This notice of initiation is being published in accordance with section 751(c) of the Act and 19 CFR 351.218(c).

Dated: February 12, 2019.

James Maeder,

Associate Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations performing the duties of Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG644

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the O'Connell Bridge Lightering Float Pile Replacement Project in Sitka, Alaska

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

ACTION: Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

SUMMARY: NMFS has received a request from City and Borough of Sitka (CBS) for authorization to take marine mammals incidental to the O'Connell Bridge Lightering Float Pile Replacement Project in Sitka, Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-year renewal that could be issued under certain circumstances and if all requirements are met, as described in *Request for Public Comments* at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorizations and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than April 1, 2019.

ADDRESSES: Comments 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 online at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.* 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: Rob Pauline, Office of Protected Resources, NMFS, and (301) 427–8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidentalconstruction.htm.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

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

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable [adverse] impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

The NDAA (Pub. L. 108–136) removed the ''small numbers'' and ''specified geographical region'' limitations indicated above and amended the definition of ''harassment'' as it applies to a ''military readiness activity. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (incidental harassment authorizations with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

We will review all comments submitted in response to this notice prior to concluding our NEPA process or making a final decision on the IHA request.

Summary of Request

On November 18, 2018, NMFS received a request from CBS for an IHA to take marine mammals incidental to pile driving and removal activities associated with the O'Connell Bridge Lightering Float Pile Replacement Project in Sitka, Alaska. The application was deemed adequate and complete on December 20, 2018. CBS's request is for take of small numbers of humpback whale (*Megaptera novaeangliae*), killer whale (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*), harbor seal

(*Phoca vitulina*), and Steller sea lion (*Eumetopias jubatus*) by Level B harassment only. Neither CBS nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Proposed Activity

Overview

CBS is repairing the O'Connell Bridge Lightering Float (float) located in Sitka Sound in Southeast Alaska. The applicant proposes to remove existing piles and replace them with piles that are more deeply socketed so that the float can accommodate larger vessels including yachts, fish processors, and research vessels. Existing piles are not socketed deep enough to provide proper stability to safely support these vessels. Additionally, the float was damaged during a storm in June of 2017, and the existing piles are now leaning. This project would replace the existing piles with new piles that are socketed deeper into the ocean floor. Once the piles are replaced, the float will safely accommodate these larger vessels. Vibratory pile removal, vibratory pile driving, impact pile driving, and drilling would introduce sound into nearby waters at levels that could result in behavioral harassment of marine mammals.

Dates and Duration

Pile removal and installation is expected to occur for a total of approximately 13 hours over 3 days. The local Sitka Tribe requested that no pile driving occur between March 15 and May 31 to protect herring, as has been the case for past permitting in Sitka Sound. Therefore, and assuming weather conditions are favorable, CBS proposes to begin pile driving work on June 1, 2019. As a contingency, CBS requests an IHA for incidental take of marine mammals described within this application for one year, effective from June 1, 2019 through May 31, 2020.

Specific Geographic Region

The O'Connell Bridge Lightering Float is located near the prominent O'Connell Bridge within Crescent Bay and adjacent to Sitka Channel (see Figures 1, 2, and 3 of CBS's application). Crescent Bay is bounded by Sitka Channel to the northwest, Middle Channel to the southwest and Eastern Channel to the southeast, and a series of islands to the south. The bay is relatively shallow with a maximum depth of approximately 30 meters. The north side of the bay has riprap protected developed areas, including a boat harbor, and undeveloped shorelines on small islands to the south and on the eastern side of the bay. Lower intertidal and shallow subtidal areas are primarily cobbles and boulders with varying amounts of silt. The sediment thickness varies from 3 to 30 inches (PND 2017) until bedrock is reached. The float is located in an active marine commercial and industrial area.

Detailed Description of Specific Activity

CBS plans to remove and replace the six piles that support the O'Connell Bridge Lightering Float. The existing float consists of two 100-foot long by 5-foot wide aluminum gangways and a 180-foot long by 10-foot wide concrete modular float system restrained by six 16-inch diameter steel pipe piles that are socketed 4 feet deep into bedrock. The existing piles would be removed and replaced with six new 16-inch diameter steel piles that would be socketed 12 feet deep into bedrock. Pile installation and removal is expected to occur over three days. Construction includes the following activities:

- Temporarily remove the existing concrete lightering float and associated aluminum gangways (Note: these components are removed each winter and reinstalled in the summer.);
- Remove six (6) 16-inch diameter steel pipe piles that support the float;
- Install six (6) 16-inch diameter galvanized steel pipe piles (0.5-inch wall); and
- Reinstall the floating dock and gangways.

The following equipment would be used:

- Vibratory Hammer: ICE 44B/12,450 pounds static weight;
- Diesel Impact Hammer: Delmar D46/Max Energy 107,280 ft.-pounds;
- Drilled shaft drill: Hole 100,000 ft-lb. top drive with down-the-hole (DTH) hammer and bit; and
- Socket drill: Whole 100,000 ft-lb. top drive with DTH hammer and under-reamer bit.

The first step would be to remove the existing piles by direct pull using a crane. If the direct pull method is ineffective, the piles would be extracted with a vibratory hammer. In this case, the vibratory hammer would be clamped onto the pile and operated while using a crane to pull the pile upwards.

Next, the new piles would be installed. First the piles would be vertically stabilized by being vibrated into the existing 4-foot deep sockets. Next the piles would be socketed into the underlying bedrock with a down-hole drill and under-reamer bit (the drill will be used first to drill a hole in the bedrock to a depth of approximately 12 feet and then to socket the pile into the bedrock). After the pile is socketed, the contractor may choose to impact proof the piles. In this case, two to five blows of an impact hammer would be used per pile to confirm that piles are set into bedrock.

Pile removal and installation are expected to occur on three days. On the first day the existing piles would be removed, and the new piles would be vibrated into position. Over the second and third day, the piles would be socketed into bedrock. At the end of the third day, the piles would be impact proofed, if necessary. Table 1 provides a conservative estimate of the amount of time required for pile installation and removal.

TABLE 1—PILE DRIVING CONSTRUCTION SUMMARY

	Existing pile removal	Permanent pile installation	Max installation/ removal per day
Pile Diameter and Type	16-inch steel	16-inch steel.	
Number of Piles	6 piles	6 piles.	
Vibratory Pile Removal/Driving			
Max Number of Piles Vibrated Per Day	6 piles	6 piles	12 piles.
Vibratory Time Per Pile	5 minutes	5 minutes.	
Vibratory Time per day	30 minutes	30 minutes	60 minutes.
Vibratory Time Total	30 minutes	30 minutes.	

TABLE 1—PILE DRIVING CONSTRUCTION SUMMARY—Continued

	Existing pile removal	Permanent pile installation	Max installation/ removal per day
Socketing (down-hole drilling)			
Max Number of Piles Socketed per Day	0	3 piles	3 piles.
Socket Time Per Pile	0	2 hours.	
Socket Time per Day	0	6 hours	6 hours.
Socket Time Total	0	12 hours.	
Impact Pile Driving			
Max Number of Piles Impacted Per Day	0	6 piles	6 piles.
Number of Strikes Per Pile	0	2–5 strikes	30 strikes.
Impact Time Per Pile	0	30 seconds.	
Impact Time per Day	0	3 minutes	3 minutes.
Impact Time Total	0	3 minutes.	

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see *Proposed Mitigation* and *Proposed Monitoring and Reporting*).

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's Stock Assessment Reports (SAR; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS's website (*https://www.fisheries.noaa.gov/find-species*).

Table 2 lists all species with expected potential for occurrence in Crescent Bay and summarizes information related to the population or stock, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2018). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Alaska SARs (*e.g.,* Muto *et al.* 2018). All values presented in Table 2 are the most recent available at the time of publication and are available in the 2017 SARs (Muto *et al.* 2018) and draft 2018 SARs (available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports*)

TABLE 2—MARINE MAMMALS POTENTIALLY PRESENT WITHIN SITKA SOUND DURING THE SPECIFIED ACTIVITY

Common name	Scientific name	Stock	ESA/ MMPA status; Strategic (Y/N) [1]	Stock abundance (CV, N_{Min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales)						
Family Balaenidae:						
Humpback whale	*Megaptera novaeangliae*	Central North Pacific	-, -, Y	10,103 (0.3, 7,891, 2006)	83	26
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer whale	*Orcinus orca*	Alaska Resident	-, -, N	2,347 (N/A, 2,347, 2012) [4].	24	1
		Northern Resident	-, -, N	261 (N/A, 261, 2011)[4]	1.96	0
		Gulf of Alaska, Aleutian Islands, Bering Sea Transient.	-, -, N	587 (N/A, 587, 2012) [4]	5.87	1
		West Coast Transient	-, -, N	243 (N/A, 243, 2009) [4]	2.4	0
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Southeast Alaska	-, -, Y	975 (0.12–0.14, 897, 2012) [5].	8.9	34

TABLE 2—MARINE MAMMALS POTENTIALLY PRESENT WITHIN SITKA SOUND DURING THE SPECIFIED ACTIVITY—Continued

Common name	Scientific name	Stock	ESA/ MMPA status; Strategic (Y/N) [1]	Stock abundance (CV, N_{Min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Carnivora—Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Steller sea lion	*Eumetopias jubatus*	Western U.S.	E, D, Y	54,267 (N/A, 54,267, 2017).	326	252
		Eastern U.S.	-, D, Y	41,638 (N/A, 41,638, 2015).	2498	108
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulina richardii*	Sitka/ Chatham Strait	-, -, N	14,855 (N/A, 13,212, 2011).	555	77

[1] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.* CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable (N/A).

[3] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

[4] N is based on counts of individual animals identified from photo-identification catalogs.

[5] In the SAR for harbor porpoise, NMFS identified population estimates and PBR for porpoises within inland southeast Alaska waters (these abundance estimates have not been corrected for g(0); therefore, they are likely conservative).

Multiple additional marine mammal species may occasionally enter Sitka sound but would not be expected to occur in shallow nearshore waters of the action area. These include extralimital species, which are species that do not normally occur in a given area but for which there are one or more occurrence records that are considered beyond the normal range of the species. Gray whales are observed in and outside of Sitka Sound during their northward spring migration; however, they occur generally north and west of the project area in outer shelf waters of Sitka Sound during the summer. Similarly, minke whales in Alaska are migratory and would be found further north during the summer. Dall's porpoise are observed in mid- to outer-shelf coastal waters of Sitka Sound ranging to the Gulf of Alaska and are not expected to occur in the project area. Pacific white-sided dolphins occur in the outer-shelf slope in the Gulf of Alaska, which is outside of the project area. Sperm whales, fin whales and Cuvier's beaked whales generally occur in deeper offshore waters. During eight years of local surveys, only three gray whales and seven Pacific white sided dolphins were observed. The sperm whale, Cuvier's beaked whale, minke whale and Dall's porpoise were not observed (Straley *et al.* 2018). Therefore, no take is requested for these species and they are not considered further in this proposed IHA.

Cetaceans

Humpback Whale

The humpback whale is distributed worldwide in all ocean basins. In winter, most humpback whales occur in the subtropical and tropical waters of the Northern and Southern Hemispheres, and migrate to high latitudes in the summer to feed. The historic summer feeding range of humpback whales in the North Pacific encompassed coastal and inland waters around the Pacific Rim from Point Conception, California, north to the Gulf of Alaska and the Bering Sea, and west along the Aleutian Islands to the Kamchatka Peninsula and into the Sea of Okhotsk and north of the Bering Strait.

Under the MMPA, there are three stocks of humpback whales in the North Pacific: (1) The California/Oregon/Washington and Mexico stock, consisting of winter/spring populations in coastal Central America and coastal Mexico which migrate to the coast of California to southern British Columbia in summer/fall; (2) the central North Pacific stock, consisting of winter/spring populations of the Hawaiian Islands which migrate primarily to northern British Columbia/Southeast Alaska, the Gulf of Alaska, and the Bering Sea/Aleutian Islands; and (3) the western North Pacific stock, consisting of winter/spring populations off Asia which migrate primarily to Russia and the Bering Sea/Aleutian Islands. The central North Pacific stock is the only stock that is found near the project activities.

On September 8, 2016, NMFS published a final rule dividing the globally listed endangered species into 14 Distinct Population Segments (DPS), removing the worldwide species-level listing, and in its place listing four DPSs as endangered and one DPS as threatened (81 FR 62259; effective October 11, 2016). Two DPSs (Hawaii and Mexico) are potentially present within the action area. The Hawaii DPS is not listed and the Mexico DPS is listed as threatened under the ESA. The Hawaii DPS is estimated to contain 11,398 animals where the Mexico DPS is estimated to contain 3,264 animals (Wade *et al.* 2016).

Humpback whales are known to undertake seasonal migrations from their tropical calving and breeding grounds in winter to their high-latitude feeding grounds in summer. However, they have been observed in Southeast Alaska in all months of the year. Humpback whales are most common in Sitka Sound's Eastern Channel in November, December, and January (Straley *et al.* 2018). In late fall and winter, herring sometimes overwinter in deep fjords in Silver Bay and Eastern Channel, and humpback whales aggregate in these areas to feed on them. At some point in the late winter, it is likely that whales migrate south across the North Pacific to their mating and calving grounds in Hawaii and Mexico; however, this likely occurs after herring have moved out of the fjords. In the summer when prey is dispersed throughout Sitka Sound, humpback whales also disperse throughout the

Sound and away from the project area (Straley 2017).

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. 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 (Muto *et al.* 2017).

Based on data regarding association patterns, acoustics, movements, and genetic differences, eight killer whale stocks are now recognized: (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, and (8) the Hawaiian stock. Only the Alaska resident; Northern resident; Gulf of Alaska, Aleutian Islands, and Bering Sea Transient (Gulf of Alaska transient); and the West coast transient stocks are considered in this application because other stocks occur outside the geographic area under consideration. Any of these four stocks could occur in the action area.

Local observational data by Straley (2017) demonstrated that transient killer whales, primarily from the West Coast transient stock, occur most frequently in the project area. Less often, whales from the Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea transient stock occur in the project area. Because of their transient nature, it is difficult to predict when killer whales will be present in the area. Whales from the Alaska resident stock and the Northern resident stock primarily feed on fish and do occur in Southeast Alaska; however, they are rare in the project area (Straley 2017).

Harbor Porpoise

The harbor porpoise inhabits temperate, 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: (1) The Southeast Alaska stock—occurring from the northern border of British Columbia to Cape Suckling, Alaska, (2) the Gulf of Alaska stock—occurring from Cape Suckling to Unimak Pass, and (3) the Bering Sea stock—occurring throughout the Aleutian Islands and all waters north of Unimak Pass. Only the Southeast Alaska stock is considered in this application because the other stocks are not found in the geographic area under consideration.

Harbor porpoises commonly frequent nearshore waters, but are not common in the project vicinity. Monthly observation from Sitka's Whale Park show harbor porpoises occurring infrequently in or near the action area in March, April, and October between 1994 to 2002 (Straley *et al.* 2018). Meanwhile, no harbor porpoises have been observed more recently during monitoring (Windward 2017 and Turnagain 2017, Turnagain 2018).

Pinnipeds

Steller Sea Lion

The Steller sea lion is the largest of the eared seals, ranging along the North Pacific Rim from northern Japan to California, with centers of abundance and distribution in the Gulf of Alaska and Aleutian Islands. Steller sea lions were listed as threatened range-wide under the ESA on November 26, 1990 (55 FR 49204). Subsequently, NMFS published a final rule designating critical habitat for the species as a 20 nautical mile buffer around all major haulouts and rookeries, as well as associated terrestrial, air and aquatic zones, and three large offshore foraging areas (58 FR 45269; August 27, 1993). In 1997, NMFS reclassified Steller sea lions into two DPSs based on genetic studies and other information (62 FR 24345; May 5, 1997). Steller sea lion populations that primarily occur west of 144° W. (Cape Suckling, Alaska) comprise the western DPS (wDPS), while all others comprise the eastern DPS (eDPS); however, there is regular movement of both DPSs across this boundary (Jemison *et al.* 2013). Upon this reclassification, the wDPS became listed as endangered while the eDPS remained as threatened (62 FR 24345; May 5, 1997). In November 2013, the eDPS was delisted (78 FR 66140). Based on recent observations of branded animals in Southeast Alaska, NMFS estimates that 98 percent of Steller sea lions occurring within the action area belong to the eDPS, leaving 2 percent to the wDPS (Suzie Teerlink, pers. comm, May 19, 2017).

Steller sea lions are common in the inside waters of southeastern Alaska and are common in the vicinity of the project and both Eastern DPS and Western DPS species are thought to be within Sitka Sound. Steller sea lions were seen during every month of monitoring (September to May) between 1994 and 2002 (Straley *et al.* 2018).

Because the action area contains a herring processing plant, animals may linger in the area to feed opportunistically. Anecdotal evidence from staff at the fish processing plant indicate that multiple (up to 10) Steller sea lions may reside in the area for multiple days (Straley *et al.* 2018).

The project action area does not overlap Steller sea lion critical habitat. The Biorka Island haulout is the closest designated critical habitat and is over 25 kilometers southwest of the project area. Steller sea lions also haul out on buoys and navigational markers in Sitka Sound and along the rocky shores of Sugarloaf south of the project site. However, these haulouts are far beyond the expected extent of in-water and in-air noise disturbance thresholds for hauled out pinnipeds.

Harbor Seal

Harbor seals range from Baja California north along the 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. They haul out on rocks, reefs, beaches, and drifting glacial ice, and feed in marine, estuarine, and occasionally fresh waters. Harbor seals are generally non-migratory, with local movements associated with such factors as tides, weather, season, food availability, and reproduction.

Harbor seals in Alaska are partitioned into 12 separate stocks based largely on genetic structure: (1) The Aleutian Islands stock, (2) the Pribilof Islands stock, (3) the Bristol Bay stock, (4) the North Kodiak stock, (5) the South Kodiak stock, (6) the Prince William Sound stock, (7) the Cook Inlet/Shelikof stock, (8) the Glacier Bay/Icy Strait stock, (9) the Lynn Canal/Stephens Passage stock, (10) the Sitka/Chatham stock, (11) the Dixon/Cape Decision stock, and (12) the Clarence Strait stock. Only the Sitka/Chatham stock is considered in this proposed IHA. The range of this stock includes Cape Bingham south to Cape Ommaney and the adjacent coastal and inshore waters, including the project area.

Harbor seals are common in the inside waters of southeastern Alaska, including

in the vicinity of the O'Connell Bridge Lightering Float. The species were seen during most months of monitoring (September through May) from observation from the Sitka Whale Park between 1994 and 2002, except in December and May (Straley *et al.* 2018). Harbor seals were also commonly observed at nearby locations according to recent monitoring reports (Turnagain 2017 and Windward 2017, Turnagain 2018). Similar to Steller sea lions, harbor seals may linger in the action area for multiple days; however, no designated haulouts are within close proximity.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Current data indicate that not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 dB threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. The functional groups and the associated frequencies are indicated below (note that these frequency ranges correspond to the range for the composite group, with the entire range not necessarily reflecting the capabilities of every species within that group):

- Low-frequency cetaceans (mysticetes): Generalized hearing is estimated to occur between approximately 7 Hz and 35 kHz;
- Mid-frequency cetaceans (larger toothed whales, beaked whales, and most delphinids): Generalized hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High-frequency cetaceans (porpoises, river dolphins, and members of the genera Kogia and Cephalorhynchus; including two members of the genus Lagenorhynchus, on the basis of recent echolocation data and genetic data): Generalized hearing is estimated to occur between approximately 275 Hz and 160 kHz.
- Pinnipeds in water; Phocidae (true seals): Generalized hearing is estimated to occur between approximately 50 Hz to 86 kHz;
- Pinnipeds in water; Otariidae (eared seals): Generalized hearing is estimated to occur between 60 Hz and 39 kHz.

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information. Five marine mammal species (three cetacean and two pinniped (one otariid and one phocid) species) have the reasonable potential to co-occur with the proposed survey activities. Of the cetacean species that may be present, one is classified as a low-frequency cetacean (*i.e.,* humpback whale), one is classified as a mid-frequency cetacean (*i.e.,* killer whale), and one is classified as a high-frequency cetacean (*i.e.,* harbor porpoise).

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section includes a summary and discussion of the ways that components of the specified activity may impact marine mammals and their habitat. The *Estimated Take by Incidental Harassment* section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The *Negligible Impact Analysis and Determination* section considers 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 these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks.

Description of Sound Sources

The marine soundscape is comprised of both ambient and anthropogenic sounds. Ambient sound is defined as the all-encompassing sound in a given place and is usually a composite of sound from many sources both near and far. The sound level of an area is defined by the total acoustical energy being generated by known and unknown sources. These sources may include physical (*e.g.,* waves, wind, precipitation, earthquakes, ice, atmospheric sound), biological (*e.g.,* sounds produced by marine mammals, fish, and invertebrates), and anthropogenic sound (*e.g.,* vessels, dredging, aircraft, construction).

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.

In-water construction activities associated with the project would include impact pile driving, vibratory pile driving and removal, and drilling. The sounds produced by these activities fall into one of two general sound types: Impulsive and non-impulsive. Impulsive sounds (*e.g.,* explosions, gunshots, sonic booms, impact pile driving) are typically transient, brief (less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (ANSI 1986; NIOSH 1998; ANSI 2005; NMFS 2018). Non-impulsive sounds (*e.g.* aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with raid

rise/decay time that impulsive sounds do (ANSI 1995; NIOSH 1998; NMFS 2018). 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).

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

Drilling would be conducted using a down-the-hole drill inserted through the hollow steel piles. A down-the-hole drill is a drill bit that drills through the bedrock using an impact mechanism that functions at the bottom of the hole. This breaks up rock to allow removal of debris and insertion of the pile. The head extends so that the drilling takes place below the pile. The sounds produced by the down-the-hole drilling method are considered continuous as the noise from the drilling component is dominant. In addition, this method likely increases sound attenuation because the noise is primarily contained within the steel pile and below ground rather than impact hammer driving methods which occur at the top of the pile and introduce sound into the water column to a greater degree.

The likely or possible impacts of CBS's proposed activity 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; however, any impacts to marine mammals are expected to primarily be acoustic in nature. Acoustic stressors include effects of heavy equipment operation during pile installation and removal and drilling.

Acoustic Impacts

The introduction of anthropogenic noise into the aquatic environment from pile driving and removal and down-the-hole drilling is the primary means by which marine mammals may be harassed from CBS's specified activity. In general, animals exposed to natural or anthropogenic sound may experience physical and psychological effects, ranging in magnitude from none to severe (Southall *et al.* 2007). In general, exposure to pile driving and drilling noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). Exposure to anthropogenic noise can also lead to non-observable physiological responses such an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions such as communication and predator and prey detection. The effects of pile driving and drilling noise on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the pile and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.* 2004; Southall *et al.* 2007). Here we discuss physical auditory effects (threshold shifts) followed by behavioral effects and potential impacts on habitat.

NMFS defines a noise-induced threshold shift (TS) as a change, usually an increase, in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS 2018). The amount of threshold shift is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018), there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing and vocalization frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.,* how animal uses sound within the frequency band of the signal; *e.g.,* Kastelein *et al.* 2014), and the overlap between the animal and the source (*e.g.,* spatial, temporal, and spectral).

Permanent Threshold Shift (PTS)—NMFS defines PTS as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS 2018). Available data from humans and other terrestrial mammals indicate that a 40 dB threshold shift approximates PTS onset (see Ward *et al.* 1958, 1959; Ward 1960; Kryter *et al.* 1966; Miller 1974; Ahroon *et al.* 1996; Henderson *et al.* 2008). PTS levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.* 2008), there are no empirical data measuring PTS in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing PTS are not typically pursued or authorized (NMFS 2018).

Temporary Threshold Shift (TTS)—A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS 2018). Based on data from cetacean TTS measurements (see Southall *et al.* 2007), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Schlundt *et al.* 2000; Finneran *et al.* 2000, 2002). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SEL_{cum}) in an accelerating fashion: At low exposures with lower SEL_{cum}, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{cum}, the growth curves become steeper and approach linear relationships with the noise SEL.

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present.

Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*)) and five species of pinnipeds exposed to a limited number of sound sources (*i.e.,* mostly tones and octave-band noise) in laboratory settings (Finneran 2015). TTS was not observed in trained spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to impulsive noise at levels matching previous predictions of TTS onset (Reichmuth *et al.* 2016). In general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran 2015). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data are available on noise-induced hearing loss for mysticetes. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), Finneran (2015), and Table 5 in NMFS (2018). Installing piles requires a combination of impact pile driving, vibratory pile driving, and down-the-hole drilling. For the project, these activities would not occur at the same time and there would likely be pauses in activities producing the sound during each day. Given these pauses and that many marine mammals are likely moving through the action area and not remaining for extended periods of time, the potential for TS declines.

Behavioral Harassment—Exposure to noise from pile driving and removal and drilling also has the potential to behaviorally disturb marine mammals. Available studies show wide variation in response to underwater sound; therefore, it is difficult to predict specifically how any given sound in a particular instance might affect marine mammals perceiving the signal. If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, l*et al*one the stock or population. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder 2007; Weilgart 2007; NRC 2005).

Disturbance may result in 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. Pinnipeds may increase their haul out time, possibly to avoid in-water disturbance (Thorson and Reyff 2006). Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.* 1995; Wartzok *et al.* 2003; Southall *et al.* 2007; Weilgart 2007; Archer *et al.* 2010). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. Please see Appendices B–C of Southall *et al.* (2007) for a review of studies involving marine mammal behavioral responses to sound.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.* 2001; Nowacek *et al.* 2004; Madsen *et al.* 2006; Yazvenko *et al.* 2007). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

In 2016, the Alaska Department of Transportation and Public Facilities (ADOT&PF) documented observations of marine mammals during construction activities (*i.e.,* pile driving and down-hole drilling) at the Kodiak Ferry Dock (see 80 FR 60636 for Final IHA **Federal Register** notice). In the marine mammal monitoring report for that project (ABR 2016), 1,281 Steller sea lions were observed within the Level B disturbance zone during pile driving or drilling (*i.e.,* documented as Level B harassment take). Of these, 19 individuals demonstrated an alert behavior, 7 were fleeing, and 19 swam away from the project site. All other animals (98 percent) were engaged in activities such as milling, foraging, or fighting and did not change their behavior. In addition, two sea lions approached within 20 meters of active vibratory pile driving activities. Three harbor seals were observed within the disturbance zone during pile driving activities; none of them displayed disturbance behaviors. Fifteen killer whales and three harbor porpoise were also observed within the Level B harassment zone during pile driving. The killer whales were travelling or milling while all harbor porpoises were travelling. No signs of disturbance were noted for either of these species. Given the similarities in activities and habitat and the fact the same species are involved, we expect similar behavioral responses of marine mammals to the specified activity. That is, disturbance, if any, is likely to be temporary and localized (*e.g.,* small area movements). Monitoring reports from other recent pile driving and down-the-hole drilling projects in Alaska have observed similar behaviors (for example, the Biorka Island Dock Replacement Project).

Masking—Sound can disrupt behavior through masking, or interfering with, an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.* 1995). Masking occurs when the receipt of a sound is interfered with by another coincident sound at similar frequencies and at similar or higher intensity, and may occur whether the sound is natural (*e.g.,* snapping shrimp, wind, waves, precipitation) or anthropogenic (*e.g.,*

pile driving, shipping, sonar, seismic exploration) in origin. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions. Masking of natural sounds can result when human activities produce high levels of background sound at frequencies important to marine mammals. Conversely, if the background level of underwater sound is high (*e.g.* on a day with strong wind and high waves), an anthropogenic sound source would not be detectable as far away as would be possible under quieter conditions and would itself be masked.

Airborne Acoustic Effects—Pinnipeds that occur near the project site could be exposed to airborne sounds associated with pile driving and removal and down-the-hole drilling that have the potential to cause behavioral harassment, depending on their distance from pile driving activities. Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above the acoustic criteria. We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. 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 the area and move further from the source. However, these animals would previously have been 'taken' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Marine Mammal Habitat Effects

CBS construction activities at the O'Connell Bridge lightering float could have localized, temporary impacts on marine mammal habitat and their prey by increasing in-water sound pressure levels and slightly decreasing water quality. Increased noise levels may affect acoustic habitat (see masking discussion above) and adversely affect marine mammal prey in the vicinity of the project area (see discussion below). During impact pile driving, elevated levels of underwater noise would ensonify a portion of Sitka Sound where both fish and mammals occur and could affect foraging success.

Construction activities are of short duration and would likely have temporary impacts on marine mammal habitat through increases in underwater and airborne sound. These sounds would not be detectable at the nearest known Steller sea lion haulouts, and all known harbor seal haulouts are well beyond the maximum distance of predicted in-air acoustical disturbance.

In-water pile driving, pile removal, and drilling activities would also cause short-term effects on water quality due to increased turbidity. Local strong currents are anticipated to disburse suspended sediments produced by project activities at moderate to rapid rates depending on tidal stage. CBS would employ standard construction best management practices, thereby reducing any impacts. Therefore, the impact from increased turbidity levels is expected to be discountable.

In-Water Construction Effects on Potential Foraging Habitat

The area likely impacted by the project is relatively small compared to the available habitat in Crescent Bay and Sitka Sound and does not include any BIAs or ESA-designated critical habitat. Pile installation/removal and drilling may temporarily increase turbidity resulting from suspended sediments. Any increases would be temporary, localized, and minimal. CBS 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 would 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 would not obstruct movements or migration of marine mammals.

Avoidance by potential prey (*i.e.,* fish) of the immediate area due to the temporary loss of this foraging habitat is also possible. 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. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity in Crescent Bay and Sitka Sound.

The duration of the construction activities is relatively short. The construction window is for a maximum of 3 days during daylight hours only. Impacts to habitat and prey are expected to be minimal based on the short duration of activities.

In-water Construction Effects on Potential Prey (Fish)—Construction activities would produce continuous (*i.e.,* vibratory pile driving and down-the-hole drilling) and intermittent (*i.e.* impact driving) sounds. 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 and drilling 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.

Construction activities, in the form of increased turbidity, have the potential to adversely affect forage fish and juvenile salmonid outmigratory routes

in the project area. Both herring and salmon form a significant prey base for Steller sea lions, herring is a primary prey species of humpback whales, and both herring and salmon are components of the diet of many other marine mammal species that occur in the project area. Increased turbidity is expected to occur in the immediate vicinity (on the order of 10 feet or less) of construction activities. However, suspended sediments and particulates are expected to dissipate quickly within a single tidal cycle. Given the limited area affected and high tidal dilution rates any effects on forage fish and salmon are expected to be minor or negligible. In addition, best management practices would be in effect, which would limit the extent of turbidity to the immediate project area.

In summary, given the short daily duration of sound associated with individual pile driving and drilling events and the relatively small areas being affected, pile driving and drilling activities associated with the proposed action are not likely to have a permanent, adverse effect on any fish habitat, or populations of fish species. Thus, we conclude that impacts of the specified activity are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take

This section provides an estimate of the number of incidental takes proposed for authorization through this IHA, which will inform both NMFS' consideration of ''small numbers'' and the negligible impact determination.

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

Authorized takes would be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to impact and vibratory hammers and down-the-hole drilling. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown—discussed in detail below in Proposed Mitigation section), Level A harassment is neither anticipated nor proposed to be authorized.

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

Generally speaking, we estimate take by considering: (1) Acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) and the number of days of activities. We note that while these basic factors can contribute to a basic calculation to provide an initial prediction of takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.,* frequency, predictability, duty cycle), the environment (*e.g.,* bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1 µPa (rms) for continuous (*e.g.,* vibratory pile-driving, drilling) and above 160 dB re 1 µPa (rms) for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. CBS's proposed activity includes the use of continuous (vibratory pile driving/removal and drilling) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1 µPa (rms) thresholds are applicable.

Level A harassment for non-explosive sources—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). CBS's proposed activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving/removal and drilling) sources.

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2018 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	$L_{p,0\text{-}pk,flat}$: 219 dB; $L_{E,p,\ LF,24h}$: 183 dB	$L_{E,p,\ LF,24h}$: 199 dB.

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT—Continued

Hearing group	PTS onset thresholds * (received level)	
	Impulsive	Non-impulsive
Mid-Frequency (MF) Cetaceans	$L_{p,0\text{-}pk,flat}$: 230 dB; $L_{E,p,\ MF,24h}$: 185 dB	$L_{E,p,\ MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	$L_{p,0\text{-}pk,flat}$: 202 dB; $L_{E,p,\ HF,24h}$: 155 dB	$L_{E,p,\ HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	$L_{p,0\text{-}pk,flat}$: 218 dB; $L_{E,p,\ PW,24h}$: 185 dB	$L_{E,p,\ PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	$L_{p,0\text{-}pk,flat}$: 232 dB; $L_{E,p,\ OW,24h}$: 203 dB	$L_{E,p,\ OW,24h}$: 219 dB.

* Dual metric thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds are recommended for consideration.

Note: Peak sound pressure level ($L_{p,0\text{-}pk}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of $1\mu Pa^2s$. In this table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO 2017). The subscript ''flat'' is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.,* 7 Hz to 160 kHz). The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.,* impact pile driving, vibratory pile driving and removal and down-the-hole drilling). The maximum (underwater) ensonified area is truncated by land masses and largely confined to marine waters within Eastern Channel of Sitka Sound, extending approximately 7.7 kilometers through Crescent Bay, Middle Channel, and into Eastern Channel and encompassing approximately 7.26 square kilometers (see Figure 5 in the application).

The distances to the Level A and Level B harassment thresholds were calculated based on source levels from the Naval Base Kitsap at Bangor EHW–1 Pile Replacement Project, in Bangor, Washington (NAVFAC 2012) and the Kodiak Ferry Terminal Project in Kodiak, Alaska (Denes et. al. 2016) for a given activity and pile type (*e.g.,* vibratory removal/installation, drilling, and impact pile driving of 24-inch diameter steel piles). The vibratory source level is proxy from 24-inch steel piles driven at the Naval Base Kitsap in Bangor, Washington (NAVFAC 2012) and from acoustic modeling of nearshore marine pile driving at Navy installations in Puget Sound (United States Navy 2015). The socketing source level is proxy from mean measured sources levels from drilling of 24-inch diameter piles to construct the Kodiak Ferry Terminal (Denes *et al.* 2016). Sound pressure level root-mean-square (SPL rms) values were used to calculate distance to Level A and B harassment isopleths for impact pile driving. The source levels of 168.2 SEL (for Level A harassment) and 181.3 SPL (for Level B harassment) are the mean measured levels from the Kodiak Ferry Terminal project (Denes *et al.* 2016).

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

B = transmission loss coefficient; for practical spreading equals 15

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

A practical spreading value of fifteen is often used under conditions, such as at the lightering dock location, where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading loss is assumed here.

When the NMFS Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, we developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimate of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate. For stationary sources such as pile driving and drilling, NMFS User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would not incur PTS. Inputs used in the User Spreadsheet, and the resulting isopleths are reported in Tables 4 and 5. Isopleths for Level B harassment associated with impact pile driving (160 dB) and vibratory pile driving/removal and drilling (120 dB) were also calculated and are can be found in Table 5.

TABLE 4—USER SPREADSHEET INPUT PARAMETERS USED FOR CALCULATING HARASSMENT ISOPLETHS

Spreadsheet tab used	Vibratory driving	Drilling/socketing	Impact driving
	(A.1) Vibratory driving—stationary source: non-impulsive, continuous	(A) Stationary source: non-impulsive, continuous	(E.1): Impact pile driving (stationary source: impulsive, intermittent
Source Level (dB)	161 RMS SPL	167.7 RMS SPL	168.2 SEL.
Weighting Factor Adjustment (kHz)	2.5	2	2.
(a) Number of piles in 24-hr	12	n/a	6.
(b) Number of strikes/pile	n/a	n/a	5.
(c) Duration of sound (hours) within 24-h period	n/a	6	n/a.
(d) Duration of drive single pile (minutes)	5	n/a	n/a.
Propagation (xLogR)	15	15	15.
Distance of source level measurement (meters)	10	10	10.

* n/a: not applicable

TABLE 5—CALCULATED DISTANCES TO LEVEL A HARASSMENT AND LEVEL B HARASSMENT ISOPLETHS DURING PILE INSTALLATION AND REMOVAL AND DRILLING

Activity	Source level at 10 meters (dB)	Distance (m) to level A and level B thresholds					
		Level A					Level B
		Low-frequency cetaceans	Mid-frequency cetaceans	High-frequency cetaceans	Phocid	Otariid	
Vibratory Pile Driving/Removal							
16-inch steel removal and installation (12 piles) (~1 hour on 1 day).	161 SPL	6.8	0.6	10.1	4.2	0.3	5,412
Drilling/Socketing Pile Installation							
16-inch steel installation (6 piles) (6 hours per day on 2 days).	167.7 SPL ..	6.3	0.4	5.6	3.4	0.2	*15,136
Impact Pile Driving							
16-inch steel installation (6 piles) (~3 minutes per day on 1 day).	168.2 SEL/ 181.3 SPL.	9.9	0.4	11.8	5.3	0.4	263

* Ensonified are area would be truncated by land masses with a maximum extent of 7.7 km.

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations and how this information is brought together to produce a quantitative take estimate.

Density information is not available for marine mammals in the project area. Potential exposures for marine mammals were estimated from several sources. Between the months of September through May from 1994 to 2002, weekly surveys were conducted at Sitka's Whale Park, located at the easternmost end of Eastern Channel as shown in Figure 5 in the application. More recent data (from 2002 to present) were collected from small vessels or Allen Marine 100-foot catamarans during school field trips in and around Eastern Channel. Additionally, marine mammal observational data was collected in the Sitka Channel as part of the Gary Paxton Industrial Park (GPIP) Multipurpose Dock Project (Turnagain 2017). Monitors were present during twenty-two days of in water work as part of this project. This included ten days between October 9th and 20th, 2017 for wooden pile removal, where only one monitor was present each day and twelve days between October 22nd and November 9th, where two observers were monitoring during new pile installation. Additionally, data was collected in January and October/November of 2017 in the Sitka Channel when Petro Marine Services removed and replaced a fuel float in the Sitka Channel and recorded marine mammal observations (Windward 2017). Finally, marine mammal observation reports covering the months of June through September, 2018 were also reviewed (Turnagain 2018).

Level B Harassment Calculations

The estimation of takes by Level B harassment uses the following calculation:

Level B harassment estimate = N (number of animals in the ensonified area) * Number of days of noise generating activities.

Humpback Whale

Humpback whales are the most commonly observed baleen whale in Southeast Alaska, particularly during spring and summer months. Humpback whales frequent the action area and could be encountered during any given

day of pile driving/removal activities. In the project vicinity, humpback whales typically occur in groups of 1 to 2 animals, with an estimated maximum group size of 4 animals. Most humpback whales observed in the area were solitary. When more than one whale was observed, available survey data reports a typical group size of 2–4 whales (Straley *et al.* 2018). During work on GPIP Dock, groups of 5 and 10 individuals were seen a few times, but most of the time, single whales were observed (Turnagain 2017). CBS conservatively estimates that a group of 5 humpback whales may occur within the Level B harassment zone every day of the 3-day construction window during active pile driving (5 animals in a group × 1 group each day × 3 days = 15 animals). Therefore, CBS requests and NMFS proposes to authorize 15 Level B harassment takes of humpback whales. Based on Wade *et al.* (2016), the probability is that 93.9 percent of the humpback whales taken would be from the Hawaii DPS (not listed under ESA) and 6.1 percent of the humpback whales taken would be from the ESA-listed threatened Mexico DPS.

Killer Whale

Killer whales pass through the action area and could be encountered during any given day of pile removal and installation. In the project vicinity, typical killer whale pod sizes vary from between 4–8 individuals, with an estimated maximum group size of 8 animals (Straley *et al.* 2018). A pod of three killer whales were observed during monitoring for the Petro Marine Dock, and a pod of seven whales were observed on one day near Biorka Island (Windward 2017; Turnagain 2018). CBS estimates that a group of 8 killer whales may occur within the Level B harassment zone every day of during active pile driving (8 animals in a group × 1 group each day × 3 days = 24 animals). Therefore, CBS requests and NMFS proposes to authorize 24 killer whales takes by Level B harassment.

Harbor Porpoise

Harbor porpoises are seen infrequently in the action area, but they could be encountered during any given day of pile replacement activities. The mean group size of harbor porpoise in Southeast Alaska was estimated to be between 2 to 3 individuals (Dahlheim *et al.,* 2009). In the project vicinity, harbor porpoises typically occur in groups of 1–5 animals, with an estimated maximum group size of 8 animals (Straley *et al.* 2018). No harbor porpoises were seen during the Petro Marine Dock construction monitoring in January 2017 or during monitoring for the GPIP dock between October and November of 2017 (Windward 2017 and Turnagain 2017). CBS conservatively estimates that a group of 5 harbor porpoise may occur within the Level B harassment zone once each day during the 3-day construction window during active pile driving (5 animals in a group × 1 group each day × 3 days = 15 animals). Therefore, CBS conservatively requests and NMFS proposes to authorize 15 Level B harassment takes of harbor porpoises.

Harbor Seal

Harbor seals are common in the action area and are expected to be encountered during pile replacement activities. In the action area harbor seals typically occur in groups of 1–3 animals. Observations near Sitka Channel recorded only individual seals, and observations for GPIP dock observed mostly individuals, however, a few groups with up to 3 seals were observed. Near Biorka Island, recent sightings ranged from 1 individual to a group of 9 (June and September 2018) groups up to 3 (July 2018), and groups up to 8 (August 2018). Harbor seals could occur in the project area every day. CBS conservatively estimates that 2 groups of 3 harbor seals may occur within the Level B harassment zone every day that pile driving occurs (3 animals in a group × 2 groups per day × 3 days = 18 animals). Therefore, CBS requests and NMFS proposes to authorize 18 harbor seal takes by Level B harassment.

Steller Sea Lion

Steller sea lions are common in the action area and are expected to be encountered during pile removal and driving. In the project vicinity Steller sea lions typically occur in groups of 1–8 animals near the project area (Turnagain 2017 and Windward 2017), with an estimated maximum group size of 100 animals (Straley *et al.* 2018). Steller sea lions can occur in the action area every day during construction. CBS conservatively estimates that a group of 8 Steller sea lions may occur within the Level B harassment zone every day that pile driving occurs (8 animals in a group × 1 group × 3 days = 24 animals). Therefore, CBS requests and NMFS proposes to authorize 24 takes of sea lion by Level B harassment.

CBS intends to avoid Level A harassment take by shutting down removal or installation activities at the approach of any marine mammal into their representative Level A harassment (PTS onset) zone.

TABLE 6—ESTIMATED TAKE BY LEVEL B HARASSMENT, BY SPECIES AND STOCK AND PERCENT OF STOCK

Species	Stock	Level B	Percent of stock
Humpback Whale	Central North Pacific (10,103)	15	0.01
Killer Whale	Alaska Resident (2,347)	[1] 24	1.02
	Northern Resident (261)		9.20
	West Coast Transient (243)		9.88
	Gulf of Alaska, Aleutian Islands, Bering Sea Transient (587)		4.1
Harbor Porpoise	Southeast Alaska (975)	15	1.54
Harbor Seal	Sitka/Chatham Strait (14,855)	18	<0.01
Steller Sea Lion	Western DPS (54,267)	[1] 24	0.04
	Eastern DPS (41,638)		0.06

[1] Assumes all takes come from each individual stock.

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 (latter not applicable for this action). NMFS regulations require applicants for

incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned), and;

(2) the practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

In addition to the measures described later in this section, CBS will employ the following standard mitigation measures:

- Conduct briefings between construction supervisors and crews and the marine mammal monitoring team prior to the start of all pile driving activity, and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures;
- For in-water heavy machinery work other than pile driving (*e.g.,* standard barges, etc.), 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. This type of work could include the following activities: (1) Movement of the barge to the pile location; or (2) positioning of the pile on the substrate via a crane (*i.e.,* stabbing the pile);
- Work may only occur during daylight hours, when visual monitoring of marine mammals can be conducted;
- For those marine mammals for which take by Level B harassment has not been requested, in-water pile installation/removal and drilling will shut down immediately if such species are observed within or on a path towards the monitoring zone (*i.e.,* Level B harassment zone); and
- If take reaches the authorized limit for an authorized species, pile driving activities will be stopped as these species approach the Level B harassment zone to avoid additional take.

The following measures would apply to CBS's mitigation requirements:

Establishment of Shutdown Zone—For all pile driving/removal and drilling activities, CBS would establish a shutdown zone to avoid take by Level A harassment. The purpose of a shutdown zone is generally 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). The shutdown zone would be 10 m in all cases except for high-frequency cetaceans (harbor porpoises) during impact pile driving and vibratory pile driving/removal. In those situations the shutdown zone for high-frequency cetaceans would be 15 m (Table 7). These defined shutdown zones would be used to prevent incidental Level A harassment exposures and reduce the potential for such take for other species. The placement of Protected Species Observers (PSOs) during all pile driving and drilling activities (described in detail in the Monitoring and Reporting Section) will ensure shutdown zones are visible.

TABLE 7—PROPOSED SHUT DOWN ZONE FOR EACH PROJECT ACTIVITY

Noise source	Low-frequency cetaceans (humpback whale)	Mid-frequency cetaceans (killer whale)	High-frequency cetaceans (harbor porpoise)	Phocid (harbor seal)	Otariid (sea lion)
Vibratory Pile Driving/Removal					
16-inch steel removal and installation (12 piles) (~1 hour on 1 day)	10	10	15	10	10
Drilling/Socketing Pile Installation					
16-inch steel installation (6 piles) (6 hours per day on 2 days)	10	10	10	10	10
Impact Pile Driving					
16-inch steel installation (6 piles) (~3 minutes on 1 day)	10	10	15	10	10

Establishment of Monitoring Zones for Level B Harassment—CBS would establish monitoring zones to correlate with Level B harassment disturbance zones or zones of influence which are areas where SPLs are equal to or exceed the 160 dB rms threshold for impact driving and the 120 dB rms threshold during vibratory driving and drilling. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable observers to be aware of and communicate the presence of marine mammals in the project area outside the shutdown zone and thus prepare for a potential cease of activity should the animal enter the shutdown zone. The proposed monitoring zones are described in Table 8. The monitoring zone for drilling activities extends 7,700 m from the noise source, corresponding to the maximum distance before landfall. It is likely that PSOs would not be able to effectively observe the entire monitoring zone. Therefore, Level B harassment exposures will be recorded and extrapolated based upon the number of observed takes and the

percentage of the Level B harassment zone that was not visible.

TABLE 8—LEVEL B HARASSMENT MONITORING ZONES

Pile driving noise source	Monitoring zones for take by Level B harassment (meters)
Vibratory Pile Driving	
16-inch steel removal and installation (12 piles) (~1 hour on 1 day)	5,500
Socketing Pile Installation	
16-inch steel installation (6 piles) (6 hours per day on 2 days)	7,700
Impact Pile Driving	
16-inch steel installation (6 piles) (~3 minutes per day on 1 day)	265

Use of Pile Caps/Cushions—Pile driving softening material (*i.e.* pile caps/cushions) will be used to minimize noise during vibratory and impact pile driving. Much of the noise generated during pile installation comes from contact between the pile being driven and the steel template used to hold the pile in place. The contractor will use high-density polyethylene (HDPE) or ultra-high-molecular-weight polyethylene (UHMW) softening material on all templates to eliminate steel on steel noise generation.

Direct Pull—To minimize construction noise levels as much as possible, the contractor will first attempt to direct pull old piles; if those efforts prove to be ineffective, they will proceed with a vibratory hammer.

Reduced Energy— To reduce noise production, the vibratory hammer will be operated at a reduced energy setting (30 to 50 percent of its rated energy).

Soft Start—The use of soft-start procedures are believed to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors would be required to provide an initial set of strikes from the hammer at reduced energy, with each strike followed by a 30-second waiting period. This procedure would be conducted a total of three times before impact pile driving begins. Soft start would be implemented at the start of each day's impact pile driving (if more than one day) and at any time following cessation of impact pile driving for a period of thirty minutes or longer. Soft start is not required during vibratory pile driving and removal activities.

Pre-Activity Monitoring—Prior to the start of daily in-water construction activity, or whenever a break in pile driving/removal or drilling of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone will be cleared when a marine mammal has not been observed within the zone for the 30-minute period. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 15 minutes. If the Level B harassment zone has been observed for 30 minutes and non-permitted species are not present within the zone, soft start procedures can commence and work can continue even if visibility becomes impaired within the Level B harassment monitoring zone. When a marine mammal permitted for Level B take is present in the Level B harassment zone, activities may begin and Level B take will be recorded. As stated above, if the entire Level B harassment zone is not visible at the start of construction, piling driving or drilling activities can begin. If work ceases for more than 30 minutes, the pre-activity monitoring of both the Level B harassment and shutdown zone will commence.

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 effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed Monitoring and Reporting

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth, ''requirements pertaining to the monitoring and reporting of such taking.'' The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or

cumulative impacts from multiple stressors;

- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

Monitoring shall be conducted by NMFS-approved PSOs. Trained observers shall be placed from the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator. Observer training must be provided prior to project start, and shall include instruction on species identification (sufficient to distinguish the species in the project area), description and categorization of observed behaviors and interpretation of behaviors that may be construed as being reactions to the specified activity, proper completion of data forms, and other basic components of biological monitoring, including tracking of observed animals or groups of animals such that repeat sound exposures may be attributed to individuals (to the extent possible).

Monitoring would be conducted 30 minutes before, during, and 30 minutes after pile driving/removal and drilling 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 or removed. Pile driving/removal and drilling activities include the time to install or 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 30 minutes.

PSOs would scan the waters using binoculars, and/or spotting scopes, and would use a handheld GPS or range-finder device to verify the distance to each sighting from the project site. All PSOs would be trained in marine mammal identification and behaviors and are required to have no other project-related tasks while conducting monitoring. In addition, 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. CBS would adhere to the following observer qualifications:

(i) Independent observers (*i.e.,* not construction personnel) are required.

(ii) At least one observer must have prior experience working as an observer.

(iii) Other observers may substitute education (degree in biological science or related field) or training for experience.

(iv) NMFS will require submission and approval of observer CVs.

CBS must ensure that observers have the following additional qualifications:

1. Ability to conduct field observations and collect data according to assigned protocols;

2. Experience or training in the field identification of marine mammals, including the identification of behaviors;

3. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

4. 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, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and

5. 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.

Two land-based PSOs would be used to monitor the area during all pile driving and removal activities. One PSO would monitor from the O'Connell Bridge which features a high vantage point with unobstructed views of, and close proximity to, the project site. A second monitor would be stationed east of the construction site, likely off Islander Drive. PSOs will work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and will not perform duties as a PSO for more than 12 hours in a 24-hr period to reduce PSO fatigue.

A draft marine mammal monitoring report would be submitted to NMFS within 90 days after the completion of pile driving and removal and drilling activities. It will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.,* impact or vibratory);
- Weather parameters and water conditions during each monitoring period (*e.g.,* wind speed, percent cover, visibility, sea state);
- The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting;
- Age and sex class, if possible, of all marine mammals observed;
- PSO locations during marine mammal monitoring;
- Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting);
- Description of any marine mammal behavior patterns during observation, including direction of travel;
- Number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate);
- Detailed information about any implementation of any mitigation triggered (*e.g.,* shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any; and
- Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals.

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 addressing NMFS comments 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, serious injury or mortality, CBS would immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator. The report would include the following information:

- Description of the incident;
- Environmental conditions (*e.g.,* Beaufort sea state, 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 CBS to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. CBS would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

In the event that CBS discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.,* in less than a moderate state of decomposition as described in the next paragraph), CBS would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional 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 CBS to determine whether modifications in the activities are appropriate.

In the event that CBS discovers an injured or dead marine mammal and the lead PSO 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), CBS would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator, within 24 hours of the discovery. CBS would provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

Pile driving, pile removal and drilling activities 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 B harassment from underwater sounds generated from vibratory pile removal, vibratory pile driving, impact pile driving, and drilling over 3 days. Potential takes could occur if individuals of these species are present in the ensonified zone when these activities are underway. One day of work would be dedicated to removing 6 old and installing 6 new piles which would emit low levels of noise into the aquatic environment if removed via direct pull or vibratory hammer and installed via vibratory hammer as proposed. Vibratory removal and installation would take approximately one hour. Drilling would occur for only 6 hours per day over 2 days. Impact driving would be used to proof socketed piles and take place for a total of 3 minutes on a single day.

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; HDR, Inc. 2012; Lerma 2014; ABR 2016). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving and drilling, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted in southeast Alaska, which have taken place with no known long-term adverse consequences from behavioral harassment. Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat. Project activities would not modify existing marine mammal habitat for a significant amount of time. 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. However, because of the short duration of the activities and the relatively small area of the habitat that may be affected, and the decreased potential of prey species to be in the project area during the construction work window, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

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

- No mortality is anticipated or authorized;
- No Level A take is authorized;
- Level B harassment may consist of, at worst, temporary modifications in behavior (*e.g.* temporary avoidance of habitat or changes in behavior);
- The specified activity is temporary and of short duration;
- The ensonified area is very small relative to the overall habitat ranges of all species and does not include habitat areas of special significance (BIAs or ESA-designated critical habitat); and
- The presumed efficacy of the proposed mitigation measures in reducing the effects of the specified activity to the level of least practicable adverse impact.

In addition, although affected humpback whales and Steller sea lions may be from a DPS that is listed under the ESA, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on the stocks' ability to recover. 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 activities will have only minor, short-term effects on individuals. The specified activities are 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 proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under Sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Table 6 presents the number of animals that could be exposed to received noise levels that may result in Level B take for the proposed work at O'Connell Bridge. Our analysis shows that less than 10 percent of the best available population estimate of each affected stock could be taken. Furthermore, these percentages conservatively assume that all takes of killer whale and Steller sea lion would be accrued to a single stock, when multiple stocks are known to occur in the project area. Therefore, 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 harbor seals and Steller sea lions, occurring in the vicinity of the project site, there could 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.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity will not have an ''unmitigable adverse impact'' on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined ''unmitigable adverse impact'' in 50 CFR 216.103 as an impact resulting from the specified activity: (1) That is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (i) Causing the marine mammals to abandon or avoid hunting areas; (ii) Directly displacing subsistence users; or (iii) Placing physical barriers between the marine mammals and the subsistence hunters; and (2) That cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

The peak hunting season in southeast Alaska occurs during the month of November and again over the March to April time frame (Wolfe *et al.,* 2013). The proposed project is in an area where subsistence hunting for harbor seals or sea lions could occur (Wolfe *et al.,* 2013), but the area near the proposed project location is not preferred for hunting.

During September 2018, CBS contacted the Alaska Harbor Seal Commission, the Alaska Sea Otter and Steller Sea Lion Commission, and the Sitka Tribe of Alaska. These organizations expressed no concerns about the impact of the proposed action on subsistence marine mammals or their harvest by hunters near the project area. The Sitka Tribe did request that no pile driving occur between March 15 and May 31 to protect herring, as has been the case for past permitting in Sitka Sound. In response to this request, CBS will not commence in-water construction operations prior to June 1, 2019 or between March 15, 2020 and May 31, 2020.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the proposed mitigation and monitoring measures, NMFS has preliminarily determined that there will not be an unmitigable adverse impact on subsistence uses from CBS's proposed activities.

Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally, in this case with Alaska Regional Office, whenever we propose to authorize take for endangered or threatened species.

NMFS is proposing to authorize take of the Steller sea lion western DPS and humpback whale Mexico DPS, which are listed under the ESA. The NMFS Office of Protected Resources has requested initiation of section 7 consultation with the Alaska Regional Office for the issuance of this IHA. NMFS will conclude the ESA consultation prior to reaching a determination regarding the proposed issuance of the authorization.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to CBS for the O'Connell Bridge Lightering Float Pile Replacement project in Sitka, Alaska from June 1, 2019 through May 31, 2020, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the IHA itself is available for review in conjunction with this notice at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this Notice of Proposed IHA for the proposed action. We also request comment on the potential for renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform our final decision on the request for MMPA authorization.

On a case-by-case basis, NMFS may issue a second one-year IHA without additional notice when (1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or (2) the activities would not be completed by the time the

IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section, provided all of the following conditions are met:

- A request for renewal is received no later than 60 days prior to expiration of the current IHA;
- The request for renewal must include the following:

(1) An explanation that the activities to be conducted beyond the initial dates either are identical to the previously analyzed activities or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements; and

(2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized; and

- Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures remain the same and appropriate, and the original findings remain valid.

Dated: February 26, 2019.

Catherine Marzin,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG808

Fisheries of the Northeastern United States; Atlantic Sea Scallop Fishery; Intent To Prepare an Environmental Impact Statement; Scoping Process; Request for Comments

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

ACTION: Notice.

SUMMARY: The New England Fishery Management Council announces its intention to prepare, in cooperation with NMFS, an environmental impact statement in accordance with the National Environmental Policy Act. An environmental impact statement may be necessary to provide analytic support for Amendment 21 to the Atlantic Sea Scallop Fishery Management Plan. Amendment 21 would consider measures related to the Northern Gulf of Maine Scallop Management Area, Limited Access General Category individual fishing quota possession limits, and the ability of Limited Access vessels with Limited Access General Category individual fishing quota permits to transfer quota to Limited Access General Category individual fishing quota-only vessels. The purpose of this notice is to announce a public process for determining the scope of issues to be addressed, to alert the interested public of the scoping process, the potential development of a draft environmental impact statement, and the opportunity for participation in that process.

DATES: Written and electronic scoping comments must be received on or before April 15, 2019.

ADDRESSES: Written scoping comments on Amendment 21 may be sent by any of the following methods:

- *Email* to the following address: *comments@nefmc.org*;
- *Mail* to Thomas A. Nies, Executive Director, New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950; or Fax to (978) 465–3116.

The scoping document is accessible electronically online at *www.nefmc.org/library/amendment-21.*

Requests for copies of the Amendment 21 scoping document and other information should be directed to Thomas A. Nies, Executive Director, New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950, telephone, (978) 465–0492.

FOR FURTHER INFORMATION CONTACT: Thomas A. Nies, Executive Director, New England Fishery Management Council, (978) 465–0492.

SUPPLEMENTARY INFORMATION:

Background

The Atlantic sea scallop fishery is prosecuted along the east coast from Maine to Virginia, although most fishing activity takes place between Massachusetts and New Jersey. Management measures were first adopted in 1982, but there have been several major revisions to the management program over the following decades.

Development of the LAGC Fishery

The Council established the General Category component as an open access permit category in 1994 while developing a limited access program for qualifying vessels (now the Limited Access component). Through Amendment 11 to the Scallop Fishery Management Plan (FMP) (73 FR 20090; April 14, 2008), the Council transitioned the General Category component from open access to limited access to limit fishing mortality and control fleet capacity. The Council's vision for the Limited Access General Category (LAGC) component was a fleet made up of relatively small vessels, with possession limits to maintain the historical character of this fleet and provide opportunities to various participants, including vessels from smaller coastal communities. Amendment 11 established three LAGC permit categories which allowed for continued participation in the General Category fishery at varying levels. Vessels that met a qualifying criteria were issued an LAGC individual fishing quota (IFQ) permit and allocated quota based on the 'contribution factor' (*i.e.,* if you fished longer and landed more during the qualification period, you received a higher allocation). General Category permit holders that did not meet the qualifying criteria for an LAGC IFQ permit were eligible to receive either an LAGC Northern Gulf of Maine (NGOM) permit or LAGC Incidental permit. Limited Access vessels that fished under General Category rules and qualified under the same IFQ qualification criteria were issued LAGC IFQ permits and allocated a portion of (0.5 percent) of the total scallop allocation. Unlike vessels with only LAGC IFQ permits, Limited Access vessels that also qualified for an LAGC IFQ permit were not allowed to transfer quota in or out.

NGOM Management Area

The Council also established the NGOM Management Area and permit category through Amendment 11. The area was developed to enable continued fishing and address concerns related to conservation, administrative burden, and enforceability of scallop fishing within the Gulf of Maine. Amendment 11 authorized vessels with either an LAGC NGOM permit or LAGC IFQ permit to fish within the NGOM Management Area at a 200-pound-per-day trip limit until the annual total allowable catch (TAC) for the area is caught. The Council did not recommend restrictions on Limited Access vessels fishing in the NGOM because the improved management and abundance of scallops in the major resource areas on Georges Bank and in the Mid-Atlantic region made access to Gulf of Maine scallops less important for the Limited Access boats and General