

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XC139

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals
Incidental to Bird Mitigation Research in the Farallon National Wildlife Refuge

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

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

SUMMARY: NMFS has received an application from the U.S. Fish and Wildlife Service
(USFWS) for an Incidental Harassment Authorization (IHA) to take marine mammals, by
harassment, incidental to a bird mitigation research trial in the Farallon National Wildlife
Refuge. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting
comments on its proposal to issue an IHA to the USFWS to take, by Level B harassment only,
five species of marine mammals during the specified activity.

DATES: Comments and information must be received no later than [insert date 30 days after
date of publication in the FEDERAL REGISTER].

ADDRESSES: Comments on the application should be addressed to Michael Payne, Chief,
Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries
Service, 1315 East-West Highway, Silver Spring, MD 20910-3225. The mailbox address for
providing email comments is ITP.Magliocca@noaa.gov. NMFS is not responsible for e-mail

comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10-megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application containing a list of the references used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see FOR FURTHER INFORMATION CONTACT), or visiting the internet at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

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

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 to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

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."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.

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].

Summary of Request

NMFS received an application on April 17, 2012, from the USFWS for the taking, by harassment, of marine mammals incidental to a bird mitigation research trial in the Farallon

National Wildlife Refuge. Upon receipt of additional information and a revised application, NMFS determined the application adequate and complete on July 27, 2012. The USFWS plans to conduct a research trial to assess potential bird hazing methods that could be used to minimize the risk of rodent bait ingestion by non-target species, if such an alternative action is chosen, during a proposed house mouse eradication. NMFS is proposing to issue an IHA to the USFWS because hazing methods used during the research trial may result in Level B harassment of the Northern elephant seal (Mirounga angustirostris), harbor seal (Phoca vitulina richardii), Steller sea lion (Eumetopias jubatus), California sea lion (Zalophus californianus), and Northern fur seal (Callorhinus ursinus).

Description of the Specified Activity

The purpose of the proposed project is to assess potential bird hazing methods that could be used to minimize the risk of rodent bait ingestion by non-target species during a house mouse eradication for the South Farallon Islands of the Farallon National Wildlife Refuge. House mice were introduced to the South Farallon Islands during the 19th century and have resulted in considerable ecosystem degradation. House mice seem to be indirectly impacting the breeding success of burrow-nesting seabirds, such as the ash storm-petrel, and have also been identified as vectors of diseases that result in mass mortalities of marine mammals. Removal of the invasive house mice would protect seabirds, assist in the recovery of native plants and endemic species, and prevent the spread of disease to marine mammals. Although the proposed project would take place when most seabirds are absent, some bird species may be at risk of ingesting the toxic bait. Therefore, the USFWS is proposing a number of mitigation efforts that include a bird hazing program.

Hazing methods may incidentally result in the harassment of pinnipeds that haul out on the island. The following gull hazing techniques are likely to be used during the proposed research trial: lasers, spotlights, pyrotechnics, biosonics, predator calls, air cannons, Mylar tape, small helicopter, human presence, kites, radio-controlled aircraft, and trained dogs. While all of these techniques may not be available, funded, or used in the trial, they are all being considered to reduce non-target bird mortality. Up to five biologists would be present on the islands to implement the research trial and monitor any pinniped disturbance. Since the trial is intended to allow researchers to test an array of gull hazing techniques, the USFWS cannot specify the exact protocol that would be implemented. However, part of the USFWS' goal during this trial is to determine which hazing methods are most effective at (1) deterring birds from roosting on the island and (2) minimizing the impacts to pinnipeds. Therefore, researchers would carefully monitor pinnipeds haul-outs during hazing and adjust the research trial to reduce disturbance. The possible gull hazing techniques are described in detail below.

Lasers

Two different handheld lasers could be used during the research trial: red or green Avian Dissuader(R) (50mW) and handheld green laser pointer (5mW). These lasers would likely be used during pre-dawn hours to haze gulls already settled on the island. Use of the laser involves shining the beam briefly in a sweeping motion at the gull roost, which instigates a flight response in most birds. The lasers would not be directed at pinnipeds' eyes and pinnipeds are not known to react to this type of equipment. Once gulls are no longer spending the night on the island, the lasers would be used to haze gulls attempting to land on the island just prior to sunrise. Lasers would also be used in the evenings to enhance the use of pyrotechnics and reach areas that are not readily accessible or could not be hazed with pyrotechnics due to pinniped presence. Two

short nighttime laser sweeps of 30-60 minutes could be attempted on each island. The lasers are expected to have a very low impact on pinnipeds because they would not be directed at haul-outs. However, researchers may need to approach a haul-out in order to access certain locations. The presence of researchers could result in temporary behavioral harassment.

Spotlight

One or 10-million candlepower spotlights could be used during pre-dawn hours to haze gulls already settled on the island. Once gulls no longer spend the night on the island and presence is restricted to marine ledges, the spotlight may also be tested to haze gulls intermittently settling on ledges. Two short nighttime sweeps by gull roosting areas may be attempted in order to haze any gulls that might have settled back on the island during the course of the night. Like the lasers, the spotlight is expected to have a very low impact on pinnipeds because it will not typically be directed at haul-outs. However, if birds roost near a haul-out, the spotlight may need to be used around the vicinity of pinnipeds and the visual stimulus could result in temporary behavioral harassment. The spotlight beam, while bright, is not so focused that it would cause retinal injury.

Biosonics

Up to three Bird-Guard broadcasting units (bird distress calls) could be used to deter gulls from settling on the island, as well as encourage them to flee if they are already present. Speakers may be placed in accessible locations. Additionally, up to three Bird Gard® SUPER PRO systems could be used to cover problem gull areas on each island. A number of electronic chips with both gull distress and predator calls could be used. The bird calls are naturally occurring sounds and are not expected to cause harassment of pinnipeds. The placement of the speakers is also not expected to cause harassment of pinnipeds because haul-out sites would be

avoided. Temporary harassment of pinnipeds would only occur if the only place to locate a speaker system is near a haul-out site. The sound source levels would depend on how many speakers are used, how loud the amplifier is set to, the types of calls used, etc. Sound levels may be measured on site at the beginning of the research trial. The presence of researchers is more likely to disturb pinnipeds than the sound levels being emitted from the speakers.

Pyrotechnics

Pyrotechnics could be used to deter gulls during daylight hours. They would be shot from a launch, such as a hand-held pistol, and could include bird bombs, CAPA charges, screamers, and screamer-bangers. Sounds are rated at 100-130 decibels (dB), depending on the specific product. The bird bombs are expected to explode with a 100-dB report down range from the launch location. CAPA charges would travel about 305 m before a 150-dB report. Screamers are expected to issue a 100-dB siren-like sound in mid-air. Screamer-bangers are expected to explode with a 120-dB report. Use of these products adjacent to pinniped haul-outs could cause behavioral harassment. Placement of these units would be so as to avoid exceeding the hearing threshold for pinnipeds. The USFWS would first use pyrotechnics as far away as possible from haul-out sites and gradually get closer if necessary, while monitoring behavioral reactions of pinnipeds. Pyrotechnics would not be used directly over a major haul-out site.

Zon Gun

A zon gun air cannon may be used to deter birds that repeatedly attempt to settle on the island. This technique involves a propane canister that charges a cylinder to produce a loud sound periodically. If pyrotechnics prove to be effective and do not appear to affect marine mammals, this technique may also be used. Detonation volume is adjustable between 100 and 125 dB. Placement of this unit would be as to avoid exceeding the hearing threshold of

pinnipeds. The USFWS would use the lowest setting if haul-outs are close, but may experiment with increasing the volume at farther distances. The louder the zon gun volume, the larger the area that the USFWS would be able to cover for bird hazing. Behavioral response of pinnipeds would be monitored and the zon gun volume would be adjusted at the first sign of large scale disturbance.

Helicopter

A helicopter may be used during the research trial to haze gulls in remote portions of the islands and for operational purposes. More specifically, a helicopter may be used for the following: monitoring the islands to determine the location and numbers of gulls and pinnipeds in remote areas that cannot be seen from Southeast Farallon Island observation points; moving and deploying personnel and equipment to and from areas inaccessible by foot; and conducting radio-telemetry flights to examine movement patterns of gulls and the efficacy of hazing. To avoid or minimize pinniped disturbance, helicopter flights in areas near haul-outs would use a slow sequential approach of decreasing altitude in order to habituate the marine mammals to the sound. This approach has been used successfully during rodent removal operations on Anacapa Island in 2001-2002 and on Rat Island in 2009.

Human Movement

Up to five researchers may access areas on West End Island in order to investigate possible gull roosting areas, haze gulls, and monitor pinniped responses to hazing activities. Researchers would approach haul-outs slowly and cautiously in order to avoid unnecessary disturbance to pinnipeds.

Kites and Radio-controlled Aircraft

The use of 5-10 predator kites (such as Eagle or Helikites) or radio-controlled aircraft may be used to haze gulls. Most kites would be used to haze gulls at a short distance. This technique would be used sparingly around harbor seals, as they may be more easily spooked than other pinniped species. If a kite or radio-controlled aircraft falls into a haul-out area, then it would either be: (1) left in place if it could not be retrieved safely or without causing major pinniped disturbance (stampede of large number of animals); or (2) retrieved using a slow methodical approach to avoid major disturbances to pinnipeds. Retrieval may also occur at a later time when pinnipeds are either absent or in fewer numbers.

Mylar Tape

Bamboo poles measuring about two meters in length with one-meter lengths of Mylar tied to them could be placed in areas commonly used by gulls in order to deter them from settling. While not expected, the visual stimulus of the Mylar tape may result in temporary behavioral harassment of pinnipeds or the placement of the poles by researchers could cause temporary disturbance to pinnipeds in the area.

Trained Dogs

Well-trained herding working dogs (e.g., border collies) may be used to haze birds in certain areas. These dogs are trained to not harass pinnipeds and would have the necessary immunizations and certificates to ensure that no diseases are transmittable. Dogs would be kept at least 30 meters away from pinnipeds. However, the dogs' presence and barking may result in temporary behavioral harassment of pinnipeds.

Dates and Duration of Proposed Activity

The proposed project would take place over a 2-4 week period between November 1, 2012 and January 31, 2013. The exact timing would be dependent on seasonal variations in

weather, effectiveness, gull abundance and distribution, access to the island, equipment funding, staff, and required permits. During the 2-4 week period, gull roosts would be visited at least twice a day by researchers for hazing or monitoring. Most visits would last about 15 minutes, although human presence may last for 2-5 hours per day if necessary. Most hazing would take place a few hours before and after sunrise and sunset. Sporadic gull hazing may also occur as needed throughout the day and night.

Region of Proposed Activity

The proposed project would take place in the Farallon National Wildlife Refuge, a group of islands about 30 miles offshore of San Francisco, California. The refuge was established in 1909 specifically to protect sea birds and pinnipeds and it currently sustains the largest sea bird breeding colony south of Alaska, including 30 percent of California's nesting sea birds. Five pinniped species also breed or haul out on the Farallon Islands. The proposed project would be conducted in the South Farallon Islands, which are composed of Southeast Farallon Island, West End Island, Aulon Islets, and Saddle Rock. Most of the gull hazing is expected to occur within Southeast Farallon Island; however, hazing may be implemented around other areas of the island if gulls attempt to roost. The majority of the island's perimeter is considered a potential haul-out for pinnipeds. Species-specific haul-out and pupping sites are provided in the Description of Marine Mammals section of this notice.

Sound Propagation

For background, sound is a mechanical disturbance consisting of minute vibrations that travel through a medium, such as air or water, and is generally characterized by several variables. Frequency describes the sound's pitch and is measured in hertz (Hz) or kilohertz (kHz), while sound level describes the sound's loudness and is measured in decibels (dB). Sound level

increases or decreases exponentially with each dB of change. For example, 10 dB yields a sound level 10 times more intense than 1 dB, while a 20 dB level equates to 100 times more intense, and a 30 dB level is 1,000 times more intense. Sound levels are compared to a reference sound pressure (micro-Pascal) to identify the medium. For air and water, these reference pressures are “re: 20 μ Pa” and “re: 1 μ Pa,” respectively. Root mean square (rms) is the quadratic mean sound pressure over the duration of an impulse. Rms is calculated by squaring all of the sound amplitudes, averaging the squares, and then taking the square root of the average (Urlick, 1975). Rms accounts for both positive and negative values; squaring the pressures makes all values positive so that they may be accounted for in the summation of pressure levels (Hastings and Popper, 2005). This measurement is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units rather than by peak pressures.

The use of biosonics, pyrotechnics, and zon guns may result in elevated sound levels that exceed NMFS’ threshold for in-air harassment. Current NMFS practice regarding in-air exposure of pinnipeds to sound generated from human activity is that the onset of Level B harassment for harbor seals and all other pinnipeds is 90 dB and 100 dB re: 20 μ Pa, respectively. The USFWS intends to use bird hazing methods that cause the least amount of marine mammal harassment, while still preventing birds from settling on the island. Biosonics, pyrotechnics, and zon guns would be initially used at distances to avoid the onset of Level B harassment. Only if bird hazing methods are still unsuccessful from distant locations would these techniques be used closer to pinniped haul-outs.

Description of Marine Mammals in the Area of the Specified Activity

The following marine mammal species may be present in the proposed project area during the research trial: Northern elephant seals, harbor seals, Steller sea lions, California sea lions, and Northern fur seals. Below is a summary of the status, distribution, and seasonality of each species that may be affected by the research trial.

Northern Elephant Seal

Northern elephant seals are the largest “true” seal in the Northern Hemisphere, reaching lengths of over 4 meters. They are found in the eastern and central North Pacific Ocean, ranging from Alaska to Mexico. They spend most of their time in the ocean, diving to depths of 330-800 meters and prefer sandy beaches when they come ashore for breeding and pupping. The Northern elephant seal breeding population is distributed from central Baja California, Mexico to the Point Reyes Peninsula in northern California. Along this coastline there are 13 major breeding colonies. Elephant seals congregate in central California to breed from late December to March. Females typically give birth to a single pup and attend the pup for up to 6 weeks. Once the pups are weaned, mating occurs by attending males. After breeding, seals migrate to the Gulf of Alaska or deeper waters in the eastern Pacific. Adult females and juveniles return to terrestrial colonies to molt in April and May, and males return in June and July to molt, remaining onshore for around 3 weeks. On South Farallon Island, northern elephant seal haul outs are located in areas known as Sea Lion Cove, North Landing, and Garbage Gulch – all within or adjacent to southeast Farallon area. Pupping takes place in areas known as Shell Beach, Indian Head, and Mirounga Beach, on the western and southern parts of the island.

The Northern elephant seal was exploited for its oil during the 18th and 19th centuries and by 1900 the population was reduced to 20-30 individuals on Guadalupe Island (Hoelzel et al., 1993; Hoelzel, 1999). As a result of this bottleneck, the genetic diversity found in this species is

extremely low (Hoelzel, 1999). The recent formation of most rookeries indicates that there is no genetic differentiation among populations. Although movement and genetic exchange occurs among colonies, most seals return to their natal site to breed (Huber et al., 1991).

A complete population count of elephant seals is not possible because all age classes are not ashore at the same time. The most recent estimate of the California breeding stock was about 124,000 individuals. Based on trends in pup counts, northern elephant seal colonies were continuing to grow in California through 2005, but appear to be stable or slowly decreasing in Mexico. Northern elephant seals are not listed under the Endangered Species Act (ESA) nor depleted under the MMPA.

Pacific Harbor Seal

Harbor seals are one of the most widely distributed northern hemisphere pinnipeds and are found in coastal, estuarine, and sometimes fresh water of both the Atlantic and Pacific Oceans. On the west coast, harbor seals range from Baja California to the Bering Sea. They haul out on rocks, reefs, beaches, and drifting glacial ice for rest, thermal regulation, pupping, and social interaction. NMFS recognizes seven U.S. stocks for management purposes: Bering Sea, California, Gulf of Alaska, Oregon-Washington Coastal, southeast Alaska, Washington Inland, and Western North Atlantic. Any harbor seals in around the Farallon Islands would be part of the California stock. In California, approximately 400-600 harbor seal haul-out sites are widely distributed along the mainland and on offshore islands, including intertidal sandbars, rocky shores, and beaches (Hanan 1996; Lowry et al., 2005). On South Farallon Island, harbor seal haul-outs and sites of limited pupping are found near the center and southeast portions.

A complete count of all harbor seals in California is impossible because some are always away from the haul-out sites. The most recent counts estimate the California population to

number 30,196 individuals. Counts of harbor seals in California increased from 1981 to 2004 with the highest statewide count occurring in 2004. In central California, harbor seals breed annually from March through May and molt in June and July. Females give birth to a single pup and attend the pup for around 30 days, at which time they wean pups. Mating occurs in the water around the time of weaning. Harbor seals are not listed under the ESA nor depleted under the MMPA.

California Sea Lion

California sea lions range from southern Mexico up to British Columbia, residing in shallow coastal and estuarine waters. They prefer sandy beaches for hauling out, but are often seen on marina docks, jetties, and buoys in California. California sea lions breed almost entirely on islands in southern California, Western Baja California, and the Gulf of California. In recent years, they have begun to breed annually in small numbers at Año Nuevo Island and South Farallon Islands, California. The breeding season lasts from May to August and mating takes place shortly after birth. On the Farallon Islands, California sea lions haul out in many intertidal areas year round, fluctuating from several hundred to several thousand animals. The small number of breeding animals is concentrated in areas where researchers do not visit. The entire population of California sea lions cannot be counted because all age and sex classes are not ashore at the same time. However, based on pup counts, the current population estimate is 296,750. After removing data from El Nino years (when pup production is decreased), pup counts between 1975 and 2008 suggest an annual increase of 5.4 percent. California sea lions are not listed under the ESA nor depleted under the MMPA.

Steller Sea Lion

Steller sea lions reside along the North Pacific Rim from northern Japan through the Aleutian Islands to California. They prefer the colder temperate to sub-arctic waters of the North Pacific Ocean. Steller sea lions haul out on beaches, ledges, and rocky reefs to rest and breed. The U.S. population is divided into the western and eastern distinct population segment, with the eastern distinct population segment including any individuals in California. The eastern stock of Steller sea lions breeds on rookeries located in southeast Alaska, British Columbia, Oregon, and California.

Combining the pup count data from 2005-2009 (11,120) and non-pup count data from 2008 (31,246) results in a minimum abundance estimate of 42,366 Steller sea lions in the western U.S. stock in 2005-2009 (M. DeAngelis, NMFS, pers. comm.). Using the most recent 2006-2009 pup counts available by region from aerial surveys across the range of the eastern stock (total N=13,889), the total population of the eastern stock of Steller sea lions is estimated to be within the range of 58,334 to 72,223 (Carretta et al. 2011).

Steller sea lion numbers in California, especially in southern and central California, have declined from historic numbers. Counts in California between 1927 and 1947 ranged between 4,000 and 6,000 non-pups with no apparent trend, but have subsequently declined by over 50 percent, and were between 1,500 and 2,000 non-pups during the period 1980 to 2004. At Año Nuevo Island, a steady decline in ground counts started around 1970, and there was an 85 percent reduction in the breeding population by 1987 (LeBoeuf et al., 1991). Overall, counts of non-pups at trend sites in California and Oregon have been relatively stable or increasing slowly since the 1980s.

On Southeast Farallon Island, California, the abundance of females declined an average of 3.6 percent per year from 1974 to 1997 (Sydeman and Allen, 1999). Steller sea lions give

birth from May through July and mating occurs a couple of weeks after birth. Non-reproductive animals congregate at a few haul-out sites. Pups are weaned during the winter and spring of the following year. On the Farallon Islands, Steller sea lion breeding colonies are strictly protected to reduce or eliminate risk of human disturbance; access to these areas is rarely permitted.

In 1990, the Steller sea lion was listed as a threatened species under the ESA. On April 18, 2012 (77 FR 23209), NMFS published a proposed rule to delist the eastern distinct population segment. A public comment period was open through June 18, 2012. No final determination has been made. Under the MMPA, the Steller sea lion is depleted throughout its range.

Northern Fur Seal

Northern fur seals range across the North Pacific Ocean and the Bering Sea, as far south as the Channel Islands in California. They spend most of their time in the open ocean, but rely on rock beaches for reproduction. Concentrations of fur seals may in the open ocean near major oceanographic features, such as seamounts, canyons, or along the continental shelf break, due to prey availability. Three breeding locations are found in the U.S. and three in Russia. The peak pupping season is usually in early July and pups are weaned by October or November. At the end of the breeding season, northern fur seals travel south and remain pelagic for the winter migration period.

The majority of individuals breed on the Pribilof Islands off the coast of mainland Alaska (Testa, 2007); however, there have been declines in the number of pups produced each year by as much as 50 percent from previous seasons (Towell et al. 2006). After extensive hunting in the late 1800s on the Farallon Islands (Starks, 1922; Townsend, 1931; Scheffer and Kraus, 1964), the first pup in over 100 years was born there in 1996. By 2006, 80 pups were born and the

Farallon Islands are again an established rookery (Pyle et al., 2001). Rookeries have also been reestablished at Bogoslof Island in the eastern Aleutians, Alaska and at San Miguel Island, California (York et al., 2005).

There are two stocks of northern fur seals recognized in U.S. waters: the eastern Pacific stock and the San Miguel Island stock. Any animals found on the Farallon Islands would be part of the San Miguel Island stock. The most recent population estimate for this stock is 9,968 animals. The population of northern fur seals on San Miguel Island has increased steadily since its discovery in 1968, except for severe declines in 1983 and 1998 associated with El Niño events. Recovery from the 1998 decline has been slow. Although the Farallones were a major northern fur seal breeding area before the arrival of hunters in the early 19th century, the species was essentially extirpated from the region by the second half of that century (Wilson and Ruff, 1999). Not until 1996 did northern fur seals begin breeding again on the Farallones (Pyle et al., 2001), and each year since then they have bred in generally small numbers on West End Island during the summer. These numbers have increased substantially in recent years. The San Miguel Island stock of northern fur seals is not listed under the ESA nor depleted under the MMPA.

Further information on the biology and local distribution of these species and others in the region can be found in the USFWS application, which is available online (see ADDRESSES), and the NMFS Marine Mammal Stock Assessment Reports, which are available online at: <http://www.nmfs.noaa.gov/pr/species>.

Potential Effects of the Specified Activity on Marine Mammals

Variable numbers of northern elephant seals, harbor seals, Steller sea lions, California sea lions, and northern fur seals typically haul out around the perimeter of South Farallon Island.

Pinnipeds likely to be affected by the bird mitigation trial are those that are hauled out on land at or near the location of gull hazing. Incidental harassment may result if hauled out animals are disturbed by elevated sound levels or the presence of lasers, spotlights, humans, helicopters, or dogs. Although pinnipeds would not be deliberately approached by researchers, approach may be unavoidable if pinnipeds are hauled out in the immediate vicinity of roosting birds.

Disturbance may result in behavioral reactions ranging from an animal simply becoming alert (e.g., turning the head, assuming a more upright posture) to flushing from the haul-out site into the water. NMFS does not necessarily consider the lesser reactions to constitute Level B behavioral harassment, but does assume that pinnipeds that move greater than one meter or change the speed or direction of their movement in response to the gull hazing methods are behaviorally harassed.

Typically, even those reactions constituting Level B harassment would result at most in temporary, short-term disturbance. Due to the limited duration of the research trial (maximum 4 weeks of periodic daily hazing methods), disturbance of pinnipeds would only last for short periods of time and would not occur continuously over the 4-week period. Pinnipeds are unlikely to incur significant impacts to their survival because potential harassment would be sporadic and of low intensity. Although there is a risk of injury or mortality if pinniped pups are crushed during a stampede, the USFWS is not proposing to implement hazing methods during the pupping season. The USFWS expects most pups to have left the island before November.

In summary, NMFS believes it highly unlikely that the proposed activities would result in the injury, serious injury, or mortality of pinnipeds. Any harassment resulting from the bird mitigation research trial is expected to be in the form of Level B behavioral harassment.

Anticipated Effects on Habitat

The USFWS' proposed activity is not expected to result in the physical alteration of marine mammal habitat. Any impacts resulting from the proposed activity (e.g., short periods of ensonification) would be temporary and no major breeding habitat would be affected. There are no expected impacts to pinniped prey species. Critical habitat has been defined for Steller sea lions as a 20 nautical mile buffer around all major haul-outs and rookeries, as well as associated terrestrial, air, and aquatic zones, which includes Southeast Farallon Island. Overall, the proposed activity is not expected to cause significant impacts on habitats used by the marine mammal species in the proposed project area or on the food sources that they utilize.

Proposed Mitigation

In order to issue an incidental take authorization (ITA) under section 101(a)(5)(D) of the MMPA, NMFS must, where applicable, 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 (where relevant).

Temporal Restriction

The USFWS is proposing to conduct the bird mitigation research trial at a time when there are fewer birds on the island and outside of pinniped pupping season. The proposed schedule for this research would greatly reduce the possibility of injury, serious injury, or mortality to pinnipeds resulting from pups being crushed during a stampede. Pregnant northern elephant seals begin to arrive on the island in late December and early January. Remaining pups from the previous breeding season typically leave the island by November. While hazing operations are not expected to overlap with the presence of northern elephant seal pups, the

USFWS will actively avoid pregnant females and pups during the research trial by having a biologist identify and map where these individuals are located.

NMFS has carefully evaluated the applicant's proposed mitigation measure and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our 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, including consideration of personnel safety and practicality of implementation.

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

Proposed Monitoring and Reporting

In order to issue an ITA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must, where applicable, 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 ITAs must include the suggested means of accomplishing the necessary

monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

The USFWS would designate at least one NMFS' approved protected species observer to monitor pinnipeds and collect information before, during, and after hazing operations. This observer would be located at the peak of the island's center, which provides visibility of about 70 percent of the island. If hazing operations take place in areas not visible from the island's peak, additional observers would be used to monitor and record information from other locations. Before hazing operations begin, observers would record the number and species of animals in the area. During hazing operations, observers would record the species that react to hazing operations, any change in behavior that occurs, the number of animals that flush (or leave their haul-out), and the number of flushing events. After the hazing operations, observers would record the number and species of animals remaining in the area. Observers would be in communication with the hazing trial implementation staff in order to relay information on pinniped behavioral responses. Observers would be able to halt hazing activities if they result in unexpected pinniped reactions (e.g., stampeding).

If funding and personnel are available, and based on NMFS recommendation, the USFWS would monitor sound levels of biosonics, pyrotechnics, and zon guns to evaluate the potential exposure levels of pinnipeds to these techniques. If practicable, the USFWS would measure received sound levels at varying distances from the source to determine the distance at which NMFS' in-air thresholds are reached. Results from these measurements would potentially allow the USFWS to determine how far away they need to conduct certain hazing methods.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment), serious injury, or mortality, the USFWS would immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Michael.Payne@noaa.gov and Michelle.Magliocca@noaa.gov and the Southwest Regional Stranding Coordinator at 562-980-3230 (Sarah.Wilkin@noaa.gov). The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;
- 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).

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

In the event that the USFWS discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph),

the USFWS would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Michael.Payne@noaa.gov and Michelle.Magliocca@noaa.gov and the Southwest Regional Stranding Coordinator at 562-980-3230 (Sarah.Wilkin@noaa.gov). The report would include the same information identified in the paragraph above. Activities could 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 observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the USFWS would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Michael.Payne@noaa.gov and Michelle.Magliocca@noaa.gov and the Southwest Regional Stranding Coordinator at 562-980-3230 (Sarah.Wilkin@noaa.gov), within 24 hours of the discovery. The USFWS would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS.

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].

Current NMFS practice regarding in-air exposure of pinnipeds to sound generated from human activity is that the onset of Level B harassment for harbor seals and all other pinnipeds is 90 dB and 100 dB re: 20μPa, respectively. These threshold levels are based on monitoring of marine mammal reactions to rocket launches at Vandenberg Air Force Base. In those studies, not all harbor seals left a haul-out during a launch unless the sound exposure level was 100 dB or above and only short-term effects were detected.

The USFWS estimated take by using the maximum pinniped counts from weekly censuses in November 2006-2011. These numbers represent the highest count ever recorded for each species during the month of November since 2006. November typically has the highest pinniped counts compared to December and January (the period when the proposed activity would take place). These numbers provide the best available information on haul-outs in the proposed action area. The USFWS' take estimates for the length of the trial are shown in Table 1.

Species	Total
Northern elephant seal	328
Harbor seal	81
Steller sea lion	56
California sea lion	3,538
Northern fur seal	109

Table 1. Proposed take of pinnipeds for the proposed activity.

NMFS believes these take estimates are conservative because the USFWS used maximum counts of hauled out pinnipeds during the months of the proposed activity and these

numbers do not take mitigation measures into consideration. Researchers would make every effort to minimize the take of pinnipeds (e.g., by using hazing methods at the farthest possible distance from haul-outs); moreover, many pinnipeds do not haul out near typical gull roosts. Frequency of harassment would depend upon the location of gulls and the success of hazing operations. Pinnipeds may be disturbed as much as twice per day for the duration of the 2-4 week trial. Table 1 shows the maximum number of animals that may be harassed during the proposed activity; however, each individual may be exposed to activities that result in harassment as much as twice per day for 2-4 weeks. The USFWS' proposed mitigation measures would likely result in fewer takes.

Negligible Impact and Small Numbers Analysis and Preliminary Determination

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." In making a negligible impact determination, NMFS considers a number of factors which include, but are not limited to, number of anticipated injuries or mortalities (none of which would be authorized here), number, nature, intensity, and duration of Level B harassment, and the context in which takes occur.

As described above, marine mammals would not be exposed to activities or sound levels which would result in injury (PTS), serious injury, or mortality. Rather, NMFS expects that some marine mammals may be exposed to elevated sound levels or visual stimuli that would result in Level B behavioral harassment. Marine mammals may avoid the area or temporarily change their behavior (e.g., move towards the water) in response to research presence or elevated

sound levels. No impacts to marine mammal reproduction are expected because the proposed activity would not take place during pinniped pupping season.

Proposed mitigation and monitoring measures are expected to lessen the potential impacts to marine mammals (e.g., avoiding pinniped haul-outs). NMFS expects any impacts to pinnipeds to be temporary, Level B behavioral harassment. Marine mammal injury or mortality is unlikely because of the expected sound levels, avoidance of pinniped haul outs, and avoidance of pupping season. The amount of take NMFS proposes to authorize is considered small relative to the estimated stock sizes. Less than one percent of the stock would be harassed for Northern elephant seals, harbor seals, and Steller sea lions; and less than two percent of the stock would be harassed for California sea lions and Northern fur seals. There is no anticipated effect on annual rates of recruitment or survival of affected marine mammals.

Based on the analysis of the likely effects of the proposed activity on marine mammals and their habitat, and considering the proposed mitigation and monitoring measures, NMFS preliminarily determines that the USFWS' proposed research mitigation trial would result in the incidental take of small numbers of marine mammals, by Level B harassment only, and that the total taking would have a negligible impact on 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.

Endangered Species Act (ESA)

The only marine mammal species listed as endangered under the ESA with confirmed or possible occurrence in the study area is the eastern DPS of Steller sea lion. On April 18, 2012 (77 FR 23209), NMFS published a proposed rule to delist the eastern DPS. A public comment period was open through June 18, 2012. No final determination has been made. Under section 7

of the ESA, the USFWS has begun consultation with NMFS on the proposed bird mitigation research trial. NMFS also initiated consultation internally on the issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. Consultation will be concluded prior to a determination on the issuance of an IHA.

National Environmental Policy Act (NEPA)

NMFS is currently conducting an analysis, pursuant to NEPA, to determine whether or not this proposed activity may have a significant effect on the human environment. This analysis will be completed prior to the issuance or denial of this proposed IHA.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to authorize the take of marine mammals incidental to the bird mitigation research trial, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated:

Frederick C. Sutter, III,
Acting Deputy Director,
Office of Protected Resources,
National Marine Fisheries Service.