UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

# Environmental Assessment
# On the Issuance of Scientific Research Permit No. 16919 for Photo-identification Surveys of Humpback Whales in Alaska

October 2012

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**Lead Agency**: USDOC National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Protected Resources

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**Location**: Prince William Sound and adjacent waters of Alaska

**Abstract**: The National Marine Fisheries Service (NMFS) proposes to issue a scientific research permit for takes of marine mammals in the wild, pursuant to the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 et seq.) and the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*). The permit would be valid for five years from the date of issuance and would authorize takes of marine mammals during vessel surveys of humpback whales (*Megaptera novaeangliae*) for counts, photo-identification, monitoring and observation in Prince William Sound and adjacent waters of Alaska. The objectives of the research are to determine humpback whale population numbers, distribution, recurrence of individuals, feeding habits, vital rates, associations between animals, and gender of individuals.

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# 1.0 PURPOSE OF AND NEED FOR ACTION

**Proposed Action**: NMFS proposes to issue a scientific research permit that authorizes "takes"[1] by "Level B harassment"[2] of marine mammals in the wild pursuant to the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 et seq.), the regulations governing the taking and importing of marine mammals (50 CFR Part 216), the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*), and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR Parts 222-226) to the Eye of the Whale (Responsible Party and Principal Investigator: Olga von Ziegesar).

**Purpose and Need for Action**: The MMPA and ESA prohibit "takes" of marine mammals and of threatened and endangered species, respectively, with only a few specific exceptions. The applicable exceptions in this case are an exemption for *bona fide*[3] scientific research under Section 104 of the MMPA and for scientific purposes related to species recovery under Section 10(a)(1)(A) of the ESA.

The purpose of the permit is to provide the applicant with an exemption from the take prohibitions under the MMPA and ESA for harassment (including Level B harassment as defined under the MMPA) of marine mammals, including those listed as threatened or endangered, during conduct of research that is consistent with the MMPA and ESA issuance criteria.

The need for issuance of the permit is related to the purposes and policies of the MMPA and ESA. NMFS has a responsibility to implement both the MMPA and the ESA to protect, conserve, and recover marine mammals and threatened and endangered species under its jurisdiction. Facilitating research about species' basic biology and ecology or that identifies, evaluates, or resolves specific conservation problems informs NMFS management of protected species.

**Scope of Environmental Assessment**: This environmental assessment (EA) focuses primarily on effects of authorizing takes of endangered humpback whales (*Megaptera novaeangliae*) in the Pacific Ocean. This is the target species of the applicant's research.

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1 Under the MMPA, "take" is defined as to "harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect." [16 U.S.C. 1362(18)(A)] The ESA defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The term "harm" is further defined by regulations (50 CFR §222.102) as "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including breeding, spawning, rearing, migrating, feeding, or sheltering."
2 "Harass" is defined by regulation (50 CFR §216.3) as "Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing a disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B harassment)."
3 The MMPA defines bona fide research as "scientific research on marine mammals, the results of which – (A) likely would be accepted for publication in a refereed scientific journal; (B) are likely to contribute to the basic knowledge of marine mammal biology or ecology; or (C) are likely to identify, evaluate, or resolve conservation problems."

**Other EAs that Influence the Scope of this EA**
The Proposed Action is a continuation of the applicant's ongoing research, previously authorized under Permit No. 1120-1898 (expired September 30, 2012). An EA was prepared for the permit resulting in a Finding of No Significant Impact (FONSI) on the human environment (NMFS 2007). The Proposed Action is identical to the work authorized under No. 1120-1898 with one exception: the Proposed Action would authorize a substantially lower number of annual takes of humpback whales based on an evaluation of the number of takes the applicant reported using each year under Permit No. 1120-1898. The duration, action area, manner of take, species and location would remain the same as previously authorized and analyzed in the 2007 EA.

**Scoping Summary**
The purpose of scoping is to:

- identify the issues to be addressed,
- identify the significant issues related to the proposed action,
- identify and eliminate from detailed study the non-significant issues,
- identify and eliminate issues that have been covered by prior environmental review, and
- identify the concerns of the affected public and Federal agencies, states, and Indian tribes.

The Council on Environmental Quality (CEQ) regulations implementing NEPA do not require that a draft EA be made available for public comment as part of the scoping process.

The MMPA and its implementing regulations governing issuance of special exception permits for scientific research (50 C.F.R. §216.33) require that, upon receipt of a valid and complete application for a new permit, and the preparation of any NEPA documentation that has been determined initially to be required, NMFS publish a Notice of Receipt in the *Federal Register*.

*Comments on application*
A Notice of Receipt was published in the *Federal Register*, announcing the availability of the application for public comment. The notice summarizes the purpose of the requested permit, includes a statement about whether an EA or environmental impact statement was prepared, and invites interested parties to submit written comments concerning the application. The application was made available for public review and comment for 30 days and provided to the Marine Mammal Commission (MMC). The MMC recommended approval of the request. No substantive public comments were received.

# 2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

**2.1 Alternative 1 - No Action:** Under the No Action alternative, no permit would be issued and the applicant would not receive an exemption from the MMPA and ESA prohibitions against take.

**2.2 Alternative 2 - Issue Permit with Standard Conditions:** Under the Proposed Permit alternative, a permit would be issued to exempt the applicant from the MMPA and ESA take prohibitions during conduct of research that is consistent with the purposes and policies of the MMPA, ESA and applicable permit issuance criteria.

The purpose of the Eye of the Whale's proposed research is to continue a long-term census of the humpback whales using Prince William Sound (PWS) estimates. The objective is to determine population numbers, distribution, recurrence of individuals, feeding habits, vital rates, associations between animals, and gender of individuals. The permit would be valid for five years from the date of issuance.

Action Area

The proposed research under File No. 16919 would take place in the same area described in the 2007 EA: PWS and adjacent waters of Alaska.

Activities

From June to September annually, researchers would conduct four to five whale surveys each lasting six to eight days. Humpback whales would be approached by vessel for counts, photo-identification, monitoring and behavioral observation. Whales would be approached by a 20' or 26' motor boat at 5-10 mph. Once within ~50 meters of the whale, the boat would be slowed to match the whale's speed (up to 3 mph) to photograph the fluke, dorsal fin and unique markings, observe behaviors and record dive times. The manner of take and level of effort by researchers would not change; however, a lower level of annual take would be authorized for No. 16919 based on an evaluation of the takes used versus the level authorized under No. 1120-1898. Eye of the Whale on average has used approximately 10% of the takes authorized in any given year under the previous permit. Thus, the Proposed Action would authorize 200 annual takes instead of 1,350 annual takes (previously authorized) for these activities.

Mitigation Measures

In addition to the applicant's described method to operate the vessel in a slow, safe manner around large whales, the permit would contain conditions to minimize harassment to the target humpback whales. Conditions would include:

- Limitations on activities authorized for specific age classes.
- Requirements for Researchers to suspend permitted activities in the event serious injury or mortality of a protected species occurs or authorized take is exceeded.
- Requirements for Researchers to exercise caution when approaching whales and retreating if behaviors indicate the approach may be interfering with reproduction, feeding, or other vital functions.
- During authorized activities on humpback whale females with calves:
  - Termination of efforts if there is evidence that the activity may be interfering with pair-bonding or other vital functions.
  - Not positioning the research vessel between the mother and calf.
  - Approaching mothers and calves gradually to minimize or avoid startle response.

# 3.0 AFFECTED ENVIRONMENT

## 3.1 Social and Economic Environment

Although a variety of human activities may occur in the action area such as commercial fishing, shipping, military activities, recreational uses (such as fishing and boating), and ecotourism, the social and economic effects of the Proposed Action mainly involve the effects on the people involved in the research, as well as industries that support the research, such as charter vessels and suppliers of equipment needed to accomplish the research. Permitting the proposed research could result in a low level of economic benefit to local economies in the action area. However, such impacts would be negligible on a national or regional (state) level and therefore are not considered significant. There are no significant social or economic impacts of the Proposed Action interrelated with significant natural or physical environmental effects. Thus, the EA does not include any further analysis of social or economic effects of the Proposed Action.

## 3.2 Physical Environment

Research would occur in PWS and adjacent waters of Alaska, including the Alaska Maritime National Wildlife Refuge, Steller Sea lion critical habitat, and essential fish habitat as described in the 2007 EA. The proposed research would not occur within a National Marine Sanctuary, thus no sanctuaries would be affected.

As noted in the 2007 EA, the Proposed Action is directed at specific marine mammals and is not likely to have a significant impact on the physical environment. Research activities would be limited to the operation of the vessel at the water surface and temporary deployment of a hydrophone occasionally. Given that the proposed activities would occur within the upper portion of the water column and the fact that equipment would not contact any substrate, the proposed action would not affect any sediment, hard bottom, structures underlying the waters, or associated biological communities. Even though the proposed research would occur within the aquatic critical habitat for Steller sea lions, researchers would not approach within 100 yards of any rookery or haul out site. Given this information, the proposed activities would not be expected to significantly affect any of the critical habitat's Primary Constituent Elements for Steller sea lions. In addition, researchers would be required to obtain any other Federal, State or local permits necessary to conduct their work in the action area. Therefore, the Proposed Action is not expected to impact any physical habitat, essential fish habitat or designated critical habitat and impacts to physical habitat will not be considered further in this EA.

## 3.3 Biological Environment

Target Species

The Proposed Action would have the potential to affect endangered humpback whales. Because the proposed takes apply to the *location* where the species is encountered, a brief summary of the most recent NMFS Stock Assessment Report (SAR) is provided for the two most likely stocks of humpback whales that could be affected by the Proposed Action. Except for the fact that the species as a whole has been steadily increasing in abundance, the status of the species has not changed from that described in the 2007 EA. More information on the status of this species also can be found in a recent Biological Opinion (NMFS 2011) prepared for multiple researchers studying humpback whales and the 2010 SAR.

*Humpback whale, Central North Pacific stock*
Comprised of at least 5,833 humpback whales, this stock migrates primarily between the Hawaiian wintering grounds and the summer feeding grounds of northern British Columbia and southeastern Alaska (Allen and Angliss 2011). The population is estimated to be increasing by at least 5% annually and has a potential biological removal (PBR) of 61.2 whales. Factors that may affect the population include interactions with several commercial fisheries, such as gear entanglement and ship strikes.

*Humpback whale, Western North Pacific stock*
There are approximately 732 animals in the Western North Pacific stock with a PBR of 2.6 whales; however, population trends for this stock are unknown (Allen and Angliss 2011). This stock winters in Japan waters and migrates north to the Gulf of Alaska to feed in the summers, mixing with the Central North Pacific stock. Factors that may affect the population include interactions with several commercial fisheries, such as gear entanglement.

Non-target Species
In addition to the target humpback whales, a number of marine species (sea birds, marine fish, and marine mammals) can be found within the action area and were considered under the 2007 EA. While other protected species, including marine mammals, could occur in the study area, researchers would not attempt to approach or interact with them. Because the action area is within identified critical habitat (haulout sites) for Steller sea lions, researchers could encounter Stellers while studying humpbacks. Occasionally, Stellers could approach the boat while it is anchored or drifting. However, the researchers would make no active attempts to approach the animals and the boat would not be running when encountered. Thus NMFS does not expect the Proposed Action would result in harassment or other impacts to non-target species. They therefore are not considered further in this EA.

# 4.0 ENVIRONMENTAL CONSEQUENCES

This chapter represents the scientific and analytic basis for comparison of the direct, indirect, and cumulative effects of the alternatives. Regulations for implementing the provisions of NEPA require consideration of both the context and intensity of a proposed action (40 CFR Parts 1500-1508).

## 4.1 Effects of Alternative 1: No Action

There are no direct or indirect effects on the environment of not issuing the permit. The takes of endangered humpback whales, resulting from the applicant's research, would not be exempted. It is unlikely the applicant would conduct the research in the absence of a permit, because to do so would risk sanctions and enforcement actions.

## 4.2 Effects of Alternative 2: Issue Permit with Standard Conditions

Under the Proposed Action, impacts of the proposed activities would be limited to the biological environment and more specifically, to the target species of the permit. Thus, the research activities proposed in the permit request are not likely to affect the socioeconomic or physical

environment. More specifically, as discussed in Ch. 3, designated critical habitat for Steller sea lions is not likely to be affected because the applicant's routine vessel movements at the water surface would not significantly affect the habitat's identified Primary Constituent Elements.

As analyzed in the 2007 EA, NMFS expects that biological impacts would be limited to short-term harassment of humpback whales that are the target of research. The 2007 EA determined:

- The activities would not exceed Level B harassment and would be conducted by trained personnel.
- Potential effects to individuals would be short-term, low impact, and involve minimal disturbance or harassment, such as avoidance behaviors, dives, tail/fin slaps or startle responses.
- Although some temporary disturbance may occur, the activities would not be likely to disrupt the migration, breathing, nursing, feeding, breeding, or sheltering behavior of humpback whales.
- Unintentional mortality or serious injury of humpback whales would not likely result from the proposed activities.
- No long-term impacts of disturbance on marine mammals have been documented and at present, there is no indication that research-related disturbance has had a long-term negative impact on humpback whales in the action area.
- Since the activities are specific to the target species, no other non-target species would be likely to be affected.
- The activities are not expected to adversely affect the survival, longevity, or lifetime reproductive success of adult, female large whales or the fitness of calves under the care of an adult female.

This analysis is hereby incorporated by reference. The proposed activities for this new application have not changed from those activities that were analyzed previously. Therefore, NMFS does not expect that the proposed activities would result in impacts at the population or species level or result in a significant cumulative effect on humpback whales or any other endangered species. Further, the Biological Opinion prepared as a result of Section 7 consultation determined that the action is not likely to jeopardize the continued existence of any listed humpback whales, or any other NMFS ESA-listed species, including Steller sea lions found in the area and the action is not likely to destroy or adversely modify designated critical habitat.

In addition, mitigation measures that would be included in the permit would be expected to lessen any potential for accidental mortality as well as reduce, to the maximum extent possible, the potential for adverse effects of the research on the target humpback whales and any other species that may be unintentionally incidentally harassed.

### 4.3 Comparison of Alternatives

While the no action alternative would have zero environmental effects, the opportunity would be lost to collect information that may contribute to a better understanding of humpback whales and

that would provide information to NMFS that is needed to implement NMFS management activities. This is important information that would help conserve and manage humpback whales as required by the MMPA, ESA and NMFS's implementing regulations. The Proposed Action would affect the environment, primarily individual humpback whales. However, the effects would be minimal and this alternative would allow the collection of valuable information that could help NMFS' efforts to recover the species. Neither the no action nor the Proposed Action alternatives are anticipated to have adverse population or stock-level effects on humpback whales or other marine species.

### 4.4 Mitigation Measures

In addition to the mitigation measures identified in the Eye of the Whale's application and discussed in Ch. 2 of this EA, specific conditions would be incorporated into the permit to minimize potential impacts to the environment. Some of these measures are standard conditions placed in all research permits; others are special conditions based on the proposed research activities and target species. Together these conditions are expected to reduce the potential for harassment of non-target protected species during research and minimize the extent and degree of harassment to the target cetacean species.

In addition to the measures noted in Ch. 2, permit conditions would include:

- Requirements for regular reports on the effectiveness of the research at achieving the applicant's stated objectives (and thus at achieving the purpose and need of the federal action) and on the effectiveness of the mitigation measures required by the permit.
- Requirements for Researchers to notify the relevant NMFS Regional Office prior to beginning field work and to coordinate activities with other Permit Holders working in the same area and with the same species.
- NMFS has authority to modify the permit or suspend the research if information suggests it is having a greater than anticipated adverse impact on target species or the environment.

Further, in signing the permit, the applicant would acknowledge that the permit does not relieve her of the responsibility to obtain any other permits, or comply with any other Federal, State, local, or international laws or regulations.

### 4.5 Unavoidable Adverse Effects

The mitigation measures imposed by permit conditions are intended to reduce, to the maximum extent practical, the potential for adverse effects of the research on the targeted species as well as any other species that potentially could be disturbed. However, as discussed above, the most likely effect would be disturbance to some of the target humpback whales from the research activities. The effect on the animals is not expected to have a significant long-term effect on individuals, the populations, or the species. In other words, while individual whales may exhibit temporary disturbance or evasive behaviors in response to the research activities, the impact to individual animals is not likely to be significant because the reactions will be short-lived and animals will recover physically within minutes of the activities.

## 4.6 Cumulative Effects

Cumulative effects are defined as those that result from incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions that take place over a period of time.

Humpback whales in the proposed study area are regularly exposed to human activities. The 2007 EA discussed the array of human activities known to impact humpback whales. These include activities such as historic whaling, whale watching, habitat degradation, scientific research, ship strike and gear entanglement in fisheries. The magnitude and nature of these impacts remains largely unchanged from the 2007 analysis. These activities are also discussed in more detail in the 2011 Biological Opinion. Given the nature of the Proposed Action, the analysis of impacts from research permits is updated here.

Scientific Research

Currently, 15 permits authorize research on the target two humpback whale stocks in Alaska (Appendix 1). The level of take authorized by these researchers is the same magnitude as previously analyzed for the applicant's previous permit; at that time 18 permits authorized research on humpbacks in the action area. In addition, the Proposed Action is a substantial reduction in take from what the Eye of the Whale is currently authorized each year. Given that the level of take would be similar to or less than what was previously analyzed (which resulted in a FONSI), NMFS does not expect that the number of proposed takes, when added, cumulatively, to the currently authorized research activities occurring in the North Pacific Ocean, would result in significant adverse impacts to humpback whales or any other endangered species. In addition, all permits issued by NMFS, including the proposed permit, for research on humpback whales contain conditions requiring the Permit Holders to coordinate their activities with the NMFS Regional Offices and other Permit Holders conducting research on the same species in the same areas, and, to the extent possible, data are shared to avoid unnecessary duplication of research and disturbance of animals.

It is also important to note that the humpback whales in the proposed study area are migratory and may transit in and out of U.S. waters and the high seas. NMFS does not have jurisdiction over the activities of individuals conducting field studies in other nations' waters and cumulative effects from all scientific research on these species in such waters cannot be fully assessed. However, where possible, NMFS attempts to collaborate with foreign governments to address management and conservation of these transboundary ESA-listed species.

Summary of Cumulative Effects

A variety of human activities have some level of impact on humpback whale populations in the proposed action area. Although commercial harvests no longer take place and existing subsistence harvest is set by quotas, historic impacts from these activities still affect many large whale populations. In addition, entanglement in fishing gear, ship collisions, habitat degradation, biotoxins, viewing pressures, scientific research, and noise pollution continue to result in some level of impact to marine mammal populations in the proposed action area. Because they can result in serious injury or mortality of whales, activities such as ship strikes and entanglements often have a greater impact than the issuance of research permits.

Authorizing an exemption to the MMPA and ESA take prohibitions for the proposed research cannot in itself result in serious injury or death of any species. Further, the associated activities authorized by research permits have a very low risk of serious injury or death. Thus, the proposed research would contribute a negligible increment over and above the effects of the baseline activities currently occurring in the marine environment of the proposed action area. In addition, while the effects of repeated or chronic disturbance from scientific research activities should not be dismissed, the potential benefits of information gained from the proposed action in reducing the effects of human activities on these species outweighs what is likely an overall small increase in harassment. It should also be noted that issuing Permit No. 16919 would not change the extent or degree to which other activities impact humpback whales in the area. Thus, the Proposed Action when added to the other human activities impacting humpback whales, are not expected to result in significant cumulative effects to the species.

Overall, the proposed action would not be expected to have more than short-term or negligible effects on endangered humpback whales. Based on the analysis conducted under this environmental assessment, NMFS concludes that the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions discussed here and in the Biological Opinion would be minimal and not significant. Hence, NMFS believes that issuance of Permit No. 16919, as proposed, would not likely jeopardize the continued existence of the species and would not likely destroy or adversely modify designated critical habitat. Additionally, the activities that would be conducted under the permit are not expected to significantly affect other portions of the environment. The research would provide information that would help manage and recover humpback whales.

# 5.0 List of Preparers and Agencies Consulted

**Agencies Consulted:**
Marine Mammal Commission
Alaska Department of Fish and Game

**Prepared By:**
Permits and Conservation Division of NMFS' Office of Protected Resources in Silver Spring, Maryland.

# 6.0 Literature Cited

Allen, B.M. and R.P. Angliss. 2010. Alaska marine mammal stock assessments, 2010. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-223, 301 pp.

NMFS. 2007. Environmental Assessment on the Issuance of a Scientific Research Permit to the Eye of the Whale [Principal Investigator, Olga von Ziegesar] (File No. 1120-1898) to Conduct Photo-identification Surveys of Humpback Whales in Alaska. Silver Spring, MD.

NMFS. 2011. Corrected Biological Opinions on the Permits, Conservation and Education Division's batched proposal to issue eight Permits (14682, 13846, 14451, 14585, 14599, 14122, 14296, 14353) and one Permit Amendment (10018-01) to scientific researchers, for research on multiple large whale species pursuant to section 10(a)(1)(A) of the Endangered Species Act of 1973. Silver Spring, MD.

**Appendix 1:** Permits Authorizing Directed Takes for the Target Humpback Whale Stocks in Alaska.

| Permit Number | Permit Holder | Expiration Date |
|---|---|---|
| 369-1757-01 | Mate | December 31, 2012 |
| 781-1824 | NMFS—NWFSC | April 14, 2013 |
| 14610 | Alaska Department Fish & Game | May 31, 2015 |
| 14097 | NMFS—SWFSC | June 30, 2015 |
| 14599 | Sharpe | July 31, 2015 |
| 13846 | Darling | July 31, 2015 |
| 14122 | Straley | July 31, 2015 |
| 14451 | Mobley | July 31, 2015 |
| 14296 | Witteveen | July 31, 2015 |
| 14585 | Pack | July 31, 2015 |
| 14245-01 | NMFS—NMML | May 1, 2016 |
| 15330 | Baird | August 1, 2016 |
| 15274 | Salden | November 15, 2016 |
| 15844 | Glacier Bay National Park & Preserve | February 28, 2017 |
| 14118 | Woodward | April 30, 2017 |