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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 216

[Docket No.: 111207730-1729-01]

RIN 0648-BB71

Marine Mammals: Alaska Harbor Seal Habitats

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

ACTION: Advance notice of proposed rulemaking; request for comments.

SUMMARY: NMFS is considering whether to propose regulations to protect glacially-associated harbor seal habitats in Alaska used for pupping, nursing, resting, and molting and limit vessel disturbance to harbor seals in those habitats. The scope of this advance notice of proposed rulemaking (ANPR) encompasses the activities of any person or vessel that may diminish the value of glacial habitats for harbor seals, result in the unauthorized taking of harbor seals, or cause detrimental individual- or population-level impacts. NMFS requests information and comments on whether regulations are needed, and if so, what type of measures would be appropriate to protect harbor seals from the effects of vessel activity in glacial habitats. Any comments or information received in response to this ANPR will be considered prior to any proposed rulemaking.

DATES: Written comments must be received on or before (insert date 60 days after date of publication in the FEDERAL REGISTER).

ADDRESSES: You may submit comments on this document, identified by FDMS

Docket Number [NOAA-NMFS-2011-0284] by any one of the following methods:

- Electronic Submission: Submit all electronic public comments via the Federal eRulemaking Portal at http://www.regulations.gov/#!docketDetail;D=[NOAA-NMFS-2011-0284], click the "Comment Now!" icon, complete the required field, and enter or attach your comments.
- Mail: Address written comments to Jon Kurland, Assistant Regional Administrator for Protected Resources, Alaska Region NMFS, Attn: Ellen Sebastian. Mail comments to P. O. Box 21668, Juneau, AK 99802-1668.
- Fax: Address written comments to Jon Kurland, Assistant Regional Administrator for Protected Resources, Alaska Region NMFS, Attn: Ellen Sebastian. Fax comments to (907) 586-7557.
- Hand delivery to the Federal Building: Address written comments to Jon Kurland for Assistant Regional Administrator for Protected Resources, Alaska Region NMFS, Attn: Ellen Sebastian. Deliver comments to709 West 9th Street, Room 420A, Juneau, AK.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on www.regulations.gov without change. All Personal Identifying Information (e.g., name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter "N/A" in the required fields, if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word,

Excel, or Adobe PDF file formats only.

FOR FURTHER INFORMATION CONTACT: Alicia Bishop, Marine Mammal Specialist, Protected Resources Division, NMFS Alaska Region, at (907) 586-7224 or alicia.bishop@noaa.gov.

SUPPLEMENTARY INFORMATION: This notice is issued under the authority of the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 et seq.).

Background

Current MMPA Prohibitions and NMFS Guidelines and Regulations

The Marine Mammal Protection Act (MMPA), 16 U.S.C. 1361 et seq., contains a general prohibition on take of marine mammals. Section 3(13) of the MMPA defines the term "take" as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." Except with respect to military readiness activities and certain scientific research activities, the MMPA defines the term 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]."

NMFS regulations implementing the MMPA further describe the term "take" to include: "the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in disturbing or molesting a marine mammal" (50 CFR 216.3). The MMPA provides limited exceptions to the prohibition on take for activities such as scientific research, public display, and incidental take in

commercial fisheries or incidental take by persons engaged in other specified activities. Such activities require a permit or authorization, which may be issued only after a thorough agency review. NMFS has developed regulations for vessel approaches to marine mammals, pursuant sections 112(a) of the MMPA and 11(f) of the ESA. If NMFS develops proposed regulations to protect harbor seals from the effects of vessel activity in glacial habitats, the agency would rely on its authority under section 112(a) of the MMPA to promulgate the regulations.

To date, NMFS has regulated close vessel approaches to marine mammals in Hawaii, Alaska, and the North Atlantic. In 1995, NMFS published a final rule to establish a 100-yard (91-m) approach limit for humpback whales (Megaptera novaeangliae) in Hawaii (60 FR 3775, January 19, 1995). In 1997, an interim final rule was published to prohibit approaching critically endangered North Atlantic right whales (Eubalaena glacialis) closer than 500 yards (457 m) (62 FR 6729, February 13, 1997). In 2001, NMFS published a final rule (66 FR 29502, May 31, 2001) establishing a 100-yard (91-m) approach limit for humpback whales in Alaska that included a "slow, safe speed" provision for vessels operating near a humpback whale. In 2011, NMFS published a final rule (76 FR 20870, April 14, 2011) prohibiting vessels from approaching killer whales (Orcinus orca) within 200 yards (183 m) and from parking in the path of whales when in inland waters of Washington State. The purpose of the regulation is to protect killer whales from interference and noise associated with vessels.

Vessel speed is also restricted to protect North Atlantic right whales in key port entrances along the U.S. Atlantic seaboard during periods that correspond to right whale occurrence. These regulations implement speed restrictions of 10 knots or less for certain

vessels (65 ft or greater) to reduce the likelihood and severity of ship collisions with right whales. Other measures to protect right whales include reconfiguration of certain traffic separation schemes, voluntary dynamic management areas, and Mandatory Ship Reporting systems.

In addition to specific regulations that apply to the viewing of marine wildlife, NMFS provides general guidance to minimize the chances of a "take" occurring during wildlife viewing activities. This guidance is consistent with that of many federal and state agencies who advocate responsible wildlife viewing to observe animal behavior in the wild without causing disturbance. Each of the six NMFS Regions has developed recommended viewing guidelines to educate the general public on how to view marine mammals responsibly in the wild and avoid causing take. Guidelines for marine mammal viewing in Alaska are available on the Internet at: http://www.fakr.noaa.gov/protectedresources/mmv/guide.htm. The NMFS "Code of Conduct" under the marine mammal viewing guidelines for viewing harbor seals (Phoca vitulina richardii) in Alaska recommends that users remain at least 100 yards (91m) away, and advises viewers to use extra caution when viewing seals hauled out on land or ice as harassment may occur at distances greater than 100 yards. Further, the guidelines state that when viewing marine mammals, actions should not cause a change in the behavior of the animals. Viewers should avoid making the animals aware of their presence by keeping noise low, staying hidden, and staying downwind. Pups are often left alone while the mother feeds and should not be disturbed.

Need for Increased Harbor Seal Management in Glacial Fjords in Alaska

In Alaska, harbor seals range from southeast Alaska, west through the Gulf of

Alaska and Aleutian Islands, in the Bering Sea north to Cape Newenham, and the Pribilof Islands. However, tidewater glacial habitats are only available to seals in south-central and southeast Alaska. Tidewater glacier areas serve as important habitats for harbor seals supporting some of the largest aggregations of this species in the world. Consolidated areas of floating glacial ice serve as important substrate for harbor seals to rest, give birth, nurse, and molt. In total, fewer than two dozen ice-filled inlets in Alaska provide this unique form of seal habitat. An estimated 10-15% of the harbor seals in Alaska depend seasonally on these glacial habitats (Bengtson et al. 2007); in some glacial areas, such as Icy Bay near Yakutat, minimum seal counts have been as high as 5,000 seals (Jansen et al. 2006, Jansen et al. 2010b). Some authors have suggested that these aggregations serve as source populations given the higher harbor seal productivity compared to terrestrial sites (Hoover 1983, Womble et al. 2010).

Over the last few decades, harbor seal abundance has significantly declined in two glacial fjords: Glacier Bay in southeast Alaska and Aialik Bay in south-central Alaska (Hoover-Miller 1994; Mathews and Pendleton 2006; Womble et al. 2010; Hoover-Miller et al. 2011). Declining populations in these areas are a concern because glacial fjords are believed to provide seals refuge from predators and provide habitat for large aggregations of seals. A decline in the quality of this habitat (i.e., carrying capacity) via vessel disturbance could have broader impacts on harbor seal populations statewide. In addition, glacial sites in Alaska are now experiencing high rates of ice loss due to climate change, which is likely to further alter habitat quality and may lead to compromised population health (Arendt et al. 2002; Larsen et al. 2007; Womble et al. 2010).

Vessel-based tourism in Alaska has been increasing rapidly over the last few

decades. In particular, there has been a dramatic increase in the number of larger cruise ships (i.e., carrying ≥250 passengers) visiting tidewater glacial fjords. The number of cruise ship passengers visiting Alaska per year now exceeds 1 million (Alaska Department of Commerce 2012). Currently about 500 ship visits per year occur in fjords that do not have specific rules regarding approaches to seals, and a recent study indicates that there are high levels of seal disturbance despite existing voluntary guidelines for approach distances to seals (Jansen et al. 2010b). In 2012, at Glacier Bay – where cruise ship approaches to seals are regulated by the U.S. National Park Service (NPS) – 209 cruise ships visited. At other glacial seal haul outs where ships are unregulated, the frequency of scheduled cruise ship visits in 2012 was: Tracy Arm fjord, 257 visits; Disenchantment Bay, 125 visits; and College Fjord, 39 visits (Cruise Line Agencies of Alaska 2011). Concern about impacts of vessel traffic is elevated for Tracy Arm and Disenchantment Bay where daily visitation is high with as many as 5 cruise ships visiting on a given day. At Endicott Arm, cruise ship traffic was once extremely rare, but now the Arm experiences approximately 30-50 transits by tour ships per year (USFS 2010; Cruise Lines Agencies of Alaska 2011; Cruise Ship Calendar 2012).

Small (i.e., charter boats ≤45 passengers) and mid-size (i.e., tour boats 45-250 passengers) vessel traffic in Alaska has also increased substantially in recent years. At least three small- and mid-size ships added Endicott Arm to their weekly summer itineraries in recent years, and two more mid-size commercial tour vessels regularly visited Endicott Arm in 2011 (USFS 2010). The potential for disturbance to harbor seals is magnified by numerous small boats (zodiacs, kayaks) regularly dispatched by mid-size vessels, which spend prolonged time in the area for glacier and seal viewing

opportunities. U.S. Forest Service Visitor Encounters Monitoring Data indicate that visitors in 2010 had nearly twice the motorized encounters at the end of Endicott Arm as visitors had in 2001 (USFS 2010).

In light of these compounding factors, disturbance from vessel traffic becomes a more significant threat to seal survival and reproduction, and thus the long-term stability of seal populations. Recent estimates by NMFS scientists suggest that a single ship can flush up to 16% of the seals present; these estimates do not factor in multiple ships visiting within a day and often times concurrently (Brady et al. 2010; Jansen et al. 2010a). Pups flushed from ice floes are at risk from cold temperature stress with small increases in time submerged in water of 3-5° C (Jansen et al. 2010b). Further, disturbance can increase the risk of mother-pup separation during the short (~3 weeks) but critical life stage of weaning when pups must receive maternal sustenance and protection to survive.

A number of recent studies have evaluated the effects of vessels on harbor seals in various parts of Alaska:

- In 2001, the Yakutat Tlingit Tribe expressed concern about a gradual seal population decline in Disenchantment Bay occurring in conjunction with, and believed to be caused by, dramatic increases in visitation by cruise ships over the previous 20 years. In 2002, a study by NMFS in collaboration with the Yakutat Tlingit Tribe and Northwest Cruise Ship Association examined the effects of cruise ships on the behavior, abundance, and distribution of harbor seals in Disenchantment Bay. Results from the study indicated that the likelihood of harbor seals vacating the ice and entering the water increased significantly when

ships approached closer than 547 yds (500 m) (Jansen et al. 2006; Jansen et al. 2010b). Seals approached by a ship at 110 yds (100 m) were 25 times more likely to enter the water than seals approached at 547 yds (500 m). Seals increasingly flushed from the ice when cruise ships approached closer than 437 yds (400 m), with about 90 percent flushing at 100 yds (91 m) – the current guideline for minimum approach distance (Jansen et al 2010b). Seals were also four times more likely to enter the water when ships approached them directly rather than passing abeam. More recent results stemming from the NMFS 2002 study showed that the presence of cruise ships altered the large-scale spatial distribution of seals. Seal aggregation density increased in response to cruise ships (Jansen et al. In review). Such evidence of large-scale distribution impacts increases concern that ship presence could be altering population birth/death rates, which are difficult to measure.

- A study evaluating and characterizing the exposure of harbor seals to vessel traffic in Johns Hopkins Inlet, Glacier Bay, found that vessel presence altered seal haulout patterns by increasing the rate of flushing (Young 2009). Vessel presence also caused increased seal vigilance and decreased resting. Both the rate and frequency of seal flushing resulting from motorized vessel presence were greater than from kayaks; cruise ships were found to be the most disruptive vessel type. In general, likelihood of seal disturbance was found to increase with vessel size and proximity. Although the overall proportion of seals impacted by vessel disturbance in Johns Hopkins Inlet was relatively low, the author concluded that repeated disturbance may induce the relocation of seals to other areas, and direct

energetic impacts may decrease the individual fitness levels of pups. These findings indicate that vessel disturbance could be playing both a direct and indirect role in the decrease of harbor seal abundance in Johns Hopkins Inlet (Young 2009).

- A study in Endicott Arm investigated whether there was a specific change in harbor seal behavior as a result of vessel presence (Smith et al. 2010). Initial findings indicated that seals entered the water more often in the presence of a vessel. Those seals that remained hauled out in the presence of a vessel exhibited a change in behavior by lifting and moving their heads (indicating an alert state in response to vessel presence). Researchers concluded that the presence of vessels (all sizes) in Endicott Arm changes the behavior of harbor seals, which likely results in associated energetic costs to the animals. With frequent occurrence, vessel disturbance could negatively influence harbor seal survival, especially during already costly energetic periods associated with breeding, pupping, nursing, and molting (Smith et al. 2010).
- Disturbance to wildlife is typically measured by examining behavioral responses to anthropogenic stressors. In addition, physiological responses of seals to vessels are currently being examined in Tracy and Endicott Arms (Karpovich and Blundell 2009). The objective of the study is to measure harbor seal heart rates in response to vessel disturbance, describe associated behaviors, and estimate the increased energetic cost. Researchers' preliminary conclusions question whether classifying disturbance as a seal entering the water is sufficient, given that an increase in heart rate (and associated metabolic/energetic cost) occurs several

minutes before a seal enters the water.

Currently, all cruise ships visiting Alaska enter one or more tidewater glacial fjords (Jansen et al. 2010b). Four of the five most heavily visited sites – Tracy Arm, Endicott Arm, College Fjord, and Disenchantment Bay – have no specific measures in place to protect sensitive seal habitat. The only protection currently in place in these areas is the MMPA's general prohibition against "take." Studies suggest that compliance with the take prohibition is low with 85-88% of cruise ships approaching harbor seals at distances known to disturb them (Young 2009; Jansen et al. 2010). These glacial sites frequented by cruise ships host significant numbers of harbor seals, as illustrated by the most recent counts by NMFS biologists: Tracy Arm, 972 seals in 2010; Endicott Arm, 244 seals in 2010; College Fjord, 817 seals in 2008; and Disenchantment Bay, 1667 seals in 2009 (NMML, unpublished data).

LeConte Glacier Fjord, though currently not experiencing the same level of ship traffic as those described above, also supports a large seasonal population of harbor seals, as last measured at 1,980 individuals in August 2010 (NMML, unpublished data). Icy Bay in south-central Alaska hosts the largest aggregation of harbor seals in the state, and perhaps the world, at an estimated 6,465 seals (in 2007). Icy Bay reportedly receives only a few visits annually from smaller tour vessels (NMML, unpublished data; Jansen et al. 2010b), as larger vessels presently are unable to cross the moraine at the entrance to the bay, limiting vessel disturbance. Aialik Bay, in the Kenai Fjords area, is another significant glacial habitat for harbor seals in Alaska with seal counts averaging 500-600 since 2007. Aialik Bay receives traffic primarily from small- to medium-sized tour vessels (A. Hoover-Miller, pers. comm. 2010). The estimates of population size for sites

reported above should be considered minimums since they do not correct for seals that are in the water during aerial surveys and therefore not counted.

The NPS has established time-area closures by regulation to protect harbor seals in Glacier Bay National Park and Preserve (GBNPP), which has many tidewater glaciers (36 CFR, subpart C, 13.65). Recognizing that harbor seals react to human activities by flushing into the water, the NPS designated "harbor seal critical areas" within GBNPP where vessel and foot traffic are prohibited to protect pupping and molting harbor seals (36 CFR, subpart N, 13.1178). This includes a prohibition on the operation of vessels or seaplanes in Johns Hopkins Inlet waters from May 1-June 30 during harbor seal pupping season. From July 1-August 31, "all vessels (including kayaks) must remain further than 1/4 nautical mile [402 meters] from any seal hauled out on ice, except when safe navigation requires, and then with due care maintain a 1/4 mile distance from any concentration of seals. Vessel speed must be 10 knots or less" (36 CFR 13.65). In addition, cruise ships are not allowed to enter Johns Hopkins Inlet from May 1-August 31 to protect seals during the sensitive periods of pupping and molting.

The Alaska Native Harbor Seal Commission, which has a co-management agreement with NMFS under section 119 of the MMPA to assist the agency with harbor seal research and management, has expressed concern about the effects of vessel traffic on harbor seals and requested that NMFS exercise its discretionary authority to promulgate protective regulations.

In summary, populations of glacial-fjord harbor seals exposed to chronic and potentially disruptive levels of vessel traffic have documented and suspected declines in abundance, as well as documented frequent flushing (with projected energetic

consequences). This indicates that further management measures are needed beyond the existing 100-yd (91-m) guideline for vessel approach. This is further supported by preliminary information suggesting that even seals that do not flush into the water experience physiological responses to vessel traffic (with energetic consequences).

Section 2 of the MMPA (16 U.S.C. 1361, "Findings and Declaration of Policy") states "in particular, efforts should be made to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man's actions." Glacial sites in Alaska are indeed essential habitat for harbor seals to give birth, nurse, rest, and molt. Currently, these sites receive no protection other than general guidelines to give seals reprieve from human activities during sensitive periods of their life cycle. Further, because takes continue to occur in these essential habitats, the MMPA "take" prohibition does not currently appear to provide sufficient protection to the characteristics of these habitats that make them suitable places for critical aspects of the harbor seal life cycle. NMFS is therefore considering regulatory conservation measures to: (1) preserve the habitat functions at existing glacial haul-out sites for harbor seals; (2) limit disturbance of harbor seals at such sites; and (3) minimize the chance of long-term impacts to the population of harbor seals in Alaska.

Request for Information and Comments

NMFS is requesting information and comments on whether conservation measures, regulations, or other management action would be appropriate to protect harbor seals in Alaska from human activities that diminish the value of important habitat, result in unauthorized take, and/or may cause detrimental individual- and population-

level impacts. NMFS is also requesting information and comments on what type of measures may provide appropriate protection for harbor seals while minimizing impacts on ocean users. Based on the best available science and input received in response to the publication of this notice, NMFS may propose management measures for public comment. The following list includes examples of potential management measures that NMFS may consider:

- Specific corridors for vessel movement
- Vessel movement parameters relative to ice
- Vessel speed limits
- Required minimum approach distance and use of observers to keep a designated ship-to-seal separation distance. Similar to the minimum approach rules established for humpback whales in Hawaii and Alaska, and right whales in the North Atlantic, a limit could be established by regulation to accommodate harbor seal viewing opportunities while minimizing the potential detrimental impacts from human activity; and
- Time-area closures. Similar to seasonal measures used by the NPS to protect seals in Johns Hopkins Inlet, NMFS could establish a regulation limiting human access to certain harbor seal ice-associated habitats, or to zones within these areas. These measures could limit all human entry to the area past a particular demarcation line; measures could be specific to only certain acts within an area; measures could be full-time or limited to certain seasonally important times (e.g., excluding entrance during pupping and/or molting). A closure could also consist of any combination of the above.

NMFS invites information and comment from the public on management measures such as those options listed above, or on other possible measures, to help the agency decide what type of regulations, if any, would be appropriate to consider for protecting harbor seal populations in habiting glacial fjords in Alaska. In particular, we are seeking information and comments concerning:

(1) The advisability of and need for regulations;

(2) The geographic scope and time horizon of regulations;

(3) Management options for regulating vessel interactions with harbor seals, including but not limited to the options listed in this notice;

(4) Scientific and commercial information regarding the effects of vessels on harbor seals and their habitat;

(5) Information regarding potential economic effects of regulating vessel interactions;

(6) The feasibility of any management measure or regulation (for example, navigational safety or security concerns); and

(7) Any additional relevant information that NMFS should consider should it undertake rulemaking.

You may submit information and comments by any one of several methods (see ADDRESSES). Electronic copies of the materials prepared for this action are available at http://www.regulations.gov or http://alaskafisheries.noaa.gov.

References Cited

A complete list of all references cited in this advanced notice of proposed rulemaking is available upon request from the NMFS office in Juneau, Alaska (see ADDRESSES).

Dated: March 5, 2013.

Alan D. Risenhoover,

Director, Office of Sustainable Fisheries, performing the functions and duties of the Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

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