

**Finding of No Significant Impact for Authorization for  
Fisheries Research Conducted and Funded by the  
Alaska Fisheries Science Center  
National Marine Fisheries Service**

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## BACKGROUND

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The National Marine Fisheries Service (NMFS) is proposing to continue an extensive program of fisheries and ecosystem research funded and conducted by the Alaska Fisheries Science Center (AFSC). The AFSC fisheries and ecosystem research program will be implemented in compliance with all applicable laws, including the Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act (MSA), National Marine Sanctuaries Act (NMSA), and others. The AFSC's Final Programmatic Environmental Assessment (Final PEA) provides analyses to support the AFSC's application for incidental take authorization under the MMPA and for the appropriate consultations with NMFS and other agencies necessary for them to properly review the environmental consequences of the AFSC fisheries and ecosystem research activities on the human environment.

The Final PEA describes the scope and intensity of the fisheries and ecosystem research activities funded and conducted by the AFSC and its research partners. The AFSC plans, develops, and manages a multidisciplinary program of basic and applied fisheries research to generate the best scientific data available for understanding, managing, and conserving the region's living marine resources. For the proposed action the Action Area is nearly three million square miles (~eight million square kilometers [km]) and includes three Research Areas: 1) Gulf of Alaska Research Area (GOARA), the Bering Sea/Aleutian Islands Research Area (BSAIRA), and the Chukchi Sea/Beaufort Sea Research Area (CSBSRA) and includes International Pacific Halibut Commission (IPHC) surveys and research programs occurring within the United States (U.S.) Exclusive Economic Zone (EEZ) on the west coast of the U.S. The Final PEA analyzed a reasonable range of mitigation alternatives that may be required if NMFS issues an MMPA authorization. The analysis of mitigation measures includes the consideration of benefits to the affected species or stocks and their habitat, and an analysis of the practicability and efficacy of each measure. This analysis of mitigation measures could potentially be used to support requirements pertaining to mitigation, monitoring, and reporting specified in MMPA regulations and the subsequent Letter of Authorization (LOA), if issued.

Further, because the proposed research activities occur in known habitat areas of species that are listed as threatened or endangered under the ESA (ESA-listed species), the Final PEA evaluates potential impacts to ESA-listed species that may result from either the primary or secondary action. This information was used to initiate consultation with NMFS and the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the ESA. Likewise, because the proposed research activities occur partially within the boundaries of Essential Fish Habitat (EFH), the Final PEA evaluates potential impacts to EFH as required under section 305(b)(2) of the Magnuson Stevens Act. The AFSC also initiated consultation with the State of Alaska State Historic Preservation Officer (SHPO) regarding compliance with the National Historic Preservation Act (NHPA). The AFSC intends to use this Final PEA as the basis for consultations with the appropriate offices and agencies in compliance with these and other applicable laws.

The Final PEA includes a description of the laws applicable to AFSC research activities in Chapter 6, cited references in Chapter 7, and a list of persons and agencies consulted in Chapter 8. Appendix A provides a description of the fishing gear, other scientific instruments, and vessels used during AFSC research activities. Appendix B includes tables and figures showing the seasonal distribution of research effort in the AFSC Research Areas. Appendix C is the AFSC's application for promulgating regulations and issuing a LOA for incidental take of marine mammals under the MMPA from NMFS Office of Protected Resources (OPR). Appendix D contains proposed mitigation measures as well as handling and data collection procedures for marine mammals, sea turtles, and other protected species that are incidentally caught in AFSC fisheries research activities; these procedures would be implemented after the AFSC receives authorization for such incidental takes when the MMPA, LOA, and ESA consultation processes are completed. Appendix E describes and evaluates IPHC surveys and research programs that would occur in conjunction with Alternative 2.

During the public comment period in 2016 two comments were received on the Draft Programmatic Environmental Assessment (Draft PEA). One comment was received from Ahtna Incorporated in support of Alternative 2. The second comment was received on the Draft PEA and was a combined comment letter from the Humane Society of the U.S. and Whale and Dolphin Conservation. These same comments were submitted again by Humane Society of the U.S. and Humane Society of the U.S. in 2017 on the LOA application and incorporated their Draft PEA comments by reference. The substantive issues raised in that letter are summarized and responded to in the Final PEA. The AFSC has worked with the appropriate agencies to ensure that its ongoing research program meets all the necessary monitoring, reporting, and mitigation requirements to comply with all applicable laws, including adaptive management processes to address unexpected impacts of the research or changing environmental conditions that change the status of protected resources. The following sections summarize the results of the impact analyses and consultations for compliance.

## ANALYSIS

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The Council on Environmental Quality (CEQ) regulations state that the significance of an action should be analyzed both in terms of “context” and “intensity” and lists ten criteria for intensity. The Companion Manual for National Oceanic and Atmospheric Administration (NOAA) Administrative Order 216-6A requires consideration of CEQ’s context and intensity criteria (40 Code of Federal Regulations (C.F.R.) 1508.27(a) and 40 C.F.R. 1508.27(b)) along with six additional factors for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to AFSC fisheries proposed action and is considered individually as well as in combination with the others.

**1) Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?**

Response: There would no adverse significant environmental, social or economic impacts. The direct and indirect effects of the on the social and economic environment would be certain to occur, minor to moderate in magnitude depending on the community, long-term, and would be felt throughout the North Pacific and Alaska Region. The direct and indirect effects on the social and economic environment would be minor to moderate and beneficial. AFSC fisheries and ecosystem research conducted under the Preferred Alternative would also provide a rigorous scientific basis for fisheries managers to set optimum yield fishery harvests while protecting the recovery of depleted resources and ultimately rebuilding these stocks to appropriate levels. It would also contribute directly and indirectly to local economies, promote collaboration and positive relationships between NMFS and other researchers as well as with commercial and recreational fishing interests, and help fulfill NMFS obligations to communities under U.S. laws and international treaties. In addition, a commitment to an annual communication plan with subsistence communities should minimize the potential for AFSC research activities to interfere with subsistence activities. AFSC research activities would have minor adverse effects on subsistence resources.

The changes in the research surveys and mitigation measures implemented under the Preferred Alternative are not expected to change other types of socioeconomic effects described in the Final PEA. This includes the collection of scientific data used in sustainable fisheries management (Section 4.2.8.2), economic support for fishing communities of the North Pacific and Alaska (Section 4.2.8.3); collaborations between the fishing industry, subsistence users and fisheries research (Section 4.2.8.4), and fulfillment of legal obligations specified by laws and treaties (Section 4.2.8.5). We have determined that conducting the AFSC fisheries research as described in the Final PEA would not adversely affect low-income or minority populations.

**2) Can the proposed action reasonably be expected to significantly affect public health or safety?**

Response: The AFSC fisheries and ecosystem research activities would occur primarily in the North Pacific Ocean and the Bering, Chukchi, and Beaufort seas with some research associated for the IPHC for the U.S. West Coast and occur in waters offshore. As such, they will primarily be conducted away from population areas. We do not expect our action to have substantial adverse impact on public health or safety as the undertaking of fisheries and ecosystem research, including the removal of small amounts of fish, in these areas would pose no threats to humans. NMFS will annually brief potentially affected communities in the vicinity of research activities on scheduled research as part of the MMPA communication requirements

**3) Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?**

Response: The AFSC fisheries and ecosystem research program is not expected to result in a significant impact to these areas. There are no national marine sanctuaries (NMSs) in Alaska. For the IPHC and the West Coast of the United States, IPHC has received a five-year permit for the Olympic Coast NMS and obtains annual permits from the California NMSs and AFSC is complying with the need for NMS concurrence on a sanctuary by sanctuary basis.

AFSC fisheries and ecosystem research is periodically conducted in areas where historic or cultural resources might be found. Marine Protected Areas are described in Section 3.1.2.4 of the Final PEA. AFSC research efforts use bottom-contact gears that could potentially disturb underwater historic or cultural resources. However, the relatively small number of sampling efforts, short duration of research tows (15-30 minutes each), and protocols requiring reconnaissance of sample sites with sonar before gear is set reduce the chances of coming into contact with and/or disturbing historic or cultural resources. The risks to these types of areas and resources are not considered significant.

The AFSC initiated consultation with the State of Alaska SHPO regarding compliance with the National Historic Preservation Act on January 29, 2018. On February 9, 2018 the SHPO concurred with a finding of no adverse effect for the AFSC Fisheries Research Program. This completed the AFSC NHPA consultation with the Alaska SHPO. In a letter from the AFSC to the SHPO on May 14, 2018 to ensure that the program is in compliance with Section 106 of the NHPA and avoids adverse impacts to historic properties the AFSC stated it would avoid manmade obstacles through use of on-board sonar, actively avoid known obstacles during sampling, and will implement a plan to report any potential historic properties encountered during research activities to the Alaska SHPO. To facilitate compliance, AFSC proposes to prepare an annual work plan for submittal to the Office of History and Archaeology (OHA), documenting proposed research activities with the potential for encountering historic properties. The work plan will describe the nature and location of those activities and a summary of potential historic properties located within the vicinity of the proposed research activities, based on a review of OHA's Alaska Heritage Resources Survey (AHRS) database and supplemented with information from the Bureau of Ocean Energy Management (BOEM) Alaskan Shipwreck table. The annual plan will also include measures for avoiding any historic properties identified during review of these databases, as well as an Inadvertent Discovery Plan (IDP) to address inadvertent discoveries that may occur during research activities.

**4) Are the proposed action's effects on the quality of the human environment likely to be highly controversial?**

Response: The effects of this action are not considered highly controversial. The potential direct and indirect effects of AFSC fisheries and ecosystem research on subsistence resources and communities that utilize them would continue to occur infrequently or rarely, be small in magnitude, and would be dispersed over a large geographical area. AFSC research activities would not likely be located near important sites of subsistence use and a commitment to an annual communication plan with subsistence communities should minimize the potential for AFSC research activities to interfere with subsistence activities. AFSC research activities would have minor adverse effects on subsistence resources. The effects of this action are not considered highly controversial.

The AFSC has been conducting fisheries and ecosystem research in the North Pacific Ocean and the Bering, Chukchi, and Beaufort seas for decades. One of the ways the AFSC research activities support the social and economic environments is through its role in supporting commercial, and recreational fisheries management in Alaska. As discussed in Section 3.3 of the Final PEA, North Pacific commercial fishermen landed about 6 billion pounds of finfish and shellfish, earning \$1.7

billion in landings revenue in 2015. Commercial fishing (exclusive of imports) contributed to 53,400 jobs, \$4.4 billion in sales, and \$2.3 billion in value added. In that same period, 309,000 recreational saltwater anglers spent approximately 975,000 days fishing. Recreational fishing contributed to 5,407 jobs, \$619 million in sales, \$223 million in income, and \$362 million in value added (Final PEA Section 4.2.8.3). In addition, the contribution of research-related employment and purchased services is important and beneficial for many individuals and families, though the total sums spent for research are very small compared to the value of commercial, recreational, and subsistence fisheries in the area as well as the overall economy of those communities. The process of and need for conducting fisheries and ecosystem research is generally viewed as a beneficial action that will contribute to improved fisheries management and opportunities for sustainable harvests of seafood products.

**5) Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?**

Response: The potential risks associated with conducting the AFSC fisheries and ecosystem research activities are neither unique nor unknown, and there is not significant uncertainty about the impacts. These techniques have been developed over many years and are well tested and understood. These activities are not dissimilar from commercial fishing techniques that use a variety of gears for purposes of catching (sampling) species of interest. These activities also interact with non-target species through direct capture in gears and through their use of active acoustic systems that aid in navigation and finding fish species of interest. The impacts of these activities have been analyzed thoroughly in the Final PEA. Therefore, we expect any potential effects associated with carrying out the AFSC fisheries and ecosystem research activities, which are much smaller in scale by comparison to commercial fishing, to be known with relative certainty and to not pose unique or unknown risks.

The IPHC will conduct its fisheries research so that there will not be a reduction in the availability of marine mammal species to a level insufficient for harvest to meet subsistence. In addition the proposed activity will take place off the West Coast of the United States, Gulf of Alaska, and the Bering Sea, with a northern range limit of 60° 10' N, as discussed in Appendix C, and no activities will take place in or near a traditional Arctic subsistence hunting areas nor near the edge of any seasonal sea ice. AFSC research activities would not likely be located near important areas of subsistence use and a commitment to an annual communication plan with subsistence communities should minimize the potential for AFSC research activities to interfere with subsistence activities. AFSC research activities would have minor adverse effects on subsistence resources.

**6) Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?**

Response: The AFSC fisheries and ecosystem research program would not set a precedent for future actions with significant effects or represent a decision in principle about a future consideration. AFSC has undertaken a thorough analysis of its fisheries and ecosystem research program, needs for protected species mitigation, and determined that its research activities will not result in a significant impact. As NMFS research needs and techniques change, we will continue to evaluate them in the context of their potential impacts to the physical, biological, and human environments. The finding that this specific research program and its associated mitigation measures will not result in a significant impact will not set a precedent or prejudice the outcomes of future analyses of research program plans.

**7) Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?**

Response: The AFSC fisheries and ecosystem research activities described in the Final PEA are not expected to result in cumulatively significant impacts when considered in relation to other separate

actions with individually insignificant effects. The Final PEA analyzes the potential contribution of the AFSC fisheries and ecosystem research program to cumulative impacts on the marine and human environment from numerous sources, including but not limited to commercial and recreational fisheries, coastal development, tourism, other scientific research, military operations, climate change, and ocean acidification. The AFSC fisheries and ecosystem research activities are dispersed both geographically and temporally, are short-term in nature, and use mitigation and monitoring measures to minimize impacts to protected species and to minimize other potential adverse environmental impacts in the AFSC Research Areas. We expect the AFSC fisheries and ecosystem research activities to contribute no more than minor adverse impacts to the cumulative impacts on the environment. When aggregated with the impacts of past, present and RFFAs in the vicinity of the project, AFSC research activities would make a minor additive contribution to cumulative adverse impacts to special resource areas in the GOARA, BSAIRA, and CSBSRA. AFSC scientific research activities will also have beneficial contributions to the cumulative effects on both biological and socioeconomic resources. The preferred research alternative contributes substantially to the science that feeds into federal fishery management measures aimed at rebuilding and managing fish stocks in a sustainable manner. It also contributes to understanding the nature of changes in the marine environment and adjusting resource management plans accordingly, and it helps meet co-management and international treaty research obligations. The research activities under the preferred alternative would help alleviate adverse cumulative impacts on the biological and socioeconomic environments, resulting in long-term beneficial contributions to cumulative effects.

We are unaware of any synergistic impacts to marine resources associated with reasonably foreseeable future actions that may be planned or occur within the same regions of influence. The Cumulative Effects section of the Final PEA (Chapter 5) provides more detail regarding past, present and reasonably foreseeable future actions and concludes that impacts of conducting the proposed fisheries and ecosystem research activities are expected to be no more than minor and short-term with no potential to contribute to cumulatively significant impacts.

The AFSC fisheries and ecosystem research program would not result in any significant cumulative adverse effects on target or non-target species that are captured or incidentally taken during fisheries and ecosystem research activities. We have determined that some marine mammals may be injured or killed incidental to these research activities. Some ESA-listed fish species may also be injured or killed. In addition, some marine mammals may also experience behavioral disturbance resulting from active acoustic systems or from the physical proximity of researchers to pinniped haulouts. However, although anticipated, these are rare events. The AFSC has completed the required ESA consultations and MMPA permitting requirements that are designed to minimize adverse impacts to non-target species. These activities will not result in synergistic or cumulative effects that could have a significant adverse effect on any species. Further, the AFSC fisheries and ecosystem research program includes a suite of mitigation measures AFSC believes will further reduce the potential for harm to protected species in the future.

**8) Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?**

Response: AFSC initiated consultation with the State of Alaska SHPO regarding compliance with the National Historic Preservation Act on January 29, 2018 in order to identify fisheries research activities that may have a nexus with historic sites or archaeological resources. AFSC has determined that its fisheries and ecosystem research program is an undertaking with a minor potential to affect historic resources, and communicated this finding to the State of Alaska SHPO office along with the Draft PEA to request their concurrence. In a letter from the AFSC to the SHPO on May 14, 2018 to ensure that the program is in compliance with Section 106 of the NHPA and avoids adverse impacts



to historic properties the AFSC stated it would avoid manmade obstacles through use of on-board sonar, actively avoid known obstacles during sampling, and will implement an Inadvertent Discovery Plan to report any potential historic properties encountered during research activities to the Alaska SHPO. Based on the results of this consultation, conducting the AFSC fisheries and ecosystem research activities would not affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources.

**9) Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?**

Response: We have determined that our fisheries and ecosystem research activities are not likely to impact threatened and endangered species listed under the ESA. The Final PEA evaluates the affected environment and potential effects of AFSC fisheries and ecosystem research to result in injury and mortality to protected species incidental to AFSC fisheries research activities. Mitigation measures emphasized under the proposed action (training and communication protocols) that should reduce incidental take of marine mammals and other protected species are described in Section 2.3 of the Final PEA. See Sections 4.3.3.1 (ESA-listed fish), 4.3.4.1 (Gulf of Alaska Research Area ESA-listed marine mammals), 4.3.4.2 (Bering Sea Aleutian Islands Research Area ESA-listed Marine Mammals), 4.3.4.3 (Chukchi Sea/Beaufort Sea Research Area ESA-listed species), 4.3.5 (ESA-listed birds), and 4.3.6 (ESA-listed sea turtles) in the Final PEA for the appropriate analyses and Appendix E.

There are several anadromous fish species with populations currently listed as threatened or endangered under the ESA that have not been shown to spawn in Alaska freshwaters but have the potential to show up in marine waters off Alaska where AFSC fisheries research takes place. The Southern distinct population segment (DPS) of green sturgeon is listed as threatened, and several species of threatened or endangered Pacific Northwest salmon Evolutionarily Significant Unit (ESU) and steelhead DPSs originate in freshwater habitat in Washington, Oregon, Idaho, and California. The NEPA context for impacts to threatened and endangered species is considered important due to their status as ESA-listed species. However, directed research on ESA-listed species requires permitting under section 10 of the ESA, which is subject to its own NEPA analysis, and is not covered under this Draft PEA. The ESA-listed Southern DPS of green sturgeon is not targeted by AFSC research and the impact of AFSC research on Southern DPS green sturgeon under the Preferred Alternative are considered minor adverse.

The AFSC considers the adverse impacts of its various research activities on ESA-listed salmonids to be very small in magnitude, dispersed in time and geographic area, and likely to have minimal impact on all ESUs. In contrast to these minor adverse effects, AFSC research on Pacific salmon has beneficial impacts on both ESA-listed and non-listed ESUs through its contribution to sustainable fisheries management and monitoring changes in the marine environment important to the recovery of these species. The impact of AFSC research on ESA-listed salmonids is considered minor adverse.

The AFSC requested formal consultation on September 12, 2017 pursuant to Section 7 of the ESA with the USFWS, Endangered Species Branch, Anchorage, Alaska, on the effects of the AFSC research activities in Alaska including the Bering, Chukchi and Beaufort seas; Gulf of Alaska and Aleutian Islands. There is the potential for gear interactions with ESA-listed bird species due to the use of longline gear and attraction of tubenoses to such fishing activities though AFSC does not anticipate that research activities will result in the taking of significant numbers of short-tailed albatross. As a precautionary measure, however, three takes for short-tailed albatross were requested over a five-year period in the event unexpected circumstances occur during planned activities.

There are three species of marine mammals under jurisdiction of the USFWS that occur in the three Research Areas. These include the Pacific walrus, sea otter, (Southwest Alaska stock listed as threatened), and polar bear (Chukchi/Bering Sea and Southern Beaufort Sea stocks listed as threatened). A separate request for MMPA authorization for walrus, sea otters, and polar bears was sent to the USFWS.

By letter dated August 4, 2017, the AFSC requested concurrence with their determination that proposed research surveys for the 2017 to 2021 field seasons may affect, but are not likely to adversely affect, the federally threatened spectacled eider, Steller's eider, polar bear, northern sea otter, or their designated critical habitats. The USFWS concurred with the AFSC's determination by letter dated September 1, 2017 that proposed research activities are not likely to adversely affect spectacled eider, Steller's eider, polar bear, northern sea otter, or their designated critical habitats.

By letter dated September 28, 2017, the AFSC requested that the IPHC's research surveys be included in the AFSC's previous Section 7 consultation for research surveys for the 2017 to 2021 field seasons. By e-mail dated October 24, 2017, the AFSC clarified this request relates only to those IPHC surveys and research activities conducted in Alaska's waters. The majority of the IPHC survey effort is the Fishery-independent Setline Survey. This survey is conducted annually, with some modifications as stations may be added or removed or effort (number of skates fished) at each station adjusted. The IPHC also uses existing AFSC trawl surveys to collect information on small Pacific halibut that are not yet vulnerable to the gear used for the IPHC Fishery-independent Setline Survey or commercial fishery, and as an additional data source and verification tool for stock analysis. This survey is led and conducted by AFSC. The mitigation measures previously proposed by the AFSC for their research surveys will be implemented during IPHC surveys and research operations, as well, to avoid effects to listed or otherwise protected species.

In addition, the AFSC and IPHC propose the following additional mitigation measures to mitigate potential interactions with seabirds, including protected species, during research activities:

- 1) All IPHC survey vessels will use seabird avoidance gear (i.e., tori lines) while setting the longline gear.
- 2) Vessels fishing in Alaska must have a written Seabird Avoidance Plan as required by NMFS regulations.
- 3) All seabird avoidance gear are to be deployed so that the line enters the water no less than a distance of 40 meters aft of the vessel stern (if the vessel is greater than 100 ft the minimum distance is 60 meters).
- 4) IPHC longline survey protocols specifically prohibit chumming before or during the longline setting operations (i.e., releasing additional bait to attract target species to the gear). However, longline surveys are conducted on contracted commercial fishing catcher vessels and fish are processed as the longline is retrieved. Spent bait and processing offal are discarded away from the longline retrieval area which often serves to attract seabirds and marine mammals away from the longline. Due to the volume of fish caught with each set and the length of time it takes to retrieve the longline, the retention of spent bait and offal until the gear is completely retrieved is not possible.

On May 25, 2017, the AFSC requested that the USFWS Marine Mammals Management Office (MMM) concur with the AFSC's determinations regarding interactions with polar bears, Pacific walruses, and northern sea otters associated with Fisheries and Ecosystem Research conducted and funded by the AFSC. On August 4, 2017, the AFSC requested a similar letter of concurrence under the ESA for potential AFSC research impacts on the threatened polar bear and northern sea otter, and spectacled and Steller's eiders. The AFSC determined that its research activities 'may affect but are not likely to adversely affect' threatened species under the terms of Section 7 of the ESA. The AFSC also concluded that the activities 'may affect but are not likely to adversely affect designated critical

habitats, identified principal constituent elements (PCEs), and the species that depend upon them.’ In a letter dated September 12, 2017, the AFSC responded to questions and comments from the USFWS MMM regarding the proposed activities.

In a letter of concurrence on November 3, 2017 the USFWS noted that after reviewing the IPHC’s proposed research activities and additional mitigation measures, the USFWS agreed that the addition of the IPHC’s surveys and research activities to the AFSC’s Section 7 consultation (07CAAN00-2017-I-0361) was consistent with the effects previously analyzed, and did not change the USFWS concurrence with the AFSC’s previous consultation. Therefore, the USFWS concurred with the AFSC’s determination that proposed AFSC and AFSC-directed IPHC research activities are not likely to adversely affect spectacled eider, Steller’s eider, polar bear, northern sea otter, or their designated critical habitats and that based on the AFSC request and the USFWS response, requirements of Section 7 of the ESA have been satisfied. In a letter dated March 19, 2018, the USFWS MMM agreed with the AFSC’s determinations that the likelihood of the proposed fisheries research contributing to serious injury, mortality, or biologically significant changes to behavior of any of these species is extremely low. The USFWS also agreed that the AFSC does not need MMPA incidental take authorization at this time for the proposed research activities.

To reduce the potential for incidental interactions from the specified fisheries and ecosystem research activities, AFSC is implementing a suite of mitigation and monitoring measures for marine mammals and other protected species; these are discussed in detail in Sections 2.3.1 and 2.3.2 of the Final PEA and in the final rule. These measures are intended to reduce the potential for protected species interactions and increase the chances of survival for animals that do interact. In addition, AFSC is also implementing a number of data collection requirements to enable further analysis of the efficacy of these measures and to facilitate feedback and adaptive management of its research activities as it relates to impacts to protected species.

## **Biological Opinions**

### ***USFWS Biological Opinion***

On March 29, 2018 the USFWS transmitted a Biological Opinion that evaluated the continuation of the AFSC’s fisheries research activities on the short-tailed albatross during the next five years, and is limited to those AFSC and IPHC research activities that would be conducted within the waters of the State of Alaska, including those conducted in the Gulf of Alaska, the Bering Sea and Aleutian Islands, and the Chukchi and Beaufort Seas Research Areas. This was in response to the September 12, 2017, request for formal consultation that was received on September 15, 2017.

Consultation history for this Biological Opinion included the following:

2015 to 2017 - The NMFS and the USFWS engaged in informal discussions regarding the need for a Section 7 consultation for the short-tailed albatross, along with the appropriate level of analysis required for a consultation, for the continuation of NMFS’ groundfish research surveys conducted by the AFSC.

2016 - NMFS completed a Draft Environmental Assessment (NMFS 2016) for their continued groundfish research surveys conducted by the AFSC.

September 2017 - The NMFS requested initiation of formal Section 7 consultation by letter dated September 12, 2017, received by the USFWS on September 15, 2017, accompanied by a Biological Assessment.

October 2017 - After reviewing the Biological Assessment, the USFWS requested clarification from the NMFS that the Biological Assessment and Section 7 consultation for the effects of groundfish research surveys by the Alaska Fisheries Science Center on short-tailed albatross are limited to those

activities that take place in Alaska. In addition, all activities conducted by the IPHC proposed for inclusion in this Section 7 consultation are limited to those activities conducted in Alaska's waters. By phone on October 10, 2017, and a follow-up e-mail on October 11, 2017, NMFS confirmed that all activities referenced in the Biological Assessment and included in this Section 7 consultation are limited to the waters of Alaska. The USFWS confirmed that there was sufficient information to proceed with the consultation by letter dated October 18, 2017.

January 2018 - The USFWS provided the NMFS a draft Biological Opinion for their review on January 24, 2018.

February 2018 - On February 16, 2018, the NMFS returned the draft Biological Opinion to the USFWS with their suggested edits, including a request from NMFS to amend the proposed avoidance and minimization measures that would be implemented during groundfish research surveys. In particular, the NMFS requested that their original proposed avoidance and minimization measure that stated that a protected species observer would record observations and interactions of ALL albatross species (short-tailed, Laysan, and black-footed) be amended to reflect that only short-tailed albatross observations and interactions would be recorded.

March 2018 - The USFWS reviewed the NMFS suggested edits to the Biological Opinion, incorporating suggested changes when appropriate. The USFWS also amended the avoidance and minimization measures as proposed by the NMFS. The USFWS then re-visited the Status of the Species, the Environmental Baseline, the Effects of the Action, the Cumulative Effects and the Conclusion sections of the Biological Opinion to determine if these amended avoidance and minimization measures changed the jeopardy analysis for the short-tailed albatross. After determining the jeopardy analysis was still valid with the amended avoidance and minimization measures, the USFWS revisited the Incidental Take Statement to ensure anticipated take was consistent with the USFWS's previous analysis.

### ***NMFS Biological Opinion***

AFSC submitted a Biological Opinion on AFSC Research Surveys to the OPR on April 5, 2019 on the issuance of a Letter of Authorization (LOA) under section 101(a)(5)(D) of the Marine Mammal Protection Act to the AFSC. The opinion and incidental take statement were prepared by NMFS in accordance with Section 7(b) of the ESA of 1973, as amended (16 United States Code [U.S.C.] 1531-1544), and implementing regulations at 50 C.F.R. Part 402. This opinion is based on information provided in the Biological Assessment; September 2017 request for rulemaking and LOA under the MMPA; the Draft Programmatic Environmental Assessment; Federal Register Notice for the proposed LOA (83 Federal Register (FR) 37638; August 1, 2018); email and telephone conversations between (Protected Resources Division (PRD), AFSC, IPHC, and OPR staff; published literature; and other sources of information. A complete record of this consultation is on file at NMFS' Juneau, Alaska office.

The proposed action includes fisheries research activities conducted by the AFSC and the IPHC. The biological opinion evaluates the effects of the action on threatened and endangered species in accordance with Section 7 of the Endangered Species Act. The Biological Opinion concludes that the proposed action is not likely to jeopardize the continued existence of the endangered Cook Inlet beluga whale, endangered western DPS of Steller sea lion, threatened Mexico DPS and endangered Western North Pacific DPS of humpback whale, endangered Blue whale, endangered Sei whale, endangered Fin whale, endangered Sperm whale, endangered bowhead whale, endangered North Pacific right whale, threatened Beringia DPS bearded seal, threatened Arctic ringed seal, threatened Southern DPS green sturgeon, six threatened Chinook salmon ESUs, one threatened coho salmon ESU, two threatened chum salmon ESUs, or two threatened sockeye salmon ESUs. The action is not likely to adversely modify designated critical habitat for Steller sea lions, Cook Inlet beluga whales,

or North Pacific right whales. The action is not likely to adversely affect the endangered Western North Pacific gray whales, threatened Central N. Pacific DPS and East Pacific DPS Green turtle, endangered North Pacific Ocean DPS loggerhead turtle, threatened olive ridley turtle, threatened leatherback turtle, or six steelhead trout ESUs.

Consultation history for this Biological Opinion included the following:

In July 2015, AFSC submitted an LOA application to OPR for the taking of cetaceans and pinnipeds in conjunction with their research activities in waters off Alaska from 2018–2023. On September 10, 2017, AFSC submitted a revised LOA application that included IPHC research activities

Numerous meetings and phone calls were held to coordinate efforts from AFSC, IPHC, WCR, and PRD prior to PRD receiving a draft Biological Assessment in August 2017. After additional review and questions, PRD received updated draft versions of the BA in September and November 2017.

On December 20, 2017, OPR submitted a request to initiate Section 7 consultation to PRD. On January 16, 2018, AFSC submitted a request to initiate Section 7 consultation to PRD and submitted a final version of the BA. PRD deemed the initiation package complete and initiated consultation with OPR and AFSC on January 17, 2018. Subsequent requests for additional information were handled via email, phone, and in person throughout the spring and summer of 2018.

On April 18, 2018, PRD provided OPR, AFSC, and IPHC with a copy of the draft biological opinion. AFSC, IPHC, and OPR submitted comments on the draft opinion in April 2018. NMFS Alaska Region reviewed all comments submitted and revised the opinion as warranted.

**10) Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?**

Response: Conducting the AFSC fisheries and ecosystem research activities would not result in any violation of Federal, State or local laws for environmental protection. AFSC has consulted with appropriate Federal, State, and local agencies as well as other entities during the development of the Final PEA to ensure its fisheries and ecosystem research program is compliant with applicable statutes including the MMPA, ESA, MSA, NMSA, and NHPA.

**11) Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?**

Response: We have determined that our fisheries and ecosystem research activities are not likely to adversely affect stocks of marine mammals as defined in the MMPA. The Final PEA evaluates the affected environment and potential effects of AFSC fisheries and ecosystem research to result in injury and mortality to protected species incidental to AFSC fisheries research activities. Mitigation measures emphasized under the proposed action (training and communication protocols) that should reduce incidental take of marine mammals and other protected species are described in Section 2.3 of the Final PEA.

The IPHC conducts fisheries research that may incidentally take marine mammals. Detailed information describing the time of year projects are conducted, the regions of operations, the gear used, and methodological details of those fisheries research projects having such potential is presented in Appendix E. The IPHC requested rulemaking and subsequent Letters of Authorization for these proposed activities included a description of mitigation measures used during research to minimize risk of marine mammal interactions. On its surveys IPHC also conducts concurrent oceanographic sampling in the form of water column profiles of temperature, pressure, salinity, pH, and chlorophyll, in addition to the marine resource surveys. The IPHC anticipates that these research activities are likely to continue during the next five years.

In June 2016 the AFSC submitted an initial application to NMFS OPR for rulemaking and subsequent LOAs for incidental take of small numbers of marine mammals incidental to its fisheries and ecosystem research program pursuant to Section 101(a)(5)(A) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 et seq.), and the regulations governing the taking and importing of marine mammals (50 C.F.R. Part 216). Several species or stocks, such as narwhal, Western Pacific gray whales, and California sea lions, may occur in the AFSC Research Areas on rare occasions but are considered extralimital; and are not likely to be ‘taken’ pursuant to the MMPA during survey operations. They are, therefore, not included in the take request and are not discussed below.

A revised LOA application was submitted in 2017 to include fishery-independent research activities conducted by the IPHC in U.S. waters, which the AFSC sponsors. This is Appendix C of the Final PEA. The IPHC, established by a convention between the governments of Canada and the United States, is an international fisheries organization mandated to conduct research on, and management of, stocks of Pacific halibut within the Convention waters of both nations. The Northern Pacific Halibut Act of 1982 (16 U.S.C. 773), which amended the Northern Pacific Halibut Act of 1937, is the enabling legislation that gives effect to the Convention in the United States. Although operating in U.S. waters (and, therefore, subject to the prohibition on “take” of marine mammals), the IPHC is not appropriately considered to be a U.S. citizen (as defined by the MMPA) and cannot be issued an incidental take authorization. Therefore, in their revised 2017 LOA application, the AFSC added the IPHC fishery-independent research activities that may result in unintentional take of marine mammals. Fishery-independent data, which is necessary to the management of halibut stocks, is collected using longline gear aboard chartered commercial vessels within multiple IPHC regulatory areas, including within U.S. waters of the Bering Sea, Gulf of Alaska, and off the U.S. West Coast.

Marine mammal species that occur in the waters of the GOARA, BSAIRA, and CSBSRA addressed by this application includes nine cetacean species that are listed as endangered under the ESA (North Pacific sperm whale, Western North Pacific gray whale, Eastern North Pacific blue whale, Northeast Pacific fin whale, Eastern North Pacific sei whale, Western Arctic bowhead whale, North Pacific right whale, and Western North Pacific humpback whale, and the Cook Inlet stock of beluga whales), the Western DPS of Steller sea lion (listed as endangered), and two pinnipeds listed as threatened, the bearded seal and the ringed seal. One pinniped is designated as depleted under the MMPA (Pribilof Islands stock of Northern fur seal).

The OPR issued a proposed rule and request for comments authorizing estimated takes under the MMPA on August 1, 2018 (83 FR 37638). This proposed rule would establish a framework under the authority of the MMPA (16 U.S.C. 1361 et seq.) to allow for the authorization of take of marine mammals incidental to the AFSC’s fisheries research activities in the Gulf of Alaska, Bering Sea, and Arctic Ocean and the IPHC fishery-independent activities. The proposed rule addressed AFSC proposal to conduct fisheries and ecosystem research using trawl gear used at various levels in the water column, hook-and line gear (including longlines with multiple hooks), gillnets, and other gear. If a marine mammal interacts with gear deployed by AFSC, the outcome could potentially be Level A harassment, serious injury or mortality. Regarding the potential for serious injury or mortality, although any given gear interaction could result in an outcome less severe than serious injury or mortality, NMFS does not have sufficient information to parse out these potential outcomes from the total number of take estimates. Therefore, AFSC presented a pooled estimate of the number of potential incidents of gear interaction and, for analytical purposes under the MMPA, NMFS OPR assumed gear interactions would result in serious injury or mortality. AFSC also uses various active acoustic devices and use of these devices has the potential to result in Level B harassment of marine mammals. Level B harassment to pinnipeds hauled out may also occur as a result of visual disturbance from vessels during the conduct of AFSC fisheries and ecosystem research activities and IPHCs fishery-independent research activities. Refer to the “Description of Marine Mammals in the

Area of the Specified Activity” and the “Potential Effects of the Specified Activity on Marine Mammals and their Habitat” sections of the proposed rule for details about the analysis and determinations under the MMPA regarding serious injury or mortality, Level A harassment, and Level B harassment. The corresponding information associated with the impacts to marine mammal species is described in Final PEA at Chapters 3 and 4.

The final rule, if issued, will authorize take of individuals of 19 marine mammal species by Level A harassment, serious injury or mortality and take of individuals of 25 marine mammal species by Level B harassment incidental to the AFSC’s proposed fisheries and ecosystem research and IPHC’s fisheries-independent research in the Gulf of Alaska, Bering Sea and Arctic Ocean. In compliance with the MMPA, the final rule and LOA will also set forth specific findings and requirements (e.g., no unmitigable adverse impact on the availability of a species or stock for subsistence uses, negligible impact on a species or stock, and mitigation, monitoring, and reporting requirements) and the mitigation measures to avoid and minimize impacts to marine mammals to the level of least practicable adverse impact. The authorized levels of incidental take of marine mammals are not considered significant.

**12) Can the proposed action reasonably be expected to adversely affect managed fish species?**

Response: Our action of conducting fisheries and ecosystem research as described in the Final PEA, including a suite of mitigation and monitoring requirements, is not expected to cause substantial change to the ocean and coastal habitats and/or EFH.

Under Alternative 1 the No Action/Status Quo Alternative the AFSC collects a wide array of information necessary to evaluate the status of fishery resources and the marine environment. AFSC scientists conduct fishery-independent research onboard NOAA owned and operated vessels or on chartered vessels in the GOARA, the BSAIRA, and the CSBSRA. Under the Status Quo Alternative, the AFSC would administer and conduct a wide range of fishery-independent research and survey programs as they have been in the recent past (2008-2015), as summarized in Table 2.2-1 in the Final PEA. The AFSC would continue to apply for section 10 directed research permits for the incidental take of marine mammals or ESA-listed species and SRPs for research that will affect MSA species managed under Fishery Management Plans. Under the Status Quo Alternative, the potential direct and indirect effects of AFSC fisheries and ecosystem research on subsistence resources would continue to occur infrequently or rarely, be small in magnitude, and would be dispersed over a large geographical area and not likely to be located near important sites of subsistence use. AFSC research activities are therefore considered to have minor adverse effects on subsistence resources and activities under the Status Quo Alternative according to the impact criteria in Table 4.1-1 of the Final PEA.

AFSC fisheries and ecosystem research conducted under the Status Quo Alternative would also provide a rigorous scientific basis for fisheries managers to set optimum yield fishery harvests while protecting the recovery of depleted resources and ultimately rebuilding these stocks to appropriate levels. It also contributes directly and indirectly to local economies, promotes collaboration and positive relationships between NMFS and other researchers as well as with commercial and recreational fishing interests, and helps fulfill NMFS obligations to communities under U.S. laws and international treaties.

The direct and indirect effects of the Status Quo Alternative on the biological, social and economic environment would be certain to occur, minor to moderate in magnitude depending on the community, long-term, and would be felt throughout the North Pacific and Alaska Region. According to the impact criteria established in Table 4.1-1 of the Final PEA, the direct and indirect effects of the Status Quo Alternative on the social and economic environment would be minor to moderate and beneficial.

Under Alternative 2, the Preferred Alternative, AFSC fisheries and ecosystem research would have the same types of effects on special resource areas as described for the Status Quo Alternative (Section 4.2) in the Final PEA. There are small changes in the research projects conducted under the Preferred Alternative (Table 2.3-1) that would likely have minimal effects on the catch rate and species of fish and invertebrates caught relative to the Status Quo. However, none of these changes would significantly impact the types of gear used or level of research effort within EFH or Habitat Areas of Particular Concern (HAPC). The level of research effort using bottom trawl gear would remain approximately the same so potential impacts to benthic habitat would be as described in the Status Quo.

There would be no change to CSBSRA activities. In the GOARA and BSAIRA, there are several changes under the Preferred Alternative that affect the number of bottom trawl sets deployed. Two surveys represent additional bottom trawling under the Preferred Alternative, including Using Trawl Cameras instead of Bottom Trawls, and the Ongoing Rockfish Biological Sampling and Sampling Theory Research Study. These two surveys represent an increase of 70 trawls deployed for 15-30 minutes each in the BSAIRA and GOARA. The Pollock Summer Acoustic Trawl Survey in both the BSAIRA and GOARA would include additional camera gear, but there are no proposed changes to the trawling itself so changes would not affect special resource areas. In the GOARA, the Sablefish Maturity, Acoustic Assessment of Snakehead Bank, and Alaska Department of Fish and Game Small-mesh Shrimp and Forage Fish surveys would not be continued under the Preferred Alternative, reducing the total number of trawls by 197 and the number of towing hours by 97. Combined, these changes represent a decrease of 127 tows in the GOARA and an increase of 70 tows in the BSAIRA, an overall impact to each Research Area of less than 0.01%, similar to that under the Status Quo Alternative.

The overall effects of the on special resource areas would be minor in magnitude, dispersed over a large geographic area, and temporary or short-term in duration, and would therefore be considered minor adverse. The scientific data generated from AFSC research activities under the Preferred Alternative would also have beneficial effects on special resource areas through their contribution to science-based conservation management practices.

**13) Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?**

**Response:** Our action of conducting fisheries and ecosystem research as described in the Final PEA, including a suite of mitigation and monitoring requirements, is not expected to cause substantial change to the ocean and coastal habitats and/or EFH.

An analysis of commercial fishing in Alaska on EFH (NMFS 2005a) determined that, while disturbance to habitat exists, the (then) current level of commercial fishing was not enough to cause significant detriment to EFH. Additionally, the ability of EFH to protect populations of managed fish species would not be affected over the long term. A subsequent 5-year review (NPFMC 2012b) determined that, while updates to EFH descriptions were necessary for several species, no change in conclusions from NMFS 2005a was warranted. In order for AFSC research to not significantly affect EFH, effects on EFH from research activities should be not more than minimal or temporary in nature; be considered identifiable; and to have been minimized to the greatest extent practicable (50 C.F.R. 600.815(a)(2)(ii)). Based on these mandates and the above assessment of effects of Alaska commercial fisheries on EFH, AFSC research is not expected to significantly affect EFH. The overall effects on special resource areas would be minor in magnitude, dispersed over a large geographic area, and temporary or short-term in duration, and would therefore be considered minor adverse.

On November 30, 2017, AFSC requested concurrence from the NMFS Assistant Regional Administrator for Habitat Conservation on its determination that proposed research actions by AFSC.



As noted in that request for concurrence it was determined that the proposed research actions by AFSC will have effects; however, these are determined to be minimal and temporary in nature and will not adversely affect EFH identified for federally managed species. On December 19, 2017 the NMFS Assistant Regional Administrator for Habitat Conservation concurred with the AFSC that their determination was supported that the fisheries research, research gear, and associated research platforms (e.g., research vessels) will not adversely affect EFH because the research activities will have not more than minimal and temporary effects on marine resources and habitats.

**14) Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?**

Response: The AFSC fisheries and ecosystem research program is not expected to result in a significant impact to these types of areas. AFSC research efforts use bottom-contact gears that could potentially disturb underwater resources. However, the relatively small number of sampling efforts, short duration of research tows, and protocols requiring reconnaissance of sample sites with sonar before gear is set reduce the chances of coming into contact with and/or disturbing resources. The risks to these types of areas and resources are not considered significant.

**15) Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?**

Response: We do not expect our action to have a substantial impact on biodiversity or ecosystem function within the affected environment. This action is limited in scope to small scale sampling of vast oceanic areas over a short period of time with only very limited removal of species targeted by and incidental to research activities.

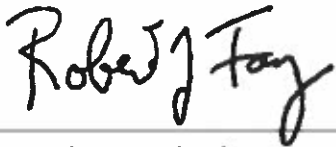
**16) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?**

Response: The proposed AFSC research activities are not reasonably expected to result in the spread or introduction of non-indigenous species. The research involves movement of vessels between water bodies. However, ballast water management and other discharge processes for NOAA and charter vessel operations are bound by federal laws, regulations and Executive Orders that are in place in order to prevent or minimize the potential for spread or introduction of non-indigenous species, including the Clean Water Act, National Invasive Species Act, Nonindigenous Aquatic Nuisance Prevention and Control Act, and Executive Order 13112. The proposed AFSC research activities are not reasonably expected to result in the spread or introduction of non-indigenous species due to compliance with regulations for appropriate ballast water management and other discharge processes for NOAA and charter vessel operations.

## DETERMINATION

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In view of the information presented in this document and the analysis contained in the supporting Final Programmatic Environmental Assessment prepared for fisheries and ecosystem research conducted and funded by the Alaska Fisheries Science Center, it is hereby determined that the AFSC fisheries and ecosystem research program and IPHC surveys and research programs will not significantly impact the quality of the human environment. In addition, all beneficial and adverse impacts of the AFSC fisheries and ecosystem research program have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.



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Science and Research Director  
Alaska Fisheries Science Center

9/4/2019  
Date