



To All Interested Government Agencies and Public Groups:
Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: Environmental Assessment on the Issuance of Scientific Research Permit No. 15682 for Research on Humpback Whales

LOCATION: Atlantic Ocean and Caribbean Sea surrounding Puerto Rico, to the extent of the U.S. EEZ

SUMMARY: NMFS proposes to issue Scientific Research Permit No. 15682 to authorize harassment of humpback whales off the coasts of Puerto Rico. Activities would include close approach by vessel for behavioral observations, photo-identification, and passive acoustic monitoring. The purpose of the research is to investigate the importance of smaller winter habitats used by humpback whales during the breeding and calving season. Impacts from these activities would be short-term and minimal to individual animals and negligible to the species. A biological opinion concluded that the proposed action would not likely jeopardize the continued existence of the species and would not likely destroy or adversely modify designated critical habitat. The permit would be valid for five years.

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The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement will not be prepared. A copy of the finding of no significant impact (FONSI) including the supporting environmental assessment (EA) is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/FONSI we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,

Patricia A. Montanio
NOAA NEPA Coordinator

Enclosure





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

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Environmental Assessment
on the Issuance of Scientific Research Permit No. 15682 for Research on Humpback Whales

December 2011

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

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Location: Atlantic Ocean and Caribbean Sea surrounding Puerto
Rico, to the extent of the U.S. EEZ

Abstract: The National Marine Fisheries Service proposes to issue a five-year scientific research permit for takes of marine mammals in the wild, pursuant to the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 *et seq.*) and the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). Permit No. 15682 would authorize harassment of humpback (*Megaptera novaeangliae*) whales off the coasts of Puerto Rico. Activities would include close approach by vessel for behavioral observations, photo-identification, and passive acoustic monitoring. The purpose of the research is to investigate the importance of smaller winter habitats used by humpback whales during the breeding and calving season.



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1.0 PURPOSE OF AND NEED FOR ACTION

Proposed Action: In response to an application from Mithriel MacKay, Texas A&M University at Galveston, Galveston, TX, the National Marine Fisheries Service (NMFS) proposes to issue Scientific Research Permit No. 15682 [Principal Investigator: Mithriel MacKay], 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 (ESA; 16 U.S.C. 1531 *et seq.*) for “takes”¹ of marine mammals, including those listed as threatened or endangered.

Purpose of 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*² 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 MMPA³, of marine mammals 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 EA focuses primarily on effects on humpback whales listed as endangered under the ESA.

The National Oceanic and Atmospheric Administration (NOAA) has, in NOAA Administrative Order 216-6 (NAO 216-6; 1999), listed issuance of permits for research on marine mammals and threatened and endangered species as categories of actions that “do not individually or cumulatively have a significant effect on the human environment...” and which therefore do not require preparation of an environmental assessment (EA) or environmental impact statement (EIS). A possible exception to the use of these categorical exclusions is when the action may

¹ Under the MMPA, “take” is defined as to “harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect.” 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.”

² 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.”

³ “Harass” is defined under the MMPA 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).”

adversely affect species listed as threatened or endangered under the ESA (NAO 216-6 Section 5.05c).

The target species of the applicant's research is humpback whales, which are listed as endangered under the ESA. There is no evidence from prior analyses⁴ of the effects of permit issuance, or from monitoring reports submitted by permit holders⁵, that issuance of research permits for take of marine mammals listed under the ESA results in adverse effects on stocks or species. Nevertheless, NMFS has prepared this EA, with a more detailed analysis of the potential for adverse impacts on endangered species resulting from takes of a specified number of individual humpback whales, to assist in making the decision about permit issuance under the MMPA and ESA.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

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

Alternative 2 - Proposed Permit: Permit No. 15682 would be issued to exempt the applicant from MMPA and ESA take prohibitions during conduct of research that is consistent with the purposes and policies of the MMPA and ESA and applicable permit issuance criteria.

The purpose of the applicant's research is to investigate the importance of smaller winter habitats used by humpback whales during the breeding and calving season. The permit would contain terms and conditions standard to such permits as issued by NMFS.

The following is a summary of the applicant's request to take marine mammals, including those listed as threatened or endangered under the ESA.

Methods: The research protocols are described in detail in the application on file for this action and are briefly summarized here. The research consists of approaching humpback whales, including neonates, for photo-identification, behavioral observation, and passive acoustic recording year-round, with efforts focused from October through July when humpbacks are known to be present.

Vessel surveys would be conducted from a 30 ft inboard diesel motor vessel (150HP) beginning at first light and continuing until environmental conditions prevent data collection. Researchers would use high magnification binoculars and high resolution digital photography equipment to identify features on individuals, record focal behaviors, and determine the sex of animals. Whales would be approached to a minimum of approximately 25 m by vessel. Close vessel approach (within 100 m) would last no longer than 30 min for photography and up to 60 min

⁴ Since 2005, NMFS has prepared over 100 EAs for issuance of permits under the MMPA and ESA. In every case, the EA supported a finding of no significant impact regardless of the nature of the permitted take or the status of the species that were the subject of the permit. These EAs were accompanied by Biological Opinions prepared pursuant to interagency consultation under section 7 of the ESA and further document that such permits are not likely to adversely affect listed species. A listing of recently completed EAs is provided in Attachment 1.

⁵ All NMFS permits for research on marine mammals require submission of annual reports, which include information on responses of animals to the permitted takes.

with the motor off during acoustic recording of mother calf pairs. Individual whales would be approached multiple times annually.

To minimize disturbance to target animals, researchers would:

- Maintain a parallel course between the vessel and target whales while photographing the side of an individual.
- Position the vessel directly behind an individual at a distance of 50 m while photographing flukes.
- Approach whales gradually.
- Not approach or move away from mothers with calves if calves are nursing or if there is evidence that the activity may be interfering with pair-bonding or other vital functions.
- Not place the vessel between mother-calf pairs.
- Approach individual whales no more than once per day.

Duration: The permit would be valid for five years from date of issuance.

Target species or stocks: The applicant’s research is directed at humpback whales. Proposed activities are consistent with the MMPA definition of level B harassment in which actions with a potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns including migration, breathing, nursing, breeding, feeding, or sheltering are considered a take. The inclusion of “potential to” in this definition means that the take occurs regardless of whether there is a disruption in the behavioral patterns of marine mammals exposed to the action.

The permit would exempt annual takes of all ages of male and female humpback whales in the action area:

SPECIES	LISTING UNIT/STOCK	PROPOSED TAKE	OBSERVE/ COLLECT METHOD	PROCEDURES
Whale, humpback	Western North Atlantic Stock (NMFS Endangered)	700	Survey, vessel	Acoustic, passive recording; Incidental harassment; Observation, monitoring; Observations, behavioral; Photo-id; Photograph/Video

3.0 AFFECTED ENVIRONMENT

Location

The proposed activities would occur in the Atlantic Ocean and Caribbean Sea surrounding Puerto Rico, to the extent of the U.S. EEZ.

Status of Target Species

Humpback whale: The humpback whale is a mid-sized baleen whale that occurs throughout the world's oceans, generally over continental shelves, shelf breaks, and around some oceanic islands. Humpback whales exhibit seasonal migrations between warmer temperate and tropical waters in winter and cooler waters of high prey productivity in summer. Humpback whales exhibit a wide range of foraging behaviors, and feed on many prey types including small schooling fishes, krill, and other large zooplankton.

Humpback whale reproductive activities occur primarily in winter. They become sexually mature at age four to six. Female humpback whales are believed to become pregnant every two to three years. Cows nurse their calves for up to 12 months. The age distribution of the humpback whale population is unknown, but the portion of calves in various populations has been estimated at about 4 to 12 percent (Chittleborough 1965; Herman et al. 1980; Whitehead 1982; Bauer 1986; Clapham and Mayo 1987). Sources and rates of natural mortality are generally unstudied, but potential sources of mortality include parasites, disease, predation by killer whales, false killer whales, and sharks, biotoxins, and ice entrapment.

The four recognized stocks of humpback whales in the United States, based on geographically distinct winter ranges, are: the Gulf of Maine stock, the eastern North Pacific stock, the central North Pacific stock, and the western North Pacific stock. The proposed action would only affect whales of the Gulf of Maine stock; therefore the other three stocks are not analyzed further.

Gulf of Maine stock: The Western North Atlantic population of humpback whales includes relatively discrete sub-populations which feed during summer in the waters of the Gulf of Maine, the Gulf of St. Lawrence, Newfoundland/Labrador, and western Greenland (Katona and Beard 1990). Other North Atlantic feeding grounds occur off Iceland and northern Norway (Christensen et al. 1992). In the winter, whales from all feeding areas mate and calve primarily in the West Indies, where spatial and genetic mixing among sub-populations occurs (Clapham et al. 1993; Katona and Beard 1990; Stevick et al. 1998). In the West Indies, the majority of whales are found in the waters of the Dominican Republic, notably on Silver Bank and Navidad Bank, and in Samana Bay (Balcomb and Nichols 1982; Whitehead and Moore 1982; Mattila et al. 1989; Mattila et al. 1994). Humpback whales are also found at much lower densities throughout the remainder of the Antillean arc, from Puerto Rico to the coast of Venezuela (Winn et al. 1975; Levenson and Leapley 1978; Price 1985; Mattila and Clapham 1989).

Humpback whales also use the Mid-Atlantic as a migratory pathway and apparently as a feeding area, at least for juveniles. Since 1989, observations of juvenile humpbacks in that area have been increasing during the winter months, peaking January through March, particularly in the vicinity of the Chesapeake and Delaware Bays (Swingle et al. 1993). Biologists theorize that

non-reproductive animals may be establishing a winter feeding range in the Mid-Atlantic because they are not participating in reproductive behavior in the Caribbean.

Data suggest that up to 11,570 whales may reside within the entire North Atlantic (Palsbøll et al. 1997). In the Gulf of Maine, the best population estimate is 847 whales with a Potential Biological Removal (PBR) of 1.1 whales annually (Waring et al. 2009). Barlow and Clapham (1997) estimated a rate of population increase of at 6.5 percent for this stock. Although the most recent abundance estimates indicate continued population growth, the size of the Gulf of Maine humpback whale stock may be below the optimum sustainable population in the U.S. Atlantic EEZ.

The total level of U.S. fishery-caused mortality and serious injury is unknown, but reported levels are more than 10% of the calculated PBR and, therefore, cannot be considered to be insignificant or approaching zero mortality and serious injury rate. The Gulf of Maine stock is considered a strategic stock because the average annual human-related mortality and serious injury exceeds PBR, and because the North Atlantic humpback whale is an endangered species.

NMFS is conducting a status review of humpback whales under the ESA to ensure that the listing classification of the species is accurate. The status review will be based on the best available scientific and commercial data.

Non-Target Marine Animals

In addition to the marine mammal stocks and species that are the subject of the permit, an assortment of sea birds, marine mammals, sea turtles, fish, and invertebrates may be found in the action area. The permit would only authorize takes of humpback whales. The takes of humpback whales by harassment would not affect any non-target marine animals and they are not considered further.

Biodiversity and Ecosystem Function

The proposed action is directed at marine mammals and does not interfere with benthic productivity, predator-prey interactions or other biodiversity or ecosystem functions. Marine mammals will not be removed from the ecosystem or displaced from habitat, nor will the permitted research affect their diet or foraging patterns. Further, the proposed action does not involve activities known or likely to result in the introduction or spread of non-indigenous species, such as ballast water exchange or movement of vessels among water bodies. Thus, effects on biodiversity and ecosystem function will not be considered further.

Ocean and Coastal Habitats

The proposed action is directed at marine mammals and does not affect habitat. It does not involve alteration of substrate, movement of water or air masses, or other interactions with physical features of ocean and coastal habitat. Thus, effects on habitat will not be considered further.

Unique Areas

The action area contains:

- essential fish habitat (EFH) designated for various species,

- Critical Habitat for green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles,
- Critical Habitat for threatened staghorn and elkhorn coral,
- Tres Palmas Natural Reserve,
- Mona Passage Reserve, and
- Desecheo Island Reserve.

The proposed action is directed at marine mammals and involves routine vessel transit through the water; the proposed activities would not alter or affect unique areas, including any components of EFH or Critical Habitat. Thus, effects on such unique areas will not be considered further. There are no other historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas within the action area, which is limited to coastal and open waters.

Historic Places, Scientific, Cultural, and Historical Resources

There are no districts, sites, highways or structures listed in or eligible for listing in the National Register of Historic Places in the action area. The proposed action represents non-consumptive use of marine mammals and does not preclude their availability for other scientific, cultural, or historic uses. Thus, effects on such resources will not be considered further.

Social and Economic Resources

The proposed action does not affect distribution of environmental burdens, access to natural or depletable resources or other social or economic concerns. It does not affect traffic and transportation patterns, risk of exposure to hazardous materials or wastes, risk of contracting disease, risk of damages from natural disasters, food safety, or other aspects of public health and safety. Thus, effects on such resources will not be considered further.

4.0 ENVIRONMENTAL CONSEQUENCES

Effects of the No Action Alternative

There are no direct or indirect effects on the environment of not issuing the permit. The takes of marine mammals, including those listed as threatened or endangered, 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.

If the research is not conducted, the opportunity would be lost to collect information that would contribute to better understanding marine mammal populations. This information is necessary for NMFS to conduct mandated stock assessments and status reviews and implement management activities. The proposed research would directly address research needs identified in NMFS recovery plans for humpback whales, and would provide important information that would help conserve, manage, and recover species as required by the ESA and the MMPA. Without relevant, up-to-date information on species biology, ecology, and behavior, management decisions may be too conservative or not sufficiently conservative to ensure a stock or species to recover.

Effects of the Proposed Permit Alternative

Effects would occur at the time when the applicant's research results in takes of marine mammals, including those listed as threatened or endangered.

The proposed permit would allow research involving level B harassment to be conducted on humpback whales. These activities may result in short-term behavioral responses by individuals, but would not be expected to result in stock- or species-level effects.

The issue most relevant to this analysis is the potential for negative impacts on the target species. It is important to recognize that an adverse effect on a single individual or a small group of animals does not translate into an adverse effect on the population or species unless it results in reduced reproduction or survival of the individual(s) that causes an appreciable reduction in the likelihood of survival or recovery for the species. In order for the proposed action to have an adverse effect on a species, the exposure of individual animals to the research activities would first have to result in:

- direct mortality,
- serious injury that would lead to mortality, or
- disruption of essential behaviors such as feeding, mating, or nursing, to a degree that the individual's likelihood of successful reproduction or survival was substantially reduced.

That mortality or reduction in the individual's likelihood of successful reproduction or survival would then have to result in a net reduction in the number of individuals of the species. In other words, the loss of the individual or its future offspring would not be offset by the addition, through birth or emigration, of other individuals into the population. That net loss to the species would have to be reasonably expected, directly or indirectly, to appreciably reduce the likelihood of both the survival and recovery of the listed species in the wild.

Level B harassment would occur during close vessel approach for photo-identification, behavioral observation, underwater photography, and passive acoustic recording. These activities have been analyzed in past EAs for large whale research (Attachment 1), and it has been repeatedly determined that they could lead to short-term disturbance of marine mammals, but that there would be no significant impact from issuance of scientific research permits authorizing these activities.

Behavioral responses would be expected to vary from no response to diving, tail slapping, or changing direction. These short-term behavioral responses would not likely lead to mortality, serious injury, or disruption of essential behaviors such as feeding, mating, or nursing to a degree that the individual's likelihood of successful reproduction or survival would be substantially reduced. Annual reports submitted by current and past permit holders indicate that conduct of activities resulting in level B harassment has not led to mortality, serious injury, or disruption of essential behaviors such as feeding, mating, or nursing.

The proposed take numbers are conservative in that they assume that 100% of animals exposed would be affected, which may not be the case. While each animal that is approached by researchers would be counted as a "take" under the MMPA's definition of level B harassment, not all animals are expected to react or be adversely affected by the activity.

There is no evidence that responses of individual whales would exceed short-term stress and discomfort and no long-term effects would be anticipated. The activities would not be expected to have any additional effects that have not been previously analyzed. The short-term behavioral responses that might result from research activities would not likely lead to mortality, serious injury, or disruption of essential behaviors such as feeding, mating, or nursing, to a degree that the individual's likelihood of successful reproduction or survival would be substantially reduced.

In addition to the mitigation measures identified by the applicant and described in Chapter 2.2, the permit, if issued, would contain conditions and mitigation measures intended to further limit the potential for negative effects from these activities. This would include conditions requiring the applicant to retreat from animals if behaviors indicate the approach may be interfering with reproduction, pair bonding, feeding, or other vital functions.

An ESA Section 7 consultation was conducted on the proposed research. A Biological Opinion was prepared as a result of the consultation, and resulted in the determination that the proposed action is not likely to jeopardize the continued existence of any ESA-listed species or destroy or adversely modify designated critical habitat.

Controversy

Federal agencies are required to consider "the degree to which effects on the quality of the human environment are likely to be highly controversial" when evaluating potential impacts of a proposed action. [40 CFR §1508.27] The application for the proposed permit was made available for public review and comment (76 FR 18533) and provided to the Marine Mammal Commission (MMC) for review and comment.

Issuance of the permit is not expected to be controversial based on potential environmental impacts. NMFS did not receive substantive public comments on the application.

After review of the application, the MMC recommended that NMFS defer action until the applicant gained more experience approaching humpback whales. NMFS did so, and the applicant provided letters of support from the researchers she trained with. Both letters are in the Administrative Record.

The MMC also recommended that if NMFS decided to issue the permit without requiring additional experience, that the permit be conditioned to ensure the applicant minimize disturbance, particularly of mother-calf pairs, to require that approach be terminated if there is evidence the activities are interfering with mother-calf interactions or other vital functions, and to require that the applicant remain at least 100 meters from mother-calf pairs while recording vocalizations. Minimization of disturbance and termination of activities that appear to be interfering with mother-calf interactions or other vital functions are part of standard permit conditions that are included in the permit. The applicant's initial request was to approach mother calf pairs to 20 meters to record vocalizations. Based on comments received on the application, this request was modified. The applicant would not approach mother-calf pairs closer than 50 meters to record vocalizations.

Cumulative Impacts

Summary of Effects from Total Number of Permits: In general, takes of marine mammals by level B harassment during permitted research have not been shown to result in long-term or permanent adverse effects on individuals regardless of the number of times the harassment occurs. The frequency and duration of the disturbance under the proposed permit would allow adequate time for animals to recover from adverse effects such that additive or cumulative effects of the action on its own are not expected.

No measurable effects on population demographics are anticipated because any sub-lethal (disturbance) effects are expected to be short-term, with the animals recovering within hours to days, and the proposed action is not expected to result in mortality of any animals. There exists the possibility that adverse effects on a species could accrue from the cumulative effects of a large number of permitted takes by level B harassment relative to the size of the population. However, there is no evidence that current or past levels of permitted takes have resulted in such species level effects.

There are nine other permits for takes of humpback whales in the Atlantic Ocean related to conducting surveys, biopsy sampling, or instrument attachment. Only one of these permits targets humpback whales in Puerto Rico. Some of the animals targeted by each permit may not be affected by the research; however, consistent with the MMPA definition of level B harassment, permits authorize takes of animals that have only the *potential* to be disturbed.

Researchers working under NMFS permits are required to notify the appropriate NMFS Regional Office in advance of field work. The Southeast Regional Office is tasked with coordinating activities under multiple permits for the Puerto Rico area to ensure there is not unnecessary duplication of research.

Summary of Other Actions: The stocks and populations of marine mammals that are the subject of the permit are exposed to a variety of human activities, in the action area and elsewhere, including whale watching activities, entanglement in fishing gear, and anthropogenic noise from vessel traffic and coastal development. The total level of human-caused mortality and serious injury is unknown, but may be slowing recovery of the population.

The harassment from coastal development that is authorized pursuant to Section 101(a)(5) of the MMPA has been found to have a negligible impact on the stocks. These projects include construction and repair of bridges and ports, as well as explosive removal of structures.

In general, marine mammals may interact with a variety of fishing gear to become entangled, injured, or die. From 2004 through 2008, the minimum annual rate of human-caused mortality and serious injury to this stock averaged 4.6 animals per year (U.S. waters, 4.4; Canadian waters, 0.2). This value includes incidental fishery interaction records, 3.0 (U.S. waters, 2.8; Canadian waters, 0.2); and records of vessel collisions, 1.6 (U.S. waters, 1.6; Canadian waters, 0) (Glass *et al.* 2010). A study of entanglement-related scarring on the caudal peduncle of 134 individual humpback whales in the Gulf of Maine suggested that between 48% and 65% had experienced entanglements (Robbins and Mattila 2001).

Many marine mammal populations may be experiencing increased exposure to vessels and associated sounds. Commercial shipping, whale watching, ferry operations, and recreational boating traffic have expanded in many regions in recent decades. Commercial fishing boats are also a prominent part of the vessel traffic in many areas. Vessels have the potential to affect marine mammals through the physical presence and activity of the vessel, the increased underwater sound levels generated by boat engines or a combination of these factors. Vessel strikes are rare, but do occur and can result in injury.

The Gulf of Maine stock is the focus of whale watching in New England from late spring to early fall, particularly within the Stellwagen Bank National Marine Sanctuary. The growth of whale watching has meant that humpback whales in the North Atlantic are experiencing increased exposure to vessel traffic and sound. Harassment from whale-watching is not regulated by permits, nor are the effects monitored.

Summary: There is no evidence that responses of individual whales would exceed short-term stress and discomfort and no long-term effects are anticipated. The activities would not be expected to have any additional effects that have not been previously analyzed. The short-term behavioral responses that might result from research activities would not likely lead to mortality, serious injury, or disruption of essential behaviors such as feeding, mating, or nursing, to a degree that the individual's likelihood of successful reproduction or survival would be substantially reduced. In addition, conditions and mitigation measures would be placed in the permit to further limit the potential for negative effects from these activities.

5.0 MITIGATION MEASURES

There are no additional mitigation measures beyond those that are part of the applicant's protocols or conditions that would be required by permit, as discussed in the description of the Proposed Permit Alternative. The applicant's protocols are incorporated into the permit by reference.

In summary, the permit conditions limit the level of take to level B harassment and require notification, coordination, monitoring, and reporting. Permit conditions would also require researchers to use caution when approaching humpback whale calves.

Review of monitoring reports of previous permits for the same or similar research protocols indicate that these types of mitigation measures are effective at minimizing stress, pain, injury, and mortality associated with takes.

6.0 LIST OF PREPARERS AND AGENCIES CONSULTED

This document was prepared by the Permits and Conservation Division of NMFS' Office of Protected Resources in Silver Spring, Maryland.

7.0 Literature Cited

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Attachment 1. Recent Environmental Assessments for Marine Mammal Research Permits

NMFS Permits Division has prepared EAs with Findings of No Significant Impact (FONSI) for issuance of permits to conduct research on large whale species. Those EAs were prepared to take a closer look at potential environmental impacts of permitted research on marine mammals listed as threatened or endangered, and not because the Permits Division determined that significant adverse environmental impacts were expected or that a categorical exclusion was not applicable. As each EA demonstrates, and each FONSI has documented, research on marine mammals generally does not have a potential for significant adverse impacts on marine mammal populations or any other component of the environment.

Some of the most recently prepared EAs of relevance to the scope of this EA are:

- Environmental Assessment for The Issuance of Scientific Research Permits for Research on Humpback Whales and Other Cetaceans (July 2010; File Nos. 14682, 10018, 13846, 14451, 14585, 14599, 14122, 14296, and 14353).
- Environmental Assessment for Issuance of a Scientific Research Permit [File No. 14097] for Pinniped, Cetacean, and Sea Turtle Studies (June 2010).
- Environmental Assessment for the Issuance of a Scientific Research Permit for Acoustic Playback Studies and Passive Acoustic Recordings of Humpback Whales (December 2008; File No. 1128-1922).
- Environmental Assessment On The Effects Of The Issuance Of Two National Marine Fisheries Service Permitted Scientific Research Activities On Cetacean Species In The South And North Atlantic Oceans (Including The Gulf Of Mexico), Arctic And North Pacific Oceans (Including Beaufort, Chukchi, And Bering Seas, Hawaii And The Eastern Tropical Pacific), Indian Ocean, South Pacific And Southern Oceans (Antarctic Peninsula), Mediterranean Caribbean Seas, International And Foreign Waters (May 2005; File Nos. 369-1757 and 909-1726).



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

Finding of No Significant Impact
Issuance of Scientific Research Permit No. 15682 **DEC 16 2011**

Background

In August 2010, the National Marine Fisheries Service (NMFS) received an application for a permit (File No. 15682) from Mithriel MacKay, Texas A&M University at Galveston, Galveston, Texas, to conduct research on humpback whales around Puerto Rico. In accordance with the National Environmental Policy Act, NMFS has prepared an Environmental Assessment (EA) analyzing the impacts on the human environment associated with permit issuance (EA on the Issuance of Scientific Research Permit No. 15682 for Research on Humpback Whales; December 2011). In addition, a Biological Opinion was issued under the Endangered Species Act (ESA) (December 2011) summarizing the results of an intra-agency consultation. The analyses in the EA, as informed by the Biological Opinion, support the following findings and determination.

Analysis

National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in Fishery Management Plans?

Response: Although Essential Fish Habitat (EFH) may be present in the action area, the Proposed Action would only affect humpback whales authorized for research by the permit. Because in-water research would only involve routine vessel movements at the water surface, and researchers would not be anchoring the vessel, the Proposed Action would not be expected to cause damage to other aspects of ocean and coastal habitat such as reefs, seagrass beds, soft-bottom sediment, etc. Therefore, no EFH consultation was required.

2) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: The effects of the action on target species, including ESA-listed species and their habitat, EFH, marine sanctuaries, and other marine mammals were all



considered. The Proposed Action would target humpback whales for vessel-based photo-identification, behavioral observation, and passive acoustic recording, which is expected to result in short-term minimal disturbance to individual whales. This work is not expected to affect an animal's susceptibility to predation, alter dietary preferences or foraging behavior, or change distribution or abundance of predators or prey. Therefore, the Proposed Action is not expected to have a substantial impact on biodiversity or ecosystem function.

3) Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?

Response: The Proposed Action involves close approach of vessels for vessel-based photo-identification, behavioral observation, and passive acoustic recording of humpback whales. It would not involve hazardous methods, toxic agents or pathogens, or other materials that would have a substantial adverse impact on public health and safety. Research would be conducted by or under the close supervision of experienced personnel, as required by the permit. Therefore, no negative impacts on human health or safety are anticipated during research.

4) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

Response: The Proposed Action would affect the target species, humpback whales, during vessel surveys. The 2011 biological opinion prepared for the Proposed Action concluded that the effects of the Proposed Action on individual humpback whales would be short-term in nature, and would not be likely to jeopardize the continued existence of the species or to cause the destruction or adverse modification of designated critical habitat. No other species would be affected by the proposed research. The permit would contain mitigation measures to minimize the effects of the research and to avoid unnecessary stress to protected species by requiring use of specific research protocols.

5) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: Effects of the research would be limited to the short-term harassment of target animals. 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 level and therefore are not considered significant. These impacts are not interrelated with any natural or physical impacts. The Proposed Action would not result in inequitable distributions of environmental burdens or affect access (short- or long-term use) to any natural or depletable resources in the action area.

6) Are the effects on the quality of the human environment likely to be highly controversial?

Response: NMFS does not consider the Proposed Action controversial nor have similar actions been considered controversial in the past. All of the proposed research activities are standard research activities that have been conducted on these species by the scientific community for decades. No other portion of the environment beyond humpback whales would be impacted by the Proposed Action.

7) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas?

Response: The proposed research would not be expected to result in substantial impacts to any such area. The majority of these are not part of the action area. EFH would not be substantially impacted since research would not affect bottom habitat (see Question 1).

8) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: The proposed research is not unique. The proposed activities have been previously authorized as research activities for large whales; some activities have occurred for decades. There have been no reported serious injuries or mortalities of cetacean species or risks to any other portion of the human environment as a result of these research activities. Therefore, the risks to the human environment are not unique or unknown.

9) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: The Proposed Action is not related to other actions with individually insignificant, but cumulatively significant impacts. While these species are impacted by other human activities, including other scientific research, these activities are not occurring simultaneously on the same individuals of a population/stock. The short-term stresses (separately and cumulatively when added to other stresses humpback whales face in the environment) resulting from the research activities would be expected to be minimal. Behavioral reactions suggest that harassment is brief, lasting minutes, before animals resume normal behaviors. Hence, NMFS expects any effects of research to dissipate before animals could be harassed by other human activities. Significant cumulative impacts are not expected because no serious injury or mortality is expected (resulting in no direct loss of animals from the population), nor is an appreciable reduction in the fecundity of target individuals. Furthermore, the permit would contain conditions to mitigate and minimize any impacts to the animals from research activities, including the coordination of research activities with other researchers in the area.

10) Is the proposed action likely 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: The Proposed Action would not take place in any district, site, highway, structure, or object listed in or eligible for listing in the National Register of Historic Places, thus none would be impacted. The Proposed Action would not occur in other areas of significant scientific, cultural or historical resources and thus would not cause their loss or destruction. None of these resources are expected to be directly or indirectly impacted.

11) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

Response: The action would not be removing or introducing any species; therefore, it would not likely result in the introduction or spread of a non-indigenous species. Researchers would not be exchanging ballast water or moving between large water bodies during the course of research.

12) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

Response: The decision to issue the permit would not be precedent setting and would not affect any future decisions. Issuance of a permit to a specific individual or organization for a given research activity does not in any way guarantee or imply that NMFS will authorize other individuals or organizations to conduct the same research activity. Any future request received would be evaluated on its own merits relative to the criteria established in the MMPA, ESA, and NMFS' implementing regulations.

13) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

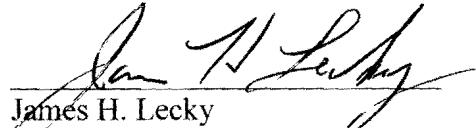
Response: The action would not result in any violation of Federal, State, or local laws for environmental protection. The permit would contain language stating that the Holder is required to obtain any state and local permits necessary to carry out the action.

14) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: The action is not expected to result in any cumulative adverse effects to the target or non-target species. For targeted species, the Proposed Action would not be expected to have more than short-term effects to individuals and negligible effects to large whale populations. The effects on non-target species were also considered and no substantial effects are expected as research would not be directed on these species. Therefore, no cumulative adverse effects that could have a substantial effect on any species, target or non-target, would be expected.

DETERMINATION

In view of the information presented in this document and the analysis contained in the EA prepared for Issuance of Permit No. 15682, pursuant to the ESA and MMPA, and the ESA section 7 biological opinion, it is hereby determined that the issuance of Permit No. 15682 will not significantly impact the quality of the human environment as described above and in the EA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environment Impact Statement for this action is not necessary.


James H. Lecky
Director, Office of Protected Resources

DEC 16 2011

Date