nitrogen elements. HSLA steels are recognized as steels with micro-alloying levels of elements such as chromium, copper, niobium, titanium, vanadium, and molybdenum. Motor lamination steels contain micro-alloying levels of elements such as silicon and aluminum. AHSS and UHSS are considered high tensile strength and high elongation steels, although AHSS and UHSS are covered whether or not they are high tensile strength or high elongation steels.

Subject merchandise includes cold-rolled steel that has been further processed in a third country, including but not limited to annealing, tempering, painting, varnishing, trimming, cutting, punching, and/or slitting, or any other processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the country of manufacture of the cold-rolled steel.

All products that meet the written physical description, and in which the chemistry quantities do not exceed any one of the noted element levels listed above, are within the scope of these investigations unless specifically excluded. The following products are outside of and/or specifically excluded from the scope of these investigations:

- Ball bearing steels; [1]
- Tool steels; [2]
- Silico-manganese steel; [3]
- Grain-oriented electrical steels (GOES) as defined in the final determination of the U.S. Department of Commerce in *Grain-Oriented Electrical Steel From Germany, Japan, and Poland*.[4]
- Non-Oriented Electrical Steels (NOES), as defined in the antidumping orders issued by the U.S. Department of Commerce in *Non-Oriented Electrical Steel From the People's Republic of China, Germany, Japan, the Republic of Korea, Sweden, and Taiwan*.[5]

The products subject to these investigations are currently classified in the Harmonized Tariff Schedule of the United States (HTSUS) under item numbers: 7209.15.0000, 7209.16.0030, 7209.16.0060, 7209.16.0070, 7209.16.0091, 7209.17.0030, 7209.17.0060, 7209.17.0070, 7209.17.0091, 7209.18.1530, 7209.18.1560, 7209.18.2510, 7209.18.2520, 7209.18.2580, 7209.18.6020, 7209.18.6090, 7209.25.0000, 7209.26.0000, 7209.27.0000, 7209.28.0000, 7209.90.0000, 7210.70.3000, 7211.23.1500, 7211.23.2000, 7211.23.3000, 7211.23.4500, 7211.23.6030, 7211.23.6060, 7211.23.6075, 7211.23.6085, 7211.29.2030, 7211.29.2090, 7211.29.4500, 7211.29.6030, 7211.29.6080, 7211.90.0000, 7212.40.1000, 7212.40.5000, 7225.50.6000, 7225.50.8015, 7225.50.8085, 7225.99.0090, 7226.92.5000, 7226.92.7050, and 7226.92.8050. The products subject to the investigations may also enter under the following HTSUS numbers: 7210.90.9000, 7212.50.0000, 7215.10.0010, 7215.10.0080, 7215.50.0016, 7215.50.0018, 7215.50.0020, 7215.50.0061, 7215.50.0063, 7215.50.0065, 7215.50.0090, 7215.90.5000, 7217.10.1000, 7217.10.2000, 7217.10.3000, 7217.10.7000, 7217.90.1000, 7217.90.5030, 7217.90.5060, 7217.90.5090, 7225.19.0000, 7226.19.1000, 7226.19.9000, 7226.99.0180, 7228.50.5015, 7228.50.5040, 7228.50.5070, 7228.60.8000, and 7229.90.1000.

The HTSUS subheadings above are provided for convenience and U.S. Customs purposes only. The written description of the scope of the investigations is dispositive.

[FR Doc. 2015–20879 Filed 8–21–15; 8:45 am]

BILLING CODE 3510–DS–P

[1] Ball bearing steels are defined as steels which contain, in addition to iron, each of the following elements by weight in the amount specified: (i) Not less than 0.95 nor more than 1.13 percent of carbon; (ii) not less than 0.22 nor more than 0.48 percent of manganese; (iii) none, or not more than 0.03 percent of sulfur; (iv) none, or not more than 0.03 percent of phosphorus; (v) not less than 0.18 nor more than 0.37 percent of silicon; (vi) not less than 1.25 nor more than 1.65 percent of chromium; (vii) none, or not more than 0.28 percent of nickel; (viii) none, or not more than 0.38 percent of copper; and (ix) none, or not more than 0.09 percent of molybdenum.

[2] Tool steels are defined as steels which contain the following combinations of elements in the quantity by weight respectively indicated: (i) More than 1.2 percent carbon and more than 10.5 percent chromium; or (ii) not less than 0.3 percent carbon and 1.25 percent or more but less than 10.5 percent chromium; or (iii) not less than 0.85 percent carbon and 1 percent to 1.8 percent, inclusive, manganese; or (iv) 0.9 percent to 1.2 percent, inclusive, chromium and 0.9 percent to 1.4 percent, inclusive, molybdenum; or (v) not less than 0.5 percent carbon and not less than 3.5 percent molybdenum; or (vi) not less than 0.5 percent carbon and not less than 5.5 percent tungsten.

[3] Silico-manganese steel is defined as steels containing by weight: (i) Not more than 0.7 percent of carbon; (ii) 0.5 percent or more but not more than 1.9 percent of manganese, and (iii) 0.6 percent or more but not more than 2.3 percent of silicon.

[4] *Grain-Oriented Electrical Steel From Germany, Japan, and Poland: Final Determinations of Sales at Less Than Fair Value and Certain Final Affirmative Determination of Critical Circumstances,* 79 FR 42,501, 42,503 (Dep't of Commerce, July 22, 2014). This determination defines grain-oriented electrical steel as ''a flat-rolled alloy steel product containing by weight at least 0.6 percent but not more than 6 percent of silicon, not more than 0.08 percent of carbon, not more than 1.0 percent of aluminum, and no other element in an amount that would give the steel the characteristics of another alloy steel, in coils or in straight lengths.''

[5] *Non-Oriented Electrical Steel From the People's Republic of China, Germany, Japan, the Republic of Korea, Sweden, and Taiwan: Antidumping Duty Orders,* 79 FR 71741, 71741–42 (Dep't of Commerce, Dec. 3, 2014). The orders define NOES as ''cold-rolled, flat-rolled, alloy steel products, whether or not in coils, regardless of width, having an actual thickness of 0.20 mm or more, in which the core loss is substantially equal in any direction of magnetization in the plane of the material. The term 'substantially equal' means that the cross grain direction of core loss is no more than 1.5 times the straight grain direction (*i.e.,* the rolling direction) of core loss. NOES has a magnetic permeability that does not exceed 1.65 Tesla when tested at a field of 800 A/m (equivalent to 10 Oersteds) along (*i.e.,* parallel to) the rolling direction of the sheet (*i.e.,* B800 value). NOES contains by weight more than 1.00 percent of silicon but less than 3.5 percent of silicon, not more than 0.08 percent of carbon, and not more than 1.5 percent of aluminum. NOES has a surface oxide coating, to which an insulation coating may be applied.''

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE069

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Kodiak Ferry Terminal and Dock Improvements Project

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 a request from the Alaska Department of Transportation and Public Facilities (DOT&PF) for authorization to take marine mammals incidental to reconstructing the existing ferry terminal at Pier 1 in Kodiak, Alaska, referred to as the Kodiak Ferry Terminal and Dock Improvements project (State Project Number 68938). The DOT&PF requests that the incidental harassment authorization (IHA) be valid for 1 year, from September 30, 2015 through September 29, 2016. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an authorization to the DOT&PF incidentally take, by harassment, small numbers of marine mammals for its reconstruction of the ferry terminal at Pier 1 in Kodiak, AK.

DATES: Comments and information must be received no later than September 23, 2015.

ADDRESSES: Comments on the application should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service. Physical comments should be sent to 1315 East-West Highway, Silver Spring, MD 20910 and electronic comments should be sent to *ITP.Pauline@noaa.gov.*

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 25-megabyte file size. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. All comments received are a part of the public record and will generally be posted to the Internet at *http://www.nmfs.noaa.gov/*

pr/permits/incidental/construction.htm without change. 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.

FOR FURTHER INFORMATION CONTACT: Robert Pauline, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Availability

An electronic copy of the DOT&PFs application and supporting documents, as well as a list of the references cited in this document, may be obtained by visiting the Internet at: *http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.* In case of problems accessing these documents, please call the contact listed above.

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined ''negligible impact'' in 50 CFR 216.103 as ''an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.''

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

On March 27, 2015, NMFS received an application from the DOT&PF for the taking of marine mammal incidental to reconstructing the existing ferry terminal at Pier 1 in Kodiak, Alaska, referred to as the Kodiak Ferry Terminal and Dock Improvements project (State Project Number 68938). On June 18, 2015 NMFS received a revised application. NMFS determined that the application was adequate and complete on June 25, 2015. DOT&PF proposes to conduct in-water work that may incidentally harass marine mammals (*i.e.,* pile driving and removal). This IHA would be valid from September 30, 2015 through September 29, 2016.

Proposed activities included as part of the Kodiak Ferry Terminal and Dock Improvements project (Pier 1 project) with potential to affect marine mammals include vibratory and impact pile-driving operations and use of a down-hole drill/hammer to install piles in bedrock.

Species with the expected potential to be present during the project timeframe include killer whale (*Orcinus orca*), Steller sea lion (*Eumatopius jubatus*), harbor porpoise (*Phocoena phocoena*), and harbor seal (*Phoca vitulina richardii*).

Description of the Specified Activity

Overview

DOT&PF is seeking an IHA for work that includes removal of the old timber dock and piles and installation of the new dock, including mooring and fender systems. The existing decking, piles, and other dock materials will be removed. Temporary steel H-piles will be installed to support temporary false work structures (*i.e.,* templates). The new dock will be supported by steel piles, and dock fenders will include steel piles and timber piles. Note that these estimates are the number of days when each activity may occur at some point during the day, and that the number of days is not additive.

Dates and Duration

Pile installation and extraction associated with the Pier 1 project will begin no sooner than September 30, 2015 and will be completed no later than September 29, 2016 (1 year following IHA issuance). To minimize impacts to pink salmon (*Oncorhynchus gorbuscha*) fry and coho salmon (*O. kisutch*) smolt, all in-water pile extraction and installation is planned to be completed by April 30, 2016. If work cannot be completed by April 30, the Alaska Department of Fish & Game (ADF&G) recommended that the DOT&PF refrain from impact pile installation without a bubble curtain from May 1 through June 30 within the 12-hour period beginning daily at the start of civil dawn (Marie 2015). ADF&G stated that this is the daily time period when the majority of juvenile salmon are moving through the project area, and a 12-hour quiet period may protect migrating juvenile salmon from excessive noise (Frost 2015). Impact pile installation would be acceptable without a bubble curtain from May 1 through June 30 in the evenings, beginning at 12 hours past civil dawn (Marie 2015). At this time, DOT&PF does not propose using bubble curtains. However, it is possible that in-water work may extend past April 30 in compliance with the mitigation for salmon as recommended by ADF&G.

Removal of existing timber piles, installation of temporary piles and new permanent piles, and removal of temporary piles are expected to occur over approximately 120 working days over a period of 4 to 6 months. This IHA requests authorization for up to 1 year of construction activities in case unforeseen construction delays occur. Pile extraction, pile driving, and drilling will occur intermittently over the work period, for anything from minutes to hours at a time (Table 1–1 in the application). The proposed Pier 1 project will require an estimated 120 days total of pile extraction and installation, including 80 days of vibratory extraction and installation, 60 days of down-hole drilling, and 22 days of impact hammering. Note that these days are not additive. Timing will vary based on the weather, delays, substrate type (the rock is layered and is of varying hardness across the site, so some holes will be drilled quickly and others may take longer), and other factors. A production rate of two permanent piles per day, on days when pile installation occurs, is considered typical for a project of this type.

A 25 percent contingency has been added to the estimate of pile extraction and driving time to account for unknown substrate conditions (See Table 1–1 in the application). Therefore, the project may require approximately 614 hours of pile extraction or driving. The days for pile driving and extraction will not always be successive, but will be staggered over a 4- to 6-month period, depending on weather, construction and mechanical delays, marine mammal shutdowns, and other

potential delays and logistical constraints. The number of hours of pile driving within any single day will vary.

Specified Geographic Region

The Kodiak Ferry Terminal and Dock at Pier 1 is located in the City of Kodiak, Alaska, at 57°47′12.78″ N, 152°24′09.73″ W, on the northeastern corner of Kodiak Island, in the Gulf of Alaska (See Figure 1–1 in the Application). Pier 1 is an active ferry terminal and multi-use dock located in Near Island Channel, which separates downtown Kodiak from Near Island (Figure 1–2). The channel is approximately 200 meters (656 feet) wide in the project area. Pier 1 is situated between a marine fuel service floating dock to the northeast (Petro Marine Services) and a pile-supported dock owned by a shore-based seafood processor to the southwest. Pier 1 is separated from the seafood processing plant dock by only about 15 meters (50 feet; Figure 1–3).

Detailed Description of Activities

The proposed action for this IHA request includes removal of the old timber dock and piles and installation of the new dock, including mooring and fender systems. The existing decking, piles, and other dock materials will be removed. Temporary steel H-piles will be installed to support temporary false work structures (*i.e.,* templates). The new dock will be supported by steel piles, and dock fenders will include steel piles and timber piles. The proposed Pier 1 project will require an estimated 120 days total of pile extraction and installation, including 80 days of vibratory extraction and installation, 60 days of down-hole drilling, and 22 days of impact hammering. Note that these estimates are the number of days when each activity may occur at some point during the day, and that the number of days is not additive. The total hours of pile installation for each activity is estimated in more detail later in this section.

The existing dock consists of approximately 156 vertical, 13-inch-diameter creosote-treated timber piles, 40 timber battered piles, and 14 16-inch-diameter steel fender piles. All piles, decking, and other existing dock materials will be removed. The exact method for pile extraction will be determined by the contractor. It is anticipated that when possible, existing piles will be extracted by directly lifting them with a crane. A vibratory hammer will be used only if necessary to extract piles that cannot be directly lifted. Removal of each old pile is estimated to require 5 minutes of vibratory hammer use. Under the worst-case scenario, if all old piles were removed by using the vibratory hammer, it would require a total time of about 17.5 hours (See Table 1–1 in the application). If the piles break below the waterline, the pile stubs will be removed with a clamshell bucket.

The exact means and method for pile installation will be determined by the contractor; however, a few options are available within a general framework. Temporary steel pipe or H-piles will be installed as part of a template to ensure proper placement and alignment during driving of the permanent steel piles. Temporary piles will be driven with a vibratory hammer 10–30 feet through the overburden sediment layer but are not expected to penetrate into the bedrock. A vibratory hammer will be used to remove the temporary piles, which will then be reinstalled at a new location. Individual temporary piles will be driven and removed an estimated 88 times. It is estimated that it will take 10 minutes of vibratory pile driving per temporary pile for installation and 5 minutes each for extraction, for a total of 15 minutes of vibratory pile driving per temporary pile. For 88 temporary piles, this is an estimated 22 hours of total time using active vibratory equipment.

The new terminal and dock will be supported by approximately 88 round, 24-inch-diameter steel piles. The 24-inch steel piles will be driven 10–30 feet through the sediment layer and 15 feet into the bedrock. Dock fenders will be supported atop 10 round, 18-inch-diameter steel piles. In addition, eight round, 16-inch timber piles, which are somewhat variable in size from about 16 inches at the butt (top) to about 12 inches at the tip (bottom), will be installed as fender piles along the north side of the dock. Both the steel and timber fender piles will be driven with a vibratory hammer approximately 22 feet embedment, or to refusal.

The sequence for installing the permanent 24-inch piles begins with insertion through overlying sediment with a vibratory hammer for about 10 minutes per pile. A hole will then be drilled in the underlying bedrock by using a down-hole drill/hammer. A down-hole hammer is a drill bit that drills through the sediment and a pulse mechanism that functions at the bottom of the hole, using a pulsing bit to break up the harder materials or rock to allow removal of the fragments and insertion of the pile. The head extends so that the drilling takes place below the pile. Drill cuttings are expelled from the top of the pile as dust or mud. It is estimated that drilling piles through the layered bedrock will take about 5 hours per pile. Then, about five blows of an impact hammer will be used to confirm that piles are set into bedrock (proofed), for a maximum time expected of 1 minute of impact hammering per pile. When the impact hammer is employed for proofing, a pile cap or cushion will be placed between the impact hammer and the pile.

All permanent 18-inch steel piles and timber piles will be driven into the marine sediment by using a vibratory hammer. It is anticipated to take about 10 minutes of vibratory driving to install each permanent 18-inch steel and timber pile.

Table 1–1 in the application illustrates that the project will require an estimated 60 hours of vibratory hammer time, 440 hours of down-hole drilling time, and 2 hours of impact hammer time. DOT&PF has conservatively added a contingency of 25% to the total hours required resulting in 75 hours of vibratory hammer time, 550 hours of down-hole drilling time, and 3 hours of impact hammer time.

Description of Marine Mammals in the Area of the Specified Activity

Marine waters near Kodiak Island support many species of marine mammals, including pinnipeds and cetaceans; however, the number of species regularly occurring near the project area is limited. Steller sea lions are the most common marine mammals in the project area and are part of the western Distinct Population Segment (wDPS) that is listed as Endangered under the Endangered Species Act (ESA). Harbor seals (*Phoca vitulina*), harbor porpoises (*Phocoena phocoena*), and killer whales (*Orcinus orca*) may also occur in the project area, but far less frequently and in lower abundance than Steller sea lions. Humpback whales (*Megaptera novaeangliae),* fin whales (*Balaenoptera physalus*), and gray whales (*Eschrichtius robustus*) occur in the nearshore waters around Kodiak Island), but are not expected to be found near the project area because of the narrow channel and boat traffic. Dall's porpoise (*Phocoenoides dalli*) generally inhabit more offshore habitats than the Near Island channel. The relatively large numbers of Steller sea lions in the area may serve as an additional deterrent for some marine mammals. This IHA application is limited to the species shown in Table 1 and will assess potential impacts to Steller sea lions, harbor seals, harbor porpoises, and killer whales.

In the species accounts provided here, we offer a brief introduction to the species and relevant stock as well as available information regarding

population trends and threats, and describe any information regarding local occurrence.

TABLE 1—MARINE MAMMAL SPECIES POTENTIALLY PRESENT IN THE PROJECT AREA

Species	Stock(s) abundance estimate [1]	ESA * Status	MMPA ** Status	Frequency of occurrence
Killer Whale (*Orcinus orca*) *Eastern N. Pacific, Alaska Resident Stock*.	2,347	.....	Non-depleted	Occasional.
Killer Whale (*Orcinus orca*) *Eastern N. Pacific, Gulf of Alaska, Aleutian Islands, and Bering Seat Transient Stock*.	587	.....	Non-depleted	Occasional.
Harbor Porpoise (*Phocoena phocoena*) *Gulf of Alaska Stock*.	31,046	.....	Non-depleted and Strategic	Occasional.
Steller Sea Lion (*Eumetopias jubatus*) *wDPS Stock*	52,200	Endangered	Depleted and Strategic	Common.
Harbor Seal (*Phoca vitulina richardii*) *South Kodiak Stock*.	11,117	.....	Non-depleted	Occasional.

[1] NOAA/NMFS 2014 marine mammal stock assessment reports at *http://www.nmfs.noaa.gov/pr/sars/species.htm.*
* ESA = Endangered Species Act.
** MMPA = Marine Mammal Protection Act.

Cetaceans

Killer Whale

Killer whales have been observed in all oceans and seas of the world, but the highest densities occur in colder and more productive waters found at high latitudes (NOAA 2015). Killer whales are found throughout the North Pacific, and occur along the entire Alaska coast, in British Columbia and Washington inland waterways, and along the outer coasts of Washington, Oregon, and California (NOAA 2015).

Based on data regarding association patterns, acoustics, movements, and genetic differences, eight killer whale stocks are now recognized within the Pacific U.S. Exclusive Economic Zone, seven of which occur in Alaska: (1) The Alaska Resident stock; (2) the Northern Resident stock; (3) the Southern Resident stock; (4) the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock; (5) the AT1 Transient stock; (6) the West Coast transient stock, occurring from California through southeastern Alaska; and (7) the Offshore stock. Only the Alaska Resident stock and the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock are considered in this application because other stocks occur outside the geographic area under consideration.

The Alaska Resident stock occurs from southeastern Alaska to the Aleutian Islands and Bering Sea. Although the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock occupies a range that includes all of the U.S. Exclusive Economic Zone in Alaska, few individuals have been seen in southeastern Alaska. The transient stock occurs primarily from Prince William Sound through the Aleutian Islands and Bering Sea.

The Alaska Resident stock of killer whales is currently estimated at 2,347 individuals, and the estimate of the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock is 587 individuals (Allen and Angliss 2013). The Gulf of Alaska component of the transient stock is estimated to include 136 of the 587 individuals. The abundance estimate for the Alaska Resident stock is likely underestimated because researchers continue to encounter new whales in the Gulf of Alaska and western Alaskan waters. At present, reliable data on trends in population abundance for both stocks are unavailable.

Transient killer whales are seen periodically in waters of Kodiak Harbor, with photo-documentation since at least 1993 (Kodiak Seafood and Marine Science Center 2015). One pod known to visit Kodiak Harbor includes an adult female and adult male that have distinctive dorsal fins that make repeated recognition possible. This, as well as their easy visibility from shore, has led to their ''popularity'' in Kodiak, where their presence is often announced on public radio. They have been repeatedly observed and photographed attacking Steller sea lions.

The Kodiak killer whales appear to specialize in preying on Steller sea lions commonly found near Kodiak's processing plants, fishing vessels, and docks. This pod kills and consumes at least four to six Steller sea lions per year from the Kodiak harbor area, primarily from February through May (Kodiak Seafood and Marine Science Center 2015, Wynne 2015b). Further information on the biology and local distribution of these species can be found in the DOT&PF application available online at: *http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* and the NMFS Marine Mammal Stock Assessment Reports, which may be found at: *http://www.nmfs.noaa.gov/pr/species/.*

Harbor Porpoise

The harbor porpoise inhabits temporal, subarctic, and arctic waters. In the eastern North Pacific, harbor porpoises range from Point Barrow, Alaska, to Point Conception, California. Harbor porpoise primarily frequent coastal waters and occur most frequently in waters less than 100 m deep (Hobbs and Waite 2010). They may occasionally be found in deeper offshore waters.

In Alaska, harbor porpoises are currently divided into three stocks, based primarily on geography. These are the Bering Sea stock, the Southeast Alaska stock, and the Gulf of Alaska stock. (Allen and Angliss 2014). Only the Gulf of Alaska stock is considered in this application because the other stocks are not found in the geographic area under consideration.

Harbor porpoises are neither designated as depleted under the MMPA nor listed as threatened or endangered under the ESA. Because the most recent abundance estimate is 14 years old and information on incidental harbor porpoise mortality in commercial fisheries is not well understood, the Gulf of Alaska stock of harbor porpoise is classified as strategic. Population trends and status of this stock relative to optimum sustainable population size are currently unknown. The Gulf of Alaska stock is currently estimated at 31,046 individuals (Allen and Angliss 2013). No reliable information is available to determine trends in abundance.

According to the online database, Ocean Biogeographic Information System, Spatial Ecological Analysis of Megavertebrate Populations (Halpin 2009 at OBIS–SEAMAP 2015), West Coast populations have more restricted movements and do not migrate as much as East Coast populations. Most harbor porpoise groups are small, generally consisting of less than five or six individuals, though for feeding or migration they may aggregate into large, loose groups of 50 to several hundred animals.

Harbor porpoises commonly frequent Kodiak's nearshore waters, but are rarely if ever noted in the Kodiak channel (K. Wynne, pers. comm.). Harbor porpoises are expected to be encountered rarely in the project area, although no data exist to quantify harbor porpoise attendance.

Pinnipeds

Steller Sea Lion

The Steller sea lion is a pinniped and the largest of the eared seals. Steller sea lion populations that primarily occur west of 144° W (Cape Suckling, Alaska) comprise the western Distinct Population Segment (wDPS). Only the wDPS is considered in this application because the eastern DPS (eDPS) occurs outside the geographic area under consideration. Steller sea lions were listed as threatened range-wide under the ESA on November 26, 1990 (55 FR 49204). Steller sea lions were subsequently partitioned into the western and eastern DPSs in 1997 (Allen and Angliss 2010), with the wDPS being listed as endangered under the ESA and the eDPS remaining classified as threatened (62 FR 24345) until it was delisted in November 2013.

On August 27, 1993, NMFS published a final rule designating critical habitat for the Steller sea lion as a 20 nautical mile buffer around all major haul-outs and rookeries, as well as associated terrestrial, air and aquatic zones, and three large offshore foraging areas (50 CFR 226.202)

The range of the Steller sea lion includes the North Pacific Ocean rim from California to northern Japan. Steller sea lions forage in nearshore and pelagic waters where they are opportunistic predators. They feed primarily on a wide variety of fishes and cephalopods. Steller sea lions use terrestrial haulout sites to rest and take refuge. They also gather on well-defined, traditionally used rookeries to pup and breed. These habitats are typically gravel, rocky, or sand beaches; ledges; or rocky reefs (Allen and Angliss, 2013).

Steller sea lions have a worldwide population estimated at 120,000 to 140,000 animals, with approximately 93,000 in Alaska. The most recent comprehensive estimate (pups and non-pups) for abundance of the wDPS in Alaska is 52,209 sea lions, based on aerial surveys of non-pups conducted in June and July 2008–2011 and aerial and ground-based pup counts conducted in June and July 2009–2011 (Allen and Angliss 2014).

The wDPS of Steller sea lions declined approximately 75 percent from 1976 to 1990. Factors that may have contributed to this decline include (1) incidental take in fisheries, (2) legal and illegal shooting, (3) predation, (4) contaminants, (5) disease, and (6) climate change. Non-pup Steller sea lion counts at trend sites in the wDPS increased 11 percent during 2000–2004. These counts were the first region-wide increases for the wDPS since standardized surveys began in the 1970s, and were due to increased or stable counts in all regions except the western Aleutian Islands. During 2004–2008, western Alaska non-pup counts increased only 3 percent; eastern Gulf of Alaska (Prince William Sound area) counts were higher; counts from the Kenai Peninsula through Kiska Island, including Kodiak Island, were stable; and western Aleutian counts continued to decline (Allen and Angliss 2010).

Steller sea lions are the most obvious and abundant marine mammals in the project area. The major natural Steller sea lion haulouts closest to the project area are located on Long Island and Cape Chiniak, which are approximately 4.6 nautical miles (8.5 kilometers) and 13.8 nautical miles (25.6 kilometers) away from the project site, respectively. Annual counts averaged 33 animals on Long Island from 2008 through 2010, and 119 animals at Cape Chiniak during the same time period (Table 4–1). The closest rookery is located on Marmot Island, approximately 30 nautical miles (55.5 kilometers) from the project site, which had average annual counts of 656 animals from 2008 through 2010 (*as cited in* NMFS 2013).

Many individual sea lions have become habituated to human activity in the Kodiak harbor area and utilize a man-made haulout float called Dog Bay float located in St. Herman Harbor, about 1,300 meters (4,300 feet) from the project site (See Figure 1–2; Figure 3–1 in the application). This is not a federally recognized haulout and is not considered part of sea lion critical habitat. Critical habitat is associated with breeding and haulout areas in Alaska, California, and Oregon (NMFS 1993). Steller sea lion critical habitat is defined by a 20-nautical-mile (37-km) radius (straight line distance) encircling a major haulout or rookery. The project area occurs within critical habitat for two major haulouts, Long Island and Cape Chiniak, described above. A section from an old floating breakwater, the float was relocated to Dog Bay in the year 2000 and intended to serve as a dedicated sea lion haulout. It serves its purpose of reducing sea lion-human conflicts in Kodiak's docks and harbors by providing an undisturbed haulout location and reducing the numbers of sea lions that haul out on vessel moorage floats.

Counts of sea lions hauled out on the Dog Bay float provide an index of the number of Steller sea lions in the harbor area. Because this float is not considered an official haulout by NMFS, few standardized surveys to count sea lions have been conducted (Wynne 2015a). Surveys from 2004 through 2006 indicated peak winter (October–April) counts ranging from 27 to 33 animals (Wynn *et al.* 2011). Counts from February 2015 during a site visit by HDR biologists ranged from approximately 28 to 45 sea lions on the float. More than 100 sea lions were counted on the Dog Bay float at times in spring 2015, although the mean number was much smaller (Wynne 2015b).

Abundant and predictable sources of food for sea lions in the Kodiak area include fishing gear, fishing boats and tenders, and the many seafood processing facilities that accept transfers of fish from offloading vessels. Sea lions have become accustomed to depredating fishing gear and raiding fishing vessels during fishing and offloading and they follow potential sources of food around the harbors and docks, waiting for opportunities to feed. When vessels are offloading fish at the docks of processing facilities, the sea lions rear out of the water to look over the gunnels for fish on the deck; if the vessel is a stern trawler, they charge up the stern ramp or codend to gain access to the deck (Speckman 2015; Ward 2015; Wynne 2015a). Sea lions have killed dogs and have dragged humans into the water (Wynne 2015a).

The number of sea lions in the immediate project area varies depending on the season and presence of commercial fishing vessels unloading their catch at the seafood processing plant dock immediately adjacent to Pier 1. During the February 2015 site visit by HDR biologists, from zero up to about 25 sea lions were seen at one time in the Pier 1 project area. About 22 of those sea lions were subadults that were clearly foraging on schooling fishes in the area and were not interacting with the

fishing vessels offloading at the seafood processing plant at the time. The stern trawler offloading at the processing plant dock during this period was attended by three mature bull sea lions, which constantly swam back and forth behind the stern watching for an opportunity to gain access.

At least four other seafood processing facilities are present in Kodiak and operate concurrently with the one located next to Pier 1. All are visited by sea lions looking for food, and all are successfully raided by sea lions with regularity (Wynne 2015a). Sea lions also follow and raid fishing vessels. The seafood processing facility adjacent to the Pier 1 project site is therefore not the only source of food for Kodiak sea lions that inhabit the harbor area. Furthermore, sea lions in a more ''natural'' situation do not generally eat every day, but tend to forage every 1–2 days and return to haulouts to rest between foraging trips (Merrick and Loughlin 1997; Rehburg *et al.* 2009). The foraging habits of sea lions using the Dog Bay float and Kodiak harbor area are not documented, but it is reasonable to assume that, given the abundance of readily available food, not every sea lion in the area visits the seafood processing plant adjacent to Pier 1 every day. Based on numbers at the Dog Bay float and sea lion behavior, it is estimated that about 40 unique individual sea lions likely pass by the project site each day (Speckman 2015; Ward 2015; Wynne 2015a). Sea lions in the Kodiak harbor area are habituated to fishing vessels and are skilled at gaining access to fish. It is likely that some of the same animals follow local vessels to the nearby fishing grounds and back to town. It is also likely that hearing-impaired or deaf sea lions are among the sea lions that attend the seafood processing facility adjacent to the Pier 1 construction site. It is not known how a hearing-impaired or deaf sea lion would respond to typical mitigation efforts at a construction site such as ramping up of pile-driving equipment. It is also unknown whether a hearing-impaired or deaf sea lion would avoid pile-driving activity, or whether such an animal might approach closely, even within the Level A harassment zone, without responding to or being impacted by the noise level.

Harbor Seal

Harbor seals range from Baja California north along the west coasts of Washington, Oregon, California, British Columbia, and Southeast Alaska; west through the Gulf of Alaska, Prince William Sound, and the Aleutian Islands; and north in the Bering Sea to Cape Newenham and the Pribilof Islands. Distribution of the South Kodiak stock extends from East Cape (northeast coast of Kodiak Island) south to South Cape (Chirikof Island), including Tugidak Island, and up the southwest coast of Kodiak Island to Middle Cape.

In 2010, harbor seals in Alaska were partitioned into 12 separate stocks based largely on genetic structure (Allen and Angliss 2010). Only the South Kodiak stock is considered in this application because other stocks occur outside the geographic area under consideration.

The current statewide abundance estimate for Alaskan harbor seals is 152,602, based on aerial survey data collected during 1998–2007. The abundance estimate for the South Kodiak stock is 11,117 (Allen and Angliss 2010). Harbor seals have declined dramatically in some parts of their range over the past few decades, while in other parts their numbers have increased or remained stable over similar time periods.

A significant portion of the harbor seal population within the South Kodiak stock is located at and around Tugidak Island off the southwest of Kodiak Island. Sharp declines in the number of seals present on Tugidak were observed between 1976 and 1998. Although the number of seals on Tugidak Island has stabilized and shows some evidence of increase since the decline, the population in 2000 remained reduced by 80 percent compared to the levels in the 1970s (Jemison *et al.* 2006). The current population trend for this stock is unknown.

Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice (Allen and Angliss 2014). They are non-migratory; their local movements are associated with tides, weather, season, food availability, and reproduction, as well as sex and age class (Allen and Angliss 2014; Boveng *et al.* 2012; Lowry *et al.* 2001; Swain *et al.* 1996).

Although the number of harbor seals on eastern Kodiak haulouts has been increasing steadily since the early 1990s (Kodiak Seafood and Marine Science Center 2015), sightings are rare in the project area. Several harbor seals tagged at Uganik Bay (Northwest Kodiak Island) dispersed as far north as Anchorage and as far south as Chignik, but none were found near Kodiak (Kodiak Seafood and Marine Science Center 2015). Harbor seals are expected to be encountered occasionally in the project area, although no data exist to quantify harbor seal attendance.

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

This section includes a summary and discussion of the ways that stressors, (*e.g.* pile driving,) and potential mitigation activities, associated with the reconstruction of the Pier 1 Kodiak Ferry Terminal and Dock may impact marine mammals and their habitat. The *Estimated Take by Incidental Harassment* section later in this document will include an analysis of the number of individuals that are expected to be taken by this activity. The *Negligible Impact Analysis* section will include the analysis of how this specific activity will impact marine mammals and will consider the content of this section, the *Estimated Take by Incidental Harassment* section, and the *Proposed Mitigation* section to draw conclusions regarding the likely impacts of this activity on the reproductive success or survivorship of individuals and from that on the affected marine mammal populations or stocks. In the following discussion, we provide general background information on sound and marine mammal hearing before considering potential effects to marine mammals from sound produced by pile extraction, vibratory pile driving, impact pile driving and down-hole drilling.

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 hertz (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 (decrease) 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 (SL) 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. Note that all underwater sound levels in this document are referenced to a pressure of 1 μPa and all airborne sound levels in this document are referenced to a pressure of 20 μPa.

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, 1983). 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.

Even in the absence of sound from the specified activity, the underwater environment is typically loud due to ambient sound. Ambient sound is defined as environmental background sound levels lacking a single source or point (Richardson *et al.,* 1995), and the sound level of a region is defined by the total acoustical energy being generated by known and unknown sources. These sources may include 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). A number of sources contribute to ambient sound, 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 sound 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 from shore showing an increase of 10 dB in the 100 to 700 Hz band during heavy surf conditions.
- Precipitation: Sound 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: 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: 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. 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 attenuate rapidly (Richardson *et al.,* 1995). Sound from identifiable anthropogenic sources other than the activity of interest (*e.g.,* a passing vessel) is sometimes termed background sound, as opposed to ambient sound. Representative levels of anthropogenic sound are displayed in Table 2.

The sum of the various natural and anthropogenic sound sources at any given location and time—which comprise ''ambient'' or ''background'' sound—depends not only on the source levels (as determined by current weather conditions and levels of biological and shipping 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, ambient sound levels can be expected to vary widely over both coarse and fine spatial and temporal scales. Sound levels at a given frequency and location can vary by 10–20 dB from day to day (Richardson *et al.,* 1995). The result is that, depending on the source type and its intensity, sound from the specified activity may be a negligible addition to the local environment or could form a distinctive signal that may affect marine mammals.

TABLE 2—REPRESENTATIVE SOUND LEVELS OF ANTHROPOGENIC SOURCES

Sound source	Frequency range (Hz)	Underwater sound level	Reference
Small vessels	250–1,000	151 dB rms at 1 m	Richardson *et al.,* 1995.
Tug docking gravel barge	200–1,000	149 dB rms at 100 m	Blackwell and Greene, 2002.
Vibratory driving of 72-in steel pipe pile	10–1,500	180 dB rms at 10 m	Reyff, 2007.
Impact driving of 36-in steel pipe pile	10–1,500	195 dB rms at 10 m	Laughlin, 2007.
Impact driving of 66-in cast-in-steel-shell (CISS) pile	10–1,500	195 dB rms at 10 m	Reviewed in Hastings and Popper, 2005.

The Pier 1 project area is frequented by fishing vessels and tenders; ferries, barges, tugboats; and other commercial and recreational vessels that use the channel to access harbors and city docks, fuel docks, processing plants where fish catches are offloaded, and other commercial facilities. At the seafood processing plant, to the southwest of Pier 1, fish are offloaded by vacuum hose straight into the processing plant from the vessels' holds, and vessels raft up three and four deep to the dock during peak fishing seasons. On the northeast side of Pier 1 is the Petro Marine fuel dock, which services a range of vessel sizes, including larger vessels that can be accommodated by docking at Pier 1. Two boat harbors exist in Near Island Channel, which house a number of commercial and recreational marine vessels. The channel is also a primary route for local

vessel traffic to access waters outside the Gulf of Alaska.

High levels of vessel traffic are known to elevate background levels of noise in the marine environment. For example, continuous sounds for tugs pulling barges have been reported to range from 145 to 166 dB re 1 μPa rms at 1 meter from the source (Miles *et al.* 1987; Richardson *et al.* 1995; Simmonds *et al.* 2004. Ambient underwater noise levels in the Pier 1 project area are both variable and relatively high, and are expected to mask some sounds of drilling, pile installation, and pile extraction.

In-water construction activities associated with the project include vibratory pile driving and removal, down-hole drilling, and impact pile driving. There are two general categories of sound types: Impulse and non-pulse (defined in the following). Vibratory pile driving is considered to be continuous or non-pulsed while impact pile driving is considered to be an impulse or pulsed sound type. The distinction between these two 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. Note that information related to impact hammers is included here for comparison. Pulsed sound sources (*e.g.,* explosions, gunshots, sonic booms, impact pile driving) produce signals that are brief (typically considered to be less than one second), broadband, atonal transients (ANSI, 1986; Harris, 1998; NIOSH, 1998; ISO, 2003; ANSI, 2005) 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 rapid decay period that may include a period of diminishing, oscillating maximal and minimal pressures, and generally have an increased capacity to induce physical injury as compared with sounds that lack these features.

Non-pulsed sounds can be tonal, narrowband, or broadband, brief or prolonged, and may be either continuous or non-continuous (ANSI, 1995; NIOSH, 1998). Some of these non-pulsed sounds can be transient signals of short duration but without the essential properties of pulses (*e.g.,* rapid rise time). Examples of non-pulsed sounds include those produced by vessels, aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems (such as those used by the U.S. Navy). The duration of such sounds, as received at a distance, can be greatly extended in a highly reverberant environment.

The likely or possible impacts of the proposed pile driving program at Pier 1 on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment and personnel. Any impacts to marine mammals are expected to primarily be acoustic in nature. Acoustic stressors could include effects of heavy equipment operation, pile installation and pile removal at Pier 1.

Marine Mammal Hearing

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 have been derived using auditory evoked potentials, 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 30 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 (eight species of true porpoises, six species of river dolphins, Kogia, the franciscana, and four species of cephalorhynchids): functional hearing is estimated to occur between approximately 200 Hz and 180 kHz;
- Phocid pinnipeds in Water: functional hearing is estimated to occur between approximately 75 Hz and 75 kHz; and
- Otariid pinnipeds in Water: functional hearing is estimated to occur between approximately 100 Hz and 40 kHz.

As mentioned previously in this document, nine marine mammal species (seven cetacean and two pinniped) may occur in the project area. Of the two species likely to occur in the proposed project area, one is classified as a mid-frequency cetacean (*i.e.,* killer whale), and one is classified as a high-frequency cetaceans (*i.e.,* harbor porpoise) (Southall *et al.,* 2007). Additionally, harbor seals are classified as members of the phocid pinnipeds in water functional hearing group while Steller sea lions and California sea lions are grouped under the Otariid pinnipeds in water functional hearing group. A species' functional hearing group is a consideration when we analyze the effects of exposure to sound on marine mammals.

Acoustic Impacts

Potential Effects of Pile Driving Sound—The effects of sounds from pile driving might 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 impulse sounds on marine mammals. Potential effects from impulse sound sources can range in severity from effects such as behavioral disturbance or tactile perception to physical discomfort, slight injury of the internal organs and the auditory system, or mortality (Yelverton *et al.,* 1973).

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. 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 constitutes injury, but TTS does not (Southall *et al.,* 2007). 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 p-p [peak]) in order to produce brief, mild TTS. Exposure to several strong pulses that each have received levels near 190 dB 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.

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). 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 a sound source can incur TTS, it is possible that some individuals 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.

PTS is considered auditory injury (Southall *et al.,* 2007). Irreparable damage to the inner or outer cochlear hair cells may cause PTS, however, other mechanisms are also involved, such as exceeding the elastic limits of certain tissues and membranes in the middle and inner ears and resultant changes in the chemical composition of the inner ear fluids (Southall *et al.,* 2007).

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, based on anatomical similarities. 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.

Measured source levels from impact pile driving can be as high as 214 dB rms. 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, 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.

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.

Disturbance Reactions

Disturbance includes a variety of effects, including subtle changes in behavior, more conspicuous changes in activities, and displacement. Behavioral responses to sound are highly variable and context-specific and reactions, if any, depend on species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day, and many other factors (Richardson *et al.,* 1995; Wartzok *et al.,* 2003; Southall *et al.,* 2007).

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). 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).

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; Thorson and Reyff, 2006; see also Gordon *et al.,* 2004; Wartzok *et al.,* 2003; 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 (Thorson and Reyff, 2006).

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:

- Changes in diving/surfacing patterns;
- 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. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs only 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.

Masking occurs at specific frequency bands so understanding the frequencies that the animals utilize is important in determining any potential behavioral impacts. Because sound generated from in-water vibratory 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 the population or community levels as well as at individual levels. Masking affects both senders and receivers of the signals and can potentially in certain circumstances 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.

Vibratory pile driving may potentially mask acoustic signals important to marine mammal species. However, the short-term duration and limited affected area would result in insignificant impacts from masking.

Acoustic Effects, Airborne—Marine mammals that occur in the project area could be exposed to airborne sounds associated with pile driving 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 pinnipeds either hauled-out or looking with heads above water in the project area. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled-out 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. However, all estimates for distances that airborne sound could travel and exceed the harassment threshold for in-air disturbance fall far short of the 1,300 meters to the nearest known pinniped haulout, the Dog Bay float. Therefore, airborne noise is not considered further in this application, and no incidental take for airborne noise is requested.

Vessel Interaction

Besides being susceptible to vessel strikes, cetacean and pinniped responses to vessels may result in behavioral changes, including greater variability in the dive, surfacing, and respiration patterns; changes in vocalizations; and changes in swimming speed or direction (NRC 2003). There will be a temporary and localized increase in vessel traffic during construction.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammal habitat are associated with elevated sound levels produced by vibratory and impact pile driving and removal in the area. However, other potential impacts to the surrounding habitat from physical disturbance are also possible.

Potential Pile Driving Effects on Prey—Construction activities would produce continuous (*i.e.,* vibratory pile driving, down-hole drilling) sounds and pulsed (*i.e.* impact driving) sounds. Essential Fish Habitat (EFH) has been designated within the project area for the Alaska stocks of Pacific salmon, walleye pollock, Pacific cod, yellowfin sole (*Limanda aspera*), arrowtooth flounder (*Atheresthes stomias*), rock sole (*Lepidopsetta spp.*), flathead sole (*Hippoglossoides elassodon*), sculpin (Cottidae), skate (Rajidae), and squid (Teuthoidea). On 30 April 2013, informal EFH consultation was initiated, and NMFS determined that the project would not adversely affect EFH and did not offer any EFH conservation recommendations or require further consultation (FHWA 2013).

Fish react to sounds that are especially strong and/or intermittent low-frequency sounds. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. Hastings and Popper (2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of pile driving on fish, although several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Scholik and Yan, 2001, 2002; Popper and Hastings, 2009). Sound pulses at received levels of 160 dB may cause subtle changes in fish behavior. SPLs of 180 dB may cause noticeable changes in behavior (Pearson *et al.,* 1992; Skalski *et al.,* 1992). SPLs of sufficient strength have been known to cause injury to fish and fish mortality.

The most likely impact to fish from pile driving activities at the project area would be temporary behavioral avoidance of the area. The duration of fish avoidance of this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated. In general, impacts to marine mammal prey species are expected to be minor and temporary due to the short timeframe for the project.

Effects to Foraging Habitat—Pile installation may temporarily increase turbidity resulting from suspended sediments. Any increases would be temporary, localized, and minimal. DOT&PF must comply with state water quality standards during these operations by limiting the extent of turbidity to the immediate project area. In general, turbidity associated with pile installation is localized to about a 25-foot radius around the pile (Everitt *et al.* 1980). Cetaceans are not expected to be close enough to the project pile driving areas to experience effects of turbidity, and any pinnipeds will be transiting the area and could avoid localized areas of turbidity. Therefore, the impact from increased turbidity levels is expected to be discountable to marine mammals. Furthermore, pile driving and removal at the project site will not obstruct movements or migration of 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 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.

For the proposed project, DOT&PF worked with NMFS and proposed the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity. The primary purposes of these mitigation measures are to minimize sound levels from the activities, and to monitor marine mammals within designated zones of influence corresponding to NMFS' current Level A and B harassment thresholds which are depicted in Table 3 found later in the *Estimated Take by Incidental Harassment* section.

DOT&PF committed to the use of both impact and vibratory hammers for pile installation and will implement a soft-start procedure.

Mitigation &Monitoring Protocols—Monitoring would be conducted before, during, and after pile driving and removal activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven. Observations made outside the shutdown zone will not result in shutdown; 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. Monitoring will take place from 30 minutes prior to initiation through 20 minutes post-completion of pile driving activities. Pile driving activities include the time to remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than thirty minutes. Please see Appendix A of the application for details on the marine mammal monitoring plan developed by the DOT&PF's with NMFS' cooperation.

The following additional measures apply to visual monitoring:

(1) Monitoring will be conducted by qualified observers, who will be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures

when applicable by calling for the shutdown to the hammer operator. These vantage points include Jett A or the barge. Qualified observers are trained biologists, with the following minimum qualifications:

(a) 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;

(b) Advanced education in biological science or related field (undergraduate degree or higher required);

(c) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience);

(d) Experience or training in the field identification of marine mammals, including the identification of behaviors;

(e) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

(f) 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; and

(g) 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.

(2) Prior to the start of pile driving activity, the shutdown zone will be monitored for 30 minutes to ensure that it is clear of marine mammals. Pile driving will only commence once observers have declared the shutdown zone clear of marine mammals; animals will be allowed to remain in the shutdown zone (*i.e.,* must leave of their own volition) and their behavior will be monitored and documented. The shutdown zone may only be declared clear, and pile driving started, when the entire shutdown zone is visible (*i.e.,* when not obscured by dark, rain, fog, etc.). In addition, if such conditions should arise during impact pile driving that is already underway, the activity would be halted.

If a marine mammal approaches or enters the shutdown zone during the course of pile driving operations, activity will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 20 minutes have passed without re-detection of the animal. Monitoring will be conducted throughout the time required to drive a pile.

Ramp Up or Soft Start—The use of a soft start procedure is believed to provide additional protection to marine mammals by warning or providing a chance to leave the area prior to the hammer operating at full capacity, and typically involves a requirement to initiate sound from the hammer at reduced energy followed by a waiting period. This procedure is repeated two additional times. It is difficult to specify the reduction in energy for any given hammer because of variation across drivers. The project will utilize soft start techniques for all vibratory and impact pile driving. We require the DOT&PF to initiate sound from vibratory hammers for fifteen seconds at reduced energy followed by a 1-minute waiting period, with the procedure repeated two additional times. For impact driving, we require an initial set of three strikes from the impact hammer at reduced energy, followed by a 1-minute waiting period, then two subsequent three strike sets. Soft start will be required at the beginning of each day's pile driving work and at any time following a cessation of pile driving of 20 minutes or longer.

If a marine mammal is present within the Level A harassment zone, ramping up will be delayed until the animal(s) leaves the Level A harassment zone. Activity will begin only after the Wildlife Observer has determined, through sighting, that the animal(s) has moved outside the Level A harassment zone.

If a Steller sea lion, harbor seal, harbor porpoise, or killer whale is present in the Level B harassment zone, ramping up will begin and a Level B take will be documented. Ramping up will occur when these species are in the Level B harassment zone whether they entered the Level B zone from the Level A zone, or from outside the project area.

If any marine mammal other than Steller sea lions, harbor seals, harbor porpoises, or killer whales is present in the Level B harassment zone, ramping up will be delayed until the animal(s) leaves the zone. Ramping up will begin only after the Wildlife Observer has determined, through sighting, that the animal(s) has moved outside the harassment zone.

Pile Caps—Pile caps will be used during all impact pile-driving activities.

In addition to the measures described later in this section, the DOT&PF would employ the following standard mitigation measures:

(a) Conduct briefings between construction supervisors and crews, marine mammal monitoring team, and DOT&PF staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

(b) For in-water heavy machinery work other than pile driving (using, *e.g.,* standard barges, tug boats, barge-mounted excavators, or clamshell equipment used to place or remove material), if a marine mammal comes within 10 m, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions.

Monitoring and Shutdown for Pile Driving

The following measures would apply to DOT&PF's mitigation through shutdown and disturbance zones:

Shutdown Zone—For all pile driving activities, the DOT&PF's will establish a shutdown zone. Shutdown zones are intended to contain the area in which SPLs equal or exceed the 180/190 dB rms acoustic injury criteria, with the purpose being 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 of marine mammals. A conservative 4-meter shutdown zone will be in effect for Steller sea lions and harbor seals. The estimated shutdown zone for Level A injury to harbor porpoises and killer whales would be 15 meters. DOT&PF, however, would implement a minimum shutdown zone of 10 m radius for all marine mammals around all vibratory pile driving and removal activities. These precautionary measures are intended to further reduce the unlikely possibility of injury from direct physical interaction with construction operations.

Disturbance Zone—Disturbance zones are the areas in which sound pressure levels (SPLs) equal or exceed 120 dB rms (for continuous sound) for pile driving installation and removal. 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 observers 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''). Nominal radial distances for disturbance zones are shown in Table 4 later in this notice. During impact driving, the Level B harassment zone shall extend to 225 meters for Steller sea lions, harbor seals, harbor porpoises, and killer whales. This 225 meter distance will serve as a shutdown zone for all other marine mammals (humpback whale, Dall's porpoise, gray whale, fin whale, or any other) to avoid Level B take. Level B take of humpback whales, Dall's porpoises, gray whales, and fin whales is not requested and will be avoided by shutting down before individuals of these species enter the Level B zone.

During vibratory pile installation and removal, the Level B harassment zone shall extend to 1,150 meters for Steller sea lions, harbor seals, harbor porpoises, and killer whales. This 1,150-meter distance will serve as a shutdown zone for all other marine mammals (humpback whale, Dall's porpoise, gray whale, fin whale, or any other) to avoid Level B take.

In order to document observed incidents of harassment, monitors record all marine mammal observations, regardless of location. The observer's location, as well as the location of the pile being driven, is known from a GPS. The location of the animal is estimated as a distance from the observer, which is then compared to the location from the pile and the estimated zone of influence (ZOI) for relevant activities (*i.e.,* pile installation and removal). This information may then be used to extrapolate observed takes to reach an approximate understanding of actual total takes.

Time Restrictions—Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted. To minimize impacts to pink salmon (*Oncorhynchus gorbuscha*) fry and coho salmon (*O. kisutch*) smolt, all in-water pile extraction and installation is planned to be completed by 30 April 2016. If work cannot be completed by 30 April, the DOT&PF refrain from impact pile installation without a bubble curtain from May 1, through June 30 within the 12-hour period beginning daily at the start of civil dawn (Marie 2015). ADF&G stated that this is the daily time period when the majority of juvenile salmon are moving through the project area, and a 12-hour quiet period may protect migrating juvenile salmon from excessive noise (Frost 2015). Impact pile installation would be acceptable without a bubble curtain from May 1 through June 30 in the evenings, beginning at 12 hours past civil dawn (Marie 2015).

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of affecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

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

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

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

2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

3. A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of pile driving, or other activities expected to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).

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

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

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

Proposed Monitoring and Reporting

In order to issue an ITA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, ''requirements pertaining to the monitoring and reporting of such taking.'' The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for incidental take authorizations (ITAs) must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

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

1. An increase in the probability of detecting marine mammals, both within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the analyses mentioned below,

2. An increase in our understanding of how many marine mammals are likely to be exposed to levels of pile driving that we associate with specific adverse effects, such as behavioral harassment, TTS, or PTS.

3. An increase in our understanding of how marine mammals respond to stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival) through any of the following methods:

- Behavioral observations in the presence of stimuli compared to

observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);

▪ Physiological measurements in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information);

▪ Distribution and/or abundance comparisons in times or areas with concentrated stimuli versus times or areas without stimuli;

4. An increased knowledge of the affected species; and

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

The DOT&PF submitted a marine mammal monitoring plan as part of the IHA application for this project, which can be found at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.* The plan may be modified or supplemented based on comments or new information received from the public during the public comment period.

Visual Marine Mammal Observation

The DOT&PF will collect sighting data and behavioral responses to construction for marine mammal species observed in the region of activity during the period of activity. All observers will be trained in marine mammal identification and behaviors and are required to have no other construction-related tasks while conducting monitoring. The DOT&PF will monitor the shutdown zone and disturbance zone before, during, and after pile driving. The Marine Mammal Observers (MMOs) and DOT&PF authorities will meet to determine the most appropriate observation platform(s) for monitoring during pile installation and extraction.

Based on our requirements, the Marine Mammal Monitoring Plan would implement the following procedures for pile driving:

• Individuals meeting the minimum qualifications identified in the applicant's monitoring plan (Appendix A of the application) would monitor Level A and Level B harassment zones during pile driving and extraction activities.

• The area within the Level B harassment threshold for impact driving will be monitored by appropriately stationed MMOs. Any marine mammal documented within the Level B harassment zone during impact driving would constitute a Level B take (harassment), and will be recorded and reported as such.

• During Impact and vibratory pile driving, a shutdown zone will be established to include all areas where the underwater SPLs are anticipated to equal or exceed the Level A (injury) criteria for marine mammals (180 dB isopleth for cetaceans; 190 dB isopleth for pinnipeds). Pile installation will not commence or will be suspended temporarily if any marine mammals are observed within or approaching the area.

• The individuals will scan the waters within each monitoring zone activity using binoculars (Vector 10X42 or equivalent), spotting scopes (Swarovski 20–60 zoom or equivalent), and visual observation.

• Use a hand-held or boat-mounted GPS device or rangefinder to verify the required monitoring distance from the project site.

• If waters exceed a sea-state which restricts the observers' ability to make observations within the marine mammal shutdown zone (*e.g.* excessive wind or fog), pile installation will cease. Pile driving will not be initiated until the entire shutdown zone is visible.

• Conduct pile driving and extraction activities only during daylight hours from sunrise to sunset when it is possible to visually monitor marine mammals.

• The waters will be scanned 30 minutes prior to commencing pile driving at the beginning of each day, and prior to commencing pile driving after any stoppage of 20 minutes or greater. If marine mammals enter or are observed within the designated marine mammal shutdown zone during or 20 minutes prior to pile driving, the monitors will notify the on-site construction manager to not begin until the animal has moved outside the designated radius.

• The waters will continue to be scanned for at least 20 minutes after pile driving has completed each day, and after each stoppage of 20 minutes or greater.

Data Collection

We require that observers use approved data forms. Among other pieces of information, the DOT&PF will record detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any. In addition, the DOT&PF will attempt to distinguish between the number of individual animals taken and the number of incidents of take. We require that, at a minimum, the following information be collected on the sighting forms:

• Date and time that monitored activity begins or ends;

• Construction activities occurring during each observation period;

• Weather parameters (*e.g.,* percent cover, visibility);

• Water conditions (*e.g.,* sea state, tide state);

• Species, numbers, and, if possible, sex and age class of marine mammals;

• Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;

• Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;

• Locations of all marine mammal observations; and

• Other human activity in the area.

Proposed Reporting Measures

The DOT&PF would provide NMFS with a draft monitoring report within 90 days of the conclusion of the proposed construction work. This report will detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed. If no comments are received from NMFS within 30 days, the draft final report will constitute the final report. If comments are received, a final report must be submitted within 30 days after receipt of comments.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as an injury (Level A harassment), serious injury or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), the DOT&PF would immediately cease the specified activities and immediately report the incident to Jolie Harrison (*Jolie.Harrison@NOAA.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and Aleria Jensen (*Aleria.Jensen@noaa.gov*), Alaska Stranding Coordinator. The report would include the following information:

• Time, date, and location (latitude/longitude) of the incident;

• Name and type of vessel involved;

• Vessel's speed during and leading up to the incident;

• Description of the incident;

• Status of all sound source use in the 24 hours preceding the incident;

• Water depth;

• Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, and visibility);

• Description of all marine mammal observations in the 24 hours preceding the incident;

- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

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

In the event that the DOT&PF discovers an injured or dead marine mammal, and the lead MMO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.,* in less than a moderate state of decomposition as described in the next paragraph), the DOT&PF would immediately report the incident to Jolie Harrison (*Jolie.Harrison@nooa.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and Aleria Jensen (*Aleria.Jensen@noaa.gov*), Alaska Stranding Coordinator.

The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the DOT&PF to determine whether modifications in the activities are appropriate.

In the event that the DOT&PF discovers an injured or dead marine mammal, and the lead MMO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the DOT&PF would report the incident to Jolie Harrison (*Jolie.Harrison@noaa.gov*), Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS West Coast Stranding Hotline and/or by email to Aleria Jensen (*Aleria.Jensen@noaa.gov*), Alaska Stranding Coordinator, within 24 hours of the discovery. The DOT&PF would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as: ''. . . any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].''

All anticipated takes would be by Level A and Level B harassment resulting from vibratory pile driving and removal. Level A harassment has the potential to cause injury to a marine mammal or marine mammal stock while Level B harassment may result in temporary changes in behavior. Note that lethal takes are not expected due to the proposed mitigation and monitoring measures that are expected to minimize the possibility of such take.

If a marine mammal responds to a stimulus by changing its behavior (*e.g.,* through relatively minor changes in locomotion direction/speed or vocalization behavior), the response may or may not constitute taking at the individual level, and is unlikely to affect the stock or the species as a whole. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on animals or on the stock or species could potentially be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007). Given the many uncertainties in predicting the quantity and types of impacts of sound on marine mammals, it is common practice to estimate how many animals are likely to be present within a particular distance of a given activity, or exposed to a particular level of sound.

Upland work can generate airborne sound and create visual disturbance that could potentially result in disturbance to marine mammals (specifically, pinnipeds) that are hauled out or at the water's surface with heads above the water. However, because there are no regular haul-outs in close proximity to Pier 1, NMFS believes that incidents of incidental take resulting from airborne sound or visual disturbance are unlikely.

DOT&PF has requested authorization for the incidental taking of small numbers of killer whale, harbor porpoise, Steller sea lion, and harbor seal near the Pier 1 project area that may result from impact and vibratory pile driving, vibratory pile removal and down-hole drilling construction activities associated with the dock improvement project at Pier 1.

In order to estimate the potential incidents of take that may occur incidental to the specified activity, we must first estimate the extent of the sound field that may be produced by the activity and then consider in combination with information about marine mammal density or abundance in the project area. We first provide information on applicable sound thresholds for determining effects to marine mammals before describing the information used in estimating the sound fields, the available marine mammal density or abundance information, and the method of estimating potential incidences of take.

Sound Thresholds

We use the following generic sound exposure thresholds to determine when an activity that produces sound might result in impacts to a marine mammal such that a take by harassment might occur.

TABLE 3—UNDERWATER INJURY AND DISTURBANCE THRESHOLD DECIBEL LEVELS FOR MARINE MAMMALS

Criterion	Criterion definition	Threshold *
Level A harassment	PTS (injury) conservatively based on TTS.**	190 dB RMS for pinnipeds 180 dB RMS for cetaceans.
Level B harassment	Behavioral disruption for impulse noise (*e.g.,* impact pile driving)	160 dB RMS.
Level B harassment	Behavioral disruption for non-pulse noise (*e.g.,* vibratory pile driving, drilling).	120 dB RMS.

* All decibel levels referenced to 1 micropascal (re: 1 μPa). Note all thresholds are based off root mean square (RMS) levels.
** PTS = Permanent Threshold Shift; TTS = Temporary Threshold Shift.

Distance to Sound Thresholds

The sound field in the project area is the existing ambient noise plus additional construction noise from the proposed project. The primary components of the project expected to affect marine mammals is the sound generated by impact pile driving, vibratory pile driving, vibratory pile removal and down-hole drilling. Direct pull and clamshell removal of old timber piles do not produce noise levels expected to impact marine mammals, although, depending on conditions, these may require vibratory hammer removal.

After vibratory hammering has installed the pile through the overburden to the top of the bedrock layer, the vibratory hammer will be removed, and the down-hole drill will be inserted through the pile. The head extends below the pile and the drill rotates through soils and rock. The drilling/hammering takes place below the sediment layer and, as the drill advances, below the bedrock layer as well. Underwater noise levels are relatively low because the impact is taking place below the substrate rather than at the top of the piling, which limits transmission of noise through the water column. Additionally, there is a drive shoe welded on the bottom of the pile and the upper portion of the bit rests on the shoe, which aids in advancement of the pile as drilling progresses. When the proper depth is achieved, the drill is retracted and the pile is left in place. Down-hole drilling is considered a pulsed noise due to periodic impacts from the drill below ground level (PND Engineers 2013). Impact hammering typically generates the loudest noise associated with pile driving, but for the Pier 1 project, use will be limited to a few blows per permanent 24-inch pile.

Several factors are expected to minimize the potential impacts of pile-driving and drilling noise associated with the project:

- The soft sediment marine seafloor and shallow waters in the proposed project area.
- Land forms across the channel that will block the noise from spreading .
- The relatively high background noise level in the project area.

Sound will dissipate relatively rapidly in the shallow waters over soft seafloors in the project area (NMFS 2013). St. Herman Harbor (Figure 1–2 in the application), where the Dog Bay float is located, is protected from the Pier 1 construction noise by land projections and islands, which will block and redirect sound. Near Island and Kodiak Island, on either side of Near Island Channel, prevent the sound from travelling underwater to the north, south, and southeast, restricting the noise to the channel.

The project includes direct pulling and possibly vibratory removal of 13-inch timber and 16-inch steel piles; vibratory installation and removal of temporary steel pipe or H-piles; vibratory installation and down-hole drilling of permanent 24-inch steel pipe piles; and vibratory installation of 18-inch steel pipe piles and 16-inch timber piles (16 inches is the typical butt/top dimension, and these are typically around 12-inches in diameter at the pile tip/bottom). Each 24-inch pile will also be subject to a few blows from an impact hammer for proofing. No data are available for vibratory removal of piles, so it will be conservatively assumed that vibratory removal of piles will produce the same source level as vibratory installation.

Vibratory extraction and installation of timber piles will be estimated to generate 152 dB rms at 16 meters as is shown in Table 6–3 of the application (Laughlin 2011). Vibratory extraction of 16-inch steel piles will be conservatively estimated to generate the same sound as installation of 24-inch piles (162 dB rms at 10 meters).

Little information is available for sound generated during vibratory installation or removal of steel H-piles; however, ICF Jones & Stokes and Illingworth & Rodkin, Inc. (2009) reported that the typical noise level during vibratory hammering was 147 dB rms at 10 meters for 10-inch steel H-piles and 150 dB rms at 10 meters for 12-inch steel H-piles. Vibratory installation and removal of temporary steel pipe or H-piles will therefore be estimated to generate 150 dB rms at 10 meters (Table 6–3).

Vibratory installation of a 24-inch steel pile generated 162 dB rms measured at 10 meters (Laughlin 2010a). Vibratory installation of 12-inch and 36-inch steel piles generated 150 and 170 dB rms at 10 meters, respectively (Maine Department of Transportation and Eastport Port Authority 2014), further supporting the intermediate estimate of 162 dB rms for driving 24-inch steel piles (Table 6–3).

Vibratory installation of 18-inch steel piles will be conservatively estimated to generate the same sound as driving of 24-inch piles (162 dB rms at 10 meters). No data are available for the vibratory installation of 12-inch timber piles; therefore, vibratory installation of 12-inch timber piles will also be conservatively estimated to generate the same sound level as installation of 24-inch steel piles (Table 6–3).

Dazey *et al.* (2012) measured sound levels generated by down-hole drilling and found the average calculated source SPL to be 133 dB rms. URS (2011) reported that down-hole drilling methods generate pulses with a maximum sound source level of 165 dB (re 1 µPa at 1 meter) at 200 Hz. The 160-dB isopleth (Level B harassment for pulsed noise sources) for a down-hole drill was estimated to be 3 meters during a project in Australia that included installation of piles (URS 2011). Down-hole drilling will therefore be estimated to generate 160 dB rms at 3 meters (Table 6–3).

Impact driving of 24-inch steel piles is commonly assumed to generate 189 dB rms measured at 10 meters (WSDOT 2010). Laughlin (2006) reported that use of Micarta caps resulted in 7- to 8-dB reductions in sound level. A conservative reduction of 6 dB therefore yields an estimate of 183 dB rms at 10 meters if pile caps are used (Table 6–3).

Underwater Sound Propagation Formula—Pile driving generates underwater noise that can potentially result in disturbance to marine mammals in the project area. Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$$TL = B * \log_{10} (R_1/R_2),$$

where:

TL = transmission loss in dB

R_1 = the distance of the modeled SPL from the driven pile, and

R_2 = the distance from the driven pile of the initial measurement.

NMFS typically recommends a default practical spreading loss of 15 dB per tenfold increase in distance. However, for this analysis for the Pier 1 project area, a TL of 18Log(R/10) (*i.e.,* 18–dB loss per tenfold increase in distance) was used for vibratory pile driving and a 17Log TL(R/10) function was used for impact driving (Illingworth & Rodkin 2014). TL values were based on measured attenuation rates in Hood Canal in the State of Washington (Illingworth & Rodkin 2013), where the marine environment is assumed to be similar to marine conditions in the Pier 1 project area. Illingworth & Rodkin (2013, 2014) have applied these same TL values to a test pile project proposed at the Port of Anchorage, and other

researchers have measured similar attenuation rates for pile-driving projects (Caltrans 2012). Field measurements of TL can be as high as 22 to 29 dB per tenfold increase in distance in some locations (*e.g.,* Knik Arm, Alaska; Blackwell 2005), and the use of these values is therefore considered a conservative application.

Distances to the harassment isopleths vary by marine mammal type and pile extraction/driving tool. The Level B harassment isopleth during impact pile driving is 225 meters when pile caps are used; 1,136 meters during vibratory pile driving; and 3 meters during down-hole drilling (Table 6–6; Figure 6–1). The Level B harassment monitoring zone for vibratory pile driving will be rounded up to 1,150 meters for the Pier 1 project. Level A harassment of Steller sea lions would occur only within 4 meters if pile caps are used during impact hammering, or within 9 meters if pile caps are not used as is shown in Table 4.

TABLE 4—DISTANCES IN METERS FROM PIER 1 CONSTRUCTION ACTIVITY TO NMFS' LEVEL A AND LEVEL B HARASSMENT THRESHOLDS (ISOPLETHS) FOR DIFFERENT PILE INSTALLATION AND EXTRACTION METHODS AND PILE TYPES, ASSUMING A 125-dB BACKGROUND NOISE LEVEL

Method, Pile Type	Level A		Level B
	Pinnipeds	Cetaceans	Pinnipeds and Cetaceans
Vibratory Hammer			
Timber pile extraction	<1	<1	506
Steel H-piles	<1	<1	167
24-inch steel piles	<1	1	1136
18-inch steel piles	<1	1	1136
16-inch timber piles	<1	1	1136
Down-hole Drill			
24-inch steel piles	<1	<1	3
Impact Hammer			
With caps			
24-inch steel piles	4	15	225
Without caps			
24-inch steel piles	9	34	508

Note that the actual area insonified by pile driving activities is significantly constrained by local topography relative to the total threshold radius. The actual insonified area was determined using a straight line-of-sight projection from the anticipated pile driving locations. Distances to the underwater sound isopleths for Level B and Level A are illustrated respectively in Figure 6–1 and Figure 6–2 in the application.

The method used for calculating potential exposures to impact and vibratory pile driving noise for each threshold was estimated using local marine mammal data sets, the Biological Opinion, best professional judgment from state and federal agencies, and data from IHA estimates on similar projects with similar actions. All estimates are conservative and include the following assumptions:

- All pilings installed at each site would have an underwater noise disturbance equal to the piling that causes the greatest noise disturbance (*i.e.,* the piling furthest from shore) installed with the method that has the largest ZOI. The largest underwater disturbance ZOI would be produced by vibratory driving steel and timber piles. The ZOIs for each threshold are not spherical and are truncated by land masses on either side of the channel which would dissipate sound pressure waves.
- Exposures were based on estimated work days. Numbers of days were based on an average production rate of 80 days of vibratory driving, 22 days of impact driving and 60 days of down-hole drilling. Note that impact driving is likely to occur only on days when vibratory driving occurs.
- In absence of site specific underwater acoustic propagation modeling, the practical spreading loss model was used to determine the ZOI.

Steller Sea Lions

Incidental take was estimated for Steller sea lions by assuming that, within any given day, about 40 unique individual Steller sea lions may be present at some time during that day within the Level B harassment zone during active pile extraction or installation. This estimate was derived from the following information, previously described in the FR in the section

Description of Marine Mammals in the Area of the Specified Activity

Pinniped population estimates are typically made when the animals are hauled out and available to be counted. Steller sea lions hauled out on the Dog Bay float are believed to represent the Kodiak Harbor population. Aerial surveys from 2004 through 2006 indicated peak winter (October–April) counts at the Dog Bay float ranging from 27 to 33 animals (Wynn *et al.* 2011). Counts in February 2015 during a site visit by HDR biologists ranged from approximately 28 to 45 Steller sea lions. More than 100 Steller sea lions were counted on the Dog Bay float at times in spring 2015, although the mean number was much smaller (Wynne 2015b). Together, this information may indicate a maximum population of about 120 Steller sea lions that uses the Kodiak harbor area.

Steller sea lions found in more ''natural'' settings do not usually eat every day, but tend to forage every 1–

2 days and return to haulouts to rest between foraging trips (Merrick and Loughlin 1997; Rehburg *et al.* 2009). This means that on any given day a maximum of about 60 Steller sea lions from the local population may be foraging. Note that there are at least four other seafood processing facilities in Kodiak that operate concurrently with the one located next to Pier 1, and all are visited by local Steller sea lions looking for food (Wynne 2015a). The seafood processing facility adjacent to the Pier 1 project site is not the only source of food for local Steller sea lions that inhabit the harbor area. The foraging habits of Steller sea lions using the Dog Bay float and Kodiak harbor area are not documented, but it is reasonable to assume that, given the abundance of readily available food, not every Steller sea lion in the area visits the seafood processing plant adjacent to Pier 1 every day. If about half of the foraging Steller sea lions visit the seafood processing plant adjacent to Pier 1, it is estimated that about 30 unique individual Steller sea lions likely pass through the Pier 1 project area each day and could be exposed to Level B harassment. To be conservative, exposure is estimated at 40 unique individual Steller sea lions per day.

It is assumed that Steller sea lions may be present every day, and also that take will include multiple harassments of the same individual(s) both within and among days, which means that these estimates are likely an overestimate of the number of individuals.

Expected durations of pile extraction and driving were estimated in Section 1.4 of the application. For each pile extraction or installation activity, the calculation for Steller sea lion exposures to underwater noise is therefore estimated as:

Exposure estimate = (number of animals exposed > sound thresholds)/day * number of days of activity

An estimated total of 3,200 Steller sea lions (40 sea lions/day * 80 days of pile installation or extraction) could be exposed to noise at the Level B harassment level during vibratory and impact pile driving (Table 5). The expected take from exposure to noise from down-hole drilling is expected to be very low because of the low noise levels produced by this type of pile installation, and the 3-meter distance to the Level B isopleth. Potential exposure at the Level B harassment level for down-hole drilling is estimated at 60 Steller sea lions, roughly one every one to two days.

TABLE 5—NUMBERS OF POTENTIAL EXPOSURES OF STELLER SEA LIONS TO LEVEL A AND LEVEL B HARASSMENT NOISE FROM PILE DRIVING BASED ON PREDICTED UNDERWATER NOISE LEVELS RESULTING FROM PROJECT ACTIVITIES

	Vibratory and impact	Down-hole drill	Impact hammer
	Level B	Level B	Level A
Number of Days	80	60	22
Number of Steller Sea Lion Exposures	3,200	60	30

The attraction of sea lions to the seafood processing plant increases the possibility of individual Steller sea lions occasionally entering the Level A harassment zone before they are observed and before pile driving can be shut down. Even with marine mammal observers present at all times during pile installation, it is possible that sea lions could approach quickly and enter the Level A harassment zone, even as pile driving activity is being shut down. This likelihood is increased by the high level of sea lion activity in the area, with Steller sea lions following vessels and swimming around vessels at the neighboring dock. It is possible that a single sea lion could be taken each day that impact pile driving occurs. As such, NMFS proposes an additional 22 Level A takes plus a roughly 30 percent contingency of 8 additional takes, for a total of 30 takes for Level A harassment. Potential for Level A harassment of Steller sea lions is estimated to only occur during impact hammering due to the very small Level A harassment zones for all other construction activities.

Harbor Seals

Harbor seals are expected to be encountered in low numbers, if at all, within the project area. However, based on the known range of the South Kodiak stock, and occasional sightings during monitoring of projects at other locations on Kodiak Island, NMFS proposes 40 Level B takes (1 take every other day) of harbor seals by exposure to underwater noise over the duration of construction activities.

Harbor Porpoises

Harbor porpoises are expected to be encountered in low numbers, if at all, within the project area. However, based on the known range of the Gulf of Alaska stock and occasional sightings during monitoring of projects at other locations on Kodiak Island, NMFS proposes 40 Level B takes (1 take every other day) of harbor porpoises by exposure to underwater noise over the duration of construction activities.

Killer Whales

Resident killer whales are rarely sighted in the project area and, therefore, NMFS is not proposing the take of any resident killer whales. Transient killer whales are expected to be encountered in the project area occasionally, although no data exist to quantify killer whale attendance. Killer whales are expected to be in the Kodiak harbor area sporadically from January through April and to enter the project area in low numbers. Based on the known range and behavior of the Alaska Resident stock and the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stocks, it is reasonable to estimate that 6 individual whales may enter the project area twice a month from February through May. NMFS therefore proposes 48 Level B takes (6 killer whales/visit * 2 visits/month * 4 months) of killer whales by exposure to underwater noise over the duration of construction activities.

TABLE 6—SUMMARY OF THE ESTIMATED NUMBERS OF MARINE MAMMALS POTENTIALLY EXPOSED TO LEVEL A AND LEVEL B HARASSMENT NOISE LEVELS SPECIES

Species	Level threshold cetaceans (180 dB)	Level injury threshold pinnipeds (190 dB)	Level B harassment threshold (160 dB)	Total
Steller sea lion	NA	30	3,260	3,290
Harbor seal	NA	0	40	40
Harbor porpoise	0	NA	40	40
Killer whale	0	NA	48	48
Total	0	30	3,388	3,418

NA indicates Not Applicable.

Analysis and Preliminary Determinations

Negligible Impact

Negligible impact is ''an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival'' (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, effects on habitat, and the status of the species.

To avoid repetition, the discussion of our analyses applies to all the species listed in Table 6, given that the anticipated effects of this pile driving project on marine mammals are expected to be relatively similar in nature. There is no information about the size, status, or structure of any species or stock that would lead to a different analysis for this activity, else species-specific factors would be identified and analyzed.

Pile extraction, pile driving, and down-hole drilling activities associated with the reconstruction of the Pier 1 Kodiak Ferry Terminal and Dock, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level A (injury) and Level B harassment (behavioral disturbance), from underwater sounds generated from pile driving. Potential takes could occur if individuals of these species are present in the insonified zone when pile driving is under way.

The takes from Level B harassment will be due to potential behavioral disturbance and TTS. The takes from Level A harassment will be due to potential PTS. No mortality is anticipated given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. The potential for these outcomes is minimized through the construction method and the implementation of the planned mitigation measures. Specifically, the use of impact driving will be limited to an estimated maximum of 3 hours over the course of 80 days of construction, and will likely require less time. Each 24-inch pile will require about five blows of an impact hammer to confirm that piles are set into bedrock for a maximum time expected of 1 minute of impact hammering per pile (88 piles × 1 minute/per pile = 88 minutes). Vibratory driving will be necessary for an estimated maximum of 75 hours and down-hole drilling will require a maximum of 550 hours. Vibratory driving and down-hole drilling do not have significant potential to cause injury to marine mammals due to the relatively low source levels produced and the lack of potentially injurious source characteristics. The likelihood that marine mammal detection ability by trained observers is high under the environmental conditions described for the reconstruction of the Pier 1 Kodiak Ferry Terminal and Dock further enables the implementation of shutdowns to limit injury, serious injury, or mortality.

The DOT&PF's proposed activities are localized and of short duration. The entire project area is limited to the Pier 1 area and its immediate surroundings. Actions covered under the Authorization would include extracting 196 13-inch timber piles, 14 16-inch steel piles, installing 88 temporary steel or H-piles, extracting those 88 piles, installing 88 24-inch steel piles, 10 18-inch steel piles and 8 16-inch timber piles.

These localized and short-term noise exposures may cause auditory injury to a small number of Steller sea lions, as well as short-term behavioral modifications in killer whales, Steller sea lions, harbor porpoises, and harbor seals. Moreover, the proposed mitigation and monitoring measures are expected to reduce the likelihood of injury and behavior exposures. Additionally, no important feeding and/or reproductive areas for marine mammals are known to be near the proposed action area. Therefore, the take resulting from the proposed project is not reasonably expected to and is not reasonably likely to adversely affect the marine mammal species or stocks through effects on annual rates of recruitment or survival.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat, including Steller sea lion critical habitat. The project activities would not modify existing marine mammal habitat. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

Effects on individuals that are taken by Level A harassment may include permanent threshold shift. However, the possibility exists that some of the sea lions frequenting the Kodiak harbor area are already hearing-impaired or deaf (Wynne 2014). Fishermen have been known to protect their gear and catches by using ''seal bombs'' in an effort to disperse sea lions away from fishing

gear. Sound levels produced by seal bombs are well above levels that are known to cause Temporary Threshold Shift (TTS, temporary loss of hearing) and Permanent Threshold Shift (PTS, partial or full loss of hearing) in marine mammals (Wynne 2014). The use of seal bombs requires appropriate permits from the Bureau of Alcohol, Tobacco, Firearms and Explosives. Seal bombs may be used as long as such use does not result in mortality or serious injury of a marine mammal; however, seal bombs should not be used on any ESA-listed species (Laws 2015). Although no studies have been published that document hearing-impaired sea lions in the area, this possibility is important to note as it pertains to mitigation measures that will be effective for this project.

Sea lions in the Kodiak harbor area are habituated to fishing vessels and are skilled at gaining access to fish. It is likely that some of the same animals follow local vessels to the nearby fishing grounds and back to town. It is also likely that hearing-impaired or deaf sea lions are among the sea lions that attend the seafood processing facility adjacent to the Pier 1 construction site. It is not known how a hearing-impaired or deaf sea lion would respond to typical mitigation efforts at a construction site such as ramping up of pile-driving equipment. It is also unknown whether a hearing-impaired or deaf sea lion would avoid pile-driving activity, or whether such an animal might approach closely, even within the Level A harassment zone, without responding to or being impacted by the noise level. If it is observed that some sea lions found within the Level A harassment zone do not respond to mitigation efforts, these animals may have previously suffered injury in the form of PTS. Therefore, any additional auditory injury associated with the Pier 1 project would be unlikely.

Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff, 2006; Lerma, 2014). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. In response to vibratory driving, pinnipeds (which may become somewhat habituated to human activity in industrial or urban waterways) have been observed to orient towards and sometimes move towards the sound. The pile extraction and driving activities analyzed here are similar to, or less impactful than, numerous construction activities conducted in other similar locations, which have taken place with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment. Repeated exposures of individuals to levels of sound that may cause Level B harassment are unlikely to result in hearing impairment or to significantly disrupt foraging behavior. Thus, even repeated Level B harassment of some small subset of the overall stock is unlikely to result in any significant realized decrease in fitness for the affected individuals, and thus would not result in any adverse impact to the stock as a whole.

In summary, this negligible impact analysis is founded on the following factors: (1) The possibility of non-auditory injury, serious injury, or mortality may reasonably be considered discountable; (2) the anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior and; (3) the presumed efficacy of the proposed mitigation measures in reducing the effects of the specified activity to the level of least practicable impact. In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activity will have only short-term effects on individuals. The specified activity is not expected to impact rates of recruitment or survival and will therefore not result in population-level impacts.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the DOT&PF's reconstruction of the Pier 1 Kodiak Ferry Terminal and Dock will have a negligible impact on the affected marine mammal species or stocks.

Small Numbers Analysis

Table 7 demonstrates the number of animals that could be exposed to received noise levels that could cause Level A and Level B behavioral harassment for the proposed work at the Pier 1 project site. The analyses provided above represents between <0.01%–8.1% of the populations of these stocks that could be affected by harassment. The numbers of animals authorized to be taken for all species would be considered small relative to the relevant stocks or populations even if each estimated taking occurred to a new individual—an extremely unlikely scenario. For pinnipeds, especially Steller sea lions, occurring in the vicinity of Pier 1 there will almost certainly be some overlap in individuals present day-to-day, and these takes are likely to occur only within some small portion of the overall regional stock.

TABLE 7—ESTIMATED NUMBERS AND PERCENTAGE OF STOCK THAT MAY BE EXPOSED TO LEVEL A AND B HARASSMENT

Species	Proposed authorized takes	Stock(s) abundance estimate	Percentage of total stock
Killer Whale (*Orcinus orca*); *Eastern N. Pacific, Gulf of Alaska, Aleutian Islands, and Bering Seat Transient Stock*	48	587	8.1%
Harbor Porpoise (*Phocoena phocoena*); *Gulf of Alaska Stock*	40	31,046	<0.01%
Steller Sea Lion (*Eumetopias jubatus*); *wDPS Stock*	*3,290	52,200	6.3
Harbor Seal (*Phoca vitulina richardii*); *South Kodiak Stock*	40	11,117	<0.01%

*(Includes 3,260 Level B and 30 Level A takes).

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, which are expected to reduce the number of marine mammals potentially affected by the proposed action, NMFS preliminarily finds that small numbers of marine mammals will be taken

relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

Alaska Natives have traditionally harvested subsistence resources in the Kodiak area for many hundreds of years, particularly Steller sea lions and harbor seals. No traditional subsistence hunting areas are within the project vicinity, however; the nearest haulouts for Steller sea lions and harbor seals are the Long Island and Cape Chiniak haul-outs and the Marmot Island rookery, many miles away. These locations are respectively 4, 12 and 30 nautical miles distant from the project area. Since all project activities will take place within the immediate vicinity of the Pier 1 site, the project will not have an adverse impact on the availability of marine mammals for subsistence use at locations farther away. No disturbance or displacement of sea lions or harbor seals from traditional hunting areas by activities associated with the Pier 1 project is expected. No changes to availability of subsistence resources will result from Pier 1 project activities.

Endangered Species Act (ESA)

There are two marine mammal species that are listed as endangered under the ESA with confirmed or possible occurrence in the study area: Humpback whale and Southern resident killer whale. For the purposes of this IHA, NMFS determined that take of Southern resident killer whales was highly unlikely given the rare occurrence of these animals in the project area. A similar conclusion was reached for humpback whales. On March 18, 2011, NMFS signed a Biological Opinion concluding that the proposed action is not likely to jeopardize the continued existence of humpback whales and may affect, but is not likely to adversely affect Southern resident killer whales.

National Environmental Policy Act (NEPA)

NMFS is also preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) and will consider comments submitted in response to this notice as part of that process. The EA will be posted at *http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* once it is finalized.

Proposed Incidental Harassment Authorization

As a result of these preliminary determinations, we propose to issue an IHA to the DOT&PF for the Pier 1 Kodiak Ferry Terminal and Dock Improvements Project provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The proposed IHA language is provided next.

1. This Incidental Harassment Authorization (IHA) is valid from September 30, 2015 through September 29, 2016.

2. This Authorization is valid only for in-water construction work associated with the Pier 1 Kodiak Ferry Terminal and Dock Improvements Project.

3. General Conditions:

(a) A copy of this IHA must be in the possession of the DOT&PF, its designees, and work crew personnel operating under the authority of this IHA.

(b) The species authorized for taking include killer whale (*Orcinus orca*), Steller sea lion (*Eumatopius jubatus),* harbor porpoise (*Phocoena phocoena*), and harbor seal (*Phoca vitulina richardii*).

(c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b).

(d) The taking, by Level A harassment only, is limited Steller sea lions.

(e) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) with the exception of Steller sea lions or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.

(f) The DOT&PF shall conduct briefings between construction supervisors and crews, marine mammal monitoring team, and staff prior to the start of all in-water pile driving, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

4. Mitigation Measures

The holder of this Authorization is required to implement the following mitigation measures:

(a) Time Restriction: For all in-water pile driving activities, the DOT&PF shall operate only during daylight hours when visual monitoring of marine mammals can be conducted. To minimize impacts to pink salmon (*Oncorhynchus gorbuscha*) fry and coho salmon (*O. kisutch*) smolt, all in-water pile extraction and installation is planned to be completed by April 30, 2016. If work cannot be completed by April 30, the DOT&PF must refrain from impact pile installation without a bubble curtain from May 1 through June 30 within the 12-hour period beginning daily at the start of civil dawn. Impact pile installation would be acceptable without a bubble curtain from May 1 through June 30 in the evenings, beginning at 12 hours past civil dawn.

(b) Establishment of Level B Harassment (ZOI)

(i) Before the commencement of in-water pile driving activities, the DOT&PF shall establish Level B behavioral harassment ZOI where received underwater sound pressure levels (SPLs) are higher than 120 dB (rms) re 1 μPa for and non-pulse sources (vibratory hammer). The ZOI delineates where Level B harassment would occur. For vibratory driving, the level B harassment area extends out to 1,150. This 1,150-meter distance will serve as a shutdown zone for all other marine mammals not listed in 3(b). During impact driving, the Level B harassment zone shall extend to 225 meters for animals listed in 3(b). This 225-meter distance will serve as a shutdown zone for all other marine mammals not listed in 3(b).

(c) Establishment of shutdown zone

(i) For impact pile driving activities, the DOT&PF's will establish a shutdown zone. Shutdown zones are intended to contain the area in which SPLs equal or exceed the 180/190 dB rms acoustic injury criteria, with the purpose being 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 of marine mammals. A conservative 4-meter shutdown zone will be in effect for Steller sea lions and harbor seals. The shutdown zone for Level A injury to harbor porpoises and killer whales would be 15 meters.

(d) The Level A and Level B harassment zones will be monitored throughout the time required to install or extract a pile. If a harbor seal, harbor porpoise, or killer whale is observed entering the Level B harassment zone, a Level B exposure will be recorded and behaviors documented. That pile segment will be completed without cessation, unless the animal approaches the Level A shutdown zone. Pile installation or extraction will be halted immediately before the animal enters the Level A zone.

(e) Use of Ramp Up/Soft Start

(i) The project will utilize soft start techniques for all vibratory and impact pile driving. We require the DOT&PF to initiate sound from vibratory hammers for fifteen seconds at reduced energy followed by a 1-minute waiting period, with the procedure repeated two additional times. For impact driving, we require an initial set of three strikes

from the impact hammer at reduced energy, followed by a 1-minute waiting period, then two subsequent three strike sets.

(ii) Soft start will be required at the beginning of each day's pile driving work and at any time following a cessation of pile driving of 20 minutes or longer.

(iii) If a marine mammal is present within the shutdown zone, ramping up will be delayed until the animal(s) leaves the Level A harassment zone. Activity will begin only after the MMO has determined, through sighting, that the animal(s) has moved outside the Level A harassment zone.

(iv) If a Steller sea lion, harbor seal, harbor porpoise, or killer whale is present in the Level B harassment zone, ramping up will begin and a Level B take will be documented. Ramping up will occur when these species are in the Level B harassment zone whether they entered the Level B zone from the Level A zone, or from outside the project area.

(v) If any marine mammal other than Steller sea lions, harbor seals, harbor porpoises, or killer whales is present in the Level B harassment zone, ramping up will be delayed until the animal(s) leaves the zone. Ramping up will begin only after the Wildlife Observer has determined, through sighting, that the animal(s) has moved outside the harassment zone.

(f) Pile Caps—

(i) Pile caps will be used during all impact pile-driving activities.

(g) Standard mitigation measures

(i) Conduct briefings between construction supervisors and crews, marine mammal monitoring team, and DOT&PF staff prior to the start of all pile driving and extraction activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

(ii) For in-water heavy machinery work other than pile driving (*e.g.,* standard barges, tug boats, barge-mounted excavators, or clamshell equipment used to place or remove material), if a marine mammal comes within 10 meters, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions.

(h) The DOT&PF shall establish monitoring locations as described below.

5. Monitoring and Reporting

The holder of this Authorization is required to report all monitoring conducted under the IHA within 90 calendar days of the completion of the marine mammal monitoring

(a) Visual Marine Mammal Monitoring and Observation

(i) At least one individual meeting the minimum qualifications identified in Appendix A of the application by the DOT&PF will monitor the shutdown and Level B harassment zones during impact and vibratory pile driving.

(ii) During pile driving and extraction the shutdown zone, as described in 4(b) will be monitored and maintained. Pile installation or extraction will not commence or will be suspended temporarily if any marine mammals are observed within or approaching the area of potential disturbance.

(iii) The area within the Level B harassment threshold for pile driving and extraction will be monitored by observers stationed to provide adequate view of the harassment zone. Marine mammal presence within this Level B harassment zone, if any, will be monitored. Pile driving activity will not be stopped if marine mammals are found to be present. Any marine mammal documented within the Level B harassment zone during impact driving would constitute a Level B take (harassment), and will be recorded and reported as such.

(iv) The individuals will scan the waters within each monitoring zone activity using binoculars (Vector 10X42 or equivalent), spotting scopes (Swarovski 20–60 zoom or equivalent), and visual observation.

(v) If waters exceed a sea-state which restricts the observers' ability to make observations within the marine mammal buffer zone (the 100 meter radius) (*e.g.* excessive wind or fog), impact pile installation will cease until conditions allow the resumption of monitoring.

(vi) The waters will be scanned 30 minutes prior to commencing pile driving at the beginning of each day, and prior to commencing pile driving after any stoppage of 20 minutes or greater. If marine mammals enter or are observed within the designated marine mammal shutdown zone during or 20 minutes prior to impact pile driving, the monitors will notify the on-site construction manager to not begin until the animal has moved outside the designated radius.

(vii) The waters will continue to be scanned for at least 20 minutes after pile driving has completed each day,

(b) Data Collection

(i) Observers are required to use approved data forms. Among other pieces of information, DOT&PF the DOT&PF will record detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any. In addition, the DOT&PF will attempt to distinguish between the number of individual animals taken and the number of incidents of take. At a minimum, the following information be collected on the sighting forms:

1. Date and time that monitored activity begins or ends;

2. Construction activities occurring during each observation period;

3. Weather parameters (*e.g.,* percent cover, visibility);

4. Water conditions (*e.g.,* sea state, tide state);

5. Species, numbers, and, if possible, sex and age class of marine mammals;

6. Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;

7. Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;

8. Locations of all marine mammal observations; and

9. Other human activity in the area.

(c) Reporting Measures

(i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment to animals other than Steller sea lions), serious injury or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), the DOT&PF would immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinators. The report would include the following information:

1. Time, date, and location (latitude/longitude) of the incident;

2. Name and type of vessel involved;

3. Vessel's speed during and leading up to the incident;

4. Description of the incident;

5. Status of all sound source use in the 24 hours preceding the incident;

6. Water depth;

7. Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, and visibility);

8. Description of all marine mammal observations in the 24 hours preceding the incident;

9. Species identification or description of the animal(s) involved;

10. Fate of the animal(s); and

11. Photographs or video footage of the animal(s) (if equipment is available).

(ii) Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with the DOT&PF to

determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The DOT&PF would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

(iii) In the event that the DOT&PF discovers an injured or dead marine mammal, and the lead MMO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.,* in less than a moderate state of decomposition as described in the next paragraph), the DOT&PF would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinators. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the DOT&PF to determine whether modifications in the activities are appropriate.

(iv) In the event that the DOT&PF discovers an injured or dead marine mammal, and the lead MMO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the DOT&PF would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinator, within 24 hours of the discovery. The DOT&PF would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

6. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

Request for Public Comments

NMFS requests comment on our analysis, the draft authorization, and any other aspect of the Notice of Proposed IHA for the DOT&PF's Kodiak Ferry Terminal and Dock Improvements Project. Please include with your comments any supporting data or literature citations to help inform our final decision on DOT&PF's request for an MMPA authorization.

Dated: August 18, 2015.

Perry Gayaldo,

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

[FR Doc. 2015–20828 Filed 8–21–15; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE127

Pacific Fishery Management Council; Public Meetings

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

ACTION: Notice of public meetings.

SUMMARY: The Pacific Fishery Management Council (Pacific Council) and its advisory entities will hold an 8-day public meeting to consider actions affecting West Coast fisheries in the exclusive economic zone.

DATES: Advisory entities to the Pacific Council will meet beginning at 8 a.m. Wednesday, September 9, 2015 through Wednesday, September 16, 2015 as listed in the Schedule of Ancillary Meetings. The Pacific Council general session will begin on Friday, September 11, 2015 at 8 a.m., reconvening each day through Wednesday, September 16, 2015. All meetings are open to the public, except a closed session will be held at 8 a.m. on Friday, September 11 to address litigation and personnel matters. The Pacific Council will meet as late as necessary each day to complete its scheduled business.

ADDRESSES: Meetings of the Council and its advisory entities will be held at the Doubletree by Hilton Sacramento, 2001 Point West Way, Sacramento, CA 95815; telephone: (916) 929–8855. Instructions for attending the meeting via live stream broadcast are given under **SUPPLEMENTARY INFORMATION**, below.

Council address: Pacific Fishery Management Council, 7700 NE. Ambassador Place, Suite 101, Portland, OR 97220.

FOR FURTHER INFORMATION CONTACT: Dr. Donald O. McIsaac, Executive Director, Pacific Fishery Management Council; telephone: (503) 820–2280 or (866) 806–7204 toll free. Access the Pacific Council Web site, *http://www.pcouncil.org/council-operations/council-meetings/current-meeting/* for the current meeting location, proposed agenda, and meeting briefing materials.

SUPPLEMENTARY INFORMATION:

Live Stream Broadcast

Friday, September 11, 2015 Through Wednesday, September 16, 2015

The general session of the Pacific Fishery Management Council will be streamed live on the internet beginning at 9 a.m. Pacific Time (PT) on Friday, September 11, 2015 through Wednesday, September 16, 2015. The broadcast will end daily at 6 p.m. PT or when business for the day is complete. Only the audio portion, and portions of the presentations displayed on the screen at the Council meeting, will be broadcast. The audio portion is listen-only; you will be unable to speak to the Council via the broadcast. Join the meeting by visiting this link *http://www.gotomeeting.com/online/webinar/join-webinar,* enter the Webinar ID for this meeting, which is 141–257–515, and enter your email address as required. It is recommended that you use a computer headset as GoToMeeting allows you to listen to the meeting using your computer headset and speakers. If you do not have a headset and speakers, you may use your telephone for the audio portion of the meeting by dialing this toll number 1–702–489–0008 (not a toll free number); entering the phone audio access code 418–407–809; and then entering your Audio Pin which will be shown to you after joining the webinar. The webinar is broadcast in listen-only mode.

Agenda

Friday, September 11, 2015 Through Wednesday, September 16, 2015

The following items are on the Pacific Council agenda, but not necessarily in this order. Agenda items noted as ''(Final Action)'' refer to actions requiring the Council to transmit a proposed fishery management plan, proposed plan amendment, or proposed regulations to the Secretary of Commerce, under Sections 304 or 305 of the Magnuson-Stevens Fishery Conservation and Management Act. Additional detail on agenda items, Council action, and meeting rooms, is described in Agenda Item A.5, Proposed Council Meeting Agenda, and will be in the advance September 2015 briefing materials and posted on the Council Web site *http://www.pcouncil.org/council-operations/council-meetings/current-briefing-book/.*

A. Call to Order
1. Opening Remarks
2. Council Member Appointments
3. Roll Call
4. Executive Director's Report
5. Approve Agenda

B. Open Comment Period