles and Guidelines for Subsistence Catches of Whales by Indigenous People defined "aboriginal subsistence whaling" as "whaling for purposes of local aboriginal consumption carried out by or on behalf of aboriginal, indigenous, or native people who share strong community, familial, social, and cultural ties related to a continuing traditional dependence on whaling and the use of whales." The same Working Group defined "local aboriginal consumption" to mean the "traditional uses of whale products by local aboriginal, indigenous, or native communities in meeting their nutritional, subsistence, and cultural requirements."

While the IWC has never formally adopted these definitions, they have consistently been applied by the IWC since 1981 and consequently, based on historical use, are relevant to this analysis. In addition, the United States recites these definitions in the DEIS (DEIS at 1-23) and has done so in all previous NEPA analyses relevant to both the Makah and Alaska Eskimo Whaling Commission ASW hunts. Taken together, these definitions make clear that, to qualify as ASW, any aboriginal group has to demonstrate a "nutritional, subsistence, and cultural" (emphasis added) need for whale products and that they have a "continuing traditional dependence on whaling and the use of whales."

⁵ The United States has wrongly suggested that it has the authority to self-allocate ASW quotas (see e.g., 2013 Bowhead Whale Final EIS, page 7, footnote 9).

The Schedule defines “strike” to mean “to penetrate with a weapon used for whaling” and “take” to mean “to flag, buoy or make fast to a whale catcher.” Schedule at 1(C). Neither of these terms are defined in the WCA. Conversely, while the term “whaling” is not defined in the ICRW or Schedule, it is defined in the WCA to mean “the scouting for, hunting, killing, taking, towing, holding onto, and flensing of whales, and the possession, treatment, or processing of whales or of whale products.”

Makah whaling is inconsistent with the criteria for ASW contained in the ICRW, its associated Schedule, and the WCA:

When these definitions noted above are considered together, it becomes clear that the Makah Tribe does not and never has qualified for an ASW quota from the IWC. Nevertheless, the United States successfully obtained an ASW quota for gray whales to be allocated to the Makah Tribe in 1997. At that meeting, contrary to the description of the debate in the DEIS, nearly all of the IWC Contracting Government delegates that intervened during the discussion of the gray whale ASW quota opposed any ASW quota for the Makah Tribe, stating the tribe did not qualify. Ultimately, the delegates agreed to allow the quota to be used by aboriginal groups “whose traditional subsistence and cultural needs have been recognized.”⁶ However, in reality the only reason the quota was secured is because the request was made jointly with the Russian Federation, which was seeking a gray whale quota to allocate to its Chukotkan natives who, unlike the Makah, do qualify for an ASW quota.⁷

The primary concerns with the IWC’s approval of a gray whale quota for the United States to allocate to the Makah were that the Makah could not satisfy the “continuing traditional dependence on whaling and the use of whales” and that they did not have a “nutritional need.” Regarding the first standard, Contracting Governments and many observers argued that, at that time, the approximately 70-year hiatus in Makah whaling simply could not be squared with the requirement that ASW had to be based on a “continuing traditional dependence on whaling and the use of whales.” Even NMFS concedes in the DEIS that the Makah whale hunt is different

⁶ After agreement was reached, the United States declared in a press release that it was able to successfully obtain a quota for the Makah Tribe. Australia, in its own press release, strongly disagreed with the United States, claiming that while a gray whale ASW quota was approved, the needs of the Makah had not been recognized by the IWC, and that the IWC was the only entity that had the authority to recognize such needs even though this was not explicitly identified in the language agreed to by the delegates. At the IWC’s 2004 meeting, the “whose traditional subsistence and cultural needs have been recognized” text was removed entirely from the Schedule at the request of the Russian Federation.

⁷ Prior to the 1997 IWC meeting, neither the United States nor any other ASW country had ever requested a joint ASW quota for a single stock of whales, revealing that contrary to recent claims of a requirement to bundle quota requests for a single stock, the ICRW and Schedule permit ASW countries to separately seek ASW quotas for the same stock.

than other aboriginal subsistence hunts because of “the Tribe’s 70-80 year hiatus in whaling.” DEIS at 4-268.

Despite the United States’ success in obtaining the 1997 quota for the Makah Tribe and subsequent renewal of the quota in 2002, 2007, and 2012, the Makah Tribe’s needs statement never satisfied the IWC criteria for ASW that the United States established through its efforts to secure a bowhead whale quota for Alaskan Natives. The Coalition, therefore, asserts that the IWC never should have approved the quota.

Notwithstanding IWC approval, the quota is inconsistent with the WCA, because the Makah Tribe’s reported dependence on “whaling and the use of whales” over that 70-year (now nearly 90-year) period does not constitute “whaling” as defined by the WCA. As indicated above, “whaling” as defined in the WCA, means “the scouting for, hunting, killing, taking, towing, holding onto, and flensing of whales, and the possession, treatment, or processing of whales or of whale products.”⁸ In its needs statements submitted to the IWC (and in their defense of the quota at past IWC meetings), the Makah (and the US Government) have argued that the tribe satisfies the “continuing traditional dependence” language for ASW based on their traditional rituals, ceremonies, songs, dances, and stories that celebrate whales and whaling and their use of whales as culturally important symbols of their whaling traditions; practices that the Makah claim have continued despite the hiatus in whaling. Regardless of whether this claim is true or not (see page 91 for a discussion of such claims), the celebration of whales and whaling through ceremonies, songs, dances, and other rituals does not satisfy the definition of “whaling” in the WCA.

Furthermore, independent of the definition of “whaling” in the WCA, even under the Makah Tribe’s definition of “whaling,” the Tribe would not be able to meet the “continuing traditional dependence on whaling ...” criteria to qualify for an IWC-approved ASW quota. For example, in both its 2001 Management Plan for Makah Treaty Gray Whale Hunting for the Years 1998-2002 and its 2013 Makah Whaling Ordinance (see Appendices A and B of the DEIS), the Makah define “whaling” to mean “the scouting for, hunting, striking, killing, or landing of a whale.” The definition clearly does not encompass traditions, rituals, dances, songs, ceremonies, or other spiritual activities that the Makah have claimed they have continued to practice during the Tribe’s hiatus in whaling.

As to the portion of the criteria that refers to the “use of whales,” that requirement is in addition to a “continuing traditional dependence on whaling.” Hence, even if the Makah Tribe could demonstrate a “continuing traditional dependence on ... the use of whales,” without

⁸ Since “whaling” includes the act of “towing” the whale to shore, when other tribes joined with the Makah to assist it in towing the whale killed in 1999 to shore (see DEIS at 1-38, 3-312) they violated the WCA since only the Makah Tribe was authorized to conduct whaling.

being able to satisfy the whaling standard, the Makah cannot and do not qualify for a gray whale quota. In terms of the Makah Tribe's use of whales, while it is unknown how many drift, stranded, or entangled whales the Makah may have used since the late 1920s (when the Makah Tribe ceased whaling), in the past two decades the available evidence suggests the Makah have only used three gray whales; the one killed in the 1999 hunt, one drift whale, and two gray whales that died after being entangled in fishing nets.

Based on the foregoing discussion, it is astonishing that the United States has engaged in over 20 years of scientific study, environmental planning, international outreach, and decision-making, and has expended considerable time and resources attempting to defend its Makah whaling decisions in court, when the tribe clearly and indisputably cannot meet the basic criteria to secure an ASW quota. This inconsistency with the "continuing traditional dependence" language in the definition of ASW has been raised repeatedly by several members of the Coalition (and other organizations) in response to previous environmental analyses, but has been ignored by NMFS, as it has never offered, and fails to offer in this DEIS, any explanation as to how the Makah satisfy this definition. Instead, by forcing this square peg into the round hole of what qualifies for an ASW quota, the United States has undermined the entire ASW process within the IWC, and in the process created a new category of ASW whaling that is based on alleged cultural needs only.

1. The Makah Tribe does not have a subsistence or nutritional need to whale:

The second standard that must be met in order to qualify for an ASW quota as contained in the definition of "local aboriginal consumption" is that there must be a demonstrable cultural, subsistence, and nutritional need. The use of the conjunction "and" in this definition makes clear that all three needs (i.e., cultural, subsistence, and nutritional) must be met for an ASW quota to be approved. In this case, the Makah cannot demonstrate either a "subsistence" or "nutritional" need for gray whales and, consequently do not satisfy the definition of "local aboriginal consumption" and, therefore, do not qualify for an ASW quota.

As an initial matter, the Makah Tribe's request for a waiver of the MMPA and the DEIS both specify that the Makah Tribe seeks to resume whaling to satisfy its ceremonial and subsistence needs (see e.g., DEIS at ES1, 1-1). In neither document is it suggested that the Makah Tribe's interest in killing gray whales is based on any nutritional need. There is information about the alleged nutritional benefit of marine mammal products, including whale meat, blubber, and oil, in the DEIS and in past Makah needs statements, including the 2002 statement appended to the DEIS, but the tribe's request for a waiver is explicitly not based on any claimed nutritional need.

The terms "subsistence" and "nutritional" are not defined in the ICRW, the Schedule, or the WCA. The terms "subsistence" and "subsistence use" are defined in regulations implementing

the MMPA (50 CFR § 216.3), with the former definition applicable only to Alaskan natives, while the latter is limited to the use of fur seals. The dictionary definition of “subsistence” and “nutritional” (obtained from <http://www.merriam-webster.com/>) are:

Subsistence: a)(1) real being; (2) the condition of remaining in existence; b) an essential characteristic quality of something that exists; and c) the character possessed by whatever is logically conceivable or, if used in the context of a means of subsisting then: a) the minimum (as of food and shelter) necessary to support life; and b) a source or means of obtaining the necessities of life.

Nutrition: the act or process of nourishing or being nourished; *specifically*: the sum of the processes by which an animal or plant takes in and utilizes food substances.

The definition of “subsistence” in the MMPA, suggests that “subsistence” refers to the use of marine mammals to meet food, clothing, shelter, heating, transportation and other needs, while the term “nutrition” is specific to the use of marine mammals as food or for nourishment. Neither term refers to any ritualistic, ceremonial, spiritual, or other uses of whales, as those uses are clearly intended to be encompassed within the term “cultural.”

Despite the Makah Tribe’s claim that they have a subsistence and nutritional need for whale meat and other products, information from its own needs statements, as well as evidence contained in the DEIS, provide ample evidence that the Makah do not have a legitimate subsistence or nutritional need for whale meat and other products. That evidence is summarized in detail in another section of this letter that critiques the analysis of environmental consequences in the DEIS. Indeed, even without compiling and summarizing this evidence, the fact that the Makah Tribe has largely gone without whale products for nearly 90 years should be ample proof of the lack of a subsistence or nutritional need.

Based on the foregoing evidence and analysis, the Makah Tribe does not have and cannot demonstrate a legitimate subsistence or nutritional need for whales or whale products. Considering the definition of “whaling” under the WCA in the context of the requirement of a “continuing traditional dependence on whaling...,” the existing ASW quota that the United States obtained on behalf of the Makah (which extends until 2018) is invalid, illegal, and should not be allocated if the Makah are allowed to whale before 2018. Furthermore, absent an amendment to the WCA, should the United States attempt to seek a renewed gray whale quota at the 2018 IWC meeting, it will be acting in violation of the WCA. Similarly, unless the United States can conclusively demonstrate that the Makah Tribe has a legitimate subsistence and nutritional need, it should not seek a quota renewal at the 2018 IWC meeting.

2. The Makah Tribe, if allowed to whale, has to limit consumption of any edible whale products to tribal members on the reservation:

Should the Makah be allowed to whale in the future, the terms of any waiver issued under the MMPA or any associated regulations or permits must require that any edible portions of any whale taken be “used exclusively for local consumption by the aborigines.” IWC Schedule at 13(b)(2), DEIS at 1-22.

The DEIS contains references that indicate that if the Makah Tribe is allowed to whale, NMFS would allow the tribal members to “share whale products from any hunt within the borders of the United States with relatives of participants of the harvest, others in the local community (relatives and non-relatives), (and) persons in locations other than the local community with whom local residents share familial, social, cultural, or economic ties.” DEIS at 1-24 (emphasis added). While Makah tribal members would not be allowed to sell any edible whale products, NMFS indicates that the distribution of whale products to qualified people in the United States is consistent with the working definition of “subsistence use.” *Id.* That definition, which was created at a 1979 meeting of a Cultural Anthropology Panel convened as part of a larger meeting about the Alaska Eskimo bowhead hunt, specifies that “subsistence use” includes:

- The personal consumption of whale products for food, fuel, shelter, clothing, tools, or transportation by participants in the whale harvest.
- The barter, trade, or sharing of whale products in their harvested form with relatives of the participants in the harvest, with others in the local community, or with persons in locations other than the local community with whom local residents share familial, social, cultural, or economic ties. A generalized currency is involved in this barter and trade, but the predominant portion of the products from each whale are ordinarily directly consumed or utilized in their harvested form within the local community.
- The making and selling of handicraft articles from whale products when the whale is harvested for the purposes defined in (1) and (2) above.

This definition was eventually adopted, by consensus, at the IWC’s 2004 annual meeting.

NMFS, however, is ignoring the explicit language in the Schedule relevant to ENP gray whales. That language, which trumps any of the IWC approved or adopted definitions, makes clear that the take of gray whales is allowed “only when the meat and products of such whales are to be used exclusively for local consumption by the aborigines.” This same limitation is included in Schedule paragraph (b)(1) pertaining to the take of bowhead whales from the Bering-Chukchi-Beaufort Sea stock. For ASW hunting by Greenlandic natives, the relevant language allows for the use of whale products in Greenland “exclusively for local consumption” (Schedule, paragraph 13(b)(3)) while, for aboriginal whalers in Saint Vincent and the Grenadines, whale

products can be used “exclusively for local consumption in St. Vincent and the Grenadines” (Schedule, paragraph 13(b)(4)). Consequently, it is the “by the aborigines” language that requires that any whale products obtained by the Makah Tribe to be used exclusively by them, while “local consumption” has to mean on the reservation, particularly since the Makah’s alleged need for whale products is based on what is needed by tribal members living in Neah Bay.

If, despite this analysis, NMFS continues to believe the Makah Tribe, if allowed to whale, can share whale products with tribal and non-tribal members outside the reservation, it must, through regulations or permits, significantly restrict such sharing of edible whale products since the “familial, social, cultural or economic ties” language in the definition of subsistence use is so broad that it could allow sharing of such products with an unlimited number of people throughout the entire United States. Indeed, contrary to NMFS’s willingness to allow the Makah Tribe to share whale products throughout the country, the Makah’s 2005 waiver application requested that it be allowed to kill five gray whales each calendar year (or 20 in five years). Makah Waiver Application at 1. The selection of five whales was not random but, rather, was based on the number of Makah Tribe’s ancestral villages. As noted in the DEIS, “the Tribe anticipated harvesting only one or two whales initially, but included five as the maximum extent of the yearly harvest, if it determined that it could use additional whales effectively and allocate them to each of five ancestral villages. DEIS at 1-30 (citing Makah Tribal Council 1995). This would suggest that the Makah Tribe had no intention of sharing whale products beyond its local area (i.e., the five ancestral villages).

Marine Mammal Protection Act

The MMPA (16 U.S.C. 1361 et seq.) is the nation’s preeminent law for the protection of marine mammals. In passing this law, Congress found that “certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man’s activities.” *Id.* at § 1361(1). In addition, Congress determined that “such species and population stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and, consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population.” *Id.* at § 1361(2) (see also DEIS at 1-13, 1-18). Congress further found that “marine mammals have proven themselves to be resources of great international significance, esthetic and recreational as well as economic, and ... they should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem.” *Id.* at § 1361(6). The goal is to “obtain an optimum sustainable population (“OSP”) keeping in mind the carrying capacity of the habitat.” *Id.*

To achieve such conservation objectives, the MMPA established a moratorium on the take of marine mammals. Under the MMPA, a marine mammal is defined as “any mammal which (A) is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia and Cetacea), or (B) primarily inhabits the marine environment (such as the polar bear); and, ... includes any part of any such marine mammal, including its raw, dressed, or dyed fur or skin.” *Id.* at § 1362(6). The law defines “take” to mean “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.” *Id.* at § 1362(13).

Take, under some circumstances, can be allowed under the MMPA if the requisite permits are obtained from the agency. In allowing take, the drafters of the MMPA “endeavored to build... a conservative bias” in favor of marine mammals. H.R. REP. NO. 92-707, at 24 (1971), *reprinted in* U.S.C.C.A.N. 4144, 4148.

In every case, the burden is placed upon those seeking permits to show that the taking should be allowed and will not work to the disadvantage of the species or stock of animals involved. If that burden is not carried-- and it is by no means a light burden-- the permit may not be issued. The effect of this set of requirements is to insist that the management of the animal populations be carried out with the interests of the animals as the prime consideration.

H.R. REP. NO. 92-707 at 18, *reprinted in* U.S.C.C.A.N. 4144, 4151.

When NMFS issues a permit, it needs to satisfy the criteria of section 104 and be consistent with MMPA purposes, as demonstrated by the applicant. MMPA § 1374(d)(3). A permit must also comply with regulations promulgated under section 103, be “consistent with the purposes and policies” of the MMPA, and “not be to the disadvantage of those species and stocks.” *Id.* § 1373(a). A permit will disadvantage a marine mammal stock and cannot be issued if it causes it to fall below OSP or include takes from a stock already below OSP.⁹

One of the exceptions to the moratorium against the take of marine mammals is for “any Indian, Aleut, or Eskimo who resides in Alaska and who dwells on the coast of the North Pacific Ocean or the Arctic Ocean if such taking ... (is) (1) ... for subsistence purposes; or (is) (2) ... done for purposes of creating and selling authentic native articles of handicrafts and clothing; and (3) in each case, is not accomplished in a wasteful manner. 16 U.S.C. § 1371(b)(1-3).

1. Abrogation of the Makah Tribe’s treaty right to whale:

⁹ See *Committee for Humane Legislation, Inc. v. Richardson*, 414 F. Supp. 297, 302 (D.D.C. 1976), *aff’d*, 540 F.2d 1141 (D.C. Cir. 1976); see also, *Kokechik Fishermen’s Ass’n v. Secretary of Commerce*, 839 F.2d 795 (D.C. Cir. 1988).

Considering the MMPA's broad moratorium on take and the fact that Congress did not include the Makah Tribe or any other United States coastal tribe with a history of whaling or, as is the case for the Makah, a treaty right explicitly recognizing the tribe's whaling right, the MMPA exception language is ample and indisputable evidence that the Makah's treaty right was abrogated by the MMPA. Supreme Court precedent supports this position.¹⁰

Indeed, given the significance of the MMPA, the myriad interests¹¹ engaged in lobbying for or against the legislation, and the vast number of politicians, aides, and experts involved in both drafting the bill and in achieving its adoption, it is inconceivable that no one, particularly the Makah Tribe, advised Congress of the tribe's treaty language or of its tradition of whaling. Alternatively, if such communications never occurred, this demonstrates that no one, particularly the Makah Tribe, cared enough or was sufficiently concerned about its treaty language to bring it to the attention of Congress at that time. Abrogation of said treaty language is, therefore, inferred as a result of Congress not being asked to recognize or preserve the Makah's interest in whaling when promulgating the MMPA.

While the abrogation claim was raised in both *Metcalf v. Daley* (214 F.3d 1135 (9th Cir. 2000)) and *Anderson v. Evans* (314 F.3d 1006 (9th Cir. 2002) (rehearing en banc denied and opinion amended 350 F.3d 815 (9th Cir. 2003))), the courts have not ruled on that claim. Consequently, while it is inevitable that a court will eventually have to render a decision on the abrogation claim, NMFS should have, but failed to, discuss the issue in the DEIS. NMFS is well aware of this argument and, therefore, in its summary of the relevant laws applicable to Makah whaling, should have explained the relevant case law on treaty abrogation and made clear the reasons why it believes the MMPA did not abrogate the Makah's treaty language regarding whaling. It should include such a discussion in a revised analysis.

2. The Makah MMPA waiver application:

In this case, because of the MMPA's moratorium on take of marine mammals, the Makah Tribe is seeking a waiver to that prohibition as directed by the court in *Anderson v. Evans*. While the Makah Tribe does not agree with the ruling in *Anderson* and believes that its "treaty right" trumps the MMPA, it elected to pursue a waiver. In its 2005 application, the Makah include several elements or provisions that warrant additional scrutiny or are worth noting for the purpose of this comment letter.

¹⁰ See *U.S. v. Dion*, 476 U.S. 734 (1986), which held that the Bald and Golden Eagle Protection Act abrogated the rights of the members of the Yankton Sioux Tribe under the 1858 treaty to hunt bald or golden eagles on the Yankton Reservation.

¹¹ These interests included Native American Tribes and organizations, states, industry, and non-governmental organizations.

Treaty of Neah Bay:

While the Makah attempt to address the specific criteria contained in the MMPA, which must be met to obtain a waiver (discussed in more detail below), it also relies on its “treaty right” to justify a waiver. Yet the Treaty is not the end all, be all; rather, it is limited by the MMPA.

The Treaty of Neah Bay was one of the Stevens Treaties, negotiated by Isaac Stevens, the Governor of Washington Territory, with leaders of the Northwest Tribes that occupied what is now the State of Washington. These treaties guaranteed signatory tribes “the right of taking fish at usual and accustomed grounds and stations ... in common with all citizens of the Territory.” The Treaty of Neah Bay explicitly references whaling: “the right of taking fish and of whaling or sealing at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the United States.” See Treaty of Neah Bay at Article 4.

In its repeated references to the treaty language in the DEIS, NMFS fails to include the “in common with” language. While the courts have interpreted that language, the layperson who may read the treaty will likely be confused by this language, which suggests the Makah Tribe can only engage in whaling if other United States citizens are also able to engage in the same activity. In 1855 that was the case, but today, US citizens are prohibited from intentionally killing any marine mammals. NMFS needs to provide additional discussion of judicial interpretations of this treaty language to ensure that all stakeholders have a common understanding of the meaning of the “in common with” language and, more broadly, the limitations inherent to the Makah’s treaty right. The Coalition provides its understanding of the treaty language and the limitations on the treaty here.

Generally, the courts have interpreted the phrase “in common with” to establish “a cotenancy, in which neither party may ‘permit the subject matter of [the treaty] to be destroyed.’” *Anderson v. Evans*, 314 F.3d 1006 (9th Cir. 2002) (quoting *United States v. Washington*, 520 F.2d 676, 685 (9th Cir. 1975)). See also *United States v. Washington*, 761 F.2d 1404, 1408 (9th Cir.1985) (recognizing that “in common with” has been interpreted to give rise to cotenancy-type relationships).

The treaties guarantee tribes the right to harvest an equal portion of the available resource, not just an equal opportunity to do so with non-Indians. *Washington v. Washington State Commercial Passenger Fishing Vessel Ass’n*, 443 U.S. 658, 679 (1979) (holding that the Stevens treaties guarantee tribes the “right to take a share of each run of fish that passes through tribal fishing areas”). That right is subject to federal and state regulation, provided that the regulation is *nondiscriminatory*. See *Puyallup Tribe v. Dept. of Game of Wash.*, 391 U.S. 392, 398 (1968). The treaties do not guarantee an absolute right to fish or hunt; a state may limit the total treaty and non-treaty fish catch, for example, if regulation becomes necessary for the preservation of

the species, is tailored to the conservation of that species, and is nondiscriminatory in its treatment of the Indians. *See Puyallup Tribe, Inc. v. Dept. of Game of State of Wash.*, 433 U.S. 165, 176 (1977) (holding that state fishing regulation applies on-reservation because “[t]he police power of the State is adequate to prevent the steelhead from following the fate of the passenger pigeon”); *United States v. Oregon*, 657 F.2d 1009, 1016–1017 (1981) (affirming a total ban on tribal harvest of spring chinook salmon).

Because tribal treaty rights to hunt and fish can be regulated for the preservation of a resource, the question is not what the treaty guarantees, but rather what the applicable statute/regulation requires and whether it is non-discriminatory. The *Anderson* court accordingly found the MMPA applied to the Makah because the Makah can be regulated “in common with all citizens.”

Limitations and legal implications of the MMPA waiver request:

The waiver request is limited to ENP gray whales only. It does not cover WNP gray whales, nor would it cover PCFG whales if NMFS determined – as it should – that PCFG whales should be designated as a separate stock (an issue that is further discussed below). Since the waiver, if issued, would not cover WNP gray whales, this raises questions about the legal implications for the Makah if it were to take a WNP gray whale. It is worth noting here that different provisions of the MMPA are applicable to “marine mammals” while others are applicable to marine mammal “species” or “population stocks.” For example, the moratorium, waiver, take prohibitions, and permit language apply broadly to “marine mammals,” (see 16 U.S.C. 1371(a); *Id.* at 1371(a)(3)(A); *Id.* at 1372; *Id.* at 1374), while the MMPA sections on depleted species and issuance of regulations refer to marine mammal “species” or “population stocks” (see *Id.* at 1362(1)(A); *Id.* at 1373). These differences may have implications for the Makah’s MMPA waiver request.

While the likelihood of the Makah actually striking and killing a WNP gray whale may be remote according to NMFS (citing to Moore and Weller 2013), since take under the MMPA is broadly defined to include “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal,” if allowed to whale, the Makah may take a WNP gray whale. Moreover, the MMPA’s moratorium covers all takes, regardless of the likelihood of such take.

Consequently, absent a separate waiver or any other legal authorization permitting the take of an endangered WNP gray whale, the Makah Tribe will be subject to prosecution under the ESA and MMPA.

The MMPA does provide for the incidental take of marine mammals listed under the Endangered Species Act through the acquisition of an “incidental harassment authorization” (IHA) or a “letter of authorization” (LOA) (for incidental take). If the Makah are granted a waiver

to the MMPA and NMFS then determines that any “take” of WNP gray whale is incidental to the Makah’s whaling operations, then the Makah would have to obtain an IHA or LOA. In this case, given that the duration of any waiver, if granted, would be valid for at least 10 years (see Alternative 6) and since the Makah would likely take and could potentially seriously injure or kill a WNP gray whale, more than one LOA would be applicable.

NMFS provides no explanation as to the legal implications of the Makah’s waiver request being limited to ENP gray whales, nor does it discuss the applicability, or lack thereof, of its incidental take standards to the Makah Tribe’s whaling plans. In order to obtain such an authorization, a request must be made by the applicant (in this case the Makah Tribe), NMFS must evaluate the impacts of the application pursuant to NEPA, it must publish a notice seeking public comment on the requested authorization, and then must decide whether the authorization should be granted under the relevant criteria contained in the MMPA. Since the existing DEIS does not address the issuance of any such authorization, the authorization process either must be pursued separately from the current DEIS decision-making process (presumably with a decision on a “letter of authorization” made prior to the completion of the present NEPA process) or NMFS must explain why the incidental harassment provisions of the MMPA are not applicable in this case.

Conversely, if the Makah Tribe is granted a waiver to hunt ENP whales and NMFS determines that any take, including serious injury or killing of a WNP whale, constitutes intentional take (since the purpose of the hunt is to kill a whale and because ENP, PCFG, or WNP whales cannot be distinguished by observation alone), then the issuance of a waiver will permit illegal take in violation of the MMPA’s moratorium. If such take is considered to be intentional, the only way it can be permitted is if the Makah’s waiver application is amended to include WNP gray whales.

Lack of accurate and complete analysis of impacts on Pacific Coast Feeding Group whales within the Oregon-Southern Vancouver Island region:

The Makah Tribe has requested, consistent with the recommendation in Calambokidis et al. (2004), that the primary area of emphasis for the impact of its proposed whale hunt on the PCFG of ENP gray whales be restricted to the OR-SVI region of the PCFG range. The OR-SVI region is larger than the Makah U&A but smaller than the full seasonal range of PCFG whales, which is from Northern California to Southeast Alaska. NMFS has included in the DEIS analysis of the impact of the Makah’s proposed hunt (Alternative 2) and the other action alternatives (Alternatives 3-6) on PCFG whales within the OR-SVI region but, as discussed in more detail below, its analysis of the impacts on PCFG whales in the OR-SVI region is deficient. Moreover, despite the Makah Tribe’s request to focus the analysis on OR-SVI PCFG gray whales and the *Anderson* court’s emphasis on the need to consider impacts in the local area (e.g., the Makah

U&A), NMFS's analysis of Alternatives 3-6 calculated the PBR level using the larger PCFG population estimate instead of using the estimates for the OR-SVI and Makah U&A regions.

Additional limited waiver request:

Embedded within the Makah Tribe's request for a waiver of the MMPA's prohibition on taking marine mammals is a second request for "a limited waiver from the MMPA's prohibition on the sale of marine mammal products for the purpose of selling such traditional handicrafts." Makah Waiver Application at 3. No additional information about this second waiver request, including any explanation as to scope of the "limited waiver," is contained in the waiver application or in the DEIS. Since this additional waiver request clearly applies to the Tribe's interest in the sale of authentic native handicrafts manufactured from the non-edible byproducts of killed gray whales, it is imperative that additional information about this second waiver request and its implications be made available so that the public has a chance, as the law requires, to participate in the decision-making process inherent to the second waiver request.

3. NMFS must determine if PCFG whales are a separate stock under the MMPA:

Although the prohibition on taking contained in the MMPA is for "marine mammals," 16 U.S.C. 1372, the authorization of take is restricted to marine mammal "species" and "population stocks" 16 U.S.C. 1373. The MMPA defines the term "population stock" or "stock" as "a group of marine mammals of the same species or smaller taxa in a common spatial arrangement, that interbreed when mature." Unlike the Endangered Species Act, which permits the listing of "Distinct Population Segments," the MMPA does not provide protections for anything other than species or population stocks.

PCFG gray whales are not currently designated as a population stock or stock. The IWC's Scientific Committee, however, has determined that it is "plausible that the PCFG may be a demographically distinct feeding group,"¹² DEIS at 1-5, 3-157, while NMFS repeatedly reports in the DEIS that the PCFG "seems to be a distinct feeding aggregation and may warrant consideration as a distinct stock in the future" *Id.*

If the PCFG were designated as a stock, this would have significant implications for the PCFG and the Makah Tribe's whaling proposal. Among other things, a stock designation would permit the PCFG to be potentially designated as "depleted" under the MMPA if the current population size was below the optimum sustainable population (OSP) size (which has historically been interpreted by NMFS as 60 percent of the stock's carrying capacity). If designated as

¹² As explained in the DEIS, "although the IWC has not formally identified the PCFG as a stock, the Scientific Committee (IWC 2012a) noted that its implementation review of eastern North Pacific gray whales (with an emphasis on the PCFG) was "based on treating PCFG as a separate management stock" (which may not be equivalent to a stock as defined under the MMPA)." DEIS at 1-5.

“depleted,” the Secretary would be barred from issuing any permit to allow take. While this bar could be overcome with an MMPA waiver, if the PCFG were designated as a stock, the current Makah waiver application would not cover PCFG whales. Instead, as explained above for WNP whales, the Makah could be prosecuted under the MMPA for illegally taking (intentionally or incidentally) a PCFG whale. The Makah would have to seek an LOA to permit incidental harassment and take, including serious injury and mortality, or it would have to amend its waiver application to include PCFG whales.

Considering the implications of the decision on whether PCFG whales are a stock, NMFS must suspend the current decision-making process and make a stock determination before continuing with the current analysis. Indeed, since the DEIS must provide the substantive evidence to support any decision made under the MMPA, NMFS must make a stock determination for PCFG whales as part of this decision-making process.¹³ If NMFS determines, after providing an opportunity for public participation, that PCFG whales are a stock, this development would likely require a reassessment of the Makah’s waiver request and, at a minimum, preparation of a supplemental DEIS. Conversely, it would be nonsensical to complete this MMPA waiver and NEPA process and then to conclude that the PCFG is a stock, as that could then require a full reevaluation of previous decisions with implications to the Makah Tribe, other interested stakeholders, and the gray whales.

The best available scientific information provides ample support for the designation of PCFG whales as a stock. While neither the MMPA nor its implementing regulations provide direction on how to determine if a group of marine mammals of the same species constitute a stock, NMFS has guidelines that it utilizes to make such determinations.

To determine if a group of marine mammals represent a stock, NMFS relies on its Guidelines for Assessing Marine Mammal Stocks (NMFS 2005 or GAMMS II). The original guidelines were developed in June 1994 and were finalized in 1995 to aid NMFS in preparing Stock Assessment Reports (SAR). Immediately thereafter minor revisions to the guidelines were proposed and a new version of the guidelines was published in 1997. NMFS (2005) represents the current version of the guidelines. However, based on a workshop held in 2011 to review the guidelines (referred to below as the GAMMS III workshop), NMFS published a Federal Register notice in 2012 soliciting public comment on proposed amendments to the guidelines. To date, NMFS has not finalized those amendments which, for the purpose of this analysis, will be referred to as GAMMS III Revisions 2011.¹⁴

¹³ At a minimum, if NMFS makes a preliminary determination to issue an MMPA waiver to the Makah Tribe it must make a stock determination for PCFG whales before the administrative law judge hearing in order to meet the requirements of the MMPA.

¹⁴ The revisions are available at http://www.nmfs.noaa.gov/pr/pdfs/sars/gamms3_appendix4.pdf

The MMPA defines “population stock” as “a group of marine mammals of the same species or smaller taxa in a common spatial arrangement that interbreed when mature.” NMFS (2005). In interpreting this definition, NMFS considers the objectives of the MMPA, including maintaining the health and stability of the marine ecosystem and that “...species and population stocks of marine mammals...should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population.” *Id.*

In the 2005 GAMMS report, a stock is deemed a management unit if it constitutes a “demographically isolated biological population.” NMFS has interpreted this concept to be synonymous with “demographically independent biological population” in subsequent applications of the guidelines since the “demographically independent” better reflects the intent of both the MMPA and those who prepared the GAMMS II report.¹⁵ Furthermore in Weller et al. (2013), the use of demographic independence in defining a stock was articulated as follows:

The GAMMS III workshop recommended revising the SAR guidelines to reflect that the intent of the GAMMS II guidelines (NMFS 2005) was to base stock identification on demographic independence as noted in Eagle et al. (2008) and proposed that the term demographic isolation be replaced with “demographic independence” as follows:

- (1) “For the purposes of management under the MMPA, a stock is recognized as being a management unit that identifies a demographically independent biological population.”
- (2) “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). Thus, the exchange of individuals between population stocks is not great enough to prevent the depletion of one of the populations as a result of increased mortality or lower birth rates.”

In other words, the participants at the GAMMS III workshop viewed this as a semantic issue where the term demographic independence is a better description for the current GAMMS guidelines definition than is the term demographic isolation.

Further, Weller et al. (2013) explained that:

¹⁵ Pers. comm. with Shannon Bettridge, NOAA/NMFS (July 29, 2015)

“This interpretation of “isolation” differs substantively from how it is used within the GAMMS guidelines definition above, wherein allowance is made for some level of exchange of individuals between stocks. The TF (Task Force) concurred that in spite of using the term “isolation,” the actual definitions under the current GAMMS guidelines ... are more consistent with MMPA objectives to protect population stocks than with the objective of protecting just subspecies and species.

Given that the draft GAMMS guideline revisions from the GAMMS III workshop have not yet been formally approved, the TF agreed to use the current GAMMS guidelines definition (NMFS 2005) for the purposes of their discussions and deliberations but noted that the actual definition used in the two versions (for demographic isolation and demographic independence) is essentially the same in that neither implies true “isolation” within the context of the MMPA.

Consequently, for the purpose of defining a stock, NMFS uses the concept of “demographic independence” instead of “demographic isolation.” Simply stated, the definition of “demographic independence” is a situation where “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).” GAMMS Revisions 2011.

A variety of information can be used to identify a stock. This can include information about the prospective stocks such as: distribution and movements; population trends; differences in morphology, life history, genetics, parasites, and oceanographic habitats; and contaminant and natural isotope loads. (NMFS 2005). A comparison of population trends of the same species occupying different areas can also be used to assess potential stock status, since different trends would suggest that the stocks are not “strongly linked demographically.” *Id.* Similarly, morphological or genetic differences in animals from different regions are evidence that these populations are demographically independent.

In examining recruitment dynamics in a prospective stock, a failure to detect differences in immigration or emigration rates does not mean that a population is not demographically independent. In some cases, while dispersal rates may be sufficient to “homogenize morphological or genetic differences detectable between putative populations,” they may not be sufficient to deliver enough recruits from an unexploited source to an adjacent exploited sink population which could cause the sink population to no longer be a functioning element of its ecosystem. *Id.*

As an example, NMFS (2005) notes that it is common to have human-caused mortality restricted to a portion of a species’ range. Depending on the magnitude of such concentrated mortality, it could lead to population fragmentation, a reduction in range, or even the loss of

undetected populations. This would only be mitigated by high immigration rates from adjacent areas. If such immigration rates are unknown or are insufficient to mitigate the level of mortality, the affected group of whales may not remain a functioning element of its ecosystem or it may diminish below OSP.

If there is inadequate information about stock structure and fisheries mortality is greater than a PBR calculated from the abundance just within the oceanographic region where the human-caused mortality occurs, managers should seriously consider dividing a species into stocks within designated and defensible management units. *Id.* Such management units could be designated in “distinct oceanographic regions, semi-isolated habitat areas, and areas of higher density of the species that are separated by relatively lower density areas.” *Id.* Such areas have often been found to represent true biological stocks where sufficient information is available or when such evidence is known.

Notably, in trans-boundary situations, if a stock's range spans international boundaries or the boundary of the US Exclusive Economic Zone (EEZ), an international management agreement for the species is recommended. Until such an agreement is adopted, if a stock is migratory, the fraction of time in US waters should be noted, and the PBR for US fisheries should be apportioned from the total PBR based on this fraction.¹⁶

In regard to PCFG gray whales, compelling evidence exists that there is a genetic substructure within the ENP population (DEIS at 3-59, 3-94). For example Lang et al. (2011), based on samples taken from PCFG gray whales and ENP gray whales on the northern feeding grounds, demonstrated small but statistically significant mitochondrial DNA differences demonstrating site fidelity to the southern feeding area. DEIS at 3-60. Although no significant differences in microsatellites (from nuclear DNA) were seen between whales from the different areas, Lang et al. concluded that these results indicate “that structure is present among gray whales using different feeding areas, matrilineal fidelity plays a role in creating such structure, and individuals from different feeding areas may interbreed.” *Id.* In a more recently published paper, Lang et al. (2014; Attachment 2) states that their “findings support recognition of the PCFG of gray whales as demographically independent based on the significant differences in mtDNA between the PCFG and whales feeding further north.”¹⁷ Frasier et al. (2011) also concluded that PCFG gray whales likely mate with ENP whales but their findings that there were significant differences in mtDNA haplotype distribution and in estimates of long-term effective

¹⁶ This raises a question as to whether, in calculating a PBR for the OR-SVI PCFG whales that PBR should be lowered based on the proportion of OR-SVI gray whales in Canada.

¹⁷ Furthermore, Lang et al. (2014) notes that “although uncertainty remains, our results indicate that it is plausible that the PCFG represents a demographically independent group and suggest that caution should be used when evaluating the potential impacts of the proposed Makah harvest on this group of animals.”

population size between PCFG and ENP whales were a result “of maternally directed site fidelity of whales to different feeding grounds.” DEIS at 3-125 (see also Lang et al. 2011).

The existing data appears to be equivocal on the recruitment mechanism for PCFG whales. Studies that have found significant differences in mtDNA haplotype frequencies between PCFG whales and whales sampled in the northern areas suggest that the “use of some feeding areas is being influenced by internal recruitment (matrilineal fidelity).” DEIS at 3-127, 3-130. However, Ramarkrishnan et al. (2001), based on an analysis of samples collected from whales within the PCFG range found that the genetic diversity and number of mtDNA haplotypes “were greater than expected if recruitment into PCFG were exclusively internal,” DEIS at 3-124, suggesting that there may be some external recruitment into the PCFG gray whale population via immigration. DEIS at 3-127. As explained in GAMMS II, however, a lack of conclusive evidence as to the immigration or emigration rates or mechanisms does not disqualify a feeding aggregation of whales from being designated as a stock.

Based on this and other evidence, a 2012 NMFS task force concluded that there “remains a substantial level of uncertainty in the strength of the lines of evidence supporting demographic independence of the PCFG.” DEIS at 3-129. Evidence in favor of demographic independence includes the fact that PCFG gray whales are the “only feeding group that does not rely on dynamics of a subarctic ecosystem” and that “this uniqueness may provide important flexibility to the species as a whole given potential challenges in a changing sub-arctic ecosystem.” *Id.* Other supporting evidence includes the persistent return of individual whales to specific feeding areas which “strongly suggests that site fidelity is key to maintaining gray whales as a functioning element of this ecosystem,” (DEIS at 3-129), and that data documenting “internal calf recruitment ... may actually be an underestimate because of survey limitations.” DEIS at 130.

For those who question whether PCFG whales exhibit demographic independence, they point to evidence demonstrating ongoing external recruitment into the PCFG, although it is conceded that there is “considerable uncertainty as to whether external recruitment exceeds internal recruitment.” DEIS at 3-130. In addition, they claim that genetic analyses using mtDNA and nuclear DNA have not shown a significant difference between the PCFG and larger ENP population when, in fact, mtDNA analyses have demonstrated such differences. While nuclear DNA analyses have not revealed similar results, this does not disqualify a group of whale from being designated as a stock. External recruitment of ENP whales migrating through the PCFG range is also used to question a stock determination even though the mere fact that such external recruitment may occur does not disqualify PCFG whales from being designated a stock. Indeed, as noted in NMFS (2005), if the population dynamics of the affected group is more a consequence of births and deaths within the group (internal dynamics) rather than of immigration or emigration (external dynamics), the group can qualify for a stock designation.

Other evidence that supports the designation of the PCFG as a stock includes:

- Since Punt (2015; Attachment 3) determined that PCFG population is at 50 percent of its carrying capacity and given that NMFS reports that at current rates of recruitment, PCFG abundance trends appear to be flat, DEIS at 4-100, 4-84, if external recruitment was the primary mechanism for PCFG whales then population numbers should be increasing. This could suggest that internal recruitment is a more important mechanism for maintaining PCFG numbers and, therefore, would support a stock designation. In addition, if PCFG gray whales were designated as a stock then, at 50 percent of carrying capacity, they would not be at OSP and any intentional take by the Makah would be prohibited.
- If the Makah are allowed to whale, particularly under Alternative 2, the killing of up to six ENP gray whales (which may include PCFG whales) each year would constitute the largest source of reported human-caused mortality for gray whales in US waters. As it is not clear that such concentrated mortality (i.e., in the Makah U&A) would be replaced or how such recruitment is likely to occur, the PCFG gray whales in these smaller regions may no longer be a functioning element in the ecosystem, which would violate the MMPA. Furthermore, for the Makah U&A, the potential mortality of gray whales, including PCFG whales, could be well above the PBR for this region.
- The potential for PCFG whales to be a buffer for the species against adverse impacts attributable to climate change in the Arctic cannot be ignored in making this determination. Given that the evidence demonstrates maternally-driven recruitment into the PCFG and noting the high site-fidelity of some PCFG whales to particular regions, simply assuming that ENP whales will fill PCFG vacant niches is risky given the potential importance of PCFG whales. Moreover, if the PCFG represents an ecological/population buffer against the impact of climate change induced changes in the Arctic, then the removal of any PCFG may prevent full development of the buffer. NMFS should err on the side of caution to designate PCFG as a stock to provide protection and to ensure that they continue to serve their role as a functioning element of the ecosystem as required by the MMPA.
- While the apparent stability of the PCFG population is a concern if it is well under K, the stability of this feeding aggregation is nonetheless noteworthy and suggests that the aggregation is exploiting important habitat and should be protected because it may be in the early stages of speciation or developing more complex population structure.

Given this evidence and the critical importance of a stock determination for PCFG gray whales in light of the Makah Tribe's proposed hunt, NMFS has to make this determination before continuing with the current decision-making process.

4. The use of .50 or larger caliber rifles to kill gray whales does not comply with the MMPA's humane take standards:

Even if a waiver is granted to the Makah Tribe, this only exempts the tribe from the prohibition against taking marine mammals under the MMPA. Other provisions of the MMPA, including the requirement to issue regulations and permits to govern the taking of gray whales, would be applicable. Any regulations proscribed must set forth the manner of take that will be allowed, while the requisite permits must specify the location and manner in which marine mammals may be taken. In addition, the Secretary must determine that the manner of take is humane. The MMPA defines the term "humane," in the context of taking a marine mammal, to mean the "method of taking which involves the least possible degree of pain and suffering practicable to the mammal involved." 16 U.S.C. § 1362(4).

Additional information about this standard is included in the Act's legislative history which provides that:

'Humane' in the context of taking marine mammals means the method of taking which involves the least possible amount of pain and suffering which can be inflicted upon the animals involved. It is not a simple concept and involves factors such as minimizing trauma to groups of highly intelligent, social animals such as whales and porpoises where the taking of any member may be distressing to the group. In many cases, where an animal may not be taken humanely the bill will prevent that animal from being taken at all.

H.R. REP. NO. 92-707 (1971), *reprinted in U.S.C.C.A.N.* 4144, 4154.

NMFS references the MMPA's "humane" mandate throughout the DEIS. This is particularly relevant in regard to the Makah's proposal to kill gray whales considering the increasing public concern for the suffering of animals, including those who are hunted, the ongoing consideration of cetacean welfare within the IWC, and since the gray whale illegally harpooned (four times) and shot (16 times) by rogue Makah whalers in 2007 took at least 11 hours to die.

In its waiver application, the Makah have proposed to use a .50 caliber rifle as the primary killing weapon after a gray whale is struck and penetrated by a steel toggle-point harpoon. The Makah used a .577 caliber rifle in the 1999 hunt and a same rifle along with smaller caliber weapons during the 2007 illegal hunt. Both weapons have been deemed to be adequate to kill gray whales, DEIS at 2-30, 3-169, 3-364 citing (Ingling 1999, Beattie 2001, and Graves et al. 2004). In their analyses of these two weapons, however these experts only compared the two larger caliber rifles against each other and against smaller caliber weapons; they did not test them against explosive grenades containing black powder or penthrite. One of the experts (Dr. Ingling) cited by NMFS in the DEIS suggested the .577 rifle may be preferable because it is

lighter, has a 3-shot magazine, and it is quieter. NMFS, however, notes that gun manufacturers have improved the .50 caliber rifle to meet or exceed the alleged benefits of the .577 rifle. NMFS, therefore, concluded, “we consider the Tribe’s proposed .50 caliber rifle, with its readily available supply of ammunition, the weapon that Makah hunters would most likely use.” DEIS at 3-170.

As reported in the DEIS, the whale harpooned and shot in 1999 took a total of eight minutes to die from the initial harpoon strike to no evidence of life. DEIS at 1-38, 4-76. Both NMFS and the Makah seem to suggest that this is sufficiently “humane” and opine that, with experience, the time to death will decline if the Makah are allowed to kill gray whales. However, whether a kill with a high caliber rifle takes five or eight minutes or longer, that death is not instantaneous or near instantaneous and does not meet the “least possible degree of pain and suffering” standard under the MMPA particularly when less cruel killing methods are available. Furthermore, to use a single event (or a sample size of one) to determine if high caliber rifles are “humane” killing weapons or that the time to death will decrease with more experience is entirely inappropriate since, if the Makah had killed more whales in 1999 or in 2007, the time to death for those whales could have been longer.

Although NMFS appears to be prematurely satisfied that the .50 caliber rifle can “humanely” kill a gray whale, it did expand the analysis in the DEIS to consider the potential use of black powder and penthrite explosive grenades. Such grenades could either be delivered using a darting gun or a shoulder gun. A darting gun consists of a barrel to hold the explosive projectile which is attached to the wooden shaft equipped with a toggle point harpoon. DEIS at 2-13. A shoulder gun is like a rifle but designed to fire explosive grenades. For the Makah, just as they propose to use a rifle as the primary killing weapon after a harpoon has penetrated a whale, explosive grenades would be used in the same manner. A primary killing method is required in any gray whale hunt since a steel toggle-point harpoon, even if it is delivered in a perfect strike to the most sensitive part of the whale’s body, will not kill the animal. DEIS at 3-167.

The evidence contained in the DEIS, taken from a number of studies or reports from whaling activities in Alaska, Russia, Greenland, and Norway, provide compelling data demonstrating that explosive grenades containing penthrite are the least cruel existing method for killing such large whales and should be the only method NMFS permits the Makah Tribe to use if it, wrongly, grants the waiver application and prevails in any subsequent judicial proceedings.

The Alaskan Eskimos utilize explosive grenades as both their primary and secondary killing weapons. DEIS at 3-164. These grenades are delivered using hand thrown darting guns or a shoulder gun. The grenades either contain black powder or penthrite, although penthrite is preferred because black powder can taint the taste of whale meat. *Id.* After the grenade penetrates the whale’s body, it detonates and kills via shock waves and tearing of tissues,

hemorrhage, and/or damage to internal organs caused by shrapnel. DEIS at 3-167. According to NMFS, a whale can respond to being struck with a grenade by death, insensibility, and stunning as well as diving, thrashing, and ramming boats. *Id.* (citing Knudsen and Øen 2003, Øen 1995, and Bockstoce 1986).

Such actions, however, are generally short in duration since penthrite results in the rapid death of a whale in most instances. Evidence of this is contained in the DEIS and includes:

- Øen (2006) noted that the instantaneous death rate in Norwegian minke whale hunts in which penthrite grenades were employed had increased from 17 percent from 1981 to 1983 to 80 percent in 2000 to 2002 due primarily to improved grenades and training. Overall, 95.5 percent of whales are killed with the first strike by a penthrite grenade. DEIS at 3-171.
- In a study of the killing efficiency of black powder and penthrite grenades used in the Alaskan bowhead hunt, Øen (1995) reported that seven of the eight whales struck with penthrite grenade(s) died from the first grenade thrown while the eighth whale required three grenades before he/she died. In addition, the results demonstrated a reduced time to death for whales struck with penthrite versus black powder grenades. In 1988, seven of the eight bowhead whales struck with penthrite grenades were landed (one died but was lost) and five of the whales (63 percent) died instantaneously or in less than 5 minutes, DEIS at 3-172, 3-176.
- In 2010, eight bowhead whales struck with penthrite grenades and five were landed after instantaneous or near instantaneous kills. DEIS at 3-174 (citing IWC 2011d). Of the remaining whales, one was lost under the ice, one sank after being killed, and in one whale the grenade did not explode and the whale was lost. *Id.*
- In the 2011 bowhead whale hunt, of the 38 whales landed, 26 whales were reported as instantaneous or near instantaneous kills including all but three of those taken using penthrite grenades. *Id.*
- In 2011, the then Chairperson of the AEWG reported that penthrite grenades “can reduce the time to death for a bowhead whale to four seconds,” this being the length of time on the grenade’s fuse.” DEIS at 3-173, 3-177.
- Øen (2015; Attachment 4) reported the time to death data collected during the Icelandic fin whale hunt in 2014 revealed that “84% of the whales had died instantly.” In that hunt, “the whales were killed with 90 mm Kongsberg harpoon canons and Whale Grenade-99 modified with 100 g of pressed penthrite as explosive. Grenade detonation in the thorax (chest), in or at the thoracic spine, neck or brain resulted in 100% instant death.”

Notably, bowhead whales are larger than gray whales and, consequently, it is expected that, if a hunt were permitted, penthrite grenades would more rapidly kill gray whales. Nevertheless, despite this and other evidence contained in the DEIS demonstrating that penthrite grenades are a less cruel killing method compared to rifles, NMFS still claims that it is “uncertain what the average time to death would be for gray whales killed in a Makah gray whale hunt using explosive projectiles as the striking and killing weapons” although it then concedes that “it is possible that average time to death would be lower than with the alternate method (toggle-point harpoon and rifle) because the striking weapon has the potential to quickly kill the whale or render it insensible.” DEIS at 4-77.

The DEIS also notes that, at an IWC workshop on Whale Killing Methods held in 2003, the United Kingdom presented a paper indicating that whales could experience stress as a result of being pursued which, in turn, can result in stress-related symptoms such as impaired immune defense, reduced fecundity, a failure to grow, and potentially succumb to “exertional myopathy.” DEIS at 3-166. NMFS, in response, reported that exertional myopathy has not been reported in gray whales and that “there are no data at present to evaluate what level of activity would be required to induce this in gray whales.” *Id.* What NMFS fails to disclose is what efforts have been made by its own scientists or others to examine whether pursuit results in stress related complications, including exertional myopathy. Just because exertional myopathy has not been reported in gray whales, doesn’t mean that the risk is not real.

Finally, while the method of killing whales is directly relevant to “humane” concerns associated with the hunt, the efficiency of the hunt is also a critical consideration. Since struck and lost whales could be whales that are injured and suffering, a less efficient hunt will result in greater cruelty than a highly efficient hunt. The hunting proposal submitted by the Makah Tribe (Alternative 2) is the least efficient of all the action alternatives at 57 percent. DEIS at 4-78. The other action alternatives, according to NMFS, have predicted hunt efficiencies of 67 percent (Alternative 3), 100 percent (Alternative 4), 80 percent (Alternative 5), and 100 percent (Alternative 6). DEIS at 4-78/4-79.

Given the foregoing evidence and recognizing that the MMPA requires NMFS to mandate the most “humane” method for taking marine mammals, if NMFS wrongly elects to grant the Tribe’s waiver application, it must require the use of explosive grenades containing penthrite as the primary as well as secondary killing method for gray whales. The fact that such grenades and the darting or shoulder guns used to fire the grenades into a whale are expensive is immaterial in this case. The MMPA does not allow cost to be considered in determining the most “humane” method available to kill a marine mammal. Conversely, allowing the Makah to kill gray whales with either the .50 caliber or .577 caliber rifles would violate the “humane” requirement contained in the Act. Furthermore, although significant concerns about public safety in regard to the use of these powerful rifles are addressed elsewhere in this comment

letter, requiring the use of penthrite grenades would substantially reduce risks to public safety, as the grenades, due to their weight, have a significantly smaller range than a bullet (i.e., a grenade certainly could not travel as far as 5 miles like a bullet fired from a .50 caliber rifle).

Endangered Species Act

The Endangered Species Act is the nation's preeminent law protecting federally listed threatened and endangered species and their habitats. Its purpose is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions" identified in the ESA. ESA Section 2(b). Furthermore, Congressionally-designated policy requires that "all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." *Id.* at Section 2(c).

Section 7 of the Act mandates that "each federal agency ... in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species." ESA Section 7(a)(2). To facilitate compliance with the consultation process, "each Federal agency shall ... request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action." *Id.* at Section 7(c)(1). If the "Secretary advises, based on the best scientific and commercial data available, that such species may be present, such agency shall conduct a biological assessment for the purpose of identifying any endangered species or threatened species which is likely to be affected by such action" *Id.*

As indicated in the DEIS, there are 14 federally listed endangered (nine species) or threatened (five species) in or near the Project Area. NMFS does not identify any species proposed to be listed under the ESA that may exist in or near the Project Area, although it does identify the sea otter (Washington stock) as a species considered to be endangered by the State of Washington. DEIS at 3-206. Based on a review of information about state and federally protected species maintained by the Washington Department of Fish and Wildlife (accessible at <http://wdfw.wa.gov/conservation/endangered/All/>), it appears that there may be other federally protected species, particularly fish, including a number of stocks of salmon, that may live in or near the Project Area that were not identified in the DEIS. NMFS also fails to indicate if critical habitat has been designated for any federally protected species other than the Southern Resident killer whales in the Project Area. NMFS must disclose all federally listed threatened and endangered species in the Project Area and provide analysis of how the proposed hunt may

affect those species and their habitat, particularly any critical habitat designated for the species. As NMFS has apparently failed to disclose all relevant information about ESA-protected species in the DEIS, this constitutes a violation of NEPA.

Furthermore, NMFS provides no discussion of the ESA consultation requirements and its efforts to satisfy that mandate. There is no reference to any discussion with its own protected species division or with the USFWS regarding federally protected species in the Project Area. Nor does NMFS report whether it is preparing a biological assessment, if said assessment is completed, and/or if it has initiated or concluded its own internal consultation process or the consultation requirement with the USFWS for protected species under its jurisdiction. NMFS must provide assurance that it has complied or is complying with the ESA. Ideally, NMFS should provide the public with an opportunity to participate in the consultation process but, at a minimum it must disclose that it has or is engaged in consultation and, if completed, share the results.

National Environmental Policy Act

NEPA is the basic national charter for protection of the environment. 42 U.S.C. § 4321 et seq. It requires that “environmental information is available to public officials and citizens before decisions are made and before actions are taken.” 40 CFR § 1500.1(b). Said information “must be of high quality” and subject to “accurate scientific analysis.” *Id.* Ultimately, a NEPA analysis and decision-making process is “intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” *Id.* at § 1500.1(c).

An Environmental Impact Statement (EIS) as required under NEPA “shall provide full and fair discussion of significant environmental impact and shall inform decisionmakers and the public of the reasonable alternative which would avoid or minimize adverse impacts or enhance the quality of the human environment.” *Id.* at § 1502.1.

Impacts, in the context of NEPA, are synonymous with “effects.” NEPA requires agencies to evaluate the direct, indirect, and cumulative impacts or effects of the proposal or any alternatives. Any alternatives included in a NEPA document must be reasonable, include reasonable alternatives not within the jurisdiction of the lead agencies, must include a no-action alternative, *id.* at § 1502.14(a)(c) and (d), and can also include alternatives that may require legislation to implement. DEIS at 2-2 citing 46 Federal Register 18027(2b). Qualitatively, reasonable alternatives include those alternatives that are practicable or feasible from a technical and economic standpoint and that use common sense, rather than being simply desirable from the standpoint of the applicant. DEIS at 2-2. The agency is required to “rigorously explore and objectively evaluate all reasonable alternatives” *id.* at § 1502.14(a) and,

for those alternatives considered but eliminated from detailed study, must discuss the reasons for eliminating alternatives from substantive analysis. *Id.*

Council on Environmental Quality (CEQ) regulations implementing NEPA – with which all agencies must comply – do not define “reasonable alternative” but explains that “reasonable alternatives to proposed actions will avoid or minimize adverse effects of these actions upon the quality of the human environment.” 40 CFR § 1500.2(e). However, the National Oceanic and Atmospheric Administration’s NEPA Handbook states “reasonable alternatives are those that may be feasibly carried out based on technical, economic, environmental and other factors, and meet the purpose and need for the proposed action (citing 40 CFR § 1502.14).” See NOAA NEPA Handbook at 5.4.4.1. This latter requirement – that a reasonable alternative meets the purpose and need for the proposed action – is not reflected in the NEPA statutory language or in the CEQ’s NEPA regulations, including at § 1502.14, and consequently, may not be lawful. Indeed, as explained in more detail below, if a federal agency on its own behalf or when acting on behalf of a third party can dictate a particular outcome of a NEPA process by crafting its purpose and need to achieve that outcome – which is precisely what has been done here – it makes a mockery of the entire NEPA process.

In most cases, the agency should identify the “agency’s preferred alternative or alternatives” unless another law prohibits the identification of a preferred alternative. 40 CFR § 1502.14(e). As explained in the NOAA NEPA Handbook, a “proposed action” and a “preferred alternative” are sometimes synonymous, while in other cases, a “proposed action” reflects a more general objective while the preferred alternative describes how the objective will be achieved. NOAA NEPA Handbook at 5.4.4. For NMFS, as stated in NAO 216-6: Environmental Review Procedures for Implementing the National Environmental Policy Act, if it does not have a preferred alternative, it “must provide a range of alternatives or other indication of the alternatives most likely to be selected, thus informing the public of the likely final action and its environmental consequences” so that “the public is ... able to more effectively focus its comments.” NAO 216-6 at 5.04(a)3. NMFS has not provided such an explanation in the DEIS.

The identification of alternatives (including any proposed action), description of the affected environment, and the analysis of environmental consequences are considered the “heart of the environmental impact statement.” 40 CFR § 1502.14. An agency is required to “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and provide a clear basis for choice among options by the decisionmaker and the public.” *Id.*

In addition, an EIS must include a discussion of “any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity,

and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented.” *Id.* at § 1502.16. The DEIS does not include a discussion of any of these required elements.

1. NMFS has failed to provide a reasonable range of alternatives in the DEIS:

The DEIS evaluates the environmental impact of six alternatives. Unfortunately, these alternatives do not comply with NEPA requirements to consider all reasonable and feasible alternatives. Additional alternatives, as described below, should have been evaluated in the DEIS. Two of these alternatives, both of which the Coalition would fully support, were not evaluated at all in the DEIS or were considered and rejected.

The first is a non-lethal use alternative whereby NMFS, other federal agencies, and even non-governmental organizations would collaborate with the Makah Tribe to establish marine animal (including whales) watching operations in Neah Bay. Such operations could incorporate the use of the traditional canoes for coastal animal watching excursions or employ motorized vessels to permit coastal and offshore excursions. Properly trained Makah tribal members could act as vessel captains, operators, paddlers, and naturalists on such vessels while the actual operation would be fully owned and operated by members of the Makah Tribe.

Considering, as described in the DEIS, the significant marine diversity and aesthetic beauty found in Northwest Washington, including in the Makah U&A, and the current lack of any marine wildlife viewing operations in the Neah Bay area, such an alternative would provide a unique opportunity for visitors to Neah Bay. In addition to creating paid employment on the Makah reservation, if properly marketed, such operations would increase visitation to Neah Bay, which would likely translate into increased revenue for the tribe and individual business owners for accommodations, food, services, and miscellaneous purchases. Unlike existing whale and other marine wildlife viewing operations in Washington or the Vancouver area, the Makah Tribe could use its programs to introduce visitors to its history, culture, and traditions (including its traditions related to whaling), which would then be reinforced if visitors also toured the Makah Cultural and Research Center (Museum).

If this alternative were evaluated and ultimately selected, the Makah Tribe would not give up its treaty right to whale but, rather, would agree to suspend its pursuit of an MMPA waiver and its resumption of whaling. While this alternative would not permit the Makah Tribe to kill whales, the Tribe could still use products from any drift/stranded or entangled whales that died and practice all of its traditions related to whaling. It could also, consistent with NMFS whale-watching regulations, interact with gray and other whale species in a non-lethal manner that would create jobs, increase visitation to the refuge, increase revenues, and provide an educational value for tourists.

A second reasonable alternative involves providing compensation to the Makah Tribe in exchange for its agreement to suspend its pursuit of an MMPA waiver and cease its efforts to resume whaling. A version of this alternative was considered in the DEIS but rejected (DEIS at 2-30/2-31). This alternative would not involve only financial compensation to the Tribe but, could also include the transfer of land, provision of equipment/supplies needed by the Tribe, federal grants to address known needs of the Tribe and/or individual tribal members, and/or increase the allocation of fishing quotas consistent with conservation needs, along with a federal funding package the Makah could use to address the many needs in Neah Bay. Some of those needs are referenced in the DEIS and include the development of the Makah Tribe's marine program and its harbor at Neah Bay, an upgraded marine fuel float, creating a deep harbor entry area, and a cruise ship facility. DEIS at 3-22.

Other potential uses of such federal assistance or funds, which would provide even greater benefits for more reservation residents and are also identified in the DEIS, are: expanding the reservation's forested land base, studying the feasibility of a marine fish hatchery; diversifying the Makah Tribe's fishing industry (particularly the whiting fishery); constructing a visitor center along with an associated ocean front cabin resort and motel, a boardwalk, a wellness/medical center, senior citizens apartments, housing for medical clinic workers, baseball fields, trails for tsunami escape corridors, walking paths, and a new Makah tribal council office; conducting road improvements; developing a new clean water source for the reservation, revitalizing the downtown area, expanding the Shi-Shi Trail, and upgrading the tribal communications network; developing wind energy generation units on the reservation; and facilitating improvements in the tribe's value-added seafood processing capacity. DEIS at 3-23.

If this alternative were selected, the Makah Tribe would retain its treaty right to whale but would agree to suspend pursuit of whaling for a set period of time (e.g., 25 years). This alternative is similar to the agreement reached by the Nuu-chah-nulth, a First Nations group that resides on Vancouver Island, with the Canadian government (see DEIS at 1-28). The benefits of such an alternative would be recognized by every tribal member who resides in Neah Bay and could be used to improve the quality of life on the reservation by improving urgent care capabilities, expanding existing medical facilities, enhancing the care of tribal elders, expanding and strengthening tribal substance abuse programs, improving housing standards, and meeting other urgent and critical needs in Neah Bay.

NMFS rejected this compensation alternative because it claimed that any of the activities under this alternative would be speculative and would involve uncertain negotiations between the Makah Tribe and other government and non-governmental entities. DEIS at 2-30. This is simply not accurate since, if such an alternative were selected, then once the negotiations on a compensation package began, specific components of such a package would be identified and articulated.

NMFS will also likely claim, as it already has for the second suggested alternative, that these alternatives cannot be selected as they do not satisfy the purpose and need for either the Makah Tribe or NMFS. As explained above, however, this claim is not consistent with NEPA. Even if it were, as also noted above, NMFS must restate its purpose and need (and delete the Makah Tribe's purpose and need) to ensure the NEPA decision-making process is legitimate (i.e., by ensuring the No Action Alternative is a viable alternative that can be selected at the conclusion of the NEPA decision-making process).

Another alternative that should have been evaluated would combine many of the most conservative elements of the existing action alternatives. In this case, such an alternative would permit whaling during a split season (i.e., three weeks in December and May), all whaling would be required to occur at least five miles offshore, maximum annual take would be limited to one whale (and no more than 6 over six years), a limit of a single struck and lost whale (with any lost whale counted as a PCFG whales), a limit on the take of PCFG whales to be 10 percent of the OR-SVI PBR (.23),¹⁸ with no carryover of any unused limit, and expiration of the MMPA waiver and any associated regulations and permits after ten, three, and three years, respectively. In addition, the Makah Tribe would be required to use penthrite grenades as its primary killing weapon. Such an alternative would allow the Makah to take a limited number of whales during time periods when the risk to WNP gray whales would be reduced. It would also provide increased protection to PCFG whales that occur within the OR-SVI area (the area that the Makah Tribe identified as the recommended region for analysis) by imposing a restrictive take limit which, if a PCFG whale were killed, would require a hiatus in the hunt for as many as four years. In addition, because the hunt would take place well offshore and would require the use of penthrite grenades, it would result in more rapid death to struck whales and would reduce threats to public safety. The expiration of the permits, regulations, and waiver would ensure that NMFS revisits its decision with some frequency in order to make any adjustments as dictated by scientific evidence and social concerns (i.e., adaptive management).

While the Coalition would not support this alternative, it should have been evaluated since it combines many of the most conservative collections of elements from the other action alternatives, which would permit the Makah Tribe to engage in ASW but would limit the impact of any hunt to ENP, PCFG, and WNP gray whales and be more humane.

2. NMFS has failed to disclose all relevant information and to provide a clear and accurate analysis of the environmental consequences of the no action and action alternatives:

¹⁸ Section 118 of the MMPA sets a goal of reducing incidental mortality of marine mammals in commercial fisheries to "insignificant levels approaching a zero mortality and serious injury rate." 16 U.S.C. § 1387, DEIS at 2-21. NMFS considers this goal as being met when commercial fisheries result in a mortality rate of marine mammals that is 10 percent or less of PBR. *Id.*

The affected environment and environmental consequences sections of the DEIS provide the heart of the analysis. The former is intended to fully document the characteristics of the affected environment, while the latter considers the impacts on that environment of the alternatives evaluated in the DEIS. Because of the linkages between these sections of the DEIS, they will be considered together here. Analysis is not provided of each of the environmental variables (e.g., water quality, public services) contained in the DEIS. This is not to suggest these variables are not important but only that the Coalition does not have substantive concerns with the relevant analyses contained in the DEIS, unlike the variables discussed below.

Prior to discussing the categories of environmental consequences where the Coalition has substantive concerns, there are broader issues relevant to the content of the affected environment and environmental consequences sections of the DEIS.

NEPA requires federal agencies to disclose all relevant information in an EIS. Here, the DEIS does not satisfy this important standard, as critical information has not been disclosed. Where NMFS has failed to fully disclose all relevant information in any of the categories of environmental consequences evaluated in the DEIS, a discussion of the missing information and its relevance to analysis of environmental impacts is included below. In some cases, NMFS has claimed relevant information is not available. While the Coalition questions the legitimacy of many of these claims, that analysis is also incorporated below.

The CEQ NEPA implementing regulations explicitly address how federal agencies are to deal with incomplete or unavailable information. For incomplete information that is “essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.” 40 CFR § 1502.22(a). For information that cannot be obtained “because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,” the agency must provide, in the DEIS: “1) a statement that such information is incomplete or unavailable; 2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; 3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impact on the human environment, and 4) the agency’s evaluation of such impact based upon theoretical approaches or research methods generally accepted in the scientific community.” *Id.* at § 1502.22(b)(1-4). NMFS has failed to provide the required statement for information that it deems to be unavailable for analysis in the DEIS.

3. NMFS has failed to define the impact levels used in the DEIS:

The DEIS is also missing critical information relevant to the impact levels relied on in the analysis of environmental consequences. Impact thresholds for the purpose of this discussion

are the terms used to identify the physical or temporal severity and/or the geographic scope of the environmental impacts caused by action alternatives. Throughout the DEIS, NMFS uses terms such as “negligible,” “minor,” “small,” “temporary,” “short-term,” “no appreciable effect,” “improbable,” “localized,” and other terms to describe its assessment of such impacts. NMFS “interprets” “negligible” in the DEIS to mean “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR § 216.103),” DEIS at 2-21, but it fails to provide a definition for any of the other impact level terms used in in the document.

The definition of “negligible” cited above is relevant to NMFS’s analysis of incidental take of marine mammals by United States citizens engaged in specific activities (other than commercial fishing) within a specified geographic range. *Id.* It is not clear if NMFS is applying this same definition in the context of its analysis of the environmental impacts of the Makah Tribe’s proposed whale hunt in the DEIS. If not, then NMFS has not provided a definition of “negligible” in the DEIS. If so, its use of this definition raises additional questions since, as NMFS notes in the DEIS, “in practice, we consider an incidental take that does not exceed 10 percent of PBR to have a negligible impact” DEIS at 2-21 (citing 64 Fed. Reg. 28,800, May 27, 1999).

Since, in the present context, the take of gray whales may be intentional and, at least for PCFG gray whales under several alternatives, the level of take will be at or in excess of PBR, it would not appear that the use of this term is appropriate. Furthermore, some claims of a “negligible” impact in the DEIS have nothing to do with impacts to a species or population stock, further suggesting that the definition of “negligible” in the DEIS is not relevant to the use of “negligible” in evaluating the environmental consequences of the proposed Makah hunt.

Moreover, with the exception of a few instances where it includes text in parentheses to ostensibly explain the meaning of the term being used, NMFS has failed to include any definition of any of the other impact thresholds in the DEIS.

NMFS is well aware of the fundamental need to define such impact thresholds. For example, its Final Environmental Impact Statement for Issuing Annual Quotas to the Alaska Eskimo Whaling Commission for a Subsistence Hunt on Bowhead Whales for the Years 2013 through 2018 (Bowhead EIS),¹⁹ published in January 2013, includes a section (see pages 74-76 in Bowhead EIS) explaining the “Steps for Determining Level of Impact.” In that section, NMFS explains the legal basis for having to define impact levels:

The CEQ regulations implementing NEPA state that an EIS should discuss the significance, or level of impact, of the direct, indirect, and cumulative effects of

¹⁹ Available at: <https://alaskafisheries.noaa.gov/protectedresources/whales/bowhead/eis0113/final.pdf>

the proposed alternatives (40 CFR § 1502.16), and that significance is determined by considering both the context in which the action will occur and the intensity of the action (40 CFR § 1508.27). Context and intensity are often further broken down into components for impact evaluation. The context is composed of the extent of the effect (geographic extent or extent within a species, ecosystem, or region) and any special conditions, such as endangered species status or other legal status. The intensity of an impact is the result of its magnitude and duration. Actions may have both adverse and beneficial effects on a particular resource. A component of both the context and the intensity of an effect is the likelihood of its occurrence.

The combination of context and intensity is used to determine the level of impact on each type of resource. The first step is to examine the mechanisms by which the proposed action could affect the particular resource. For each type of effect, the analysts develop a set of criteria to distinguish between major, moderate, minor, or negligible impacts. The analysts then use these impact criteria to rank the expected magnitude, extent, duration, and likelihood of each type of effect under each alternative.

NMFS then goes on to include a number of definitions of different impact levels. For example, as to the impact of the proposed action and any alternatives on bowhead whales, NMFS defines “negligible,” “minor,” “moderate,” and “major” based on the relevant “Q” values from the 2006 stock assessment report for this stock of bowhead whales. For other variables evaluated, NMFS provides definitions of terms such as “temporary,” “long-term,” “moderate,” “frequent,” “infrequent,” and “likely.”

In its Supplemental Draft Environmental Impact Statement on the Effects of Oil and Gas Activities in the Arctic Ocean (March 2013), it provides a more comprehensive (and useful) suite of definitions of impact levels used in its analysis. In that document, NMFS defines: “low,” “medium,” and “high” in regard to the intensity (magnitude) of the impacts; “temporary” and “long-term” in the temporal context of the duration of the impact; “local,” “regional,” and “state-wide” in regard to the extent of the impact; and “common,” “important,” and “unique” in terms of the value of the resources that may be impacted. It then, for its “qualitative thresholds,” provides a definition of “negligible,” “minor,” “moderate,” and “major.” In that NEPA document, “negligible” is defined as “impacts (that) are generally extremely low in intensity (often they cannot be measured or observed), are temporary, localized, and do not affect unique resources.” This definition is different from the definition of “negligible” in the context of incidental take analyses.

In the context of the DEIS, not only has NMFS failed to define the impact levels that it has used in its analysis, but it has even failed to provide a full complement of impact levels as reflected in the other NEPA documents identified above.

Importantly, it is not just a matter of defining impact levels, but the impact levels used also must be developed so they are distinguishable, such that the public and decisionmakers are able to easily understand the difference between the various levels used (e.g., how a “negligible” impact is distinguished from a “minor” impact).

As noted previously, the alternatives, affected environment, and environmental consequences sections of any EIS is considered the “heart” of the analysis and an agency “should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” 40 CFR § 1502.14. In order to sharply define the issues and to ensure, post-decision, that the agency’s analysis of impact levels was accurate, it follows that the impact levels used must be meaningful, distinguishable, quantifiable, and/or measureable. If not, then the impact levels effectively become irrelevant since there would be no mechanism to differentiate between the reported impacts. In other words, the agency’s analysis would be based largely on speculation as to severity of any impacts.

In *Bluewater v. Salazar* (721 F.Supp.2d 7 D.D.C. (2010)), the National Park Service was criticized for its failure to use meaningful, distinguishable, quantifiable, and measureable impact thresholds in its impairment analysis of allowing jet skis use in the Gulf Islands National Seashore. The court went into great detail to explain why impact levels (or thresholds) in the context of the NPS impairment standard must be distinguishable from each other. While the NPS impairment standard is not a component of NEPA, the impact level concept is exactly the same, suggesting that impact levels contained in NEPA documents must, at a minimum, meet the standards imposed in *Bluewater*.

Given the critical importance of the impact analysis in any EIS, the failure by NMFS to define the impact levels used in the DEIS, to provide a full complement of impact levels (i.e., to address the intensity, temporal context, extent, resource value, and physical impact of an action and its alternatives), and to differentiate between impact levels, is not an error that can be corrected in a Final EIS. Rather, at a minimum, NMFS needs to suspend the current NEPA process while it prepares a Supplemental EIS to address this (and other deficiencies) in the DEIS.

Other Federal Agencies and Additional Legal Concerns

1. NMFS has failed to adequately evaluate how the proposed whale hunt would impact other federal agencies with jurisdiction within the Project Area or to clearly explain management authorities of those agencies:

The Obama Administration has led a push towards the use of ecosystem-based management of our marine resources. In its 2011 EBM Strategic Action Plan Outline, the National Ocean Council (NOC) defined EBM as:

an integrated approach to resource management that considers the entire ecosystem, including humans, and the elements that are integral to ecosystem functions. EBM is informed by science to conserve and protect our cultural and natural heritage by sustaining diverse, productive, resilient ecosystems and the services they provide, thereby promoting the long-term health, security, and well-being of our Nation.

In a 2013 report to the NOC, the Ocean Research Advisory Panel (ORAP) stated:

EBM is an integrated approach to management that drives decisions at the ecosystem level to protect the resilience and ensure the health of the ocean, our coasts and the Great Lakes. EBM is informed by science and draws heavily on natural and social science to conserve and protect our cultural and natural heritage, sustaining diverse, productive, resilient ecosystems and the services they provide, thereby promoting the long-term health, security, and well-being of our Nation.

As described in the DEIS, the project area encompasses several federally designated and managed areas, including the Olympic Coast National Marine Sanctuary (OCNMS), the Washington Islands National Wildlife Refuges, Olympic National Park, and internationally designated areas, including a United Nations World Heritage Site and the Olympic Biosphere Reserve, as well as the Makah and Ozette Reservations. To be consistent with EBM, NMFS must take into consideration the environmental impacts of a proposed hunt on this larger geographic region, which it has not done in this DEIS, as explained below.

There are a number of federal agencies that manage lands or waters within the Project Area. These agencies include NOAA, the National Park Service, and the United States Fish and Wildlife Service. For each of the areas managed by these agencies, there are separate statutes and regulations that dictate wildlife management requirements.

Olympic Coast National Marine Sanctuary (OCNMS):

The OCNMS is managed by NOAA's Office of National Marine Sanctuaries. As noted in the OCNMS Final Management Plan and Environmental Assessment, the OCNMS encompasses 2,500 square nautical miles of marine waters off of Washington's Olympic Peninsula coast. See Figure 1. Its location enhances protections to the region's natural integrity provided by both Olympic National Park and the Washington Maritime National Wildlife Refuge Complex. The area's nutrient-rich waters contribute to the high primary productivity within the OCNMS, which attracts twenty-nine species of marine mammals, some of the largest seabird colonies in

the continental United States, and a variety of commercially important fish species. It also supports the critical habitats of a number of unique communities of organisms, including deep sea coral and one of the world's most diverse seaweed communities.



Figure 1: Map of OCNMS (available at <http://sanctuaries.noaa.gov/pgallery/atlasmaps/oc.html>)

The OCNMS is managed pursuant to the National Marine Sanctuaries Act (NMSA). The NMSA, enacted in 1972, authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or esthetic qualities as national marine sanctuaries. The primary objective of the NMSA is to protect marine resources, such as coral reefs, sunken historical vessels or unique habitats. Section 304(d) of the NMSA requires federal agencies whose actions are “likely to destroy, cause the loss of, or injure a sanctuary resource,” to consult with the program before taking the action. The program is, in

these cases, required to recommend reasonable and prudent alternatives to protect sanctuary resources. 16 U.S.C. § 1434(d).

The boundaries of the Makah U&A appear to overlap with the boundaries of the northern portion of the OCNMS. Regulations relevant to the OCNMS generally prohibit the taking of marine mammals and other species in or above the sanctuary, except if such taking is authorized by several laws or treaties. Specifically, the regulations prohibit:

Taking any marine mammal, sea turtle or seabird in or above the Sanctuary, except as authorized by the Marine Mammal Protection Act, as amended, (MMPA), 16 U.S.C. 1361 *et seq.*, the Endangered Species Act, as amended, (ESA), 16 U.S.C. 1531 *et seq.*, and the Migratory Bird Treaty Act, as amended, (MBTA), 16 U.S.C. 703 *et seq.*, or pursuant to any Indian treaty with an Indian tribe to which the United States is a party, provided that the Indian treaty right is exercised in accordance with the MMPA, ESA, and MBTA, to the extent that they apply.

15 CFR § 922.152(a)(6)

While the whaling provisions in the Treaty of Neah Bay would appear to secure the Makah Tribe's ability to hunt whales within the OCNMS, information in the OCNMS Final Management Plan and EA suggests that a management plan is required to facilitate this exemption to the general prohibition against taking marine mammals in the OCNMS. As explained in the Final Management Plan and EA:

NOAA's implementation of the NMSA and its duty to implement the federal trust responsibility toward American Indian tribes complement and support one another. The purposes and policies of the NMSA include the following, *"to maintain the natural biological communities in national marine sanctuaries, and to protect, and where appropriate restore and enhance natural habitats, populations, and ecological processes."* This statutory mission supports NOAA's implementation of its trust responsibility for the protection of treaty trust resources, tribal access to treaty resources and the sustainable development of treaty rights. One of the purposes and policies of the NMSA is "to develop and implement coordinated plans for the protections and management of [sanctuaries] with ...Native American Tribes and organizations...and other public and private interests concerned with the continuing health and resilience of these marine areas." This policy statement in the NMSA supports OCNMS's efforts to defer to tribal management plans that achieve the statutory mission and obligations of OCNMS.

Finally, the NMSA's objective *"to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of"* national marine sanctuaries supports implementation of NOAA's trust responsibility to protect the exercise of treaty rights, now and in perpetuity. The NMSA and the federal trust responsibility provide one basis, among many, for the determination OCNMS regulations do not restrict the ability of Coastal Treaty Tribes to exercise their treaty protected rights (15 CFR 122.152(f)). The Coastal Treaty Tribes and NOAA strive to develop joint activities and projects, and to engage in the collaborative development and implementation of coordinated plans for the management and protection of treaty resources, to ensure resilience of those resources, and to promote the continuing health of the OCNMS ecosystem.

(Final Management Plan and EA at 10; emphasis added).

This language indicates that OCNMS and the Makah Tribe either must develop a coordinated plan for the protection and management of treaty resources or the OCNMS can defer to a management plan promulgated by the Makah Tribe. Any such plan, however, must provide for the protection of treaty resources, ensure the resilience of those resources, and promote the continuing health of the OCNMS ecosystem. NMFS does not provide any information in the DEIS to suggest that such a management plan for gray whales or for all sanctuary resources that may be exploited by the Makah Tribe has been developed. If such a plan exists, it should be disclosed as part of the NEPA process. If no plan is available, the Makah must not be allowed to engage in whaling within the OCNMS until it, ideally in collaboration with OCNMS representatives, promulgates a plan. Such a plan should be subject to public notice and comment before it is finalized.

Washington Islands National Wildlife Refuges:

The Washington Islands National Wildlife Refuges include the Flattery Rocks, Quillayute Needles, and Copalis National Wildlife Refuges. See Figure 2. The refuge complex is under the jurisdiction of the US Fish and Wildlife Service (USFWS). For management purposes these refuges are managed as part of a complex. Flattery Rocks National Wildlife Refuge (NWR) is the furthest north of all three refuges and is the refuge most likely to be affected by the proposed Makah hunt. See Figure 3.

In 1907, President Theodore Roosevelt signed Executive Order 703, establishing the Flattery Rocks Reservation. That EO specified that:

It is hereby ordered that all small, unsurveyed and unreserved islands lying off the coast of the State of Washington in the Pacific Ocean, between latitudes 48° 02' North and 48° 23' North, among which are those named and commonly known as Spike Rock, Father and Son, Bodiel-teh Islets, Flattery Rocks, Ozette Island and White Rock, as the same are shown upon coast survey chart No. 6400, or upon the General Land Office map of the State of Washington, dated 1887, and located within the area segregated by a broken line and shown upon the diagram hereto attached and made a part of this order, are hereby reserved and set aside for the use of the Department of Agriculture, as a preserve and breeding ground for native birds and animals. This reservation to be known as Flattery Rocks Reservation.

In 1940, by proclamation, Flattery Rocks, Quillayute, and Copalis reservations were redesignated as national wildlife refuges. In 1970, all three refuges were designated as wilderness areas.

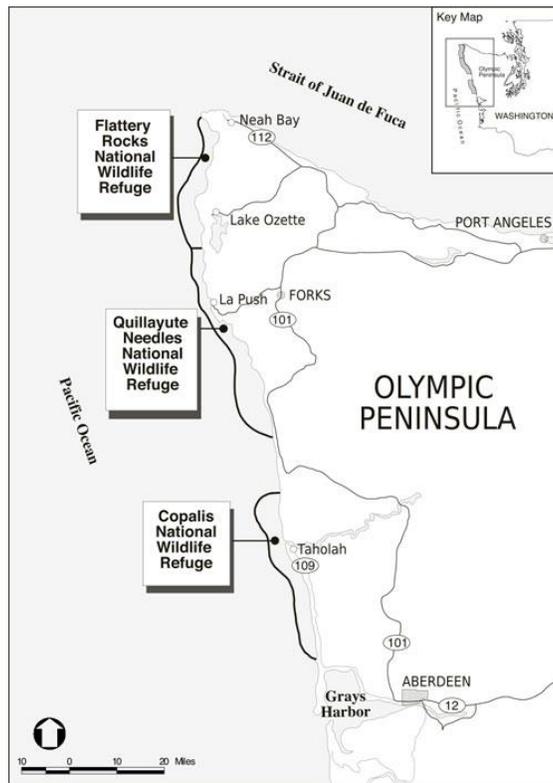


Figure 2: Map of the Washington Islands National Wildlife Refuges (available at http://www.thearmchairexplorer.com/washington/w-images/nwr-photos/Washington_Maritime_NWRC_Ma.jpg)

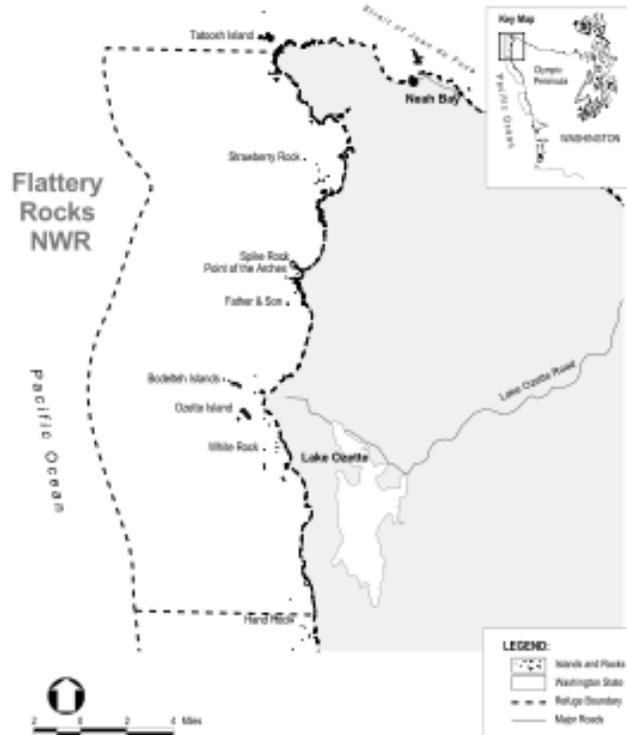


Figure 3: Map of Flattery Rocks National Wildlife Refuge (available at https://upload.wikimedia.org/wikipedia/commons/thumb/7/70/Flattery_Rocks_NWR_Map.svg/283px-Flattery_Rocks_NWR_Map.svg.png)

Management of Flattery Rocks NWR is complicated given the multiple agencies, state and federal, and tribal that have separate or overlapping jurisdiction for the management of natural resources in the area. As explained in the Washington Islands National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment (CCP/EA):

The Service (USFWS) is responsible for most of the islands, rocks, and seastacks above the mean high water line. As with other national wildlife refuges, the Service is responsible for any wildlife, fish, and plants that occupy the Washington Islands NWRs whether they are seasonal or permanent residents. This includes seabirds, shorebirds, and marine mammals that use the Refuges' islands and shoreline. Although Service responsibilities cover terrestrial environments, the Refuges are vitally linked with the surrounding marine environment and its resources.

The waters surrounding the Flattery Rocks NWR are largely managed by the OCNMS although, given the purpose of the refuge to protect birds and animals and the legally designated refuge boundary that includes a large amount of ocean habitat, the USFWS must have some role in the management of this wildlife, including ocean species.

Management of Flattery Rocks NWR is governed by the National Wildlife System Administration Act, as amended by the National Wildlife Refuge System Improvement Act (16 U.S.C. § 668dd et seq.). While hunting can be permitted on national wildlife refuges, the USFWS must engage in an independent planning process to open a refuge to hunting or to amend or modify hunting practices once a refuge has been opened to hunting. In addition, refuge-specific hunting regulations must be promulgated. The Flattery Rocks NWR is not open to hunting or fishing, as there are no refuge-specific hunting or fishing regulations published in the Code of Federal Regulations (see 50 CFR 32.67).

Since the waters surrounding Flattery Rocks NWR appear to be managed by ONNMCS up to the “higher high water mark on Refuge islands,” it would appear any hunting of whales by the Makah Tribe within the boundaries of the Flattery Rocks NWR does not require refuge-specific hunting regulations. However, if such hunting resulted in adverse impacts to the birds and mammals that utilize the islands, beaches, and rocky outcrops within the Flattery Rocks NWR, or if the Makah were to land a struck whale on lands under the jurisdiction of the USFWS, then the USFWS would have the authority to act to protect such species and their habitat despite NMFS’s jurisdiction over whales under the MMPA and ESA. More than likely, given USFWS NWR regulations and policies, the Makah would not be authorized to land a whale onto any of the islands within the Washington Islands National Wildlife Refuges complex absent prior authorization to do so. As explained in the CCP/EA, the USFWS can enter into Memoranda of Understanding with tribal governments to permit their use of refuge lands and resources but, in this case, there is no evidence such an MOU has been negotiated between the Makah Tribe and the USFWS.

Given the confusing mixture of management jurisdictions among federal, state, and tribal agencies in this region, NMFS must include a more detailed analysis of the various agencies and their management responsibilities in a revised EIS. In particular, it must identify the legal standards, including those relevant to the USFWS, that govern management of terrestrial and aquatic species in the area and under what circumstances the agencies have a role in the wildlife management decision-making process. Furthermore, NMFS must clarify if the Makah can land a dead whale on USFWS refuge lands, what permits would be required to do so, and evaluate how that could impact refuge wildlife, including refuge birds, and wildlife habitat. While the DEIS does provide some broad analysis of the impacts of a hunt on birds, other marine mammals, and intertidal habitat, it fails to provide the level of detail that is required by NEPA in an EIS.

Olympic National Park:

Olympic National Park (ONP) is administered by the National Park Service (NPS). ONP protects 922,651 acres of three distinct ecosystem types: glaciers, coastline, and old growth and temperate forests. As described in ONP's Final General Management Plan and Environmental Impact Statement (ONP GMP EIS), the park provides habitat for 70 unique stocks of Pacific salmon and steelhead, 29 species of native freshwater fish, 1,100 species of native plants, 300 species of birds, including the federally protected marbled murrelet, and 70 species of mammals. ONP GMP EIS at 3. The 70-mile long, 43,000 acre Pacific coastal strip and off-shore islands of ONP provides protection to beached, intertidal areas, and rocky tidal pools as the park's boundary extends seaward to the "lowest low tideline." *Id.* See Figure 4. In addition, 95 percent of the park, including its coastal strip, is Congressionally designated wilderness managed pursuant to statutes governing national parks and the Wilderness Act (16 U.S.C. § 1131, et seq.).



Figure 4: Map of Olympic National Park (available at http://media.away.com/gifs/states/wa/m_olymov.gif)

ONP is managed pursuant to the NPS Organic Act (16 U.S.C. § 1, et seq.). The fundamental purpose of the NPS is to "promote and regulate the use of the Federal areas known as national parks, monuments, and reservations ... as provided by law, by such means and measures as

conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” 16 U.S.C § 1. Furthermore, the “authorization of activities (in national parks) shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress. 16 U.S.C § 1a-1.

Regulations specific to ONP indicate that “all hunting or the killing, wounding, or capturing at any time of any wild bird or animal, except dangerous animals when it is necessary to prevent them from destroying human lives or inflicting personal injury, is prohibited within the limits of the park...” The Secretary of the Interior is also required to promulgate “regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of all timber, mineral deposits, natural curiosities, or wonderful objects within the park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened or driven from the park...” As dictated by statute, “possession within the park of the dead bodies or any part thereof of any wild bird or animal shall be prima facie evidence that the person or persons having the same are guilty of violating this Act.” 16 U.S.C. § 256b.

While the majority of ONP is inland and, therefore, not likely to be directly impacted by the proposed hunt, the coastal portion of ONP could be affected. Such impacts could include park visitors observing a hunt, a dead whale being towed back to the Makah reservation, a whale injured by a hunt that strands on ONP lands, or a whale struck and lost by the Makah if it were to wash up on to ONP lands. In addition, albeit unlikely, Makah whalers under certain circumstances, including inclement weather or equipment failure, may elect to land a whale on ONP lands even though this would be illegal under existing ONP regulations.

With the exception of conceding that visitors to ONP may be able to see or hear a whale hunt, NMFS failed to consider other potential adverse impacts to ONP visitors like those summarized above. In addition, it did not provide any discussion in the DEIS about the laws relevant to the protection of ONP, what the Makah would be authorized to do (or not to do) on lands and waters under jurisdiction of ONP, nor did it adequately consider the requirements of the Wilderness Act in the context of Makah whaling.

The Wilderness Act

The Wilderness Act permits the designation of wilderness areas in order to protect these areas from increasing human population, expanding settlements, and growing mechanization. 16 U.S.C. § 1362.2(a).

A wilderness is defined as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain,” that retains “its primeval character and influence,” where “natural conditions” are preserved, where there is no “natural improvements or human habituation,” and that “generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable.” *Id.* at § 1362.2(c). Such areas are to be “administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use as wilderness, and so as to provide for the protection of these areas, (and) the preservation of their wilderness character...” *Id.* at § 1362.2(a). Within wilderness areas, “there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.” *Id.* at § 1364.4(c).

NMFS has failed to evaluate the environmental impacts of the proposed whale hunt in the context of the Wilderness Act and its stringent standards for the protection of wilderness areas.

NMFS has failed to disclose all relevant information and to provide a clear and accurate analysis of the environmental consequences of the No Action and action alternatives:

The affected environment and environmental consequences sections of the DEIS provide the heart of the analysis. The former is intended to fully document the characteristics of the affected environment, while the latter considers the impacts on that environment of the alternatives evaluated in the DEIS. Because of the linkages between these sections of the DEIS, they will be considered together here. Analysis is not provided of each of the environmental variables (e.g., water quality, public services) contained in the DEIS. This is not to suggest that these variables are not important but only that the coalition does not have substantive concerns with the relevant analyses contained in the DEIS, unlike the variables discussed below.

NMFS has failed to properly evaluate the impact of a proposed whale hunt on ENP, PCFG and WNP gray whales:

This section provides an overview of each of the alternatives in the context of the potential timing of the hunt, number of hunting (and scouting) days, number and type of vessels involved in hunt related activities, number of ENP and PCFG whales killed, likelihood of striking a WNP,

likely number of whales killed, number of unsuccessful harpoon attempts, number of approaches to whales, the number of shots fired, and the number of grenade explosions.

As indicated below, there are a number of questions, concerns, and errors in the analysis of the environmental impact of the proposed whale hunt on ENP, PCFG, and WNP gray whales. Most of these issues are raised in the analysis of specific alternatives. Some of the issues raised under one alternative may be also applicable to another alternative. In those instances, such relationships are noted in the text. Before engaging in an alternative-specific analysis, there are broader issues and concerns that warrant discussion and review.

Scope and focus of DEIS analysis:

In regard to the scope or focus of the analysis, as explained in the *Anderson* opinion and as quoted in the DEIS:

Even if the eastern Pacific gray whales overall or the smaller PCFG group of whales are not significantly impacted by the Makah Tribes' whaling, the summer whale population in the local Washington area may be significantly affected. Such local effects are a basis for a finding that there will be a significant impact from the Tribe's hunts. Thus, if there are substantial questions about the impact on the number of whales who frequent the Strait of Juan de Fuca and the Northwest Washington coast, an EIS must be prepared.

DEIS at 3-122.

In the DEIS, NMFS attempts to evaluate the environmental impacts of the hunt on PCFG whales and those PCFG whales in the OR-SVI and Makah U&A regions. The Makah U&A region, as evaluated in the DEIS, does not include any portion of the Strait of Juan de Fuca as the Makah Tribe's proposal explicitly excluded whaling in the Strait. Consequently, if approved, a hunt would only be permitted in the Northern Washington PCFG region. In the waiver application, the Makah Tribe requests that the analysis of the impacts to PCFG whales be focused on those whales within the OR-SVI region. That region encompasses the Makah U&A and, based on PCFG observation records, there is considerable exchange or mixing of PCFG whales within the OR-SVI and Makah U&A regions. As explained below, the analysis provided by NMFS does not consistently focus or apply the correct statistics to the OR-SVI or Makah U&A regions, as requested by the Makah Tribe or directed by the court.

Pacific Coast Feeding Group:

The DEIS contains a large amount of information about PCFG whales. This information includes data (numbers and percentages) on gray whales in the PCFG observed over time, seen more than once, seen by PCFG region, and newly seen by year. The assortment of numbers and

percentages used throughout the DEIS can be confusing and difficult to follow. For the purpose of this analysis, the key PCFG information contained in the DEIS is:

- Since 1977, approximately 650 gray whales have been seen at least once in the PCFG range from June 1 to November 30 and about half of these whales have been seen two or more times over the years. The whales seen more than once meet the definition of PCFG relied on in Alternatives 3-6 of the DEIS. DEIS at 3-144.
- Of the 603 whales observed in the PCFG range after June 1 from 1996 through 2011, 309 (51 percent) have never been resighted in the PCFG region, while 44 of the 603 (7.3 percent) have been resighted every summer and 265 (44 percent) have been seen more than once but not in every year. DEIS at 3-137 (citing Calambokidis et al. 2014).²⁰
- 35.5 to 58.8 percent of whales seen in at least one year in the PCFG region from Northern California to Northern British Columbia were seen at some point within the Makah U&A, while 41.4 to 78.9 percent of whales seen within the PCFG region over at least two years were seen at some point within the Makah U&A. DEIS at 3-139 (citing Calambokidis et al. 2014).
- Based on PCFG observation records collected from 1996 through 2012, of the 181 whales sighted in the Northern Washington PCFG region (which corresponds to the proposed hunt area) prior to June 1, 73 (40.33 percent) were seen in the PCFG range after June 1, 67 (37.02 percent) were seen in the OR-SVI area after June 1 and 60 (33.15 percent) were seen in the Northern Washington-Strait of Juan de Fuca (i.e., the Makah U&A) area after June 1. DEIS at 3-140 (citing Calambokidis et al. 2014).
- The annual average of newly seen whales in the PCFG range, based on data from 1996-2012, was 35.4, 23.8, and 12.1 for PCFG, OR-SVI, and Makah U&A regions, respectively. DEIS at 3-147. The annual average of newly seen whales that were recruited into the PCFG population was 14.3, 11.8, and 6.1 for the PCFG, OR-SVI, and Makah U&A areas, respectively. DEIS at 3-148.
- The number of PCFG whales increased from 38 in 1996 to over 219 in 2005. The population has been relatively stable since 2002. The most recent (2012) population estimate was 209 animals. DEIS at 3-146. Within this region, the number of whales identified in the June through November period has averaged 146 whales from 1996 through 2012. DEIS at 3-148. Of these 146 whales, on average 35 are newly seen whales each year and 14 of these are recruited into the PCFG population (i.e., seen again in a subsequent year). *Id.* For calculating the PBR level, the N_{min} for the PCFG whales is 173. DEIS at 3-145 (citing Carretta et al. 2014).

²⁰ It is not known why the numbers cited in the DEIS and repeated in this summary do not add up to 603 whales. NMFS may want to confirm that these numbers are accurate.

- For OR-SVI whales, the number of animals increased from 25 in 1996 to 181 in 2008, with the most recent population estimate (2012) being lower but stable at approximately 155 animals. DEIS at 3-154. Within this region, the number of whales identified in the June through November period has averaged 95 whales from 1996 through 2012, ranging from 30 in 2002 to 128 in 2001, with 127 in 2012. *Id.* Of these 95 whales, on average 24 are newly seen whales (ranging from 8 to 56 with 28 in 2012) and 12 of these (ranging from 3 to 37 with 3 seen in 2012) are recruited into the PCFG population (i.e., seen again in a subsequent year). DEIS at 4-86.²¹ For calculating the PBR level, the Nmin for OR-SVI PCFG whales is 152. DEIS at 3-154 (citing Calambokidis et al. 2014).
- For Makah U&A whales, the number of animals increased from 18 in 1996 to 82 in 2008, with the most recent population estimate (2012) being somewhat lower but stable at approximately 77 whales. DEIS at 3-155. Within this region, the number of whales identified in the June through November period has averaged 33 whales from 1996 through 2012, ranging from 8 in 2002 to 75 in 2008. *Id.* Of the 33 whales, on average 12 are newly seen whales (ranging from 1 to 29 with 22 seen in 2012) and 6.1 of these (ranging from 2 to 17 with 4 seen in 2012) are recruited into the PCFG population (i.e., seen again in a subsequent year). DEIS at 4-86.²² For calculating the PBR level, the Nmin of the Makah U&A whales is 73. DEIS at 3-155 (citing Calambokidis et al. 2014).
- Although the IWC has not formally identified the PCFG as a stock, its Scientific Committee noted that its Implementation Review of ENP gray whales (with an emphasis on the PCFG) was “based on treating the PCFG as a separate management stock (which may not be equivalent to a stock as defined under the MMPA).” DEIS at 3-156, footnote 53 (citing IWC 2012). The IWC has also determined that it is plausible the PCFG may be a “demographically distinct feeding group,” DEIS at 3-123, while NMFS concludes that PCFG whales “appear to be a distinct feeding aggregation and may warrant consideration as a distinct stock [under the MMPA] in the future.” *Id.* at 3-68, 3-123/3-124, 4-62, 4-65.

It is important to note that PCFG surveys cannot locate and identify every potential PCFG whale. Due to the size of the PCFG range, it is simply impossible to comprehensively survey the

²¹ NMFS should reexamine these numbers, particularly the number of newly seen whales, given contradictions in the DEIS 3-154 and 4-86. This discrepancy may be due to how the data are presented in Calambokidis et al. (2014). They are presented as the average number of whales identified per year (95) (page 9) and as the average number of unique whales seen in Table 2 (page 32).

²² NMFS should reexamine these numbers, particularly the number of newly seen whales, given contradictions in the DEIS at 3-155 and 4-86. This discrepancy may be due to how the data are presented in Calambokidis et al. (2014). They are presented as the average number of whales identified per year (33) (see page 9) versus as the average number of unique whales seen in Table 2 (page 32).

entire area each year. In addition, a lack of personnel, equipment, time, and funds do not allow for the survey metrics to be consistent each year. Consequently, the number of PCFG whales seen each year represents only a rough approximation of the whales actually observed each year. There are two reasons for this: there are likely more whales present each year than are photographed and identified, and it is likely that some whales were present in a previous year but were not photographed and identified. DEIS at 4-66. For example, from 1999 to 2011 there were 14.3 new recruits on average annually in the PCFG, of which 12.5 were not identified as calves, while 1.8 were. The calf estimate could possibly be higher because some of the new whales may have entered the PCFG earlier as calves and were not seen. *Id.*

Interestingly, when the PCFG, OR-SVI, and Makah U&A PBRs are compared to the PBR for the California/Oregon/Washington stock of sperm whales or the ENP stock of blue whales, those populations are much larger than any of the groups of PCFG gray whales, but their PBR is either half (for the sperm whale) or just slightly higher (for the blue whale) compared to the PBR for PCFG whales.

For example, for the CA/OR/WA stock of sperm whales, the estimated population size is 971 animals (Carretta et al. 2013), N_{min} is 751, and the recovery factor is 0.1 (because the species is designated as endangered), resulting in a PBR of 1.5 animals. DEIS at 3-211. Using the estimate of 197 PCFG gray whales,²³ there are nearly 5 times as many sperm whales as PCFG whales yet, because the sperm whale is designated as endangered, its PBR is nearly half that of PCFG whales. Similarly, the ENP blue whale has an estimated abundance of 2,497 (Carretta et al. 2013). Despite there being 12.6 times more blue whales than PCFG whales, the recovery factor used for the blue whale is 0.3 (used for endangered species with a minimum abundance estimate of more than 1,500 and a CV N_{min} of <0.5), resulting in a PBR (3.1) only 0.4 more than the PCFG PBR (2.7).

While PCFG whales are not presently designated as endangered or depleted, given their low population numbers, the potential for them to be designated as a stock in the future, and remembering the precautionary principle, the PCFG PBR should be calculated using a 0.1 recovery factor. If this were done, the PCFG PBR would be 0.54, while the corresponding PBRs for OR-SVI and Makah U&A PCFG whales would be 0.47 and 0.23, respectively.²⁴ Alternatively, if the 0.3 recovery factor was used (even though the number of PCFG gray whales is nowhere near a minimum population of greater than 1,500 animals), the PCFG, OR-SVI, and Makah U&A PBR levels would be 1.6, 1.4, and 0.7, respectively.

²³ 197 is the abundance estimate for PCFG whales used in the DEIS even though it is not the most recent abundance estimate, which is 209 whales. Calambokidis et al (2014).

²⁴ For these calculations, the N_{mins} for PCFG, OR-SVI, and Makah U&A that are included in the DEIS were used, along with the larger .062 R_{max} (instead of the default value of .04).

The potential impact of each action alternative on PCFG whales, including those that utilize the OR-SVI and Makah U&A, along with WNP gray whales if the maximum permitted number of strikes is used, is summarized in Table 1.

Table 1. Estimated number of strikes on PCFG, OR-SVI, Makah U&A, ENP, and WNP whales per year in each PCFG region analyzed in the DEIS under each alternative based on maximum permitted strikes. (Data from Tables in DEIS on pages 4-16, 4-25, 4-29, 4-36, and 4-40/41).

	Percent of PCFG Whales (March-May)	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Maximum Number of Strikes (ENP)		7	6	1	5	3.5 (7 over 2 yrs)
PCFG	40.33	2.8	2.4	1	0.20	1.4
OR-SVI	37.02	2.6	2.2	1	0.18	1.2
Makah U&A	33.15	2.3	2.0	1	0.16	1.3
WNP		0.012	0.010	0	0.009	0.006

In regard to the potential impact of any of the action alternatives on PCFG whales, including whales in the OR-SVI and Makah U&A, NMFS largely dismisses any meaningful effects.

In evaluating the environmental impacts of the proposed hunt to PCFG whales, for Alternatives 3-6, NMFS concludes that “gray whales would continue using these survey areas during summer months” because: 1) the PCFG mortality limit is more restrictive than the bycatch formula used in Alternative 2; 2) struck and lost whales will count as PCFG whales; 3) other human-caused mortality will be subtracted from the calculated PBR (for Alternatives 4 and 6 only); 4) the IWC analysis demonstrates that PCFG whales would remain viable with a Makah hunt; 5) PCFG whales are dense and abundant in the OR-SVI area; 6) PCFG whales are highly mobile within the PCFG range; 7) many new and returning whales are available to replace killed whales; and 8) gray whales continue to return in large numbers to feeding areas (Chukotka) where scores are actively hunted and killed. DEIS at 4-89, 4-96, 4-103, 4-111, 4-118.

This suggestion that a hunt will not have any adverse impact on PCFG whales flat out contradicts other statements in the DEIS. For example, NMFS concedes in the DEIS that if external recruits don’t replace killed PCFG whales, then under each of the action alternatives, it

is “likely that the number of whales would decrease.”²⁵ DEIS at 4-89, 4-96, 4-103, 4-111, 4-118. Considering that scientists continue to obtain data to better understand PCFG recruitment mechanisms, this possibility should not simply be dismissed to satisfy the Makah. This possibility is consistent with another statement in the DEIS that “killing even a few animals per year (especially over an extended period of time) from the relatively small PCFG stock could have long-lasting impacts for a group of whales whose population dynamics are not well understood.” DEIS at 5-3. Indeed, considering the level of site fidelity seen in some PCFG whales, it is possible that removals of whales from the Makah U&A could result in a localized depletion that would require an extended time period to recover. Unlike calves of PCFG females who are known to be recruited into the feeding aggregation, it may take a unique ENP whale to not just use PCFG range but to use it annually (i.e., to become a PCFG recruit). If that unique whale is not common, then perturbations to PCFG whales may not be reversed for some time.

In regard to the specific conclusions noted above, the Coalition questions whether PCFG whales are “dense and abundant in the OR-SVI area,” whether there are “many new and returning whales available to replace killed whales,” and whether whales will continue to return to the OR-SVI area if subjected to hunting. As indicated above, from 1996 to 2012 the average number of whales seen in the OR-SVI area was 155. Considering the size of the area, this number hardly suggests a “dense and abundant” distribution. Furthermore, on average, only 12 whales per year are recruited into the OR-SVI region, which does not qualify as “many new and returning whales” available to fill the gaps left by any whales the Makah might kill or whales that may leave the hunt areas due to impacts of the hunt. These conclusions should be revisited.

Finally, assuming new whales will readily fill gaps left by dead whales based on the Chukotkan gray whale hunt may not be accurate, particularly considering that the Makah U&A is within the OR-SVI region. The mere fact that Chukotkan natives have killed an average of 116 gray whales over the past ten years (2004-2013)²⁶ is not sufficient information to determine if the characteristics of the whales’ distribution have changed over time as a result of hunting pressure. To make that determination, additional information is necessary regarding catch-per-unit effort, the spatial and temporal distribution of the whales within their Russian feeding areas, how actual kill locations have changed over time (if at all), and if whales on the Russian feeding areas demonstrate different behaviors (i.e., alertness, flight response) to the approach by or presence of a vessel, including a whaling vessel. Even if maternal site fidelity to the feeding areas draws whales back to such areas year after year, it is still possible that their

²⁵ This finding is included in the analysis of Alternative 4. However, NMFS also notes in the DEIS that “Alternative 4 is less likely to affect PCFG viability compared to Alternatives 2 and 3 because the hunt would target males and would not affect matrilineal recruitment.” DEIS at 4-101.

²⁶ Data obtained from https://iwc.int/table_aboriginal

distribution (within their feeding areas) or behaviors have been changed as a consequence of the hunt.

Similarly, for PCFG whales, unless maternal fidelity is specific to the Makah U&A region, PCFG whales have alternative feeding areas from North California to Southeast Alaska. That is, the Makah U&A, although it may be a desirable location for PCFG whales based on prey abundance, may be abandoned for alternative feeding areas – literally only miles away – if hunting is allowed. This means PCFG whales would no longer be “functioning elements of [the Makah U&A] ecosystem.”

In addition, considering that gray whales have been largely protected along the entire west coast of North America for decades (with the exception of the gray whales killed in 1999 and 2007), gray whales are not accustomed to being hunted in this region (unlike Chukotkan gray whales who are subjected to hunts every year). Consequently, the behavioral impact of a hunt on an OR-SVI PCFG whale could be vastly different from how gray whales in Russia respond to a hunt; “naïve” OR-SVI whales may be more likely to abandon the area because of the novel, negative stimulus posed by a hunt. NMFS must reevaluate this analysis, recognizing that comparing the reactions of PCFG whales with those of Chukotkan whales may not be valid. It should seek out information, perhaps from new stocks of whales that suddenly became subject to a novel threat, to determine if those reactions could provide any guidance to how PCFG gray whales may react to a hunt.

NMFS must also reconsider its use of the Chukotkan whale hunt as a proxy for how a Makah hunt could physically and behaviorally impact PCFG whales. This analysis must consider the impacts within the PCFG and OR-SVI regions. It also should more comprehensively evaluate the impact of a hunt on PCFG whales in the Makah U&A region given the direction from the *Anderson* opinion to consider the impacts of a hunt on whales in the specific project location (i.e., the Makah U&A).

NMFS also claims the “loss of a feeding aggregation such as the PCFG may not affect the viability of the overall ENP stock” because “sighting data and diet studies indicate that ENP gray whales, including PCFG whales, have the ability to switch feeding areas over time.” DEIS at 4-64. This statement ignores NMFS’s determination that PCFG whales “may provide important flexibility to the species as a whole given potential challenges in a changing sub-arctic ecosystem,” DEIS at 3-129, and also ignores the fact that the loss of this feeding aggregation would remove it as a functioning element of this ecosystem. In addition, in its analysis of Alternative 2, NMFS concedes “If PCFG whales are uniquely adapted to exploit feeding areas in the southern portion of the ENP summer range, and that adaptation were lost if the PCFG were compromised, Alternative 2 has the potential to affect the long-term viability of the ENP stock as a whole.” DEIS at 4-82. Such conflicting statements and conclusions must be clarified and, in

this particular case, NMFS must remove from its analysis any assertion that PCFG whales can be sacrificed without potentially significant adverse impacts to ENP gray whales and, in fact, to the entire population if the ongoing changes in the Arctic begin to adversely affect ENP gray whales.

Western North Pacific gray whales:

For WNP gray whales, NMFS relies entirely on the analysis by Moore and Weller (2013) to assess the potential of a Makah whale hunt to impact this endangered population of whales. Their analysis included consideration of the action alternatives evaluated in the DEIS. Their findings are presented in Table 2.²⁷

Table 2: Percent Chance of Approaching, Attempting to Strike, or Striking One WNP Gray Whale Over Six Years

	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Approaching	97	97	≈0	72	97
Attempting to strike	35	31	≈0	27	20
Striking	7	6	≈0	5	4

While their modelling results provide probabilities for a WNP gray whale to be approached/pursued, subject to an unsuccessful harpoon attempt, or struck is low, it is not zero (except under Alternative 4, where the risk is likely near zero). Notably, any of these outcomes reflects a “take” under the MMPA and, if not authorized by permit or included in the waiver application,²⁸ could lead to prosecution of a Makah whaler and his crew for violating the MMPA and ESA. Furthermore, whether these probabilities accurately reflect the real risk is uncertain.

In the analysis by Moore and Weller, the percent chance over six years of actually striking at least one WNP “was relatively low but non-trivial,” of attempting to strike at least one WNP gray whale was “fairly high,” and of approaching at least one WNP whale was “high.” DEIS at 3-93. Overall, Moore and Weller conclude the tribe “might strike a whale (WNP) approximately

²⁷ These findings, as indicated in the DEIS, are also based on a separate communications between NMFS and J. Moore.

²⁸ WNP gray whales are not included in the Makah Tribe’s waiver application. In addition, the Makah could not qualify for any type of harassment authorization if it is allowed to hunt and any take of a WNP gray whale is considered intentional.

once every 100 years.” *Id.* Even if this is accurate, NMFS determined “the loss of a single whale, particularly if it were a reproductive female, would be a conservation concern for this small stock,” DEIS at 3-93/3-94, 4-82, 4-92, while the IUCN has “emphasized the urgent need for a comprehensive international strategy to eliminate or mitigate anthropogenic threats facing WNP gray whales throughout their range.” DEIS at 3-94.

Furthermore, the analysis by Moore and Weller examined only the numerical probability of being affected by the hunt based on the total number of WNP gray whales and the proportion of the population known to have emigrated to the ENP gray whale range. They didn’t consider any variable linked to time spent in the ENP range or, more specifically, in the Makah U&A. This is not a trivial concern since the more time a WNP gray whale spends in the hunting area, particularly during the time when a hunt is permitted, the greater the probability of an approach, pursuit, strike attempt, or strike.

Even NMFS notes that “Sakhalin whales were seen in an area of the ENP (i.e., Vancouver Island) where some whales tend to linger and feed during the northbound migration,” and that “the long distance and potential open water crossing required for transit from the ENP to the WNP may make it more advantageous for whales to spend time feeding in the Pacific Northwest prior to undertaking a westerly passage to Sakhalin.” DEIS at 3-89 (citing Darling et al. 1998 and Weller et al. 2012).

Another concern independent of any statistical probability of WNP whales being struck, killed, or even approached during a hunt is the fact that none of the action alternatives require the comparison of any photographs taken of killed and landed whales with the WNP gray whale photo-id catalog maintained by Alexander M. Burdin of the Vyatka State Agricultural Academy, Kirov, RUSSIA. Considering the critically endangered status of WNP gray whales and the fact that each whale is critical to the short and long-term conservation and recovery of the population, any hunt must include a photo-id requirement for WNP gray whales. While NMFS suggests in the analysis of each action alternative that, if a gray whale is taken and landed, it will be possible to determine if it is a WNP whale based on comparing photographs to the WNP photo-id catalog, DEIS at 4-82, 4-92, this is not reflected in the description of any of the alternatives. At present, all the action alternatives require photographs of gray whales killed by the Makah to be compared only with the PCFG photo-id catalog maintained by the Cascadia Research Collective. If NMFS grants the Makah request for a waiver and permits the Tribe to whale, it must include a requirement in the waiver, regulations, or permit language that all landed whales must be photographed and the images compared to both the PCFG and WNP photo-id catalogs. In addition, tissue samples from any dead whale must be taken for DNA analysis to obtain a greater understanding of gray whale genetics and population/feeding aggregation relationships.

NMFS also asserts that it might be possible to determine if a struck gray whale, even if it were lost, is a WNP whale. DEIS at 4-92, 4-99, 4-114. Unless the Makah or NMFS intend to take photographs of any targeted whale before he/she is struck with a harpoon or shot with a bullet or grenade or unless a WNP whale is otherwise marked or tagged, it is unclear how this could be accomplished. NMFS must clarify the methodology that would be employed to determine if a struck and lost whale is a WNP whale.

Alternative 1:

This is the No Action Alternative. If selected it would deny issuance of the requested MMPA waiver to the Makah Tribe. However, this alternative does not prevent the Makah Tribe from revitalizing its whaling traditions and/or continuing to engage in any rituals, songs, dances, ceremonies, or story telling that has reportedly been ongoing since the tribe ceased whaling in the 1920s. It also, as indicated in the DEIS, does not prevent Makah whalers from constructing whaling canoes, from engaging in physical training as practiced in the past, or in using the canoes in the Makah U&A as long as no protected marine mammal species is taken in violation of the MMPA.

In the DEIS, NMFS repeatedly claims that Alternative 1, if it were selected, would not reduce the number of gray whales killed since the United States would likely transfer its allocation of gray whales back to the Russian Federation for its native hunters consistent with a bilateral agreement between Russia and the United States. DEIS at 4-8. While the return of any unused quota to the Russian Federation may occur, that does not necessarily mean the same number of whales (i.e., 140 per year as currently permitted by the IWC) would be killed each year. The Chukotkan natives do not currently take the full quota allocation, averaging 126 whales annually from 2009 through 2013.²⁹

At present,³⁰ if the no action alternative were selected, it would not necessarily correlate to an increase in Russian ASW kills. Conversely, if one of the action alternatives were selected, this would result in an increase in the number of whales killed because any gray whales killed by the Makah would be added to those killed by the Russian native whalers. Historically, the only other group that killed gray whales was Alaska Natives, who killed a total of seven from 1985 through 1995 but, at present, do not have an IWC-approved quota for gray whales.

Moreover, even if the United States transfers its gray whale quota to the Russian Federation, the additional whales that could be killed by the Chukotkan natives would likely not be the same animals that could have been killed by the Makah. In particular, transferring the quota

²⁹ Data obtained from https://iwc.int/table_aboriginal

³⁰ Based on discussions at recent IWC meetings, the Russian Federation may attempt to increase the ASW quota for gray whales in the future to compensate for "stinky" whales that are reportedly inedible.

would indisputably prevent the killing of PCFG and WNP gray whales, since neither group of whales are subject to hunting by Chukotkan natives. For the WNP and PCFG gray whales, this would be significant given their low population numbers and the many threats they face.

Benefits could also accrue to those who regularly observe PCFG whales and who may have named or otherwise developed a particular connection with select, distinguishable whales (this is further discussed below). Other benefits of selecting Alternative 1, whether the quota is transferred to the Russian Federation or not, would include preventing gray whales from being intentionally killed in United States waters by an aboriginal group that does not qualify for an IWC-approved ASW quota. This could be of great importance to the majority of Americans who oppose whaling.

As previously noted, the Coalition supports this alternative and believes it is the only alternative that is consistent with federal law.

Alternative 2:

This is the Makah Tribe's proposed alternative. It is the most liberal of the alternatives, allowing the most strikes per year, the most hunting days (along with Alternatives 3 and 6), the largest number of whales that could be killed per year (six) with a limit of 24 whales over six years, as well as the largest number of PCFG whales likely to be killed each year (2.8). The allowable bycatch limit (ABL) for PCFG whales calculated for this hunt is three,³¹ which is in excess of the current calculated PBR for PCFG whales (2.7). It would limit strikes to seven per year or 42 over six years, allow for three stuck and lost whales per year or 18 over six years, and would not permit any carry-over of any unused annual limits. All landed whales would be photographed in order to compare them to the photo-identification catalogs of PCFG gray whales (this would be an element common to all of the action alternatives) maintained by the Cascadia Research Collective. Whaling under this alternative would not occur in the Strait of Juan de Fuca, nor could it occur within 200 yards of Tatoosh Island or White Rock.

Under this alternative, edible products from the hunt could not be sold, but could be consumed locally or shared with relatives on or off the reservation and with non-relatives on or off the reservation with whom the Makah whalers have familial, economic, social, or cultural ties. Non-

³¹ As defined in the Makah Tribe's waiver application, the allowable bycatch level (ABL) is the "number of whales from the Pacific Coast Feeding Group that may be taken incidental to a hunt directed at the migratory portion of the Eastern North Pacific stock of gray whales. The ABL is calculated using the Marine Mammal Protection Act's potential biological removal approach but the minimum population estimate is based on the number of previously seen whales in the Oregon-Southern Vancouver Island survey area." DEIS at iv-v. Since the Makah Tribe uses the maximum recovery factor in calculating the ABL, the resulting number is larger than the PBR for the entire group of PCFG gray whales. This is problematic as it provides no buffer for other forms of anthropogenic mortality if the full ABL is taken.

edible products from any killed whale could be used to manufacture authentic native handicrafts that could be sold anywhere in the United States.³²

Notably, the PBR calculation used in this Alternative is based on the abundance estimate for PCFG gray whales in the OR-SVI region. This is consistent with the Makah Tribe's waiver application, which recommended the analysis area be the OR-SVI region in order to limit the potential impact of a hunt on PCFG whales. This is also consistent with the recommendation of Calambokidis et al. (2004), who identified the OR-SVI region as the most appropriate for the hunt analysis given the significant mixing of whales between the Makah U&A and OR-SVI PCFG regions.

NMFS does not sufficiently highlight this caveat in its analysis of Alternative 2, nor does it employ the same limitation when evaluating the other action alternatives. It is precautionary to use the OR-SVI region instead of the entire PCFG region for the analysis. While consistent with the *Anderson* opinion's emphasis on evaluating the local impacts to gray whales, extending the analysis to Makah U&A whales would also be appropriate. It is therefore astonishing NMFS continues to evaluate impacts to PCFG whales at the largest possible scale. NMFS should prepare a revised analysis that utilizes the OR-SVI region as the primary analysis area for direct hunt effects or, ideally, that focuses the analysis on the OR-SVI and Makah U&A areas for all action alternatives.

If this alternative is selected and the Makah are allowed to kill up to 3 PCFG whales per year, this take would not only be in excess of the current PBR but it would not provide a buffer to compensate for any other anthropogenic mortality of PCFG whales, which could adversely affect the PCFG. Indeed, as noted in the DEIS, "as long as the total number of animals removed from the population as a result of human sources is no more than the calculated PBR of an affected stock of marine mammals, then the removals will not prevent the stock from recovering to, or being maintained within its OSP." DEIS at 3-55. Given this, even NMFS admits that the "Tribe does not propose to account for other sources of mortality when setting ABL for PCFG whales." DEIS at 2-10.

According to the Makah Tribe's 2005 waiver application, the ABL was to be calculated from a "conservative abundance estimate based on the number of gray whales that are seen in more than one year in the OR-SVI survey area between June 1 and November 30." Makah Waiver Application at ii. The abundance estimate used in the calculation is 165, which is the number of PCFG whales observed in the OR-SVI area in 2012. DEIS at 3-146 (citing Calambokidis et al. 2014). Based on that number, the N_{min} is 152 which, when combined with an R_{max} of 0.04

³² As noted previously, the Coalition asserts that permitting the sharing of edible whale products throughout the United States would not be consistent with the IWC Schedule language for ENP gray whales.

(which is the Rmax used only for the analysis of Alternative 2), and a recovery factor of 1,³³ the PBR or ABL is three whales.

The Tribe proposes to stop hunting when the ABL is reached. The ABL will be dynamic and will be calculated annually based on PCFG observation data for the June through November period before any Makah hunt were to occur. To determine when this ABL is reached, all cataloged whales seen between June 1 and November 30, even if seen only once, would be used to define a PCFG whale. A second definition, whales seen at least twice over two or more years in the PCFG range from June 1 through November 30, is used in the analysis of the other action alternatives. The Makah's definition would mean that any landed whale could be categorized as a PCFG whale based on a single observation in the PCFG range in past seasons, even though it may not actually be a PCFG whale. However, the Makah's proposal does not count whales struck and lost against the ABL for PCFG whales.

The Makah Tribe's proposal does require photographs to be taken of any landed whales for comparison to the catalog of PCFG gray whales maintained by the Cascadia Research Collective. As indicated above, this must be amended to also require the comparison of photos of landed whales with the WNP photo-id catalog and the collection of tissue samples for DNA analysis.

This photo-identification requirement was recommended by the IWC Scientific Committee, which analyzed two possible hunt variants. Although both variants were deemed acceptable, neither corresponded exactly to the hunt proposal submitted by the Makah Tribe to the IWC; therefore, the Scientific Committee expressed concern that the actual conservation outcome of the proposed hunt was not tested. DEIS at 3-160. More specifically, the "aspect of the proposed hunt that had not been evaluated was the interaction between the actual number of strikes per month during the hunting season (December through May) and the assumption of whether a struck and lost whale belongs to the PCFG." *Id.* Despite this concern, the Scientific Committee indicated if hunt variant 1 (the variant that did not count struck and lost whales against ABL) was used, then it should be accompanied by a photo-id program to "monitor the relative probability of harvesting PCFG whales in the Makah U&A" with the results presented to the Scientific Committee each year. DEIS at 3-159.

Another potential flaw in the Scientific Committee's evaluation is that it assumed "a consistent level of non-hunting human-caused mortality." DEIS at 4-66. Considering the myriad threats facing gray whales throughout their migratory range and since those threats (i.e., oil spills, ship strikes, climate change impacts, ocean acidification) are increasing, not decreasing in severity,

³³ This recovery factor is used based on the Tribe's claim that the ENP stock of gray whales is not listed under the ESA and has been undergoing a steady or declining level of removals by aboriginal hunters. Makah Needs Statement at 30.

this assumption is almost certainly going to be violated, making all the impact predictions underestimations.

Alternative 3:

This alternative would not allow the Makah to strike a whale unless it was five or more miles offshore. It would also count struck and lost whales as PCFG whales, would establish a PCFG PBR of 2.7 whales (with a sub-quota of 1.6 females), and set the struck and lost limit at 2 whales. DEIS at 2-18. In addition, this alternative limits the number of whales killed annually to a maximum of five (24 over six years), allow only six strikes (36 over six years), restrict the number of struck and lost whales to two per year (12 over six years), and would limit the landing of PCFG whales to 2.7 with a subquota limit of 1.6 female PCFG whales. Under this alternative, any struck and lost whale would be considered a PCFG whale and would count toward the quota. All other elements of this alternative are identical to Alternative 2.

For struck and lost whales, they would be counted against the PCFG mortality limit in proportion to the availability of PCFG whales in the coastal portion of the Makah U&A from March through May. DEIS at 4-20. Calambokidis et al. (2014) determined that, of 181 whales observed in the Northern Washington PCFG Region (which is included as part of the Makah U&A) from March to May from 1996 to 2012, 40.33 percent were observed in the PCFG range after June 1, 37.02 percent were seen in the OR-SVI range after June 1, and 33.15 percent was seen in the Makah U&A after June 1. DEIS at 3-140. In determining the proportion of struck and lost whales that would be counted as PCFG whales, NMFS uses the 40.33 percent applicable to the entire PCFG range.

The NMFS definition of a PCFG whale is a whale seen more than once over two or more years. Percentages used in this (and other action alternatives) presumably should reflect that definition. However, according to Calambokidis et al. (2014), the 40.33 percent figure refers to whales seen only once, while 36.46 percent would be the corresponding figure for whales that meet the PCFG definition used by NMFS. This may mean the 37.02 and 33.15 percentages do not reflect the NMFS definition of PCFG whales either. NMFS should revisit these figures to ensure they are consistently reflective of the agency's definition of PCFG whales.

The proportion of struck and lost whales that would be considered PCFG whales will change over time based on new data from PCFG surveys. As with Alternative 2, however, the schedule for this adjustment is unclear. Presumably data collected in the summer immediately prior to any hunting season would be used. However, that raises concerns as to whether the proportion of PCFG whales observed in different PCFG regions from June through November would correspond to proportions seen during a hunt that could occur from March to May of the following year. Alternatively, data to identify proportional presence could be collected

contemporaneously with a hunt. NMFS fails to adequately explain how it will determine the percentages to use in this alternative (as well as Alternatives 4, 5, and 6). For example, while this will require the continuation of the PCFG monitoring program (which the Coalition assumes will be coordinated by the Cascadia Research Collective), NMFS does not explicitly disclose who would perform this work. Further NMFS doesn't address how any changes to the PCFG mortality limit would be communicated to the Makah, law enforcement authorities, and the public.

This Alternative also establishes a sub-quota for females which is based on both the percent of PCFG whales present during the hunting period and the proportion of females within the entire PCFG population (which is currently 59 percent). Consequently, if using the 40.33 percent figure, a struck and lost whale would count as 0.24 PCFG female (0.4033×0.59). The use of the 0.59 figure is inconsistent with the findings of Ramakrishnan et al. (2001) and Steeves et al. (2001), who reported a significant male bias in the PCFG of 1.8 to 1 (N=45) and 1.7 to 1 (N=16), respectively. Makah Waiver Application at 27. NMFS must revisit this analysis to determine which correction factor is accurate.

Alternatively, because there is a struck and lost limit of 2, it is unnecessary to use these calculations at all. It would be simpler and far more precautionary to consider any whale struck and lost as a PCFG whale and, in order to maximize protection for PCFG females, to assume that each lost whale is female. Alternative 3 must be adjusted accordingly to be more precautionary.

As for the risk to WNP gray whales, while the offshore hunt location could reduce the potential risk to WNP gray whales, NMFS concedes there are "insufficient data to discern whether hunters would be more or less likely to encounter WNP whales if hunting is restricted to offshore area at least 5 miles from the coast, but tracking data for two whales indicate that they could be encountered in such areas." DEIS at 4-92.

In calculating PBR under this alternative (and for Alternatives 5 and 6), NMFS relies on data contained in Carretta et al. 2014. The gray whale population estimate in Carretta et al. (2014) is from 2006-2007, making it 8-9 years old. As indicated in NMFS (2005), "the minimum population estimate of the stock should be considered unknown if 8 years have transpired since the last abundance survey of a stock." Consequently, as long as NMFS continues to rely on the gray whale population estimate from Carretta et al. (2014) it cannot calculate a PBR for the ENP or PCFG whales. Even if NMFS claims the 2006-2007 estimate is only 8 years old and therefore still appropriate to use to calculate PBR, by the time NMFS completes this decision-making process the estimate will be significantly more than 8 years old.

An updated gray whale population estimate from 2010-2011 was published in new draft Stock Assessment Reports (SARs) for marine mammals in the Pacific Ocean (Carretta et al. 2015), but

those SARs have not been finalized. This is presumably why NMFS was unable to include the updated estimate in the DEIS. However, given the restrictions associated with using a population estimate that is 8 or more years old to calculate PBR, NMFS must use the updated estimate in its decision-making process. While the public comment period on Carretta et al. (2015) has closed, given the importance of the gray whale population estimate to this issue and the DEIS analysis, the Coalition recommends that NMFS republish just the ENP and WNP draft SARs for public review and suspend the current decision-making process until any comments are evaluated and those SARs are finalized.

Regardless of which gray whale population estimate is used, the PBR calculation should be based on the OR-SVI N_{min} rather than the N_{min} for the entire PCFG range. This would be consistent with both the Makah's request (as reflected in Alternative 2), which was intended to limit the potential impact of a hunt on PCFG whales, and the direction provided by the *Anderson* opinion, which was particularly concerned with the potential for a hunt to impact the local gray whale population (i.e., the population in the Makah U&A).

Alternative 4:

This alternative, if selected, would allow whaling from June 1 through November 30 each year and would retain the prohibition on hunting in the Strait of Juan de Fuca and within 200 yards of Tatoosh Island or White Rock. Under Alternative 4, the hunt would be limited to seven days, the Makah could only strike male ENP whales, struck and lost whales would count as PCFG whales, and the PBR for PCFG whales would be a single whale. This alternative would permit up to five whales to be killed and seven struck per year with a struck and lost limit of a single whale and no carry-over of any unused annual limits. Due to the timing of this hunt, there would be close to no risk of hunters approaching, attempting to strike, or striking a WNP gray whale but PCFG whales would be killed. In addition, under this alternative "any whale landed would be presumed to be a PCFG whale even if it did not match a known PCFG whale." DEIS at 2-20.

In calculating PBR for PCFG gray whales under this alternative, NMFS utilized a conservative recovery factor of 0.35, while also subtracting estimated mortalities from other human causes (0.45) as reported in the ENP gray whale SAR (Carretta et al. 2014). DEIS at 2-19. According to Wade (1998), this restrictive recovery factor would allow the PCFG whales to equilibrate at 80 percent of carrying capacity over a 200 year period. *Id.* This results in a PBR of 1.43, which NMFS rounds down to 1 for use in this alternative. Since this alternative will necessarily target PCFG whales given the hunting period, a restrictive limit on PCFG gray whale mortality is appropriate. Notably, if the analysis under this alternative used the OR-SVI or Makah U&A regions, the corresponding PBR levels would be 1.19 and 0.34, respectively.

While this alternative is unique in that it explicitly targets ENP male whales, NMFS doesn't explain how Makah whalers, if permitted to whale, will be able to limit their pursuit and killing of whales to only males. This must be clarified. In addition, the deficiencies identified in the other alternatives are relevant here as well (i.e., use of an 8-year-old population estimate and lack of clarification on how, when, and by whom PCFG data will be collected in order to update the PBR calculations).

Alternative 5:

This alternative would permit whaling during a split season (December 1-21 and May 10-31), but it sets the PBR level for PCFG whales at 0.27 (10 percent of the current PBR for PCFG gray whales as reflected in Carretta et al. (2014)) and requires that struck and lost whales (with a limit of a single whale) be counted toward PBR in proportion to their presence in the Project Area. Notably, if the PBR level in this alternative was calculated using the Nmins for the OR-SVI and Makah U&A regions, they would be 0.23 and 0.11, respectively.

This alternative is intended to reduce the potential for take of WNP gray whales based on limited data suggesting that WNP gray whales have not been observed in the Makah U&A during the split season dates. It is possible that, as scientists continue to monitor WNP gray whales, they will be found in the ENP regions during the split season dates.

The total days available for hunting under this alternative would be 14.7 to 22.³⁴ Under this alternative, as many as five non-PCFG whales could be killed each year, but NMFS anticipates an average of no more than four ENP whales to be killed annually. Even this would be unlikely, according to NMFS, given the PCFG struck-and-lost limit. In fact, NMFS anticipates that only one whale will be killed every five years under this alternative. If so, this alternative could substantially reduce the number of ENP gray whales killed by the Makah should a hunt be approved, which in turn would reduce risk to PCFG and WNP gray whales.

Although more conservative than Alternative 2, 3, and 6, this alternative suffers from the same deficiencies as in the other action alternatives (i.e., use of an 8-year-old population estimate and lack of clarification of how, when, and by whom PCFG data will be collected in order to update the PBR calculations).

Alternative 6:

Alternative 6 shares many of the same characteristics as Alternatives 2 and 3 in regard to the number of days available to hunt and the timing of the hunt. However, under this alternative

³⁴ The DEIS contains two different estimates for the number of hunting days under this alternative. Compare DEIS at 4-34 ("22 days of hunting in May") to DEIS at 4-35 ("14.7 hunting days per year").

the Makah could kill a maximum of four whales in any single year and could not kill more than 7 whales over two years. The maximum number of PCFG whales that could be killed under this alternative would be 3.5 per year, but 1.4 would be more likely, according to NMFS, due to struck and lost whales being limited to 3 and a PBR level set at 2 per year. Struck and lost whales would be counted as PCFG whales in proportion to their presence in the Project Area and there would be no carry-over of unused whales. This alternative would also impose a 10-year limit on the duration of any MMPA waiver and any regulations issued pursuant to the waiver would expire after three years. The limitations on the duration of the waiver and regulations are appropriate, as this will provide an opportunity to adjust the terms of the hunt, or cancel it altogether, depending on a review of the relevant data. Under the other alternatives the waiver would be valid indefinitely.

This alternative also suffers from the same deficiencies as identified in the other action alternatives (i.e., use of an 8-year-old population estimate lack of clarification of how, when, and by whom PCFG data will be collected in order to update the PBR calculations).

Given the deficiencies noted above with respect to alternatives 2-6, the Coalition presents a seventh alternative at page 38 of this letter. This alternative combines some of the more conservative elements from alternatives 2-6. While the Coalition would not support this seventh alternative, it is included to highlight NMFS' deficiency in presenting a comprehensive analysis of alternatives.

NMFS has failed to disclose all relevant information regarding marine species, including marine plants and invertebrates, and has downplayed the potential impact of a whale hunt on these species and the local ecosystem:

NMFS fails to disclose all relevant information about marine species in the DEIS. It includes information about ocean current patterns, the influence of upwellings on marine productivity, and the impact of large scale environmental perturbations (e.g., Pacific Decadal Oscillation, El Nino, La Nina) on the marine ecosystem. DEIS at 3-98. It also provides general information about phytoplankton, zooplankton, and other marine species, including marine plants, marine mammals, and marine birds.

What is lacking, however, is information relevant to evaluating the environmental impact of the hunt on many of these species. In particular, despite asserting that any impacts of a gray whale hunt on benthic marine plant, macroalgal species, shellfish, and kelp raft communities would be "negligible" due to high levels of background disturbance and a strong capacity of these species for growth and recolonization (DEIS at 4-56, 4-58, 4-59, 4-60), there are no data in the DEIS upon which to make that determination. Specifically, NMFS did not disclose any information about the composition, abundance, diversity, or productivity of marine plants, macroalgal

species, and/or shellfish in the Project Area. This assertion may be true and may simply be common knowledge among NMFS and local biologists in the area but, for the purpose of a NEPA analysis, the evidence supporting a conclusion must be disclosed instead of asking the public to trust that an otherwise unsubstantiated finding is correct.

The potential environmental impacts of the proposed hunt on other wildlife species are largely dismissed by NMFS for all species either because the impacts will be “temporary (lasting a few minutes to a few hours)” and “localized (occurring near the hunt).” DEIS at 4-123, 4-126, 4-137, 4-143, 4-144. It also claims that the “number of marine mammals that would potentially occur close enough to hunting activities to be affected by the associated noise would probably be low.” DEIS at 4-123. Only Alternative 4 is identified as having greater potential impacts on other wildlife since the hunt would occur during the summer when it is more likely to disrupt key activities such as breeding and nesting (although the limited number of hunting days under Alternative 4 could mitigate such impacts). DEIS at 4-142, 4-143.

The alleged lack of impacts of the hunt may be more wishful thinking than substantive finding, since a hunt is not merely a carved wooden canoe with a crew of Makah whalers pursuing a gray whale. Rather, given the significant controversy inherent to a Makah whale hunt, the atmosphere surrounding a hunt (if the 1999 hunt is any guide) is akin to an aquatic three-ring circus, with whalers, support personnel, media representatives (on land and sea and in air), law enforcement personnel, federal and state wildlife officials, and protesters (on land and sea) all seeking to achieve a certain objective. Such activities will contribute to the harassment of wildlife in the Project Area above and beyond the baseline disturbance from recreational boaters/anglers, commercial shipping, and private and commercial air traffic.

Instead of seriously considering this threat, NMFS compares it to a normal level of recreational angler trips, to suggest that the impacts would be similar. This is nonsense. While most humans using the Project Area may have no intention of disrupting or harassing other wildlife, including protected species, such impacts are inevitable. For seals that are hauled out on a beach, for nesting birds, or for other species engaged in daily behaviors (e.g., feeding, breeding, resting), the impacts of a hunt could be deadly, sub-lethal or, at a minimum, disruptive.

The scientific literature is replete with studies on the adverse impact of stress on birds, terrestrial and aquatic mammals, fish, and reptiles (e.g., Kuczaj 2007; Attachment 5). The potential for sub-lethal stress to adversely impact a host of species in or near the Project Area has not been even remotely evaluated by NMFS. Its attempt to evaluate the potential effects of stress on gray whales was similarly deficient as it largely disregarded such an impact claiming that stress-related symptoms triggered by pursuit have not been documented in gray whales. DEIS at 3-166. More than likely, such symptoms have not been documented because no one has specifically studied stress in gray whales.

Even if an animal does not flee from a threat, this does not mean it is not undergoing significant stress. In terrestrial mammals, for example, even if animals become habituated to particular perturbations in their environment, they may still experience elevated chronic stress levels, which can translate into reduced survival, a decline in productivity, or increased susceptibility to disease (Martin et al. 2011) NMFS must reconsider its analysis of such impacts to other marine species (i.e., mammals, fish, reptiles, and birds) and, in particular, focus on the potential impacts and implications of the hunt causing acute stress or contributing to chronic stress in these species.

As previously explained, NMFS has failed to explain the ESA consultation requirements or to provide any information about that process for federally listed threatened and endangered species in the Project Area. The DEIS does not describe whether NMFS has engaged or is engaging in the required internal and external reviews. While WNP gray whales are likely the most critically endangered species within the Project Area that could be impacted by a proposed hunt, there are several other endangered or threatened marine mammals, sea turtles, birds, and fish that may be affected by the proposed hunt and related activities. NMFS completely failed to even disclose that there are a number of federally protected fish, including salmon, in the Project Area that could be indirectly impacted by a hunt.

In general, for imperiled species within the Project Area, NMFS discounts potential impacts due largely to the rarity of the species. That is, it assumes that if a species is rare in the region the impacts of the proposed hunt will be limited. However, it is this rarity that should be of considerable concern and must merit additional analysis since, if there were an impact, its consequences would be more significant from a conservation standpoint on a rare species than on a species that is common. Recently, in *Conservation Council for Hawaii v. NMFS* (2015 WL 1499589 at *50 (D. Hawaii Mar. 31, 2015)(Attachment 6), the court criticized NMFS for dismissing potential adverse impact caused by training and testing activities of the US Navy conducted in its Hawaii-Southern California Training and Testing Study areas on imperiled species. Specifically, in regard to WNP gray whales, the court wrote:

For Western North Pacific gray whales, NMFS says it does “not expect any western North Pacific gray whales to be involved in a ship strike event” because of “the low number of western North Pacific gray whales in the HSTT Study Area.” ECF No. 67-19, PageID # 12641. But if Western North Pacific gray whales are so scarce in the area, why does NMFS proceed to authorize mortalities for that species and on what basis does NMFS conclude that those mortalities in an area where the species is low in number “would not appreciably reduce the Western North Pacific gray whales’ likelihood of surviving and recovering in the wild”?

This same concept is applicable here in that the rarity of a species should not be used to disregard the potential adverse implications of an impact and, indeed, if anything, such impacts should be subject to more careful review when they could affect imperiled species.

For ESA-listed bird species (i.e., the short-tailed albatross and marbled murrelet), as well as the bald eagle (which is protected under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act), NMFS again discounts the potential impact of a hunt (claiming that the risk of potential disturbance to albatross and murrelet is “extremely low” to “low,” respectively, while indicating that it is unlikely that any whale hunt activities would occur close to bald eagle nests). DEIS at 4-127, 4-128. NMFS, however, failed to disclose sufficient information about these species to permit any assessment of these claims. For example, for the albatross it failed to disclose information about estimated population numbers, trends, likelihood of the species’ presence in the project area, distribution and movement data, nor did it discuss the threats to the species. For the murrelet, the analysis was somewhat more robust, but much of the same information was lacking for that species. Failing to disclose such information violates NEPA.

NMFS concedes that the ESA-listed species that have the highest likelihood to encounter hunt-related activities include killer whales and humpback whales. Southern Resident killer whales (J, K, and L pods) are listed as endangered under the ESA. NMFS reports that, when this stock of killer whales was listed, the listing factors included noise and disturbance of vessel traffic. DEIS at 4-124. It also concedes that “disturbance from vessels, aircraft, and weapons associated with whale hunting also has the potential to disrupt the ability of killer whales to communicate or find prey.” DEIS at 4-124/4-125. With only 80 Southern Resident killer whales remaining, NMFS is rather cavalier in its dismissal of the potential impacts of a whale hunt on this stock or its critical habitat (i.e., “none of the proposed alternatives would appreciably affect these elements³⁵ of critical habitat for this species” DEIS at 4-125). A far more detailed analysis of the impacts of any potential hunt on this population must be conducted in the context of NEPA and pursuant to the consultation requirements of the ESA.

For non-listed marine birds, NMFS makes conclusions for which there is no supporting evidence, does not provide a conclusion as to the potential impact of the hunt, dismisses potential impacts as “temporary and localized,” DEIS at 4-130, or indicates that long-term effects on local populations “cannot be determined with certainty.” DEIS at 4-144. For marine birds inhabiting beaches, bays, and estuaries, NMFS concedes that gunfire and helicopter noise “is particularly likely to flush birds off nests if it occurs close to shore where these birds are

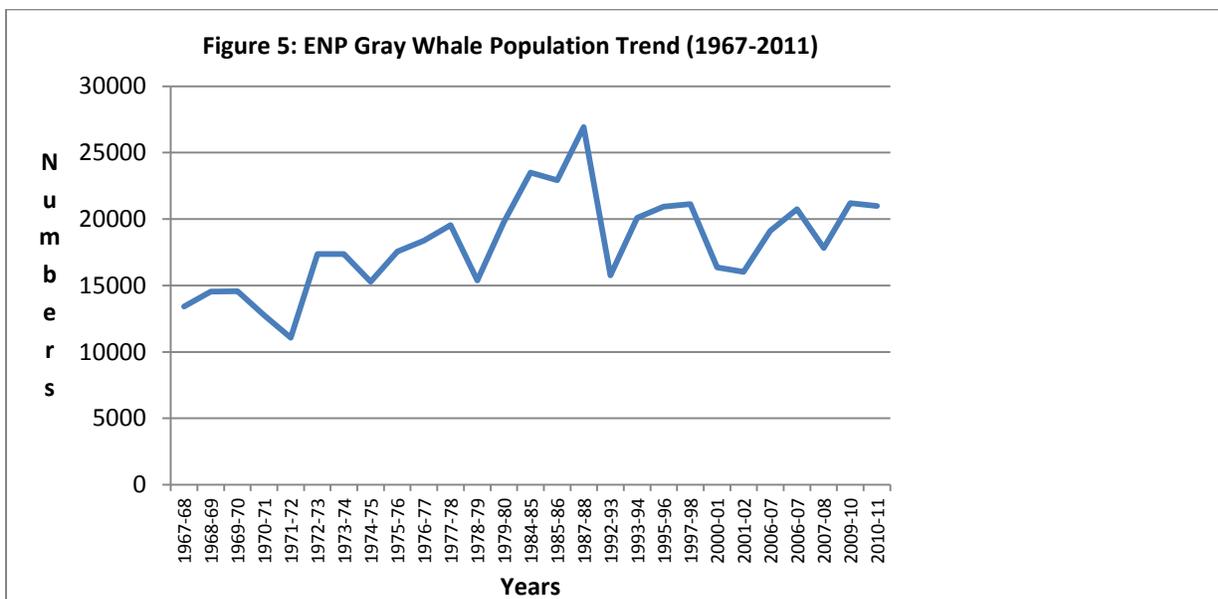
³⁵ As stated in the DEIS, the elements referred to here are the primary constituent elements for the Southern Resident killer whale critical habitat. They include 1) water quality to support growth and development; 2) prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development as well as overall population growth; and 3) passage conditions to allow for migration, resting, and foraging XXXX or critical habitat for this species. DEIS at 4-125

nesting or if they are foraging just off shore” but then concludes that it is “difficult to determine what impact this type of direct short-term effect would have on the long-term productivity of populations as a whole, although it might be a negligible loss.” DEIS at 4-130. Or it claims such long-term effects “cannot be determined with certainty.” DEIS at 4-139. Assuming that an impact “might be negligible” without providing evidence to support such a finding is reckless and may reflect an effort to discount some impacts of the proposed hunt. Similarly, for birds inhabiting coastal headlands and islands, despite concluding that “ledge nesting birds in the project area may be easily flushed off nest sites, leading to abandonment, predation on eggs or chicks, and subsequent nest failure,” NMFS fails to make a determination as to the impact of the hunt on this assemblage of birds. *Id.*

NMFS has failed to fully disclose all relevant information about gray whales and has downplayed potential adverse impacts on the species posed by a Makah hunt:

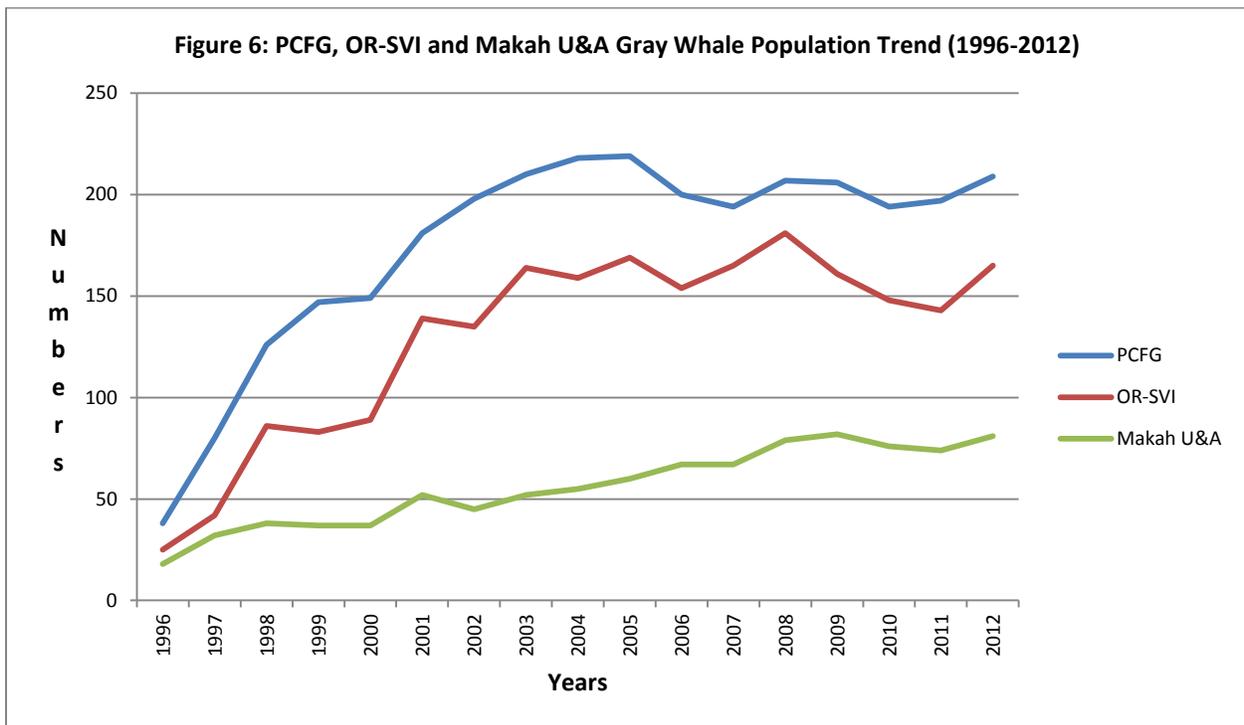
Gray whale population trends and carrying capacity

As reported in the DEIS, the estimated average annual rate of population increase for WNP gray whales is 3.3 percent per annum. DEIS at 3-67 (citing Cooke et al. 2013). The ENP gray whale population trajectory has remained relatively flat since 1980. DEIS at 3-110 (See Figure 5³⁶). This suggests that the ENP gray whale population is at carrying capacity (or K), that births largely equal deaths, or there are other factors, natural or anthropogenic, that are preventing the ENP gray whale population from increasing its numbers.



³⁶ Data obtained from DEIS at 3-111.

Similarly, NMFS reports that the PCFG abundance trend appears to be flat at the current rate of recruitment. DEIS at 4-84, 4-100 (See Figure 6³⁷). Noting that Punt (2015) found that PCFG whales are at 50 percent of K, the long-term stability of this population should be cause for concern, since the population should be increasing in size toward the region’s carrying capacity. It is not entirely clear why the PCFG population’s numbers have stabilized but, since they are only at 50 percent of K, permitting their lethal take by authorizing a Makah whale hunt is not appropriate. If Punt’s estimate of K for the PCFG is correct, then it would qualify for a depleted designation if it were designated as a stock, which would prohibit NMFS from authorizing lethal take through a Makah whale hunt.



In regard to carrying capacity, NMFS reports that it interprets K as the “current” capacity versus the habitat’s historic capacity. DEIS at 3-52. To substantiate that claim, NMFS cites from Gerodette and DeMaster (1990) who, in contrast to the NMFS claim, report that:

in the context of OSP determination and as used in this paper, carrying capacity refers to an equilibrium population level before impact by man, either direct (through harvest or

³⁷ Data obtained from DEIS at 3-145/3-146.

incidental killing) or indirect (through habitat degradation or harvest of predator, prey, or competitor species).

Id.

This quoted text contradicts the NMFS claim above. NMFS must clarify this issue and provide additional analysis of its recent practice in the use of current or historical K when, for example, making depleted designations for species or stocks.

Lack of disclosure of critical information and deficient analysis of impacts

The Project Area is confined primarily to the marine waters, islands, and land area near the Makah Tribe's U&A in the Pacific Ocean and Strait of Juan de Fuca that may be directly or indirectly affected by one or more of the project alternatives. DEIS at 1-3. In terms of any direct impacts of the hunt, this Project Area may be sufficient. However, as to indirect effects, the scope of the DEIS should have been extended to the entire range of ENP gray whales, as was done for the cumulative impacts analysis. In particular, with respect to the disclosure of information relevant to the analysis, NMFS should have provided more information about gray whales and their habitat throughout this larger area.

NMFS has disclosed some information about gray whales and their habitat in Alaska and elsewhere along the migratory corridor. The DEIS includes information about killer whale predation on gray whales, amphipod availability on gray whale feeding grounds in the Arctic, and briefly references the ecological regime shift that is ongoing in the Bering Sea. While some of this information is relevant to the cumulative impacts analysis, ENP gray whales would be killed in the proposed hunt. Therefore, given changing habitat conditions (particularly in the Arctic), there is a compelling need to disclose additional information about the ecology, prey species, distribution, movements, and habitat use patterns for gray whales in the Arctic.

Ocean warming caused by climate change is altering gray whale distribution, causing them to expand their summer range in order to find new feeding areas. DEIS at 3-196. This is due to changes in prey abundance, composition, productivity, and distribution. Indeed, the Arctic is experiencing a regime shift whereby a benthic ecosystem is transitioning into a pelagic ecosystem, as Arctic waters warm due to climate change (Grebmeier et al. 2006). In the past, a large proportion of the zooplankton and phytoplankton, including under ice algae, would die and settle to the ocean floor where it would sustain an enormous benthic community, including energy-rich amphipods. As the oceans have warmed, the zooplankton and phytoplankton blooms are occurring earlier and much of their production is being consumed by pelagic fish that have immigrated into the area. Without as much primary production settling to the ocean bottom, the abundance, density, and composition of the benthic invertebrate community has declined. DEIS at 3-99, 3-197.

This is consistent with findings by Highsmith and Coyle (1992), Grebmeier et al. (2006), and others who have studied the implications of this regime shift. In the Chirikov Basin, amphipod populations declined 30 percent between 1986 and 1988, DEIS at 3-99 (citing Highsmith and Coyle 1992, Sirenko and Koltun 1992), which, over time, forced gray whales to find alternative feeding areas. DEIS at 3-99. As a result, gray whale numbers in the Chirikov Basin were 3 to 17 times lower in 2002 compared to numbers observed in the 1980s. *Id.* (citing Moore et al. 2003, Grebmeier et al. 2006). Gray whales are now observed in areas that were historically devoid of the species or where the species was rare, including in the south-central Chukchi Sea, just north of St. Lawrence Island in the Bering Sea, and in the Beaufort Sea. *Id.* This, along with the reduction in sea ice, has contributed to a one-week delay in the timing of the southbound migration, DEIS at 3-100, resulting in a larger proportion of gray whales giving birth along the migratory route outside of the protective confines of the Mexican lagoons. This, in turn, has increased the risks to newborn gray whale calves as a consequence of predation, increased energy use for thermoregulation, and other threats (e.g., ship strikes, exposure to pollution, oil spills and seepage) that are more prominent along the west coast of the United States compared to those faced in or near the Mexican lagoons.

While some have suggested that gray whales, as generalist feeders, may adapt well to climate change impacts to their Arctic feeding areas, this may not be true. At present it is, at best, difficult to accurately predict what impact the changing Arctic will have on gray whales. Some of the information that would be needed – which is the evidence that should have been disclosed in the DEIS – includes data on the:

- 1) abundance, composition, diversity, and productivity of amphipods throughout the Arctic including in the Chukchi and Beaufort Seas;
- 2) the availability of pelagic prey for gray whales both in currently occupied Arctic feeding areas but also throughout Arctic waters given their expanding range;
- 3) the caloric content and energy value of potential gray whale prey in the Arctic;
- 4) ocean substrate survey data to determine potential future feeding areas for the species (particularly in regard to amphipod availability, given their preference for particular substrate types);
- 5) species-specific data on fish that are increasing in density in Arctic waters, including their preferred prey, to assess if gray whales will be competing with such fish for pelagic prey; and,

- 6) an assessment of any new potential health threats to gray whale in the form of exotic or invasive species, including viruses, bacteria, parasites, and natural toxins (e.g., saritoxin, domoic acid) that may be more prevalent or have greater pathogenicity as Arctic waters warm.

In addition, NMFS must disclose if there is any evidence of radionuclide contamination in Arctic waters linked to the Fukushima nuclear reactor meltdown in Japan in 2011. Only with such information can there be any meaningful analysis of the long-term survival potential of ENP gray whales.

Whether such evidence applies primarily to the analysis of indirect or cumulative impacts (which is addressed below), it should have been disclosed in the affected environment section of the DEIS so that interested stakeholders could consider and evaluate it in light of the full suite of potential impacts of the hunt.

NMFS also addresses the impact of PCFG whales within the ecosystems they occupy. This is a critically important issue, as it is directly relevant to the MMPA requirement to ensure that marine mammals remain a significant functioning element in the ecosystem. While ENP gray whales may transit the Project Area relatively quickly during their south or northbound migrations, there is also evidence that some ENP gray whales may linger within the range of the PCFG, including in the OR-SVI and Makah U&A, primarily to feed. While these whales will have an effect on the ecosystem while present in the area, PCFG whales have a far greater impact given their presence throughout the spring, summer, and fall. While present, PCFG whales can have substantial impact on the pelagic and benthic environments, which, in turn, can benefit other species.

Instead of acknowledging such potential effects, NMFS reports that “none of the action alternatives has the potential to appreciably affect the physical features and dynamic processes of the pelagic or benthic environments.” DEIS at 4-51, 4-54. NMFS claims that these environments are subject to far greater impacts from larger scale oceanographic processes. The Coalition does not dispute that there are larger scale processes, including ocean currents, upwelling, oscillation events, and other factors that influence the pelagic and benthic ecology of the project area, but NMFS is evaluating the impacts at too large a scale and in doing so has wrongly dismissed the potential impact of a hunt on the role of gray whales in influencing pelagic and benthic ecology in the Project Area.

Gray whales are important to the ecological structure of the Bering Sea. Though they can consume pelagic prey, as primarily bottom feeders they suck up mouthfuls of sediment, which is then resuspended in the water column (Grebmeier and Harrison 1992, Oliver and Statterly 1985). In the early 1980s when the gray whale population contained approximately 16,000

individuals, it was estimated that they resuspended approximately $1.2 \times 10^8 \text{ m}^3$ of sediment during a summer feeding season (Johnson and Nelson 1984, Nerini 1984). Resuspended sediments include various nutrients, microorganisms, invertebrate species that provide benefits to ocean ecology, as well as food to other species, including seabirds (Obst and Hunt 1990). PCFG whales provide the same ecosystem service in their range and, thereby, provide important benefits to the structure and function of the ecosystem, as well as to other species in the area. Dismissing such impacts, as NMFS has done in the DEIS, is wrong.

Indeed, if the hunt results in a reduction in gray whales in the Project Area, given the influence of gray whales on benthic ecology, this loss could at least result in an appreciable effect on ecology of the Makah U&A and OR-SVI. In addition, since gray whales, as generalist feeders, also consume pelagic prey, their impact on the structure and function of the pelagic ecosystem could also be higher than considered by NMFS. Quantifying this impact, however, is not possible given the lack of any specific data on benthic and pelagic species, their abundance, composition, productivity, and distribution within the project area. NMFS needs to disclose such information in the DEIS.

NMFS has failed to adequately evaluate the economic impacts of the proposed whale hunt:

As an initial matter, the description of the economic environment in the affected environment section of the DEIS is confusing. The variable use of numbers in some cases and percentages in others creates a data set that is difficult to interpret. NMFS should, at a minimum, review this section with the intent to clarify the statistics by, for example, consistently using numerical followed by percentage values in parentheses. For example, where the DEIS reports that “the per capita income of Makah Reservation tribal members is lower than per capita income countywide, registering 54 percent of the countywide level in 2010,” DEIS at 3-281, it should insert a numerical value before the “54 percent” reference. By doing so, NMFS could then confirm that all of the data contained in any of the economic tables contained in the DEIS are accurate.

In addition, NMFS should compare the economic values contained in the DEIS on pages 3-246 to 3-269 with the data contained in the environmental justice section of the DEIS on pages 3-270 to 3-281 to ensure that they are consistent. Such a comparison would be unnecessary if NMFS removes the Environmental Justice text from the DEIS as recommended below.

The Coalition has no reason to question the accuracy of the economic data presented in the DEIS, although it is concerned that, as presented, the data used may not be consistent throughout the document. We note, however, that the overall economic impact analysis is incomplete.

NMFS's evaluation of the impacts to economics is based on the following economic variables: potential change in revenue, employment and/or economic value associated with tourist-related business activity; change in household consumption of whale products and manufacture and sale of traditional handicrafts; and economic impacts to the whale-watching industry, commercial shipping, and sport and commercial fishing, and hunt-related management and law enforcement. DEIS at 4-148. Based on an analysis of the information contained in the DEIS, there are a number of questions and concerns that NMFS must address.

Prior to articulating those concerns, there are several key statements or conclusions in the DEIS that are relevant to the analysis and must be noted and discussed. These include:

- The Makah Tribal Council financially supported the whaling crews in 1999 and 2000, but in 2002 the Council decided to end financial support for whale hunts, leaving it up to the whaling families to financially support any hunts consistent with tribal traditions. DEIS at 3-283, 4-147. Because of this, the economic impact analysis in the DEIS does not include an assessment of the economic burden on Makah tribal members or households that may choose to engage in whaling. The Coalition supports this decision and notes that, should the Makah Tribal Council elect to financially support tribal whalers in the future, NMFS must reevaluate the economic impacts of the hunt, since funds expended on whaling could not be spent on meeting other needs of the Makah people on the reservation. Moreover, if the Makah Tribe seeks federal funds (i.e., taxpayer money) for the purpose of subsidizing whaling from NMFS or any other agency, this too should trigger at least a supplemental Environmental Assessment under NEPA.
- The potential for any changes on the reservation under any of the alternatives to have a noticeable effect on economic conditions in Clallam County is negligible, because economic contributions by the Makah reservation to the countywide economy are so small. DEIS at 4-147. Given this conclusion it also would hold that the economic impacts of the No Action Alternative would also be negligible in the context of the economic conditions in Clallam County.
- There are no economic data demonstrating any positive economic impact from the influx of visitors during previous hunt-related events as a result of an increase in the number of rooms rented or in other economic activities in the region. DEIS at 4-149. This is notable since, as indicated below, NMFS ignores this point when evaluating the alternative-specific economic impacts. Nor has NMFS disclosed any economic data to suggest that there was any positive economic impact for Clallam County or the Makah reservation subsequent to the hunt because of the media attention focused on the Makah Tribe.
- Figures are not available for the amount of revenue generated by reservation tourism and recreation or the number of jobs and amount of personal income that depend on

visitor spending. DEIS at 4-148. This statement is at least partially false, given that the DEIS did include statistics in regard to the number of persons purchasing permits to recreate on the reservation, including to use the Cape Flattery trail, and the number of non-tribal members visiting the Makah Cultural and Research Center. It is also inconceivable that additional tourism data are not available. Surely the Makah or NMFS (or its environmental consulting firm Parametrix) could have surveyed any inns, hotels, motels, lodges, tourist cabin owners, or other tourism-linked companies on the reservation to obtain data on the nightly room rentals and/or other tourist expenditures. Similarly, considering that the Makah have attempted to improve the marketing of Neah Bay as a tourist destination through Washington State and through the Affiliated Tribes of Northwest Indians, DEIS at 4-419, the Makah Tribal government must have data that documents what impact, if any, such marketing efforts have had on tourist visits to the reservation. Since NMFS has not satisfied the requirements of NEPA in regard to incomplete or unavailable information in this case, it must secure this information and use it in a revised analysis.

- There is no evidence that calls for boycotts of Olympic Peninsula tourism as a result of the 1999 hunt had any negative economic impact on tourist businesses in the area. DEIS at 4-150. While this may be true, using this to predict the future is naïve. During the 1999 and 2000 hunts, it was known that litigation was being pursued that could stop the hunt. Consequently, although some advocated a tourism boycott of the Olympic Peninsula, others elected to determine the outcome of the judicial process instead of immediately supporting a boycott. If, as a result of this decision-making process, an MMPA waiver is granted and legal efforts to stop the hunt are not successful, there may be a renewed and more vigorous effort to promote a tourism boycott that could have adverse economic impacts on the Makah reservation and other businesses on the Olympic Peninsula.
- No revenue would be made from the sale of whale meat but such products would meet the nutritional needs of Makah families. DEIS at 4-150. NMFS also claims that “attaching a dollar value to food products from harvested whales is difficult,” *id.*, but that whale products could “potentially replace foods that families would otherwise have to purchase.” *Id.* This statement is not entirely accurate since, as explained below, an estimate can be obtained as to the value of the reported 8-20 pounds of whale meat per capita and 16 to 20 pounds of oil or blubber per capita based on similar, currently available food products. With that estimate, the alleged economic benefit to Makah families if the whale hunt were to be allowed can be quantified.
- The Makah Tribe has a long tradition of manufacturing carvings, baskets, and other items for sale to collectors and tourists. Tribal artisans also produce carvings, jewelry, and silk screen designs for sale in local shops and regional galleries. DEIS at 4-151. Despite this claim, NMFS provides no data in the DEIS on the annual revenue generated

by the sale of these products. As explained below, this is relevant to the environmental impact analysis when NMFS asserts that whaling will increase revenue for tribal artisans because it will allow them to manufacture and sell native handicrafts from whale bone, baleen, and other non-edible parts of the whale. In addition, NMFS needs to provide some data on the value of native authentic handicrafts manufactured from whale products. Such data may be available from Native Alaskan artists who utilize non-edible products from the bowhead whale hunt to manufacture authentic handicrafts. Quantifying this potential effect requires understanding the current value of Makah authentic native art/handicraft sales and of the potential revenue that could be gained by selling native handicrafts manufactured from whale products.

- Information on the current number of whale-watching expenditures, passengers, revenues, and employment numbers in the Washington/British Columbia areas is “not available.” DEIS at 4-152. In addition, NMFS claims that “current revenues of whale-watching operations are unknown, and there is no information available or that could reasonably be obtained that would allow an estimation of how much whale watching revenues might decrease if gray whale behavior or numbers were altered by a Makah hunt.” DEIS at 4-154. Despite admitting to not having such data, NMFS reports that it is “unlikely that whale hunting under any of the action alternatives would have more than a negligible effect on whale-watching revenues or employment within or outside the Project Area.” DEIS at 4-152. It is inconceivable that the whale-watching data reported above were not reasonably attainable. It could be that neither NMFS nor Parametrix (the consulting firm paid by NMFS to prepare the DEIS) endeavored to obtain the data but, surely, had NMFS contacted whale watching companies, they likely could have provided requested revenue, expenditure, passenger, and employment numbers. NMFS has not complied with the NEPA requirements in regard to incomplete or unavailable information, so since this information is reasonably available, NMFS must obtain it and use it in a revised analysis. It is also reasonable to conclude that tourists may not wish to watch whales they believe might be killed in a Makah hunt, which would result in a decrease in whale-watching bookings in the region and indeed throughout the North American Pacific coast. Claiming this likelihood is negligible because the Chukotkan hunt does not have a similar effect is disingenuous, given the attention the Makah hunt has received in the past by US media, compared to the relative lack of attention US media pay the Chukotkan hunt. Further, the remoteness of the Chukotkan hunts makes whale watching there currently almost impossible and therefore not a good comparison. Therefore, the conclusion in the DEIS that a hunt would have a negligible impact on whale-watching revenues is not necessarily true.
- Costs associated with any proposed hunt would include approximately \$75,000 per year to continue a photo-identification study of PCFG gray whales, \$263 per day to cover the costs of NMFS observers, and \$91,670 per day for law enforcement costs, with the bulk

of the costs borne by the United States Coast Guard to cover the costs of its aircraft and vessels. DEIS at 4-155/4-156.

In evaluating the impacts of each action alternative, NMFS dismisses any potential impact on whale-watching operations as a result of a change in behavior of gray whales in response to vessels. This is based on the Chukotkan gray whale hunt in Russia, which has been ongoing, largely without any stoppage, for centuries. NMFS claims that the hunt “has not translated into a general avoidance of boats by gray whales.” DEIS at 4-153. This is a rather simplistic analysis of the potential impact of a hunt in the Washington region on gray whale behavior. First, NMFS has not disclosed sufficient information in the DEIS to permit a credible assessment of the impact of a Chukotkan hunt on gray whales. While the Russians continue to kill approximately 123 gray whales per year, DEIS at 3-162, NMFS has not provided any information about catch-per-unit-effort, any change in gray whale distribution within their Russian feeding grounds, any change in the temporal use of near shore habitats, or any change in their behavior on those feeding grounds in response to vessels (i.e., are they more alert or more likely to flee compared to gray whales using feeding grounds within the Arctic waters of the United States where they are protected).

Although matrilineal site fidelity may be the dominant factor drawing gray whales into Russian feeding grounds where they are subject to hunting, it would not be surprising if there have been some changes, even if only subtle, in gray whale behavior within the Russian feeding grounds. For example, it is well known that white-tailed deer can learn where and when they are safe from hunters and where and when they are not. This allows deer to utilize forage resources by night in areas open to hunting during the day, only to return to more protected areas during the day. If white-tailed deer have this capacity, it is likely gray whales do as well. In other words, gray whales may recognize, after decades of near complete protection in Mexico, along the west coast of the US and Canada, and in US Arctic waters that they are safe from hunting, while those who occupy Russian waters may demonstrate different behaviors intended to minimize their risk of lethal take while in that area. NMFS must explore this issue in more detail before making such overreaching comments about the potential impact, or lack thereof, of any hunt on gray whale behavior.

NMFS also must consider how a hunt by the Makah Tribe, which would include harassment of gray whales through pursuit, unsuccessful harpoon attempts, and potential injury to gray whales due to non-lethal strikes of a harpoon or bullet, might impact the behavior of gray whales in the larger eastern Pacific region. The impact of the proposed hunt on gray whale behavior is not addressed in the DEIS. Similarly, NMFS entirely ignores the possibility that a Makah hunt could influence the popularity of gray whale watching along the entire Pacific coast of North America, including the unique experience of interacting with gray whales and their calves in the lagoons in Mexico.. It is possible that people interested in undertaking a gray

whale watching excursion may choose to skip such a trip if they are aware that the whales they would observe could be killed in a hunt in US waters. At a minimum, the enjoyment of watching gray whales would likely be diminished if tourists were aware of the potential danger posed by Makah whalers.

In evaluating each action alternative, NMFS suggests each is likely to increase tourism to the Makah reservation. DEIS at 4-158, 4-162, 4-164, 4-168. This assumes that non-tribal members have an interest in watching the killing or butchering of a whale or that media attention to the hunt will increase tourism to the reservation. This claim completely ignores evidence from the 1999 hunt, as contained in the DEIS, that the Seattle Times reported that of the 400 calls it received after the 1999 hunt ran 10 to 1 against the hunt (DEIS at 3-286) and that more residents of Clallam County expressed disapproval of the hunt than expressed support. *Id.* at 3-288. If anything, given that most US citizens are opposed to whaling, including aboriginal whaling when the tribe does not have a legitimate need for whales, it is more likely the action alternatives will result in a reduction in tourism to the Makah reservation.

Similarly, for each action alternative, NMFS claims there will be a negligible change in whale-watching revenue. DEIS at 4-159, 4-162, 4-167, 4-168. This conclusion is curious considering NMFS claims data on whale-watching operation revenues was not reasonably available.

NMFS also claims, for each of the action alternatives, that the increase in the availability of whale meat/blubber/oil for consumption and non-edible whale products for use by artisans will provide an economic value for members of the Makah Tribe. DEIS at 4-160, 4-163, 4-166, 4-168. For the non-edible products, without data on current sales of Makah artisan products and some assessment of the value of products manufactured from whale baleen or bone, the alleged impact of a whale hunt on artisan revenues cannot be quantified.

For edible products, NMFS should have provided an estimate of the value of such products so as to quantify the potential savings to Makah tribal households. For example, the June 2015 price for uncooked beef steak in the western US is \$7.67 per pound,³⁸ while olive oil (which, for this analysis is being used to represent whale blubber/oil; olive oil is often used to flavor foods as the Makah traditionally used whale oil) costs approximately \$5.46 for 25.5 ounces³⁹ or \$27.40 per gallon (which corresponds to \$3.28 per pound). Using these figures, the estimated 8 to 20 pounds of whale meat would correspond to a value of \$61.36 to \$153.40, while the 16 to 20 pounds of blubber/oil would correspond to a value of \$52.48 to \$68.52. Combined, the value of the meat and blubber/oil would be \$113.84 to \$221.92. Depending on the household or family income of the Makah families that choose to consume whale products, the savings accrued by consuming these products may or may not be significant to a family/household

³⁸ See <http://www.economagic.com/em-cgi/data.exe/blsap/APU0400FC3101>

³⁹ <http://www.walmart.com/ip/Great-Value-100-Extra-Virgin-Olive-Oil-25.5-oz/10316039>

annual budget. This assumes any savings accrued from the consumption of whale products will not be spent on other food items.

In regard to the potential impacts of a hunt on law enforcement/management costs, Table 4-14 in the DEIS provides a summary of the estimated enforcement-related costs (including the costs for NMFS observers) of each alternative. These costs would range from a maximum of \$5.6million per year under Alternatives 2, 3, and 6 to a minimum of approximately \$717,000 per year under Alternative 4. As indicated previously, the majority of these costs will be borne by the United States Coast Guard, yet NMFS provides no discussion of whether the Coast Guard has the funds to cover this cost, if Congress would allocate funds for the Coast Guard to cover such costs, or how Coast Guard funding for these costs could impact other Coast Guard operations in the Washington area, including search and rescue, homeland security patrols, and any drug interdiction efforts. While admittedly the Makah hunt, if allowed, will not occur in the immediate future, given federal budgetary realities there must be some discussion of whether the funds needed to pay for a hunt are or would be available and if they would impact other Coast Guard operational programs. Similarly, since funds allocated by the Coast Guard and NMFS to a potential hunt are collected from taxpayers, if a waiver is granted then NMFS is effectively subsidizing with taxpayer dollars a hunt the public may strongly oppose. This impact to the taxpayer was not evaluated in the DEIS.

There are other gaps in the economic impact analysis that must be addressed. First, NMFS has not disclosed any information about the total amount of federal funds expended since the mid-1990s in an effort to facilitate the Makah's resumption of whaling. This would include, but not be limited to, costs for NEPA compliance, consultations with the Makah and other agencies, fees paid to consultants, legal costs, costs associated with scientific research relevant to the proposed hunt, and costs incurred in obtaining past ASW gray whales quotas from the IWC. This is directly relevant to any analysis of economic impacts of a Makah hunt, as it would provide interested stakeholders with additional information about the true costs of the Makah's whale hunting proposal.

Finally, NMFS completely fails to include any information about the economic value of gray whales. This is not uncommon, as most agencies, when evaluating the environmental impacts of an action that will affect a species, fail to recognize that the species has worth beyond its value, economic or otherwise, to humans (i.e., for hunting, fishing, or wildlife watching/tourism). This value extends well beyond the value to a whale watching company, to include the ecological value of gray whales (i.e., the value gray whales provide as part of an ecosystem, including as prey, predator, and how their behaviors may affect other marine species and the marine environment) and their intrinsic or existence values.

Calculating such intrinsic values can be done using an economic tool known as contingent valuation (CV). CV has historically been used by the Department of the Interior and the Department of Commerce, including NMFS, to assess the intrinsic value of natural resources lost as a result of an oil spill. Indeed, federal law requires that such intrinsic values be assessed in order to calculate the amount of damage caused to the environment. This damage calculation is used to assess penalties against those responsible for the damage. The CV concept, however, is equally applicable in this context and could – and should – be used to assess the intrinsic or existence value of a gray whale, in order for the cost of losing a whale due to a Makah hunt to be considered in the economic analysis. The CV process utilizes surveys to determine, in this case, the value local residents, regional residents, and citizens nationally apply to gray whales. The purpose of the analysis is to collect value data both from those who may observe gray whales in the wild and from those who have never seen, and may never see, a gray whale in the wild.

The Department of Commerce is well aware of CV as its National Oceanic and Atmospheric Administration empaneled a number of distinguished social scientists in the early 1990s to determine if CV “is capable of providing reliable information about lost existence or other passive-use values.”⁴⁰ The report provided support for the use of CV to calculate such existence or passive-use values and included a series of recommendations to direct such assessments. NMFS must engage in this type of analysis using the CV methodology (or something similar), so that it can obtain data on the intrinsic value of gray whales to include in a revised analysis.

NMFS has improperly applied the environmental justice concept to the proposed Makah whale hunt:

NMFS has grossly misapplied the environmental justice requirements contained in Executive Order (EO) 12898 in the DEIS (59 Federal Register 7629, February 16, 1994). This EO mandates that “... each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States ...” DEIS at 4-173, EO 12898 at 1-101.

Traditionally, this concept has been applied to, for example, the impact of constructing a road, refinery, waste storage facility, or feedlot in areas where the majority of the population is minority or low income. The idea is to ensure such populations are not disproportionately

⁴⁰ See Arrow, K., R. Solow, P.R. Portney, E.E. Leamer, R. Radner, and H. Schuman. Report of the NOAA Panel on Contingent Valuation. January 11, 1993 (available at http://www.economia.unimib.it/DATA/moduli/7_6067/materiale/noaa%20report.pdf).

impacted or unduly burdened by such a project compared to other human populations (i.e., non-minority and middle/upper income).

Here, however, NMFS is attempting to evaluate the environmental justice implications of allowing or not allowing a minority group, the Makah Tribe, to engage in whaling; an activity that the Makah have not pursued, save for once, for nearly 90 years. If the Makah Tribe was currently whaling and the government was considering prohibiting the hunt, the environmental justice implications of such an action would be relevant. Or, if the government was considering the construction of a road, military base, mine, port, or missile silo on or near the Makah reservation, environmental justice concerns would be applicable.

Attempting to apply such an analysis to an activity for which there has been such an extended period of inaction, however, is entirely inconsistent with the intent of the Executive Order. Indeed, the Coalition challenges NMFS to identify any other instance where it or any federal agency has applied the environmental justice analysis in the same manner as it has here.

An examination of EO 12898 reveals other elements that further demonstrate the inapplicability of its use in the present situation. For example, Section 2-2 states that:

“Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin” (emphasis added).

Although unstated in the analysis in the DEIS, NMFS may be engaging in this analysis based on claims that depriving Makah access to whale meat, blubber, and oil is substantially affecting the health of the Tribe. As previously explained, however, this is not supported by the evidence.

Section 4-4 of the EO is specifically focused on subsistence consumption of fish and wildlife. This section mandates that federal agencies do the following:

4-401. Consumption patterns. In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

“4–402. Guidance. Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner 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. Agencies shall consider such guidance in developing their policies and rules.”

NMFS may believe these mandates permit the application of environmental justice in the case of the Makah whale hunt. If anything, based on the lack of any credible data or analysis in the DEIS on the fish and wildlife consumption patterns of Makah tribal members (i.e., what wildlife species are consumed, the quantity consumed, the contaminant profile of each consumed species), NMFS has clearly failed to comply with this section of EO 12898. Indeed, the only information contained in the DEIS regarding Makah consumption patterns of fish and wildlife includes statements about how frequently Makah families consume traditional foods, how many times per week they eat fish, how many pounds of fish they eat each year, and that they also engage in subsistence hunting of terrestrial wildlife.

NMFS also provides no information in the DEIS to suggest it has worked collaboratively with other agencies to publish guidance on methods used to evaluate the human health risks associated with the consumption of pollutant-bearing fish or wildlife or that it relied on such guidance in evaluating the environmental impacts of consuming gray whale products by the Makah. NMFS does provide data on contaminant loads in some species of fish and wildlife in the DEIS. It also refers to Washington State standards for what amount of whale blubber may be safe to consume (see DEIS at 3-373: “(e.g., an 8-oz [227 gram] meal size) yields a calculated ‘allowable consumption rate’ of 0.43 meals of blubber per month.” It does not, however, identify any federal standards or guidelines for what is considered an acceptable or safe level of contaminants in fish and wildlife species used for subsistence purposes. Nor does it suggest that it has provided – or will provide – any guidance to the Makah in regard to its consumption of gray whale food products.

While the EO provides broad standards for all federal agencies to meet, it does not establish agency or department-specific standards for environmental justice review. Rather, Section 1-103 mandates that:

“... each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)–(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of

all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable.”

What NMFS fails to disclose in the DEIS is that the Department of Commerce (DOC) has adopted an Environmental Justice Strategy (DOC Strategy).⁴¹ In this strategy, the DOC does specify that:

“During National Environmental Policy Act reviews of major agency actions, any potential disproportionate and adverse environmental or health effects on low-income or minority populations are considered.” (emphasis added) DOC Strategy at II.B.1.

Notably, this DOC language is not consistent with the EO language, which refers to a “substantial” effect on human health or the environment. Nevertheless, even without reference to a substantial effect, the impacts of the proposed whale hunt (or lack thereof) on the environment and health of the Makah people do not meet this standard and, therefore, the environmental justice analysis in the DEIS is improper. First, there would be no adverse environmental impacts if NMFS rejects the Makah Tribe’s request for a waiver. Indeed, as documented in the DEIS, all of the adverse environmental impacts (differentiating environmental from cultural, social, and subsistence use impacts) would occur if NMFS allows the Makah to whale.

Moreover, as previously stated, NMFS concedes that “there is insufficient information to conclude that the lack of fresh whale products under the No-action Alternative would be expected to negatively alter current dietary conditions for any tribal member,” DEIS at 4-259, so denying the waiver would have no known health effects on the Makah. If anything, as also conceded by NMFS, whale products, particularly blubber, “would likely contain higher levels of certain contaminants (e.g., PCBs) than other foods consumed by the Makah,” DEIS at 4-257, suggesting that allowing a whale hunt could be adverse, not beneficial, to the health of the Makah people. The environmental justice analysis in the DEIS, however, fails to consider how allowing a whale hunt could adversely impact the health of the Makah Tribe.

In the DOC Strategy, NOAA is identified as an operating unit of the DOC that is in a position to advance environmental justice for affected populations. DOC Strategy at II.B.2.i. This is done through five overarching NOAA programs or activities; recovery of protected species, sustaining

⁴¹ The Department of Commerce Environmental Justice Strategy is available at:
http://open.commerce.gov/sites/default/files/DOC_Environmental_Justice_Strategy.pdf

healthy coastal ecosystems, habitat protection, climate change and weather. While all of these programs or activities may be broadly relevant to the Makah (and indeed directly relevant to the conservation status of gray whales), only the recovery of protected species—gray whales—is directly relevant here. For the recovery of protected resources, the Strategy contains the following mandates:

- NOAA will continue its current research and management activities to determine the impact of subsistence harvest on protected resources, and the impacts of other factors (e.g., commercial fishing, habitat loss, renewable energy development, oil and gas production, and pollution) on subsistence activities.
- NOAA will continue to conduct research to determine the status of North Pacific marine mammals used by indigenous peoples. In addition, NOAA will continue to support the Eskimos' full participation in the International Whaling Commission and provide information in support of sustaining the bowhead whale quota allocated to subsistence use.
- NOAA will also ensure that the activities it authorizes are conducted in a manner that ensures no unmitigatable adverse impacts on subsistence use of marine mammals. DOC Strategy at II.B.2.i.a.

None of these mandates specifically mention the Makah, as they do Alaska Natives. None are directly relevant to any decision by NMFS regarding the Makah Tribe's MMPA waiver application. Indeed, notably, there is no language in the DOC Strategy suggesting that NOAA will support the Makah Tribe's full participation in IWC meetings or that it will provide information to support or sustain the ASW quota for gray whales for the Makah.

Based on the foregoing evidence, NMFS has improperly included an analysis of environmental justice effects in the DEIS and it must be removed from future documents.

Regarding the analysis itself, it is, predictably, entirely one-sided. The criteria used to evaluate the environmental justice impacts were economics, ceremonial and subsistence resources, and the social environment. DEIS at 4-174. In regard to the latter criterion, NMFS concluded that "it is not possible to determine if the action alternatives would result in disproportionately high and adverse social effects on the Makah Tribe." DEIS at 4-176.

As for economic impacts, this analysis was linked to the potential effects of each alternative on tourism, with NMFS asserting, albeit inaccurately and without any supporting data, that a hunt would increase tourism to the Makah reservation. This ignores the widespread opposition to the Makah whale hunt in Clallam County and the broader region based on public outrage expressed in association with the 1999 hunt (see DEIS at 3-286, 3-288). It also ignores NMFS'

own determination that there are no economic data demonstrating any positive economic impact from the previous hunt related events, DEIS at 1-149, nor has NMFS provided any evidence that there was an positive economic impact post-hunt as a result of media coverage of the event. Nevertheless, based on the NMFS claim that a hunt will increase tourism to the reservation, it concluded that the action alternatives would not have a disproportionately adverse impact on the Makah Tribe compared to the No Action Alternative.

Predictably, the NMFS analysis of the impacts of the proposed hunt on the ceremonial and subsistence criteria concludes that action alternatives would “have positive ceremonial and subsistence effects associated with a resumption of a Makah whale hunt.” DEIS at 4-176. Conversely, it claims that the No Action Alternative - by preventing the preparation, hunting, butchering, sharing, consuming, dancing, singing and rituals associated with whale hunting - would result in a “disproportionate share of the adverse effects on subsistence uses, traditional knowledge and activities, spiritual connection to whale hunting, and cultural identity ... upon the Makah Tribe.” *Id.*

This analysis entirely ignores any consideration of the health effects of a whale hunt in the context of a review of environmental justice, although it is highlighted in EO 12898 and in the DOC Strategy. This is not to suggest that NMFS should merely add such information to the environmental justice text in any revision to the DEIS since, as recommended above, the entire section should be struck from the analysis due to non-relevance. Rather, this is noted to demonstrate that, as presented, the analysis does not even include a key element that is a focus of the EO.

The DEIS contains substantial evidence to suggest the Makah Tribe does not have a subsistence or cultural need to whale or for whale products:

The discussion of subsistence use in the DEIS largely focuses on the Makah Tribe’s historic whaling practices and its traditional use of whale and whale products for ceremonial purposes and how these activities, if reinstated, may affect the social environment on the reservation. In other words, the analysis of the impacts of a whale hunt on subsistence use overlaps with the Tribe’s desire for whaling and whale products for its traditional ceremonies, rituals, and other cultural practices. This section does not address any nutritional need for whale products, as this was evaluated separately in the DEIS. In addition, since this section of the DEIS shares a number of similarities with the analysis of environmental impacts of the proposed hunt on the social environment, these sections are analyzed together. The latter section evaluates the impact of a whale hunt on the social relationships among supporters and opponents of the proposed Makah hunt.

One critical element in evaluating subsistence and cultural need in this context is whether, in fact, the Makah Tribe has a legitimate subsistence/cultural need for whaling and whale products. Nevertheless, setting aside for the moment any discussion of whether the Makah Tribe has continued to practice its traditions associated with whaling (e.g., ceremonies, rituals, dances, songs, stories), the role of tradition in any potential future whale hunt must be addressed.

The DEIS and its appendices are replete with information about historical traditions associated with the Makah whale hunt. What is not clear is whether the Makah Tribe, if granted the authority to kill whales, will continue to practice such traditions. Considering the apparent importance of the Tribe's cultural and spiritual connection to whales, it would be expected that such traditional rituals, including frequent bathing, rubbing the body with nettles, and sexual abstinence would be continued. However, in the DEIS, the only statement regarding such practices being followed if the Makah Tribe resumes whaling is that "whaling team members may also partake in spiritual preparations." DEIS at 2-16 (emphasis added).

The Coalition is not advocating that the Makah Tribe must follow all of the past traditions. For example, in regard to the methods used to kill the whales, if whaling is allowed, the method used must, by law, cause the least suffering and cruelty (i.e., must be the most humane). The traditional methods of killing a whale with cold harpoons and floats, where the whale would sometimes linger for days before dying, are clearly no longer acceptable. To that end, if the Makah Tribe and NMFS elected to only utilize motorized vessels in order to reduce the amount of harassment inherent to a hunt and to more effectively and efficiently kill the whale (ideally utilizing an explosive grenade as the primary killing weapon), the Coalition, based on humane concerns alone, would not object. However, notwithstanding the killing methods, considering that the Makah Tribe's hunt, if allowed, represents a form of cultural ASW (since the evidence of subsistence or nutritional need is lacking), it is expected that all *cultural* traditions will be followed. Many of those traditions are described below.

While the Coalition reemphasizes its recognition of the Makah Tribe's history of whaling, the DEIS and its appendices contain considerable information suggesting the traditions the Tribe has claimed have continued during its nearly 90-year hiatus in whaling may not have been consistently practiced over the years. In this regard, the Makah Tribe has a dilemma. If it can prove, as it claims, that it has continued to engage in traditional whaling practices for the past nine decades, then this raises the question of why it needs to kill any whales to satisfy a cultural need. Alternatively, if it cannot prove that it has continually practiced such traditions, then the claims that it and the United States government have used to suggest that the Tribe can meet

the “continuing traditional dependence on whaling”⁴² language in the IWC’s definition of ASW would simply not be true.

Admittedly, because Makah whaling has historically only been conducted by a limited number of powerful and influential families, some families may have retained and shared their whaling traditions more consistently than other families. Nevertheless, given that only a limited number of families had the qualifications, skill, and rank to engage in whaling, it is unclear if that social hierarchy will limit the number of families that can participate in any future whaling (if permitted) and whose members could serve as whaling captains. If only select families among the Makah Tribe qualify, through their ancestry, to engage in whaling, then NMFS should identify which families would have the authority to whale. This would allow the agency to gather more information from those families about their financial resources (i.e., can they afford to conduct whaling if it were allowed) and their history of sharing, both within their family and with other tribal members, of their family-specific whaling traditions (at least those traditions that are not secret). Conversely, if any member of the Makah Tribe, if he/she has the equipment and funds and regardless of ancestral connections to whale, can engage in whaling, then this raises questions about the Tribe’s alleged cultural connection to whaling.

Traditionally, a Makah whaling canoe was helmed by the whaler or headman and contained seven crew members. Whalers, who provided the equipment for whaling and owned important ceremonial privileges acquired through heredity, were ranked at the top of the Makah society social pyramid. The whaler was also believed to have the ability to “interact with the natural and the supernatural to assure a successful hunt.” 2002 Needs Statement at 9/10. Furthermore, given the hierarchy in Makah society (i.e., nobles, commoners, and slaves), DEIS at 3-295, positions on whaling crews “were restricted to men who could withstand the rigors of intensive ritualized training, possessed the hereditary access to the position and its ritualized knowledge, or underwent a supernatural encounter which engendered the gift of whaling ability.” Makah Waiver Application at 6. The safety and success of the hunt was not limited to the crews’ training, strength, or stamina, as it depended on the observance of rituals by the whaler, his crew, and their families. *Id.*

Training included “ritual bathing, praying, rubbing the skin with boughs or nettles, and imitative performance.” DEIS at 3-297. Many if not all such rituals were conducted at secret locations and varied for each whaling family. Such details like the “bather’s costume, the prayers, and the type of branches the whaler used were private knowledge that was passed from one generation to the next according to the rules of inheritance.” *Id.*

⁴² The Coalition believes that any claim that the Makah Tribe has continually engaged in traditional practices related to whaling does not meeting the “continuing tradition dependence on whaling and use of whales” standard to obtain an ASW quota as explained previously in this comment letter.

For the whaler's wife, tradition held that her movement during a hunt would determine the behavior of the whale. DEIS at 3-297. If she moved too much, the whale being pursued by her husband would be "equally active and difficult to spear." *Id.* Conversely, if she lay quietly, "the whale would give itself to her husband." *Id.* Lack of attention to such traditions, which included other proscribed behaviors, "could result in the capture of a whale that was not fat or large enough, or cause the harpooned whale to run out to sea instead of in toward the shore." 2002 Needs Statement at 11. For the chief whaler and his wife, the traditions required even greater sacrifice as "the whaler and his wife observe a long and exacting course of purification, which includes sexual continence and morning and evening baths at frequent interval from October until the end of the whaling season ... about the end of June." *Id.* If the Makah Tribe desires to hunt whales to honor tradition, it would follow that tribal members would willingly follow such traditional practices.

Evidence of potential disruptions to the alleged sharing of whaling traditions extends back to even before the Treaty of Neah Bay was signed. According to the Makah Tribe's 2002 needs statement, in 1853, the Makah Tribe was devastated by an epidemic of smallpox. This and other diseases reduced the Tribe's population by 75 percent by 1890, resulting in the loss of much family-owned information that was therefore never passed down to younger generations. 2002 Needs Statement at 21. While this was and is a tragic period in Makah history, it is simply a fact that it caused the abrupt loss of knowledge about critical components of rituals and ceremonies. *Id.*

Considering the loss of historic knowledge during long ago epidemics and, more recently, the lengthy hiatus in whaling during which many of those alive in the 1920s passed away, and the potential lapse in transmitting traditions within a family, it is unclear how many Makah whaling families can demonstrate an unbroken link to the past. In the various Makah Tribe's needs statements submitted to the IWC, such links are assured, but beyond the words on the page, no other proof has been offered to verify such claims.

Although it is commonly reported that the Makah ceased whaling in the late 1920s, the decline of whaling as a tribal tradition extends to the mid-1800s, even before commercial whalers decimated gray whale numbers. DEIS at 3-302. At that time, as a result of contact with non-Indian traders and explorers who had come to the Pacific Northwest, whale products, particularly oil, became more of a marketable good than a subsistence need. Although the Makah had already been engaged in the trading of whale products, the new visitors to Neah Bay provided a new market for whale oil. By the late 1840s and 1850s, as the market for whale oil and dogfish oil increased, the whale oil purchased from the Makah Tribe (and presumably other Native Americans) became a major export of the Hudson Bay Company. 2002 Needs Statement at 17. By 1852, the Makah "were trading or selling some 20,000 gallons of whale oil

and fish oil each year, with this amount escalating to 30,000 gallons per annum over the next two decades.” *Id.* at 18. Whales had apparently become a cash commodity for the Tribe.

As whale populations declined in the 1870s, whaling by the Makah diminished in frequency, reportedly because it became too cost prohibitive. Makah Waiver Application at 8. Profits from whale products also declined. 2002 Needs Statement at 21. At that time, the Makah Tribe “increased their seal hunting efforts to compensate for a less profitable whale hunt.” 2002 Needs Statement at 20. Given their sealing and navigational skills, Makah tribal members were hired to work on commercial sealing ships plying the waters of the Washington coast and Vancouver Island in search of fur seals; the European-American ship owners relied on the Makah Tribe’s aboriginal wage-labor force to succeed at sealing. DEIS at 3-304. The profits accrued from the seal hunts permitted Makah tribal members to purchase and operate their own schooners and, in a role reversal, they began to hire non-tribal navigators. 2002 Needs Statement at 20. By 1891, “sealing became so lucrative for the Makah and west coast native hunters that their traditional whaling expeditions virtually ceased.” *Id.*

In 1897, an international convention signed by the United States effectively banned pelagic seal hunting. At that time, given the diminished number of gray whales, the intensive investment in time and ritual preparation to hunt whales “was too difficult to justify.” *Id.* at 23. Consequently, in 1905 there were only three recorded whale hunts undertaken by the Makah whalers (although the success of these hunts is not known). *Id.* at 23.

Without whaling or sealing, Makah men engaged in a new, more productive venture – ocean fishing – that would continue to make use of their exceptional navigational and seafaring skills. 2002 Needs Statement at 23. At that time (the early 1900s), fishing “had become a more effective venture than whaling prior to the turn of the last century.” *Id.* As noted in the 1889 Annual Report to the Commissioner of Indian Affairs:

“the Makahs catch a great many fish, which they ship three times a week to Seattle, where they have a good market for them. They have caught and shipped as high as 10,000 pounds of halibut in one day.” 2002 Needs Statement at 23.

As both gray and humpback whale populations continued to decline and as more Makah men shifted toward “the very successful subsistence and commercial venture of ocean fishing,” whale hunts became an even riskier investment. 2002 Needs Statement at 24.

Based on these historical accounts, while the Makah Tribe has a long history of whaling, its whaling practices transitioned from true subsistence to a profit-making operation by the mid-1800s. Once profits from the sale of whale oil declined, the Makah Tribe transitioned to sealing to continue to profit from Northwest Washington’s bountiful wildlife. When that hunt was largely banned by an international convention, the Makah transitioned again to ocean fishing –

an activity that continues today and that, given the revenue produced, must provide some Makah with substantial income.⁴³ Cumulatively, this evidence raises additional questions about the claims that the Makah have continually practiced and passed down from generation to generation their traditions related to whaling, given that, for many ancestral whaling families, whaling has not been practiced for approximately 165 years.

Despite a 90-165 year hiatus in whaling, the DEIS indicates that recently the “Makah Tribe has attempted to revive its cultural traditions for the past three decades” in order to “combat social disruption resulting from the rapid changes of the last century and a half,” causing high rates of teenage pregnancy, students dropping out of high school, substance abuse, and juvenile crime. DEIS at 3-282, Makah Waiver Application at 9. To reverse these trends, the Makah “have reinstated numerous song, dance, and artistic traditions.” *Id.* The Coalition supports the revival of the cultural traditions but notes that “revival” clearly suggests that these traditions – particularly those tied to whaling – have *not* been continually practiced since the late 1920s when the Tribe gave up whaling.

Furthermore, recognizing that these revitalizations were undertaken to address certain social ills on the reservation, NMFS has not provided any data to demonstrate the impact of such cultural revival on the rate of, for example, teenage pregnancy, substance abuse, or juvenile crime on the Makah reservation. Nor has it cited to any other data – for example from other Native American tribes – to suggest that, in this modern era, reviving cultural traditions can influence the rate of such societal ills. For example, have efforts by the United States Fish and Wildlife Service to facilitate the acquisition of feathers from bald eagles and other raptors for Native American tribes to use in their cultural celebrations helped any of those tribes in reducing social ills on the relevant reservations? The Coalition is not suggesting that restoring cultural traditions cannot aid in addressing social ills on reservations, but such claims have to be proven with credible data versus mere opinion.

Surely, the Makah Tribe has monitored and measured the rates of these societal ills that are of concern on the reservation and can demonstrate a trend in those rates over the past three decades. If such data were available, a proper analysis would also require the consideration of other tools, methods, or strategies the Makah Tribe may have implemented over the past decades, so that the impact of cultural revival can be considered in the full context of other methodologies used to address these problems. According to tribal survey results, “an overwhelming majority (93.9 percent) of the village believes the resumption of the whale hunt has positively affected the Tribe and 51.6 percent specifically cited moral and social changes as

⁴³ According to data in the DEIS the salmon fishery out of Neah Bay generated annual revenue between \$226,000 to 1.4 million between 2003 and 2011, DEIS at 3-260, while overall commercial fish landings to Neah Bay for 2007-2011 were valued at 5.9 to 9 million dollars each year.

the most important benefit,” 2002 Needs Statement at 1, but no other metrics have been provided to quantify such positive change.

Other examples of statements that call into question whether the Makah have continued to practice whaling traditions are evident throughout the DEIS and its appendices. For example, NMFS notes that the Makah Tribe’s “desire to reinvigorate the whaling tradition never dissipated,” DEIS at 3-306, which suggests the traditions have not continued, at least not substantially, over time. Similarly, NMFS concedes that “many traditions related to whaling have waned, however, since the Makah Tribe’s cessation of the hunt in the 1920s.” DEIS at 3-309. The DEIS also notes that “tribal members reported that whaling songs and rituals also resumed following the 1999 hunt, with more people participating in family songs and sharing traditional knowledge,” DEIS at 3-313 (citing Braund and Associates 2007), which is counter to the claim that such traditions were continuously practiced since the 1920s.

NMFS also concedes in the DEIS that while the continuous practice of a cultural activity makes it “more likely that knowledge of that activity will pass from generation to generation,” should there be “a hiatus in practicing the activity, the knowledge may be lost.” DEIS at 4-197. Such a loss could take time, but inevitably “knowledge of specific elements of the activity wanes as elders die.” *Id.* If that is true, given the Makah Tribe’s nearly 90-year hiatus in whaling (with the sole exception of a whale killed in 1999), it would follow that the cultural knowledge of whaling has, at least, diminished, if not been largely lost.

If traditions regarding whaling, including the transfer of recipes on how to prepare whale meat and blubber, had been passed down between family members, then those receiving whale products after the 1999 hunt would have been able to use those recipes to prepare the meat and blubber consistent with tradition. Yet, according to tribal survey results, the majority of respondents “reported a desire to learn more about preparing whale products and using whalebone.” DEIS at 3-313. While some “households began to use recipes held in family confidence for decades,” others experimented with “techniques used for other sea creatures like seals and fish,” suggesting those who experimented didn’t have traditional family recipes. Even Makah whalers, after the 1999 hunt, expressed an interest in learning more about the “ancient activity of whaling,” again calling into question the transmission of whaling traditions among family members. *Id.* Similarly, the Makah Tribe reports that “community members are ready to rise to this challenge and re-learn the techniques necessary to make the food from the whale a part of Makah life again,” 2002 Needs Statement at 38, providing further evidence that such techniques have not been passed down through the generations.

According to the data in the Makah Tribe’s 2002 needs statement from the first tribal household survey, of the 61.3 percent of survey respondents who received whale meat after the 1999 hunt, 41.5 percent made jerky, 43.9 percent ate roasts, 41.5 percent cooked stew,

35.4 percent grilled steaks, and 34.1 percent smoked meat; what is not clear is whether any of this was done with the use of traditional recipes passed down through the generations. 2002 Needs Statement at 15. Another 19.5 percent of respondents utilized “innovative methods” for preparing whale meat, including stir frying, kippering, deep frying, barbecuing, and boiling,” *id.* at 16; this would suggest that these tribal members did not rely on traditional recipes to prepare whale meat. Similarly, for the 75.4 percent of survey respondents receiving blubber, 22.4 percent smoked it, 37.9 percent rendered the blubber into oil, 6.9 percent pickled it, 48.3 percent boiled it, and 65.5 percent ate the blubber raw, *id.*, although again it is not clear if they used traditional recipes to prepare the blubber.

While traditions and traditional techniques do change with time, this occurs when these traditions are in continuous use. When *reviving* traditions that have fallen out of use, simply substituting modern methods of food preparation and recipes arguably defeats the purpose.

Makah whalers participating in the 1999 hunt also had “to learn whaling techniques and traditions from knowledgeable Canadian elders.” DEIS at 3-315. While it is understandable that no Makah whalers in 1999 would be skilled in the killing technique (as none had ever killed a whale) the fact that they had to learn whaling traditions from Canadian elders suggests whaling traditions had not been passed down through their own families. Also, considering the fact that many of the whaling traditions are apparently family-specific, they were likely taught traditional practices that were inconsistent with those followed by their ancestors.

Even the process of butchering the whale killed in 1999 created confusion, as the Makah whalers and other tribal members apparently didn’t know how to butcher the whale or have the requisite tools to do so. DEIS at 3-381. According to Renker (2012):

Butchering the gray whale proved a huge task for the Makah people. Lack of familiarity with gray whale anatomy, tools poorly adapted for gray whale meat and blubber, and logistical issues presented immediate obstacles for the butchering process which began on Front Beach. Some confusion also centered on whale parts other than meat and blubber. DEIS at 3-381

Indeed, some of the Makah tribal butchering crew included tribal members who had traveled to Alaska to learn the processing techniques. DEIS at 3-382. On the day of the kill, they also had assistance from an Alaska Native. *Id.* As recorded in video footage of the 1999 hunt, at the end of the day, even though the butchering process had not been completed, the Alaska Native, one or more NMFS officials, and a number of bystanders were left alone with the carcass to continue the flensing process.⁴⁴ According to Sepez (2001), the “1999 whale harvest yielded

⁴⁴ The videotape footage was obtained by Erin O’Connell on May 18, 1999. A DVD of the footage will be mailed to NMFS to be part of the administrative record for the DEIS. Since it is submitted as part of the record it will need to

approximately 2,000 to 3,000 pounds of meat and 4,000 to 5,000 pounds of blubber,” DEIS at 4-196, although there’s no information as to how much meat and blubber may have been lost due to the difficulties butchering the whale.

Furthermore, although not reported by NMFS, given the difficulty the Makah whalers faced during the butchering process, it is possible they failed to comply with traditions associated with whale flensing, which were dictated by strict protocols that identified “the sequence of the butchering, the portions of the whale reserved for ceremonial use, and the portions to be distributed to the crew and other village inhabitants.” Makah Waiver Application at 6. Tradition associated with the flensing process was not limited to protocols on how to butcher and apportion the whale but included who would make the first cut into the whale and the “need to decorate the whale with eagle feathers and white down.” DEIS at 3-299. The chief whaler was responsible for entertaining the villagers with his family’s songs and imitations while adorned in ceremonial gear. He was given the dorsal section of the whale, the section richest in oil, for his family’s use, although it was often sold. *Id.* Based on eyewitness accounts of the flensing process in 1999, none of these practices were followed.

Much of the data the Makah Tribe uses to try to justify the resumption of whaling comes from the various household surveys that have been conducted on the reservation (in 2001, 2006, and 2011). These surveys, which were essentially identical, were prepared and the results analyzed by Dr. Ann Renker. Dr. Renker, however, is hardly an objective or independent expert in regard to Makah whaling, given that she is a longtime resident of Neah Bay and is married to a Makah whaler who is a current member of the Makah Whaling Commission. Consequently, whether these surveys provide a legitimate picture of the Makah Tribe’s interest in resuming whaling, its use of whale products, and the cultural value of whaling to the Tribe is open to debate. Furthermore, as is the case with any survey, the design or content of the survey can be created to achieve a particular outcome.

The administration of the first survey in 2001 raises additional questions about its legitimacy. In that year, of 217 Makah households reportedly randomly selected to participate in the survey, 159 agreed to participate. This means that 58 (27 percent) elected not to participate. The reasons why those families elected not to participate in the survey were not disclosed (if even known). Although the DEIS contains conflicting information on this point, at least four households that were selected to participate in the survey either declined to participate or were not allowed to participate due to their known opposition to Makah whaling (compare DEIS 3-310 to 2002 Needs Statement at 49). Those conducting the survey filled in the survey for

be reviewed, including by agency decision-makers, so that they are familiar with its content. The content includes video and sound of the Alaskan native asking where the Makah were and if anyone knew how to reach them and explaining that he was “really tired right now and there is no one helping us.” A NMFS official is also seen and heard on the DVD complaining about the lack of Makah present to help clean the whale intestines.

those four families, marking a negative response for all questions regarding support of the hunt or use of whale products. DEIS at 3-310. Reportedly, this was done “to minimize external influences on the survey administration.” 2002 Needs Statement at 49.

In regard to those survey results, based on the results of the 2001 survey, only 38 percent of surveyed households reported participation in post-hunt ceremonies in 1999, DEIS at 3-312, and only 30 percent reported they “cooked whale meat.” Makah Waiver Application at 10. Such percentages seem to be inconsistent with the claims of the importance of whaling to tribal members and to revive tribal culture. The percentage of Makah Tribal members participating in ceremonies related to whaling increased to 42.2 percent based on the results of the 2006 Household Survey (Renker 2007) but that statistic was not reported in the results of the 2012 Household Survey (Renker 2013).

Collectively, this evidence raises serious concerns about whether the Makah Tribe can demonstrate either a cultural or subsistence need for whaling and whale products. While the Coalition concedes that the information summarized above is only a fraction of the relevant evidence presented in the DEIS, NMFS must reinvestigate the claims of cultural and subsistence need with the Makah to confirm or reject the Tribe’s alleged needs.

Notwithstanding the foregoing evidence that questions whether the Makah Tribe has a credible cultural or subsistence need for whaling and whale products, NMFS concludes in the DEIS that the action alternatives will facilitate subsistence use of whale products on the reservation consistent with the tribe’s cultural and ceremonial needs and that whaling will improve the social environment on the reservation. Conversely, the No Action Alternative in both cases would prevent the Makah Tribe from exercising a treaty right, would prevent them from accessing freshly killed whale products not only for nourishment but would also adversely impact their cultural identity, sense of self-sufficiency, the self-esteem of the tribe and its individual members, and their trust in the United States government. In particular, according to NMFS, the impact of the No Action Alternative on subsistence use would: erode tribal identity in the absence of opportunities to participate in an activity central to Makah cultural identity; provide the community little or no incentive to work cooperatively to prepare for the hunt, to harvest, butcher, share and eat whale or to participate in song and dance festivals to celebrate the harvest; adversely affect community and individual pride and self-esteem, particularly among Makah tribal members who support the hunt; reinforce that the Makah are not in control of their destiny and would undermine a sense of autonomy within the community; and reinforce the Makah’s feeling of disillusionment with the federal government. DEIS at 4-201.

Considering that the Makah Tribe has not been able to regularly engage in whaling since at least the late 1920s (and likely since the mid-1850s), this description of the implications of the No Action Alternative seems disingenuous, as it suggests the Makah Tribe is currently whaling

and the United States is considering ending the practice. The reality is that no evidence has been offered to confirm the Makah are suffering from such cultural ailments. Indeed, since the Makah have been living without whaling for nearly 90 years, the description of the No Action Alternative proffered by NMFS is a significant overstatement of present day reality. It should be amended to reflect the fact that the Tribe has adapted to life without whaling and, while some may desire to resume a hunt, not doing so will not cause the cultural, spiritual, or physical collapse of the Makah Tribe as suggested in the DEIS.

NMFS has failed to comprehensively evaluate the adverse impacts of the proposed hunt on aesthetics:

NMFS concedes that a hunt may have impacts on the aesthetics of people who live and recreate near or in Neah Bay. It notes that, if the hunt is conducted 1-2 miles from shore, then there are few vantage points on land. However, “activities closer to shore, (e.g., towing a dead whale and butchering it) would be more readily viewed.” DEIS at 4-227. It then contradicts itself and reports that “under all action alternatives, interested observers could view a whale being hunted, towed to shore, or butchered from numerous points along the shoreline near Neah Bay and, to a lesser degree, the Pacific coast portion of the Makah U&A.” DEIS at 4-228. It claims that such impacts could be positive for those who may have an interest in observing a hunt and the butchering of a whale or negative for those who have no interest in observing whaling or the flensing process. DEIS at 4-228.

This is a simplistic analysis that doesn’t do justice to the potential adverse aesthetic impacts associated with a hunt. This is because NMFS has based its analysis largely on the potential for observing certain activities associated with a whale hunt versus considering how such observations may impact a person’s experience on the Olympic Peninsula (i.e., how the actual experience contrasts with the expected experience of using public lands in or near the Project Area). Nor is the scope of its analysis sufficient to capture the full range of aesthetic impacts.

Many who visit the Olympic Peninsula do so to enjoy Olympic National Park (ONP) or to explore the rugged Washington coastline. ONP includes a 70-mile-long coastal strip that is designated wilderness. Those who visit wilderness areas often do so to enjoy a primitive and relatively pristine experience in an area where the human imprint is, by law, supposed to be minimal if not non-existent. The experience of solitude and serenity is often a key attribute of the desired experience when using wilderness and backcountry areas of national parks. For such a visit to be disrupted by images of a whale hunt, the associated chaos surrounding the hunt, weapon fire, and the possibility of seeing a dead or dying whale is not consistent with the wilderness experience. For those who recreate along the Washington coast, they do so to enjoy the scenic beauty, and marine wildlife; very few if any expect a trip to the coast to include scenes of a whale being pursued, harpooned, shot, and killed, or the frenzy of media, protestors and law

enforcement that is likely to accompany a hunt. NMFS has failed to consider such impacts in the DEIS. The analysis that should be undertaken is not just about how many people may observe a whale hunt or from what vantage points but, rather, has to evaluate how such observation will affect the tourist's (or resident's) experience based on his or her purpose for recreating (or living) in the area.

Tourists, residents, anglers, commercial shippers, among others, also use the Pacific Ocean for recreation, sport, or work. While the Coast Guard's RNA and MEZ may alert boaters to a hunt, permitting (or requiring) them to leave the area, it doesn't mean that they could not be adversely impacted by the hunt (due to disruption of otherwise legal activities which could cause economic loss or disrupt recreational activities) or through the mere contemplation of a whale being killed whether they observe it or not. Indeed, this same impact could affect anyone nationally or internationally that opposes the hunt. In *Fund for Animals v. Ridenour*, Civ. No. 91-0726 (D.D.C. 1991), the court held that that merely contemplating the killing of a bison near Yellowstone National Park was sufficient harm to demonstrate legal standing. These impacts were not evaluated in the DEIS. Nor did NMFS consider the impact to a resident, tourist, or boater upon seeing a whale that is injured or dying as a consequence of a Makah hunt (i.e., a struck and lost whale) in the ocean or stranded. Each of the action alternatives set a limit on the number of struck and lost whales so the potential to observe an injured or dying whale is real.

Finally, NMFS only considers the impact of the hunt on the economics of whale-watching in the DEIS. Such impacts, however, extend well beyond economics to include adverse effects on the social environment and on the aesthetic experience of those who enjoy observing whales in their natural habitat. NMFS largely dismisses the potential of the hunt to impact whale-watching operations, claiming that there are no such operations in the immediate project area and that it had no information to suggest that the hunt would stop people from taking whale-watching trips nearby. DEIS at 4-152. It also asserts that Washington-based whale-watching companies will not expend the time or funds necessary to access whales in the Makah U&A and, therefore, won't be adversely impacted by the proposed hunt. *Id.* Finally, it claims that because gray whales are not typically targeted by most whale-watching operators in the region, a decrease in gray whale numbers would not appreciably impact the public's incentive to pursue whale watching in the PCFG range. DEIS at 4-153. These conclusions are either wrong or not supported with any credible evidence.

The issue is not only about watching a whale die but, again, it must extend to the knowledge of the hunt and the contemplation of a whale being killed. For those who enjoy observing gray whales throughout their migratory range, from the Mexican lagoons to Alaska, the knowledge that the whales that they observe and, in some cases know by name, could be killed in a Makah hunt could result in emotional harm or cause them to choose not to partake in future whale-watching trips or visit the region. Indeed, contrary to the claim by NMFS that gray whales are

not targeted by most whale-watching operations, a few minutes of online research revealed three operations in Oregon (oregonwhales.com, The Whale's Tail Chartered Whale Watching, and Tradewinds Charters) that appear to focus on gray whales.

Notably, several whale-watching operations offer whale adoption programs for named PCFG whales. For example, oregonwhales.com Whale Research EcoExcursions currently has a number of PCFG whales up for adoption (e.g., Scarback, Rambolina, Zebra Stripe). In addition, the company blogs on the activities of whales that it observes. On July 27, 2015, the blog entry was:

Whale sightings have been excellent as usual. Ginger, Ridgeback, and Pearl have been in the bay and very active. There were 4 whales at on (sic) time in and around our boats. I have identified and along with my team, suggested by a group on one of our trips named a new whale, "BANDIT". A beautiful female with a large band of white on her dorsal area. Also we saw a couple of Mola Mola (Ocean Sunfish), one of which was over 8ft in size and lazily swam right up to the boats. We have had a 100% sighting rate for many weeks now. Trips leave every day from 8am every 2 hours through 6 pm and sometimes sunset tours. We would love to teach you all about our whales and other wildlife. Also check out our Baja information. We are going to Baja in February to see and pet the friendly gray whales. This is the only place in the world where you can have this kind of interaction. It is awesome!!!"

(see <http://www.oregonwhales.com/daily.html>).

Cascadia Research Collective also provides an opportunity for people to adopt PCFG whales (see <http://www.cascadiaresearch.org/adopt.htm>).

As these websites reveal, many PCFG whales have names, they are known, and there may be people who have bonded to these animals. During excursions run by oregonwhales.com, clients are introduced to individual PCFG whales and are provided information about each whale and his or her history. While it is not known how many whale-watching operations from Alaska to Mexico promote PCFG whales, for those who do they are creating a connection between their clients and individual whales. If their clients, or those who adopt a whale, were to learn that their whale was killed by the Makah Tribe, the emotional impact could be significant. Even NMFS concedes that "many people who watch whales in the project area on a regular basis attach existence values to individual PCFG whales that regularly visit the area." DEIS at 4-188.

The likelihood that the public, including those who participate in whale-watching, will oppose the Makah hunt is high. Evidence of this is included in the DEIS (see DEIS at 3-286 and 3-288). In addition, according to Hoyt and Hvenegaard (2002), 75 percent of whale watchers surveyed in California said it was "morally wrong" to kill whales, while whale watchers surveyed in Vancouver registered an average score of 4.47 (based on a survey scale of 1 to 5, with 5 being

“strongly agree”) to the statement “it is wrong to kill whales.” Another survey of New England whale watchers found that 83 percent agreed it was “morally wrong” to kill whales, regardless of the reason.

One need only consider the ongoing international outrage surrounding the case of Cecil, the lion from Zimbabwe, to understand the potential for adverse social impacts associate with the killing of a single, named whale. In that case, an American trophy hunter was involved in a hunt that illegally lured Cecil out of a national park after which he shot and injured him with an arrow. The injured lion was then tracked and killed, skinned and beheaded after 40 hours of suffering.⁴⁵ The social media backlash has been massive and the trophy hunter has disappeared from public view. NMFS has not evaluated such impacts in the DEIS related to the killing of a gray whale. Nor has it considered how, if the Makah Tribe is allowed to whale indefinitely, the hunt could harm the reputation of the whale-watching industry in Washington, Canada and throughout the species’ migratory range; people may choose to avoid whale-watching or visiting the coast because they do not want to view whales who could be killed by the Makah Tribe.

NMFS has failed to adequately evaluate the risks to public safety inherent to the proposed gray whale hunt:

The DEIS significantly underestimates the substantial risk to public safety inherent to any Makah whale hunt. Unlike the Alaskan, Russian, or Greenlandic ASW hunts that take place in extremely remote regions of the world, the Makah hunt, if permitted, would occur in a region that is much more populated, is a destination for millions of tourists annually, and where commercial and recreational shipping/vessel operations are common. As an example of the population differences, there are an estimated 3,439,809 people live in the Washington Metropolitan Area (which comprises the Seattle-Tacoma-Bellevue region of Washington)⁴⁶ and, based on the 2010 US population census results, 71,404 people lived in Clallam County, WA.⁴⁷ This compares to a total of 736,732 people in the entire state of Alaska in 2014,⁴⁸ including only 4,373 (as of 2013) in Barrow, AK⁴⁹ (one of 11 whaling villages).

⁴⁵ See K. Rogers, American Hunter Killed Cecil, Beloved Lion That Was Lured Out of Its Sanctuary, New York Times, July 28, 2015 (available at <http://www.nytimes.com/2015/07/29/world/africa/american-hunter-is-accused-of-killing-cecil-a-beloved-lion-in-zimbabwe.html?emc=eta1>).

⁴⁶ See http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1&prodType=table?

⁴⁷ See <http://www.peninsuladailynews.com/article/20110225/NEWS/302259982>

⁴⁸ See <http://quickfacts.census.gov/qfd/states/02000.html>

⁴⁹ See https://www.google.com/?gws_rd=ssl#safe=active&q=how+many+people+live+in+Barrow%2C+AK

According to tourism data contained in the DEIS, 3 million people visit the Northern Washington Coast every year to enjoy the beautiful scenery, pristine wilderness, and opportunities to view wildlife. DEIS at 3-331. More specifically, Olympic National Park attracted an average of 3.0 million visitors per year between 2006 and 2010, with more than half of those visits occurring during the months of July through September, with an additional 25 percent occurring during the months of March through June. *Id.* Within the Makah reservation, 16,000 people visited the Cape Flattery Trail each year from 2005 through 2011, with more than 80 percent of those visits occurring during the months of July, August, or September. *Id.* For those using the area for commercial and recreational boat trips, 80 percent of such trips occur from May through August, six percent from November to March, with another four, seven, and three percent in April, September, and October, respectively. DEIS at 3-341.

While the risks to public safety may be lower during a hunt conducted in the winter months or offshore, simply due to the lower number of persons in the vicinity, even those hunts could adversely affect persons occupying any hunt support vessels, media vessels, or vessels operated by protesters. This is due to the likelihood of more challenging sea conditions further from shore potentially resulting in an errant shot, DEIS at 4-246, or an increased risk of boating accidents where any needed medical assistance would not be readily available. Conversely, a hunt conducted during the spring months or over the summer (Alternative 4) would increase public safety risks, although, if conducted well offshore, the risks would be less than if conducted near shore.

The use of high-powered rifles poses a significant public safety concern. As indicated in the DEIS, a 750 grain bullet fired from a .50 caliber rifle can travel nearly 5 miles. DEIS at 3-169 (citing Graves et al. 2004). A bullet from a .577 rifle, because it has a lower ballistic coefficient and greater rate of drop, would be expected to result in a shorter range than a bullet fired by a .50 caliber rifle, *id.*, but that range is not identified in the DEIS. Due to the distance that such bullets can travel, Kline (2001) stated that “no firing should be conducted within 6,670 yards from shore and advised that a ricochet could travel almost 1,860 yards off the line of fire.” DEIS at 3-363. The use of an explosive projectile would substantially reduce the public safety risks since such grenades, due to their weight and size, will have only a very limited range.

If there were no public safety risks associated with the hunt, there would have been no need for the Coast Guard to establish a Regulated Navigation Area (RNA). In finalizing its rule establishing the RNA after the 1999 hunt, the Coast Guard reported that “the uncertain reactions of a pursued or wounded whale and the inherent dangers in firing a hunting rifle from a pitching and rolling small boat are likely to be present in all future hunts, and present a significant danger to life and property if persons or vessels are not excluded from the immediate vicinity of the hunt.” DEIS at 3-10 citing 64 Federal Register 61212 (November 10, 1999), DEIS at 3-349. The Coast Guard also created a 500 yard Moving Exclusionary Zone (MEZ)

around tribal hunting vessels in order to ostensibly “keep protesters, reporters, and spectators out of the area where life and property would face the greatest risk of endangerment from an injured or pursued whale or a round from a .50 caliber rifle.” DEIS at 3-349. Consequently, even the Coast Guard’s 500 yard RNA is likely not sufficient to eliminate the potential risks to other vessels, including protest vessels, in the vicinity of the hunt.

The Makah Tribe has established, in its 2013 Whaling Ordinance,⁵⁰ rules that are intended to address the risks of the whale hunt. These rules include drug and alcohol testing of the riflemen, training and certification programs, and requirements regarding when a shot can be fired. DEIS at 2-15.⁵¹ More specifically, the Makah Tribe has developed the following safety standards for any hunt:

The Makah safety officer has authority to determine whether visibility is less than 500 yards in any direction in which case the whaling captain suspends the hunt; safety officer would not authorize the rifleman to discharge the weapon unless the barrel of the rifle was above and within 30 feet or less from the target area of the whale; safety officer would not authorize the rifleman to discharge the weapon unless the field of view is clear of all persons, vessels, buildings, vehicles, highways, and other objects or structures that if hit by a rifle shot could cause injury to human life and property. DEIS at 3-351.

The risks to public safety inherent to any Makah whale hunt are not limited to the weapons used or vessel collisions, since a struck gray whale can also pose a significant threat to public safety by ramming nearby boats or swamping the Makah canoe. DEIS at 4-249. While those vessels, including any Makah canoes, closest to the injured whale would be most at risk, an injured and distressed gray whale could cover a fair distance in a short period of time. As explained in the DEIS, the Russian Federation reported that of the 129 gray whales killed in its 2007 hunt, 49 animals (or 39 percent) were highly aggressive and even attacked hunting boats. DEIS at 3-166. Such violent struggles by struck gray whales can, as reported in the DEIS, “result in vessels being capsized, persons on vessels being knocked in to the water, or individuals become entangled in the lines fastened to the whale.” DEIS at 3-357.

⁵⁰ The mere existence of a 2013 Makah Whaling Ordinance is of concern to the Coalition since the current decision-making process will likely take years to complete. Consequently, it is unclear why the Makah would expend the time and resources to create and approve a whaling ordinance when they cannot currently whale and may not receive the requested MMPA waiver. Perhaps the Makah Tribe presumes that it will receive a waiver given its treaty right, or its adoption of a new whaling ordinance may suggest that the outcome of this NEPA/MMPA process has been predetermined, which is illegal. The Makah Whaling Ordinance is discussed in greater detail in a latter section of this comment letter.

⁵¹ NMFS suggests that the alcohol testing requirement for Makah riflemen is contained in the 2013 Makah Whaling Ordinance but a review of that ordinance reveals no such requirement.

Given the sheer numbers of people who live and recreate in the vicinity of any potential Makah whale hunt, there is a significant public safety risk associated with the hunt. Conducting a hunt well offshore with a strongly enforced RNA, and using explosive grenades as the killing weapon, would reduce public safety risks compared to conducting a hunt near shore using high-powered rifles. Nevertheless, even with an offshore hunt, there would still be a risk to the whalers, their support personnel, the Coast Guard (and other enforcement agency personnel), the media, protesters, and innocent onlookers, not just from the use of rifles as the primary killing weapon but also from a wounded whale. Regardless of where the hunt occurs, if rifles are used, the likelihood of *every* shot being fired at a safe downward angle, given that the rifleman is aiming at a swimming whale from a moving boat on a rolling ocean, is low. Consequently, a misfired bullet could travel an extended distance, potentially hitting something or someone and causing damage, injury, or death. Even with an RNA, an MEZ, and Makah safety standards, the potential risk of the whale hunt to public safety in such a highly populated and trafficked area is simply too high to justify a hunt for a Tribe that does not need to hunt whales. NMFS must reevaluate its analysis of the public safety risks inherent to the whale hunt and provide a more detailed and comprehensive risk assessment.

The DEIS fails to substantiate the need for whale meat or other products to benefit the health or nutrition of the Makah Tribe:

The Makah Tribe has repeatedly claimed in need statements submitted to the IWC that marine foods, including marine mammal products, are of nutritional importance in the diet of tribal members. In making this claim, the Makah Tribe has described the alleged nutritional benefits of whale products and the notion that access to whale products would help alleviate poverty on the reservation by providing food that would be shared and free of charge, reducing costs of store-bought foods. DEIS at 1-31.

Prior to contact with Europeans, the Tribe was able to exploit land and sea animals, including elk, deer, bear, seal, and a diverse population of fish, shellfish, and other marine species. Whale meat and oil were among their principle foods. 2002 Needs Statement at 33.

Traditionally, the Makah Tribe consumed nearly every edible part of whales, including the meat, organs, and blubber. In addition, whale oil extracted directly from dead whales or rendered down from blubber was widely used. Considering that some of the traditional hunts could take days to complete,⁵² the oil was often the most important product from the whale, as

⁵² According to the Makah Tribe's 2005 waiver application, historically some hunts occurred 30 or more miles from shore, even though at that time the Makah were using the traditional hand-carved canoes. Makah Waiver

it did not spoil as quickly as the meat. DEIS at 3-367, DEIS at 3-300. Interestingly, due to the tendency of whale meat to spoil easily, particularly when the process of towing a dead whale back to land could take several days, whale meat was not as important in the pre-contact and historical diet of the Makah compared to whale oil. 2002 Needs Statement at 33. Indeed, as the Makah Tribe concedes, only “about ten percent of the food the Makah people derived from whales can be attributed to meat.” *Id.* Whale oil, which was not subject to spoilage, could be stored and used indefinitely, assuming it was rendered properly. *Id.*

While the historical quantity of whale products consumed per capita was not reported in the DEIS, Sepez (2001) calculated that the whale killed in 1999 resulted in about 2.4 pounds of whale meat and product per capita on the reservation, with an additional amount consumed at the community potlatch. DEIS at 3-367. In the future, if the Makah are allowed to resume whaling, Renker (2012) determined that if an average of four whales were killed per year, the hunts would yield 8 to 20 pounds of whale meat and 16 to 20 pound of oil or blubber per Makah tribal member (with a smaller amount of oil due to the rendering process). *Id.* Based on the reported number of Makah tribal members (1,121) living on the reservation in 2010, DEIS at 4-196, this would equate to 8,968 to 22,420 pounds of meat and blubber and 17,936 to 22,420 pounds of oil/blubber.

Results of the survey of Makah tribal members conducted in 2001 revealed that “most reservation households now desire whale products to be a regular part of their diets” with 86.5, 72.4, and 55.8 percent of respondents desiring whale meat, whale oil, and blubber respectively.⁵³ Makah 2002 Needs Statement at 2. Desiring to have whale meat and oil, however, is not the same as needing these products to reverse any health concerns caused by decades without access to such products. The Makah Tribe claims in its needs statement that the “restored (whale) hunt provides modern Makah people with a rich source of traditional foods which are nutritionally superior to many non-indigenous provisions which are available in the community,” *Id.* Yet, it provides no evidence to substantiate that claim nor does it concede, as is made clear in the DEIS, that the same alleged benefits from whale products can be obtained from other marine foods.

As to the alleged consequences of not having regular access to whale products in their diet, in the Makah Tribe’s 2002 needs statement, the majority of the claims regarding the health consequences of not eating a traditional diet are based on health concerns for American Indians generally, instead of focusing on particular health/disease conditions experienced by

Application at 5. At that time, the process of killing a whale “could take up to three to four days” followed by up to two days to tow the whale back to shore. *Id.* at 6.

⁵³ The percentages declined in 2006. Survey results that year revealed that 71.7, 67.1, and 47.4 percent of survey respondents desired whale meat, oil, and blubber, respectively. DEIS at 4-203.

members of the Makah Tribe specifically. For example, the needs statement claims the following regarding the health of American Indians:

- American Indians are generally considered to be one of the unhealthiest populations living within the United States. This observation is especially true for natives living within the confines of a reservation. Infant mortality and life expectancy rates for reservation residents are the lowest of all American citizens. 2002 Needs Statement at 35.
- Diminished life expectancy on American Indian reservations is compounded by the fact that certain systemic illnesses linked to food and nutrition appear in a statistically higher percentage among these populations. Diabetes, for example, is 234% more prevalent among American Indians than in all other US races. *Id.*

The only specific information about health concerns contained in the needs statement relevant to the Makah Tribe is that they “did not utilize plant foods to a great degree” in their historical diet, and thus they “still experience many digestive problems with diets high in fiber and cruciferous vegetables,” 2002 Needs Statement at 35. In addition, it is noted that some tribal members, particularly descendants of whaling families, are frequently affected by rheumatoid arthritis and diabetic neuropathy. Reportedly, digestive disorders seem to be an issue for members of other Native American tribes who live along the NW coast, as the Makah Tribe reports that it “have the highest rate of digestive illnesses of all American Indian people and are the leading cause of hospitalizations.” 2002 Needs Statement at 37. Yet no evidence is provided that whale products, especially to the exclusion of other marine foods, will address these digestive disorders.

Notably, when discussing the value of essential fatty acids (EFAs) in their diet, the Makah Tribe refers not to cetacean or even gray whale EFAs but, rather, to marine EFAs. 2002 Needs Statement at 37. General marine EFAs have reportedly improved conditions such as rheumatoid arthritis and diabetic neuropathy. Since the benefits can be obtained from any marine EFA, however, this does not provide justification for killing gray whales.

Today, the Makah tribal members consume a large quantity of subsistence food. Reportedly, “a majority of Makah households use traditional Makah foods (i.e., fermented salmon eggs, smoked fish heads and backbones, halibut cheeks and gills, and dried fish) at least once a week.” Makah Waiver Application at 9. The DEIS reports both terrestrial and marine species (primarily fish) are taken in subsistence hunts. It does not, however, disclose any information about the quantity of terrestrial wildlife killed, the amount of meat/fat/other edible products obtained from those animals, nor does it provide any information regarding contaminant profiles of such subsistence foods. For fish, it is estimated the Makah consume 126 pounds of

fish per capita each year, which is eight times higher than the average American. DEIS at 3-367 citing Sepez (2001), Makah Waiver Application at 9. Yet, again NMFS does not provide any data as to the contaminant loads contained in fish products regularly consumed by the Makah. Western foods are also available on the reservation, although NMFS does not disclose the type of such foods or the quantities consumed.

In evaluating the human health impacts of a whale hunt, NMFS considered three issues: the potential nutritional benefits associated with consuming whale food products; the potential for exposure to contaminants in food items from the whale harvest; and the potential for exposure to food-borne pathogens in food items from the whale harvest. DEIS at 4-256. NMFS concedes, however, that due to uncertainties associated with this analysis, it is not possible to “predict whether any of the alternatives would result in a net positive or negative effect on human health.” *Id.*

Indeed, the DEIS lacks data needed to even begin to evaluate the alleged nutritional benefits of whale products to the Makah Tribe. This includes: a baseline evaluation of the health status of Makah tribal member (or at least data on a representative sample of tribal members), a lack of species-specific (terrestrial and marine) data on Makah consumption of subsistence foods; the quantity of such foods consumed per capita per week, month, or year; the nutritional value of such products; the contaminant loads of such products; the amount and type of western foods consumed; current health conditions of Makah tribal members (i.e., prevalence of heart disease, diabetes, kidney disease, obesity, and other diet or lifestyle-related diseases), and evidence of lifestyle factors that may affect disease conditions (i.e., activity levels, smoking, drinking, illegal drug use).

NMFS recognizes this void, given its own disclosure of a litany of information that would be required to determine if consuming freshly killed gray whale products would improve nutrition among the Makah. Such deficiencies include the current types and level of nutrition present in Makah tribal members’ existing diet; what parts of the whales and how much would be consumed; what currently consumed food items and associated nutritional levels would be replaced by whale products; and how such food items are collected, stored, and prepared for consumption. DEIS at 4-257. NMFS claims that “none of this information is currently available or could reasonably be obtained” but it failed to meet the required standards for incomplete or unavailable information under NEPA. If the Makah or NMFS want to ever meaningfully address the Makah’s alleged need for whale products, they would have to, at a minimum, collect and analyze this type of information.

In the DEIS, NMFS asserts that “whale products have a similar nutritional profile as other finfish, shellfish, wild game and domestic meats,” DEIS at 3-368, that whale oils and blubber provide a richer source of energy (calories) than other food types listed in Table 3-46, DEIS at 3-370, while

whale meat has higher levels of iron.⁵⁴ *Id.* NMFS concedes, however, that gray whale meat, blubber, and oil are not necessary to obtain the alleged nutritional benefit claimed by the Makah, since many of the vitamins, essential elements, and both essential and beneficial polyunsaturated fatty acids found in whale products can be obtained from other marine mammal food products, DEIS at 4-256, as well as from fish oils, vegetable oils, soybeans, nuts, meat from terrestrial mammals, and vitamin and other nutritional supplements. DEIS at 3-268, 4-256. For example, essential fatty acids that have reportedly been found to be beneficial in controlling diabetes, kidney disease, heart disease, hypertension, and other similar health problems, are found in fish food products. *Id.*

Fundamentally, despite the Makah's claims to the contrary, NMFS concludes in the DEIS that "there are no data to suggest that current diets of individual Makah members sufficiently lack (the) nutritional benefits" ascribed to whale products. DEIS at 4-259. Furthermore, as admitted by NMFS, "there is insufficient information to conclude that the lack of fresh whale products under the No Action Alternative would be expected to negatively alter current dietary conditions for any tribal member." *Id.*

NMFS has failed to adequately evaluate the potential impact of environmental contaminants from whale products on the health of Makah Tribal members:

There are a number of chemical compounds in the environment, including in the marine environment, which can have direct lethal effects or insidious sub-lethal effects on individual animals. Sub-lethal effects include impaired reproductive, metabolic, and immune functions. DEIS at 3-178. Such chemicals include organochlorines (e.g., DDT, PCB, dioxins, furans), heavy metals (e.g., copper, mercury, lead), and newly emerging chemicals (e.g., flame retardants). *Id.* The three heavy metals of greatest concern to cetaceans are mercury, cadmium, and lead. DEIS at 3-179 (citing O'Shea 1999).

The health of a gray whale is not always indicative of its contaminant load. For example, as revealed in the DEIS, the mean concentrations of PCBs (1200 µg /mg) and DDTs (520 µg/mg) in the blubber of gray whales that stranded in 1999 were well below levels measured in gray whales harvested in Russian waters (PCBs 630 µg/mg and DDT 150 µg /mg). DEIS at 3-373. Furthermore, the concentrations of chlordanes, DDTs, dieldrin, hexachlorobenzene, mirex, and PCBs in gray whales collected during Russian hunts in the Bering Sea in 1994 were two to three times lower than those measured in stranded gray whales collected over the 1990s in Washington. *Id.*

Such contaminants also occur and are documented in the diets of native subsistence populations. DEIS at 3-372. In determining the potential risk for members of the Makah Tribe to

⁵⁴ Notably, Table 3-46 does not provide any data for gray whale meat, blubber, or oil.

be exposed to contaminants, their existing and ongoing exposure to such toxins must be considered. For the Makah, due to their high consumption of seafood products, including finfish and shellfish, it is likely that they are exposed to high levels of contaminants.

This risk is also linked to the level of contaminants in gray whales. While gray whales are generalist feeders, their reliance on bottom feeding to acquire energy-rich amphipods exposes them to various contaminants that may settle to the ocean floor. Their pelagic prey may also contain contaminants through bioaccumulation or as a consequence of the contaminant loads in the waters in Washington State. Indeed, as noted in the DEIS, a number of “researchers have documented concentrations of organic and inorganic contaminants in the tissue (blubber, muscle, organs, etc.) of the gray whales proposed for hunting by the Makah.” DEIS at 3-378 (citing numerous studies).

Importantly, as noted in the DEIS:

“...concentrations 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 44 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...) 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.” DEIS at 3-374.

Notably, as also explained in the DEIS, this example is based on non-cancer endpoints and if cancer endpoints were used, the allowable consumption rates would be lower. *Id.*

While the concentration of persistent organic pollutants in whale blubber is typically higher or comparable to those in other tissues, heavy metal concentrations are typically higher in muscle tissues compared to blubber. Mean metal concentrations (in µg/kg dry weight) found in gray whales, as reported in the DEIS, range from 0.4 to 0.86 cadmium, 3.1 to 4.1 copper, 305 to 1,009 iron, 0.6 to 1.11 lead, 0.33 to 0.8 manganese, 0.145 mercury, 1.39 nickel, and 120 to 279 zinc.

Considering that contaminants are already found in foods presently consumed by the Makah, including fish and shellfish, as well as store-bought food, whether adding whale products will have a positive or negative effect is unclear. Since, as NMFS admits, no database is available to “compare the amount of contaminants currently being consumed by the Makah Tribe with the amount of contaminants found in fresh whale products,” it is “difficult to determine the net change in contaminants to which tribal members would be exposed.” DEIS at 4-257.

Nevertheless, since whale products, particularly blubber, “would likely contain higher levels of certain contaminants (e.g., PCBs) than other foods consumed by the Makah,” *id.*, NMFS cautions that whale products may exceed levels that trigger human health concerns based on guidelines published by state and federal agencies. *Id.* Similarly, NMFS reports that “changes in the quantity of freshly harvested whale consumed would probably not appreciably change the potential for food-borne illness to occur in Makah tribal members.” DEIS at 4-258.

There are several deficiencies in the analysis of the impact of environmental contaminants in the DEIS.

First, NMFS has failed to disclose sufficient data to evaluate the relevant impacts of such contaminants on the Makah if they are allowed to hunt whales. Not only are there apparently no data on the current contaminant loads in Makah tribal members from their high-fish diet, but NMFS provides no data on the contaminant profiles of the fish species and other food products typically consumed on the Makah reservation.

Second, although NMFS refers to state and federal food safety standards in the DEIS, it fails to identify those standards, fails to provide any reference to them so that interested stakeholders could examine them, and fails to compare those standards, with the sole exception of the PCB example provided above, to the concentration of contaminants documented in gray whales.

Third, many of the studies cited in Tables 3-47 and 3-48 are also rather dated, which calls into question the accuracy of the documented concentrations in terms of what may be found in gray whales today. Despite these deficiencies, to be precautionary, particularly with regard to the health of Makah tribal members and recognizing that NMFS concedes that consuming whale products may trigger health concerns; NMFS should deny the MMPA waiver application on health grounds alone. Surely NMFS does not want to authorize a gray whale hunt when there is a distinct possibility that consumption of products from the hunt could compromise human health.

NMFS has failed to adequately evaluate the precedential impacts of the issuance of a waiver to the Makah Tribe:

One of the key issues emphasized in the *Anderson* opinion was the potential for a Makah whale hunt to create the precedent for other whale hunts in the United States and around the world. In evaluating this potential impact, NMFS considers the potential change in the number of requests for MMPA waivers to permit the killing of marine mammals in US waters (other than whales) and for regulatory action to permit the killing of whales in US waters. DEIS at 4-260. The DEIS identifies a number of US tribes between the Aleutian Islands and California who hunted gray whales and/or used drift whales for subsistence as part of their cultural and religious traditions. These tribes include the Aleuts, Koniag, Chugash, Tigit, Haida, Tsimshian,

Nootka, Makah (including the Ozette), Quileute, Klallam, and Chomash. DEIS at 3-176. However, this list is incomplete, as it does not include any tribes that live on the east or Gulf coasts that may have historically hunted whales.

NMFS concedes the fact that Northwest Indian tribes have previously expressed an interest in killing marine mammals, that an authorization of a Makah gray whale hunt could revive the interest of the Makah or other tribes in hunting marine mammals, and that it could increase interest by non-Indians in sport or commercial hunting of marine mammals. DEIS at 4-261. Despite this concession, NMFS largely dismisses the potential for an increase in waiver requests if the Makah's MMPA waiver is granted, claiming, for example, that "history suggests that there is little interest by other native groups to seek authorization to harvest whales." *Id.*

This conclusion may be misplaced, however, since both the Makah and other US coastal tribes, including those on the east and Gulf coasts, may simply be waiting for the outcome of the Makah waiver application before proceeding with their own request for whales or other marine mammals. While there is no evidence yet that this will occur, tribes with an interest in obtaining a waiver would not help their own cause – or the cause of the Makah to obtain a waiver to kill gray whales – if they were to prematurely announce their intent before the current process ended. Such an announcement would support the argument that the Makah Tribe's waiver application has had a significant precedential impact, thereby supporting a denial of the waiver.

Many tribes, particularly in the Northwest, have expressed a desire to kill seals and sea lions, given the perceived conflict with fisheries, particularly salmon fisheries. The Northwest Indian Fisheries Commission recently opined that "harbor seal and sea lion populations must be brought back into balance with the reality of today's ecosystems, which cannot support their steadily increasing numbers."⁵⁵ It is myopic for NMFS to conclude that the outcome of the Makah Tribe's waiver application will have no influence on the likelihood of these tribes applying for their own waivers. Even the Makah Tribe may choose to pursue additional waivers if its whaling waiver is obtained, considering that it ceased authorizing tribal members to take any marine mammals in 2005 as a result of the *Anderson* opinion. DEIS at 3-215.

Furthermore, the recent decision in *United States v. Washington* opens the door to a significant increase in MMPA waiver requests. In that case, initiated by the Makah Tribe to determine the boundaries of the usual and accustomed fishing grounds of the Quileute and Quinault tribes, the court concluded that "'fish as used in the Treaty of Olympia encompasses sea mammals and that evidence of customary harvest of whales and seals at and before treaty time may be the basis for the determination of a tribe's U&A.'" *United States v. Washington*, No. C70-9213, slip

⁵⁵ See <http://nwifc.org/2015/04/10158/>

op. at 78 (W.D. Wa. July 9, 2015; Attachment 7).⁵⁶ This is now a legal precedent defining a treaty right to fish to encompass the hunting of marine mammals, including cetaceans. Therefore, the Coalition concludes that MMPA waiver applications are very likely to increase. Admittedly, the ruling in *United States v. Washington*, issued on July 9, 2015, was not available to NMFS when it prepared the DEIS, but it now represents new information that must be considered as NMFS continues with the NEPA and MMPA waiver processes.

NMFS concludes that “it is also unlikely that other countries could use authorization of a Makah whale hunt under Alternatives 2-6 as leverage for increasing commercial or scientific whaling.” DEIS at 4-267. To support this conclusion, NMFS cites to the skirmish between Japan and the United States over the Alaskan bowhead whale quota in 2002. While it is true this situation did not result in a “fundamental change in the United States position” on commercial or scientific whaling, it did result in the United States voting in favor of Japan’s small-type coastal whaling proposal at a special meeting of the IWC called to address, in particular, the bowhead quota. In that case, though the US vote for small-type coastal whaling did not practically benefit Japan (as there were sufficient no votes to block the proposal even with the United States voting in support), it was clearly a psychological victory for Japan given by the United States in order to secure the bowhead whale quota. To think that Japan would not attempt to block a US ASW quota in the future to compel a change, even temporary, in a US position at a future IWC meeting is naïve.

Admittedly, the Makah ASW request may not provide Japan with the same leverage over the United States as did the bowhead whale quota. This is because the Makah ASW quota is for a small number of whales and, if blocked, the repercussions are not as significant for the Makah as are the implications for Alaska Natives. The Makah, as Japan is well aware, have not regularly engaged in whaling for nearly 90 years (and potentially as long as 165 years) and have access to a variety of other foodstuffs. Conversely, the bowhead quota is for a larger number of whales for which the 11 Alaskan whaling villages have a genuine nutritional, subsistence, and cultural need.

Furthermore, the suggestion that ASW was not a consideration in the effort to construct an agreement leading up to the 2010 IWC meeting that, if approved, would have undermined the commercial whaling moratorium is also without merit. The principal reason the US ASW quotas were not challenged at the 2007 meeting, held in Anchorage, AK, is because the late Senator Ted Stevens negotiated an agreement, believed to be unwritten, with Japan. In its simplest terms, that agreement ensured that Japan did not object to the United States quota request, particularly its request for bowhead whales, at the Anchorage meeting in exchange for US

⁵⁶ In the opinion, the court provides significant details as to the history of whaling, sealing, and fishing by both the Quileute and Quinault tribes. It also identifies several other tribes that also had a tradition of whaling.

leadership in the process that led to the proposed “deal” to lift the commercial whaling moratorium, which was soundly rejected at the 2010 IWC meeting.

Finally, NMFS’ dismissal of the potential adverse precedent that Makah whaling could have on other IWC countries seeking whaling opportunities for their own people, including aboriginal people, is in error. Fundamentally, the mere fact that the United States was able to secure a quota for the Makah in 1997, given that the Tribe did not qualify (and still does not qualify) for an ASW quota, has already substantially weakened the ASW criteria within the IWC. NMFS even admits that the Makah whale hunt is different from other aboriginal subsistence hunts because of “the Tribe’s 70-80 year hiatus in whaling.” DEIS at 4-268. While approval of the Makah quota as recently as 2012 has not been explicitly used by any country to seek IWC approval to allow its own people to engage in whaling, this may occur in the future. Indeed, considering that the Makah hunt has been prevented from occurring as a result of legal action, if NMFS is able to ultimately permit the Makah to begin to actively use the IWC-approved quota, this could be the trigger that other countries are waiting for to exploit the 1997 decision.

This does not mean that the damage done by the United States to the ASW standards in 1997 cannot be reversed. This is possible, but only if the US denies the Makah Tribe’s MMPA waiver request and does not pursue another gray whale ASW quota for the Makah at any future IWC meetings. This would not erase the adverse precedent set in 1997, but it would return some integrity to the IWC’s ASW standards.

NMFS has failed to fully disclose all relevant information regarding the cumulative impact of the proposed hunt and to adequately analyze such impacts:

NEPA requires federal agencies to evaluate the cumulative impact of any proposed action or other alternatives on the environment. Under NEPA, a “cumulative impact” is defined as an “impact on the environment which results from the incremental impact of the action when added to the past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. DEIS at 5-1 and 40 CFR § 1508.7. Much of the information contained in the cumulative impact analysis (CIA) section of the DEIS overlaps with information regarding other threats to gray whales. Consequently, those issues are addressed together in this section of the comment letter.

The geographic and temporal scope of the CIA included the entire range of ENP gray whales over an indefinite time period. DEIS at 5-2/5-3. These provide an appropriate scope for the CIA although, considering that WNP gray whales are known to emigrate into the ENP region and that one or more could theoretically be killed as a result of the hunt, not including the WNP range in the CIA is in error. DEIS at 5-2. Surely, if a Makah hunt resulted in the death of a WNP gray whale then understanding the impact to a critically endangered population of gray whales

given other existing and increasing threats would be relevant and should have been included in the CIA.

In its analysis of the CIA, NMFS ostensibly evaluated past, present, and reasonably foreseeable actions in the following categories: harvest of gray whales, shipping, military exercises, fisheries, tourism, marine energy and mining projects, scientific research, natural mortality, climate change and US government policy. DEIS at 5-4. The background portion of the analysis simply confirms that these activities will continue in the future and will impact gray whales to some degree. NMFS then attempts to evaluate the actual cumulative impacts of these different actions in the section 5.2 of the CIA but its analysis is woefully inadequate. Consequently, it is of no surprise that NMFS concludes that nearly all of the 15 environmental factors evaluated will not result in a significant cumulative impact. The only exceptions to this is for the environmental justice and ceremonial and subsistence resources factors where NMFS concluded that Makah Tribe would experience negative cumulative effects if Alternative 1 (the No Action Alternative) was chosen. DEIS at 5-43, 5.44.

For some actions analyzed, NMFS claims that information was not available (e.g., from the Canadian, Russian, or Mexican governments) to assess certain actions under the control of those countries that may impact gray whales or their habitat. NMFS provides no information about the effort made to obtain such information, causing the Coalition to question whether NMFS adequately attempted to secure such evidence by, for example, contacting the relevant government agencies. Nevertheless, NMFS has failed to comply with the NEPA requirements as to unavailable and incomplete information, which further undermines the sufficiency of its CIA. This error must be corrected in a revised analysis either by obtaining the missing information or providing the requisite evaluation of the relevance of the information to the environmental impacts of the proposed action as required by NEPA.

Similarly, the CIA provides no evidence that NMFS contacted relevant state or provincial agencies to obtain information about past, present, and reasonably foreseeable state-approved actions that may impact gray whales and their habitat. The definition of “cumulative impact” explicitly includes actions by non-federal agencies. Yet, NMFS has apparently limited its analysis to those actions authorized and/or undertaken by federal agencies.

In California, for example, the California Coastal Commission (CCC) is responsible for approving projects that may impact coastal resources, yet there is no indication that NMFS reached out to CCC for information relevant to the CIA. Washington and Oregon have agencies similar to the CCC that review and approve coastal projects. At a minimum, NMFS must contact all appropriate state agencies in Alaska, Washington, Oregon, and California to seek information about coastal projects authorized at the state level that may impact gray whales. It must also

contact authorities in British Columbia, Canada and in the state of Baja California Norte and Baja California Sur to seek out information from them to include in the CIA. In addition, NMFS should compile a list of all of the relevant IHAs, LOAs, and other authorizations (as published in the Federal Register) that it has issued at least over the past five years in order to include that information in the CIA.

While many of the individual projects authorized by NMFS (or by other countries or agencies) may not, independently, pose any substantive threat to gray whales, when considered together - as is the entire purpose of the CIA - the impacts become significant. Merely asserting that certain actions will continue into the future and that they will or will not result in cumulative impacts - as NMFS has done in the DEIS - entirely ignores the purpose of a CIA.

That purpose is to combine all of the past, present, and reasonably foreseeable future action that may impact, in this case, gray whales and to subject them to a comprehensive and scientifically robust analysis to determine how, when combined, will impact gray whales today and into the future. Such an analysis cannot be based merely on speculation and opinion but rather, must be credible with predictions or projections about how present and future actions will effect gray whale populations and their habitat. Qualitative conclusions are not entirely sufficient in a legitimate CIA unless they are confirmed through a quantitative analysis.

While there is no required methodology for conducting a CIA, a method that would be advisable in this case would involve a modelling exercise to quantify the potential short and long-term cumulative impacts of the various impacts in order to predict potential outcomes under different scenarios.

NMFS has not engaged in such an analysis in the DEIS. Indeed, the foundation of its CIA is speculation and opinion without any substantive underlying analysis. In many cases, while NMFS acknowledges current and future impacts, it doesn't take the next step to assess the cumulative impact of such threats on gray whales and their habitat or, what analysis it provides is deficient. Until NMFS provide a legitimate CIA in a revised analysis it must not continue the current decision-making process.

For the remainder of this section, the Coalition provides a summary of some of the relevant present and future threats to gray whales. While NMFS has included many of these in the DEIS, in many cases the information is inadequate or incomplete. In other instances NMFS has ignored an existing or future threat that it should have considered.

Harvest of gray whales

As discussed in this comment letter, permitting a new intentional take of gray whales by granting the Makah Tribe's request for an MMPA waiver is biologically reckless. There are too many ongoing threats to the species throughout its range, including in the PCFG region, to purposefully allow additional take. For WNP and PCFG, such take is particularly alarming given their small population sizes. Indeed, even NMFS concedes that "killing even a few animals per year (especially over an extended period of time) from the relatively small PCFG could have long-lasting impacts for a group of whales whose population dynamics are not well understood." DEIS at 5-3. Furthermore, since so little is known about the long-term implications of Arctic ecosystem changes attributable to climate change, there is no guarantee that the ENP gray whale population is secure.

The CIA in the DEIS, had it been done objectively and through a quantitative assessment of the combined threats to gray whales and their habitat, would have concluded that the cumulative impacts are substantial. Conversely, based on its deficient analysis, NMFS found that when adding potential impacts of a gray whale hunt under Alternatives 2 through 6 to past, existing, and future levels of disturbance then "reasonably foreseeable future actions would not be expected to have cumulative effects on gray whales in the PCFG, local survey areas within the PCFG range, and individual gray whales. DEIS at 5-40. Of note, NMFS doesn't appear to make a CIA finding for ENP gray whales (nor for WNP gray whales which, in error, it neglected to consider in the CIA.

Shipping

The DEIS includes information about current shipping traffic and how it will increase throughout the range of the ENP gray whales in the future. DEIS at 5-8/5-9. It recognizes that this will increase risks to gray whales as a consequence of ship strikes, ocean noise, and potential fuel spills. Id. at 5-8. It finds that shipping is a reasonably foreseeable future action, but fails to engage in any legitimate quantitative analysis of the potential threats of shipping traffic to gray whales in relationship to the actions identified.

Military exercises

NMFS largely discounts the potential cumulative impacts of military exercises (in waters of the US, Russia and Mexico).

NMFS reports that it was unable to obtain any information about military activities conducted by Mexico and Russia within their respective Exclusive Economic Zones. For Canada, NMFS notes the role of Maritime Forces Pacific (MARPAF) in ensuring the training and operational readiness for the Royal Canadian Navy but claims that it could not find information detailing the

types of training or testing that MARPAC conducts within the NMFS CIA analysis area. The failure of NMFS to obtain such information is an ideal example of a weakness in the CIA. It is improbable that if NMFS or the US State Department, on behalf of NMFS, sought the relevant information from Mexico, Canada, and Russia that those governments would not have responded at least to provide basic information about relevant military training activities in the analysis area. Without that information, the CIA is incomplete.

As for the analysis of the impacts of military activities in US waters, NMFS evaluates the impacts of activities conducted within the Southern California Range Complex (SCRC), Northwest Testing and Training Range (NWTTR), and the Gulf of Alaska Range Complex (GOA). The potential impacts from these testing and training exercise include noise (from ships, explosives, sonar), direct harm (from ship strikes, projectiles, underwater explosions, consumption of expended materials), and indirect harm (hearing impairment and loss, disrupting communications, noise masking, behavioral impacts, general harassment).

Instead of providing a credible analysis of these impacts, NMFS largely dismisses any significant threat to gray whales by citing to its relevant Biological Opinions for the different ranges and complexes. These Biological Opinion's generally conclude the overall impact from such exercises, which they concede will result in harassment (primarily Level B). Notably, for the SCRC, NMFS has authorized 15 Level A takes (through harassment) of ENP gray whales and, in addition, 15 whale injury, mortality, or serious injuries for 15 gray whales of which three, shockingly, can be WNP gray whales. Considering that this population of gray whale is critically endangered, that level of mortality or serious injury rate is excessive. Furthermore, relying on old Biological Opinions for this CIA is inappropriate. NMFS should have engaged in a new analysis of these impacts specific to gray whales and their habitat.

In general, for all gray whales subject to military testing and training activities, NMFS dismisses potential adverse impacts claiming that "any stress responses or disruptions of normal behavior patterns of gray whales would not continue long enough to have fitness consequences for individual animals because these whales are likely to have energy reserves sufficient to meet the demands of their normal behavioral patterns and the additional demands of any stress responses." DEIS at 5-15. Of course, NMFS provides no data to support its contention that gray whale exposure to such military training exercises will be only temporary nor has it disclosed evidence to substantiate the assertions that gray whales have sufficient energy reserves to both meet daily demands and to deal with acute or chronic stress impacts. NMFS must provide such data if it wants to ensure that its CIA is credible and legal.

While NMFS concedes that in past Biological Opinions, WNP gray whales were not considered, it is evaluating impacts to that population in pending decisions regarding continuation of

military testing and training activities in the NWTTR and the GOA ranges. In regard to the SCRC, a court recently ruled in favor of plaintiffs challenging a Biological Opinion prepared by NMFS to evaluate the impacts of the military's training and testing in that region. *Conservation Council for Hawaii v. NMFS* (2015 WL 1499589 at *48-50 (D. Hawaii Mar. 31, 2015)).

In particular, given the increasing body of scientific evidence documenting the adverse impact of ocean noise, including sonar and seismic testing, on marine mammals and other ocean species, this issue in particular warranted far greater analysis in the CIA. Indeed, surprisingly, while NMFS provides some information about ocean noise in the affected environment and environmental consequences sections of the DEIS, it virtually ignores the issue in its CIA. Not only can such anthropogenic noise directly harm whales through temporary or permanent hearing loss, but the behavioral implications of acute and chronic exposure to human-caused noise sources can cause behavioral changes that can have serious consequences to gray whales. This can include disrupting feeding and breeding activities, abandonment of preferred habitat, and avoidance reactions that may result in increased stress and have adverse bioenergetics consequences.

Considering the increase in anthropogenic noise in the Pacific Ocean, including noise associated with military operations, and recognizing that climate change will increase human activities in the Arctic which, in turn, will increase noise impacts, NMFS must provide a far more substantive and scientifically robust evaluation of noise impacts in a revised document.

Fisheries

NMFS acknowledges the adverse impacts of various fisheries on gray whales and concedes that reported fishery-related mortality is an underestimate of actual mortality. This is, in part, due to the lack of observer coverage in many of the west coast fisheries that are known to pose a risk to gray whales. For example, no observers are assigned to most of the Alaskan gillnet fisheries, including those in Bristol Bay known to interact with gray whales. DEIS at 41. Similarly, due to a lack of observer data for mortality in Canadian commercial fisheries, data is not available but NMFS estimates it to be approximately two whales per year. The DEIS contains no information about any commercial fishery-related mortality of gray whales in Mexico.

Overall, NMFS reports a known, but minimum, estimate of commercial fishery-related mortality was 12.25 ENP gray whales between 2007 and 2011 (Carretta et al. 2014), or an average of 2.45 gray whale per year. DEIS at 3-195. This is limited to reported mortalities in US waters only indicating that the actual number is larger if mortalities in Mexico and Russia were included.

NMFS provides some limited gray whale entanglement data for Mexico for 2013 where six gray whales were reported entangled in fishing gear . DEIS at 5-19. For Russia, NMFS reports that no data on gray whale entanglements were available, *id.*, and apparently none could be obtained from Canada either. For PCFG gray whales, for the same period of time, the DEIS reports a mortality rate of one whale or 0.15 whales per year; figures that must be underestimates given the commercial fishing activity within the PCFG range. Punt and Moore (2013) estimate that reported strandings of gray whales represent only 3.9 to 13 percent of actual mortality. DEIS at 3-193. Consequently, average actual fishery-related gray whale mortalities in US waters may range from 18 to 62 animals annually.

When evaluating the cumulative impacts of this action in relationship to the hunt, NMFS should not use reported mortality rates as that will significantly underestimate actual mortality. Furthermore, while the reported mortality statistics above are for US fisheries, there is likely unreported mortality associated with other forms of mortality (i.e., ship strikes, sonar use, seismic testing). If the mortality rate from Punt and Moore is used to determine actual mortality for all types or reported mortality, the estimated number of whales lost due to human-caused mortality may be far higher than expected.

Since gray whales are known to sink when they die, NMFS needs to identify unreported mortality rates for these other forms of mortality so that it can conduct a credible quantitative CIA as well as to determine if human-caused mortality exceeds PBR. This is precisely the type of analysis that NMFS should undertake in a comprehensive CIA.

Tourism

NMFS notes that the number of people engaging in whale-watching in the ENP increased from 2.8 million in 1998 to over 3.3 million in 2008. DEIS at 5-20. Since 2008 the numbers have likely increased. NMFS also acknowledges that the activity of commercial whale-watching vessels and private recreational boats has increased concerns about potential effects on gray whales. DEIS at 5-22. The Coalition concurs with this assessment. While whale-watching provides a unique opportunity for millions of people annually to enjoy whales in their natural habitat, to learn about marine species and marine ecology, and that whale-watching generates billions in revenue worldwide, it is not without potential risk to marine wildlife. Improperly or non-regulated whale-watching operations or even an excessive number of operators in a concentrated area can have adverse impacts on marine mammals and other species.

This constitutes another threat to gray whales which has not been sufficiently studied to understand the full range of direct and indirect impacts to these animals. NMFS has also failed to quantify this effect in its CIA in order to better understand its impact in the context of other

impacts on gray whales and their habitat. Instead of engaging in such an analysis, NMFS has concluded that whale-based tourism is a reasonably foreseeable future action that will continue to impact gray whales throughout their range in the ENP. DEIS at 5-22. It does not appear that the CIA provides a determination as to the cumulative impacts to gray whales as a result of tourism when considered alongside the proposed hunt.

Marine energy and mining projects

NMFS discloses information about active and proposed energy and mining projects within the range of the gray whale. For example, it notes the proposed construction of a number of Liquefied Natural Gas terminals (DEIS at 5-9) while also providing some data on oil spills particularly in Washington State waters. It provides a basic explanation of oil and gas development in the Arctic and both its role and the role of the Bureau of Ocean Energy Management in overseeing, authorizing, or permitting such projects.

What it fails to do, however, is to engage in a credible analysis of the direct and indirect impacts of these projects on gray whales and their habitats. There's no serious analysis of the impacts of oil/gas exploration or production activities on gray whales (i.e., seismic testing, drilling noise, ship traffic), no substantive discussion of the lethal and sub-lethal impacts of oil on gray whales, and no assessment of the potential for a significant oil spill within the range of the gray whale or how such a spill would impact gray whales and their habitat. In the Arctic, since summer is the only time when drilling can be commenced, a spill associated with production processes would occur when gray whales are in the region. Given the controversy surrounding President Obama's recent decision to allow Shell Oil to drill in the Arctic, this emphasizes the need for a more complete analysis. The notion that such spills are unrealistic or unlikely due to the efforts made by the oil and gas companies to prevent such accidents is not (and never has been) cause for complacency particularly as a result of the Deepwater Horizon spill in the Gulf of Mexico several years ago.

Notably, NMFS failed to even disclose a mining project in Mexico that may significantly impact gray whales. Although not yet approved, a large phosphorous mining operation has been proposed in the Gulf of Ulloa between Apreojos and Cabo San Lazaro, Mexico. A summary translation of the first few paragraphs of the Environmental Impact Statement⁵⁷ prepared on the proposed mine states that:

⁵⁷ The EIS can be accessed at: <http://consultaspublicas.semarnat.gob.mx/data/expediente/bcs/estudios/2014/03BS2014M0007.pdf>

- The project is to be located within the Mexican EEZ in the Gulf of Ulloa, on the west coast of Baja California Sur between Apreojos and Cabo San Lázaro, about 22 km off the coasts.
- It is projected that 7 million tons of phosphates will be extracted each year for a period of 50 years, equal to a rate of 19,178 tons a day; the digging will be done 24 hour per day, 7 days per week or each year.
- The EIS does not mention the total quantities of other materials that would also be removed and then returned to the ocean as waste. An analysis by Dr. Janette Murillo Jimenez, however, indicated that to produce the quantity of phosphate indicated 150,000 tons of sediment would need to be removed daily. "These quantities are so large that they would require more than one processing vessel, would generate a plume of sediment and waste, of which argillaceous particles would be left permanently in the water in the area due to the continual agitation."
- The company seeking the permit, Exploraciones Oceánicas, S. de R.L. de C.V. (a subsidiary of a US company Odyssey Marine Exploration Inc, Omex) is a vessel salvage company which has no experience in submarine dragging, and even less in mining phosphates. In other countries in which similar proposals have been presented they have not been approved, and Namibia has a moratorium on such activities. This is due to concerns about fisheries.

Furthermore, in a recent article published in *Excelsior*⁵⁸, a periodical in Mexico, Dr. Jorge Urban-Ramirez, head of the Marine Mammal Research Program from the Universidad Autónoma de Baja California Sur, noted that the project would impact the migratory route of gray whales which for millennia have traveled 10,000 kilometers from the Arctic Ocean, through the Bering and Chukchi Seas between Alaska and Siberia, to the Baja California peninsula in order to rest and give birth.

Dr. Urban-Ramirez, who is respected gray whale biologist with 32 years invested into the study of the species, states that "the underwater noise from the mining activity would mask the acoustic communication that exists between the whales principally in the Laguna complex at Bahía Magdalena, the closest point to the Don Diego (name of mining project) project, where every year a large number of gray whale calves are born," and that "the greatest potential damage is to the north where the mothers with calves will be precisely in the drag zone."

While he reports that the noise generated by the mine, if it were allowed, would not kill gray whales, it would trigger a behavioral response that would cause them to divert from their

⁵⁸ See <http://www.excelsior.com.mx/nacional/2015/01/18/1003281>

normal migratory route which, in turn, would result in greater energy expenditures while also potentially adversely impacting the whale-watching tourism industry in the area.

Natural mortality

NMFS notes the potential impacts of killer whale predation on gray whales but largely ignores the role of sharks as natural predators of gray whales, particularly gray whale calves. In addition, it does not sufficiently consider the potential impact of predation on gray whales in the context of the other threats and stressors on the population. For example, the delay in the south of the southbound migration, which is linked to ocean warming in the Arctic and the expansion of the gray whales' range, has led to an increase in births outside of the Mexican lagoons. Some births are now occurring in coastal waters as far north as central California. Gray whale calves born in these areas are more susceptible to predation than those born in the lagoons. NMFS has not quantified such impacts for the purpose of its CIA. Nor has it considered predation severity throughout the migratory range. Unimak Pass, Alaska, is an area where gray whales may be most susceptible to predation by killer whales, who take advantage of this relatively narrow passage way to kill gray whales. NMFS must provide a far more substantive analysis of the impact of predation on gray whales as both a separate threat to the species as well as in the context of a credible CIA.

Climate change

As previously noted, ocean warming caused by climate change is significantly impacting the Arctic. A regime shift is ongoing whereby a benthic driven ecosystem is transitioning into a pelagic system. This has significant potential implications to gray whales and their prey, including amphipods. As the composition and density of fish stocks increase in Arctic waters, benthic productivity is declining, forcing gray whales to expand their range. The consequences of this shift are documented in the scientific literature but, more recently, evidence of this shift is available in the form of an agreement between the US, Russian Federation, Canada, Norway, and Denmark (representing Greenland) to prevent unregulated commercial fishing in the Arctic. This agreement, signed on July 16, 2015 is a product of the regime shift in the Arctic linked to climate change. According to a press release issued by the US State Department about the agreement:

The declaration acknowledges that commercial fishing in this area of Arctic Ocean – which is larger than Alaska and Texas combined – is unlikely to occur in the near future. Nevertheless, the dramatic reduction of Arctic sea ice and other environmental changes in the Arctic, combined with the limited scientific knowledge about marine resources in

this area, necessitate a precautionary approach to prevent unregulated fishing in the area.⁵⁹

The countries have agreed to initiate research in the region to better understand changes occurring to the Arctic. It is precisely this type of precautionary approach that must be applied in the context of the Makah hunt. Given the need to better understand the changing Arctic environment and what it means to whales and other Arctic and sub-Arctic species, permitting direct lethal take of gray whales at this time is reckless.

Another threat to gray whales linked to climate change is ocean acidification. NMFS provides some information about this threat in the DEIS. It notes, for example, that ocean acidification can change the chemical composition of ocean water, which will decrease its ability to absorb sound, thereby making the oceans even noisier than they are at present. DEIS at 3-198. While this could cause both direct and indirect adverse impacts on gray whales, the fact that ocean acidification will reduce the abundance and types of shell forming organisms, “many of which are important in the gray whales diet,” DEIS at 3-197, is also a significant concern. While gray whales are expanding their range to find additional food sources, such an expansion will be irrelevant if potential prey species are eliminated or reduced as a consequence of climate change.

Climate change is also increasing human activities in the Arctic, including oil and gas exploration and development and shipping traffic . Both of these activities also can adversely impact gray whales directly and indirectly as well as by impacting their habitat.

NMFS provides some information about hypoxic zones in the DEIS but its analysis is deficient. While it notes that such zones are now increasingly linked to climate change (as well as associated with poor land management activities), it fails to disclose where such zones exist within the ENP gray whale range, if the zones are increasing in size, if they are more prominent in certain seasons, or what direct or indirect impacts they have on gray whales and gray whale prey. Nor has NMFS adequately consider these zones in the CIA.

What NMFS failed to address in its assessment of climate change in the CIA is the predicted “strong” El Nino event for the upcoming winter season.⁶⁰ Considering that this prediction was made by NOAA, it is troubling that it was not addressed in the CIA. During a previous “strong” El Nino in 1997-1998, the ENP gray whale population was significantly and adversely impacted as

⁵⁹ Available at <http://www.state.gov/r/pa/prs/ps/2015/07/244969.htm>

⁶⁰ See <https://www.climate.gov/news-features/blogs/enso/june-el-ni%C3%B1o-update-damn-torpedoes-full-speed-ahead>

a result of substantial mortality. During and after that event, ENP population estimates declined from over 20,000 whales in the late 1990s to approximately 16,000 in the early 2000s. While no one can predict if this predicted El Nino will have similar impacts, the precautionary principle mandates that this potential be considered in management decisions.

Finally, NMFS fails to discuss “the blob,” a warm water anomaly in the Northeast Pacific that has led to significant ecological destruction. Bond et al. (2015)(Attachment 8).

US government policy

This issue was addressed previously in this comment letter. No further comments are necessary.

Additional Comments:

The environmental consulting firm used by NFMS to prepare the DEIS has an unacceptable conflict of interest:

NMFS hired Parametrix, a Washington state-based environmental consulting firm, to prepare the 2008 and 2015 DEIS documents. In 2008, AWI and other NGOs raised concerns that Parametrix had a conflict of interest, as it had done work for the Makah Tribe (e.g., on the Cape Flattery Scenic Byway Corridor Management Plan). In 2008, Parametrix had a contract with NMFS and the Makah Tribe simultaneously. Appendix C-22. NMFS dismissed these concerns, claiming that: 1) Parametrix and its subcontractors signed disclosure statements affirming “that there is no conflict of interest by being employed by both the Tribe and NMFS (*id.* at C-23); 2) due diligence reviews by NMFS of Parametrix’s role as a contractor for the Tribe did not pose a potential for conflict (*id.*); and 3) “no biased information could be inserted into the DEIS under our sole supervision.” *Id.* NMFS also noted that producing an EIS is the responsibility of the Federal action agency and that it did “not consider the relationship between Parametrix and the Tribe to have compromised the integrity of Parametrix’s work product.” *Id.*

These statements do not reassure the Coalition that Parametrix does not have a conflict of interest and that its role in preparing NEPA documentation for the Makah hunt did not compromise the objectivity and integrity of the 2008 and now the 2015 DEIS documents. In the list of preparers of the DEIS (DEIS at 8-1/8-2), NMFS fails to include the affiliations of all but two of the 27 people identified. One person whose affiliation was disclosed was the DEIS project manager for Parametrix and the other is a NMFS employee. Independent research conducted by the Coalition reveals that of the remaining 25 people identified, 12 are employed by NMFS, nine are (or were) employed by Parametrix, and four were employed elsewhere.

Beyond mere affiliation, however, an examination of the Parametrix website (<http://www.parametrix.com/>) reveals the following description of who the firm serves:

Parametrix has served more than 50 tribes, pueblos, and rancherias. We support tribal governments' long-term visions, concern for future generations, and efforts to strengthen their sovereignty. Integrity and trust are the foundation of our efforts to serve tribes and provide the highest level of client service.

We frequently assist tribal clients with infrastructure improvements, economic development, environmental planning and protection, and comprehensive land use planning—all critical to enhancing the quality of life in tribal communities and creating economic self-sufficiency for members and business. We often assist tribes in identifying and obtaining grant funding through our understanding of BIA processes, other governmental funding programs, and innovative partnerships.

We are proud of the relationships we have built with our tribal clients and are committed to growing and nurturing these relationships in the future.

(accessed at <http://www.parametrix.com/who-we-serve/tribes-pueblos-rancherias>)

This webpage includes a picture of Parametrix employees and Makah Tribal officials. See Figure 7. It is not just a picture that causes concern, but Parametrix's support for "tribal governments' long-term visions" and "strengthen[ing] their sovereignty," which suggests an inherent bias in favor of the Tribe's interests. Such support is admirable, but not for a consulting firm supposedly providing an objective and scientifically sound work product evaluating the environmental impacts of Makah whaling.



Figure 7: Lower left image is of a Parametrix project on the Makah reservation. Available at <http://www.parametrix.com/who-we-serve/tribes-pueblos-rancherias>

Given the close past and present ties between Parametrix and the Makah Tribe, the use of Parametrix to prepare the DEIS was a poor choice and raises serious questions about the credibility of the content and impartiality of the analysis. While this error cannot be undone, NMFS must cease its relationship with Parametrix and either engage in an internal reevaluation of the content and analysis in the DEIS or hire a new environmental consulting firm with no ties to the Makah or other Native American tribes to perform such a reevaluation.

The Makah Tribe's promulgation of its 2013 Makah Whaling Ordinance raises concerns about the integrity of the DEIS process:

Included in the DEIS is a 2013 Makah Whaling Ordinance that was enacted by the Makah Tribe in August 2013. While the Makah Tribe can adopt any ordinances it deems appropriate, the adoption of a whaling ordinance in 2013 is odd. Considering that the present DEIS would not be published for another 20 months, that the NEPA and MMPA processes that must be completed to determine if the Makah Tribe will receive a waiver could take several years, and that, without the waiver, the Makah Tribe cannot whale, it seems unusual for the Tribe to expend the time, energy, and resources to develop and promulgate a whaling ordinance. While this may simply represent a choice made by the Makah Tribe, it could also reflect the Makah Tribe's understanding that it will receive a waiver and will be allowed to resume whale hunting. If NMFS has tacitly or expressly conveyed any guarantees to the Makah Tribe to cause them to develop such an understanding, it means the outcome of this planning process has been predetermined, in violation of NEPA.

As NMFS may recall, in *Metcalf v. Daley* (214 F.3d 1135 (9th Cir. 2000)), the appellate court found in favor of the plaintiffs because NMFS entered into a cooperative agreement with the Makah Tribe days before it published its Final EA and Finding of No Significant Impact. The court held this action predetermined the outcome of the NEPA process. The facts here are different, but the concern is the same. While it is unknown if NMFS suggested, recommended, or directed the Makah Tribe to adopt a whaling ordinance in 2013, this issue warrants some discussion and explanation by NMFS.

Conclusion:

Based on the foregoing evidence and analysis, NMFS must deny the Makah Tribe's request for an MMPA waiver application and terminate the NEPA process. There is no other legal option. It is time for this 20-year effort to end. The Makah Tribe does not qualify for an IWC-approved ASW quota and NMFS cannot issue an MMPA waiver to allow a Makah hunt without violating the law. Furthermore, as exhaustively demonstrated in this letter, the DEIS is woefully inadequate—failing to satisfy the requirements of NEPA. The purpose and need statements are invalid, NMFS has not considered a reasonable range of alternatives, it has failed to disclose all

relevant information, and its analysis of the environmental consequences of the hunt is neither complete nor accurate.

If NMFS, despite the overwhelming evidence, makes a preliminary determination to issue the MMPA waiver, the Coalition will participate in the process in order to demonstrate conclusively that issuance of the waiver is illegal and that, therefore, the Makah's whale hunt cannot be allowed.

Thank you in advance for considering this information. Should you have any questions or require additional information, please contact me at dj@awionline.org or, by telephone, at (609) 601-2875.

Sincerely,



DJ Schubert
Wildlife Biologist

cc: Dr. Rebecca Lent, Executive Director, Marine Mammal Commission

Attachments:

Attachment 1: C. Wold and M. Kearney. 2015. The Legal Effect of Greenland's Unilateral Aboriginal Subsistence Whale Hunt. *American University International Law Review*. Vol. 30, Issue 3, Article 5.

Attachment 2: Lang, A. R., Calambokidis, J., Scordino, J., Pease, V. L., Klimek, A., Burkanov, V. N., Gearin, P., Litovka, D. I., Robertson, K. M., Mate, B. R., Jacobsen, J. K. and Taylor, B. L. 2014. Assessment of genetic structure among eastern North Pacific gray whales on their feeding grounds. *Marine Mammal Science*, 30(4), 1473–1493. doi:10.1111/mms.12129

Punt, A.E. 2015. An Age Structured Model of Exploring the Conceptual Models Developed for Gray Whales in the North Pacific. SC/SC65b/BRGx.

Attachment 4: Øen, E.O. Killing efficiency in the Icelandic fin whale hunt 2014. Report to the Directorate of Fisheries in Iceland, February 19, 2015. Wildlife Management Service-Sweden.

Attachment 5: Kuczaj, S. 2007. Considerations of the Effects of Noise on Marine Mammals and other Animals. International Society for Comparative Psychology.

Attachment 6: Conservation Council of Hawaii v. United States

Attachment 7: United States v. Washington

Attachment 8: Bond, N.A., Cronin, M.F., Freeland, H., and Mantua, N. 2015. Causes and impacts of the 2014 warm anomaly in the NE Pacific. Geophysical Research Letters. 42.

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