index.html for changes and for the most up-to-date meeting agenda.

Place: The meeting will be held in Conference Room A of the American Geophysical Union Building (AGU), 2000 Florida Avenue NW., Washington, DC 20009. Please check the Web site *http://www.nesdis.noaa.gov/NCADAC/index.html* for confirmation of the venue and for directions.

Status: Seating will be available on a first come, first serve basis. Members of the public must RSVP in order to attend all or a portion of the meeting by contacting the NCADAC DFO (*Cynthia.Decker@noaa.gov*) by June 7, 2012. The meeting will be open to public participation with a 15-minute public comment period on June 14 at 5:00–5:15 p.m. and a 30-minute period on June 15 at 12:00–12:30 p.m. (check Web site to confirm time). The NCADAC expects that public statements presented at its meetings will not be repetitive of previously submitted verbal or written statements. In general, each individual or group making a verbal presentation will be limited to a total time of five (5) minutes. Individuals or groups planning to make a verbal presentation should contact the NCADAC DFO (*Cynthia.Decker@noaa.gov*) by June 7, 2012 to schedule their/presentation. Written comments should be received in the NCADAC DFO's Office by June 7, 2012 to provide sufficient time for NCADAC review. Written comments received by the NCADAC DFO after June 7, 2012 will be distributed to the NCADAC, but may not be reviewed prior to the meeting date.

Special Accommodations: These meetings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Dr. Cynthia Decker (301–563–6162, *Cynthia.decker@noaa.gov*) by June 7, 2012.

FOR FURTHER INFORMATION CONTACT: Dr. Cynthia Decker, Designated Federal Official, National Climate Assessment and Development Advisory Committee, NOAA OAR, R/SAB, 1315 East-West Highway, Silver Spring, Maryland 20910. (Phone: 301–734–1156, Fax: 301–713–1459, Email: *Cynthia.Decker@noaa.gov*; or visit the NCADAC Web site at *http://www.nesdis.noaa.gov/NCADAC/index.html.*

Dated: May 25,2012.

Terry Bevels,

Acting Chief Financial Officer, Office of Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration.

[FR Doc. 2012–13328 Filed 5–31–12; 8:45 am]

BILLING CODE 3510–KD–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

New England Fishery Management Council (NEFMC); Public Meeting

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

ACTION: Notice; public meeting.

SUMMARY: The New England Fishery Management Council (Council) is scheduling a joint public meeting of its Groundfish and Scallop Committees on June 18, 2012 to consider actions affecting New England fisheries in the exclusive economic zone (EEZ). Recommendations from this group will be brought to the full Council for formal consideration and action, if appropriate.

DATES: This meeting will be held on Monday, June 18, 2012 at 12:30 p.m.

ADDRESSES: The meeting will be held at the Holiday Inn by the Bay, 88 Spring Street, Portland, ME 04101; telephone: (207) 775–2311; fax: (207) 761–8224.

Council address: New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950.

FOR FURTHER INFORMATION CONTACT: Paul J. Howard, Executive Director, New England Fishery Management Council; telephone: (978) 465–0492.

SUPPLEMENTARY INFORMATION: The NEFMC's Groundfish and Scallop Oversight Committees will hold a joint meeting. The Committees will discuss the low fishing year 2012 annual catch limit (ACL) for Georges Bank yellowtail flounder and will develop recommendations for the Council on how to mitigate the impacts of this restrictive catch. The Committees may discuss regulatory measures such as gear requirements, possession limits or other restrictions on fishing activity, as well as possible adjustments to sub-ACLs of Georges Bank yellowtail flounder. They may also discuss modifications to the way groundfish and scallop accountability measures are implemented. Committee discussions will not be limited solely to actions that the Council may take. They may also develop recommendations for actions by the National Marine Fisheries Service, science—industry partners or suggestions for the Transboundary Management Guidance Committee. Any recommendations will be forwarded to the Council at a future date. Other business may be discussed.

Although non-emergency issues not contained in this agenda may come before this group for discussion, those issues may not be the subject of formal action during this meeting. Action will be restricted to those issues specifically listed in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Act, provided the public has been notified of the Council's intent to take final action to address the emergency.

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Paul J. Howard, Executive Director, at (978) 465–0492, at least 5 days prior to the meeting date.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: May 29, 2012.

Tracey L. Thompson,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2012–13273 Filed 5–31–12; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XC031

Takes of Marine Mammals Incidental to Specified Activities; Construction and Race Event Activities for the 34th America's Cup in San Francisco Bay, CA

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 America's Cup Event Authority (ACEA) and the Port of San Francisco (Port) for an Incidental Harassment Authorization (IHA) to take marine mammals incidental to activities associated with the 34th America's Cup. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to ACEA and the Port to take, by Level B harassment only, several species of marine mammals during the specified activity.

DATES: Comments and information must be received no later than July 2, 2012.

ADDRESSES: Comments on the application should be addressed to Tammy Adams, Acting Chief, Permits and Conservation Division, Office of

Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is *ITP.Laws@noaa.gov.* NMFS is not responsible for email comments sent to addresses other than the one provided here. Comments sent via email, including all attachments, must not exceed a 10-megabyte file size.

Instructions: All comments received are a part of the public record. All Personal Identifying Information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

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.* Supplemental documents may be found at the same web address. Documents cited in this notice may also be viewed, by appointment only, at the aforementioned physical address.

FOR FURTHER INFORMATION CONTACT: Ben Laws, 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 published in the **Federal Register** to provide public notice and initiate a 30-day comment period.

Authorization for incidental taking 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 United States can apply for an authorization to incidentally take small numbers of marine mammals by Level B harassment as defined below. 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. If authorized, an IHA may be effective for a maximum of one year from date of issuance.

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 January 20, 2012, from ACEA and the Port requesting issuance of an IHA for the taking, by Level B harassment only, of marine mammals incidental to activities conducted in support of the 34th America's Cup (AC34) in San Francisco, California. Following revisions requested by NMFS, the applicants submitted an adequate and complete application on April 27, 2012. A series of yacht races will be held in San Francisco Bay during 2012–13. The proposed activities include the installation of temporary dock facilities along with certain permanent improvements at the proposed venue sites to accommodate the AC34 events; these activities would require pile driving and would be conducted in advance of AC34 events. Components of the AC34 race events that may result in harassment of marine mammals include helicopter operations and fireworks displays. Authorization of incidental take has been requested for the harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), harbor porpoise (*Phocoena phocoena*), and elephant seal (*Mirounga angustirostris*). Based on the best available information, the applicants are requesting authorization to incidentally harass up to 14,063 California sea lions, 686 harbor seals, 63 harbor porpoises, and two northern elephant seals during the 1-year time span of the proposed IHA. The proposed IHA would be valid for one year from the date of issuance. Any activities that may result in incidental harassment of marine mammals that fall outside of the 1-year period of validity would require subsequent authorization.

Description of the Specified Activity

The America's Cup is a series of match races between two yachts. One yacht, known as the defender, represents the yacht club that currently holds the America's Cup trophy while the second yacht, known as the challenger, represents the yacht club that is challenging for the cup. AC34, to be held in San Francisco Bay (the Bay), consists of three main stages: The America's Cup World Series; the America's Cup Challenger Selection Series (CCS; also referred to as the Louis Vuitton Cup), and the America's Cup Finals. The America's Cup World Series is a regular circuit of regattas (held in venues around the world) which allows the teams to prepare for the CCS. Regattas in the Bay will be held in August and October 2012. Subsequently, a challenger must win the CCS to earn the right to race the defender in the AC34 finals. The challenger series and the finals will be held in the Bay in September 2013.

A number of project sites, or venues, are planned to accommodate these events. These venues would provide all aspects of AC34 facilities and services, including team bases and operations, support space, media operations, hospitality services, sponsored commercial space, and entertainment and spectator venues. Construction of these venues would require pile driving for the installation of temporary floating docks as well as for permanent improvements to existing waterfront facilities. Helicopters would be used for AC34 2012 and 2013 races to serve broadcasting and media operations. Commercial-grade fireworks displays are proposed at the opening and closing ceremonies for the 2013 America's Cup events only.

Region of Activity

The proposed activity would occur in San Francisco Bay and at multiple locations along the San Francisco waterfront between Pier 80 and Aquatic Cove. The actual race area is within the Western Central San Francisco Bay, flanked by the Golden Gate, Angel Island, the North Shore of San

Francisco, and south to Treasure Island and the San Francisco-Oakland Bay Bridge (SFOBB). Figures 1–2 of the application provide a vicinity map and show the locations where construction activities would occur along the San Francisco waterfront and the designated race area where racing events will occur within the Bay. San Francisco Bay and the adjacent Sacramento-San Joaquin Delta make up a large, complex, and highly dynamic estuary, one of the largest estuarine systems on the continent. The area where the proposed activities would occur is a heavily urbanized area with substantial industrial activity.

Circulation within the Bay is dependent upon tides, river flow, winds, and bathymetry; the Bay also receives inputs from stormwater runoff and wastewater from municipal and industrial sources that vary depending on the location and seasonal weather patterns. Project activities are located within what is described as the Central Bay, which is influenced by these hydrodynamic conditions. Current and wave patterns exhibited along the San Francisco waterfront and within the Central Bay are largely generated by the tides interacting with bottom and shoreline configurations. The area where construction and races will occur is saline and dominated by ocean influences. However, during periods of significant runoff, especially from the Sacramento-San Joaquin River system, substantial freshwater migrates through San Pablo Bay and into San Francisco Bay. This inundation of freshwater can temporarily reduce the salinity of waters in the project vicinity to substantially less than ocean water (Bay Institute, 2003).

Intertidal habitats in the Central Bay, or those that lie between low and high tides, include sandy beaches, natural and artificial rock (riprap), concrete bulkheads, concrete, composite and wood pier pilings, and mud flats. The Central Bay's proximity to the Golden Gate and Pacific Ocean has resulted in an intertidal zone inhabited by many coastal as well as estuarine species. Pilings, riprap, and pipelines are a dominant feature along the San Francisco waterfront. In subtidal areas, the Central Bay contains both soft sediment and hard substrate habitat. Soft bottom substrate ranges between soft mud with high silt and clay content and areas of coarser sand. The predominant seafloor habitat in the project area is unconsolidated soft sediment composed of combinations of mud/silt/clay, sand, and pebble/cobble, with varying amounts of intermixed shell fragments. Exposure to wave and current action, temperature, salinity, and light penetration determine the composition and distribution of organisms within these soft sediments (NOAA, 2007).

Various contaminants are transported into San Francisco Bay by an assortment of sources: urban uses, industrial outfalls, municipal wastewater outfalls, municipal stormwater, upstream farming, upstream historic and current mining discharges, legacy pollutants, and various other pollutant sources. Contaminants are introduced into the Central Bay primarily through runoff, combined sewer overflow, stormwater, spills and leaks, and remobilization from sediment into the overlying water column. The San Francisco Regional Water Quality Control Board listed the Central Bay as an impaired water body. Under Section 303(d) of the Clean Water Act, impaired waters are defined as those that do not meet water quality standards, even after point and non-point sources of pollution have had pollution control technologies implemented. The pollutants listed for the Central Bay include chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polychlorinated biphenyls (PCBs), and selenium (Bay Institute, 2003). Pollutant concentrations vary seasonally and annually, dependent upon their specific source and degradation characteristics. Contaminants, such as ammonia, copper, and legacy pesticides, have decreased over recent years due to cleanup efforts and natural attenuation (SFEI, 2010; Bay Institute, 2003). Noise from urban and industrial activity may be considered an additional pollutant in the Bay; underwater ambient sound levels have been measured at 133 dB rms in the nearby Oakland Outer Harbor.

Pile Driving

Temporary floating docks would be installed utilizing 18-in (457-mm) steel pipe piles; all piles for floating docks would be installed via vibratory pile driver only. Floating docks would be located at Piers 80, 30–32, 14 North, 9, 23 North and South, 27 South, 29 and adjacent to Marina Green (please see Figure 1 of the AC34 application for location overview and Figures 3–9 for detailed location diagrams). The floating docks would be installed at various stages starting in 2012 and extending through the spring of 2013. Floating docks would be made of concrete, aluminum, or lighter-duty timber pre-cast sections with maximum widths of 8–16 ft (2.4–4.9 m). The dock system modules would be fabricated offsite and towed to specific locations via material barges. The sections would then be assembled and located, and guide piles driven to fix the dock system in place. A total of 244 18-in steel pipe piles would be installed for temporary floating docks; project engineers estimate that a maximum of eight piles may be installed per day. Accounting for unforeseen delays, installation of floating docks is expected to require approximately 2 weeks at each location (with varying amounts of actual pile driving days), although the time may vary depending on number of piles to be driven and any unforeseen difficulties.

In addition, repairs and improvements are proposed for Pier 19 (see Figure 8 of the application for a site plan). Pier 19 repairs would require driving of 224 12-in (305-mm) wood piles; these would be installed via impact hammer with an estimated maximum production rate of eight piles per day. Pier 19 repairs are expected to require approximately 28 days over the course of 4 months. Table 1 details the extent and location of pile driving activity.

Location	Number of piles
Pier 80	26
Pier 32 South	27
Pier 14 North	44
Pier 9	15
Pier 23 North	21
Pier 23 South	16
Pier 27	55
Pier 29 East	5
Pier 29 North	21
Marina Green offshore	14
Total piles for vibratory installation	244
Pier 19 *	224

* Pier 19 repairs would require impact driving of 12-in wood piles. All other piles would be 18-in steel piles installed with vibratory driver.

Depending on the location and logistics, piles would likely be installed from existing deck structures using land-based pile driving equipment or from a barge. Impact pile driving would not occur concurrently with any other known project using an impact hammer; however, there would be no restriction on concurrent vibratory driving. Vibratory pile driving for installation of floating docks is planned for July through August 2012 and approximately March through June of 2013, while installation of 12-inch wood piles at Pier 19 is planned for sometime between July and December 2012.

Race Events

Two World Series events will occur in the Bay in August and October of 2012. Each event will run up to 9 days with 4 race days for each series. There will be multiple races per day. The World Series races will be followed in 2013 by the CCS to determine which of the challenger teams advances to compete with the defender in the final. The overall timeframe for the CCS races will occur over an approximately 81-day duration between July to early September of 2013 with approximately 44 days of racing. The final races would occur in mid-September over an approximately 2-week period.

The racing yachts will be launched from either Pier 80 or Piers 30–32 Team Base locations. The yachts do not have engines; therefore, they will either be sailed or be towed to and from their launch area and the race area. During racing, yachts are required under the rules to remain within the race area. Each race is scheduled to last under an hour. These racing yachts are highly engineered in their design and production and have been specifically designed to be very maneuverable at both high and low speeds. Due to the efficient design of the hulls the yachts are very quiet and leave almost no wake.

Personal watercraft or rigid inflatable boats will be used for umpiring the races. Two umpires will follow the racing yachts and remain within the course limits during the race. They will launch from either Marina Green or Pier 80 and power to the race course. As proposed by the project sponsors, the Course Marshal would establish a race course for each racing day within the conditions and parameters established under the U.S. Coast Guard's (USCG) Special Local Regulations (SLR), final environmental analysis documents, and various regulatory approvals and permits. Attendants would be at the starting line and each turning mark, and umpires and several support boats would be out on the course. All race management personnel are tasked with scanning for debris or other obstructions that could possibly damage or impede fair play. Although unlikely, in the event that a large marine mammal (i.e., a whale) is observed, the Course Marshal would postpone or abandon the race depending on the direction the whale is moving or its presence within or near the race course. These actions would be taken to ensure the safety of the marine mammal as well as the racing boats and crews.

San Francisco Bay is host to regular and frequent sailing regattas, and there are no known records of boat strikes by race boats. Marine mammals present in the Bay typically avoid boats that are underway and that are traveling at high speeds. The high speed ferries that frequent Bay waters, which are predominantly multi-hull boats like the planned AC34 race boats, travel at speeds in excess of 20 kn and regularly transit across the western part of the Central Bay (where AC34 races are proposed to occur at speeds of up to 36 kn). These vessels have not been reported to be involved in any known marine mammal strikes.

Spectator vessels would likely be moving at much slower speeds (under 10 kn) while congregated in the western part of the Central Bay to observe the races. USCG regulations are explicit that the operator (captain) of a vessel is responsible for the safe operation of that vessel at all times. A Water and Air Traffic Plan will be created for AC34 events, which will provide Information for Visiting Mariners to Reduce Impacts on Bay Habitats and Taxa (''Notice to Boaters''). The Notice to Boaters will be distributed to the public and will encourage methods for boaters to avoid any harassment (including collisions) with marine mammals. A comprehensive dissemination plan will coordinate distribution of the Water and Air Traffic Plan to multiple marinas and yacht clubs in California and spectator vessels entering the Bay. No incidental harassment of marine mammals is anticipated as a result of race activities.

Helicopter Operations

Helicopters would be used for AC34 2012 and 2013 races to serve broadcasting and media operations. The helicopters following each race would fly between 100 and 400 feet above sea level (asl; 30–122 m) within the race area. The helicopters would normally perform coverage operations for up to 3 hours on a tank of fuel and would likely require refueling once per day. The coordination of the helicopters during race events would be such that one or two would stay above 400 ft asl and other helicopters would fly between 100–400 ft asl to more closely cover the racing action. The helicopters would be choreographed and move around the racecourse to anticipate the next important stage of each race for filming. To protect sensitive avian species, the project sponsors would restrict helicopter operations such that they would avoid the air space within at least 1,000 ft (vertically and horizontally; 305 m) around Alcatraz Island and Crissy Beach Wildlife Protection Area; these measures would also mitigate any possibility of incidental harassment of marine mammals at these locations. During flight operations, helicopters would minimize impacts to pinnipeds at Pier 39 by avoiding low flying (less than 100 ft asl). Final details of helicopter operations would be provided in the Water and Air Traffic Plan that would be developed and implemented for AC34.

Fireworks Displays

Commercial grade fireworks displays are planned at the opening and closing ceremonies for the 2013 AC events only; therefore, it is likely that no fireworks events would occur during the 1-year period of validity for this proposed IHA. However, this potentially harassment-inducing activity is precautionarily considered here to provide the event organizers with flexibility in scheduling such events. The location of the fireworks barge would be near Piers 27–29 and up to four fireworks displays would occur lasting 30–45 minutes each. It is anticipated that aerial shells would be launched from tubes (called mortars), using black powder charges, to altitudes of 200 to 1,000 ft (61–305 m) where they would explode and ignite internal burst charges and incendiary chemicals. Most of the incendiary elements and shell casings burn up in the atmosphere; however, portions of the casings and some internal structural components and chemical residue fall back to the ground or water, depending on prevailing winds.

The project sponsors have coordinated and would continue to coordinate with the USCG regarding limitations on the location, frequency and duration of the fireworks to minimize potential environmental impacts. Any proposed fireworks displays would be subject to approval by the USCG through the USCG Marine Event Permit process.

Description of Sound Sources

Sound travels in waves, the basic components of which are frequency, wavelength, velocity, and amplitude. Frequency is the number of pressure waves that pass by a reference point per unit of time and is measured in Hz or cycles per second. Wavelength is the distance between two peaks of a sound wave; lower frequency sounds have longer wavelengths than higher frequency sounds and attenuate more rapidly in shallower water. Amplitude is the height of the sound pressure wave or the ''loudness'' of a sound and is typically measured using the decibel (dB) scale. A dB is the ratio between a measured pressure (with sound) and a reference pressure (sound at a constant pressure, established by scientific standards). It is a logarithmic unit that accounts for large variations in amplitude; therefore, relatively small changes in dB ratings correspond to large changes in sound pressure. When referring to sound pressure levels (SPLs; the sound force per unit area), sound is referenced in the context of underwater sound pressure to 1 microPascal (μPa). One pascal is the pressure resulting from a force of one newton exerted over an area of one square meter. The source level represents the sound level at a distance of 1 m from the source (referenced to 1 μPa). The received level is the sound level at the listener's position.

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 (Urick, 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 than by peak pressures.

When underwater objects vibrate or activity occurs, sound-pressure waves are created. These waves alternately compress and decompress the water as the sound wave travels. Underwater sound waves radiate in all directions away from the source (similar to ripples on the surface of a pond), except in cases where the source is directional. The compressions and decompressions associated with sound waves are detected as changes in pressure by aquatic life and man-made sound receptors such as hydrophones. Underwater sound levels (''ambient sound'') are comprised of multiple sources, including physical (e.g., waves, earthquakes, ice, atmospheric sound), biological (e.g., sounds produced by marine mammals, fish, and invertebrates), and anthropogenic sound (e.g., vessels, dredging, aircraft, construction). Even in the absence of anthropogenic sound, the sea is typically a loud environment. A number of sources of sound are likely to occur within San Francisco Bay, including the following (Richardson *et al.,* 1995):

- *Wind and waves:* The complex interactions between wind and water surface, including processes such as breaking waves and wave-induced bubble oscillations and cavitation, are a main source of naturally occurring ambient noise for frequencies between 200 Hz and 50 kHz (Mitson, 1995). In general, ambient noise levels tend to increase with increasing wind speed and wave height. Surf noise becomes important near shore, with measurements collected at a distance of 8.5 km (5.3 mi) from shore showing an increase of 10 dB in the 100 to 700 Hz band during heavy surf conditions.
- *Precipitation noise:* Noise from rain and hail impacting the water surface can become an important component of total noise at frequencies above 500 Hz, and possibly down to 100 Hz during quiet times.
- *Biological noise:* Marine mammals can contribute significantly to ambient noise levels, as can some fish and shrimp. The frequency band for biological contributions is from approximately 12 Hz to over 100 kHz.
- *Anthropogenic noise:* Sources of ambient noise related to human activity include transportation (surface vessels and aircraft), dredging and construction, oil and gas drilling and production, seismic surveys, sonar, explosions, and ocean acoustic studies (Richardson *et al.,* 1995). Shipping noise typically dominates the total ambient noise for frequencies between 20 and 300 Hz. In general, the frequencies of anthropogenic sounds are below 1 kHz and, if higher frequency sound levels are created, they would attenuate (decrease) rapidly (Richardson *et al.,* 1995).

In-water construction activities associated with the project would include impact and vibratory pile driving. The sounds produced by these activities fall into one of two sound types: Pulsed and non-pulsed (defined in next paragraph). The distinction between these two general sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (e.g., Ward, 1997 in Southall *et al.,* 2007). Please see Southall *et al.,* (2007) for an in-depth discussion of these concepts.

Pulsed sounds (e.g., explosions, gunshots, sonic booms, and impact pile driving) are brief, broadband, atonal transients (ANSI, 1986; Harris, 1998) and occur either as isolated events or repeated in some succession. Pulsed sounds are all characterized by a relatively rapid rise from ambient pressure to a maximal pressure value followed by a decay period that may include a period of diminishing, oscillating maximal and minimal pressures. Pulsed sounds generally have an increased capacity to induce physical injury as compared with sounds that lack these features.

Non-pulse (intermittent or continuous sounds) can be tonal, broadband, or both. Some of these non-pulse sounds can be transient signals of short duration but without the essential properties of pulses (e.g., rapid rise time). Examples of non-pulse sounds include those produced by vessels, aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems. The duration of such sounds, as received at a distance, can be greatly extended in a highly reverberant environment.

Impact hammers operate by repeatedly dropping a heavy piston onto a pile to drive the pile into the substrate. Sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper, 2005). Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. Vibratory hammers produce significantly less sound than impact hammers. Peak SPLs may be 180 dB or greater, but are generally 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Caltrans, 2009). Rise time is slower, reducing the probability and severity of injury (USFWS, 2009), and sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2001).

Ambient Sound

The underwater acoustic environment consists of ambient sound, defined as environmental background sound levels lacking a single source or point (Richardson *et al.,* 1995). The ambient underwater sound level of a region is defined by the total acoustical energy being generated by known and unknown sources, including sounds from both natural and anthropogenic sources. The sum of the various natural and anthropogenic sound sources at any given location and time depends not only on the source levels (as determined by current weather conditions and levels of biological and industrial or other anthropogenic activity) but also on the ability of sound to propagate through the environment. In turn, sound propagation is dependent on the spatially and temporally varying properties of the water column and sea floor, and is frequency-dependent. As a result of the dependence on a large number of varying factors, the ambient sound levels at a given frequency and location can vary by 10–20 dB from day to day (Richardson *et al.,* 1995). In San Francisco Bay, the average broadband ambient underwater sound levels were measured at 133 dB re 1μPa in the Oakland Outer Harbor (Strategic Environmental Consulting, Inc., 2004).

Sound Attenuation Devices

Sound levels can be greatly reduced during impact pile driving using sound attenuation devices. There are several types of sound attenuation devices including bubble curtains, cofferdams, and isolation casings (also called temporary noise attenuation piles [TNAP]), and cushion blocks. Cushion blocks, which are commonly used attenuation devices for timber piles, consist of materials (e.g., wood, nylon) placed atop piles during impact pile driving activities to reduce source levels. Typically sound reduction performance is variable, but can range from 4 to a maximum of 26 dB. Both environmental conditions and the characteristics of the sound attenuation device may influence the effectiveness of the device.

Sound Thresholds

Since 1997, NMFS has used generic sound exposure thresholds to determine when an activity in the ocean that produces sound might result in impacts to a marine mammal such that a take by harassment might occur (NMFS, 2005). To date, no studies have been conducted that examine impacts to marine mammals from pile driving sounds from which empirical sound thresholds have been established. Current NMFS practice regarding exposure of marine mammals to sound is that cetaceans and pinnipeds exposed to impulsive sounds of 180 and 190 dB rms or above, respectively, are considered to have been taken by Level A (i.e., injurious) harassment. Behavioral harassment (Level B) is considered to have occurred when marine mammals are exposed to sounds at or above 160 dB rms for impulse sounds (e.g., impact pile driving) and 120 dB rms for continuous sound (e.g., vibratory pile driving), but below injurious thresholds. NMFS uses these levels as guidelines to estimate when harassment may occur.

There is a general lack of information regarding driving of timber piles in the available literature. However, underwater sound produced by impact driving of 12-in timber piles with use of cushion blocks, as is planned for the proposed activity, has been measured in the Bay area at 170 dB rms at 10 m (Caltrans, 2007). Caltrans (2007) has also measured SPLs associated with vibratory pile driving in the Bay area; vibratory driving for 12-in steel pipe piles was measured at 155 dB rms and for 36-in steel pipe piles at 170 dB rms, both at 10 m distance. Averaging these values provides a conservative estimate of 162.5 dB rms for 18-in piles, as would be used in the proposed activities. Using practical spreading loss—4.5 dB reduction in level for each doubling of distance from the source—to approximate site-specific sound propagation characteristics, these data provide estimated source levels of 185 dB rms for impact driving of 12-in timber piles with use of a cushion block and 177.5 dB rms for vibratory driving of 18-in steel pipe piles. On the basis of these estimated source levels, the estimated distances to various thresholds (presented for reference only) are presented in Table 2. Impact pile driving activity would not produce SPLs of sufficient intensity to potentially cause injury to pinnipeds (i.e., 190 dB rms), and SPLs produced by vibratory pile driving would be low enough to preclude the potential for injury to any marine mammal (i.e., below 180 dB rms).

TABLE 2—ESTIMATED DISTANCES TO UNDERWATER MARINE MAMMAL SOUND THRESHOLDS DURING PILE DRIVING

Threshold	Distance (m)
Impact driving, pinniped injury (190 dB)	n/a
Impact driving, cetacean injury (180 dB)	2.2
Impact driving, disturbance (160 dB)	46
Impact driving, airborne disturbance (100 dB)	5.3
Impact driving, airborne disturbance (90 dB)	17
Vibratory driving, pinniped injury (190 dB)	n/a
Vibratory driving, cetacean injury (180 dB)	n/a
Vibratory driving, disturbance (133 dB [1])	926
Vibratory driving, airborne disturbance (100 dB)	6.8
Vibratory driving, airborne disturbance (90 dB)	22

[1] Distance to disturbance zone calculated on basis of ambient sound measurement of 133 dB rms in vicinity of San Francisco waterfront. Marine mammals present in the project area are likely acclimated to non-pulsed sound at levels well above NMFS' threshold for harassment for these types of sound (i.e., 120 dB rms).

Precise exposure thresholds for airborne sounds have not been determined; however, monitoring of marine mammal reactions to rocket launches at Vandenberg Air Force Base (VAFB) has indicated that behavioral harassment may occur for harbor seals at received levels of 90 dB re 20 μPa, while similar reactions may occur at levels of 100 dB re 20 μPa for other pinniped species. There is a general lack of data regarding airborne SPLs from similar pile driving events; however, acoustic monitoring of pile driving events conducted recently by the U.S. Navy in Hood Canal provides approximate source levels of 114.5 and 116.7 dB rms for impact driving and vibratory driving, respectively, of steel piles of 24–48 in diameter. Impact driving of 12-in timber piles with a cushion block would produce sound at somewhat lower intensity. It is extremely unlikely that pinnipeds would be exposed to airborne SPLs above the relevant thresholds, given the source levels and likely distance between pinnipeds and the activity. Please see Table 2 for estimated distances to thresholds.

Description of Marine Mammals in the Area of the Specified Activity

Marine mammals with confirmed occurrences in San Francisco Bay are the harbor seal, California sea lion, harbor porpoise, elephant seal, gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera noveangliae*), and sea otter (*Enhydra lutris*). The gray whale is typically observed migrating southward along the Central California coast between December and February and then again heading northward between February and July. Observations in San Francisco Bay are typically made from December through May, during the whales' coastal migration (USACE, 2011). Pile driving activities could overlap with the southbound migrating whales; however, southbound migrants typically travel farther offshore and are less likely to enter into the Bay. Humpback whales are considered extremely rare in San Francisco Bay and are highly unlikely to be present in the action area. Sea otters are under the jurisdiction of the U.S. Fish and Wildlife Service. Therefore, these three species are not discussed in detail.

Typically, there is very little marine mammal activity in the waters immediately adjacent to the San Francisco waterfront, where pile driving activities are proposed. The general lack of marine mammal activity at the San Francisco waterfront—other than a California sea lion haul-out at Pier 39—is likely due to the high level of human activity, both urban and industrial in nature. The primary route for shipping traffic into and out of the Port of San Francisco and Port of Oakland is located between the San Francisco waterfront and Angel Island, approximately 5 km to the north. Amongst other uses, tugboat activities occur at Piers 15 and 17, ferry traffic around Pier 1 and along the waterfront to Piers 39 and 45, marine shipping and cargo transport to Piers 80 A–D and Piers 92 and 94–96, and cruise vessel traffic at Piers 27 and 35 (see Figures 1–2 of the application for relative locations). As noted previously, ambient underwater sound has been measured at 133 dB rms, significantly above NMFS threshold for behavioral harassment from non-pulsed sound (120 dB).

Harbor seals and California sea lion are the most common marine mammals in the Bay, and may be found at multiple sites either resting or foraging. There are no documented haul-outs in the vicinity of proposed construction or race events other than those discussed in succeeding sections. Various sources have observed pinnipeds resting on channel marker buoys throughout the Bay, on the shorelines of Alcatraz or Angel Island and along the San Francisco waterfront but these locations have not been defined as haul-out sites.

Harbor Seals

Harbor seals in the eastern Pacific inhabit near-shore coastal and estuarine areas from Baja California, Mexico, to the Pribilof Islands in Alaska. In California, approximately 400–600 harbor seal haul-outs are widely distributed along the mainland and on offshore islands, including intertidal sandbars, rocky shores and beaches (Hanan, 1996).

The harbor seal population in California is estimated at approximately 34,233 (Carretta *et al.,* 2007). Counts of harbor seals in California showed a rapid increase from approximately 1972 to 1990, though net production rates appeared to decline from 1982 to 1994. The decrease in population growth rate has occurred at the same time as a decrease in human-caused mortality and may be an indication that the population is reaching its environmental carrying capacity. Harbor seals are not listed under the ESA and are not considered depleted or designated as a strategic stock under the MMPA.

In general, harbor seals do not undertake long migrations, but do travel 300–500 km on occasion to find food or suitable breeding areas (Herder, 1986). Harbor seals are rarely found in pelagic waters and typically stay within the tidal and intertidal zones. On land, harbor seals haul out on rocky outcrops, mudflats, sandbars and sandy beaches with unrestricted access to water and with minimal human presence. Haul-out sites are important as resting sites for harbor seals, who feed opportunistically in shallow waters on fish, crustaceans, and cephalopods. Harbor seals are typically solitary while foraging, although small groups have been observed. They normally choose isolated sites for pupping.

The harbor seal is a permanent resident in San Francisco Bay. The current Bay-Delta harbor seal population is estimated at between 500 and 700 individuals (Green *et al.,* 2006). Harbor seals have established haul-out sites at Castro Rocks in San Pablo Bay, Yerba Buena Island (YBI) in the Central Bay, and Mowry Slough in the South Bay (NOAA, 2007). The south side of YBI, approximately 2.4 km distant from the nearest project site, is the nearest haul-out area and the only one that may potentially be affected by project activities. The YBI haul-out is approximately 3.2 km from Pier 19, the only location where impact pile driving is proposed.

Although not historically identified as a pupping site for harbor seals, recent observations at the year-round seal haul-out on the south side of YBI suggest that occasional pupping does occur at this location (Green *et al.,* 2006). Pupping season for harbor seals in San Francisco Bay spans approximately March 15th through May 31st, with pup numbers generally peaking in late April or May. Individual seals may occasionally haul out farther to the west and southwest of the main haul-out at YBI site, depending on space availability and conditions at the main haul-out area. Harbor seals present near the San Francisco waterfront would likely be transiting to and from YBI or opportunistically foraging.

California Sea Lions

California sea lions range from southern Mexico to British Columbia, Canada. The entire U.S. population has been estimated at 238,000, and grew at a rate of approximately 6 percent annually between 1975 and 2005 (Carretta *et al.,* 2007). Sea lions can be found at sea from the surf zone out to nearshore and pelagic waters. On land, sea lions are found resting and breeding in groups of various sizes, and haul out on rocky surfaces and outcroppings and beaches, as well as on manmade structures such as jetties. Sea lions prefer haul-out sites and rookeries near abundant food supplies, with easy access to water, although they may occasionally travel up rivers and bays in search of food. California sea lions are not listed under the ESA and are not considered depleted or designated as a strategic stock under the MMPA.

California sea lions exhibit seasonal migration patterns organized around their breeding activity. Sea lions breed at large rookeries in the Channel Islands in southern California, and on both sides of the Baja California peninsula, typically from May to August. Females tend to remain close to the rookeries throughout the year, while males migrate north after the breeding season in the late summer before migrating back south to the breeding grounds in the spring (CDFG, 1990). No established rookeries are known north of Point Reyes, California, but large numbers of subadult and non-breeding or post-breeding male California sea lions are found throughout the Pacific Northwest. There is a mean seasonal pattern of peak numbers occurring in the northwest during fall, but local areas show high annual and seasonal variability. Sea lions feed on fish and cephalopods. Although solitary feeders, sea lions often hunt in groups, which can vary in size according to the abundance of prey (CDFG, 1990).

California sea lions are typically found within the San Francisco Bay region while migrating to and from their primary breeding areas in the Channel Islands, and in association with herring and salmon spawning migrations. Sea lions haul out on offshore rocks, sandy beaches, floating docks, wharfs, vessels, and other man-made structures in the Bay, where winter numbers have historically been observed to be over 500 animals (Goals Project, 2000). Although some animals may remain in the Bay year-round, sea lions typically begin to appear in August. Numbers then increase gradually before a sudden increase in December, when the herring run results in greatest numbers (Dec–Feb). Following the winter peak, numbers decline to just a few animals by summer months.

California sea lions are typically observed at Angel Island and occupying the docks near Pier 39, which is the largest haul-out in San Francisco Bay (Bauer, 1999). As many as 800 sea lions have been counted at Pier 39, although the aggregations have decreased in size in recent years, possibly coincident with a fluctuating decrease in the herring population in the Bay. No other sea lion haul-out sites have been identified in the Bay, there are no known breeding sites within San Francisco Bay, and no pupping has been observed at Pier 39 site or at any other site in San Francisco Bay under normal conditions (USACE, 2011). Sea lions present at the Pier 39 haul-out are described anecdotally as being well-acclimated to human presence and activity.

Pier 27 and Marina Green—both less than 1.6 km away from Pier 39—are the closest locations where vibratory pile driving would be conducted. Pier 19, where impact pile driving would occur, is also less than 1.6 km distant.

California sea lions may forage in the waters of and adjacent to the sites where construction is proposed and where the race events would occur.

Harbor Porpoise

Harbor porpoises belong to the Phocoenid (porpoise) family and are found extensively along the Pacific U.S. coast. Harbor porpoises are small, with males reaching average lengths of approximately 5 ft (1.5 m); Females are slightly larger with an average length of 5.5 ft (1.7 m). The average adult harbor porpoise weighs between 135–170 lb (61–77 kg). Harbor porpoises have a dark grey coloration on their backs, with their belly and throats white. They have a dark grey chin patch and intermediate shades of grey along their sides.

Harbor porpoises are generally found in cool temperate to subarctic waters over the continental shelf in both the North Atlantic and North Pacific (Read, 1999). This species is seldom found in waters warmer than 17 °C (63 °F; Read, 1999) or south of Point Conception (Hubbs, 1960; Barlow and Hanan, 1995). Harbor porpoises can be found year-round primarily in the shallow coastal waters of harbors, bays, and river mouths (Green *et al.,* 1992). Along the Pacific coast, harbor porpoises occur from Monterey Bay, California to the Aleutian Islands and west to Japan (Reeves *et al.,* 2002).

Harbor porpoises are non-social animals usually seen in small groups of two to five animals. Little is known about their social behavior. Harbor porpoises can be opportunistic foragers but primarily consume schooling forage fish (Osmek *et al.,* 1996; Bowen and Siniff, 1999; Reeves *et al.,* 2002). Females reach sexual maturity at three to four years of age and may give birth every year for several years in a row. Calves are born in late spring (Read, 1990; Read and Hohn, 1995).

Recent preliminary genetic analyses of samples ranging from Monterey, CA to Vancouver Island, BC indicate that there is small-scale subdivision within the U.S. portion of this range (Chivers *et al.,* 2002). Although geographic structure exists along an almost continuous distribution of harbor porpoises from California to Alaska, stock boundaries are difficult to draw because any rigid line is generally arbitrary from a biological perspective. Nevertheless, based on genetic data and density discontinuities identified from aerial surveys, NMFS identifies eight stocks in the Northeast Pacific Ocean. Pacific coast harbor porpoise stocks include: (1) Monterey Bay, (2) San Francisco-Russian River, (3) northern California/southern Oregon, (4) Oregon/Washington coastal, (5) inland Washington, (6) Southeast Alaska, (7) Gulf of Alaska, and (8) Bering Sea. Only individuals from the San Francisco-Russian River stock are likely to occur in the project area. Based on 2002–07 aerial surveys under good survey conditions the estimate of abundance for this stock is 9,189 animals (Carretta *et al.,* 2009). Abundance of the stock has steadily increased since 1993. The Golden Gate Cetacean Research Organization (GGCR) has suggested that the species is returning to San Francisco Bay after a general absence of approximately 65 years (GGCR, 2010). This re-emergence is not unique to San Francisco Bay, but rather may be indicative of harbor porpoise increases and expansions in general along the west coast. Harbor porpoises are not listed under the ESA and are not considered depleted or designated as a strategic stock under the MMPA.

Harbor porpoises, although not commonly sighted in San Francisco Bay, have been observed traveling in small pods of two to three animals in the Central Bay and below the Golden Gate Bridge on occasion and in some instances displaying mating behavior. Recent observations of harbor porpoises have been reported by GGCR researchers off Cavallo Point, outside Raccoon Strait between Tiburon and Angel Island, off Fort Point and as far into the Bay as Carquinez Strait (Perlman, 2010). In addition, the California Department of Transportation reported observing a single harbor porpoise in 2000 in the vicinity of YBI during monitoring associated with bridge construction. Harbor porpoise presence in the project area is nevertheless considered rare.

Elephant Seals

Populations of northern elephant seals in the U.S. and Mexico are derived from a few tens or hundreds of individuals surviving in Mexico after being nearly hunted to extinction (Stewart *et al.,* 1994). Given the recent derivation of most rookeries, no genetic differentiation would be expected. Although movement and genetic exchange continues between rookeries, most elephant seals return to their natal rookeries when they start breeding (Huber *et al.,* 1991). The California breeding population is now demographically isolated from the Baja California population and is considered to be a separate stock. Based on the estimated 35,549 pups born in California in 2005, the California stock was estimated at approximately 124,000 (Carretta *et al.* 2009). Based on trends in pup counts, northern elephant seal colonies were continuing to grow in California through 2005 (Carretta *et al.,* 2009). The elephant seal is not listed under the ESA and is not considered depleted or designated as a strategic stock under the MMPA.

Northern elephant seals breed and give birth in California and Baja California, Mexico, primarily on offshore islands from December to March (Stewart *et al.,* 1994; Stewart and Huber, 1993). Gestation lasts around 11 months, and pups are born in early winter from December to January. Northern elephant seals are polygamous; males establish dominance over large groups of females during the breeding season. Males feed near the eastern Aleutian Islands and in the Gulf of Alaska, and females feed further south (Stewart and Huber, 1993; Le Boeuf *et al.,* 1993). Adults return to land between March and August to molt, with males returning later than females. Adults return to their feeding areas again between their spring/summer molting and their winter breeding seasons.

Individual juvenile elephant seals have been reported entering the Bay in the past few years between March and August, with an occasional report in October and November. Elephant Seals do not have any established haul out sites in the Bay, but occasional sightings have occurred at Crissy Field, approximately 1 km from the nearest project site. Elephant seals are considered rare in the Bay.

Potential Effects of the Specified Activity on Marine Mammals

NMFS has determined that pile driving, as outlined in the project description, has the potential to result in behavioral harassment of marine mammals that may be swimming, foraging, or resting in the project vicinity while pile driving is being conducted. Behavioral disturbance is also possible when helicopter overflights or fireworks displays occur.

Marine Mammal Hearing

The primary effect on marine mammals anticipated from the specified activities would result from exposure of animals to underwater sound. Exposure to sound can affect marine mammal hearing or cause changes in behavior. When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Based on available behavioral data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data, Southall *et al.* (2007)

designate functional hearing groups for marine mammals and estimate the lower and upper frequencies of functional hearing of the groups. The functional groups and the associated frequencies are indicated below (though animals are less sensitive to sounds at the outer edge of their functional range and most sensitive to sounds of frequencies within a smaller range somewhere in the middle of their functional hearing range):

- Low frequency cetaceans (13 species of mysticetes): Functional hearing is estimated to occur between approximately 7 Hz and 22 kHz;
- Mid-frequency cetaceans (32 species of dolphins, six species of larger toothed whales, and 19 species of beaked and bottlenose whales): Functional hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High frequency cetaceans (six species of true porpoises, four species of river dolphins, two members of the genus *Kogia,* and four dolphin species of the genus *Cephalorhynchus*): Functional hearing is estimated to occur between approximately 200 Hz and 180 kHz; and
- Pinnipeds in water: functional hearing is estimated to occur between approximately 75 Hz and 75 kHz, with the greatest sensitivity between approximately 700 Hz and 20 kHz.

As mentioned previously in this document, three pinniped and one cetacean species may occur in the proposed project area during the project timeframe. The harbor porpoise is classified as a high frequency cetacean (Southall *et al.,* 2007).

Underwater Sound Effects

Potential Effects of Pile Driving Sound—The effects of sounds from pile driving might generally result in one or more of the following: Temporary or permanent hearing impairment, non-auditory physical or physiological effects, behavioral disturbance, and masking (Richardson *et al.,* 1995; Gordon *et al.,* 2004; Nowacek *et al.,* 2007; Southall *et al.,* 2007). The effects of pile driving on marine mammals are dependent on several factors, including the size, type, and depth of the animal; the depth, intensity, and duration of the pile driving sound; the depth of the water column; the substrate of the habitat; the standoff distance between the pile and the animal; and the sound propagation properties of the environment. Impacts to marine mammals from pile driving activities are expected to result primarily from acoustic pathways. As such, the degree of effect is intrinsically related to the received level and duration of the sound exposure, which are in turn influenced by the distance between the animal and the source. The further away from the source, the less intense the exposure should be. The substrate and depth of the habitat affect the sound propagation properties of the environment. Shallow environments are typically more structurally complex, which leads to rapid sound attenuation. In addition, substrates that are soft (e.g., sand) would absorb or attenuate the sound more readily than hard substrates (e.g., rock) which may reflect the acoustic wave. Soft porous substrates would also likely require less time to drive the pile, and possibly less forceful equipment, which would ultimately decrease the intensity of the acoustic source.

In the absence of mitigation, impacts to marine species would be expected to result from physiological and behavioral responses to both the type and strength of the acoustic signature (Viada *et al.,* 2008). The type and severity of behavioral impacts are more difficult to define due to limited studies addressing the behavioral effects of sound on marine mammals. Potential effects from impulsive sound sources can range in severity, ranging from effects such as behavioral disturbance, tactile perception, physical discomfort, slight injury of the internal organs and the auditory system, to mortality (Yelverton *et al.,* 1973; O'Keefe and Young, 1984; DoN, 2001b).

Hearing Impairment and Other Physical Effects—Marine mammals exposed to high intensity sound repeatedly or for prolonged periods can experience hearing threshold shift (TS), which is the loss of hearing sensitivity at certain frequency ranges (Kastak *et al.,* 1999; Schlundt *et al.,* 2000; Finneran *et al.,* 2002, 2005). TS can be permanent (PTS), in which case the loss of hearing sensitivity is not recoverable, or temporary (TTS), in which case the animal's hearing threshold would recover over time (Southall *et al.,* 2007). Marine mammals depend on acoustic cues for vital biological functions, (e.g., orientation, communication, finding prey, avoiding predators); thus, TTS may result in reduced fitness in survival and reproduction, either permanently or temporarily. However, this depends on the frequency and duration of TTS, as well as the biological context in which it occurs. TTS of limited duration, occurring in a frequency range that does not coincide with that used for recognition of important acoustic cues, would have little to no effect on an animal's fitness. Repeated sound exposure that leads to TTS could cause PTS. PTS, in the unlikely event that it occurred, would constitute injury, but TTS is not considered injury (Southall *et al.,* 2007). It is unlikely that the project would result in any cases of temporary or especially permanent hearing impairment or any significant non-auditory physical or physiological effects for reasons discussed later in this document. Some behavioral disturbance is expected, but it is likely that this would be localized and short-term because of the short project duration.

Several aspects of the planned monitoring and mitigation measures for this project (see the ''Proposed Mitigation'' and ''Proposed Monitoring and Reporting'' sections later in this document) are designed to detect marine mammals occurring near the pile driving to avoid exposing them to sound pulses that might, in theory, cause hearing impairment. In addition, many cetaceans are likely to show some avoidance of the area where received levels of pile driving sound are high enough that hearing impairment could potentially occur. In those cases, the avoidance responses of the animals themselves would reduce or (most likely) avoid any possibility of hearing impairment. Non-auditory physical effects may also occur in marine mammals exposed to strong underwater pulsed sound. It is especially unlikely that any effects of these types would occur during the present project given the brief duration of exposure for any given individual and the planned monitoring and mitigation measures. The following subsections discuss in somewhat more detail the possibilities of TTS, PTS, and non-auditory physical effects.

Temporary Threshold Shift—TTS is the mildest form of hearing impairment that can occur during exposure to a strong sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises, and a sound must be stronger in order to be heard. In terrestrial mammals, TTS can last from minutes or hours to days (in cases of strong TTS). For sound exposures at or somewhat above the TTS threshold, hearing sensitivity in both terrestrial and marine mammals recovers rapidly after exposure to the sound ends. Few data on sound levels and durations necessary to elicit mild TTS have been obtained for marine mammals, and none of the published data concern TTS elicited by exposure to multiple pulses of sound. Available data on TTS in marine mammals are summarized in Southall *et al.* (2007).

Given the available data, the received level of a single pulse (with no frequency weighting) might need to be approximately 186 dB re 1 μPa^2-s (i.e., 186 dB sound exposure level [SEL] or approximately 221–226 dB pk-pk) in order to produce brief, mild TTS. Exposure to several strong pulses that each have received levels near 190 dB re 1 μPa rms (175–180 dB SEL) might result in cumulative exposure of approximately 186 dB SEL and thus slight TTS in a small odontocete, assuming the TTS threshold is (to a first approximation) a function of the total received pulse energy. Source levels for the proposed activities are not expected to exceed 190 dB re 1 μPa rms.

The above TTS information for odontocetes is derived from studies on the bottlenose dolphin (*Tursiops truncatus*) and beluga whale (*Delphinapterus leucas*). There is no published TTS information for other species of cetaceans. However, preliminary evidence from a harbor porpoise exposed to pulsed sound suggests that its TTS threshold may have been lower (Lucke *et al.,* 2009). To avoid the potential for injury, NMFS has determined that cetaceans should not be exposed to pulsed underwater sound at received levels exceeding 180 dB re 1 μPa rms. As summarized above, data that are now available imply that TTS is unlikely to occur unless odontocetes are exposed to pile driving pulses stronger than 180 dB re 1 μPa rms.

Permanent Threshold Shift—When PTS occurs, there is physical damage to the sound receptors in the ear. In severe cases, there can be total or partial deafness, while in other cases the animal has an impaired ability to hear sounds in specific frequency ranges (Kryter, 1985). There is no specific evidence that exposure to pulses of sound can cause PTS in any marine mammal. However, given the possibility that mammals close to pile driving activity might incur TTS, there has been further speculation about the possibility that some individuals occurring very close to pile driving might incur PTS. Single or occasional occurrences of mild TTS are not indicative of permanent auditory damage, but repeated or (in some cases) single exposures to a level well above that causing TTS onset might elicit PTS.

Relationships between TTS and PTS thresholds have not been studied in marine mammals but are assumed to be similar to those in humans and other terrestrial mammals. PTS might occur at a received sound level at least several decibels above that inducing mild TTS if the animal were exposed to strong sound pulses with rapid rise time. Based on data from terrestrial mammals, a precautionary assumption is that the PTS threshold for impulse sounds (such as pile driving pulses as received close to the source) is at least 6 dB higher than the TTS threshold on a peak-pressure basis and probably greater than 6 dB (Southall *et al.,* 2007). On an SEL basis, Southall *et al.* (2007) estimated that received levels would need to exceed the TTS threshold by at least 15 dB for there to be risk of PTS. Thus, for cetaceans, Southall *et al.* (2007) estimate that the PTS threshold might be an M-weighted SEL (for the sequence of received pulses) of approximately 198 dB re 1 μPa^2-s (15 dB higher than the TTS threshold for an impulse). Given the higher level of sound necessary to cause PTS as compared with TTS, it is considerably less likely that PTS could occur.

Non-auditory Physiological Effects—Non-auditory physiological effects or injuries that theoretically might occur in marine mammals exposed to strong underwater sound include stress, neurological effects, bubble formation, resonance effects, and other types of organ or tissue damage (Cox *et al.,* 2006; Southall *et al.,* 2007). Studies examining such effects are limited. In general, little is known about the potential for pile driving to cause auditory impairment or other physical effects in marine mammals. Available data suggest that such effects, if they occur at all, would presumably be limited to short distances from the sound source and to activities that extend over a prolonged period. The available data do not allow identification of a specific exposure level above which non-auditory effects can be expected (Southall *et al.,* 2007) or any meaningful quantitative predictions of the numbers (if any) of marine mammals that might be affected in those ways. Marine mammals that show behavioral avoidance of pile driving, including some odontocetes and some pinnipeds, are especially unlikely to incur auditory impairment or non-auditory physical effects.

Measured source levels from impact pile driving can be as high as 214 dB re 1 μPa at 1 m (3.3 ft). Although no marine mammals have been shown to experience TTS or PTS as a result of being exposed to pile driving activities, captive bottlenose dolphins and beluga whales exhibited changes in behavior when exposed to strong pulsed sounds (Finneran *et al.,* 2000, 2002, 2005). The animals tolerated high received levels of sound before exhibiting aversive behaviors. Experiments on a beluga whale showed that exposure to a single watergun impulse at a received level of 207 kPa (30 psi) p-p, which is equivalent to 228 dB p-p re 1 μPa, resulted in a 7 and 6 dB TTS in the beluga whale at 0.4 and 30 kHz, respectively. Thresholds returned to within 2 dB of the pre-exposure level within four minutes of the exposure (Finneran *et al.,* 2002). Although the source level of pile driving from one hammer strike is expected to be much lower than the single watergun impulse cited here, animals being exposed for a prolonged period to repeated hammer strikes could receive more sound exposure in terms of SEL than from the single watergun impulse (estimated at 188 dB re 1 μPa^2-s) in the aforementioned experiment (Finneran *et al.,* 2002). However, in order for marine mammals to experience TTS or PTS, the animals have to be close enough to be exposed to high intensity sound levels for a prolonged period of time. Based on the best scientific information available, these SPLs are far below the thresholds that could cause TTS or the onset of PTS.

Disturbance Reactions

Disturbance includes a variety of effects, including subtle changes in behavior, more conspicuous changes in activities, and displacement. Reactions to sound, if any, depend on species, state of maturity, experience, current activity, reproductive state, time of day, and many other factors (Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007; Weilgart, 2007). Behavioral responses to sound are highly variable and context-specific. For each potential behavioral change, the magnitude of the change ultimately determines the severity of the response. A number of factors may influence an animal's response to sound, including its previous experience, its auditory sensitivity, its biological and social status (including age and sex), and its behavioral state and activity at the time of exposure.

Habituation can occur when an animal's response to a stimulus wanes with repeated exposure, usually in the absence of unpleasant associated events (Wartzok *et al.,* 2003/04). Animals are most likely to habituate to sounds that are predictable and unvarying. The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure. Behavioral state may affect the type of response as well. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; NRC, 2003; Wartzok *et al.,* 2003/04).

Controlled experiments with captive marine mammals showed pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,* 2003). Observed responses of wild marine mammals to loud pulsed sound sources (typically seismic guns or acoustic harassment devices, but also including pile driving) have been varied but often consist of avoidance behavior or other behavioral changes suggesting discomfort (Morton and Symonds, 2002; Caltrans, 2001, 2006; see also Gordon *et al.,* 2004; Wartzok *et al.,* 2003/04; Nowacek *et al.,* 2007). Responses to continuous sound, such as vibratory pile installation, have not been documented as well as responses to pulsed sounds.

With both types of pile driving, it is likely that the onset of pile driving could result in temporary, short term changes in an animal's typical behavior and/or avoidance of the affected area. These behavioral changes may include (Richardson *et al.,* 1995): Changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); avoidance of areas where sound sources are located; and/or flight responses (e.g., pinnipeds flushing into water from haul-outs or rookeries). Pinnipeds may increase their haul-out time, possibly to avoid in-water disturbance (Caltrans 2001, 2006). Since pile driving typically occurs for short periods of time, and because marine mammals present at the San Francisco waterfront are likely acclimated to a loud environment and heavy urban and industrial usage of the area, it is unlikely to result in permanent displacement. Any potential impacts from pile driving activities could be experienced by individual marine mammals, but would not be likely to cause population level impacts, or affect the long-term fitness of the species.

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be expected to be biologically significant if the change affects growth, survival, or reproduction. Significant behavioral modifications that could potentially lead to effects on growth, survival, or reproduction include:

• Drastic changes in diving/surfacing patterns (such as those thought to be causing beaked whale stranding due to exposure to military mid-frequency tactical sonar);

• Habitat abandonment due to loss of desirable acoustic environment; and

• Cessation of feeding or social interaction.

The onset of behavioral disturbance from anthropogenic sound depends on both external factors (characteristics of sound sources and their paths) and the specific characteristics of the receiving animals (hearing, motivation, experience, demography) and is difficult to predict (Southall *et al.,* 2007).

Auditory Masking

Natural and artificial sounds can disrupt behavior by masking, or interfering with, a marine mammal's ability to hear other sounds. Masking occurs when the receipt of a sound is interfered with by another coincident sound at similar frequencies and at similar or higher levels. Chronic exposure to excessive, though not high-intensity, sound could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions. Masking can interfere with detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. If the coincident (masking) sound were man-made, it could be potentially harassing if it disrupted hearing-related behavior. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, it is not considered a physiological effect, but rather a potential behavioral effect.

The frequency range of the potentially masking sound is important in determining any potential behavioral impacts. Because sound generated from in-water pile driving is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds made by porpoises. However, lower frequency man-made sounds are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey sound. It may also affect communication signals when they occur near the sound band and thus reduce the communication space of animals (e.g., Clark *et al.,* 2009) and cause increased stress levels (e.g., Foote *et al.,* 2004; Holt *et al.,* 2009).

Masking has the potential to impact species at population, community, or even ecosystem levels, as well as at individual levels. Masking affects both senders and receivers of the signals and can potentially have long-term chronic effects on marine mammal species and populations. Recent research suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than three times in terms of SPL) in the world's ocean from pre-industrial periods, and that most of these increases are from distant shipping (Hildebrand, 2009). All anthropogenic sound sources, such as those from vessel traffic, pile driving, and dredging activities, contribute to the elevated ambient sound levels, thus intensifying masking. However, the sum of sound from the proposed activities is confined in an area of inland waters that is bounded by landmass; therefore, the sound generated is not expected to contribute to increased ocean ambient sound.

The most intense underwater sounds in the proposed action are those produced by impact pile driving, although the proposed activity involves the striking of only relatively small diameter timber piles, meaning that source levels would be much lower than are typically produced by impact pile driving. Given that the energy distribution of pile driving covers a broad frequency spectrum, sound from these sources would likely be within the audible range of animals in the vicinity. Impact pile driving activity is relatively short-term, with rapid pulses occurring for short periods of time. The probability for impact pile driving resulting from this proposed action masking acoustic signals important to the behavior and survival of marine mammal species is likely to be negligible. Vibratory pile driving is also relatively short-term, producing sound from rapid oscillations. It is possible that vibratory pile driving resulting from this proposed action may mask acoustic signals important to the behavior and survival of marine mammal species, but the short-term duration and limited affected area, coupled with high levels of ambient noise in the action area, would result in a negligible impact from masking.

Airborne Sound Effects

Marine mammals that occur in the project area could be exposed to airborne sounds associated with pile driving, helicopter overflights, or fireworks displays that have the potential to cause harassment, depending on their distance from pile driving activities. Airborne pile driving sound would have less impact on cetaceans than pinnipeds because sound from atmospheric sources does not transmit well underwater (Richardson *et al.,* 1995); thus, airborne sound would only be an issue for hauled-out pinnipeds in the project area or those pinnipeds in the water but with their heads above water. Given the busy and loud environment within which the proposed activities would occur, and the degree of acclimatization displayed by pinnipeds at Pier 39, it is unlikely that airborne sound from pile driving, or sound alone from fireworks or helicopters, would cause behavioral responses similar to those discussed above in relation to underwater sound. However, anthropogenic sound could potentially cause pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon their habitat and move further from the source. Studies by Blackwell *et al.* (2004) and Moulton *et al.* (2005) indicate a tolerance or lack of response to unweighted airborne sounds as high as 112 dB peak and 96 dB rms.

Helicopter Operations and Fireworks Displays

Potential effects to pinnipeds could result from both acoustic (as described in the preceding section) and non-acoustic stimuli. It is generally difficult to ascertain whether pinnipeds displaying behavioral reactions to these activities are reacting to sound or to visual stimuli (e.g., physical presence of aircraft, shadow of aircraft, light from fireworks).

The functional hearing range for pinnipeds in air is 75 Hz to 30 kHz (Southall *et al.,* 2007). Richardson *et al.* (1995) note that dominant tones in noise spectra from helicopters are generally below 500 Hz, while Kastak and Schustermann (1995) state that the in air hearing sensitivity—which is generally less than the in-water hearing sensitivity for pinnipeds—decreases below 2 kHz, and that pinnipeds appear generally to be considerably less sensitive to airborne sounds below 10 kHz than are humans. There is a dearth of information on acoustic effects of helicopter overflights on pinniped hearing and communication (Richardson *et al.,* 1995) and to our knowledge, there has been no specific documentation of temporary threshold shift (TTS), let alone permanent threshold shift (PTS), in free-ranging pinnipeds exposed to helicopter operations during realistic field conditions.

Typical reactions of hauled-out pinnipeds to aircraft that have been observed include looking up at the aircraft, moving on land, or entering the water. Hauled out pinnipeds have been observed diving into the water when approached by a low-flying aircraft or helicopter (Richardson *et al.,* 1995). Richardson *et al.* (1995) note that responses can vary based on differences in aircraft type, altitude, and flight pattern. Additionally, a study conducted by Born *et al.* (1999) found that wind chill, time of day, and relative wind direction were factors in the level of response.

As for helicopter overflights, few data are available regarding pinniped reactions to fireworks displays, although there is information from monitoring of fireworks displays conducted by the Monterey Bay National Marine Sanctuary (MBNMS). In some display locations, marine mammals may avoid or temporarily depart the impact area during the hours immediately prior to the beginning of the fireworks display due to increased human recreational activities associated with the overall celebration event, and as a fireworks presentation progresses, most marine mammals generally evacuate the impact area. The proposed display locations are approximately 800–1,000 m from Pier 39, where California sea lions haul out during parts of the year.

The MBNMS has monitored commercial fireworks displays for potential impacts to marine life and habitats since 1993. Though monitoring techniques and intensity have varied over the years and visual monitoring of wildlife abundance and behavioral responses to nighttime displays is challenging, observed impacts have been consistent. In summary, nearly two decades of observing sea lion reactions to fireworks displays gives the following general observations: Sea lions (1) begin leaving the breakwater as soon as the fireworks begin; (2) clear completely off after an aerial salute or quick succession of loud effects; (3) usually begin returning within a few hours of the end of the display; and (4) are present on the breakwater at pre-firework numbers by the following morning. The loud sound bursts and pressure waves created by the exploding shells appear to cause more wildlife disturbance than the illumination effects. In particular, the percussive aerial salute shells have been observed to elicit a strong flight response in California sea lions in the vicinity of the impact area (within 800 m of the launch site). No signs of wildlife injury or mortality have ever been discovered as a result of managed fireworks displays. It is unclear whether observed reactions at Monterey would be applicable to animals at the San Francisco waterfront, where human activity, including fireworks, is more frequent and of greater intensity. It is possible that animals at Pier 39 would display lesser reactions to fireworks displays.

In 2007, MBNMS conducted acoustic monitoring for the City of Monterey Independence Day fireworks display. The fireworks display began with two sets of fireworks detonations and ended with a grand finale of multiple explosions after 20 minutes. The average sound level measured during the hour containing the fireworks display was 72.9 dB, approximately 14 dB greater than ambient levels recorded before the display. The loudest sound recorded during the event was associated with the detonation of a 10-in shell, and was measured at 133.9 dB (peak). Overall, sound generated during the display was low- to mid-frequency and ranged from 97 to 107 dB rms, while the majority of the fireworks detonations ranged from 112 to 124 dB rms.

Aerial shells produce flashes of light that can be brilliant (exceeding 30,000 candela) and can occur in rapid succession. Loud explosive and crackling sound effects stem primarily from salutes and bursting charges at altitude. Humans and wildlife on the ground and on the surface of the water may feel the sound waves and the accompanying rapid shift of ambient atmospheric pressure. Sound propagates further from high altitude shells than low altitude shells, thus ensonifying more surface area on the ground and water, as they are not blocked significantly by buildings and landforms. The sound from the lifting charge detonation is vectored upward through the mortar tube opening and reports as a dull thump to bystanders on the ground, far less conspicuous than the high-level aerial bursts. The intensity of an aerial show can be amplified by increasing the number of shells used, the pace of the barrage, and the length of the display.

Low-level devices reach a maximum altitude of 200 ft (61 m). The acute impact area can extend to 1 mi (1.6 km) from the center of the ignition point depending on the size and flight patterns of projectiles, maximum altitude of projectiles, the type of special effects, wind direction, atmospheric conditions, and local structures and topography. Low-level devices also produce brilliant flashes and fountains of light and sparks accompanied by small explosions, popping, and crackling sounds. Since they are lower in altitude than aerial shells, sound and light effects impact a smaller area. Low-level devices do not typically employ large black powder charges as do aerial shells, but are often used in large numbers in concert with one another and in rapid succession, producing intense localized effects.

Regular rocket launches at VAFB, which produce sound and light somewhat similar to that produced by fireworks, do not appear to have had long-term effects on the harbor seal population there. The total population of harbor seals at VAFB has been estimated to be increasing at an annual rate of 12.6 percent, despite five to seven space vehicle launches per year. Thus, there appear to be only short-term disturbance effects to harbor seals as a result of launch noise (SRS Technologies, 2001). Harbor seals will temporarily leave their haul-out when exposed to launch noise; however, they generally return to the haul-out within one hour.

Based on the available information, any pinnipeds in the vicinity of these activities are only anticipated to have short-term behavioral reactions to the helicopter flying overhead or to fireworks displays. Those animals that do flee the haul-out would be anticipated to return shortly after the helicopter leaves the area or within hours of the fireworks display. Harassment as a result of exceedance of sound thresholds is likely not possible, as the distance between helicopters or fireworks displays and the Pier 39 haul-out would preclude such effects; in addition, if for some reason an animal were hauled out closer to the fireworks display it would likely flee before the loudest effects were discharged. On the basis of the preceding discussion, we have preliminarily determined that potential impacts to marine mammals would consist of no more than behavioral harassment of limited duration and limited intensity (i.e., temporary flushing at most).

Anticipated Effects on Habitat

No permanent detrimental impacts to marine mammal habitat are expected to result from the proposed activities. Pile driving may impact prey species and marine mammals by causing temporary avoidance or abandonment of the immediate area. Site conditions are expected to be substantively unchanged from existing conditions. In addition, local habitat as it exists is significantly degraded as a result of the history of urban and industrial activity. Overall, the proposed activity is not expected to cause significant or long-term adverse impacts on marine mammal habitat or to the prey base for marine mammals.

Proposed Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse 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.

Estimated distances to various sound thresholds were described previously under ''Sound Thresholds,'' and would be used to establish zones of influence (ZOIs) (described in following sections) to be used as mitigation measures for pile driving activities. ZOIs are often used to effectively represent the mitigation zone that would be established around each pile to prevent Level A harassment of marine mammals. In addition to the specific measures described later, ACEA and the Port would employ the following general mitigation measures:

- All work would be performed according to the requirements and conditions of the regulatory permits issued by federal, state, and local governments.
- Briefings would be conducted between the project construction supervisors and crew and marine mammal observer(s) (MMO) as necessary prior to the start of all pile-driving activity, and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
- Contractors for construction work would comply with all applicable equipment sound standards and ensure that all construction equipment has sound control devices no less effective than those provided on the original equipment (i.e., equipment may not have been modified in such a way that it is louder than it was initially).
- Only one impact pile driver may be operated simultaneously.
- For impact driving of timber piles, a cushion block or similar device would be used for sound attenuation at all times.

Monitoring and Shutdown

Shutdown Zones—For all pile driving and removal activities, a shutdown zone (defined as, at minimum, the area in which SPLs equal or exceed 180 dB rms) would be established when applicable. For the proposed activity, this would be required only for impact pile driving. The purpose of a shutdown zone is to define an area within which shutdown of activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area), thus preventing injury, serious injury, or death of marine mammals. During all impact pile driving, the Port would establish a conservative shutdown zone of 10 m radius around each pile to avoid exposure of marine mammals to sound levels that could potentially cause injury. The shutdown zone would be monitored during all impact pile driving.

Disturbance Zones—For all pile driving and removal activities, a disturbance zone would be established. Disturbance zones are typically defined as the area in which SPLs equal or exceed 160 or 120 dB rms (for impact and vibratory pile driving, respectively). Disturbance zones provide utility for monitoring conducted for mitigation purposes (i.e., shutdown zone monitoring) by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring of disturbance zones enables MMOs to be aware of and communicate the presence of marine mammals in the project area but outside the shutdown zone and thus prepare for potential shutdowns of activity. However, the primary purpose of disturbance zone monitoring is for documenting incidents of Level B harassment; disturbance zone monitoring is discussed in greater detail later (see Proposed Monitoring and Reporting). Disturbance zones would be established with 50 m radius for impact pile driving and 1,000 m radius for vibratory pile driving; these zones would subsume the calculated disturbance zones for harassment from airborne sound.

Monitoring Protocols—The shutdown and disturbance zones would be monitored throughout the time required to drive a pile. If a marine mammal is observed within the disturbance zone, a take would be recorded and behaviors documented. However, that pile segment would be completed without cessation, unless the animal approaches or enters the shutdown zone, at which point all pile driving activities would be halted. Impact driving would only occur during daylight hours. If the shutdown zone is obscured by fog or poor lighting conditions, pile driving would not be initiated until the entire shutdown zone is visible. Work that has been initiated appropriately in conditions of good visibility may continue during poor visibility.

The shutdown zone would be monitored for the presence of marine mammals before, during, and after any pile driving activity. The shutdown zone would be monitored for 30 minutes prior to initiating the start of pile driving. If marine mammals are present within the shutdown zone prior to pile driving, the start of pile driving would be delayed until the animals leave the shutdown zone of their own volition, or until 15 minutes elapse without resighting the animal(s). The shutdown zone would also be monitored throughout the time required to drive a pile. If a marine mammal is observed approaching or entering the shutdown zone, piling operations would be discontinued until the animal has moved outside of the shutdown zone. Pile driving would resume only after the animal is determined to have moved outside the shutdown zone by a qualified observer or after 15 minutes have elapsed since the last sighting of the animal within the shutdown zone.

Monitoring would be conducted using binoculars and the naked eye. When possible, digital video or still cameras would also be used to document the behavior and response of marine mammals to construction activities or other disturbances. Each observer would have a radio or cell phone for contact with other monitors or work crews. Observers would implement shutdown or delay procedures when applicable by calling for the shutdown to the hammer operator. A GPS unit or electric range finder would be used for determining the observation location and distance to marine mammals, boats, and construction equipment.

Monitoring would be conducted by qualified observers. In order to be considered qualified, observers must meet the following criteria:

- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy, or related fields (bachelor's degree or higher is required).
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in the field identification of marine mammals, including the identification of behaviors.
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior.
- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

Ramp-Up

The objective of a ramp-up is to alert any animals close to the activity and allow them time to move away, which would expose fewer animals to loud sounds, including both underwater and above water sound. This procedure also ensures that any marine mammals missed during shutdown zone monitoring would move away from the activity and not be injured. The following ramp-up procedures would be used for in-water pile installation:

- A ramp-up technique would be used at the beginning of each day's in-water pile driving activities or if pile driving has ceased for more than 30 minutes.
- If a vibratory driver is used, contractors would be required to initiate sound from vibratory hammers for 15 seconds at reduced energy followed by a 30-second waiting period. The procedure would be repeated two additional times before full energy may be achieved.
- For impact driving, contractors would be required to conduct soft start if the technique is feasible given the hammer type. Soft start would be conducted to provide an initial set of strikes from the impact hammer at reduced energy, followed by a 30-second waiting period, then two subsequent sets. The reduced energy of an individual hammer cannot be quantified because they vary by individual drivers. Also, the number of strikes would vary at reduced energy because raising the hammer at less than full power and then releasing it results in the hammer ''bouncing'' as it strikes the pile, resulting in multiple 'strikes'.

Helicopter Operations and Fireworks Displays

Approved flight patterns for AC34 contracted and race-affiliated helicopters would be detailed in the Water and Air Traffic Plan. The project sponsors would be responsible for coordinating with the FAA to ensure compliance with flight regulations and to enforce the flight restrictions identified in the Plan to protect marine mammals. Helicopters would descend/ascend vertically for landing and take-off at the helipad on Treasure Island. Helicopters would not skim the surface of water (i.e., flight no lower than 100 ft) during the race events nor during landing and takeoff operations. In addition, race-related helicopters would maintain a buffer of at least 1,000 ft (vertically and horizontally) around Alcatraz Island and Crissy Beach Wildlife Protection Area, would avoid direct overflights of the Pier 39 haul-out, and would maintain the restriction on flight below 100 ft in the vicinity of Pier 39 where sea lions are known to haul out.

Any fireworks displays would be limited in terms of frequency and location as necessary to protect marine mammals. There would be no more than four events, two up to 30 minutes and two up to 45 minutes in duration in 2013. The fireworks barge would be in a similar location to and of the same noise intensity as the annual 4th of July fireworks display conducted by the City of San Francisco. These fireworks displays would be regulated through the USCG Marine Event Permit process.

NMFS has carefully evaluated the applicant's mitigation measures as proposed and considered their effectiveness in past implementation to preliminarily determine whether they are likely to effect the least practicable adverse impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures includes consideration of the following factors in relation to one another: (1) The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals, (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; (3) the practicability of the measure for applicant implementation, including consideration of personnel safety, and practicality of implementation.

Injury, serious injury, or mortality to marine mammals is extremely unlikely to result from the proposed activities even in the absence of any mitigation measures. However, in cooperation with the applicants, we have proposed the described mitigation measures to reduce even further the probability of such events occurring and to reduce the number of potential behavioral harassments to the level of least practicable impact. NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammal species or stocks and their habitat.

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 set forth ''requirements pertaining to the monitoring and reporting of such taking''. The MMPA implementing regulations at 50 CFR 216 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 are expected to be present.

The applicants proposed a marine mammal monitoring plan, which may be modified or supplemented based on comments or new information received during the public comment period. All methods identified herein have been developed through coordination between NMFS and the applicants, and are based on the parties' professional judgment supported by their collective knowledge of marine mammal behavior, site conditions, and proposed project activities. Any modifications to this protocol would be coordinated with NMFS. A summary of the plan, as well as the proposed reporting requirements, is contained here.

The intent of the monitoring plan is to:

• Comply with the requirements of the MMPA;

• Avoid injury to marine mammals through visual monitoring of identified shutdown zones and shutdown of activities when animals enter or approach those zones; and

• To the extent possible, record the number, species, and behavior of marine mammals in disturbance zones for proposed activities.

As described previously, monitoring for marine mammals during pile driving would be conducted in specific zones established to avoid or minimize effects of elevated levels of sound created by the specified activities. Shutdown and disturbance zones would correspond to the distances described previously in this document.

Visual Monitoring

The established shutdown and disturbance zones would be monitored by qualified marine mammal observers for mitigation purposes, as well as to document marine mammal behavior and incidents of Level B harassment. Monitoring protocols were described in greater detail under Proposed Mitigation. The marine mammal monitoring plan would be implemented, requiring collection of sighting data for each marine mammal observed during the proposed activities for which monitoring is required, including all impact pile driving and a subset of vibratory pile driving. Disturbance zones, briefly described previously under Proposed Mitigation, are discussed in greater depth here.

Disturbance Zone Monitoring—Disturbance zones, described previously in Proposed Mitigation, are defined as 50 m radius for impact pile driving and 1,000 m radius for vibratory pile driving. Monitoring of disturbance zones would be implemented as described previously in Proposed Mitigation. All impact pile driving would be monitored according to described protocols. For vibratory driving, the first two days of representative pile driving activity at each specific location, when the contractors are mobilizing and starting use of the vibratory hammer, would be monitored in order to validate estimates of incidental take and to record behavioral reactions, if any, of marine mammals present in the vicinity. Additional monitoring, to be decided when the schedule of work is provided by the contractor, would be conducted as necessary in each specific location such that a minimum of one-third of the total pile driving days at each location are monitored. These additional days may be scheduled at the discretion of the applicant, but shall include any days of heightened activity (if they occur) or would be representative of typical levels of activity. It is not possible for NMFS to define a ''typical'' day of pile driving activity. Should it become apparent that greater than anticipated numbers of animals are being harassed, or that animals are displaying behavioral reactions of greater than anticipated intensity, we may require the applicants to expand the monitoring program.

We considered but rejected an expanded monitoring plan that would require the applicants to conduct monitoring as described but for every day of vibratory pile driving. NMFS does not believe that monitoring need be conducted at all times during this low-level activity as there is no potential for injury, serious injury, or mortality and the probability of an animal being physically injured from the equipment is extremely low if not discountable. Similar to scientific research studies, when correcting for effort, the applicants and NMFS would be able to adequately determine the number of animals taken and impacts of the project on marine mammals based on the proposed monitoring plan. As noted previously, in the event of more intense reactions or greater numbers of take than anticipated, the applicants would temporarily stop activity and consult with NMFS. However, based on the nature of the activity and the local context (i.e., a heavily urbanized area with animals that are likely habituated to a loud environment and high levels of activity), we do not believe that animals would display significant adverse reactions to sound levels above background.

The monitoring biologists would document all marine mammals observed in the monitoring area. Data collection would include a count of all marine mammals observed by species, sex, age class, their location within or in relation to the zone, and their reaction (if any) to construction activities, including direction of movement, and type of construction that is occurring, time that pile driving begins and ends, any acoustic or visual disturbance, and time of the observation. Environmental conditions such as wind speed, wind direction, visibility, and temperature would also be recorded. No monitoring would be conducted during inclement weather that creates potentially hazardous conditions, as determined by the biologist, nor would monitoring be conducted when visibility is significantly limited, such as during heavy rain or fog. During these times of inclement weather, impact pile driving would be halted; these activities would not commence until monitoring has started for the day.

Helicopter Operations and Fireworks Displays—In order to estimate levels of take incidental to these activities and to better understand pinniped sensitivity to disturbance from overflights and fireworks displays, the applicants would conduct monitoring as described here. For helicopter operations, at least one monitor would conduct observations at the California sea lion haul-out at Pier 39 (the only established haul-out within the project area) during a subset of helicopter operations days. Monitoring would be conducted for the first five days on which helicopter operations occur in order to confirm assumptions regarding the degree to which pinnipeds may be disturbed by such operations. If pinnipeds are being disturbed by helicopter operations to a degree similar to that assumed here (see Estimated Take by Incidental Harassment), the applicants shall monitor on additional days, determined by the applicants and contractors, totaling at least one-third of total helicopter operations days. If pinnipeds at Pier 39 are not being disturbed, or are being disturbed to a much lesser degree than what is assumed here, the applicants may cease monitoring after the initial five days.

For fireworks displays, the applicants would conduct a pre- and post-event census of marine mammals within the acute fireworks impact area (the area where sound, light, and debris effects may have direct impacts on marine organisms and habitats) and would also monitor the California sea lion haul-out at Pier 39. The pre-event census, conducted in order to estimate the number of marine mammals that may be harassed by displays, would occur as close to the actual display time as possible, would be conducted for no less than 30 minutes, and would describe all observed marine mammals. However, only hauled-out pinnipeds observed in the area during the pre-event census, if any, would be assumed to be incidentally harassed by the display. Post-event monitoring in the acute fireworks impact area, to occur no later than the morning following the display and for no less than 30 minutes, would be conducted to record injured or dead marine mammals, if any.

During monitoring at the Pier 39 haul-out—during helicopter overflights or fireworks displays—monitors would note pinniped disturbance according to a three-point scale indicating severity of behavioral reaction, as shown in Table 3. The time, source, and duration of the disturbance, as well as an estimated distance between the source and haul-out, would be recorded. Only responses falling into Levels 2 and 3 would be considered as harassment under the MMPA, under the terms of this proposed IHA.

TABLE 3—PINNIPED RESPONSE TO DISTURBANCE

Level	Type of response	Definition
1	Alert	Head orientation in response to disturbance. This may include turning head towards the disturbance, craning head and neck while holding the body rigid in a u-shaped position, or changing from a lying to a sitting position. May include slight movement of less than 1 m.
2	Movement	Movements in response to or away from disturbance, typically over short distances (1–3 m).
3	Flight	All flushes to the water as well as lengthier retreats (>3 m).

All monitoring personnel must have appropriate qualifications as identified previously, with qualifications to be certified by ACEA and the Port (see Proposed Mitigation). These qualifications include education and experience identifying marine mammals that may occur in the Bay and the ability to understand and document marine mammal behavior. All monitoring personnel would meet at least once for a training session sponsored by the applicants. Topics would include: implementation of the protocol, identification of marine mammals, and reporting requirements.

All monitoring personnel would be provided a copy of the IHA. Monitoring personnel must read and understand the contents of the IHA as they relate to coordination, communication, and identification and reporting incidental harassment of marine mammals.

Reporting

The applicants are required to submit a report on all activities and marine mammal monitoring results to the Office of Protected Resources, NMFS, and the Southwest Regional Administrator, NMFS, 90 days prior to the desired date of validity for any subsequent IHA, or within 90 days of the expiration of the IHA, whichever comes first. A final report would be prepared and submitted to NMFS within 30 days following receipt of NMFS' comments on the draft report. The report would provide descriptions of any observed behavioral responses to the proposed activities by marine mammals, including marine mammal observations pre-, during-, and post-activity for pile driving monitoring. At a minimum, the report would include:

- Specifics of the activity: Date, time, and location; observation conditions (e.g., sea state, tide state, percent cover, visibility); pile driving activity specifications (e.g., size and type of piles, hammer specifications and sound attenuation device specifications);
- Discussion of incidental take, including (1) records of all observed incidental take events; (2) for vibratory pile driving, the total estimated amount of incidental take based on extrapolation of observed take; and (3) estimates of take for helicopter operations and fireworks displays.
- Description of observed marine mammal behavior, including correlations of observed behavior to activity, including distance to pile being driven or other source of disturbance; and discussion of sensitivity of hauled-out pinnipeds to helicopter overflights and/or fireworks displays as described previously.
- Discussion of mitigation, including description of any actions performed to minimize impacts to marine mammals; and times when pile driving is stopped or delayed due to presence of marine mammals within shutdown zones and time when pile driving resumes.
- Any recommendations for improving efficacy and efficiency of monitoring and/or mitigation.

Estimated Take by Incidental Harassment

ACEA and the Port have requested, and we are proposing, authorization to take harbor seals, California sea lions, northern elephant seals, and harbor porpoises, by Level B harassment only, incidental to the proposed activities. Pile driving activities are expected to incidentally harass marine mammals through the introduction of underwater and/or airborne sound to the environment, while helicopter operations and fireworks displays have the potential to harass pinnipeds through some combination of acoustic and visual stimuli. Based on the nature of the activities and the mitigation measures proposed for implementation, no take by injury, serious injury, or mortality is anticipated or proposed for authorization. Estimates of the number of animals that may be harassed by the proposed activities is based upon the number of animals believed to potentially be present within relevant areas at the time a given activity is conducted. Tables 4 details the total number of estimated takes. In summary, we propose to authorize the incidental take, by Level B harassment only, of 14,063 California sea lions, 686 harbor seals, 63 harbor porpoises, and two elephant seals. These take events would likely represent multiple takes of individuals, rather than each event being of a new individual.

TABLE 4—INCIDENTAL TAKE ESTIMATES

Species		Pile driving	Helicopter operations	Fireworks displays
California sea lion	Individuals/day	1	250	250
	Total # days	63	52	4
	Total take estimate	63	13,000	1,000
Harbor seal	Individuals/day	2	10	10
	Total # days	63	52	4
	Total take estimate	126	520	40
Harbor porpoise	Individuals/day	1	n/a	n/a
	Total # days	63	n/a	n/a
	Total take estimate	63	n/a	n/a
Elephant seal		Total request of two individuals for all activities.		

Pile Driving

California sea lions and harbor seals may use the waters adjacent to the San Francisco waterfront for foraging or for daily movement between foraging and haul out locations, and observations have been made at various locations along the San Francisco waterfront. The California sea lion haul-out at Pier 39 is approximately 800–1,000 m from the nearest vibratory driving location—although sound would be attenuated by at least three major piers between, as well as the curvature of the waterfront shoreline—and is approximately 1.6 km from Pier 19, where impact pile driving would occur. As previously described, the nearest known haul out site for harbor seals is at YBI. Vibratory driving locations range approximately 2.4–6.8 km from the haul-out, while Pier 19, where impact driving of timber piles would occur, is more than 3.2 km distant from the haul-out. Proposed fireworks displays would be approximately 1.6–3.2 km from Pier 39 and 3.2–4.8 km from YBI, depending on the final selected location. No proposed activities would be expected to affect animals at the YBI haul-out. While it is possible that harbor porpoises could occur in the vicinity of the waterfront, sightings greater than approximately 800 m inside the Golden Gate Bridge are infrequent (NMFS, 2009) and the harbor porpoise is considered uncommon in the vicinity of the San Francisco waterfront.

The most comprehensive monitoring data available was collected by Caltrans for the SFOBB project; these data represent the best available information for approximating local abundance of these species. The SFOBB monitoring site was located in the vicinity of the YBI haul-out, whereas most of the sites where construction or race activities would occur are in areas of high commercial shipping and boat activity. Therefore, SFOBB monitoring data may be expected to provide conservative estimates of marine mammal abundance. More recent monitoring was conducted during construction associated with the Exploratorium, located at Piers 15 and 17 at the San Francisco waterfront. During vibratory pile driving only, monitoring was conducted on 25 days from January 10–July 29, 2011, to a distance of approximately 2,000 m from the pile driving location. On those 25 days, the only species observed were the California sea lion and the harbor seal. Harbor seals were observed on 9 of 25 days, while California sea lions were observed on 8 of 25 days. Sightings data provide rates of 0.52 and 0.68 animals observed per monitoring day for harbor seals and California sea lions, respectively.

During monitoring of the SFOBB project over 22 days, abundance estimates of 1.5 seals per day and 0.09 sea lions per day were recorded. Due to the relative tranquility of YBI and the presence of a harbor seal haul-out, the estimate for harbor seals is likely higher than would be found for the San Francisco waterfront. However, as confirmed by information from the Exploratorium monitoring effort, the estimate for California sea lions is likely lower, given that greater numbers of that species may be encountered transiting to and from the Pier 39 haul-out.

The applicants propose conservative estimates of two harbor seals per day—a slight increase from the SFOBB data—and one California sea lion per day, a slight increase from the Exploratorium observations. The Caltrans SFOBB monitoring reported one observed harbor porpoise in the vicinity of YBI. This is the only available information for harbor porpoise and provides an extremely conservative estimate of one harbor porpoise per day of activity. Based on estimated pile driving production rates, a maximum of 63 days is anticipated for pile driving under this proposed IHA.

Helicopter Operations and Fireworks Displays

Incidental take resulting from helicopter overflights and/or fireworks displays would likely be limited to California sea lions and harbor seals occurring within the immediate vicinity of a helicopter flight patterns or fireworks displays. Specifically, California sea lions present at Pier 39 would likely be subject to incidental harassment, although there is the potential for harbor seals to be hauled-out within range of stimuli that may cause harassment.

Estimates of the number of California sea lions that could be harassed by helicopter operations and/or fireworks displays are based on information from the Pier 39 haul-out. California sea lion usage of Pier 39 is a relatively recent phenomenon. The first individuals were observed during the winter of 1989–90, however, by the next year the numbers reached an average 500 per day (Goals Project, 2000), with a maximum recorded observation of approximately 800 individuals. Since the early 1990s, peak numbers during winter have declined and now average about 200–300 animals per day. In order to estimate incidental take, a conservative estimate of 500 animals present per day was considered. Observations of pinniped response to the presence of humans on foot in the Channel Islands indicated that the proportion of California sea lions that are behaviorally harassed is approximately fifty percent (77 FR 12246), although this is likely conservative, given that the animals at Pier 39 are more habituated to stimuli than those in more remote locations.

Estimates of the number of harbor seal that may be present during helicopter operations and/or fireworks displays are based on local observations reported by the applicants—no other upon which to base the estimate is known to us or to the applicants. Anecdotal information from monitoring of fleet week, National

Park Service staff observations, and local sailors reported observations of anywhere from 10–15 seals per day while out on the water. Therefore, in an extremely conservative estimation, we assume that ten animals per day may be hauled-out in locations along the waterfront and that all animals would be harassed. The previously mentioned Channel Islands observations indicate that approximately 75 percent of animals are harassed by a given stimuli, but it is likely that all animals would flush in this context.

Elephant Seals

As stated previously, elephant seals breed between December and March and have been rarely sighted in the Bay. However, regular, if infrequent, sightings of juveniles have been made in recent years at Crissy Field beach. Therefore, it is possible that an elephant seal could occur within areas that are ensonified above levels that NMFS considers to result in Level B harassment. Although possible, it is unlikely that elephant seals would be harassed; however, in order to be precautionary the applicants have requested authorization for incidental take of two elephant seals over the life of the proposed IHA and we propose to authorize that take. There is no information upon which to base a quantitative estimate of potential take; therefore, take is estimated on the basis of the few individuals observed at Crissy Field beach.

It is not anticipated that elephant seals would be harassed by helicopter operations and/or fireworks displays because (1) elephant seals have been observed, during the aforementioned Channel Island monitoring, to display behavioral reactions to potentially harassing stimuli less than one percent of the time; (2) Crissy Field beach is over 4 km distant from the nearest potential fireworks display location; and (3) helicopters would avoid Crissy Field beach by 1,000 ft in response to concerns about sensitive avian species.

Negligible Impact and Small Numbers Analysis and 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 variety of factors, including but not limited to: (1) The number of anticipated mortalities (if any); (2) the number and nature of anticipated injuries (if any); (3) the number, nature, intensity, and duration of Level B harassment; and (4) the context in which the take occurs.

Although the proposed activities may harass marine mammals present in the action area, impacts are largely occurring to a localized group of animals (i.e., the California sea lions present in the vicinity of Pier 39 and harbor seals from YBI that may be present at the San Francisco waterfront). Further, any incidents of harassment would be occurring to animals that are habituated to a high level of surrounding human activity, including both urban and industrial activity, and to an already loud environment. Monitoring associated with the Exploratorium project resulted in no observations of discernible reactions to vibratory pile driving or any other work activity, although animals were observed as close as 12 m from pile driving. No avoidance behavior was observed, including even basic reactions such as head alerts. Both sea lions and harbor seals appeared to use the waterfront for travelling along a rough north-south course. Travel was typically slow, although some fast traveling (indicating by porpoising) by sea lions was noted. A few individuals of both species were also observed resting at the surface. Frequent commercial and recreational vessel traffic was consistently observed on all monitoring days, and observed animals were reported as appearing habituated to such traffic.

The proposed number of animals taken for each species can be considered small relative to the population size. There are an estimated 34,233 harbor seals in the California stock, 238,000 California sea lions, 9,189 harbor porpoises, and 124,000 northern elephant seals in the California breeding population. Based on the best available information, NMFS is proposing to authorize take, by Level B harassment only, of 14,063 California sea lions, 686 harbor seals, 63 harbor porpoises, and two northern elephant seals, representing 5.9, 2.0, 0.7, and 0.002 percent of the populations, respectively. However, this represents an overestimate of the number of individuals harassed over the duration of the proposed IHA, because these totals represent much smaller numbers of individuals that may be harassed multiple times. No stocks known from the action area are listed as threatened or endangered under the ESA or determined to be depleted or considered strategic under the MMPA. Recent data suggests that harbor seal populations have reached carrying capacity, populations of California sea lions and northern elephant seals in California are also considered healthy, and recent information suggests that the harbor porpoise may be expanding its range on the west coast. No injury, serious injury, or mortality is anticipated, nor is the proposed action likely to result in long-term impacts such as permanent abandonment of the Pier 39 haul-out or a permanent reduction in presence in San Francisco Bay. No impacts are expected at the population or stock level.

Based on the foregoing analysis, behavioral disturbance to marine mammals in the Bay would be of low intensity and limited duration. To ensure minimal disturbance, the applicants would implement the mitigation measures described previously, which we have preliminarily determined would serve as the means for effecting the least practicable adverse impact on the relevant marine mammal stocks or populations and their habitat. We preliminarily find that the proposed activities would result in the incidental take of small numbers of marine mammals, and that the requested number of takes would have no more than a negligible impact on the affected species and stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action.

Endangered Species Act (ESA)

There are no ESA-listed marine mammals found in the action area; therefore, no consultation under the ESA is required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500–1508), and NOAA Administrative Order 216–6, we are preparing an Environmental Assessment (EA) to consider the direct, indirect and cumulative effects to the human environment resulting from issuance of a proposed IHA to ACEA and the Port for the specified activities.

Proposed Authorization

As a result of these preliminary determinations, we propose to authorize the take of marine mammals incidental to the proposed activities, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: May 25, 2012.

Frederick C. Sutter III,

Acting Deputy Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2012–13327 Filed 5–31–12; 8:45 am]

BILLING CODE 3510–22–P

COMMITTEE FOR PURCHASE FROM PEOPLE WHO ARE BLIND OR SEVERELY DISABLED

Procurement List; Proposed Additions

AGENCY: Committee for Purchase From People Who Are Blind or Severely Disabled.

ACTION: Proposed Additions to the Procurement List.

SUMMARY: The Committee is proposing to add products and services to the Procurement List that will be furnished by nonprofit agencies employing persons who are blind or have other severe disabilities.

Comments Must be Received on or Before: 7/2/2012.

ADDRESSES: Committee for Purchase From People Who Are Blind or Severely Disabled, Jefferson Plaza 2, Suite 10800, 1421 Jefferson Davis Highway, Arlington, Virginia 22202–3259.

FOR FURTHER INFORMATION OR TO SUBMIT COMMENTS CONTACT: Barry S. Lineback, Telephone: (703) 603–7740, Fax: (703) 603–0655, or email *CMTEFedReg@AbilityOne.gov.*

SUPPLEMENTARY INFORMATION: This notice is published pursuant to 41 U.S.C. 8503(a)(2) and 41 CFR 51–2.3. Its purpose is to provide interested persons an opportunity to submit comments on the proposed actions.

Additions

If the Committee approves the proposed additions, the entities of the Federal Government identified in this notice will be required to procure the products and services listed below from nonprofit agencies employing persons who are blind or have other severe disabilities.

Regulatory Flexibility Act Certification

I certify that the following action will not have a significant impact on a substantial number of small entities. The major factors considered for this certification were:

1. If approved, the action will not result in any additional reporting, recordkeeping or other compliance requirements for small entities other than the small organizations that will furnish the products and services to the Government.

2. If approved, the action will result in authorizing small entities to furnish the products and services to the Government.

3. There are no known regulatory alternatives which would accomplish the objectives of the Javits-Wagner-O'Day Act (41 U.S.C. 8501–8506) in connection with the products and services proposed for addition to the Procurement List.

Comments on this certification are invited. Commenters should identify the statement(s) underlying the certification on which they are providing additional information.

End of Certification

The following products and services are proposed for addition to the Procurement List for production by the nonprofit agencies listed:

Products

Tools, Digging, Fiberglass Handle

NSN: 5120–00–NIB–0014—Shovel, Round Point, Closed Back, Industrial Grade, 48″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0015—Shovel, Round Point, Open Back, Industrial Grade, 48″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0016—Shovel, Round Point, Open Back, Industrial Grade, 29″ Fiberglass Handle, D-grip
NSN: 5120–00–NIB–0017—Shovel, Square Point, Open Back, Industrial Grade, 48″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0018—Shovel, Square Point, Open Back, Industrial Grade, 29″ Fiberglass Handle, D-grip
NSN: 5120–00–NIB–0019—Shovel, General Purpose, Steel Scoop, Industrial Grade, 48″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0020—Shovel, General Purpose, Steel Scoop, Industrial Grade, 29″ Fiberglass Handle, D-grip
NSN: 5120–00–NIB–0021—Shovel, Grain, Aluminum Scoop, Industrial Grade, 51″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0022—Shovel, Grain, Aluminum Scoop, Industrial grade, 29″ Fiberglass Handle, D-grip
NSN: 5120–00–NIB–0023—Shovel, Grain, ABS Scoop, Industrial Grade, 51″ Fiberglass Handle, Cushioned Grip
NSN: 5120–00–NIB–0024—Shovel, Grain, ABS Scoop, Industrial Grade, 29″ Fiberglass Handle, D–Grip
NSN: 5120–00–NIB–0025—Shovel, Snow, ABS Scoop, Industrial Grade, 40″ Fiberglass Handle, D-grip
NSN: 5120–00–NIB–0026—Shovel, Snow Pusher, ABS Scoop, Industrial Grade, 40″ Fiberglass Handle, D-grip
NSN: 3750–00–NIB–0004—Rake, Bow, Leaf, ABS Head, Industrial Grade, 51″ Fiberglass Handle, Cushioned-Grip
NSN: 3750–00–NIB–0005—Rake, Bow, Leaf, Steel Head, Industrial Grade, 57″ Fiberglass Handle, Cushioned-Grip
NSN: 3750–00–NIB–0006—Rake, Flat, Leaf, Steel Head, Industrial Grade, 62″ Fiberglass Handle, Cushioned-Grip
NSN: 3750–00–NIB–0007—Hoe, Mortar, Steel Head, Industrial Grade, 62″ Fiberglass Handle, Cushioned-Grip
NSN: 3750–00–NIB–0008—Hoe, Garden, Steel Head, Industrial Grade, 57″ Fiberglass Handle, Cushioned-Grip
NSN: 5110–00–NIB–0036—Scraper, Ice/Floor, Steel Head, Industrial Grade, 49″ Fiberglass Handle, Cushioned-Grip
NSN: 3895–00–NIB–0001—Tamper, Cast Iron Head, Industrial Grade, 42″ Fiberglass Handle, Cushioned-Grip
NSN: 3895–00–NIB–0002—Asphalt Lute, Aluminum Head, Industrial Grade, 67″ Fiberglass Handle, Cushion-Grip
NPA: Keystone Vocational Services, Inc., Sharon, PA
Contracting Activity: General Services Administration, Kansas City, MO
Coverage: B-List for the Broad Government Requirement as aggregated by the General Services Administration.

Binder, Loose-Leaf

NSN: 7510–01–392–5283–3 D-Ring, No Overlay, Black, 5″
NSN: 7510–01–495–0696—Slant 3 D-Ring with Overlay, White, 4″
NPA: South Texas Lighthouse for the Blind, Corpus Christi, TX
Contracting Activity: General Services Administration, New York, NY
Coverage: A-List for the Total Government Requirement as aggregated by the General Services Administration.

Blank Media Discs, DVD–R

NSN: 7045–00–NIB–0392—Thermal Printable, Silver, 8x Speed, 120Min/4.7GB, 100 PK
NPA: North Central Sight Services, Inc., Williamsport, PA
Contracting Activity: General Services Administration, New York, NY
Coverage: A-List for the Total Government Requirement as aggregated by the General Services Administration.

Padlock Sets, Solid Case

NSN: 5340–01–588–1819—1.5″ Wide Brass, Keyed Differently, w/Chain, EA
NSN: 5340–01–588–1010—1.75″ Wide Steel, Keyed Differently, w/Chain, EA
NSN: 5340–01–588–1036—1.75″ Wide Steel, Keyed Differently, No Chain, EA
NSN: 5340–01–588–1676—1.5″ Wide Brass, 3 Keys, Keyed Alike, w/Chain, 5/SE
Coverage: A-List for the Total Government Requirement, as aggregated by the Defense Logistics Agency Troop Support, Philadelphia, PA.
NSN: 5340–00–NIB–0123–1.75″ Wide Steel, Keyed Differently, w/Chain, 6/SE
NSN: 5340–01–588–1863–1.5″ Wide Brass, Keyed Differently, 3″ Extra Long Shackle, w/Chain, EA
NSN: 5340–01–588–1709–1.5″ Wide Brass, Keyed Differently, 3″ Extra Long Shackle, No Chain, EA
NSN: 5340–01–588–1916–1.75″ Wide Steel, Keyed Differently, 3″ Extra Long Shackle, w/Chain, EA
NSN: 5340–01–588–1924–1.75″ Wide Brass, Keyed Differently, w/Chain, EA
NSN: 5340–01–588–1891–1.5″ Wide Brass,