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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF933

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Seabird and Shorebird Research and Monitoring in Massachusetts

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

ACTION: Notice; Issuance of an Incidental Harassment Authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the U.S. Fish and Wildlife Service (USFWS) to incidentally harass, by Level B harassment only, marine mammals during survey activities associated with the seabird and shorebird monitoring project at the Eastern Massachusetts National Wildlife Refuge Complex (Complex).

DATES: This authorization is effective from April 1, 2018 through March 31, 2019

FOR FURTHER INFORMATION CONTACT: Amy Fowler, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the IHA and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-research-and-other-activities*. 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 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 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 determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Summary of Request

On December 5, 2017, NMFS received a request from the USFWS for an IHA to take marine mammals incidental to seabird and shorebird monitoring and research activities within the Complex. NMFS determined the application adequate and complete on December 18, 2017. The USFWS's request was for take of gray seals and harbor seals by Level B harassment only. Neither the USFWS nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued an IHA to the USFWS for similar work (82 FR 12342, March 2, 2017). The USFWS complied with all the requirements (*e.g.*, mitigation, monitoring, and reporting) of the previous IHA and information regarding their monitoring may be found in the Estimated Take section.

Description of Activity

The USFWS plans to conduct biological tasks for refuge purposes at Monomoy National Wildlife Refuge (NWR), Nantucket NWR, and Nomans Land Island NWR in Massachusetts. These three refuges are managed through the Complex as part of the NWR System of the USFWS. Complex staff census and monitor the presence and productivity of breeding and migrating shorebirds using the beaches of Monomoy, Nantucket, and Nomans Land Island NWRs from April 1 – November 30, annually. Monitoring activities occur daily (on Monomoy and Nantucket) from April – August and are necessary to document the productivity (number of chicks fledged per pair) and population of protected shorebird and seabird species. Monomoy NWR also participates in several less frequent, but equally important, high priority conservation tasks to monitor for threatened and endangered species, including censusing northeastern beach tiger beetles (*Cicindela dorsalis*) and participating in a red knot (*Calidris canutus*) migration study during southward migration. Additionally, both Monomoy and Nantucket NWRs serve as vital staging grounds for migrating roseate terns (*Sterna dougallii*), where USFWS staff resight and stage counts.

A detailed description of the planned monitoring and research project is provided in the *Federal Register* notice for the proposed IHA (83 FR 9463; March 6, 2018). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that *Federal Register* notice for the description of the specific activity.

Comments and Responses

A notice of NMFS's proposal to issue an IHA to the USFWS was published in the *Federal Register* on March 6, 2018 (83 FR 9483). That notice described, in detail, the USFWS's activities, the marine mammal species that may be affected, and the anticipated effects on marine

mammals. During the 30-day public comment period, the Marine Mammal Commission (Commission) provided comments as described below and concurred with NMFS's finding that recommended the issuance of an IHA, subject to the inclusion of the mitigation, monitoring, and reporting measures.

Comment: The Commission requested clarification of certain issues associated with NMFS's notice that one-year renewals could be issued in certain limited circumstances and expressed concern that the process would bypass the public notice and comment requirements. The Commission also suggested that NMFS should discuss the possibility of renewals through a more general route, such as a rulemaking, instead of notice in a specific authorization. The Commission further recommended that if NMFS did not pursue a more general route, that the agency provide the Commission and the public with a legal analysis supporting our conclusion that this process is consistent with the requirements of 101(a)(5)(D) of the MMPA.

Response: The process of issuing a renewal IHA does not bypass the public notice and comment requirements of the MMPA. The notice of the proposed IHA expressly notifies the public that under certain, limited conditions an applicant could seek a renewal IHA for an additional year. The notice describes the conditions under which such a renewal request could be considered and expressly seeks public comment in the event such a renewal is sought. Importantly, such renewals would be limited to where the activities are identical or nearly identical to those analyzed in the proposed IHA, monitoring does not indicate impacts that were not previously analyzed and authorized, and the mitigation and monitoring requirements remain the same, all of which allow the public to comment on the appropriateness and effects of a renewal at the same time the public provides comments on the initial IHA. NMFS has, however, modified the language for future proposed IHAs to clarify that all IHAs, including renewal IHAs,

are valid for no more than one year and that the agency would consider only one renewal for a project at this time. In addition, notice of issuance or denial of a renewal IHA would be published in the *Federal Register*, as are all IHAs. Last, NMFS will publish a description of the renewal process on our website before any renewal is issued utilizing the new process.

Description of Marine Mammals in the Area of Specified Activities

A detailed description of the species likely to be affected by the research and monitoring project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the *Federal Register* notice for the proposed IHA (83 FR 9463; March 6, 2018). Since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that *Federal Register* notice for these descriptions as well as to NMFS' website (*https://www.fisheries.noaa.gov/topic/population-assessments/marine-mammals*) for generalized species accounts.

Table 1. General Information on Marine Mammals in the Vicinity of Eastern Massachusetts National Wildlife Refuge, Massachusetts.

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	PBR	Annual M/SI[3]
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Gray seal	*Halichoerus grypus atlantica*	Western North Atlantic	- , N	27,131 (N/A, 27,131, 2016)	1,554	5,207
Harbor seal	*Phoca vitulina concolor*	Western North Atlantic	- , N	75,834 (0.15, 66,884, 2012)	2,006	368

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 depleted and as a strategic stock.
2 - NMFS marine mammal stock assessment reports online at: 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
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.

Sound Sources and Sound Characteristics

NMFS does not expect acoustic stimuli to result from human presence, and will therefore not have the potential to harass marine mammals, incidental to the conduct of the activities. One activity (cannon nets) may have an acoustic component, but we believe take from this activity can be avoided.

This section includes a brief explanation of the sound measurements frequently used in the discussions of acoustic effects in this notice. Sound pressure is the sound force per unit area, and is usually measured in micropascals (µPa), where 1 pascal (Pa) is the pressure resulting from a force of one newton exerted over an area of one square meter. Sound pressure level (SPL) is the ratio of a measured sound pressure and a reference level. The commonly used reference pressure is 1 µPa for underwater, and the units for SPLs are dB re: 1 µPa. The commonly used reference pressure is 20 µPa for in air, and the units for SPLs are dB re: 20 µPa.

SPL (in decibels (dB)) = 20 log (pressure/reference pressure).

SPL is an instantaneous measurement expressed as the peak, the peak-peak, or the root mean square (rms). Root mean square is the square root of the arithmetic average of the squared instantaneous pressure values. All references to SPL in this document refer to the root mean square unless otherwise noted. SPL does not take into account the duration of a sound.

Research Activities Sound Characteristics

Activities that may have an acoustic component (*e.g.*, cannon nets) are not expected to reach the thresholds for Level B harassment. Cannon nets could be an airborne source of noise,

and have a measured SL of 128 dB at one meter (m) (estimated based on a measurement of 98.4 dB at 30 m; L. Niles, pers. comm., December 2016); however, the SPL is expected to be less than the thresholds for airborne pinniped disturbance (*e.g.*, 90 dB for harbor seals, and 100 dB for all other pinnipeds) at 80 meters from the source. The USFWS proposes to stay at least 100 meters from all pinnipeds if cannon nets are to be used for research purposes.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effects of airborne noise and visual disturbance from monitoring and research activities for the USFWS's project have the potential to result in behavioral harassment of marine mammals in the vicinity of the action area. The *Federal Register* notice for the proposed IHA (83 FR 9463; March 6, 2018) included a discussion of the effects of anthropogenic noise and visual disturbance on marine mammals, therefore that information is not repeated here; please refer to that *Federal Register* notice for that information.

Estimated Take

This section provides an estimate of the number of incidental takes authorized 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 are by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to USFWS research and monitoring surveys. NMFS expects that the presence of the USFWS personnel could disturb animals hauled out on beaches near research activities and that the animals may alter their behavior or attempt to move away from the USFWS personnel. Based on the nature of the activity, Level A harassment is neither anticipated nor authorized.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Behavior of seals is recorded on a three point scale (1 = alert reaction, not considered harassment; 2 = moving at least two body lengths, or change in direction > 90 degrees; and 3 = flushing) (Table 2). Only levels 2 and 3 are considered take.

Table 2. Disturbance scale of pinniped responses to in-air sources to determine take.

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.
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.
3	Flush	All retreats (flushes) to the water.

Marine Mammal Occurrence

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. Take estimates are based on historical marine mammal observations at each site from previous USFWS survey activities.

Gray Seal—Little information is known about gray seal age and sex distribution at the Complex. Gray seals may use Complex sites for pupping but research and monitoring activities are not performed during the breeding season, so no newborn pups will be disturbed. Group composition of individuals present at activity sites are likely to be of mixed age and sex classes.

The greatest disturbance to gray seals is expected to occur during the beach nesting bird breeding season from April to August. During April and May, when seals are hauled out in very large numbers on the refuge, they may be present at beaches of varying widths, between 30 m and 300 m. In narrower areas, all of the seals may be disturbed; in mid-width areas, some of the younger and smaller seals may flush, but large males may remain on the beach; and in the widest area, USFWS activities may have no impact on the hauled out seals. USFWS staff conduct research and monitoring work outside of the season of highest gray seal numbers.

Harbor Seal—Peak pupping for harbor seals is in June and occurs elsewhere, mainly on the coasts of Maine and maritime Canada. Prior to a 2001 study, it was thought that the majority of migrating harbor seals moving into New England waters were sub-adults and juveniles. The study revealed that adult seals also migrate to waters around Cape Cod (NOAA 2015b). However, data on harbor seal sex and age distribution is still insufficient to report. Harbor seals are only noted in gray seal haulouts if they are spotted by USFWS staff or researchers. USFWS staff estimate that gray seal haulouts are comprised of five percent or less harbor seals based on field observations, as harbor seals are not always seen mixed in with every gray seal haulout. Harbor seal numbers taper during the summer time when the highest level of seal disturbance occurs.

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate. As discussed earlier, NMFS assumes that pinnipeds that move greater than two body lengths or make longer retreats over the beach, or if already moving, make a change of direction of greater than 90 degrees or flush into the water in response to the presence of surveyors, are behaviorally harassed, and thus subject to Level B taking. Take estimation is based on the number of seals observed in past research years that have been flushed during research activities.

This estimate is based on the number of seals observed in past research years that have been flushed during research activities. USFWS used their knowledge of the number of seals that use the haulouts near their research activities, and how many of these may be taken (Levels 2 and 3 on the disturbance scale). The majority of takes will occur on Monomoy NWR, which is one of the main haulouts for gray seals in the country. While the average number of gray seals present (in regards to Monomoy NWR) is less than observed counts (B. Josephson, NOAA, pers. comm.), not every hauled-out seal on the beach is impacted from each activity and not all seals are impacted from every activity event. This is especially true for Monomoy NWR because the seal haulout stretches across over four miles of beach. For example, the gray seal counts on Monomoy NWR are very high, but the beaches are very large, and most of the work takes place on the upper berm close to the dune (farther away from seals). During April and May when seals are hauled out in very large numbers on the refuge, they may be present at beaches of varying width, between 30 m and 300 m. In narrower areas, all of the seals may be flushed; in mid-width areas, some of the younger and smaller seals may flush, but large males may remain on the beach; and in the widest area, USFWS activities may have no impact at all on the hauled out

seals. Also, the amount of disturbance to seals may vary based on staff activities (*e.g.*, if project activities require staff to walk quickly through an area versus spending more time in one area close to seals). Take numbers were estimated from the number of seals using the refuge and the times that the activity might overlap with seal use areas. For example, most of the staging counts are not done in areas where seals haul out so the number of disturbances is very low during this task. Group size also played into the estimates. USFWS staff would impact a smaller number of seals during times of the year when group sizes are smaller (*e.g.*, outside of April and May). USFWS staff who have conducted these activities for multiple years provided the best information available to us about the number of takes these activities may cause. In this IHA, we have included monitoring requirements that should inform our take numbers in future years.

The take numbers for gray seals is thought to be conservative, and likely an overestimate. USFWS staff believe these estimates are realistic and do not expect to exceed the take numbers.

Table 3. Estimated Number of Gray Seal Takes Per Activity at Monomoy, Nantucket, and Nomans Land Island NWRs.

Gray Seal			
Age: all		Sex: male and female	
	# takes/event	# events/activity	Total takes
Shorebird and Seabird Monitoring and Research	1000 (Monomoy) 50 (Nantucket) 10 (Nomans)	34 (Monomoy) 8 (Nantucket) 3 (Nomans)	34,430
Roseate Tern Staging Counts and Resighting	10 (Monomoy) 10 (Nantucket)	6 (Monomoy) 4 (Nantucket)	100
Red Knot Stopover Study	250 (Monomoy) 150 (Cape Cod)	5 (Monomoy) 5 (Cape Cod)	2,000
Northeastern Beach Tiger Beetle Census	750 (Monomoy)	3 (Monomoy)	2,250
Coastal Shoreline Change Survey	500 (Monomoy)	1 (Monomoy)	500
Total			39,280

It is unclear exactly how many harbor seals occur at the Complex, therefore it is difficult to determine how many takes occur since harbor seals are mainly present during the off season when research and monitoring is limited. Harbor seals are not present at all gray seal haulouts but at haulouts where both species are present, USFWS staff estimate that gray seal haulouts during the summer are comprised of 5 percent or less harbor seals. Due to the lack of available data on presence, harbor seal takes are not broken down by activity or site. Rather, the number of harbor seal Level B takes requested was calculated by taking 5 percent of the total gray seal take estimate. USFWS is requesting 1,964 Level B takes of harbor seals incidental to research and monitoring activities.

Mitigation Measures

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)).

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. 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, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

Mitigation for Marine Mammals and their Habitat

Time and Frequency—The USFWS plans to conduct research activities throughout the course of the year between April 1 and November 30, 2018, outside of the seasons of highest seal abundance and pupping at the Complex.

Vessel Approach and Timing Techniques—The USFWS shall ensure that its vessel approaches to beaches with pinniped haulouts would be conducted so as to not disturb marine mammals as most practicable. To the extent possible, the vessel shall approach the beaches in a slow and controlled approach, as far away as possibly from haulouts to prevent or minimize flushing. Staff shall also avoid or proceed cautiously when operating boats in the direct path of swimming seals that may be present in the area.

Avoidance of Acoustic Impacts from Cannon Nets—Cannon nets have a measured SL of 128 dB at one meter (m) (estimated based on a measurement of 98.4 dB at 30 m; L. Niles, pers. comm., December 2016); however, the SPL is expected to be less than the thresholds for

airborne pinniped disturbance (*e.g.*, 90 dB for harbor seals, and 100 dB for all other pinnipeds) at 80 yards from the source. The USFWS shall stay at least 100 meters from all pinnipeds if cannon nets are to be used for research purposes.

Avoidance of Visual and Acoustic Contact with People—The USFWS shall instruct its members and research staff to avoid making unnecessary noise and not expose themselves visually to pinnipeds whenever practicable. USFWS staff shall stay at least 50 yards from hauled out pinnipeds, unless it is absolutely necessary to approach seals closer, or potentially flush a seal, in order to continue conducting endangered species conservation work. When disturbance is unavoidable, staff shall work quickly and efficiently to minimize the length of disturbance. Researchers and staff will do so by proceeding in a slow and controlled manner, which allows for the seals to slowly flush into the water. Staff shall also maintain a quiet working atmosphere, avoiding loud noises, and using hushed voices in the presence of hauled out pinnipeds. Pathways of approach to the desired study or nesting site shall be chosen to minimize seal disturbance if an activity event may result in the disturbance of seals. USFWS staff shall scan the surrounding waters near the haulouts, and if predators (*i.e.*, sharks) are seen, seals shall not be flushed by USFWS staff.

Researchers, USFWS staff, and volunteers shall be properly informed about the MMPA take prohibitions, and shall educate the public on the importance of not disturbing marine mammals, when applicable. Staff at Nantucket NWR shall remain present on the beaches utilized by pinnipeds to prevent anthropogenic disturbance during times of high public use (late spring to early fall). Staff at Monomoy NWR shall also be present on beaches utilized by seals during the same time of year, and will inform the public to keep a distance from haulouts if an issue is noticed. Similar to the USFWS, the NPS also takes precautionary mitigation to help prevent seal

take by the public. In August and on the weekends in September, staff and volunteers are present on the National Seashore beaches to share with the public the importance of preventing disturbance to seals by keeping people at a proper viewing distance of at least 50 yards.

The presence/proximity of seal haulouts and the loud sound created by the firing of cannon nets are taken into consideration when selecting trapping sites for the Red Knot Stopover Study. Trapping sites are decided based on the presence of red knots, the number of juveniles located within roosts, and the observation of birds with attached geolocators and flags. Sites are not trapped on if there is a strong possibility of disturbing seals (*i.e.*, closer than 100 meters). The Red Knot Stopover Study occurs during the time of year (July to September) when the least number of seals are present at the activity sites.

The mitigation measures are designed to minimize the potential for behavioral harassment of pinnipeds hauled out near the survey sites. The research and monitoring surveys occur outside of the period of highest seal abundance at the Complex. While the survey timing overlaps with harbor seal pupping season, pupping is not known to occur at the Complex. Gray seal pupping has been documented at the Complex but generally occurs between December and February, when USFWS staff will not be conducting surveys. We believe the previously stated mitigation measures are practicable for the applicant to implement.

Based on our evaluation of the applicant's planned measures, NMFS has determined that the mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

Monitoring

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 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.

The USFWS shall conduct marine mammal monitoring, in order to implement the mitigation measures that require real-time monitoring, and satisfy the monitoring requirements of the IHA. These include:

Monitoring seals as project activities are being conducted. Monitoring requirements in relation to the USFWS's activities include species counts, numbers of observed disturbances, and descriptions of the disturbance behaviors during the research activities, including location, date, and time of the event. In addition, the USFWS shall record observations regarding the number and species of any marine mammals either observed in the water or hauled out. Behavior of seals shall be recorded on a three point scale: (1) alert reaction, not considered harassment; (2) moving at least two body lengths, or change in direction greater than 90 degrees; (3) flushing (Table 2). USFWS staff shall also record and report all observations of sick, injured, or entangled marine mammals to the Greater Atlantic Regional Stranding Coordinator. Tagged or marked marine mammals shall also be recorded and reported to the appropriate research organization or Federal agency, as well as any rare or unusual species of marine mammal. Photographs shall be taken when possible. This information shall be incorporated into a report for NMFS at the end of the season. The USFWS shall also coordinate with any university, state, or Federal researchers to attain additional data or observations that may be useful for monitoring marine mammal usage at the activity sites.

If at any time injury, serious injury, or mortality of the species for which take is authorized should occur, or if take of any kind of other marine mammal occurs, and such action may be a result of the USFWS's activities, the USFWS shall suspend research activities and contact NMFS immediately to determine how best to proceed to ensure that another injury or death does not occur and to ensure that the applicant remains in compliance with the MMPA.

Reporting

The USFWS shall submit a draft report to NMFS Office of Protected Resources no later than 90 days after the conclusion of research and monitoring activities in the 2018 season. The report shall include a summary of the information gathered pursuant to the monitoring requirements set forth in the IHA. The USFWS shall submit a final report to NMFS within 30 days after receiving comments from NMFS on the draft report. If the USFWS receives no comments from NMFS on the draft report, NMFS will consider the draft report to be the final report.

The report shall describe the operations conducted and sightings of marine mammals near the project. The report shall provide full documentation of methods, results, and interpretation pertaining to all monitoring. The report shall 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 human presence associated with the USFWS's activities; and

4. A description of the implementation and effectiveness of the monitoring and mitigation measures of the IHA 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.*, stampede), USFWS personnel shall immediately cease the specified activities and immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast 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 water depth, 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).

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

In the event that the USFWS discovers an injured or dead marine mammal, and the marine mammal observer determines that the cause of 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), the USFWS shall immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast Regional Stranding Coordinator. The report must include the same information identified in the paragraph above this section. Activities may continue while NMFS reviews the circumstances of the incident. NMFS would work with the USFWS to determine whether modifications in the activities are appropriate.

In the event that the USFWS 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), the USFWS shall report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, and the Northeast Regional Stranding Coordinator within 24 hours of the discovery. The USFWS personnel shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to us. The USFWS can continue their survey activities while NMFS reviews the circumstances of the incident.

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).

Although the USFWS's survey activities may disturb a small number of marine mammals hauled out on beaches in the Complex, NMFS expects those impacts to occur to a localized group of animals. Marine mammals would likely become alert or, at most, flush into the water in reaction to the presence of the USFWS personnel during the activities. Much of the disturbance will be limited to a short duration, allowing marine mammals to reoccupy haulouts within a short amount of time. Thus, the action is unlikely to result in long-term impacts such as permanent abandonment of the area because of the availability of alternate areas for pinnipeds to avoid the resultant acoustic and visual disturbances from the research activities.

The USFWS's activities would occur during the least sensitive time (*e.g.*, April through November, outside of the pupping season) for hauled out pinnipeds in the Complex. Thus, pups or breeding adults would not be present during the activity days.

Moreover, the USFWS's mitigation measures regarding vessel approaches and procedures that attempt to minimize the potential to harass the seals would minimize the potential for flushing and large-scale movements. Thus, the potential for large-scale movements and flushing leading to injury, serious injury, or mortality is low.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No injury (Level A harassment) or serious injury is anticipated or authorized;
- No mortality is anticipated or authorized;
- Impacts will occur to a localized group of animals;
- Disturbance will be limited to a short duration, allowing marine mammals to reoccupy haulouts within a short amount of time;
- Activities will occur during the least sensitive time (*e.g.*, April through November, outside of pupping season) for pinnipeds hauled out in the Complex, therefore no pups or breeding adults would be present during the activity days; and
- The USFWS's mitigation measures regarding visual and acoustic disturbance to hauled out pinnipeds would minimize the potential for flushing and large-scale movements, therefore the potential for large-scale movements and flushing leading to injury, serious injury, or mortality is low;

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 monitoring and mitigation measures, NMFS finds that the total marine mammal take from the 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.

These incidental harassment take numbers represent less than three percent of the affected stocks of harbor seals.

Under the 2017 draft SARs, the take number of gray seals exceeds the stock abundance estimate in U.S. waters. However, actual take may be slightly less if animals decide to haul out at a different location for the day or if animals are foraging at the time of the survey activities. The number of individual seals taken is also assumed to be less than the take estimate since these species show high philopatry (Waring *et al.*, 2016; Wood *et al.*, 2011). We expect the take numbers to represent the number of exposures, but assume that the same seals may be behaviorally harassed over multiple days, and the likely number of individual seals that may be harassed would be less. In addition, this project occurs in a small portion of the overall range of the Northwest Atlantic population of gray seals. While there is evidence of haulout site philopatry, resights of tagged and branded animals and satellite tracks of tagged animals show movement of individuals between the United States and Canada (Puryear *et al.*, 2016). The percentage of time that individuals are resident in U.S. waters is unknown (NMFS 2017). Genetic evidence provides a high degree of certainty that the Western North Atlantic stock of

gray seals is a single stock (Boskovic *et al.*, 1996; Wood *et al.*, 2011). Thus, although the U.S. stock estimate is only 27,131, the overall stock abundance is 451,131. The gray seal take estimate for this project represents less than nine percent of the overall Western North Atlantic stock abundance in U.S. and Canadian waters (Table 4).

Based on the analysis contained herein of the activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS 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. Therefore, NMFS has 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)

No incidental take of ESA-listed species is authorized 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.

Authorization

As a result of these determinations, NMFS has issued an IHA to the USFWS for the harassment of small numbers of gray and harbor seals incidental to seabird and shorebird

research activities at the Eastern Massachusetts National Wildlife Refuge Complex, Massachusetts, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: April 26, 2018

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Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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