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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF101

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Seabird and Shorebird Monitoring and Research at the Eastern Massachusetts National Wildlife Refuge Complex, 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 Eastern Massachusetts (MA) National Wildlife Refuge (NWR) Complex, U.S. Fish and Wildlife Service (USFWS) to incidentally harass, by Level B harassment only, marine mammals during seabird and shorebird monitoring and other research activities in the Eastern MA NWR Complex (Complex).

DATES: This Authorization is effective from April 1, 2017 through March 31, 2018.

National Environmental Policy Act (NEPA)

NMFS prepared an Environmental Assessment (EA) and analyzed the potential impacts to marine mammals that would result from the USFWS's monitoring and research activities. A Finding of No Significant Impact (FONSI) was signed in March 2017. A copy of the EA and FONSI is available on our Web site at

http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm.

FOR FURTHER INFORMATION CONTACT: Laura McCue, NMFS, Office of Protected Resources, NMFS (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(D) of the MMPA of 1972, as amended (MMPA; 16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals of a species or population stock, 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."

Summary of Request

On March 16, 2016, NMFS received an application from the USFWS for the taking of marine mammals incidental to seabird and shorebird monitoring and research activities within the Complex. NMFS received updated applications on September 14 and December 16, 2016 with updated take numbers and mitigation measures. NMFS determined the application complete and adequate on December 29, 2016.

The USFWS plans to conduct seabird and shorebird monitoring and research at several locations within the Complex over a varying number of days for each project. This authorization, will be valid for one year, beginning on April 1, 2017. The following specific aspects of the planned activities would likely result in the disturbance of marine mammals: (1) vessel landings; (2) research activities (*e.g.*, cannon nets, sign installation); and (3) human presence. Thus, NMFS anticipates that take, by Level B harassment only, of gray seals (*Halichoerus grypus grypus*) and harbor seals (*Phoca vitulina concolor*) could result from the specified activity.

Description of the Specified Activity

Overview

The USFWS plans to conduct biological tasks for refuge purposes at Monomoy NWR, Nantucket NWR, and Nomans Land Island NWR in MA. 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 (82 FR 3738; January 12, 2017). 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, including the dates and duration and the specified geographic region.

Comment and Responses

A notice of NMFS's proposal to issue an IHA to the USFWS was published in the **Federal Register** on January 12, 2017 (82 FR 3738). That notice described, in detail, the USFWS's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission. The Marine Mammal Commission recommended that NMFS issue the IHA, subject to inclusion of the proposed mitigation, monitoring, and reporting measures as described in our notice of proposed IHA and the application. All measures proposed in the initial **Federal Register** notice are included within the IHA.

Sound Sources and Sound Characteristics

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

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 1 square meter (m). Sound pressure level (SPL) is the ratio of a measured sound pressure and a reference level. 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 have an acoustic component (*e.g.*, cannon nets) are not expected to reach the thresholds for Level B harassment. Cannon nets are an airborne source of noise, and have a measured source level (SL) of 128 dB at one m (estimated based on a measurement of 98.4 dB at 30 m; L. Niles, pers. comm., December 2016); however, based on calculations using the SL and spherical spreading, 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 25 m and 80 m from the source, respectively. The USFWS will stay at least 100 m from all pinnipeds if cannon nets are used for research purposes.

Description of Marine Mammals in the Area of the Specified Activity

Table 1 provides the following information: all marine mammal species with possible or confirmed occurrence in the activity area; information on those species' regulatory status under the MMPA and the ESA of 1973 (16 U.S.C. 1531 *et seq*.); abundance; occurrence and seasonality in the activity area. A detailed description of the species likely to be affected by the USFWS's project, including brief introductions to the species and relevant stocks, available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (82 FR 3738; January 12, 2017); 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. Please also refer to the draft 2016 NMFS Marine Mammal Stock Assessment Report available online at: *http://www.nmfs.noaa.gov/pr/sars/* for further information on the biology and distribution of these species.

Table 1 - General information on marine mammals that could potentially haul out on Northwest Seal Rock, November 2015 through November 2016.

Species	Stock	Regulatory Status[1, 2]	Stock Abundance (CV, N_{min}, most recent abundance survey)[3]	PBR	Occurrence and Seasonality
Gray seal (*Halichoerus grypus grypus*)	Western North Atlantic	MMPA - NC ESA – NL	505,000 (unk; unk; unk)*	unk	Year-round presence
Harbor seal (*Phoca vitulina concolor*)	Western North Atlantic	MMPA - NC ESA – NL	75,834 (0.15; 66,884; 2012)	2,006	Occasional

[1] MMPA: D = Depleted, S = Strategic, NC = Not Classified.

[2] ESA: EN = Endangered, T = Threatened, DL = Delisted, NL = Not listed.
[3] 2016 draft NMFS Stock Assessment Reports: Waring *et al*. (2016).
*The Western North Atlantic stock of gray seals is comprised of the Canadian and U.S. populations. The U.S. population abundance estimate is unknown, but the Canadian population abundance estimate is 505,000. The 2016 draft SAR states that the western North Atlantic stock is equivalent to the Canada population.

Potential Effects of the 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 (82 FR 3738; January 12, 2017) 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 Registe**r notice for that information.

Anticipated Effects on Marine Mammal Habitat

The main impact associated with the USFWS's project would be visual and acoustic disturbance from human presence, vessels, and potential cannon nets. The project would not result in permanent impacts to habitats used directly by marine mammals, such as haulout sites, or short-term impacts to food sources, but may have minor impacts to the immediate substrate during installation of signage during the monitoring and research project. These potential effects are discussed in detail in the **Federal Register** notice for the proposed IHA (82 FR 3738; January 12, 2017, therefore that information is not repeated here; please refer to that **Federal Register** notice for that information.

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. 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, their habitat (50 CFR 216.104(a)(11)).

Time and Frequency: The USFWS plans to conduct research activities throughout the course of the year between April 1 and November 30, 2017.

Vessel Approach and Timing Techniques: The USFWS will ensure that its vessel approaches to beaches with pinniped haul outs are conducted so as to minimize or avoid disturbing marine mammals. To the extent possible, the vessel should approach the beaches in a slow and controlled approach, as far away as possible from haul outs to prevent or minimize flushing. Staff will 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 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 m from the source. The USFWS will stay at least 100 m from all pinnipeds if cannon nets are to be used for research purposes.

Avoidance of Visual and Acoustic Contact with People: The USFWS will instruct its members and research staff to avoid making unnecessary noise and not visually reveal themselves to pinnipeds whenever practicable. USFWS staff will stay at least 50 m from hauled out pinnipeds, unless it is absolutely necessary to approach seals closer in order to continue conducting endangered species conservation work. When disturbance is unavoidable, staff will 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 will 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 will be chosen to minimize seal disturbance if an activity event may result in the disturbance of seals. USFWS staff will scan the surrounding waters near the haul outs, and if predators (*i.e*., sharks) are seen, seals will not be flushed by USFWS staff.

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

The presence/proximity of seal haul outs 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. Trapping will not take place on sites where there is a strong possibility of disturbing seals (*i.e.,* closer than 100 m). The Red Knot Stopover Study occurs during the time of year (July-Sept) when the least number of seals are present at the activity sites.

Mitigation Conclusions

NMFS has carefully evaluated the USFWS's mitigation measures in the context of ensuring that we prescribe the means of affecting the least practicable impact on the affected marine mammal species and stocks and their habitat. The evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed here:

1. Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to vessel or visual presence that NMFS expects to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

3. A reduction in the number of times (total number or number at biologically important time or location) individuals exposed to vessel or visual presence that NMFS expects to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to vessel or visual presence that NMFS expects to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

5. Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

6. For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on the evaluation of the USFWS's planned measures, NMFS has determined that the 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, and areas of similar significance.

Monitoring Measures

In order to issue an incidental take authorization 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 IHAs 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 NMFS expects to be present in the action area.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

1. An increase in our understanding of the likely occurrence of marine mammal species in the vicinity of the action, (*i.e.*, presence, abundance, distribution, and/or density of species).

2. An increase in our understanding of the nature, scope, or context of the likely exposure of marine mammal species to any of the potential stressor(s) associated with the action (*e.g.*, sound or visual stimuli), through better understanding of one or more of the following: the action itself and its environment (*e.g.*, sound source characterization, propagation, and ambient noise levels); the affected species (*e.g.*, life history or dive pattern); the likely co-occurrence of marine mammal species with the action (in whole or part) associated with specific adverse effects; and/or the likely biological or behavioral

context of exposure to the stressor for the marine mammal (*e.g.*, age class of exposed animals or known pupping, calving or feeding areas).

3. An increase in our understanding of how individual marine mammals respond (behaviorally or physiologically) to the specific stressors associated with the action (in specific contexts, where possible, *e.g.*, at what distance or received level).

4. An increase in our understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either: the long-term fitness and survival of an individual; or the population, species, or stock (*e.g.*, through effects on annual rates of recruitment or survival).

5. An increase in our understanding of how the activity affects marine mammal habitat, such as through effects on prey sources or acoustic habitat (*e.g.*, through characterization of longer-term contributions of multiple sound sources to rising ambient noise levels and assessment of the potential chronic effects on marine mammals).

6. An increase in understanding of the impacts of the activity on marine mammals in combination with the impacts of other anthropogenic activities or natural factors occurring in the region.

7. An increase in our understanding of the effectiveness of mitigation and monitoring measures.

8. An increase in the probability of detecting marine mammals (through improved technology or methodology) to better achieve the above goals.

The USFWS will conduct marine mammal monitoring, in order to implement the mitigation measures that require real-time monitoring, and to satisfy the monitoring requirements of the IHA. The USFWS submitted a marine mammal monitoring plan in

Section 13 and Appendix A of their IHA application. These include:

Monitoring seals as project activities are being conducted. Monitoring requirements in relation to the USFWS's planned activities will 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 will record observations regarding the number and species of any marine mammals either observed in the water or hauled out. Behavior of seals will be recorded on a three point scale (1= alert reaction; not considered harassment, 2= moving at least 2 body lengths, or change in direction > 90 degrees, 3= flushing) (Table 2). USFWS staff will also record and report all observations of sick, injured, or entangled marine mammals on Monomoy NWR to the International Fund for Animal Welfare (IFAW) marine mammal rescue team, and will report to NOAA if injured seals or unusual species of marine mammals are found at Nantucket NWR and Nomans NWR. Tagged or marked marine mammals will also be recorded and reported to the appropriate research organization or federal agency. Photographs will be taken when possible. This information will be incorporated into a report for NMFS at the end of the season. The USFWS will 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 any other marine mammal occurs, and such action may be a result of the USFWS's activities, the USFWS will 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.

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.

* Only Levels 2 and 3 are considered take, whereas Level 1 is not.

Reporting Measures

The USFWS will submit a draft report to NMFS' Office of Protected Resources no later than 90 days after the expiration of the IHA. The report will include a summary of the information gathered pursuant to the monitoring requirements set forth in the IHA. The USFWS will submit a final report to the NMFS within 30 days after receiving comments from NMFS on the draft report. If the USFWS 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 project activities. 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 human presence associated with the USFWS's activities.

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 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), the USFWS will 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 will 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 will 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 will 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.

Estimated Take by Incidental Harassment

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).

All anticipated takes would be by Level B harassment, involving temporary changes in behavior. NMFS expects that the mitigation and monitoring measures will minimize the possibility of injurious or lethal takes. NMFS considers the potential for take by injury, serious injury, or mortality as remote. 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.

As discussed earlier, NMFS assumes that pinnipeds that move greater than two body lengths to longer retreats over the beach, or if already moving, a change of direction of greater than 90 degrees in response to the presence of surveyors, or pinnipeds that flush into the water, are behaviorally harassed, and thus subject to Level B taking (Table 2). NMFS estimates that 39,666 gray seals will be taken, by Level B harassment, over the course of the IHA (Table 3).

This estimate is based on the number of seals observed in past research years that have been flushed during research activities. USFWS biologists used their knowledge of the number of seals that use the haul outs near their research activities, and how many of

those 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 haul outs 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, personal communication), 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 haul out 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 is provide 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 & female	
	#takes/event[a]	# events/activity[b]	**total takes**
Shorebird and Seabird Monitoring & Research	1000 (Monomoy) 50 (Nantucket) 10 (Nomans)	34 (Monomoy) 8 (Nantucket) 3 (Nomans)	34,430
Roseate Tern Staging Counts & Resighting	10 (Monomoy) 10 (Nantucket)	6 (Monomoy) 4 (Nantucket)	100
Red Knot Stopover Study	250 (Monomoy) 150 (CACO)	5 (Monomoy) 5 (CACO)	2,000
Northeastern beach tiger beetle Census	750 (Monomoy)	3 (Monomoy)	2,250
Coastal Shoreline Change Survey	500 (Monomoy)	1 (Monomoy)	500
			39,280

[a]Number of takes/event are estimates based on NOAA unpublished data (B. Josephson, personal communication) and USFWS field observations.
[b]Number of events/activity were calculated using the numbers in Table 1 of the USFWS's application for each site location and duration.

NMFS estimates that 1,964 harbor seals could be affected by Level B behavioral harassment over the course of the IHA. USFWS staff estimate that of all of the seals hauled out in mixed species haul outs, approximately five percent are harbor seals. We estimated the number of Level B takes of harbor seals by taking 5percent of the total takes of gray seals (*i.e.*, 5percent of 39,280 is 1,964). These incidental harassment take numbers represent less than three percent of the affected stocks of harbor seals and less than eight percent of the stock of gray seals (Table 4). 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 will be less. For example, the maximum number of seals observed hauled out on Monomoy NWR during the year is 19,166 (B. Josephson, NOAA, personal communication); therefore, we expect the actual number of individual takes to be closer to that number for activities at Monomoy NWR. Raw counts are not available for Nantucket NWR and Nomans NWR.

Table 4. The percentage of stock affected by the number of takes per species.

Species	Take Number	Stock Abundance	Percent of stock
Gray seal (*Halichoerus grypus grypus*)	39,280	505,000*	7.78
Harbor seal (*Phoca vitulina concolor*)	1,964	75,834	2. 59

*The Western North Atlantic stock of gray seals is comprised of the Canadian and U.S. populations. The U.S. population abundance estimate is unknown, but the Canadian population abundance estimate is 505,000. The 2016 draft SAR states that the western North Atlantic stock is equivalent to the Canada population.

Because of the required mitigation measures and the likelihood that some pinnipeds will avoid the area, NMFS does not expect any injury, serious injury, or mortality to pinnipeds to occur and NMFS has not authorized take by Level A harassment for this activity.

Analysis and Determinations

Negligible Impact

Negligible impact is "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). The lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population level effects) forms the basis of a negligible impact finding. An estimate of the number of Level B harassment 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 behavioral 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 the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

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's personnel during the activities. Much of the disturbance will be limited to a short duration, allowing marine mammals to reoccupy haul outs within a short amount of time. Thus, the planned activities are 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 will 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 will not be present during the planned activity days. If mothers and pups are observed, USFWS staff will avoid disturbing them by

rescheduling surveys, if possible, or by refraining from activities that may cause disturbance (*e.g.*, large movements or flushing).

Moreover, the USFWS's mitigation measures regarding vessel approaches and procedures that attempt to minimize the potential to harass the seals will 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, NMFS anticipates that impacts to hauled-out pinnipeds during the USFWS's planned research activities would be behavioral harassment of limited intensity (*i.e.*, temporary flushing at most). NMFS does not expect stampeding, and therefore does not expect injury or mortality to occur (see *Mitigation Measures* for more details). 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 USFWS's survey activities will have a negligible impact on the affected marine mammal species or stocks.

Small Numbers

As mentioned previously, NMFS estimates that the USFWS's planned activities could potentially affect, by Level B harassment only, two species of marine mammal under our jurisdiction. For each species, these estimates are small numbers (less than three percent of the affected stock of harbor seals and less than eight percent of the stock of gray seals) relative to the population size (Table 4). As stated before, the number of individual seals taken is also assumed to be less than the take estimate (number of exposures) since we assume that the same seals may be behaviorally harassed over

multiple days.

Based on the analysis contained in this notice of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS finds that the USFWS's activities will take small numbers of marine mammals relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals 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)

NMFS does not expect that the USFWS's planned research activities will affect any species listed under the ESA. Therefore, NMFS has determined that a section 7 consultation under the ESA is not required.

National Environmental Policy Act (NEPA)

NMFS prepared an EA and analyzed the potential impacts to marine mammals that may result from the USFWS's monitoring and research activities. A FONSI was signed in February 2017. A copy of the EA and FONSI is available on our website at *http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm.*

Authorization

NMFS has issued an IHA to the USFWS for the potential harassment of small numbers of two marine mammal species incidental to the seabird and shorebird

monitoring and other research activities in the Complex, provided the previously mentioned mitigation, monitoring and reporting.

Dated: February 24, 2017.

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