PROPOSED ACTION:	Issuance of an Incidental Harassment Authorization to the City of Kodiak for the Kodiak Transient Float Replacement Project, Kodiak, Alaska
TYPE OF STATEMENT:	Environmental Assessment
LEAD AGENCY:	U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service
RESPONSIBLE OFFICIAL:	Donna S. Wieting, Director Office of Protected Resources, National Marine Fisheries Service
FOR FURTHER INFORMATION:	Laura McCue National Marine Fisheries Service Office of Protected Resources Permits and Conservation Division 1315 East West Highway Silver Spring, MD 20910 301-427-8401
LOCATION:	Kodiak, Alaska
ABSTRACT:	This Environmental Assessment analyzes the environmental impacts of the National Marine Fisheries Service, Office of Protected Resources' proposal to issue an Incidental Harassment Authorization, pursuant to section 101(a)(5)(D) of the Marine Mammal Protection Act, to the City of Kodiak for the take of small numbers of marine mammals incidental to conducting the Kodiak Transient Float Replacement Project in Kodiak, AK.
DATE:	November 2016

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LIST OF ACRONYMS AND ABBREVIATIONS

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dB	decibel
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
FONSI	Finding of No Significant Impact
ft	feet
FR	Federal Register
IHA	Incidental Harassment Authorization
m	meter
mi	miles
MMO	Marine Mammal Observer
MMPA	Marine Mammal Protection Act
MSFCMA	Magnuson-Stevens Fishery Conservation Management Act
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OMB	Office of Management and Budget
PSO	Protected Species Observer
PTS	Permanent hearing threshold shift
SAR	NMFS Marine Mammal Stock Assessment Report
TTS	Temporary hearing threshold shift
USFWS	US Fish and Wildlife Service

Chapter 1 Introduction and Purpose and Need

1.1 BACKGROUND

The Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1631 et seq.) prohibits the incidental taking of marine mammals. The incidental take of a marine mammal falls under three categories: mortality, serious injury or harassment (i.e., injury and behavioral effects). Harassment[1] is any act of pursuit, torment or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment) or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns (Level B harassment). Disruption of behavioral patterns includes, but is not limited to, migration, breathing, nursing, breeding, feeding or sheltering. However, there are exceptions to the prohibition on take in Section 101(a)(5)(D) of the MMPA that gives the National Marine Fisheries Service (NMFS) the authority to authorize the incidental but not intentional take of small numbers of marine mammals by harassment provided certain determinations are made and statutory and regulatory procedures are met. Refer to Chapter 2 for details regarding this exception and NMFS' IHA criteria.

NMFS also promulgated regulations to implement the provisions of the MMPA governing the taking and importing of marine mammals, 50 Code of Federal Regulations (CFR) Part 216 and produced Office of Management and Budget (OMB)-approved application instructions (OMB Number 0648-0151) that prescribe the procedures necessary to apply for permits. All applicants must comply with these regulations and application instructions in addition to the provisions of the MMPA.

1.1.1. Applicant's Incidental Take Authorization Request

On August 15, 2016, NMFS received an application from the City of Kodiak (City) for the taking of marine mammals incidental to the construction in association with the Kodiak Transient Float Replacement Project (Project). After NMFS provided comments on the draft IHA application, the City submitted a revised IHA application on October 17, 2016 with updated information regarding species, take numbers, and additional mitigation measures. NMFS determined that the application was adequate and complete on October 21, 2016.

The City proposes to replace an existing transient float located in Kodiak's Near Island Channel with one that meets modern standards for vessel mooring and public safety. The existing float needs to be replaced due to its poor condition and reduced capacity caused by failing walers, stringers and bullrails. The proposed action includes in-water construction activities involving the removal of the existing transient float and its associated timber and steel piles and the installation of the replacement transient float and steel piles. The replacement float will be located within the same footprint as the existing facility; however, the overall float length will be shortened to improve all around accessibility within City right-of-way limits. The Project is expected to occur for 12 days over 2.5 months.

[1] As defined in the MMPA for non-military readiness activities (Section 3 (18)(A))

1.1.2. Marine Mammals in the Action Area

The proposed construction project could adversely affect the following marine mammal species under our jurisdiction:

- Steller sea lion (*Eumatopias jubatus*)
- Harbor seal (*Phoca vitulina)*
- Harbor porpoise (*Phocoena phocoena*)
- Dall's porpoise (*Phocoenoides dalli*)
- Killer whale (*Orcinus orca*)
- Humpback whale (*Megaptera novaeangliae*)

1.2. Purpose and Need

1.2.1. Description of the Proposed Action

NMFS proposes to issue an IHA to the City pursuant to Section 101(a)(5)(A) of the MMPA and 50 CFR Part 216. The IHA will be valid from January 1, 2017 – December 31, 2017, and authorizes takes, by Level B harassment, of marine mammals incidental to the Kodiak Transient Float Replacement Proejct. The impact of the underwater noise associated with pile driving, removal, and drilling have the potential to cause marine mammals within or near the proposed area to be behaviorally disturbed, thus warrant an IHA from NMFS. NMFS proposed action is a direct outcome of the City's request for an IHA to take marine mammals.

1.2.2. Purpose:

The purpose of our proposed action is to authorize take marine mammals incidental to the City's transient float project in Kodiak, Alaska. The IHA, if issued, would provide an exception to the City from the take prohibitions contained in the MMPA. To authorize the incidental take of small numbers of marine mammals, NMFS evaluates the best available scientific information to determine whether the take would have a negligible impact on marine mammals or stocks and whether the activity would have an unmitigable impact on the availability of affected marine mammal species for subsistence use. NMFS cannot issue this IHA if it cannot make those findings in the affirmative. In addition, we must prescribe the permissible methods of taking and other means of effecting the least practicable impact on the species or stocks of marine mammals and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance. If appropriate, we must prescribe means of effecting the least practicable impact on the availability of the species or stocks of marine mammals for subsistence uses. IHAs must also include requirements or conditions pertaining to the monitoring and reporting.

1.2.3. Need:

U.S. citizens seeking to obtain authorization for the incidental take of marine mammals under NMFS jurisdiction must submit such a request (in the form of an application). On October 21, 2016, the City submitted an adequate and complete application demonstrating both the need and potential eligibility for an IHA under the MMPA. NMFS now has a corresponding duty to

determine whether and how to authorize take of marine mammals incidental to the activities described the City's application. NMFS' responsibilities under section 101(a)(5)(D) of the MMPA and its implementing regulations establish and frame NMFS' proposed action.

Any alternatives considered under NEPA must meet the agency's statutory and regulatory requirements. Our described purpose and need guide us in developing reasonable alternatives for consideration, including alternative means of mitigating potential adverse effects.

1.3. The Environmental Review Process

In accordance with the Council on Environmental Quality (CEQ) Regulations for implementing the National Environmental Policy Act (NEPA), NMFS, to the fullest extent possible, integrates the requirements of NEPA with other regulatory processes required by law or by agency practice so that all procedures run concurrently, rather than consecutively. This includes coordination within National Oceanic Atmospheric Administration (NOAA), (e.g., the Office of the National Marine Sanctuaries) and with other regulatory agencies (e.g., the U.S. Fish and Wildlife Service), as appropriate, during NEPA reviews prior to implementation of a proposed action to ensure that requirements are met. Regarding the issuance of IHAs, we rely substantially on the public process required by the MMPA for proposed IHAs to develop and evaluate relevant environmental information and provide a meaningful opportunity for public participation when we prepare corresponding NEPA documents. We fully consider public comments received in response to the publication of proposed IHAs during the corresponding NEPA review process.

1.3.1. National Environmental Policy Act

NEPA requires federal agencies to examine the environmental impacts of their proposed actions within the United States and its territories. A NEPA analysis is a public document that provides an assessment of the potential effects a major federal action may have on the human environment, which includes the natural and physical environment. Major federal actions include activities that federal agencies fully or partially fund, regulate, conduct or approve. Because our issuance of an IHA would allow for the taking of marine mammals, consistent with provisions under the MMPA and incidental to the applicant's activities, we consider this as a major federal action subject to NEPA; therefore, NMFS analyzes the environmental effects associated with authorizing incidental takes of protected species and prepares the appropriate NEPA documentation.

1.3.2. Scoping and Public Involvement

The NEPA process is intended to enable NMFS to make decisions based on an understanding of the environmental consequences and take actions to protect, restore, and enhance the environment. An integral part of the NEPA process is public involvement. Early public involvement facilitates the development of an EA and informs the scope of issues to be addressed in the EA. Although agency procedures do not require public involvement prior to finalizing an EA, NMFS determined that the publication of the proposed IHA was the

appropriate step to involve the public in order to understand the public concerns for the proposed action, identify significant issues related to the proposed action and obtain the necessary information to complete an analysis.

The Draft EA and Federal Register notice of the proposed IHA, combined with our preliminary determinations, supporting analyses, and corresponding public comment period are instrumental in providing the public with information on relevant environmental issues and offering the public a meaningful opportunity to provide comments to us for consideration in both the MMPA and NEPA decision-making processes. We posted the City's application on our website concurrently with the release of the Federal Register notice of the proposed IHA and this Draft EA.

1.4. Other Environmental Laws or Consultations

NMFS must comply with all applicable federal environmental laws, regulations, and Executive Orders (EO) necessary to implement a proposed action. NMFS evaluation of and compliance with environmental laws, regulations and EOs is based on the nature and location of the applicants proposed activities and NMFS proposed action. Therefore, this section only summarizes environmental laws and consultations applicable to NMFS issuance of an IHA to the City. There are no other environmental laws, regulations, EOs, consultations, federal permits or licenses applicable NMFS issuance of an IHA to the City.

1.4.1 Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. 1801 et seq.), Federal agencies are required to consult with the Secretary of Commerce with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency which may adversely affect essential fish habitat (EFH) identified under the MSA.

EFH has been identified in the waters near Kodiak Island. EFH is present in the study area for Alaska stocks of Pacific salmon, walleye pollock, Pacific cod, yellowfin sole (*Limanda aspera*), arrowtooth flounder (*Atheresthes stomias*), rock sole (*Lepidopsetta spp.*), flathead sole (*Hippoglossoides elassodon*), sculpin (Cottidae), skate (Rajidae), and squid (Teuthoidea). NMFS has established environmental work windows for to avoid impact pile driving between May 1 and June 30 in order to minimize impacts to pink salmon fry and coho salmon smolt. In accordance with the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act, NMFS notified the Alaska regional office about this activity, and EFH consultation was not considered necessary for issuance of this IHA.

1.4.2 Endangered Species Act

The Endangered Species Act (ESA) established protection over and conservation of threatened and endangered species (T&E) and the ecosystems upon which they depend. An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered within the near future throughout

all or in a significant portion of its range. The USFWS and NMFS jointly administer the ESA and are responsible for the listing of species (designating a species as either threatened or endangered) and designating geographic areas as critical habitat for (T&E) species. The ESA generally prohibits the "take" of an ESA-listed species unless an exception or exemption applies. The term "take" as defined in section 3 of the ESA means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 7(a)(2) requires each federal agency to ensure 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 critical habitat of such species. When a federal agency's action may affect a listed species, that agency is required to consult with NMFS and/or the USFWS under procedures set out in 50 CFR Part 402. NMFS and USFWS can also be action agencies under section 7. Informal consultation is sufficient for species the action agency determines are not likely to be adversely affected if NMFS or USFWS concurs with the action agency's findings, including any additional measures mutually agreed upon as necessary and sufficient to avoid adverse impacts to listed species and/or designated critical habitat.

General and specific conservation measures are proposed that would avoid and minimize, to the maximum extent practicable, the project's potential impacts to pink salmon (*Oncorhynchus gorbuscha*) fry and coho salmon (*O. kisutch*) smolt, and EFH for a variety of MSA managed species.

NMFS issuance of an IHA is a federal action that is also subject to the requirements of section 7 of the ESA. As a result, we are required to ensure that the issuance of an IHA to the City is not likely to jeopardize the continued existence of any T&E species or result in the destruction or adverse modification of critical habitat for these species. Two marine mammal species that are listed under the ESA could potentially occur in the action area: the humpback whale and Steller sea lion. There are two DPSs of humpback whales that may be in the project area that are listed under the ESA: the Mexico DPS, which is listed as threatened, and the Western North Pacific (WNP) DPS, which is listed as endangered. Steller sea lion (SSL) Western DPS (wDPS) is common in the project area. Critical habitat for Steller sea lions is associated with breeding and haulout areas in Alaska, California, and Oregon (NMFS 1993). Steller sea lion critical habitat is defined by a 20-nautical-mile (37-km) radius (straight line distance) encircling a major haulout or rookery. The project area occurs within critical habitat for two major haulouts, Long Island and Cape Chiniak, which are approximately 4.6 nautical miles (8.5 kilometers) and 13.8 nautical miles (25.6 kilometers) away from the project site, respectively. Fin whales may also be present in the area, but are considered highly unlikely to be in the action area due to the shallow water and high level of boat traffic. An automatic shutdown of operations would be in place for this species if they are observed. Take is not requested for fin whales.

1.5. Scope of the Environmental Analysis

This Draft EA was prepared in accordance with NEPA (42 USC 4321, et seq.) and CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508). The analysis in this EA addresses potential impacts to the human environment and natural resources, specifically marine mammals and their habitat, resulting from NMFS' proposed action to authorize incidental takes associated with the City's construction activities. We analyze direct, indirect, and cumulative impacts related to authorizing incidental take of marine mammals under the MMPA. The scope of our analysis is limited to the decision for which we are responsible (i.e. whether or not to issue the IHA). This EA is intended to provide focused information on the primary issues and impacts of environmental concern, which is our issuance of the IHA authorizing the take of marine mammals incidental the City's activity, and the mitigation and monitoring measures to minimize the effects of that take. For these reasons, this Draft EA does not provide a detailed evaluation of the effects to the elements of the human environment listed in Table 1 below.

Table 1. Components of the human environment not affected by our issuance of an IHA.

Biological	Physical	Socioeconomic / Cultural
Amphibians	Air Quality	Commercial Fishing
Humans	Essential Fish Habitat	Military Activities
Non-Indigenous Species	Geography	Oil and Gas Activities
Seabirds	Land Use	Recreational Fishing
	Oceanography	Shipping and Boating
	State Marine Protected Areas	National Historic Preservation Sites
	Federal Marine Protected Areas	National Trails and Nationwide Inventory of Rivers
	National Estuarine Research Reserves	Low Income Populations
	National Marine Sanctuaries	Minority Populations
	Park Land	Indigenous Cultural Resources
	Prime Farmlands	Public Health and Safety
	Wetlands	Historic and Cultural Resources
	Wild and Scenic Rivers	
	Ecologically Critical Areas	

In summary, the analysis herein supports our conclusion that, with the incorporation of the proposed monitoring and mitigation measures, the issuance of the IHA to the City for in-water construction activities would not result in any significant direct, indirect, or cumulative impacts. Based on our MMPA analysis, the limited harassment from the proposed anchor retrieval activities would allow adequate time for the marine mammals to recover from potentially adverse effects. Furthermore, the analysis concluded that the cumulative effects of the project on its own or in combination with other activities are not expected to occur.

Chapter 2 Alternatives

2.1. Introduction

As described in Chapter 1, the National Marine Fisheries Service (NMFS) Proposed Action is to issue an Incidental Harassment Authorization (IHA) to authorize the take of small numbers of marine mammals incidental to the City's proposed construction activities. NMFS Proposed Action is triggered by the City's request for an IHA per the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 *et seq.*). In accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) Regulations, NMFS is required to consider alternatives to the Proposed Action. This includes the no action and other reasonable course of action associated with authorizing incidental take of protected species. The evaluation of alternatives under NEPA assists NMFS with ensuring that any unnecessary impacts are avoided through an assessment of alternative ways to achieve the purpose and need for our Proposed Action that may result in less environmental harm. To warrant detailed evaluation under NEPA, an alternative must be reasonable along with meeting the stated purpose and need for the proposed action. For the purposes of this Draft EA, an alternative will only meet the purpose and need if it satisfies the requirements under section 101(a)(5)(D) the MMPA. Therefore, NMFS applied the following screening criteria to the alternatives to identify which alternatives to carry forward for analysis. Accordingly, an alternative must meet the following criteria to be considered "reasonable".

The MMPA requires NMFS to prescribe the means of effecting the least practicable impact on the species or stocks of marine mammals and their habitat. In order to do so, we must consider City's proposed mitigation measures, as well as other potential measures, and assess how such measures could minimize impacts on the affected species or stocks and their habitat. Our evaluation of potential measures includes consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, we expect the successful implementation of the measure to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation.

Any additional mitigation measure proposed by us beyond what the applicant proposes should be able to or have a reasonable likelihood of accomplishing or contributing to the accomplishment of one or more of the following goals:

- Avoidance or minimization of marine mammal injury, serious injury, or death, wherever possible;
- A reduction in the numbers of marine mammals taken (total number or number at biologically important time or location);
- A reduction in the number of times the activity takes individual marine mammals (total number or number at biologically important time or location);
- A reduction in the intensity of the anticipated takes (either total number or number at biologically important time or location);
- Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base; activities that block or limit passage to or from biologically

important areas; permanent destruction of habitat; or temporary destruction/disturbance of habitat during a biologically important time; and
- For monitoring directly related to mitigation, an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Alternative 1 (the Preferred Alternative) includes a suite of mitigation measures intended to minimize potentially adverse interactions with marine mammals.

2.2. Description of the City's Proposed Activities

The City plans to replace an existing transient float with a new transient float which involves in-water construction activities for removal and installation. Our notice of proposed Authorization and the City's IHA application provide detailed descriptions of the City's proposed activities for the Kodiak Transient Float Replacement Project. That information is incorporated herein by reference and summarized below.

2.2.1. Specified Time and Specified Area

The project may require up to 2.5 months for completion; with a maximum of 12 days for pile driving and drilling. The proposed authorization is will be effective from January 1, 2017 to December 31, 2017.

The transient float is located in Near Island Channel, off Kodiak Island, (see Figure 1-3 of the City's application). Near Island Channel separates downtown Kodiak from Near Island (Latitude 57.788162° North, Longitude -152.400287° West; see Figure 1 in the City's application). The proposed project is located in a busy industrial area. A seafood packing facility is located approximately 25 m (82 ft) east of the float and Petro Marine Services floating fuel dock is located approximately 20 m (66 ft) west of the float. Pier 1, the Alaska Marine Highway Ferry dock, is located 100 m (328 ft) southwest of the float, and Trident Seafood's shore-based seafood processing plant is located approximately 175 m (574 ft) to the southwest (Figure 3; Google Earth 2010). When in operation, Trident's plant receives numerous commercial fishing vessels daily.

Detailed Description of Construction Activities

The project includes the following elements:

- Remove nineteen 12-inch diameter steel piles and two 12-inch wood piles associated with the existing float
- Install twelve 24-inch diameter steel piles to support the replacement float and gangway (Figure 6)
- Install a concrete gangway abutment in uplands
- Install 50A/30 electrical service and 100A electrical service on the float
- Install illumination poles (12-ft tall), life rings, and fire extinguisher cabinets on the float

The project will require both the removal and installation of piles as summarized in Table 2. The Kodiak Transient Float Replacement Project area is previously disturbed by the existing float. The replacement float will decrease the permanent project footprint by approximately 48 m^2 (540 ft^2).

Table 2. Summary of in-water Pile Removal and Installation for the transient float project.

Pile type, location, method	Number of piles	Vibratory hammer		Down-hole drill		Impact hammer	
		# of piles	Hours	# of piles	Hours	# of piles	Hours
12-inch Steel Existing Float Extraction	19	19	6.33	0	0	0	0
24-inch Steel Replacement Float Installation	12	12	2	12	48	12	0.6
Total hours in-water			8.33		48		0.6

Detailed descriptions of these activities are provided below.

Pile Removal

The City proposes to remove the existing timber float and steel gangway and replace it in its entirety. The proposed action includes in-water construction, including the removal of the existing timber float and its associated timber and steel piles. This will require the removal of 19 12-inch diameter steel piles and two 12-inch wood piles. It is estimated that it will take 20 minutes of vibratory pile-driving per pile for extraction. For the in-water extraction of 19 piles, this is an estimated 6.33 hours of total time using active vibratory equipment. Two piles would remain in place, and two piles to be removed are above the high tide line. No temporary piles are associated with this project. The replacement float and gangway will be located within the same operational footprint as the existing facility; however, the replacement float will be approximately 45 ft shorter than the existing float. It is expected that materials and equipment will be transported to the project site by barge and road. While work is conducted in the water, anchored barges will be used to stage construction materials equipment. The existing piles, fixed pier, float and gangway will be removed and disposed of properly and the new float will be installed.

Pile Installation

The proposed action includes in-water construction, including the installation of the replacement float and steel piles. This would include installation of 12 24-inch diameter steel piles to support the replacement float and gangway. It is estimated that it will take 10 minutes of vibratory pile-driving and 4 hours of down-hole drilling per pile for installation. For the installation of 12 piles, this is an estimated 2 hours of total time using active vibratory equipment and 48 hours of total time using down-hole drilling. The 24-inch steel piles will be driven 3-4.6 m (10-15 ft) through sediment and drilled another 3 m (10 ft) into bedrock. The sequence for installing the 24-inch piles will begin with insertion through overlying sediment with a vibratory hammer for about 8 minutes per pile. Next, a hole will be drilled in the underlying bedrock by using a down-hole drill. A down-hole drill is a drill bit that drills through the sediment and a pulse mechanism that functions at the bottom of the hole, using a pulsing bit to break up the harder materials or rock to allow removal of the fragments and insertion of the pile. The head extends so that the drilling takes place below the pile. Drill cuttings are expelled from the top of the pile as dust or mud. It is estimated that drilling piles through the layered bedrock will take about 4 hours per pile. Finally, the vibratory hammer will be used again to finish driving the piles into bedrock, for approximately 2 minutes per pile.

Although impact pile-driving is not expected for this project, the contractor may choose to impact proof the piles after down-hole drilling. In this case, two to five blows of an impact hammer would be used to confirm that piles are set into bedrock, for an expected maximum time of 3 minutes of impact hammering per pile. When the impact hammer is employed for proofing, a pile cap or cushion will be placed between the impact hammer and the pile.

2.3. Description of Alternatives

2.3.1. Alternative 1 – Issuance of an Authorization with Mitigation Measures

The proposed action constitutes Alternative 1 and is the Preferred Alternative. Under this alternative, we would issue an IHA (valid from January 1, 2017 through December 31, 2017) to the City allowing the incidental take, by Level B harassment, of six species of marine mammals, subject to the mandatory mitigation and monitoring measures and reporting requirements set forth in the proposed IHA, if issued, along with any additions based on consideration of public comments.

MITIGATION, MONITORING, AND REPORTING MEASURES

As described in Section 1.2.1, we must prescribe the means of effecting the least practicable impact on the species or stocks of marine mammals and their habitat. In order to do so, we must consider the City's proposed mitigation measures, as well as other potential measures, and assess how such measures could benefit the affected species or stocks and their habitat. Our evaluation of potential measures includes consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, we expect the successful implementation of the measures to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the measures to minimize adverse impacts as planned; and (3) the practicability of the measures for applicant implementation.

Any additional mitigation measure proposed by us beyond what the applicant proposes should be able to or have a reasonable likelihood of accomplishing or contributing to the accomplishment of one or more of the following goals:

- Avoidance or minimization of marine mammal injury, serious injury, or death wherever possible;
- A reduction in the numbers of marine mammals taken (total number or number at biologically important time or location);
- A reduction in the number of times the activity takes individual marine mammals (total number or number at biologically important time or location);
- A reduction in the intensity of the anticipated takes (either total number or number at biologically important time or location);
- Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base; activities that block or limit passage to or from biologically important areas; permanent destruction of habitat; or temporary destruction/disturbance of habitat during a biologically important time; and
- For monitoring directly related to mitigation, an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

To reduce the potential for disturbance associated with the activities, the City has proposed to implement several monitoring and mitigation measures for marine mammals. NMFS has proposed some additional measures. The proposed monitoring and mitigation measures include:

1. Time restrictions: For all in-water pile driving activities, the City shall operate only during daylight hours, and to minimize impacts to minimize impacts to pink salmon fry and coho salmon smolt, the contractor will refrain from impact pile-driving from May 1 through June 30, within the 12-hour period beginning daily at the start of civil dawn. If impact pile-driving occurs from May 1 through June 30, it will occur in the evenings during daylight hours, after the 12-hour period that begins at civil dawn.
2. Marine mammal monitoring by NMFS-approved protect species observers (PSOs) from platforms on shore during construction activities;
3. Establishing level B harassment zone in which behavioral harassment may occur and exposures will be monitored;
4. Establishing shutdown zones within which marine mammals could be exposed to received sound levels associated with injury during the construction activities;
5. Implement use of soft start techniques for impact pile driving activities.

6. Employ use of sound attenuation devices including pile caps or cushions to reduce impacts from sound exposure during impact pile driving.

The City is required to submit a draft monitoring report to NMFS Office of Protected Resources within 90 days after the conclusion of the activities. A final report shall be prepared and submitted within 30 days following resolution of any comments on the draft report from NMFS. A description of the activities conducted by the City and the monitoring protocols would be included in the report.

In our *Federal Register* notice of proposed Authorization, which we incorporate by reference, we preliminarily determined that the measures included in the proposed Authorization were sufficient to reduce the effects of the City's activity on marine mammals to the level of least practicable impact. In addition, we described our analysis of impacts and preliminarily determined that the taking of small numbers of marine mammals, incidental to the City's project would have a negligible impact on the relevant species or stocks and would not have an unmitgable adverse impact on affected species or stocks for taking for subsistence uses. Accordingly, this Preferred Alternative would satisfy the purpose and need of our proposed action under the MMPA– issuance of an Authorization, along with required mitigation measures and monitoring that meets the standards set forth in section 101(a)(5)(D) of the MMPA and the implementing regulations.

2.3.2. Alternative 2 – No Action Alternative

For NMFS, denial of an MMPA authorization constitutes the NMFS No Action Alternative, which is consistent with our statutory obligation under the MMPA to grant or deny permit applications and to prescribe mitigation, monitoring and reporting with any authorizations. Under the NMFS No Action Alternative, there are two potential outcome scenarios. One is that the piledriving, removal, and drilling at the transient float occurs in the absence of an MMPA authorization. In this that case, (1) the City would be in violation of the MMPA if takes occur; (2) mitigation, monitoring and reporting would not be prescribed by NMFS; and 3) mitigation measures might not be performed voluntarily by the applicant. Another outcome scenario is the City could choose would not to proceed with their proposed activities.

By undertaking prescribing measures to protect minimize impacts on marine mammals species or stocks from incidental take through the authorization program, we can potentially lessen the impacts of these activities on the marine environment. While NMFS does not authorize the construction activities, NMFS does authorize the unintentional, incidental unintentional take of marine mammals (under its jurisdiction) in connection with these activities and prescribes, where applicable, the methods of taking and other means of effecting the least practicable impact on the species and stocks and their habitats. Although the No Action Alternative would not meet the purpose and need to allow incidental takes of marine mammals under certain conditions, the CEQ's regulations require consideration and analysis of a No Action Alternative for the purposes of presenting a comparative analysis to the action alternatives.

2.4. Alternatives Considered but Eliminated from Further Consideration

NMFS considered whether other alternatives could meet the purpose and need and support the City's proposed construction project. An alternative that would allow for the issuance of an IHA with no required mitigation or monitoring was considered but eliminated from consideration, as it would not be in compliance with the MMPA and therefore would not meet the purpose and need. For that reason, this alternative is not analyzed further in this document.

Chapter 3 Affected Environment

This chapter describes existing conditions in the proposed action areas. Complete descriptions of the physical, biological, and social environment of the action area are contained in the documents listed in Section 1.3.1 of this EA. We incorporate those descriptions by reference and briefly summarize or supplement the relevant sections for marine mammals in the following subchapters.

3.1. Physical Environment

We are required to consider impacts to the physical environment under NOAA NAO 216-6, as preserved by NAO 216-6A. As discussed in Chapter 1, our proposed action and alternatives relate only to the authorization of incidental take of marine mammals and not to the physical environment. Certain aspects of the physical environment are not relevant to our proposed action (see subchapter 1.3.2 - Scope of Environmental Analysis). Because of the requirements of NAO 216-6, we briefly summarize the physical components of the environment here.

3.1.1. Marine Mammal Habitat

We presented information on marine mammal habitat and the potential impacts to marine mammal habitat in the *Federal Register* notice of the proposed Authorization. In summary, the Steller sea lion is the only ESA-listed marine mammal with critical habitat in the project area. Harbor seals, harbor porpoises, Dall's porpoise, killer whales, and humpback whales are infrequent visitors to the project area but might feed in or transit through the area. The project area occurs within critical habitat for two major Steller sea lion haulouts, located at Long Island and Cape Chiniak. The Long Island haulout is located approximately 4 nautical miles (7.4 kilometers) east of the project site. The Cape Chiniak haulout is located approximately 12 nautical miles (22.2 kilometers) east of the project site. The closest rookery is on the southeast corner of Marmot Island, which is approximately 30 nautical miles (55.6 kilometers) from the project area. The critical habitat surrounding the rookery at Marmot Island does not overlap with the project area. Additionally, Steller sea lions haul out on a man-made float in St. Herman Harbor approximately 0.8 nautical miles (1.3 kilometer) west of the project area. This is not a federally recognized haulout used to define critical habitat.

3.1.2. Ambient Sound

We presented information on ambient sound and the potential impacts to marine mammal habitat in the *Federal Register* notice of the proposed Authorization.

The need to understand the marine acoustic environment is critical when assessing the effects of anthropogenic noise on marine wildlife. Sounds generated by coastal construction such as pile driving and dredging within the marine environment can affect its inhabitants' behavior (e.g., deflection from loud sounds) or ability to effectively live in the marine environment (e.g., masking of sounds that could otherwise be heard).

Ambient sound levels are the result of numerous natural and anthropogenic sounds that can propagate over large distances and vary greatly on a seasonal and spatial scale. These ambient sounds occupy all frequencies and contributions in ocean soundscape from a few hundred Hz to 200 kHz (NRC, 2003). In typical urban coastal waters such as the one at the proposed action area, the main sources of underwater ambient sound would be associated with:

- Wind and wave action
- Precipitation
- Vessel activities
- Biological sounds (e.g. fish, snapping shrimp)

The contribution of these sources to the background sound levels differs with their spectral components and local propagation characteristics (e.g., water depth, temperature, salinity, and ocean bottom conditions). In deep water, low-frequency ambient sound from 1-10 Hz mainly comprises turbulent pressure fluctuations from surface waves and the motion of water at the air-water interfaces. At these infrasonic frequencies, sound levels depend only slightly on wind speed. Between 20-300 Hz, distant anthropogenic sound (ship transiting, etc.) dominates wind-related sounds. Above 300 Hz, the ambient sound level depends on weather conditions, with wind- and wave-related effects mostly dominating sounds. Biological sounds arise from a variety of sources (e.g., marine mammals, fish, and shellfish) and range from approximately 12 Hz to over 100 kHz. The relative strength of biological sounds varies greatly; depending on the situation, biological sound can be nearly absent to dominant over narrow or even broad frequency ranges (Richardson et al. 1995).

The transient float project area is frequented by fishing vessels and tenders; ferries, barges, tugboats; and other commercial and recreational vessels that use the channel to access harbors and city docks, fuel docks, processing plants where fish catches are offloaded, and other commercial facilities. At the adjacent seafood processing plant, fish are offloaded by vacuum hose straight into the processing plant from the vessels' holds, and vessels raft up three and four deep to the dock during peak fishing seasons. Nearby is the Petro Marine fuel dock, which services a range of vessel sizes, including larger vessels that can be accommodated by docking at Pier 1. Two boat harbors exist in Near Island Channel, which house a number of commercial and recreational marine vessels. The channel is also a primary route for local vessel traffic to Gulf of Alaska waters. Ambient underwater sound was measured in Near Island Channel, approximately 100 m southwest and 900 m northeast of the Transient Float, in March 2016 during construction of the Pier 1 Kodiak Ferry Terminal and Dock Improvements Project. Measurements recorded highly variable sound pressure levels (SPLs), ranging from approximately 80 to 140 decibels referenced to one microPascal (dB re 1 μPa). Peaks ranging

from approximately 130 to 140 dB re 1 μPa were produced by vessels passing near acoustic recorders (Warner and Austin 2016).

Ambient underwater noise levels in the transient float project area are both variable and relatively high, and are anticipated to mask some sounds of drilling, pile installation, and pile extraction.

3.2. Biological Environment

The primary component of the biological environment that would be impacted by the proposed action and alternatives would be marine mammals, which would be directly impacted by the authorization of incidental take. We briefly summarize this component of the biological environment here.

3.2.1. Marine Mammal Habitat

We presented information on marine mammal habitat (including prey species) and the potential impacts to marine mammal habitat in the *Federal Register* notice of the proposed Authorization. These are further described in the City's IHA application. Forage fish and other marine mammal prey are generally anticipated to be present in the project area but not in high densities. Effects on EFH by the project and issuance of the Authorization assessed here would be temporary and minor. The main effect would be short-term disturbance that might lead to temporary and localized relocation of the EFH species or their food. The actual physical and chemical properties of the EFH will not be impacted.

3.2.2. Marine Mammals

We provide information on the occurrence of marine mammals most likely present in the proposed activity areas in section 1.1.2 of this EA. The marine mammals most likely to be harassed incidental to conducting the Kodiak Transient Float Replacement Project are: Steller sea lions, harbor seals, Harbor porpoise, Dall's porpoise, killer whales, and humpback whales (Table 3). The marine waters near Kodiak Island support many species of marine mammals, including pinnipeds and cetaceans; however, the number of species regularly occurring near the project area is limited. Steller sea lions are the most common marine mammal in the project area, and are part of the wDPS that is listed as Endangered under the ESA. Harbor seals, harbor porpoises, Dall's porpoise, killer whales, and humpback whales may also occur in the project area, but far less frequently and in lower abundance than Steller sea lions. Two DPSs of humpback whales are listed under the Endangered Species Act (ESA) as threatened (Mexico DPS) and endangered (Western North Pacific DPS).

Table 3. Marine Mammals Potentially Present in the Vicinity of Kodiak transient float.

Species name	Stock(s) abundance	ESA* Status	MMPA** Status	Frequency of Occurrence in

	Estimate[1]			project area
Steller sea lion (*Eumatopias jubatus)*	wDPS	Endangered	Strategic, depleted	Common
Harbor seal (*Phoca vitulina)*	South Kodiak stock	Not listed	Not strategic, non-depleted	Common
Harbor porpoise (*Phocoena phocoena)*	Gulf of Alaska stock	Not listed	Strategic, non-depleted	Common
Dall's porpoise (*Phocoenoides dalli*)	Alaska stock	Not listed	Not strategic, non-depleted	Rare
Killer whale (*Orcinus orca*)	Eastern North Pacific Alaska Resident stock	Not listed	Not strategic, non-depleted	Common
	Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock	Not listed	Not strategic, non-depleted	Common
Humpback whale (*Megaptera novaeangliae*)	Mexico DPS	Threatened	n/a	Rare
	Hawaii DPS	Not listed	n/a	Rare
	Western North Pacific DPS	Endangered	n/a	Rare

[1] 2015 marine mammal Stock Assessment Reports at http://www.nmfs.noaa.gov/pr/sars/species.htm.
*Endangered Species Act
**Marine Mammal Protection Act

3.2.2.1. ESA-listed Marine Mammals

Western DPS of Steller sea lion

Steller sea lions (Western DPS) are the most obvious and abundant marine mammals in the project area. Many individual sea lions have become habituated to human activity in the Kodiak harbor area and utilize a man-made haulout float called Dog Bay float located in St. Herman Harbor, about 1,300 meters (4,300 feet) from the project site. A section from an old floating breakwater, the float was relocated to Dog Bay in 2000 and was intended to serve as a dedicated sea lion haulout. It serves its purpose of reducing sea lion-human conflicts at Kodiak's docks

and harbors by providing an undisturbed haulout location and reducing the numbers of sea lions that haul out on vessel moorage floats.

Counts of sea lions hauled out on the Dog Bay float provide an index of the number of Steller sea lions in the harbor area. Because this float is not considered an official haulout by NMFS, few standardized surveys to count sea lions have been conducted to date (Wynne 2015a). Aerial surveys from 2004 through 2006 indicated peak winter (October–April) counts at the Dog Bay float ranging from 27 to 33 animals (Wynn et al. 2011). More than 100 Steller sea lions were counted on the Dog Bay float at times in spring 2015, although the mean number was much smaller (Wynne 2015b). Counts in February 2015 during a site visit by HDR biologists ranged from approximately 28 to 45 Steller sea lions. According to ABR (2016), however, maximal weekly counts of sea lions at Dog Bay float were only loosely correlated with weekly average-hourly rates of sea lion observations within the construction area. Near Island Channel counts of Steller sea lions adjacent to Pier 1 have ranged from zero to approximately 25 sea lions at one time (FHWA and DOT&PF 2015). More recent counts completed between November 2015 and June 2016 by protected observers (PSOs) working on the Kodiak Ferry Terminal and Dock Improvements Project (approximately 100 m from the transient float) ranged from approximately six to 114 Steller sea lions, with an average of 33 (ABR 2016). It has been estimated that about 40 unique individual sea lions likely pass by the project site each day (Speckman 2015; Ward 2015; Wynne 2015a). Incidental take was estimated for Steller sea lions by conservatively assuming that, within any given day, approximately 40 unique individual Steller sea lions may be present at some time during that day within the Level B harassment zones during active pile extraction or installation.

It is assumed that Steller sea lions may be present every day, and also that take will include multiple harassments of the same individual(s) both within and among days, which means that these estimates are likely an overestimate of the number of individuals. An estimated total of 480 Steller sea lions (40 sea lions/day * 12 days of pile installation or extraction) could be exposed to noise at the Level B harassment level during vibratory and impact pile driving. The attraction of sea lions to the seafood processing plant increases the possibility of individual Steller sea lions occasionally entering the Level A harassment zone (the largest injury zone is 5.5 m during down-hole drilling); however a minimum 10 m shutdown would be in effect for all construction methods, thereby eliminating the potential for Level A harassment. No level A take is authorized for Steller sea lions.

Humpback whales (Mexico DPS and Western North Pacific DPS)

There are three DPSs that may occur in the action area: the Mexico DPS, the Hawaii DPS, and the Western North Pacific (WNP) DPS. Humpback whales were listed as endangered under the Endangered Species Conservation Act (ESCA) in June 1970. In 1973, the ESA replaced the ESCA, and continued to list humpbacks as endangered. NMFS evaluated the status of the population, and on September 8, 2016, NMFS divided the globally listed humpback whale into

14 distinct population segment (DPS), removed the current species-level listing, and in its place listed four DPSs as endangered and one DPS as threatened (81 FR 62259). The remaining nine DPSs were not listed because it was determined that they are not threatened or endangered under the ESA. The Hawaii DPS of humpback whales was not listed under the ESA in NMFS final rule, while the Mexico DPS was listed as threatened and the WNP DPS was listed as Endangered (81 FR 62259).

Humpback whales are rare in the action area. One solitary animal was observed in March 2016 during 110 days monitoring of the Kodiak Ferry Terminal and Dock Improvements Project. The project area is within the known range of the species, and they have been observed at other locations on Kodiak Island. Conservatively, it assumed that one individual could be present in the area on half of the days of in-water construction. NMFS therefore proposes six Level B takes. No Level A takes are requested for this species.

Of the humpback whales found in Alaska, it is estimated that 89% are from the Hawaii DPS, 10.5% are from the Mexico DPS, and 0.5% are from the WNP DPS (Wade et al., 2016).

3.2.2.2. Non-ESA-listed Marine Mammals

Harbor Seal

The current statewide abundance estimate for Alaskan harbor seals is 152,602, based on aerial survey data collected during 1998 to 2007 (Allen and Angliss 2010). The abundance estimate for the South Kodiak stock is 11,117, with a minimum estimate of 10,645 (Allen and Angliss 2010). Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice (Allen and Angliss 2014). They are non-migratory. Their local movements are associated with tides, weather, season, food availability, and reproduction, as well as sex and age class (Swain et al. 1996; Lowry et al. 2001; Boveng et al. 2012; Allen and Angliss 2014).

Although the number of harbor seals on eastern Kodiak haulouts has been increasing steadily since the early 1990s (Kodiak Seafood and Marine Science Center 2015), sightings are rare in the project area. Several harbor seals tagged at Uganik Bay (Northwest Kodiak Island) dispersed as far north as Anchorage and as far south as Chignik, but none were found near Kodiak (Kodiak Seafood and Marine Science Center 2015). Harbor seals are opportunistic feeders whose diet varies with season and location. Harbor seals are anticipated to be encountered occasionally in the project area.

Harbor seals are expected to be encountered in low numbers within the project area. However, based on the known range of the South Kodiak stock, 13 single sightings during 110 days of monitoring of the Kodiak Ferry Terminal and Dock Improvements Project, and occasional sightings during monitoring of projects at other locations on Kodiak Island, it is assumed that harbor seals could be present every day. This analysis conservatively assumes that harbor seals could be present on any one day during the 12 days of pile installation and removal. Using this number, it is estimated that the following number of harbor seals may be present in the

disturbance area. An estimated total of 48 harbor seals could be exposed to noise at the level B harassment level during in-water construction activities. We assumed three harbor seals (the maximum number of seals observed during the Kodiak Ferry Terminal and Dock Improvements Project over 110 days of monitoring) may be seen in Near Island Channel for 36 takes, and included an additional one seal per day that may be present in the larger 120 dB zone for an additional 12 seals. The shutdown zone for harbor seals is 50 m for all construction methods. Because this shutdown zone covers the entire injury zone (10 m for impact and vibratory, and 50 m for down-hole drilling), Level A harassment can be avoided. No level A take is authorized for harbor seals.

Harbor Porpoise

In the eastern North Pacific Ocean, the harbor porpoise ranges from Point Barrow, along the Alaska coast, and down the west coast of North America to Point Conception, California. The Gulf of Alaska stock is currently estimated at 31,046 individuals, with a minimum population estimate of 25,987 (Allen and Angliss 2013). Harbor porpoises forage primarily on Pacific herring, other schooling fish, and cephalopods (Leatherwood et al. 1982). Harbor porpoises commonly frequent nearshore waters, but are rarely, if ever, noted in the Kodiak channel (Wynne 2015). Harbor porpoises are anticipated to be encountered rarely in the project area.

Harbor porpoises are expected to be encountered in low numbers within the project area. Based on the known range of the Gulf of Alaska stock, six sightings of singles or pairs only during 110 days of monitoring of the Kodiak Ferry Terminal and Dock Improvements project, and occasional sightings during monitoring of projects at other locations on Kodiak Island, it is assumed that harbor porpoises could be present every day. Dahlheim (2009, 2015) states that the average group size of harbor porpoise is between one and two individuals. To be conservative, we assumed groups of two animals may be seen on any given day. NMFS proposes 24 Level B takes (two animals on 12 days) of harbor porpoises by exposure to underwater noise over the duration of construction activities. A shutdown zone of 100 m would be established for all construction methods for harbor porpoise. The largest injury zone is 64.6 m (rounded to 100 m) for this species; therefore, level A take can be avoided. No Level A take is authorized for harbor porpoise.

Dalls' porpoise

Dall's porpoise are widely distributed in the North Pacific Ocean, usually in deep oceanic waters (>2,500 m) or over the continental shelf or along slopes (Muto *et al.,* 2015). They are present throughout the entire year. The stock structure of eastern North Pacific Dall's porpoise is not adequately understood at this time; therefore, only one stock is recognized in Alaskan waters: the Alaska stock (Muto et al., 2015).

The Alaska stock of Dall's porpoise has an abundance estimate of 83,400 individuals based on surveys from the early 1990s. However, this data is unreliable because it is over eight years old. Information on PBR and population trends are not currently available (Muto et al, 2015). Dall's porpoise are not designated as depleted or classified as strategic under the MMPA, nor are they listed under the ESA (Muto et al., 2015). The main threat to this species is habitat modification from climate change and urban/industrial development (Muto et al., 2015). Average group size

for Dall's porpoise in Southeast Alaska is three individuals (Dahlheim 2009). The OBIS SEAMAP website states that this species forms small groups of between two and 12 individuals (Halpin 2009 at OBIS-SEAMAP 2016).

Dall's porpoises are expected to be encountered within the project area rarely. Although no sightings of Dall's porpoise occurred during 110 days monitoring of the Kodiak Ferry Terminal and Dock Improvements Project, the project area is within the known range of the Gulf of Alaska stock and they have been observed at other locations on Kodiak Island. This project also includes a narrow band that will be ensonified extending to Woody Island, where Dall's porpoise may be present. There is minimal information on group sizes of this species in the Kodiak area. Dahlheim (2009) noted mean group size of Dall's porpoise in Southeast Alaska between the Spring and Fall of 1991- 2007 ranged from 2.51 to 5.46 animals, with average group sizes between 2.77 and 3.55. OBIS SEAMAP states that Dall's porpoise usually form small groups between two and 12 individuals, and had two observations of Dall's porpoise near Kodiak Island with group sizes of one and two individuals (Halpin 2009 at OBIS-SEAMAP 2016). We therefore, conservatively, assume that Dall's porpoises with an average group size of seven individuals could be present in the area every other day of in-water construction. NMFS proposes 42 Dall's porpoise level B takes (7 animal/day * 6 days of pile activity). No Level A takes are requested for this species.

Killer whale

Only the Alaska Resident stock and the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock are considered in this EA because other stocks occur outside the geographic area under consideration. The Alaska Resident stock of killer whales is currently estimated at 2,347 individuals, and the estimate of the Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock is 587 individuals (Allen and Angliss 2013).

Transient killer whales are seen periodically in waters of Kodiak Harbor, with photo-documentation since at least 1993 (Kodiak Seafood and Marine Science Center 2015). They have been repeatedly observed and photographed attacking Steller sea lions. Killer whales occasionally occur in Near Island Channel and typically hunt Steller sea lions. Resident killer whales are rarely sighted in the project area and are anticipated to be encountered only rarely. Transient killer whales are anticipated to be occasionally encountered in the project area.

Killer whales are expected to be in the Kodiak harbor area sporadically from January through April and to enter the project area in low numbers. Nineteen killer whales were observed during 110 days of monitoring for the Kodiak Ferry Terminal and Dock Improvements Project with the largest pod size of seven individuals. NMFS estimates that pod of seven individual whales may enter the project area twice during the 12 days of pile installation and removal. NMFS therefore proposes 14 Level B takes (7 killer whales/visit * 2 days) of killer whales by exposure to underwater noise over the duration of construction activities. No Level A take is requested under this authorization, since it is expected that construction could be shut down before the whales enter the Level A harassment area (10 m for all methods). No Level A takes are requested for this species.

Humpback whale (Hawaii DPS)

The Hawaii DPS breeds within the main Hawaiian Islands. Whales from this breeding population have been observed in most known feeding grounds in the North Pacific, but about half of the whales from population migrate to Southeast Alaska and Northern British Columbia. They also commonly utilize northern British Columbia, northern Gulf of Alaska, and Bering Sea feeding grounds (Bettridge et al. 2015). The Hawaii DPS of humpback whales comprises approximately 89% of the humpback whales found in Alaska. It is expected that of the six humpback whale takes requested, five of them will be from the Hawaii DPS.

3.3. Social Environment

3.3.1. Subsistence

No significant subsistence activity currently occurs within the immediate transient float area, but Alaska Natives have traditionally harvested subsistence resources in the Kodiak area for many hundreds of years. Both Steller sea lions and harbor seals are harvested by Alaska Natives for subsistence in the surrounding Kodiak area.

An estimated 163 harbor seals were harvested in seven communities on Kodiak Island in 2011. Approximately 36 of these harbor seals were harvested near the City of Kodiak, where 32.5 percent of the Alaska Native households harvested harbor seals (ADF&G 2012). The number of harbor seals harvested near the City of Kodiak from 1992 to 2011 ranged from 7 to 71 individuals per year, with an average of 21.8 per year.

In 2011, an estimated 20 Steller sea lions were harvested on Kodiak Island, and two of them were harvested near the City of Kodiak (ADF&G 2012). Between 1992 and 2011, the number of Steller sea lions harvested per year ranged from 0 to 13 sea lions near the City of Kodiak, with an average number of 1.9 Steller sea lions harvested per year (ADF&G 2012). These numbers have been adjusted for under-reported harvest.

Chapter 4 Environmental Consequences

This chapter of the EA analyzes the impacts of the two alternatives and addresses the potential direct, indirect, and cumulative impacts of our issuance of an IHA. The City's application and other related environmental analyses identified previously, inform an analysis of the direct, indirect, and cumulative effects of our proposed issuance of an Authorization

Under the MMPA, we have evaluated the potential impacts of the City's construction program activities on the affected marine mammal species or stocks in order to determine whether to authorize incidental take of marine mammals. Under NEPA, we have determined that an EA is appropriate to evaluate the potential significance of environmental impacts resulting from the issuance of an IHA.

4.1. Effects of Alternative 1 – Issuance of an IHA with Mitigation Measures

Alternative 1 is the Preferred Alternative, under which we would issue an IHA to the City allowing the incidental take, by Level B harassment, of six species of marine mammals from January 1 through December 31, 2017, subject to the mandatory mitigation and monitoring measures and reporting requirements set forth in the IHA, if issued. We would incorporate the mitigation and monitoring measures and reporting described earlier in this EA (see Section 2.3.1) into a final IHA.

4.1.1. Impacts to Marine Mammal Habitat

No permanent impacts to marine mammal habitat are proposed to or would occur as a result of the proposed Project. The City's proposed Kodiak Transient Float Replacement Project would not modify the existing habitat. Therefore, no restoration of the habitat would be necessary. A temporary, small-scale loss of foraging habitat may occur for marine mammals, if the marine mammals leave the area during pile extraction and driving activities.

Acoustic energy created during pile replacement work would have the potential to disturb fish within the vicinity of the pile replacement work. As a result, the affected area could temporarily lose foraging value to marine mammals. During pile driving, high noise levels may exclude fish from the vicinity of the pile driving. Hastings and Popper (2005) identified several studies that suggest fish will relocate to avoid areas of damaging noise energy. If fish leave the area of disturbance, pinniped foraging habitat in that area may have temporarily decreased foraging value when piles are driven using impact hammering.

The duration of fish avoidance of this area after pile driving stops is unknown. However, the affected area represents an extremely small portion of the total foraging range of marine mammals that may be present in and around the project area.

Because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammals and the food sources that they utilize are not

expected to cause significant or long-term consequences for individual marine mammals or marine mammal populations.

4.1.2. Impacts to Marine Mammals

We expect that behavioral disturbance or displacement and exposure to noise that could cause injury resulting from the activities associated with the Project has the potential to impact marine mammals and comprises the only likely source of effects to marine mammals. The level of impact on marine mammals from construction activities would vary depending on the species of marine mammal, the distance between the marine mammal and the construction activity, the intensity and duration of the construction activity, and environmental conditions. Our notice of proposed Authorization and the City's IHA application provide detailed descriptions of these potential effects of proposed project activities on marine mammals. That information is incorporated herein by reference and summarized below.

The majority of impacts are likely to occur from drilling, pile driving, and pile removal activities. Pile driving and removal activities associated with the construction could cause pinniped behavioral modification and temporary displacement within the vicinity of the action area through: (1) noise generated from pile removal and pile driving; and (2) visual disturbance from construction activities and crew. Elevated sound levels could cause injury (Permanent Threshold Shift [PTS]) for a small number of five of the species. We expect these impacts to be minor because we do not anticipate measurable changes to the population or impacts to rookeries, mating grounds, and other areas of similar significance. These activities are not anticipated to result in serious injury or mortality of any marine mammal species and none is proposed to be authorized.

We expect no long-term or substantial adverse effects on marine mammals, their habitats, or their role in the environment. We base our conclusion on the results of previous monitoring for the same activities and anecdotal observations for the same activities in the proposed area.

Estimated Take of Marine Mammals by Level B Incidental Harassment

As discussed above, in-water pile removal, pile driving (vibratory and impact), and down-hole drilling generate loud noises that could potentially harass marine mammals in the vicinity of the City's proposed Kodiak Transient Float Replacement Project.

Currently, NMFS uses 120 dB re 1 μPa and 160 dB re 1 μPa at the received levels for the onset of Level B harassment from non-impulse (vibratory pile driving and removal) and impulse sources (impact pile driving) underwater, respectively. Table 4 summarizes the current NMFS marine mammal take criteria.

In August 2016, NMFS released its Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing, which established new thresholds for predicting auditory injury, which equates to Level A harassment under the MMPA. In the August 4, 2016, Federal Register Notice announcing the Guidance (81 FR 51694), NMFS explained the approach it would take during a transition period, wherein we balance the need to consider this

new best available science with the fact that some applicants have already committed time and resources to the development of acoustic analyses based on our previous thresholds and have constraints that preclude the recalculation of take estimates, as well as consideration of where the agency is in the decision-making pipeline. In that Notice, we included a non-exhaustive list of factors that would inform the most appropriate approach for considering the new guidance, including: how far in the MMPA process the applicant has progressed; the scope of the effects; when the authorization is needed; the cost and complexity of the analysis; and the degree to which the Guidance is expected to affect our analysis. This guidance provides updated received levels, or acoustic thresholds, above which individual marine mammals under NMFS' jurisdiction are predicted to experience changes in their hearing sensitivity (either temporary or permanent) for all underwater anthropogenic sound sources. The new guidance only determined PTS (or Level A take, injury) for marine mammal hearing groups and Level B take zones are not affected. Tables 4 and 5 detail in-water acoustic criteria for exposure of marine mammals to Disturbance Thresholds (Level B Harassment) and PTS Onset Acoustic Thresholds (Level A Harassment), respectively.

Table 4. Current Level B Acoustic Exposure Criteria for Non-explosive Sound Underwater

Criterion	Criterion Definition	Threshold
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 μPa (rms)
Level B Harassment	Behavioral Disruption (for non-impulse noise)	120 dB re 1 μPa (rms)
Level B harassment (airborne)	Behavioral disruption	90 dB (harbor seals) 100dB (other pinnipeds) (unweighted)

*Temporary Threshold Shift

Table 5. In-water Acoustic Criteria for In-water Exposure of Marine Mammals to PTS Onset Acoustic Thresholds (Level A Injury) from Continuous and Impulse Sound Sources.

Hearing Group	PTS Onset Acoustic Thresholds SEL_{cum} Thresholds		
	Pile-driving (Impulsive)	Vibratory Pile-driving (Continuous)	Down-hole Drilling (Continuous)[1]
Low-Frequency Cetaceans (7 Hz to 35 kHz)	183 dB	199 dB	199 dB
Mid-Frequency Cetaceans (150 Hz to 160 kHz)	185 dB	198 dB	198 dB
High-Frequency Cetaceans (275 Hz to 160 kHz)	155 dB	173 dB	173 dB
Phocid Pinnipeds (50 Hz to 86 kHz)	185 dB	201 dB	201 dB
Otariid Pinnipeds (60Hz to 39 kHz)	203 dB	219 dB	219 dB

As explained above, ZOIs will be established that encompass the areas where received underwater SPLs exceed the applicable thresholds for Level A and Level B harassment.

Incidental take is estimated for each species by estimating the likelihood of a marine mammal being present within a ZOI during active pile removal or driving. Expected marine mammal presence is determined by past observations and general abundance near the project area during the construction window. For all marine mammals, local densities are not available; therefore the following calculation was used: numbers of animals in the area multiplied by the number of days of noise generating activities on which marine mammals are expected to be present.

Table 6 outlines the number of Level A and Level B harassment takes that we propose to authorize in this Authorization, the regional population estimates for marine mammals in the action area, and the percentage of each population or stock that may be taken as a result of the City's activities. Our proposed Authorization notice and the City's application contain complete descriptions of how these take estimates were derived. We do not expect the proposed activities to impact rates of recruitment or survival for any affected species or stock. Further, the activities would not adversely affect marine mammal habitat.

Table 6. Summary of potential marine mammal takes and percentage of stocks affected.

Species	Proposed Authorized Level A and Level B takes	Stock Abundance estimate	Percentage of total stock (%)
Steller sea lion (*Eumatopias jubatus*) *wDPS*	480	49,497	0.97
Harbor seal (*Phoca vitulina*) *South Kodiak stock*	48	19,199	0.25
Harbor porpoise (*Phocoena phocoena*) *Gulf of Alaska stock*	24	31,046	0.08
Dall's porpoise (*Phocoenoides dalli*) *Alaska stock*	42	83,400	0.05
Killer whale (*Orcinus orca*) *Eastern North Pacific Alaska Resident stock* *Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea stock*	14	2,347 587	0.6 2.39
Humpback whale (*Megaptera novaeangliae*) *Central North Pacific Stock* *Western North Pacific Stock*	6	10,103 1,107	0.06 0.54

4.1.3. Impacts to Subsistence

We anticipate that the City's transient float project will have negligible effects on subsistence resources in the area. Noise from the transient float project might temporarily displace wildlife from the area, but animals are anticipated to return to the area following the cessation of noise sources. Furthermore, all project activities will take place within the immediate vicinity of the transient float site, which is not used as a subsistence harvest area. Potential exposure of subsistence resources to sound that could result in injury would be negligible, accounting for less than two percent of the Steller sea lion wDPS population and less than one percent of harbor seals, and therefore would not have an adverse impact on the availability of marine mammals for subsistence use at locations farther away. No disturbance or displacement of sea lions or harbor seals from traditional hunting areas by activities associated with the transient float project is anticipated. No changes to availability of subsistence resources would result from transient float

project activities. There is no reported subsistence harvest of killer whales, harbor porpoises, Dall's porpoises, or humpback whales in Alaska (Allen and Angliss 2015), and therefore the project is not anticipated to have an impact on subsistence harvest of these species.

4.2. Effects of Alternative 2 – No Action Alternative

Under the No Action Alternative, we would not issue an IHA to the City. As a result, the City would not receive an exemption from the MMPA prohibitions against the take of marine mammals and would be in violation of the MMPA if take of marine mammals occurs.

The impacts to elements of the human environment resulting from the No Action Alternative—conducting the Kodiak Transient Float Replacement Project in the absence of required protective measures for marine mammals under the MMPA—would be greater than those impacts resulting from Alternative 1, the Preferred Alternative.

4.2.1. Impacts to Marine Mammal Habitat

Under the No Action Alternative, the effects on the physical environment or on components of the biological environment that function as marine mammal habitat would result from the City's planned construction activities, are similar to those described in Section 1.4.2. Even without mitigation measures, however, impacts to marine mammal habitat (including prey species) would be minimal and temporary for the following reasons:

- Down-hole drilling and vibratory driving will be the preferred method of pile installation. Impact driving will be utilized only when vibratory driving is not tenable due to local geotechnical conditions.
- The area of potential effect is limited in time ; and
- There are no rookeries or major haul-out sites nearby or ocean bottom structure of significant biological importance to marine mammals that may be present in the ensonified area.

The most likely impact to marine mammal habitat would be minor impacts to the immediate substrate during installation and removal of piles during the project, or temporary avoidance by prey species of the immediate area. This Alternative would result in similar effects on the physical environment and components of the biological environment that function as marine mammal habitat as Alternative 1.

4.2.2. Impacts to Marine Mammals

Under the No Action Alternative, the City's planned construction activities could result in increased amounts of Level B harassment to marine mammals, although no takes by serious injury or mortality would be expected even in the absence of mitigation and monitoring measures. While it is difficult to provide an exact number of takes that might occur under the No Action Alternative, the numbers would be expected to be larger than those presented in Table 6

above, because the City would not be required to follow mitigation measures designed to warn marine mammals of the impending increased underwater sound levels, and additional species may be incidentally taken because the City would not be required to shut down activity if any marine mammals occurred in the project vicinity.

If the activities proceeded without the protective measures and reporting requirements required by a final Authorization under the MMPA, the direct, indirect, and cumulative effects on the human or natural environment of not issuing the IHA would include the following:

- Increases in the number of behavioral responses and potential takes to additional species, because of the lack of mitigation measures required in the Authorization. Thus, the incidental take of marine mammals would likely occur at higher levels than we have already identified and evaluated in our *Federal Register* notice on the proposed Authorization; and

- We would not be able to obtain the monitoring and reporting data needed to assess the anticipated impact of the activity upon the species or stock and to increase knowledge of the species, as required under the MMPA.

4.2.3. Impacts to Subsistence

Under the No Action Alternative, the transient float project would have no additive effects on subsistence beyond those resulting from the the City's activities, which were evaluated in the referenced documents (see Section **Error! Reference source not found.**).

4.3. Compliance with Necessary Laws – Necessary Federal Permits

We have determined that the issuance of an IHA is consistent with the applicable requirements of the MMPA, ESA, MSFMCA, and our regulations. Please refer to Section 1.4 of this EA for more information.

4.4. Unavoidable Adverse Impacts

The City's application, our notice of a proposed Authorization, and the other environmental analyses identified previously summarize unavoidable adverse impacts to marine mammals or to their populations to which they belong or on their habitats occurring in the proposed project area. We incorporated those documents by reference.

We acknowledge that the incidental take authorized would potentially result in unavoidable adverse impacts including marine mammal behavioral responses and alterations in the distribution of local populations as a result of the Project. However, we do not expect the City's activities to have adverse consequences on the annual rates of recruitment or survival of marine mammals in Alaska waters, and we do not expect the marine mammal populations in that area to experience reductions in reproduction, numbers, or distribution that might appreciably reduce their likelihood of surviving or recovering in the wild. We expect that the numbers of individuals of all species taken by harassment would be small (relative to species or stock abundance) and

that the proposed Project and the take resulting from the proposed project activities would have a negligible impact on the affected species or stocks of marine mammals.

4.5. Cumulative Effects

NEPA defines cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR §1508.7). Cumulative impacts can result from individually minor but collectively significant actions that take place over a period of time.

This cumulative effects analysis focuses on activities that may temporally or geographically overlap with the City's activities and would most likely impact the marine mammals present in the proposed areas. We consider the impact of the City's presence and effects of conducting activities in the proposed action areas to be insignificant when compared to other human activities in the area.

Past, present, and reasonably foreseeable impacts to marine mammal populations include the following: climate change; coastal development; subsistence harvesting; marine pollution; disease; increased vessel traffic, marine mammal watching, and fisheries interactions. These activities account for cumulative impacts to regional and worldwide populations of marine mammals, many of which are a small fraction of their former abundance. However, quantifying the biological costs for marine mammals within an ecological framework is a critical missing link to our assessment of cumulative impacts in the marine environment and assessing cumulative effects on marine mammals (Clark *et al.*, 2009). Despite these regional and global anthropogenic and natural pressures, the transient float project is not likely to add an increment of disturbance that would cumulatively result in significant adverse impacts to marine mammals or their habitats.

The proposed construction project would add another, albeit localized and temporary, activity in Alaska. This activity would be limited to a small area in the Near Island Channel and a narrow band extending out to Woody Island for a relatively short period of time (57 hours over 12 days). This section provides a brief summary of the human-related activities affecting the marine mammal species in the action area.

4.5.1. Climate Change

Climate change is a reasonably foreseeable condition that may result in cumulative effects to ESA-listed species in the Kodiak Island vicinity (NMFS 2011). The 2007 Intergovernmental Panel on Climate Change concluded that there is strong evidence for global warming and associated weather changes, and humans have "very likely" contributed to the problem through burning fossil fuels and adding other "greenhouse gases" to the atmosphere (IPCC 2007). This study involved numerous models to predict changes in temperature, sea level, ice pack dynamics,

and other parameters under a variety of future conditions, including different scenarios for how human populations respond to the implications of the study.

Global climate change could significantly affect the marine resources of Kodiak Island. Possible impacts include temperature and rainfall changes, potentially rising sea levels, and changes to ocean conditions. These changes may affect the coastal marine ecosystem in the proposed project area by increasing the vertical stratification of the water column and changing the intensity and rhythms of coastal winds and upwelling. Such modifications could cause ecosystem regime shifts as the productivity of the regional ecosystem undergoes various changes related to nutrients input and coastal ocean process (USFWS 2011).

It is not clear how governments and individuals would respond to the effects of climate change, or how much future efforts would reduce greenhouse gas emissions. Although the intensity of climate change would depend on how quickly and deeply humanity responds, the models predict that the climate changes observed in the past 30 years would continue at the same or increasing rates for at least 20 years. Although we recognize that climate change is a concern for the sustainability of the entire Kodiak archipelago ecosystem, it is unclear at this time the full extent to which climate change would affect marine mammals. However, given that the transient float project would replace existing infrastructure, and construction-related impacts are temporary in nature, the immediate construction project is not likely to result in an increase in vessel traffic or add an incremental disturbance that would cumulatively result in significant adverse impacts to marine mammals due to climate change.

4.5.2. Coastal Development

Coastal development may result in the loss of habitat, increased vessel traffic, increased pollutants, and increased noise associated with construction and activities of the projects after construction. DOT&PF has identified several coastal projects that were completed recently or are reasonably certain to occur in the project area. The adjacent Petro Marine facility (to the northeast) was replaced in 2013. In addition, the Kodiak Waterfront Master Plan identifies the need for upgrades of various piers and harbors (PND Engineers, Inc. 2010). We considered the cumulative effects associated with the Petro Marine fuel project and other minor repair work in the vicinity and concluded that these projects "are relatively temporary in nature and collectively add to the ongoing noise at the Kodiak port. To date, the chronic noise of the Kodiak port apparently has not prevented Steller sea lions from using this area, as indicated by the frequent use of the St. Herman Harbor float and the adjacent seafood-processing facility. Significant increases in the baseline activity and noise levels are not predicted within the action area in the foreseeable future" (NMFS 2013).

4.5.3. Subsistence Harvesting

Subsistence harvest by Alaska Natives is a reasonably foreseeable activity that may result in cumulative effects to marine mammals (particularly Steller sea lions) in the Kodiak Island area

(NMFS 2011). Harbor seals and sea lions are used for subsistence near the City of Kodiak. However, no significant subsistence activity currently occurs within the immediate transient float area, although Alaska Natives have traditionally harvested subsistence resources in the Kodiak area for many hundreds of years.

Wolfe et al. (2012) reported that subsistence harvest of Steller sea lions has declined since the mid-1990s, and that subsistence "take" by Alaska Native hunters has leveled off in recent decades. In 2011, 20 sea lions were taken by subsistence hunters, with the vast majority from the Old Harbor and Akhiok communities, far from the transient float project area. NMFS (2011) identified Ugak Island, a major Steller sea lion haulout approximately 25 miles from the transient float project area, as a potential sea lion harvest location. Due to the distance of the most commonly utilized sea lion harvest sites from the project area, the transient float project is not anticipated to incrementally increase cumulative effects to subsistence harvest of Steller sea lions in the project area.

During 2011, the take of harbor seals was the lowest recorded on Kodiak Island since 1992, although subsistence hunting for harbor seals is reported from all studied communities on Kodiak Island (Wolfe et al. 2012). Despite the relative commonality of harbor seal harvest on Kodiak Island, the reported number of harvested individuals is low. Due to the temporary nature of the project and the previously-developed nature of the project area, the transient float project is not anticipated to measurably affect subsistence harvest of harbor seals.

No disturbance or displacement of sea lions or harbor seals from traditional hunting areas by activities associated with the transient float project is anticipated, and no changes to the availability of subsistence resources would result from transient float project activities. However, to further mitigate any effects to subsistence harvest, the City plans to notify local Alaska Native Tribes that may have members who hunt marine mammals for subsistence. If significant concerns are expressed regarding project impacts to subsistence hunting of marine mammals, then further communication between the City and Tribes would occur, including provision of any project information as well as clarification of any mitigation and minimization measures that may reduce impacts to marine mammals. With implementation of these measures, NMFS believes impacts to subsistence harvest would be avoided.

4.5.4. Marine Pollution

Marine mammals are exposed to contaminants via the food they consume, the water in which they swim, and the air they breathe. Point and non-point source pollutants from coastal runoff, at-sea disposal of dredged materials and sewage effluent, marine debris, and potential hazardous material releases from commercial vessels and on-shore users are all lasting threats to marine mammals in the project area. The long-term impacts of these pollutants, however, are difficult to measure.

The persistent organic pollutants (POPs) tend to bioaccumulate through the food chain; therefore, the chronic exposure of POPs in the environment is perhaps of the most concern to high trophic level predators such as harbor seals and Steller sea lions.

The transient float project is in a busy port with vessel refueling facilities such as the adjacent Petro Marine facility, which was replaced in 2013. It is assumed that such facilities are upgraded as they are replaced, which would reduce pollutants entering the water. The transient float construction activities would be temporary and are not anticipated to cause increased exposure of POPs to marine mammals in the project vicinity due to the small scale and localized nature of the activities. Additionally, removed piles and demolished decking material would be transferred off-site for proper disposal.

4.5.5. Disease

Disease is common in many marine mammal populations and has been responsible for major die-offs worldwide, but such events are usually relatively short-lived. The City's construction activities are not expected to affect the disease rate among marine mammals in the project vicinity.

4.5.6. Increased Vessel Traffic

The Kodiak harbor/port area, and the transient float project area specifically, is frequently traversed by barges, tug boats, and recreational and commercial vessels and tenders. Navigation lanes are frequently subject to dredging, an activity that produces underwater noise. Additionally, the Kodiak Waterfront Master Plan identifies the need for the need for multiuse dock space for future growth (PND Engineers, Inc. 2010). These ongoing and future uses and activities contribute to elevated background noise levels in the project area, and increased exposure of marine mammals to vessel strikes.

While marine mammals might be exposed to tug-related noises, given the transitory nature of tugs, any disturbance to a particular individual would be limited in space and time. Because tug boats would move slowly and follow well-established, common navigation lanes in the Kodiak harbor/port, there is limited potential that incremental effects associated with transient float construction vessel traffic would measurably affect marine mammals in the project area.

4.5.7. Marine Mammal Watching

Although marine mammal watching is considered by many to be a non-consumptive use of marine mammals with economic, recreational, educational and scientific benefits, it is not without potential negative impacts. One concern is that animals may become more vulnerable to vessel strikes once they habituate to vessel traffic (Swingle *et al*., 1993; Laist *et al*., 2001; Jensen and Silber, 2004). Another concern is that preferred habitats may be abandoned if disturbance levels are too high. Several recent research efforts have monitored and evaluated the impacts of people closely approaching, swimming, touching and feeding marine mammals and has suggested that marine mammals are at risk of being disturbed ("harassed"), displaced or injured

by such close interactions. Researchers investigating the adverse impacts of marine mammal viewing activities have reported boat strikes, disturbance of vital behaviors and social groups, separation of mothers and young, abandonment of resting areas, and habituation to humans (Nowacek *et al*., 2001, Bejder et al 2006, Higham et al 2009).

While marine mammal watching operations do occur in the vicinity of the proposed project area, no marine mammal-watching operations are expected to occur in the vicinity of the proposed action area . The City's authorized pile driving activities are of short duration encompassing a relatively small area, therefore, the cumulative adverse effects of the proposed action on the affected populations when added to the effects of marine mammal watching are not expected to be significant.

4.5.8. Fisheries Interactions

State-managed commercial and sport fisheries are a reasonably foreseeable non-federal activity that may result in cumulative effects to ESA-listed species (particularly Steller sea lions) in the Kodiak Island vicinity (NMFS 2011). Commercial fishing operations in the project area would continue to provide an "artificial" food source for Steller sea lions for the foreseeable future. These operations would continue to contribute to apparent habituation of Steller sea lions to food sources aboard fishing vessels. Such fisheries may also result in direct mortality or injury to Steller sea lions and other marine mammals due to entanglement in fishing gear.

Though marine mammals are likely affected by the cumulative actions of the fishing industry in and around the transient float project area, the transient float project is not likely to add an incremental disturbance that would cumulatively result in significant adverse impacts to marine mammals.

4.5.9. Conclusion

Based on the summation of activity in the area provided in this section, NMFS determined that the incremental impact of an Authorization for the proposed Kodiak Transient Float Replacement Project in Kodiak, Alaska would not be expected to result in a significant cumulative impact to the human environment, taking into account past, present, and reasonably foreseeable future activities. The potential impacts to marine mammals, their habitats, and the human environment in general are expected to be minimal, based on the limited and temporary footprint of the proposed Project and the mitigation and monitoring requirements of the IHA.

Chapter 5 List of Preparers and Agencies Consulted

Agencies Consulted
NMFS Alaska Region, Office of Protected Resources
NMFS Alaska Region, Office of Habitat Conservation

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