

**RECORDED MEETING**

**Meeting Minutes  
Homer Navigation Improvements Study, AK  
August 23, 2023  
2:00 pm to 4:00 pm**

**Administrative Information**

**Meeting:** August Environmental Stakeholder Working Group Meeting

**Meeting Type/Location:** Virtual / Webex at:  
<https://usace1.webex.com/usace1/j.php?MTID=mcc7899f83879138e85ec155880ef0cf0>

**Meeting Topic(s):** Admin Actions, Fieldwork, Footprint Resources, Avifauna, Status Updates

**Meeting Agenda:**

- Attendance
- Administrative Topics
  - Status of Previous “To Do(s)” and “Request(s) for Information”
  - Meeting Minutes
  - Non-Meeting Correspondence Management
  - Final ESWG Guidance
- Study, Environmental Resource Fieldwork
- Environmental Resources Topics
  - Resources within Alternatives’ Footprint
  - Avifauna
- Study Status and Important Upcoming Study Dates
- Open Discussion

**Attendance (16 Individuals):** *Name (Organization, if Applicable)*

<b>Project Delivery Team (PDT) Members (6 Individuals)</b>			
<i>Kayla Campbell</i>	<i>USACE</i>	<i>Tyler Teese</i>	<i>USACE</i>
<i>KC Kent</i>	<i>HDR</i>	<i>Curtis Lee</i>	<i>USACE</i>
<i>Mike Rouse</i>	<i>USACE</i>	<i>Amy Woodruff</i>	<i>City of Homer (P&amp;H)</i>
<b>Non-PDT Members (10 Individuals)</b>			
<i>George Matz</i>	<i>KBB</i>	<i>Marilyn Sigman</i>	<i>FANWRS</i>
<i>Robert Archibald</i>	<i>Friends</i>	<i>Lauren Sutton</i>	<i>KBRR <sup>Staff</sup></i>
<i>Laurie Daniel</i>	<i>KBRR <sup>Community Council</sup></i>	<i>Katie Gavenus</i>	<i>CACS</i>
<i>Michael Opheim</i>	<i>CRRC</i>	<i>David Erikson</i>	
<i>Debbie Tobin</i>	<i>UAA</i>	<i>Dave Seris</i>	<i>USCG</i>

CACS = Center for Alaskan Coastal Studies  
 CRRC = Chugach Regional Resources Commission  
 FANWRS = Friends of Alaska National Wildlife Refuges  
 Friends = The Friends of Kachemak Bay State Park  
 KBB = Kachemak Bay Birders  
 KBRR = Kachemak Bay Research Reserve  
 P&H = Port and Harbor  
 UAA = University of Anchorage Alaska  
 USCG = United States Coast Guard  
 USACE = United States Army Corps of Engineers

**Status of Previous Meeting To Do(s) and Request(s) for Information**

*This section lists out the “to do(s)” (i.e., identified tasks) or requests for information that were identified during the previous ESWG meeting(s).*

**To Do(s)**

Status	Task
G	USACE will incorporate modified Fist to Five methodology into Section 3.f. of the guidance memo prior to sending draft for member comment/revision.
G	USACE will send out Meeting Minutes from July 10, 2023, meeting with updated draft guidance and slides with CONCEPTUAL figures of current array of alternatives.
G	No later than July 18, 2023: Members will provide comments on the July 10, 2023, “Meeting Minutes”.
G	No later than July 21, 2023: USACE will incorporate July 10, 2023, Meeting Minutes comments received by July 18, 2023, as prudent, and resend notes.
G	No later than July 25, 2023: Members will provide ESWG Guidance comments/tracked revisions to USACE Point of Contact Kayla Campbell at kayla.n.campbell@usace.army.mil. Comments will be tracked via the comment tracker established for group correspondence.
G	No later than 2 weeks prior to next meeting: USACE will incorporate ESWG Guidance revisions and address comments received by July 25, 2023, as prudent, prior to implementation of guidance.
Y	No later than 2 weeks prior to next meeting: Organizations will identify a representative and share such with USACE. <b><i>Task is enduring (i.e., will continue to apply throughout group activities)</i></b>
B	No later than 2 weeks prior to next meeting: Individuals will determine if they are “Required” or “As Required” at ESWG meetings with rationale for determination. <b><i>It will be self-determined by individuals and organizations each meeting based off agenda.</i></b>
R	No later than 1 week prior to next meeting: Individuals will have to had acknowledged/agreed to the ESWG Guidance as described in the guidance to remain on the email distribution list to continue to receive ESWG information, which will enable them to fulfill meeting roles “as required” pending meeting agendas. <b><i>Extending deadline to after this meeting but before the next ESWG meeting, deadline to be determined. In the meantime, individuals/organizations may acknowledge/agree with ESWG Final Guidance and/or request removal from group.</i></b>
B	No later than next meeting: USACE will establish a ESWG Meeting Distribution List based on organization and individual feedback. <b><i>Task will no longer apply. One email distribution list will be maintained.</i></b>
G	No later than next meeting: The project delivery team will discuss/consider the combination of current alternatives in combination to expanding the current harbor footprint by removing material internally on the eastern face and whether that would lessen the footprint of expansion outside the current harbor.
G	NCCOS and KBNERR will coordinate/share information and data with HDR that will support HDR sediment transport modeling within Kachemak Bay.

Status indicator: **G**reen = complete, **Y**ellow = pending, **R**ed = modification or requires information, **B**lack = no longer applicable.

**B**old, italicized font are remarks.

**Request(s) for Information (RFI)**

<b>Information Request</b>	<b>Response</b>
Has the project delivery team for the study considered the combination of expanding the current harbor with the current array of alternatives to minimize the footprint of any expansion outside of the current harbor?	Expansion of the current harbor footprint was considered as a potential standalone alternative and combined with other alternatives. A response addressing this common inquiry will be represented on the City of Homer's FAQ page about the study.

**To Do(s) and Request(s) for Information**

*This section lists out the “to do(s)” (i.e., identified tasks) or requests for information that were identified during the meeting.*

**To Do(s)**

Status	Task
Gr	Organizations will identify a representative and share such with USACE.
G	<b>By August 25, 2023:</b> Kayla Campbell will share the August 23, 2023, Meeting Minutes with the ESWG via email.
G	<b>By September 1, 2023:</b> September meeting date and time is shared with ESWG via email.
G	<b>By September 8, 2023:</b> Members will share August 23, 2023, Meeting Minutes feedback with Kayla Campbell at kayla.n.campbell@usace.army.mil
G	<b>By September 15, 2023:</b> Kayla Campbell will share Final August 23, 2023, Meeting Minutes with ESWG.
Y	<b>1 week prior to the September ESWG Meeting:</b> Individuals will have to had acknowledged/agreed to the ESWG Guidance as described in the guidance to remain on the email distribution list to continue to receive ESWG information, which will enable them to fulfill meeting roles “as required” pending meeting agendas.
Y	<b>1 week prior to the September ESWG Meeting:</b> Non-meeting correspondence and September ESWG Meeting agenda is shared with ESWG via email.
Gr	Individuals will self-determine if they are “Required” or “As Required” at next ESWG meeting based off the provided agenda.

**Note 1:** Status indicator: **G**reen = complete, **Y**ellow = pending/on-going, **R**ed = modification or requires information, **B**lack = no longer applicable, **G**rey = enduring

**Note 2:** Bold, italicized font are remarks.

**Request(s) for Information (RFI)**

Information Request	Response
Will there will be a plan to include a survey of ecosystem services of this project (e.g., carbon sequestration in mud bay, eel grass beds as habitat for multiple species, etc)?	<i>Pending</i>

**Note:** This table represents RFIs from ESWG member for study’s project delivery team (USACE, HDR, and the City of Homer)

Blue font indicates added based on meeting discussion.

Red font indicates added post-meeting from meeting email correspondence.

## Summary and Highlights

After the administrative topics, discussion-based topics were covered. To assist discussions, a figure for the “study footprint” was shown. The “study footprint” represented the area anticipated to most likely to be directly impacted by potential alternatives’ construction. This footprint was shared to facilitate initial discussions and data gathering and confirmation for the study and generally focused on direct impacts. Although not mentioned during the meeting, typically a study area called a “region of influence” is developed to capture all areas reasonably assumed to be impacted, both directly and indirectly, by construction of the alternative.

The first discussion topic (“Resources within the Alternative’s Footprint”) covered various resources (e.g., important habitat, species, sediment type, cultural resources, etc) likely located in or near the “study footprint”. Some key highlights from the general environmental resource discussions are as follows:

- Cultural resources: USACE is seeking potential cultural resource information from members that may not be available in literature or on online databases. This could include past activities in and around the area, debris washed ashore, old trucks/bicycles, etc. An example shared during group discussion was potential old coal railroad artifacts.
- Invasives species: Species mentioned included the flatbottom sea star, European green crab, tunicates, and pigeons. It was noted that the flatbottom sea star is considered “indigenous” but outcompetes other sea star species.
- Subsistence: Homer was identified as being part of a non-subsistence area according to Alaska Statute 16.05.258. However, subsistence was determined to be important to the cultural and lifestyle of the Homer and nearby communities. Thus, there were perspectives that the line between personal use and subsistence is blurry for Homer and other communities using Kachemak Bay. Specific focus during subsistence discussions were clam/mussel harvesting and set netting.
- Marine mammals and the sunflower sea star: discussions centered around a pre-developed list based on online mapper information from NMFS. Three species were mentioned for potential addition to the list while two were annotated for potential removal based off discussions. General/anecdotal observations were shared as it related to where they generally occur. Noise impacts and vessel strikes were mentioned for potential impact consideration.

Avifauna was the second and last discussion topic on the agenda. Highlights of discussions are as follows:

- Overall Kachemak Bay has international value to bird species and this includes the area specific to the “study footprint”.
- Specific species discussed due to their status, abundance, presence, and/or activities within the “study footprint” included the: black **turnstone**, rock sandpipers, Steller’s eiders, kittiwakes, glaucous winged gulls, semi-palmated plovers.
- Bird habitat in and near the “study footprint” is valuable to the species that use it for foraging, resting, and breeding. This area of Kachemak Bay appears to be used extensively for foraging by waterfowl and ducks and the current harbor rocky infrastructure is ideal nesting and resting habitat. The current harbor also acts as a windbreak for many bird species to rest within.

- Potential direct impacts from breakwater construction would be conversion of foraging habitat to resting/nesting habitat. There would likely be various indirect impacts to consider with such a conversion (e.g., impacts to circulation of Kachemak Bay and/or displacement of foraging areas).

Following schedule discussions, important upcoming dates/events were mentioned:

- 9/23/2023: Tentative City of Homer Study Public Workshop with USACE presence.
- Next ESWG Meeting: Late-September (post-9/23/2023) after the aforementioned City of Homer meeting. Would be after 1:00 pm, to be determination.

Before ending the meeting, open discussion included a comment about ensure that the various types and levels of impacts are taken into consideration in the study.

## **Detailed Notes**

- **Attendance**

- See “08-23-2023\_Meeting Minutes\_Administrative Information” for list of attendees.

- **Administrative Topics**

- **Status of Previous “To Do(s)” and “Request(s) for Information”**

- See “08-23-2023\_Meeting Minutes\_ Status of Previous Meeting To Dos and Requests for Information” document)
- Went over the status of the tasks and responses to questions from the July 10, 2023, meeting.
  - Organizations providing the names of representatives will be an enduring task. “Enduring” mean this task will continue to be applied for the duration of the ESWG.
  - Individuals/organizations self-identifying as “Required” or “As Required” at ESWG meetings will not be generalized. Instead, I recommend moving forward that based off the Meeting Agenda, individuals/organizations will determine whether their attendance is required, as in there are agenda topics of high interest and/or value and/or individual/organization can provide knowledge or experience relevant to agenda topics).
  - Change in prior bullet made the purpose of a separate email distribution no longer applicable to ESWG activities and was thus removed as a task.
  - The date members will need to acknowledge/agree to the ESWG Final Guidance is being extended. Members will need to agree/acknowledge at a minimum before the next meeting (in September).

- **Meeting Minutes**

- Format was changed based off feedback from a ESWG member. Content will be separated into separate documents to support differing needs for members.

- **Non-Meeting Correspondence Management**

- The purpose of this document is to maintain record of non-meeting correspondence as well as facilitate discussions and provide consistent responses with group members outside meetings.
- Correspondence comments will generally be summarized while responses will vary in detail.
- Plan is to share this document about 1 week prior to each meeting.
- Comments/Responses will be “Locked in” when document is sent to the group. This means the comments/responses will not change, but still be accessible for reference by members within updated versions of the document. There is potential that prior “locked in comments” will differ from

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prior information or subsequent information shared. This is due to the nature of study which develops as we progress, things change, and new information is received.

- **Final ESWG Guidance**
  - Shared with the group and members are requested to acknowledge/agree prior to the September meeting at a minimum, and it will be required for attending that meeting.
- **Study Footprint**
  - Figure representing where direct construction/infrastructure impacts are anticipated for the study's potential alternatives was shared.
    - This does not mean indirect impacts are not being consider. This was just to help facilitate initial discussions on resources that would have the most potential for direct impacts that will inform indirect impacts further.
    - A region of influence (ROI) is typically established that represent the total area that direct AND indirect impacts of a proposed action would be reasonably assessed to occur. This would be greater than the direct study footprint represented in the study footprint figure for this meeting's discussions.
  - See "08-23-2023\_Meeting Minutes\_Study Footprint Figure".
- **Study Fieldwork**
  - Initially, fieldwork was going to be conducted this fall. However, this is being readjusted to 2024 summer/fall timeframe.
  - Goal would be to collect monthly data as able and reasonable to confirm old data and information and/or gather site specific data and information.
  - Types of fieldwork planned with general purpose of fieldwork in parenthesis:
    - Grab Samples (preliminary chemical/sediment analysis to inform later detailed analysis required for various permits)
    - Beach Seining in combination with eDNA (fish species focused)
    - Fauna Surveys (Marine Mammals, Bird Species, and other visual observations would be annotated)
    - Bottom Trawling (benthic-focused)
    - Drop Camera (seafloor visual/benthic survey)
    - Conductivity, Temperature, and Depth (water conditions)
  - Geotechnical sediment sampling efforts and circulation modeling are being conducted for the study as well.
- **Environmental Resources Topics**
  - **(Potential) Resources within Alternatives' Footprint**
    - Cultural resources on the Spit or in the water?
      - Tyler Teese further expanded that databases have historical findings and data for the site but not everything gets recorded.

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- Thus, if members have anything they have come across or observed in or near the study footprint / Kachemak Bay in general that may have cultural significance to share that information with him (Tyler Teese) and/or Kayla Campbell. This could include information about old vehicles and/or items and debris observed in and around the area.
- Old coal railroad artifacts near Coal Point Park were mentioned as a potential consideration.
  - Potential point of contact mentioned by name was Janet Klein and other older, homesteader kids (from meeting chat) who in their 70s and 80s for information about culturally important resources on that side of the Spit.
  - Kayla Campbell mentioned USACE is planning further outreach with Tribes for cultural resources and for inclusion in this group.
- Area excluded from Kachemak Bay State Critical Habitat.
  - 1990s ADF&G indicated blue mussels and hardshell clams.
  - Nearshore Fish Atlas data and Essential Fish Habitat.
    - When HTI constructed the entrance to the barge basin, a permit extension was required to work on the beach that involved a track hoe and 20-yard rock trucks. King Salmon were using the barge basin prior to construction completion in the spring.
  - What is the Marine Mammal / Sunflower Sea Star prevalence in area like? (Reference “08-23-2023\_Meeting Minutes\_ Potential Marine Mammals Species List” document).
    - Notes from the meeting and email correspondence for this topic will be included on the “08-23-2023\_Meeting Minutes\_ Potential Marine Mammal Species List” document.
  - Bird resources (next discussion topic).
  - In-water monitoring stations (ex. Invasive species and phytoplankton monitoring stations) in/near footprint.
    - KBNERR has ongoing Pier 1 beach monitoring and should have information about sunflower sea stars and crab species.
  - Specific invasive species of concern: non-native tunicates, rodents such Norway rat (*Rattus norvegicus*) and the European green crab (*Carcinus maenas*).
    - Potential Point of contact for invasive tunicates information would be Catie Bursch, who worked with Kachemak Bay Research Reserve in the past.
    - Flatbottom sea star (i.e., Northern Pacific seastar, *Asterias amurensis*) is present in the area, and not necessarily nonindigenous. However, they outcompete other native sea stars and there is no records indicating they are native, but early records do indicate they existed at Kodiak before being observed

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- in Kachemak Bay. They are persistent and abundant around harbor pilings at the mouth of the harbor and in landward. This species is known to transfer by vessel ballast water
- Monitoring European green crab and traps along Kachemak Bay Spit.
  - Colonial tunicate invasives.
  - Impacts of invasives what will they replace/most impact.
  - Non-indigenous invasive pigeons.
- Is location specifically tied and/or important to subsistence activities?  
Subsistence Definition (Alaska Statute 16.05.940 and Title VIII of Alaska National Interest Lands Conservation Act, Section 803): “*customary and traditional*” uses of wild resources for various uses including food, shelter, fuel, clothing, tools, transportation, handicrafts, sharing, barter, and customary trade.”
  - Personal use within study footprint area includes beach seining and use of setnets for coho salmon near Pier 1, fishing area in Fish Lagoon and outside in the bay in and near the barge use area and along that beach.
  - Clam harvesting occurred heavily in this area in the past. Currently is not conducted in the same frequency due to the decrease in populations of clams and mussels in this area as well as clam harvesting closure. However, if the population was to recover and such activities were allowed, there would be an anticipated uptake in this activity and a concern/consideration of the alternative should include impacts to recovery and or loss of opportunity in that area for clam/mussel harvesting if the population was to recover. (Ninilchik is a case example for razor clams recovery). The clam harvest closure included Homer Spit for the last 14 years or so.
  - Homer’s sportfish department (ADFG Sports Fish Department (Phone 907-235-6930) should have data on clams and mussels in the area and would be a good point of contact for this resource.
  - Subsistence and personal use were noted to be a blurred line for Homer, because although Homer is considered urban and non-subsistence area (Alaska Statute 16.05.258), the activities do correlate with subsistence in the traditional sense to various members of this group.
  - Marine water (Salinity of 15-29 ppt; 18-30%).
    - Will inform the types of screening levels used for chemical analysis conducted on sediment that would potentially be dredged.
  - Kelp forest/eelgrass potential within substrate.
  - Sediment composition and type: presume generally finer (58-97% silt/clay content) with a silt over a clay layer rather than coarser sediment throughout area. Information has indicated that coal has potential to be in the substrata of the seabed.
    - In the past, a drilling rig got stuck in mud bay (further east) and parts were left in place – can see location in site bathymetry (<https://www.ncei.noaa.gov/maps/bathymetry/>)

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- Potential beneficial use ideas for dredged material?
  - Dependent on the composition/type of sediment.
- In-water and shoreline recreation/land use in study footprint?
- Other important data/information on resources not covered?
- **Avifauna** (i.e., bird species, bird habitat, and other biological and/or physical features of the alternatives that are important to birds, like prey resources).
  - Study sediment circulation modeling will inform potential impacts to this resource.
  - Information was shared by Friends of Alaska National Wildlife Refuge and the Kachemak Bay Birders for this resource that can be used to inform USACE analysis. Cornell Lab of Ornithology's eBird online database, USFWS online Information for Planning and Consultation (IPaC) online application, USFWS Planning Aid Letter, ADF&G Planning Aid Letter, Important Bird Area GeoHub, and other databases and literature may be used.
  - Refer to "Checklist of Birds, Kachemak Bay" online document sent by George Matz, representative for the Kachemak Bay Birders. Are there ways to identify data specific to the study footprint?
  - Kachemak Bay is an Important Bird Areas and Western Hemisphere Shorebird Reserve Network (WHSRN) Site of International Importance. Habitat adjacent to Homer Spit is also an Important Bird Area.
    - However, within the overall footprint of these areas, what is the relative value of the alternatives' footprint? What factors make it more valuable than nearby habitat in Kachemak Bay? What factors make it less valuable?
    - Value of habitat is highly dependent on the species being discussed. The current harbor and area east of the Homer Spit offers different habitat than other areas in Mud Bay.
    - Foraging activities and prey within the waters of the "Study footprint", east of the current harbor and adjacent to the spit are important.
    - Protected refuge (infrastructure acts as a windbreak) for resting activities and rocky during high tide breakwater/infrastructure for nesting and resting activities are important features of the current harbor for bird species. A specific species mentioned that uses the harbor's rocks was the black **turnstone**.
    - Freshwater ducks are observed in the current harbor as are other ducks and waterfowl. Waterfowl and ducks are seen in the area east in the study footprint as well.
    - Diversity across mud bay (includes the current study footprint) for habitat is a key feature of Kachemak Bay that makes it internationally significant location for bird species.

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- There are likely trade-off that would come with an implementation of a construction alternative in waters east of the spit (i.e., conversion of foraging areas into roosting habitat).
- Indirect impacts to consider is a constructed breakwater's impact on the circulation of Kachemak Bay and how that impacts the nutrients transportation throughout mud bay that supports a wide variety and number of bird species. For example, the use of the area east of Homer Spit depends on ice dynamics during periods of freezing and thawing, winds, and currents. Thus, would recommend consideration of an expanded Harbor footprint on these dynamics.
- Rock sandpiper feed in mud bay.
- Marilyn Sigman has personally surveyed the area in spring – her and George Matz, who represent organizations that are participating in the ESWG, will be good follow-up points of contacts for further information.
- ESA-listed, Threatened Steller's Eider – is this species observed often in the study footprint? If yes:
  - When (e.g., seasonality and/or months)? In what numbers? Observed activities?
  - Steller's eiders are known to occur within the area near and at the current harbor over winter (also fall and spring).
- In general, for the study footprint:
  - What bird species are most observed? What are the predominant bird activities in the area? What months is the study footprint the most populated by bird species? Is there a reason for this high abundance? What months is the study footprint the least populated by bird species? Is there a reason for this low abundance?
  - Breeding in and around the current harbor infrastructure – Kittiwakes appear to breed in the harbor and their nests need to be taken into account if those areas are to be disturbed (i.e., noise disturbance from construction activities should be considered).
  - Breeding by the industrial dock (by the coast guard dock) appears to occur with kittiwakes and glaucous winged gulls. Note, herring gulls and glaucous-winged gulls interbreed in Cook Inlet, so some of the nesting pairs in the Harbor are glaucous-winged, Herring, or hybrids.
  - Consider seasonality and subsequent avoidance, minimization, and/or permits that would be implemented/required for potential construction activities in and around this area as it relates to bird species.
  - North of fishing hole, in the supratidal areas and beach area by RV park – semi-palmated plovers have been observed displaying

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breeding behaviors and potentially successfully breeding from spring into summer (June).

- Other avian related discussions?
  - There is often a balancing act for mitigations as it relates to potential project designs/constructions and their impacts to environmental resources. For avifauna, seasonality as it relates to the where, in what abundance, what type, and type of activities being conducted by birds is a strong consideration for types of mitigations implemented as it relates to the timing of construction activities.
  - Take into consideration that international valuable resources (key stop over for shorebirds, waterfowl/ducks) would potentially be impacted.
  - There is a concern of sediment drifting/covering of critical feeding areas like Mud Bay and the westside of the Homer Spit.
  - Data from the Coastal Observation and Seabird Survey Team (COASST) is available that shares data about dead birds found on monitored beaches. University of Washington facilitates the protocols and training.
- There is potential for this resource to be a topic of discussion again in a future ESWG meeting.
- **Study Status and Important Upcoming Dates**
  - A status update of the study will be shared in detail during the City of Homer Public Workshop in September for the study.
  - Important Upcoming Dates:
    - 9/23/2023: **Tentative** City of Homer Study Public Workshop with USACE presence.
    - Next ESWG Meeting: Late-September (post-9/23/2023) after the aforementioned City of Homer meeting. Would be after 1:00 pm, **to be determination**.
- **Open Discussion**
  - The multiple levels of impacts that would result from potential construction alternatives need to be considered (i.e., direct/physical impacts, indirect impacts, future impacts, current impacts, cumulative impacts, and intangible impacts, etc), Some indirect are going to be more critical than the direct and need a full consideration for the study's design and potential expansion of the harbor. This should not only include things like constructed breakwaters but potential infrastructure (e.g., infrastructure wastewater and/or potential pollutants).
  - A question was asked in meeting chat whether there will be a plan to include a survey of ecosystem services of this project (e.g., carbon sequestration in mud bay, eel grass beds as habitat for multiple species, etc).

**Potential Marine Mammals Species List**

List developed from feedback shared by NMFS and USFWS as well as NMFS and USFWS online resources. Apply overall to Kachemak Bay and does not necessary indicate listed species would occur in the Alternatives’ footprint.

Northern sea otter, harbor seal, and harbor porpoise likely would be the most commonly occurring species in the study footprint.

Species that have been observed in the area but not listed and notes therein:

- Elephant seals – Have been observed in area both living and dead. Found dead between Anchor Point and Homer. These may be uncommon/very rarely occurring but with warming climate trends their frequency in this area may become more frequent/common.
- Guadalupe fur seal – The observation in Kachemak Bay of this species was the northern most record to have been made. Like with the Elephant seals, there is potential with warming climate that frequency could increase.
- California sea lions – Have been observed in area.

It was noted and affirmed that the underwater and in-air noise impacts from construction and increased vessel activities are something that should be considered especially as it relates to marine mammals. Vessel strike impacts should be considered as well for implementation of study alternatives.

**Table 1. Potential Marine Mammal List**

Species	Population / Stock / Region	MMPA Status	ESA Status
Beluga whale <i>(Delphinapterus leucas)</i>	Cook Inlet	Protected, Depleted	Endangered
	Anecdotally observed near Miller’s Landing potentially around summer 2019. In the 80s and 90s behind ice rink area it appeared that killer whales were predating beluga whales according to individuals who were students at the time. In the 80s off the spit in mud bay there were numerous beluga whales closer to shore (not common to be that close) when a pod of killer whales was further out in the bay. There is potential there was a correlation between the two events and that the beluga whales were pushed further towards the shoreline to avoid the killer whales that were potentially predating the beluga. Predating and occurrence of beluga whales was also perhaps occurring where there was crabbing and hydrophone data collection for whales and porpoises on the other side of the spit. The hydrophones recorded a lot of calls.		
Dall’s porpoise <i>(Phocoenoides dalli)</i>	Alaska	Protected	-
	Generally, seem to occur in outer bay but not necessarily in study area in recent years. Dead Dall’s porpoise have been identified in the Lower Cook Inlet / west of the Homer Spit. In an autopsy of one Dall’s, it was potentially determined to be an inconclusive death.		
Fin whale <i>(Balaenoptera physalus)</i>	Northeast Pacific	Protected, Depleted	Endangered
	Typically observed on the west side of the spit but indicates potential to occur in study footprint as well.		

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Species	Population / Stock / Region	MMPA Status	ESA Status
Gray whale ( <i>Eschrichtius robustus</i> )	Eastern North Pacific	Protected	-
	Dead individuals of gray whale with Dall's porpoise have been identified in the Lower Cook Inlet / west of the Homer Spit.		
Harbor porpoise ( <i>Phocoena phocoena</i> )	Gulf of Alaska	Protected	-
	Can be present in / near the study footprint.		
Harbor seal ( <i>Phoca vitulina richardsi</i> )	Gulf of Alaska	Protected	-
	Can be present in / near the study footprint. Have been seen in the current harbor hauling out on the raft systems.		
Humpback whale ( <i>Megaptera novaeangliae</i> )	Western North Pacific	Protected, Depleted	Endangered
	Hawaii		-
	Mexico	Protected	Threatened
	Can be present in / near the study footprint. Humpback whale has been in the harbor (event occurred a couple years or so ago) and high tide they can be seen closer to shore.		
Killer whale ( <i>Orcinus orca</i> )	Eastern North Pacific Alaska Resident	Protected	-
	GOA/AI/BS Transient Stock		
	Can be present in / near the study footprint and resident and transient have been observed last fall (2022) and this summer (2023). Potential there is predation of other marine mammals (i.e., beluga whales) from this species.		
Minke whale ( <i>Balaenoptera acutorostrata</i> )	Alaska	Protected	-
	Do occur in/near area. Most likely during high tide when closer to shore.		
Northern fur seal ( <i>Callorhinus ursinus</i> ) <b>Potentially strike from list due to lack of evidence that they occur in Kachemak Bay</b>	California	Protected	-
	Eastern Pacific	Protected, Depleted	
	No known observations from group attending. Although online mappers have this species ranging in this area, it is not always accurate.		
Pacific white-sided dolphin ( <i>Lagenorhynchus obliquidens</i> ) <b>Potentially strike from list due to lack of evidence that they occur in Kachemak Bay</b>	North Pacific	Protected	
	Perhaps was observed in the mid-90s by a water taxi driver. However, other known and/or indications were not known by meeting attendees outside of that. So perhaps a vagrant individual.		
Steller sea lion ( <i>Eumetopias jubatus</i> )	Eastern U.S. DPS	Protected	-
	Western U.S. DPS	Protected, Depleted	Endangered
	Can be present in / near the study footprint.		
Sunflower sea star ( <i>Pycnopodia helianthoides</i> )	---	N/A	Proposed
	Can be present in / near the study footprint.		
Northern sea otter ( <i>Enhydra lutris kenyoni</i> )	Southcentral Alaska Stock	Protected	-
	Can be present in / near the study footprint.		

Blue font indicates notes were added during meeting discussion.  
 Red font indicates notes were added post-meeting.

**Study Footprint Figure**

**Note:** This area represents where direct impacts from construction and establishment of infrastructure would most likely occur. This does not mean that indirect and/or impacts outside of this area would not be considered. Rather, it is to focus discussions on the direct impacts that would inform the informal impacts, which could be just as or more important.