



**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XF776**

**Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Gull and Climate Research in Glacier Bay National Park, Alaska**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; proposed incidental harassment authorization; request for comments.

**SUMMARY:** NMFS has received a request from the National Park Service (NPS) for authorization to take marine mammals incidental to glaucous-winged gull and climate monitoring research activities in Glacier Bay National Park (GLBA NP), Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorizations and agency responses will be summarized in the final notice of our decision.

**DATES:** Comments and information must be received no later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service.

Physical comments should be sent to 1315 East-West Highway, Silver Spring, MD 20910 and electronic comments should be sent to *ITP.molineaux@noaa.gov*.

*Instructions:* NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 25-megabyte file size. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. All comments received are a part of the public record and will generally be posted online at *www.nmfs.noaa.gov/pr/permits/incidental/research.htm* without change. All personal identifying information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

**FOR FURTHER INFORMATION CONTACT:** Jonathan Molineaux, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidental/research.htm*. In case of problems accessing these documents, please call the contact listed above.

**SUPPLEMENTARY INFORMATION:**

**Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are

made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined “negligible impact” in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The MMPA states that the term “take” means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” 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 disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

### **National Environmental Policy Act**

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§ 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed action (*i.e.*, the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in CE B4 of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review. We will review all comments submitted in response to this notice prior to concluding our NEPA process or making a final decision on the IHA request.

### **Summary of Request**

On August 31 2017, NMFS received a request from the NPS for an IHA to take marine mammals incidental to glaucous-winged gull and climate monitoring research activities in GLBA NP, Alaska. The application was considered adequate and complete on February 10 2017. NPS's request is for take of harbor seals by Level B harassment. Neither NPS nor NMFS expect mortality to result from the proposed research and, therefore, an IHA is appropriate.

NMFS previously issued four IHAs to the NPS for similar work (82 FR 24681, May 20 2017; 81 FR 34994, June 1 2016; 80 FR 28229, March 24 2015; 79 FR 56065, September 18 2014). NPS complied with all the requirements (*e.g.*, mitigation, monitoring, and reporting) within those IHAs and information regarding their monitoring results may be found in the *Estimated Take* section.

### **Description of Proposed Activity**

#### *Overview*

NPS is proposing to conduct two research projects within GLBA NP, southeast Alaska:  
1) glaucous-winged gull monitoring and 2) the installation and maintenance of a weather station

operation for long-term climate monitoring. NPS would conduct ground and vessel surveys at four study sites within GLBA NP for gull monitoring: Boulder Island, Lone Island, Geikie Rock, and Flapjack Island. These sites will be accessed up to five times per year. In addition, NPS is requesting permission to access Lone Island an additional four times per year for weather station installation, maintenance, and operation bringing the total number of site visits to Lone Island to nine. This includes adding one additional trip for any emergency repairs that may be needed. Researchers accessing the islands for gull monitoring and weather station operation may occasionally cause behavioral disturbance (or Level B harassment) of harbor seals. NPS expects that the disturbance to harbor seals from both projects will be minimal and will be limited to Level B harassment.

The purpose for the above-mentioned research activities are as follows. The gull monitoring studies are mandated by a Record of Decision of a Legislative Environmental Impact Statement (LEIS) (NPS 2010) which states that NPS must initiate a monitoring program for glaucous-winged gulls (*Larus glaucescens*) to inform future native egg harvest by the Hoonah Tlingit in Glacier Bay, Alaska. Installation of a new weather station on Lone Island is being planned as one of several installations intended to fill coverage gaps among existing weather stations in GLBA NP (NPS 2015a). These new stations will be operated as the foundation of a new long-term climate-monitoring program for GLBA NP.

#### *Dates and Duration*

The IHA would be valid from March 1 2018 to February 28 2019. Ground and vessel surveys for nesting gulls will be conducted from May 1 through September 30, 2018 on bird nesting islands in GLBA NP (see Figure 1 of application) and other suspected gull colonies.

There will be 1-3 ground visits and 1-2 vessel surveys at each site for a maximum of five visits per site. Duration of surveys will be 30 minutes to two hours each.

Installation and maintenance of the Lone Island weather station will begin March 1 2018. Maintenance and emergency repair-related site visits to this location will occur between March 2018 to April 2018, and October 2018 to February 2019 to avoid the gull-nesting period. Unscheduled maintenance that is needed outside of the regularly scheduled October 1 through April 30 time period will require Superintendent authorization to ensure protection of park resources and values. Initial station installation and possible unanticipated station failures requiring emergency repair will require up to eight hours. Two planned maintenance visits will require approximately two hours per visit.

#### *Specific Geographic Region*

The proposed study sites would occur in the vicinity of the following locations: Boulder, Lone, and Flapjack Islands, and Geikie Rock in GLBA NP, Alaska (see Figure 1 of application). Each of these study sites are located on the eastern side of the park situated near Geikie Inlet and all provide harbor seal habitat throughout the year, however the highest presence of seals occurs during the breeding and molting season (May to October) (Lewis *et al.*, 2017). On Boulder and Flapjack islands, the proposed gull monitoring study sites are located on the north side whereas harbor seal haul-outs are positioned on the south (Lewis *et al.*, 2017). Also, on Lone Island, harbor seals are sited near tidal rocks off the northeast tip of island (ADEC, 2014), whereas on Geikie Rock they are known to be found throughout the entire site due to its small size (Lewis 2017). NPS will also conduct studies at South Marble Island and Tlingit Point Islet; however, there are no reported harbor seal haul-out sites at those locations.

#### *Detailed Description of Specific Activity*

## Glaucous-winged gull monitoring

Glaucous-winged gulls are common inshore residents along the northwestern coast of North America (Hayward and Verbeek, 2008). These gulls nest colonially in small and large aggregations, often on islands. Glaucous-winged gulls are abundant in Southeast AK throughout the year and nest colonially on islands in Glacier Bay from mid-May to August (Patten, 1974). Traditionally the Hoonah Tlingit, whose ancestral homeland encompasses GLBA NP, harvested gull eggs annually during the spring and early summer months (Hunn, 2002). This historic egg harvest in Glacier Bay was an important activity both for cultural and nutritional purposes. Legislation is currently underway (Hoonah Tlingit Traditional Gull Egg Use Act: S. 156 and H. R. 3110) to allow native subsistence harvest of glaucous-winged gulls at up to 15 locations in GLBA NP. A LEIS for gull egg harvest was developed and finalized in 2010 (NPS 2010). The LEIS Record of Decision mandates that the NPS develop a monitoring program to inform a yearly traditional harvest plan and ensure that harvest activities do not impact park purposes and values (NPS 2010). Annual monitoring requirements outlined in the LEIS include: identify the onset of gull nesting, conduct mid-season adult counts, count number of eggs in nests during harvest, conduct complete nest surveys just before hatch on harvested islands, and document other bird and marine mammal species (pinnipeds present onshore) that may be impacted by harvest activities. Harvest sites will be selected based on several characteristics including size of colony; population parameters including productivity, population status, recent harvest, age of colony; and minimizing disturbance to other species present.

Gull monitoring will be conducted using a combination of ground and vessel surveys by landing at specific access points on the islands. NPS proposes to conduct: (1) ground-based

surveys at a maximum frequency of three visits per site; and (2) vessel-based surveys at a maximum frequency of two visits per site from the period of May 1 through September 30, 2018.

*Ground-Based Surveys for Gull Monitoring:* These surveys involve two trained observers conducting complete nest counts of the gull colonies. The survey will encompass all portions of the gull colony accessible to humans and thus represent a census of the harvestable nests. GPS locations of nests and associated vegetation along with the number of live and predated eggs will be collected during at least one visit to obtain precise nest locations to characterize nesting habitat. On subsequent surveys, nest counts will be tallied on paper so observers can move through the colony more quickly and minimize disturbance. Ground surveys will be discontinued after the first hatched chick is detected to minimize disturbance and mortalities. During ground surveys, observers will also record other bird and marine mammal species in proximity to colonies.

The observers would access each island using a kayak, a 32.8 to 39.4-foot (ft) (10 to 12 meter (m)) motorboat, or a 12 ft (4 m) inflatable rowing dinghy. The landing craft's transit speed would not exceed 4 knots (kn) (4.6 miles per hour (mph)). Ground surveys generally last 30 minutes (min) to two hours (hrs) each depending on the size of the island and the number of nesting gulls. During ground surveys, Level B take of harbor seals can occur from either acoustic disturbance from motorboat sounds or visual disturbance from the presence of observers. Past monitoring reports from 2015-2016 show that most takes (flushes or movements greater than one meter) from ground surveys occurred as vessels approached a study site to perform a survey. Takes usually occurred while the vessel was 50-100 meters from the island (NPS 2015b; NPS 2016).

*Vessel-Based Surveys for Gull Monitoring:* Surveys will be conducted from the deck of a motorized vessel (10 to 12 meters) and will be used to count the number of adult and fledgling gulls that are visible from the water (Zador, 2001; Arimitsu *et al.*, 2007). Vessel surveys provide more reliable estimate of the numbers of gulls in the colony than ground surveys because NPS can count nesting birds in areas that are inaccessible by foot and because the birds do not flush from the researchers presence. GLBA NP would conduct these surveys by circling the islands at approximately 100 m from shore while counting the number of adult and chick gulls as well as other bird and mammal species present. Surveys can be from 30 min to two hrs in duration. During vessel surveys, Level B take of harbor seals can occur from either acoustic disturbance from motorboat sounds or visual disturbance from the presence of observers. Past monitoring reports from 2015-2016 show that most takes (flushes or movements greater than one meter) from vessel surveys occurred as the vessel was 100 m from the island (NPS 2015b; NPS 2016).

#### Weather and Climate Monitoring

Weather and climate were chosen as priorities for long-term monitoring of the Glacier Bay ecosystem during development of the Southeast Alaska Network Vital Signs Monitoring Plan (Moynahan *et al.*, 2008). An inventory of existing weather stations revealed the need for additional station installations to represent the park's geographic (*i.e.*, east-west and north-south) and elevation-related climate gradients (Davey *et al.*, 2007). A system of eight new stations were ultimately identified to meet this goal, including the Lone Island station, which is proposed to be authorized for installation and maintenance here. Installation and maintenance procedures are described further in a 2015 Environmental Assessment and associated Finding of No Significant Impact (NPS 2015a). During climate monitoring activities, Level B take of harbor seals can

occur from either acoustic disturbance from motorboat sounds or visual disturbance from the presence of observers

Lone Island will be accessed by a 10-20 meter motor vessel to install and maintain the weather station. Materials will be carried by hand to the installation location. The exact location of the weather station on Lone Island has not been determined yet. However, the climate monitoring crew will work with NPS bird and pinniped biologists to place the weather station in an area that will not impact nesting seabirds and harbor seals. Also, it is possible that the weather station can be accessed in a fashion that will not disturb hauled out harbor seals, but NPS is requesting authorization to ensure its ability to install and perform yearly maintenance of the weather station.

Station configuration is typical of Remote Automated Weather Stations (RAWS) operated by land management agencies for weather and climate monitoring, fire weather observation, and other uses. A number of design elements will be modified as mitigation to reduce station visibility along a popular cruise ship route. An 8-ft monopole and associated guy lines will be installed onto which instrumentation and an environmental enclosure will be secured. A fuel cell and sealed 12V battery housed in a watertight enclosure will provide power to the station. Standard meteorological sensors for measuring precipitation, wind, temperature, solar radiation, and snow depth will be used. Data will be housed in internal memory and communicated via satellite telemetry to the Wildland Fire Management Institute where it is relayed to a variety of repositories such as the Western Regional Climate Center in near real-time.

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see “Proposed Mitigation” and “Proposed Monitoring and Reporting”).

## **Description of Marine Mammals in the Area of Specified Activities**

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's Stock Assessment Reports (SAR; [www.nmfs.noaa.gov/pr/sars/](http://www.nmfs.noaa.gov/pr/sars/)) and more general information about these species (*e.g.*, physical and behavioral descriptions) may be found on NMFS's website ([www.nmfs.noaa.gov/pr/species/mammals/](http://www.nmfs.noaa.gov/pr/species/mammals/)).

Table 1 lists all species with expected potential for occurrence within the survey areas and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. For taxonomy, we follow the Committee on Taxonomy (2016). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS's stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS's U.S. Alaska SARs (Muto *et al.*, 2017). All values presented

in Table 1 are the most recent available at the time of publication and are available in the 2016 SARs (Muto *et al.*, 2017).

**Table 1. Marine Mammals that Could Occur in the Project Area.**

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) <sup>1</sup>	Stock abundance (CV, N <sub>min</sub> , most recent abundance survey) <sup>2</sup>	PBR	Annual M/SI <sup>3</sup>
Order Carnivora – Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
<i>Steller's sea lion</i>	<i>Eumetopias jubatus</i>	Eastern U.S.	-/-; N	41,638 (n/a, 41,638, 2015)	306	236
		Western U.S.	E/D; Y	50,983	2,498	108
Family Phocidae (earless seals)						
Harbor seal	<i>Phoca vitulina richardii</i>	Glacier Bay / Icy Strait	-/-; N	7,210 (n.a.; 5,647; 2011)	169	104

1 - Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as a depleted and as a strategic stock.

2- NMFS marine mammal stock assessment reports online at: [www.nmfs.noaa.gov/pr/sars/](http://www.nmfs.noaa.gov/pr/sars/). CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable [explain if this is the case]

3 - These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.*, commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

*NOTE - Italicized species are not expected to be taken or proposed for authorization*

All marine mammal species that could potentially occur in the proposed survey areas are included in Table 1. However, the temporal and/or spatial occurrence of Steller's sea lion is such that take is not expected to occur and researchers would not approach Steller sea lions; therefore, they are not discussed further beyond the explanation provided here.

A total of five Steller sea lions have been observed during the 2015, 2016, and 2017 GLBA NP gull survey seasons (climate monitoring did not take place during these years) (NPS 2015b; NPS 2016; NPS 2017). However, all Steller sea lions that were spotted were observed outside the study area. Although Steller sea lions may be present in the action area, NPS has proposed to stay at least 100 m away from all Steller sea lions (see Proposed Mitigation). Also, due to their tolerance to vessels and lack of response to humans from a distance, Level B harassment of Steller sea lions at a distance of 100 meters is not likely to occur. Therefore, Steller sea lions are not discussed further in this proposed authorization other than with respect to mitigation.

In addition, sea otters may be found in GLBA NP. However, sea otters are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

#### *Harbor Seals*

Harbor seals are the most abundant marine mammal species found within the action area and are present year-round. Harbor seals range from Baja California north along the west coasts of Washington, Oregon, California, British Columbia, and Southeast Alaska; west through the Gulf of Alaska, Prince William Sound, and the Aleutian Islands; and north in the Bering Sea to Cape Newenham and the Pribilof Islands. The current statewide abundance estimate for Alaskan harbor seals is 205,090 (Muto *et al.*, 2017), based on aerial survey data collected during 1998-2011. In 2010, harbor seals in Alaska were partitioned into 12 separate stocks based largely on genetic structure (Allen and Angliss, 2010). Harbor seals have declined dramatically in some parts of their range over the past few decades, while in other parts their numbers have increased or remained stable over similar time periods.

Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice (Allen and

Angliss, 2014). They are non-migratory; their local movements are associated with tides, weather, season, food availability, and reproduction, as well as sex and age class (Allen and Angliss, 2014; Boveng *et al.*, 2012; Lowry *et al.*, 2001; Swain *et al.*, 1996). Pupping in Alaska generally takes place in May and June; while molting generally occurs from June to October.

Harbor seals of Glacier Bay range from Cape Fairweather southeast to Column Point, extending inland to Glacier Bay, Icy Strait, and from Hanus Reef south to Tenakee Inlet (Muto *et al.*, 2017). The Glacier Bay/Icy Strait stock showed a negative population trend from 1992 to 2008 in June and August for glacial (-7.7 percent /year; -8.2 percent/year) and terrestrial sites (-12.4 percent/year, August only) (Womble *et al.*, 2010 as cited in Muto *et al.*, 2017). Trend estimates by Mathews and Pendleton (2006) were similarly negative for both glacial and terrestrial sites. Prior to 1993, seal counts were up to 1,347 in the East Arm of Glacier Bay; 2008 counts were fewer than 200 (Streveler, 1979; Molnia, 2007 as cited in Muto *et al.*, 2017). These observed declines in harbor seals resulted in new research efforts which were initiated in 2004 and were aimed at trying to further understand the biology and ecology of seals and possible factors that may have contributed to the declines (*e.g.*, Herreman *et al.* 2009, Blundell *et al.* 2011, Hueffer *et al.* 2012, Womble and Gende 2013a, Womble *et al.* 2014) with an emphasis on possible factors that may have contributed to the declines. The recent studies suggest that (1) harbor seals in Glacier Bay are not significantly stressed due to nutritional constraints (Blundell *et al.* 2011), (2) the clinical health and disease status of seals within Glacier Bay is not different than seals from other stable or increasing populations (Hueffer *et al.* 2012), and (3) disturbance by vessels does not appear to be a primary factor driving the decline (Young 2009).

Long-term monitoring of harbor seals on glacial ice has occurred in Glacier Bay since the 1970s (Mathews and Pendleton, 2006) and has shown this area to support one of the largest

breeding aggregations in Alaska (Steveler, 1979; Calambokidis *et al.*, 1987 as cited in Muto *et al.*, 2015). After a large scale retreat of the Muir Glacier (more than 7 km), in the East Arm of Glacier Bay, between 1973 and 1986 and the subsequent grounding and cessation of calving in 1993, floating glacial ice was greatly reduced as a haul-out substrate for harbor seals and ultimately resulted in the abandonment of upper Muir Inlet by harbor seals (Calambokidis *et al.*, 1987; Hall *et al.*, 1995; Mathews, 1995 as cited in Muto *et al.*, 2017). The most recent long-term trend estimate for harbor seals at terrestrial sites in Glacier Bay for the 22-year period from 1992-2013 is -6.91 percent / year (SE=0.40, 95% CI = -7.69, -6.13) (Womble *et al.* 2015). This trend is less negative than previous estimates stated in the paragraph above. In addition, from 2004-2013, there was a 10-year trend estimate of 9.64 percent /yearr (SE=1.66, 95% CI = 6.40, 12.89) (Womble *et al.*, 2015). Similarly, estimates of number of seals at terrestrial and ice sites combined further indicate that the decline has lessened and seal numbers may even be increasing since 2004 (Table 3: Womble *et al.*, 2015).

Results from satellite telemetry studies suggest that harbor seals traveled extensively beyond the boundaries of Glacier Bay during the post-breeding season (September-April); however, harbor seals demonstrated a high degree of inter-annual site fidelity (93 percent) to Glacier Bay the following breeding season (Womble and Gende 2013b). Glacier Bay is also home to the only enforceable regulations in United States waters aimed at protecting harbor seals from vessel and human-related disturbance (Jansen *et al.*, 2010). Spatial and temporal regulations for vessels transiting in and near harbor seal breeding areas, and operating regulations once in those areas, are all aimed at reducing impacts of human visitation.

Harbor seals from the Glacier Bay/Icy Strait stock can be found hauled out at four of the gull monitoring study sites (Table 2). Seal counts from gull monitoring surveys likely represent a

minimum estimate due to difficulty observing marine mammals from a vessel. Counts from gull monitoring surveys are conducted during high tide so fewer seals may be present.

**Table 2. Number of observed harbor seals and Level B takes for the species under IHAs at gull study sites from 2015-2017 in GLBA NP.**

Site Name	Latitude (dd)	Longitude (dd)	2015 Observed/Taken	2016 Observed/Taken	2017 Observed/ Taken
Boulder	58.55535	-136.01814	13/11	21/0	4/0
Flapjack	58.58698	-135.98251	0/0	101/41	0/0
Geikie	58.69402	-136.31291	45/14	37/0	33/33
Lone	58.72102	-136.29470	98/32	58/39	49/0
<b>TOTAL</b>			<b>156/57</b>	<b>217/80</b>	<b>86/33</b>

As alluded to, there can be greater numbers of seals on the survey islands than what is detected by the NPS during the gull surveys. Aerial survey maximum counts show that harbor seals sometimes haul out in large numbers at all four locations (see Table 2 of the application). However, harbor seals hauled-out at Flapjack Island are generally on the southern end whereas the gull colony is on the northern end. Similarly, harbor seals on Boulder Island tend to haul out on the southern end while the gull colony is located and can be accessed on the northern end without disturbance. Aerial survey counts for harbor seals are conducted during low tide while ground and vessel surveys are conducted during high tide, which along with greater visibility during aerial surveys, may also contribute to why there are greater numbers of seals observed during the aerial surveys because there is more land available to use as a haul-out during low tide.

**Potential Effects of Specified Activities on Marine Mammals and their Habitat**

This section includes a summary and discussion of the ways that components of the specified activity may impact marine mammals and their habitat. The “Estimated Take by Incidental Harassment” section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The “Negligible Impact

Analysis and Determination” section considers the content of this section, the “Estimated Take by Incidental Harassment” section, and the “Proposed Mitigation” section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks.

As previously stated, acoustic and visual stimuli generated by motorboat operations and the presence of researchers have the potential to cause Level B harassment of harbor seals hauled out on Boulder, Lone, and Flapjack Islands, and Geikie Rock within GLBA NP. The following discussion provides further detail on the potential visual and acoustic disturbances harbor seals may encounter during the NPS’ gull and climate monitoring activities.

#### *Human and Vessel Disturbance*

Harbor seals may potentially experience behavioral disruption rising to the level of harassment from monitoring and research activities, which may include brief periods of airborne noise from research vessels and visual disturbance due to the presence and activity of the researchers both on vessels and on land during ground surveys. Disturbed seals are likely to experience any or all of these stimuli, and take may occur due to any in both isolation or combined with one another. Due to the likely constant combination of visual and acoustic stimuli resulting from the presence of vessels and researchers, we do not consider impacts from acoustic and visual stimuli separately.

Disturbances resulting from human activity can impact short- and long-term pinniped haul-out behavior (Renouf *et al.*, 1981; Schneider and Payne, 1983; Terhune and Almon, 1983; Allen *et al.*, 1984; Stewart, 1984; Suryan and Harvey, 1999; and Kucey and Trites, 2006). Disturbance include a variety of effects, including subtle to conspicuous changes in behavior,

movement, and displacement. Reactions to sound, if any, depend on the species, state of maturity, experience, current activity, reproductive state, time of day, and many other factors (Richardson *et al.*, 1995; Wartzok *et al.*, 2004; Southall *et al.*, 2007; Weilgart, 2007). These behavioral reactions from marine mammals are often shown as: changing durations of surfacing and dives, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior; avoidance of areas; and/or flight responses (*e.g.*, pinnipeds flushing into the water from haul-outs or rookeries). If a marine mammal does react briefly to human presence by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. However, if visual stimuli from human presence displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.*, Lusseau and Bejder, 2007; Weilgart, 2007).

Visual stimuli resulting from the presence of researchers have the potential to result in take of harbor seals on the research islands where seals haul out. As noted, harbor seals can exhibit a behavioral response (*e.g.*, including alert behavior, movement, vocalizing, or flushing) to visual stimuli). NMFS does not consider the lesser reactions (*e.g.*, alert behavior such as raising a head) to constitute harassment. Table 3 displays NMFS' three-point scale that categorizes pinniped disturbance reactions by severity. Observed behavior falling within categories two and three would be considered behavioral harassment.

Upon the occurrence of low-severity disturbance (*i.e.*, the approach of a vessel or person as opposed to an explosion or sonic boom), pinnipeds typically exhibit a continuum of responses, beginning with alert movements (*e.g.*, raising the head), which may then escalate to movement

away from the stimulus and possible flushing into the water. Flushed pinnipeds typically re-occupy the same haul-out within minutes to hours of a stimulus (Allen *et al.*, 1984 (Johnson and Acevedo-Gutierrez, 2007)). As a result, a minimal amount of animals may be taken more than once during the proposed survey activities so the number of takes likely represents exposures. However, since the highest number of annual visits to three gull study sites will be five and one survey site will be nine, it is expected that individual harbor seals at Boulder Island, Flapjack Island, and Geike Rock will be disturbed no more than five times per year and on Lone Island, no more than nine times per year.

**Table 3. Seal response to disturbance.**

Level	Type of response	Definition
1	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length. Alerts would be recorded, but not counted as a 'take'.
2	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees. These movements would be recorded and counted as a 'take'.
3	Flush	All retreats (flushes) to the water. Flushing into the water would be recorded and counted as a 'take'.

Numerous studies have shown that human activity can flush pinnipeds off haul-out sites and beaches (Kenyon, 1972; Allen *et al.*, 1984; Calambokidis *et al.*, 1991; Suryan and Harvey, 1999; and Mortenson *et al.*, 2000). In 1997, Henry and Hammil (2001) conducted a study to measure the impacts of small boats (*i.e.*, kayaks, canoes, motorboats and sailboats) on harbor seal haul-out behavior in Métis Bay, Quebec, Canada. During that study, the authors noted that the most frequent disturbances (n=73) were caused by lower speed, lingering kayaks and canoes (33.3 percent) as opposed to motorboats (27.8 percent) conducting high speed passes. The seals flight reactions could be linked to a surprise factor by kayaks-canoes, which approach slowly,

quietly and low on water making them look like predators. However, the authors note that once the animals were disturbed, there did not appear to be any significant lingering effect on the recovery of numbers to their pre-disturbance levels. In conclusion, the study showed that boat traffic at current levels has only a temporary effect on the haul-out behavior of harbor seals in the Métis Bay area.

In 2004, Johnson and Acevedo-Gutierrez (2007) evaluated the efficacy of buffer zones for watercraft around harbor seal haul-out sites on Yellow Island, Washington state. The authors estimated the minimum distance between the vessels and the haul-out sites; categorized the vessel types; and evaluated seal responses to the disturbances. During the course of the seven-weekend study, the authors recorded 14 human-related disturbances, which were associated with stopped powerboats and kayaks. During these events, hauled out seals became noticeably active and moved into the water. The flushing occurred when stopped kayaks and powerboats were at distances as far as 453 and 1,217 ft (138 and 371 m) respectively. The authors note that the seals were unaffected by passing powerboats, even those approaching as close as 128 ft (39 m), possibly indicating that the animals had become tolerant of the brief presence of the vessels and ignored them. The authors reported that on average, the seals quickly recovered from the disturbances and returned to the haul-out site in less than or equal to 60 minutes. Seal numbers did not return to pre-disturbance levels within 180 minutes of the disturbance less than one quarter of the time observed. The study concluded that the return of seal numbers to pre-disturbance levels and the relatively regular seasonal cycle in abundance throughout the area counter the idea that disturbances from powerboats may result in site abandonment (Johnson and Acevedo-Gutierrez, 2007). Specific reactions from past NPS gull monitoring surveys are detailed in this proposed IHA's Estimated Take Section.

### *Vessel Strike*

The probability of vessel and marine mammal interactions (*i.e.*, motorboat strike) occurring during the proposed research activities is unlikely due to the motorboat's slow operational speed, which is typically 2 to 3 knots (2.3 to 3.4 mph) and the researchers continually scanning the water for marine mammals presence during transit to the islands. Thus, NMFS does not anticipate that strikes or collisions would result from the movement of the motorboat.

### *Harbor Seal Pupping*

During the harbor seal breeding (May-June) and molting (August) periods, ~66 percent of seals in Glacier Bay inhabit the primary glacial ice site and ~22 percent of seals are found in and adjacent to a group of islands in the southeast portion of Glacier Bay. At the proposed study sites in 2016, only one pup was observed and in 2017 and 2015, no pups were observed during project activities. Pups have been observed during NPS aerial surveys during the pupping seasons (conducted during low tide), but in few numbers (see Table 4). NMFS does not anticipate that the proposed activities would result in separation of mothers and pups as pups are rarely seen at the study sites.

**Table 4. Average and maximum counts of hauled out harbor seal pups at glaucous-winged gull study sites during harbor seal monitoring aerial surveys from 2007-2016 (Womble unpublished data).**

Site	Average of Pup Count	StdDev of Pup Count	Max of Pup Count
Boulder Island	0.8	1.3	5
Flapjack Island	14.9	11.5	43
Geikie Rock	0.1	0.4	2
Lone Island	0.8	0.9	4
<b>Grand Total</b>	<b>4.74</b>	<b>9</b>	<b>43</b>

### *Summary*

Based on studies described here and previous monitoring reports from GLBA NP (Discussed further in this proposed IHA's Estimated Take Section), we anticipate that any pinnipeds found in the vicinity of the proposed project could have short-term behavioral reactions (*i.e.*, may result in marine mammals avoiding certain areas) due to noise and visual disturbance generated by: (1) motorboat approaches and departures and (2) human presence during gull and climate research activities. We would expect the pinnipeds to return to a haul-out site within minutes to hours of the stimulus based on previous research (Allen *et al.*, 1984). Pinnipeds may be temporarily displaced from their haul-out sites, but we do not expect that the pinnipeds would permanently abandon a haul-out site during the conduct of the proposed research as activities are short in duration (30 min to up to two hours), and previous surveys have demonstrated that seals have returned to their haul-out sites and have not permanently abandoned the sites.

NMFS does not anticipate that the proposed activities would result in the injury, serious injury, or mortality of pinnipeds. NMFS does not anticipate that vessel strikes would result from the movement of the motorboat. The proposed activities will not result in any permanent impact on habitats used by marine mammals, including prey species and foraging habitat. The potential effects to marine mammals described in this section of the document do not take into consideration the proposed monitoring and mitigation measures described later in this document (see the "Proposed Mitigation" and "Proposed Monitoring and Reporting" sections).

### *Marine Mammal Habitat*

NMFS does not anticipate that the proposed operations would result in any temporary or

permanent effects on the habitats used by the marine mammals in the proposed area, including the food sources they use (i.e., fish and invertebrates). The main impact associated with the proposed activity will be temporarily elevated noise levels from motorboats and human disturbance on marine mammals potentially leading to temporary displacement of a site, previously discussed in this notice. NPS' EIS for gull monitoring surveys in GLBA concluded that the activities do not result in the loss or modification to marine mammal habitat (NPS 2010). Additionally, any minor habitat alterations stemming from the installation and maintenance of NPS' climate tower will be located in an area that will not impact marine mammals. As a result, NMFS does not anticipate that the proposed activity would have any habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations. This includes no effects on marine mammal habitat or long- and short-term physical impacts to pinniped habitat in Glacier Bay, AK. In all, the proposed activities will not result in any permanent impact on habitats used by marine mammals, including prey species and foraging habitat.

### **Estimated Take**

This section provides an estimate of the number of incidental takes proposed for authorization through this IHA, which will inform both NMFS' consideration of whether the number of takes is "small" and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines "harassment" 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 disruption of

behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to motorboats and the presence of NPS personnel. Based on the nature of the activity, Level A harassment is neither anticipated nor proposed to be authorized. As described previously, no mortality is anticipated or proposed to be authorized for this activity. Below we describe how the take is estimated.

Harbor seals may be disturbed when vessels approach or researchers go ashore for the purpose of monitoring gull colonies and for the installation and maintenance of the Lone Island weather tower. Nevertheless, harbor seals tend to haul out in small numbers at study sites. Using monitoring report data from 2015 to 2017 (see raw data from Tables 1 of the 2017, 2016 and 2015 Monitoring Reports), the average number of harbor seals per survey visit was calculated to estimate the approximate number of seals observers would find on any given survey day. As a result, the following averages were determined for each island: Boulder Island – average 3.45 seals, Flapjack Island – average 10.10 seals, Geikie Rock – average 9.58 seals, and Lone Island average of 18.63 seals (See Table 5). Estimated take for gull and climate monitoring was calculated by multiplying the average number of seals observed during past gull monitoring surveys (2015-2017) by the number of total site visits. This includes five visits to Boulder Island, Flapjack Island, and Geike Rock and nine visits to Lone Island (to include four site visits for climate monitoring activities). Therefore, the total incidents of harassment equals 283 (See Table 5).

During climate monitoring, which is expected to take place between March 2018 to April 2018, and October 2018 to February 2019, seal numbers are expected to dramatically decline

within the action area. Although harbor seal survey data within GLBA NP is lacking during the months of October through February, results from satellite telemetry studies suggest that harbor seals travel extensively beyond the boundaries of GLBA NP during the post-breeding season (September-April) (Womble and Gende, 2013b). Therefore, using observation data from past gull monitoring activities (that occurred from May to September) is applicable when estimating take for climate monitoring activities, as it will provide the most conservative estimates.

**Table 5. Proposed Level B takes by harassment during NPS gull and climate monitoring surveys.**

Site proposed for survey	Average number of seals observed Per Visit*	Number of proposed site visits	Proposed Level B take <sup>1</sup>	Percentage of Population
Boulder Island	3.45 seals	5	17.27	0.24
Flapjack Island	10.10 seals	5	50.50	0.70
Geikie Rock	9.58 seals	5	47.92	0.66
Lone Island	18.63 seals	9**	167.73	2.33
<b>Total</b>			<b>283</b>	<b>3.93</b>

\*Data from 2015-2017 NPS gull surveys (NPS 2015b; NPS 2016; NPS 2017).

\*\*Number includes four additional days for climate monitoring activities

### Proposed Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, “and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking” for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

<sup>1</sup>See Table 3 for NMFS’ three-point scale that categorizes pinniped disturbance reactions by severity. NMFS only considers responses falling into Levels 2 and 3 as harassment (Level B Take) under the MMPA.

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

1) the manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat, as well as subsistence uses. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned). and;

2) the practicability of the measures for applicant implementation, which may consider such things as cost and impact on operations.

#### *Mitigation for Marine Mammals and their Habitat*

NPS has based the mitigation measures which they propose to implement during the proposed research, on the following: (1) protocols used during previous gull research activities as required by our previous authorizations for these activities; and (2) recommended best practices in Womble *et al.* (2013a); Richardson *et al.* (1995); and Weir and Dolman (2007).

To reduce the potential for disturbance from acoustic and visual stimuli associated with gull and climate monitoring activities within GBLA NP, park personnel have proposed to implement the following mitigation measures for marine mammals:

#### *Pre-Survey Monitoring*

Prior to deciding to land onshore to conduct gull and climate monitoring, the researchers would use high-powered image stabilizing binoculars from the watercraft to document the

number, species, and location of hauled-out marine mammals at each island. The vessels would maintain a distance of 328 to 1,640 ft (100 to 500 m) from the shoreline to allow the researchers to conduct pre-survey monitoring. If offshore predators, harbor seal pups of less than one week of age, or Steller sea lions are observed, researchers will follow the protocols for site avoidance discussed below. If neither of these instances occur, researchers will then perform a controlled landing on the survey site.

#### *Site Avoidance*

If a harbor seal pup less than one week old or a harbor seal predator (*i.e.* killer whale) is observed near or within the action area, researchers will not go ashore to conduct the gull or climate monitoring activities. Also, if Steller sea lions are observed within or near the study site, researchers will maintain a distance of at least 100 m from the animals at all times.

#### *Controlled Landings*

The researchers would determine whether to approach the island based on type of animals present. Researchers would approach the island by motorboat at a speed of approximately 2 to 3 kn (2.3 to 3.4 mph). This would provide enough time for any marine mammals present to slowly enter the water without panic (flushing). The researchers would also select a pathway of approach farthest from the hauled-out harbor seals to minimize disturbance.

#### *Minimize Predator Interactions*

If the researchers visually observe marine predators (*i.e.*, killer whales) present in the vicinity of hauled-out marine mammals, the researchers would not approach the study site.

#### *Disturbance Reduction Protocols*

While onshore at study sites, the researchers would remain vigilant for hauled-out marine mammals. If marine mammals are present, the researchers would move slowly and use quiet voices to minimize disturbance to the animals present.

### *Mitigation Conclusions*

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, areas of similar significance, and on the availability of such species or stock for subsistence uses.

### **Proposed Monitoring and Reporting**

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth, requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);

- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.*, age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

NPS proposes to conduct marine mammal monitoring during the present project, in order to implement the mitigation measures that require real-time monitoring and to gain a better understanding of marine mammals and their impacts to the project's activities. The researchers will monitor the area for pinnipeds during all research activities. Monitoring activities will consist of conducting and recording observations of pinnipeds within the vicinity of the proposed research areas. The monitoring notes would provide dates, location, species, the researcher's activity, behavioral state, numbers of animals that were alert or moved greater than one meter, and numbers of pinnipeds that flushed into the water.

The method for recording disturbances follows those in Mortenson (1996). NPS would record disturbances on a three-point scale that represents an increasing seal response to the

disturbance (Table 3). NPS will record the time, source, and duration of the disturbance, as well as an estimated distance between the source and haul-out.

### *Previous Monitoring Results*

NPS has complied with the monitoring requirements under the previous authorizations. NMFS posted the 2017 report on our website at [www.nmfs.noaa.gov/pr/permits/incidental/research.htm](http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm) and the results from the previous NPS monitoring reports support our findings that the proposed mitigation measures required under the 2014 - 2017 Authorizations provide the means of effecting the least practicable impact on the species or stock. During the last 3 years of this activity, approximately a third of all observed harbor seals have flushed in response to these activities (37 percent in 2015, 37 percent in 2016, and 38 percent in 2017). The following narratives provide a detailed account of each of the past 3 years of monitoring (Summarized in Table 6):

In 2017, of the 86 harbor seals that were observed: 33 flushed in to the water, 0 became alert but did not move >1 m, and 0 moved >1 m but did not flush into the water. In all, no harbor seal pups were observed. On two occasions, harbor seals were flushed into the water when islands were accessed for gull surveys. In these instances, the vessel approached the island at a very slow speed and most of the harbor seals flushed into the water at approximately 150 - 185 m. On two events, harbor seals were observed hauled out on Boulder Island and not disturbed due to their distance from the survey area. In addition, during two pre-monitoring surveys conducted for Lone Island, harbor seals were observed hauled out and the survey was not conducted to prevent disturbance of harbor seals.

In 2016, of the 216 harbor seals that were observed: 77 flushed in to the water; 3 became alert but did not move >1 m, and 17 moved >1 m but did not flush into the water. On five

occasions, harbor seals were flushed into the water when islands were accessed for gull surveys. In these instances, the vessel approached the island at a very slow speed and most of the harbor seals flushed into the water at approximately 50-100 m. In four instances, fewer than 25 harbor seals were present, but in one instance, 41 harbor seals were observed flushing into the water when NPS first saw them as they rounded a point of land in kayaks accessing Flapjack Island. In five instances, harbor seals were observed hauled out and not disturbed due to their distance from the survey areas.

In 2015, of the 156 harbor seals that were observed: 57 flushed in to the water; 25 became alert but did not move >1 m, and zero moved >1 m but did not flush into the water. No pups were observed. On 2 occasions, harbor seals were observed at the study sites in numbers <25 and the islands were accessed for gull surveys. In these instances, the vessel approached the island at very slow speed and most of the harbor seals flushed into water at approximately 200 m (Geikie 8/5/15) and 280 m (Lone, 8/5/15). In one instance, (Lone, 6/11/15) NPS counted 20 harbor seals hauled out during our initial vessel-based monitoring, but once on the island, NPS observed 33 hauled out seals. When NPS realized the number of seals present, they ceased the survey and left the area, flushing 13 seals into the water.

**Table 6. Summary Table of 2015-2017 Monitoring Reports for NPS Gull Studies.**

<b>Monitoring Year</b>	<b>Number of Adults Observed</b>	<b>Number of Pups Observed</b>	<b>Flushed into water</b>	<b>Moved &gt;1 m but did not flush</b>	<b>Alert but did not move &gt;1 m</b>
2017	86	0	33	0	0
2016	216	1	77	3	17
2015	156	0	57	0	25

### *Coordination*

NPS can add to the knowledge of pinnipeds in the proposed action area by noting observations of: (1) unusual behaviors, numbers, or distributions of pinnipeds, such that any potential follow-up research can be conducted by the appropriate personnel; (2) tag-bearing carcasses of pinnipeds, allowing transmittal of the information to appropriate agencies and personnel; and (3) rare or unusual species of marine mammals for agency follow-up. NPS actively monitors harbor seals at breeding and molting haul-out locations to assess trends over time (*e.g.*, Mathews & Pendleton, 2006; Womble *et al.* 2010, Womble and Gende, 2013b). This monitoring program involves collaborations with biologists from the Alaska Department of Fish and Game, and the Alaska Fisheries Science Center. NPS will continue these collaborations and encourage continued or renewed monitoring of marine mammal species. NPS will coordinate with state and Federal marine mammal biologists to determine what additional data or observations may be useful for monitoring marine mammals and haul-outs in GLBA NP. Additionally, NPS would report vessel-based counts of marine mammals, branded, or injured animals, and all observed disturbances to the appropriate state and Federal agencies.

### *Reporting*

NPS will submit a draft monitoring report to NMFS no later than 90 days after the expiration of the Incidental Harassment Authorization or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. The report will include a summary of the information gathered pursuant to the monitoring requirements set forth in the Authorization. NPS will submit a final report to NMFS within 30 days after receiving comments on the draft report. If NPS receives no comments from NMFS on the report, NMFS will consider the draft report to be the final report.

The report will describe the operations conducted and sightings of marine mammals near the proposed project. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring. The report will provide:

1. A summary and table of the dates, times, and weather during all research activities;
2. Species, number, location, and behavior of any marine mammals observed throughout all monitoring activities;
3. An estimate of the number (by species) of marine mammals exposed to acoustic or visual stimuli associated with the research activities; and
4. A description of the implementation and effectiveness of the monitoring and mitigation measures of the Authorization and full documentation of methods, results, and interpretation pertaining to all monitoring.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the authorization, such as an injury (Level A harassment), serious injury, or mortality (*e.g.*, vessel-strike, stampede, etc.), NPS shall immediately cease the specified activities and immediately report the incident to the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Description and location of the incident (including tide level if applicable);
- Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;

- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

NPS shall not resume its activities until NMFS is able to review the circumstances of the prohibited take. NMFS will work with NPS to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. NPS may not resume their activities until notified by us via letter, email, or telephone.

In the event that NPS discovers an injured or dead marine mammal, and the lead researcher determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as we describe in the next paragraph), NPS will immediately report the incident to the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator. The report must include the same information identified in the paragraph above this section. Activities may continue while we review the circumstances of the incident. We will work with NPS to determine whether modifications in the activities are appropriate.

In the event that NPS discovers an injured or dead marine mammal, and the lead visual observer determines that the injury or death is not associated with or related to the authorized activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), NPS will report the incident to the incident to the Office of Protected Resources, NMFS and the Alaska Regional Stranding Coordinator within 24 hours of the discovery. NPS researchers will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to us. NPS can continue their research activities.

#### **Negligible Impact Analysis and Determination**

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS’s implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

Due to the project’s minimal levels of visual and acoustic disturbance, NMFS does not expect NPS’s specified activities to cause long-term behavioral disturbance, abandonment of the haul-out area, injury, serious injury, or mortality. Additional factors for our Negligible Impact Determination are listed below:

- The takes from Level B harassment would be due to potential behavioral disturbance. The effects of the research activities would be limited to short-term startle responses and localized behavioral changes due to the short and sporadic duration of the research activities;

- The proposed activities would not take place in areas of significance for marine mammal feeding, resting, breeding, or pupping and would not adversely impact marine mammal habitat;

- The proposed activities will affect a small portion of harbor seal habitat within GLBA NP for only a short amount of time. This, combined with a large availability of alternate areas for pinnipeds to haul out enables the seals to effectively avoid disturbances from research operations;

- Anecdotal observations and results from previous monitoring reports show that the pinnipeds returned to the various sites and did not permanently abandon haul-out sites after NPS conducted their research activities; and

- Harbor seals may flush in the water despite researchers best efforts to keep calm and quiet around seals; however, injury or mortality has never been documented nor is anticipated from flushing events. Researchers would approach study sites slowly to provide enough time for any marine mammals present to slowly enter the water without panic.

As stated, NMFS does not anticipate any injuries, serious injuries, or mortalities to result from NPS's proposed activities and we do not propose to authorize injury, serious injury, or mortality. Harbor seals may exhibit behavioral modifications, including temporarily vacating the area during the proposed gull and climate research activities to avoid human disturbance.

Further, these proposed activities would not take place in areas of significance for marine mammal feeding, resting, breeding, or pupping and would not adversely impact marine mammal habitat. Due to the nature, degree, and context of the behavioral harassment anticipated, we do not expect the activities to impact annual rates of recruitment or survival.

NMFS does not expect pinnipeds to permanently abandon any area surveyed by researchers, as is evidenced by continued presence of pinnipeds at the sites during annual gull monitoring. In summary, NMFS anticipates that impacts to hauled-out harbor seals during NPS' research activities would be behavioral harassment of limited duration (*i.e.*, up to two hours per visit) and limited intensity (*i.e.*, temporary flushing at most).

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

### **Small Numbers**

As noted above, only small numbers of incidental take may be authorized under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

As mentioned previously, NMFS estimates that NPS' activities could potentially affect, by Level B harassment only, one species of marine mammal under our jurisdiction. For harbor seals, this estimate is small (3.93 percent, see Table 4) relative of the Glacier Bay/Icy Strait stock of harbor seals (7,210 seals, see Table 1). In addition to this, there is a high probability that

repetitive takes of the same animal may occur which reduces the percentage of population even further.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

### **Unmitigable Adverse Impact Analysis and Determination**

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. NPS prohibits subsistence harvest of harbor seals within the GLBA NP (Catton, 1995). Therefore, NMFS has preliminarily determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

### **Endangered Species Act (ESA)**

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. § 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally, in this case with Alaska Region Protected Resources Division Office, whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is proposed for authorization or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

## **Proposed Authorization**

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the National Park Service for conducting gull and climate monitoring activities at GLBA NP from March 1 2018 to February 29 2019, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. This section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

1. This Incidental Harassment Authorization (IHA) is valid for a period of one year from March 1 2018 to February 28 2019.

2. This Authorization is valid only for research activities that occur at the following locations: Boulder, Flapjack, and Lone Islands, and Geikie Rock in GLBA NP, Alaska.

### *3. General Conditions*

(a) A copy of this IHA must be in the possession of NPS, its designees, and field crew personnel (including research collaborators) operating under the authority of this IHA at all times.

(b) The species authorized for taking are Alaskan harbor seals (*Phoca vitulina richardii*).

(c) The taking, by Level B harassment only, is limited to 283 harbor seals (*Phoca vitulina richardii*).

(d) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.

(e) The NPS may conduct a maximum of five days of gull monitoring for each survey location listed in this IHA. In addition, the NPS may conduct a maximum of four days of activities related to climate monitoring on Lone Island.

#### 4. *Mitigation Measures*

The holder of this Authorization is required to implement the following mitigation measures:

- (a) Conduct pre-survey monitoring before deciding to access a study site;
- (b) Prior to deciding to land onshore of Boulder, Lone, or Flapjack Islands or Geikie Rock, the Holder of this Authorization shall use high-powered image stabilizing binoculars before approaching at distances of greater than 500 m (1,640 ft) to determine and document the number, species, and location of hauled-out marine mammals;
- (c) During pre-survey monitoring vessels shall maintain a distance of 328 to 1,640 ft (100 to 500 m) from the shoreline;
- (d) If the Holder of the Authorization determines that a harbor seal pup less than one week of age is present within or near a study site or a path to a study site, the Holder shall not access the island and nor conduct the study at that time. In addition, if during the activity, a pup less than one week of age is observed, all research activities shall conclude for the day;
- (e) Maintain a distance of at least 100 m from any Steller sea lion;
- (f) The NPS shall perform controlled and slow ingress to islands where harbor seals are present;
- (g) NPS shall select a pathway of approach farthest from the hauled-out harbor seals to minimize disturbance;
- (h) The NPS shall monitor for offshore predators at the study sites and shall avoid research activities when killer whales (*Orcinus orca*) or other predators are present; and
- (i) The NPS shall maintain a quiet working atmosphere, avoid loud noises, and shall use hushed voices in the presence of hauled-out pinnipeds.

5. *Monitoring*

The holder of this Authorization is required to conduct marine mammal monitoring during gull and climate monitoring activities. Monitoring and reporting shall be conducted in accordance with the following: NPS and/or its designees shall record the following:

(a) Species counts (with numbers of adults/juveniles); and Numbers of disturbances, by species and age, according to a three-point scale of intensity (Table 7) including:

**Table 7. Seal response to disturbance.**

Level	Type of response	Definition
	Alert	Seal head orientation or brief movement in response to disturbance, which may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, changing from a lying to a sitting position, or brief movement of less than twice the animal's body length. Alerts shall be recorded, but not counted as a 'take'.
	Movement	Movements in response to the source of disturbance, ranging from short withdrawals at least twice the animal's body length to longer retreats over the beach, or if already moving a change of direction of greater than 90 degrees.
	Flush	All retreats (flushes) to the water.

(b) Information on the weather, including the tidal state and horizontal visibility;

(c) The observer shall note the presence of any offshore predators (date, time, number, and species); and

(d) The observer shall note observations (1) unusual behaviors, numbers, or distributions of pinnipeds, such that any potential follow-up research can be conducted by the appropriate personnel, (2) marked or tag-bearing pinnipeds or carcasses, allowing transmittal of the information to appropriate agencies, and (3) any rare or unusual species of marine mammal for agency follow-up. The observer shall report that information to NMFS' Alaska Fisheries Science Center at (206) 526-4045 and/or the Alaska Department of Fish and Game Marine Mammal

Program at *shawna.karpovich@alaska.gov* (harbor seals) *dfa.dwc.sealions@alaska.gov* (Steller sea lions), or *lori.quakenbush@alaska.gov* (Whales).

## 6. Reporting

The holder of this Authorization is required to:

(a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the informational elements described in Monitoring Section of this IHA;

(b) Reporting injured or dead marine mammals;

(i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as an injury (Level A harassment), serious injury, or mortality, NPS shall immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8440), NMFS, and the Alaska Regional Stranding Coordinator (877-925-7773), NMFS. The report must include the following information:

1. Time and date of the incident;
2. Description of the incident;
3. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
5. Species identification or description of the animal(s) involved;

6. Fate of the animal(s); and

7. Photographs or video footage of the animal(s).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with NPS to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. NPS may not resume their activities until notified by NMFS;

(ii) In the event that NPS discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), NPS shall immediately report the incident to the Office of Protected Resources, NMFS, and the Alaska Stranding Coordinator, NMFS.

The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with NPS to determine whether additional mitigation measures or modifications to the activities are appropriate; and

(iii) In the event that NPS discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), NPS shall report the incident to the Office of Protected Resources, NMFS, and the Alaska Stranding Coordinator, NMFS, within 24 hours of the discovery. NPS shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS.

7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

### **Request for Public Comments**

We request comment on our analyses, the draft authorization, and any other aspect of this Notice of Proposed IHA for the proposed action. Please include with your comments any supporting data or literature citations to help inform our final decision on the request for MMPA authorization.

Dated: November 28, 2017.

**Donna S. Wieting,**

*Director,*

*Office of Protected Resources,*

*National Marine Fisheries Service.*

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