



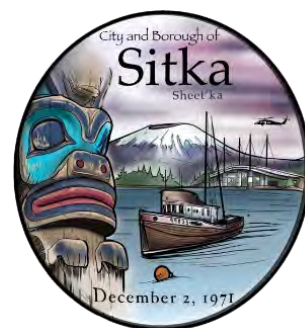
## MARINE MAMMAL MONITORING AND MITIGATION PLAN

Gary Paxton Industrial Park Vessel  
Haulout Project, Sitka, AK

November 2024

PND Project 232023

PREPARED FOR:



City & Borough of Sitka

PREPARED BY:



ENGINEERS, INC.

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## Acronyms & Abbreviations

4MP..... Marine Mammal Monitoring and  
Mitigation Plan  
BA ..... Biological Assessment  
BMP ..... best management practice  
CBS ..... City and Borough of Sitka  
cy ..... cubic yards  
DPS ..... distinct population segment  
e.g..... “for example”  
ESA ..... Endangered Species Act  
ft.....foot/feet  
HTL ..... High Tide Line  
i.e..... “in other words”  
IHA..... Incidental Harassment Authorization

km..... kilometers  
m ..... meters  
MHW ..... Mean High Water  
MLLW ..... Mean Lower Low Water  
MMPA.... Marine Mammal Protection Act  
NMFS..... National Marine Fisheries Service  
NOAA..... National Oceanic and Atmospheric  
Administration  
PND ..... PND Engineers, Inc.  
PSO ..... protected species observer  
PWS ..... Pacific white-sided  
USACE.... United States Army Corps of Engineers  
U.S.C..... United States Code

## 1. INTRODUCTION

The purpose of this Marine Mammal Monitoring and Mitigation Plan (4MP) is to provide a protocol for monitoring affected species during the proposed City & Borough of Sitka (CBS) Vessel Haulout Project, located in Gary Paxton Industrial Park (GPIP) in Sitka, Alaska. This plan was developed to support the project's application for an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act, Section 101(a)(5)(D) and the assessment of impacts to species protected under the Endangered Species Act (ESA).

A protected species monitoring program will be implemented at the start of specified construction activities and will follow the protocols outlined in this plan. The primary goals of the monitoring program are:

- To monitor the mitigation zones, to estimate the number of marine mammals exposed to noise at (or exceeding) established thresholds, and to document animal responses and behaviors;
- To minimize impacts to the marine mammal species present in the project area through implementation of mitigation procedures; and
- To collect data on takes, occurrence, and behavior of marine mammal species in the project area and record and report any potential impacts from the project.

### 1.1 PROPOSED ACTION

CBS proposes to construct a new haulout pier consisting of a vessel haulout ramp with an associated uplands boatyard, vehicle parking, and a vessel washdown pad. Work also includes water, stormwater, wastewater, and electrical improvements. These components will replace and restore the services that were lost from the closure of the former vessel haulout facility. Construction will take place in multiple phases due to funding limitations, but the associated IHA request is only intended to cover Phase 1 activities.

A detailed description of the project design, construction methods, mitigation measures, schedule, and affected species is included in the Biological Assessment (BA) and IHA Application.

### 1.2 PROJECT ACTIVITIES

The following activities requiring monitoring are described in detail in the IHA Application:

- Mobilization and demobilization
- Expansion of uplands
- Stormwater improvements
- 150-ton vessel haulout pier
- Vessel washdown pad and utility building
- Pile driving
- Fill placement

The proposed project does not involve any dredging. Additionally, any in-water or over-water work not detailed above will require monitoring and/or mitigation as described below.

## 2. IHA AUTHORIZATION

This project's IHA specifically authorizes the take of certain marine mammals during permitted activities by non-injurious harassment. Situations and takes of species not covered under the IHA are not permitted.

Level A take refers to any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock. Comparatively, Level B take refers to any act of pursuit, torment, or annoyance that has the potential to disturb marine mammal stock in the wild through disruption of behavioral patterns. These behaviors include, but are not limited to, migration, breathing, breeding, nursing, feeding, or sheltering.

### 2.1 PERMITTED SPECIES

The IHA authorizes take by Level B harassment of a limited number of humpback whales, gray whales, killer whales, Pacific white-sided (PWS) dolphins, harbor porpoises, Steller sea lions, California sea lions, northern fur seals, and harbor seals. It also authorizes take by Level A harassment of a limited number of humpback whales, harbor porpoises, Steller sea lions, and harbor seals. Takes may not exceed the number of authorized takes of each type. Shutdown zones are listed in Table 1 and shown in Appendix A.

Work will shut down if any unauthorized protected species enters any harassment zone. Unauthorized species with ranges overlapping the project area (but not anticipated within the construction impacts area during the construction period) are described in the BA. Take of unauthorized species by Level B harassment is not permitted.

### 2.2 AUTHORIZED TAKE NUMBERS

Total authorized take numbers will be outlined in the IHA. Take numbers may not be exceeded under any circumstances. CBS shall coordinate with NMFS regularly to determine the number of takes that have occurred based on sighting data.

Shutdown measures must be implemented if the number of any allotted marine mammal takes reaches the limit under the IHA and if such marine mammals are sighted within the vicinity of the project area and are approaching their respective Level A or Level B harassment monitoring zone.

### 2.3 MITIGATION ZONES

CBS has established effective shutdown and monitoring zones to delineate areas in which mitigation methods will be implemented. These zones incorporate the Level A and Level B harassment radii discussed in the IHA as well as other factors. The effective zones are summarized in Table 1 below. Selection of the appropriate observation zone depends on the concurrent work activities.

#### 2.3.1 SHUTDOWN ZONES

Work which could cause noise levels to rise above non-permitted thresholds will shut down if protected species are approaching shutdown zones.

- For authorized species except for humpback whales, harbor porpoises, harbor seals, and Steller sea lions, work will shut down if an individual enters a Level A Zone or if the number of authorized takes for that species has been exceeded. Take by Level B harassment will be recorded for individuals outside those zones.



- For humpback whales, harbor porpoises, harbor seals, and Steller sea lions, work will proceed until an individual approaches the shutdown zones shown in Table 1. Take by Level A harassment will be recorded for individuals observed outside that shutdown zone, but within the PTS isopleth. Take by Level B harassment will be recorded for individuals only observed outside the PTS isopleth. (The key during operations will be to implement the shutdown zones and record the distances at which an individual is sighted.)
- Following a shutdown, permitted activities must not resume except by the protocols described in Section 3.
- If a species for which authorization has not been granted or a species for which authorization has been granted but the authorized take numbers are met is observed or reported approaching or within the Level B harassment radius, permitted activities must shut down immediately using protocols described in Section 3.

### 2.3.2 MONITORING ZONES

Monitoring zones encompassing a visible area extending not less than 2,000 m from each observer station will be continuously observed to record protected species occurrences and behavior as described in Section 3. Sightings of permitted species will be recorded for each individual observed within the monitoring zone during the associated construction activity. Re-sightings will be documented to the extent possible to facilitate take estimates. Final estimates of take will be corrected via consultation with NMFS to account for factors like re-sightings of individual animals or other factors.

Monitoring zones do not exist for non-permitted species, as no take of these individuals is permitted. Permitted activities must cease if a non-permitted species is observed or reported within the range of Level B harassment.

Take by Level A harassment is only authorized for humpback whales, harbor porpoises, harbor seals, and Steller sea lions as described in the IHA. Shutdown will occur for these species when they approach shutdown radii shown in Table 1.

### 2.3.3 IN-WATER AND OVER-WATER WORK

During all in-water or over-water construction activities having the potential to affect marine mammals, a shutdown zone of 10 meters will be enforced to ensure that animals are not endangered by physical interaction with construction equipment. These activities could include, but are not limited to barge positioning operations, the positioning of piles via a crane (“stabbing” the pile), the removal of piles via a crane (“deadpull”), or the over-water slinging of construction materials.

**Table 1. Effective shutdown zones; Phase 1 construction**

	Construction Method	Shutdown Zones (m) – Authorized Species							Shutdown Zones (m) – Unauthorized Species	
		Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
Haulout Pier Support Pile (36" steel pipe)	Non-impulsive, continuous installation	40	20	20	30	50	20	20	500	Visible range
	Impulsive installation	2,000	320	300	300	130	60	130	2,000	Visible range
Haulout Pier Batter Pile (36" steel pipe)	Non-impulsive, continuous installation	60	20	20	50	70	30	30	500	Visible range
	Impulsive installation	2,000	420	300	300	130	60	130	2,000	Visible range
Haulout Pier Fender Pile (24" steel pipe)	Non-impulsive, continuous installation	20	10	10	20	30	10	10	500	Visible range
Template Pile (24" steel pipe or equivalent)	Non-impulsive, continuous installation & removal	30	10	10	20	40	20	20	500	Visible range
Gravel Fill (fill placement/dredging)	Non-impulsive, continuous	80								

### 3. MITIGATION METHODS

Implementation of mitigation measures will be conducted by qualified, trained protected species observers (PSOs). PSOs will be located on-site before, during, and after permitted activities for monitoring protected species within (and approaching) mitigation zones. PSOs will be in continuous contact with the construction personnel in order to implement appropriate mitigation measures.

An employee of the construction contractor will be identified as the monitoring coordinator for PSOs at the start of each construction day. PSOs will report directly to the monitoring coordinator when a shutdown is deemed necessary.

The contractor (or its designee) will conduct briefings for construction supervisors and crews, the monitoring team, and applicant staff prior to the start of all pile driving activity and when new personnel join the work, in order to explain responsibilities, communication procedures, monitoring protocols, and operational procedures.

#### 3.1 PROTECTED SPECIES OBSERVERS

Monitoring will be conducted by independent, qualified PSOs with no other assigned tasks. At least one lead PSO must have prior experience working as an observer during construction activities. Other PSOs may substitute education (a degree in biological science or related field), training, or equivalent Alaska Native traditional knowledge for experience. Where a team of three or more PSOs are required, a lead observer or monitoring coordinator will be designated.

A monitoring coordinator will be designated within the contractor's crew who will coordinate with PSOs and pile-driving and other equipment operators to ensure shutdown occurs promptly based on PSO communications. The PSOs and monitoring coordinator will have the authority to order work shutdowns based on the directives of the IHA and this plan.

##### 3.1.1 PSO REQUIREMENTS

- 1) At least one PSO will have either prior experience as a PSO in Alaska, or will have taken a NMFS-approved PSO or marine mammal observer training course.
- 2) PSO training will include:
  - a. field identification of marine mammals and marine mammal behavior;
  - b. ecological information on marine mammals and specifics on the ecology and management concerns of those marine mammals;
  - c. ESA and Marine Mammal Protection Act (MMPA) regulations;
  - d. proper equipment use;
  - e. methodologies in marine mammal observation and data recording and property reporting protocols; and
  - f. an overview of PSO roles and responsibilities.
- 3) PSOs will be individuals independent from the project proponent and must have no other assigned tasks during monitoring periods.



- 4) The action agency or its designated non-federal representative will provide resumes or qualifications of PSO candidates to consultation biologist and [akr.prd.records@noaa.gov](mailto:akr.prd.records@noaa.gov) approval at least one week prior to in-water work. NMFS will provide a brief explanation of lack of approval in instances where an individual is not approved.
- 5) PSOs will:
  - a. collectively be able to effectively observe the entirety of the shutdown zone;
  - b. be able to identify marine mammals and accurately record the date, time, and species, of all observed marine mammals in accordance with project protocols;
  - c. be able to identify listed marine mammals that may occur in the action area, at a distance equal to the outer edge of the applicable shutdown zone and determine marine mammal's location and distance from sound source;
  - d. have the ability to effectively communicate orally, by radio or in person with project personnel to provide real-time information on listed marine mammals;
  - e. possess a copy of mitigation measures; and
  - f. possess data forms.
- 6) PSOs will not scan for marine mammals for more than four hours without at least a one hour break from monitoring duties between shifts. PSOs will not perform PSO duties for more than 12 hours in a 24-hour period.

PSOs must possess:

- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance;
- Physical capability of performing essential duties, including sitting or standing for periods of up to four hours, using binoculars or other field aid, and documenting observations;
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior; and

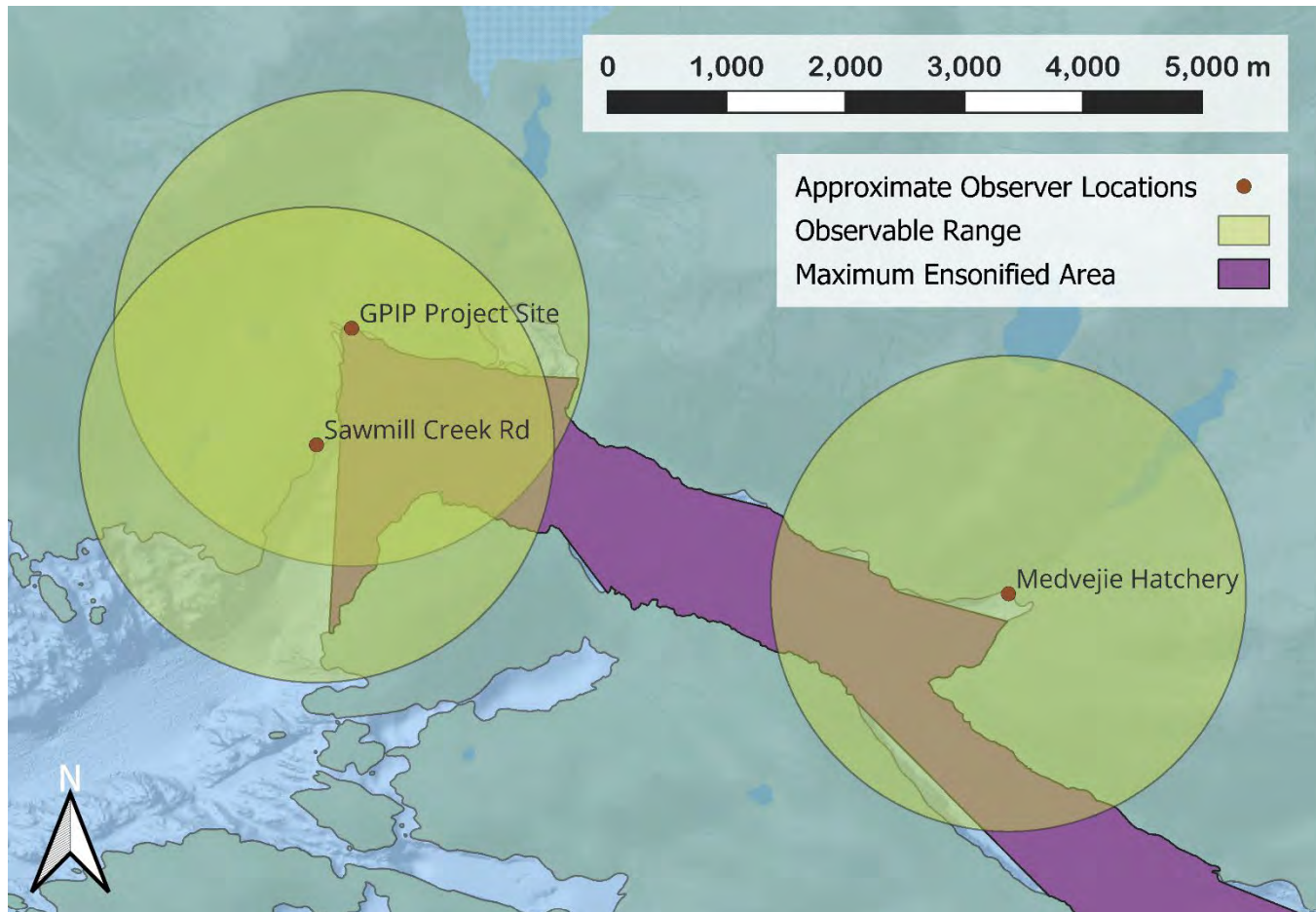
PSOs will conduct observations, meet training requirements, fill out data forms, and report findings in accordance with this 4MP. CBS will submit PSO qualifications for agency approval prior to the onset of pile driving.

### 3.1.2 MONITORING LOCATIONS

In order to monitor effectively, PSOs will be positioned at the best practicable vantage points, taking into consideration security, safety, access, and space limitations. Observer locations must be identified that (1) have an unobstructed view of the work being conducted and (2) unobstructed view of all the water within the Level A

Zone and as much of the Level B zone as possible. Potential observation locations are depicted in Figure 1. Optimal observation locations will be selected based on visibility and the type of work occurring.

Three PSOs will be on duty during pile driving activities. Due to the geography of the area, it is not anticipated that PSOs will be able to observe the entire monitoring zone. However, Observer 1 will be able to closely monitor the shutdown zone and Observers 2 and 3 will monitor for approaching animals within the nearshore area and the approach channels. Maximum effective observation distance is estimated at up to 2,000 meters, but PSOs will observe as much of the monitoring zone as is visible on a given day.



**Figure 1. Approximate observer stations within Silver Bay**

During fill placement and in-water work, a single observer will be on duty at the dock at whatever vantage point gives an unobstructed view of the monitoring zone. If construction activities impede visibility of the zone, a second observer will be stationed at another location.

Observers will be stationed on elevated platforms to increase visible zone.

### 3.1.3 EQUIPMENT

The following equipment will be required to conduct observations for this project:

- Appropriate personal protective equipment;
- Portable radios for the PSOs to communicate with the monitoring coordinator and other PSOs;
- Cellular phone with local service as a backup for radio communication and for safety purposes;
- Contact information for the other PSOs, monitoring coordinator, and agency points of contact;
- Daily tide tables for the project area;
- Watch or chronometer;
- Binoculars (quality 7 x 50 or better) or spotting scope with built-in rangefinder or reticles (rangefinder may be provided separately);
- Hand-held GPS unit, map and compass, or grid map to record locations of marine mammals;
- Notebook with pre-approved Observation Record forms on weatherproof paper; and
- Copies of 4MP, IHA, and/or other relevant permit requirement specifications.

### 3.1.4 MONITORING TECHNIQUES

During observation periods, PSOs will continuously scan the area for marine mammals using binoculars and the naked eye. PSOs will work shifts of a maximum of four consecutive hours followed by a rotation or a 1-hour break and will work no more than 12 hours in any 24-hour period. PSOs will collect data as listed below.

#### 3.1.4.1 Pre-Activity Monitoring

The following monitoring methodology will be implemented prior to commencing permitted activities:

- Prior to commencing any listed activity or at changes in watch, PSOs will establish a point of contact with the construction crew. The PSO will brief the point of contact as to the shutdown procedures if the PSO observes that listed marine mammals are likely to enter or enter the shutdown zone. If the point of contact goes “off shift” and delegates their duties, the point of contact must inform the PSO and brief the new point of contact.
- Observation of shutdown and monitoring zones will take place from 30 minutes prior to initiation through 30 minutes post-completion of all permitted activities.
- The shutdown zone will be cleared when marine mammals have not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zone, permitted activities cannot proceed until the animal has left the zone of its own volition or has not been observed for 30 minutes.
- If permitted species are present within the monitoring zone, work will not be delayed, but PSOs will monitor and document the behavior of individuals that remain in the monitoring zone.
- When all applicable shutdown zones are clear of protected species, the PSOs will radio the monitoring coordinator. Permitted activities will not commence until the monitoring coordinator receives verbal confirmation the zones are clear.
- In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin.

#### 3.1.4.2 During-Activity Monitoring

The following monitoring methodology will be implemented during permitted activities:

- If permitted species are observed within the monitoring zone during permitted activities, an exposure will be recorded and behaviors documented. Work will not stop unless an animal enters or appears likely to enter the shutdown zone.
- Total exposures will be reported based upon the combined recorded takes and extrapolated takes.

#### 3.1.4.3 Sighting Records

PSOs will record the following:

- The date, shift start time, shift stop time, and PSO identifier;
- Date and time of each reportable event (e.g., a marine mammal observation, operation shutdown, reason for operation shutdown, change in weather);
- Weather parameters (e.g., visibility, percent glare, cloud cover), including sea state using the Beaufort Wind Force Scale (<https://www.weather.gov/mfl/beaufort>);
- Species, numbers, and, if possible, sex and age class of observed marine mammals, and observation date, time, and location;
- The predominant anthropogenic sound-producing activities occurring during each marine mammal observation;
- Distance and location of each observed marine mammal relative to the pile being driven for each sighting;
- Bearing and direction of travel of observed marine mammal(s);
- Description of any marine mammal behavioral observations (e.g., observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (e.g., no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Initial, closest, and last location of marine mammals, including distance from observer to the marine mammal; minimum distance from the predominant sound-producing activity or activities to marine mammals; and estimated time spent within the harassment zone;
- Whether the presence of marine mammals necessitated the implementation of mitigation measures to avoid acoustic impact, and the duration of time that normal operations were affected by the presence of marine mammals; and
- Geographic coordinates for the observed animals, with the position recorded by using the most precise coordinates practicable (coordinates will be recorded in decimal degrees, or similar standard and defined coordinate system).

#### 3.1.4.4 Inclement Weather and Nighttime

Pre-activity monitoring must be conducted with the visibility requirements described above. However, work that has begun with a fully cleared shutdown zone may continue during inclement weather (e.g., fog, heavy rain), nighttime or periods of limited visibility with the following limitations:

- The entirety of the shutdown zone must remain visible.

- This method will only be used if the shutdown zone was visible during the start of work and no shutdowns greater than 30 minutes have occurred.
- If the monitoring zone becomes obscured, an assumed rate of take appropriate to the area of the obscured monitoring zone will be used to estimate the number of sightings to be reported during those periods. Observable distance will be noted in observer records.
- Total exposures will be recorded and extrapolated based upon the assumed rate of take and the percentage of the Level B harassment zone that was not visible.

Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible, permitted activities must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

In-water activities will take place only between civil dawn and civil dusk when PSOs can effectively monitor for the presence of marine mammals. Pile driving activities will only continue for a maximum of 30 minutes after sunset during civil twilight, and only as necessary to secure piles prior to demobilization for the evening. Onshore or onboard work activities may continue outside of those permitted in-water work hours.

#### **3.1.4.5 Shutdown**

If a protected species enters or appears likely to enter a shutdown zone, the PSOs shall immediately radio to alert the monitoring coordinator and all permitted activities will be immediately halted. PSOs will continue to monitor and document protected species behaviors until the animal leaves the shutdown zone of its own volition.

In the event of a shutdown less than 30 minutes, permitted activities may resume only when the animal(s) within or approaching the shutdown zone has been visually confirmed beyond or headed away from the shutdown zone, or when 15 minutes have passed without re-detection of the animal. Observers will then notify the monitoring coordinator that activities can re-commence. If shutdown greater than 30 minutes occurs, activities will resume according to the standard pre-activity monitoring requirements.

If a listed marine mammal is observed within a shutdown zone or is otherwise harassed, harmed, injured, or disturbed, the PSO will immediately report that occurrence to NMFS using the contact information specified in Table 11.

#### **3.1.4.6 Breaks in Work**

During a delay in permitted activities, the mitigation zones will continue to be monitored. This includes breaks due to scheduled or unforeseen construction practices or breaks due to permit-required shutdown. No exposures will be recorded for permitted species in the monitoring zones if there are no concurrent permitted construction activities. If shutdown zones are free of protected species and monitoring has continued, work can recommence.

If permitted activities cease for more than 30 minutes and monitoring has not continued, pre-activity monitoring must recommence before permitted activities.

#### **3.1.4.7 Post-Activity Monitoring**

Observation of the shutdown and monitoring zones will continue for 30 minutes following completion of pile driving. A post-monitoring period is not required for other in-water construction. These surveys will record sightings, focusing on observing and reporting unusual or abnormal behavior of protected species. Observation Record forms will be used to document observed behavior.

### 3.1.5 DATA COLLECTION

PSOs will collect sighting data and behaviors of marine mammal species that are observed in the shutdown and monitoring zones during permitted activities. PSOs will use an approved Observation Record (Appendix A) which will be completed by each PSO for each survey day and location. Observation Records will be used to record the following:

- Date and time that permitted construction activity begins or ends;
- Weather parameters (e.g. percent cloud cover, percent glare, visibility, wave height) and sea state (the Beaufort Wind Force Scale will be used to determine sea-state);
- Species, numbers, and, if possible, sex and age class of observed marine mammals;
- Construction activities occurring during each sighting;
- Marine mammal behavior patterns observed, including bearing and direction of travel;
- Specific focus should be paid to behavior just prior to and during permitted activities and shutdown procedures;
- Location of marine mammal, distance from PSO to the marine mammal, and distance from pile removal activities to marine mammals;
- Record of whether an observation required the implementation of mitigation measures, including shutdown procedures and the duration of each shutdown.

NMFS recommends that monitoring measures, “should be designed to accomplish or contribute to one or more of the following goals:

- a) An increase in our understanding of the likely occurrence of marine mammal species in the vicinity of the action, i.e., presence, abundance, distribution, and/or density of species.
- b) An increase in our understanding of the nature, scope, or context of the likely exposure of marine mammal species to a variety of stressors associated with the action.
- c) An increase in our understanding of how individual marine mammals respond to the specific stressors associated with the action.
- d) An increase in our understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either:
  - 1) the long-term fitness and survival of an individual; or
  - 2) the population, species, or stock.
- e) An increase in our understanding of the effectiveness of mitigation and monitoring measures.
- f) A better understanding and record of the manner in which the authorized entity complies with the incidental take authorization and incidental take statement, and
- g) An increase in the probability of detecting marine mammals, both specifically within the exclusion zone and in general.”

### 3.2 PROJECT IMPACT AVOIDANCE AND MINIMIZATION MEASURES

Mitigation measures unrelated to the protected species monitoring program are detailed in the project’s BA and IHA Application as well as measures listed in the BiOp and Final IHA.



### 3.2.1 SOFT START PROCEDURES

## **4. PRIOR TO IMPACT DRIVING, THE CONTRACTOR WILL PROVIDE AN INITIAL SET OF THREE STRIKES AT REDUCED ENERGY, FOLLOWED BY A 30-SECOND WAITING PERIOD, THEN TWO SUBSEQUENT REDUCED-ENERGY STRIKE SETS. A SOFT START MUST BE IMPLEMENTED AT THE START OF EACH DAY'S IMPACT PILE DRIVING AND AT ANY TIME FOLLOWING CESSATION OF IMPACT PILE DRIVING FOR A PERIOD OF 30 MINUTES OR LONGER.REPORTING**

### 4.1 UNAUTHORIZED TAKE

If a listed marine mammal is determined by the PSO to have been disturbed, harassed, harmed, injured, or killed (e.g., a listed marine mammal(s) is observed entering a shutdown zone before operations can be shut down, or is injured or killed as a direct or indirect result of this action), and the PSO will immediately report the incident to NMFS AKR. The PSO record(s) will include:

- all information to be provided in the final report (see BiOp Final Report heading);
- number of animals of each threatened and endangered species affected;
- the date, time, and location of each event (provide geographic coordinates);
- description of the event;
- the time the animal(s) was first observed or entered the shutdown zone, and, if known, the time the animal was last seen or exited the zone, and the fate of the animal;
- mitigation measures implemented prior to and after the animal was taken;
- if a vessel struck a marine mammal, the contact information for the PSO on duty, or the contact information for the individual piloting the vessel if there was no PSO on duty; and
- photographs or video footage of the animal(s), if available.

### 4.2 INJURED OR DEAD MARINE MAMMAL

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the IHA-holder shall report the incident to the NOAA Office of Protected Resources (301-427-8401) and the NMFS Alaska Regional Stranding Coordinator (877-925-7773) as soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as serious injury, or mortality, applicant must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources Alaska Region Stranding Coordinator. Permitted activities may not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the applicant to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The applicant may not resume their activities until notified by NMFS.

In the event the applicant discovers an injured or dead marine mammal and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), the applicant must immediately report the incident to the Office of Protected Resources, and the Alaska Region Stranding Coordinator. The report must include the same information listed above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the applicant to determine whether additional mitigation measures or modifications to the activities are appropriate.

In the event that the applicant discovers an injured or dead marine mammal and the lead observer determines that the injury or death is not associated with or related to the specified activities (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the applicant must report the incident to the Office of Protected Resources, and the Alaska Region Stranding Coordinator, within 24 hours of the discovery.

Care should be taken in handling dead specimens, if encountered, to preserve biological materials in the best possible state for later analysis of cause of death. In preservation of biological materials from a dead animal, the finder (i.e. PSO) has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed.

### 4.3 ILLEGAL ACTIVITIES

If PSOs observe marine mammals being disturbed, harassed, harmed, injured, or killed (e.g., feeding or unauthorized harassment), these activities will be reported to NMFS Alaska Region Office of Law Enforcement at 1-800-853-1964. Data submitted to NMFS will include date/time, location, description of the event, and any photos or videos taken.

### 4.4 HUMPBACK WHALES

Observations of humpback whales will be transmitted to AKR.prd.records@noaa.gov by the end of the calendar year, including data specified in mitigation measure #52 below, as well as any photographs or videos of humpback whales captured.

### 4.5 MONTHLY REPORTS

Interim monthly monitoring reports, including data sheets, will be submitted. These reports will include a summary of marine mammal species and behavioral observations, shutdowns or delays, and work completed. Monthly reports will be submitted to AKR.prd.records@noaa.gov by the 15th day of the month following the reporting period.

## 4.6 ANNUAL REPORT

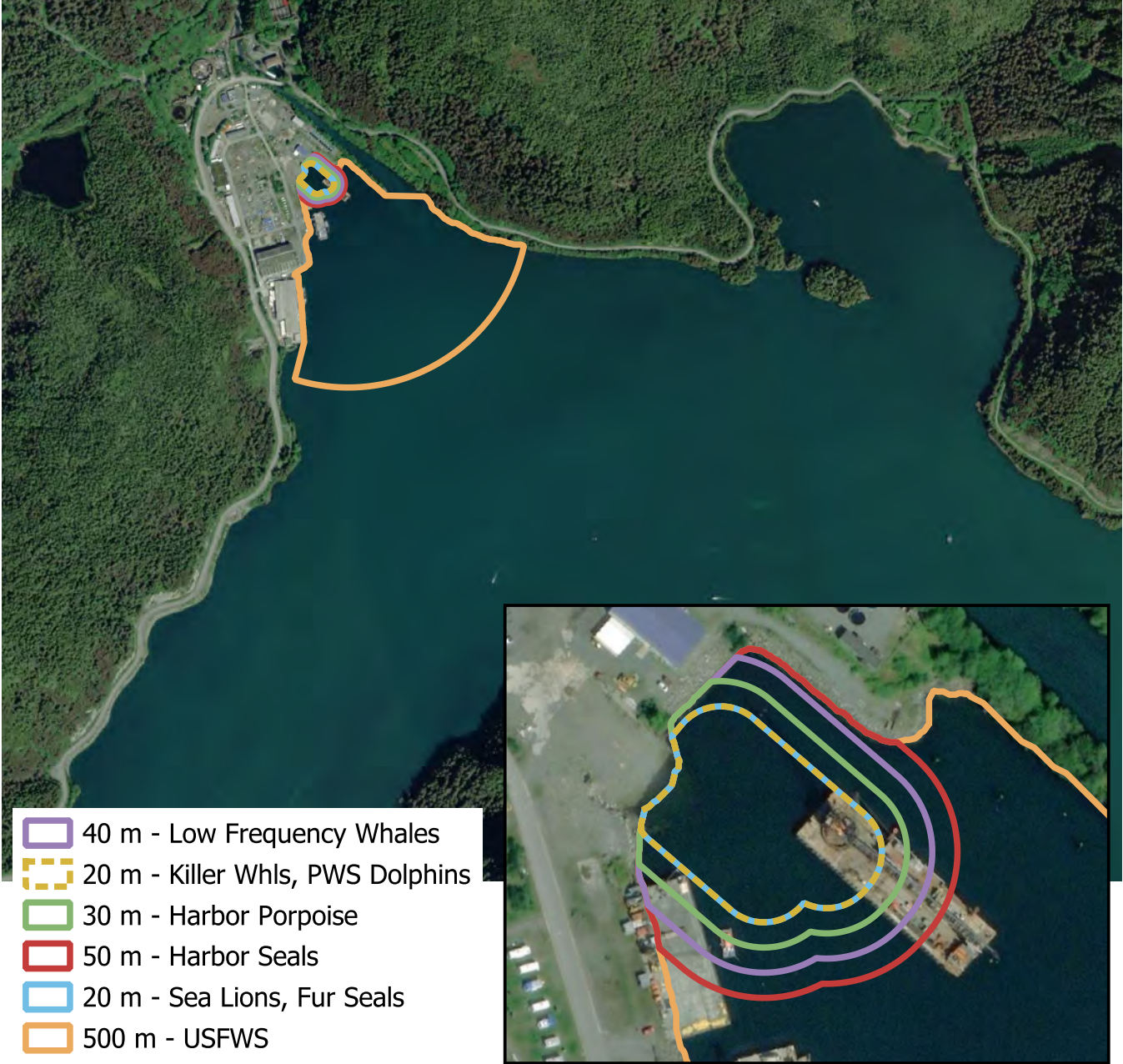
A comprehensive monitoring report documenting marine mammal observations will be submitted to NMFS at the end of the in-water work season. The draft report will be submitted to NMFS within 90 calendar days of the completion of the monitoring program or sixty days prior to the issuance of any subsequent IHA for this project. A final report will be submitted within thirty days of the resolution of comments on the draft report.

The report will include marine mammal observations (pre-activity, during-activity, and post-activity) during permitted activities. At a minimum the report shall include:

- Summaries of monitoring effort, including dates and times of construction, dates and times of monitoring, dates and times and duration of shutdowns due to marine mammal presence;
- Date and time of marine mammal observations, geographic coordinates of marine mammals at their closest approach to the project site, marine mammal species, numbers, age/size/sex categories (if determinable), and group sizes;
- Number of marine mammals observed (by species) during periods with and without project activities (and other variables that could affect detectability);
- Observed marine mammal behaviors and movement types versus project activity at time of observation;
- Numbers of marine mammal observations/individuals seen versus project activity at time of observation;
- Distribution of marine mammals around the action area versus project activity at time of observation;
- Detailed information about implementation of any mitigation measures (e.g., shutdowns and delays), a description of actions that ensued, and resulting behaviors of the animal, if any;
- An evaluation of the effectiveness of the mitigation measures; and
- Digital, queryable documents containing PSO observations and records, and digital, queryable reports.

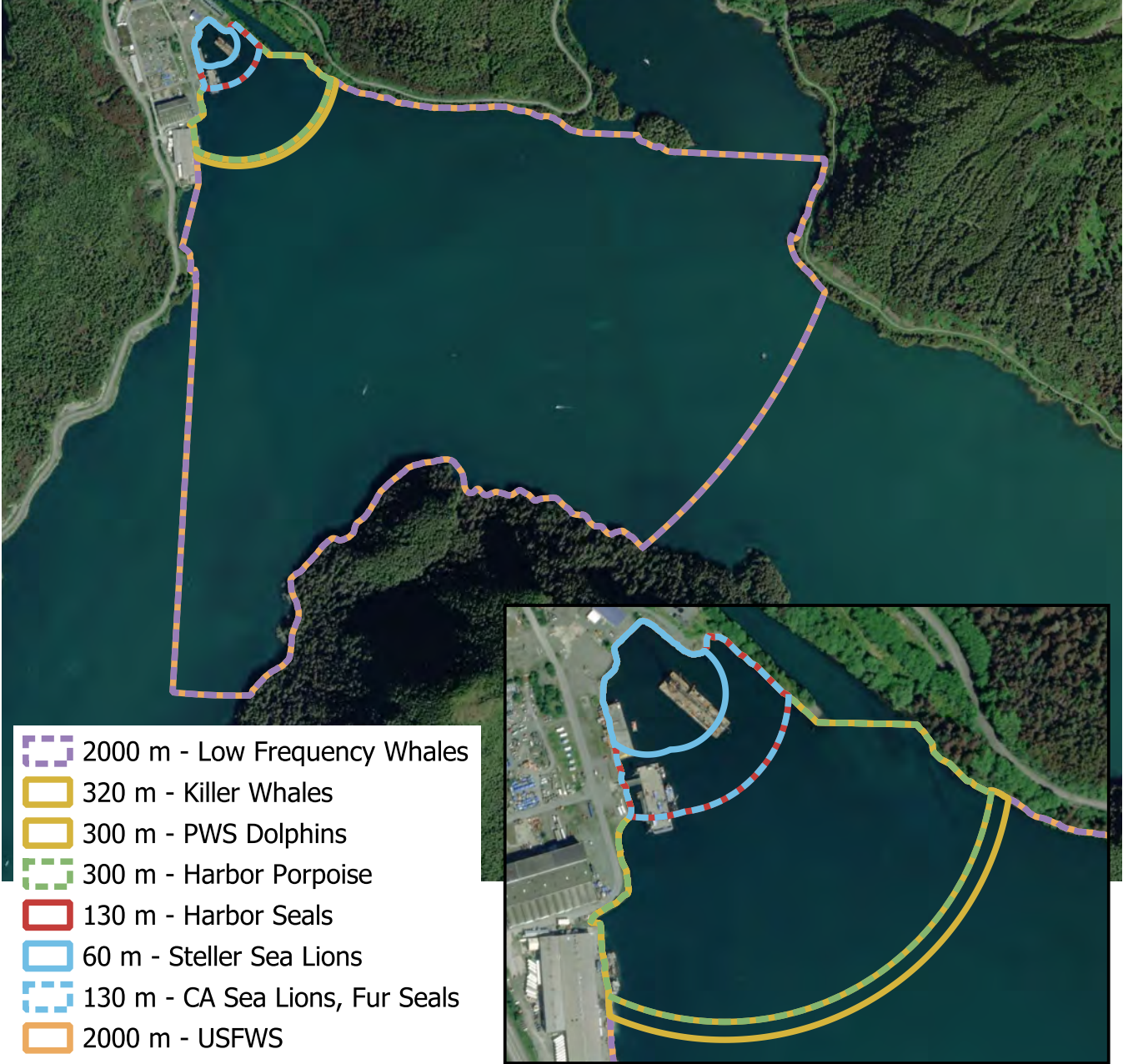
Submit all PSO datasheets and/or raw sighting data (in a separate file from the Final Report referenced immediately above). The project proponent will ensure that PSO data is submitted electronically in a format that can be queried such as a spreadsheet or database (i.e. digital images of data sheets are not sufficient).

## APPENDIX 1. MONITORING AND SHUTDOWN ZONE MAPS



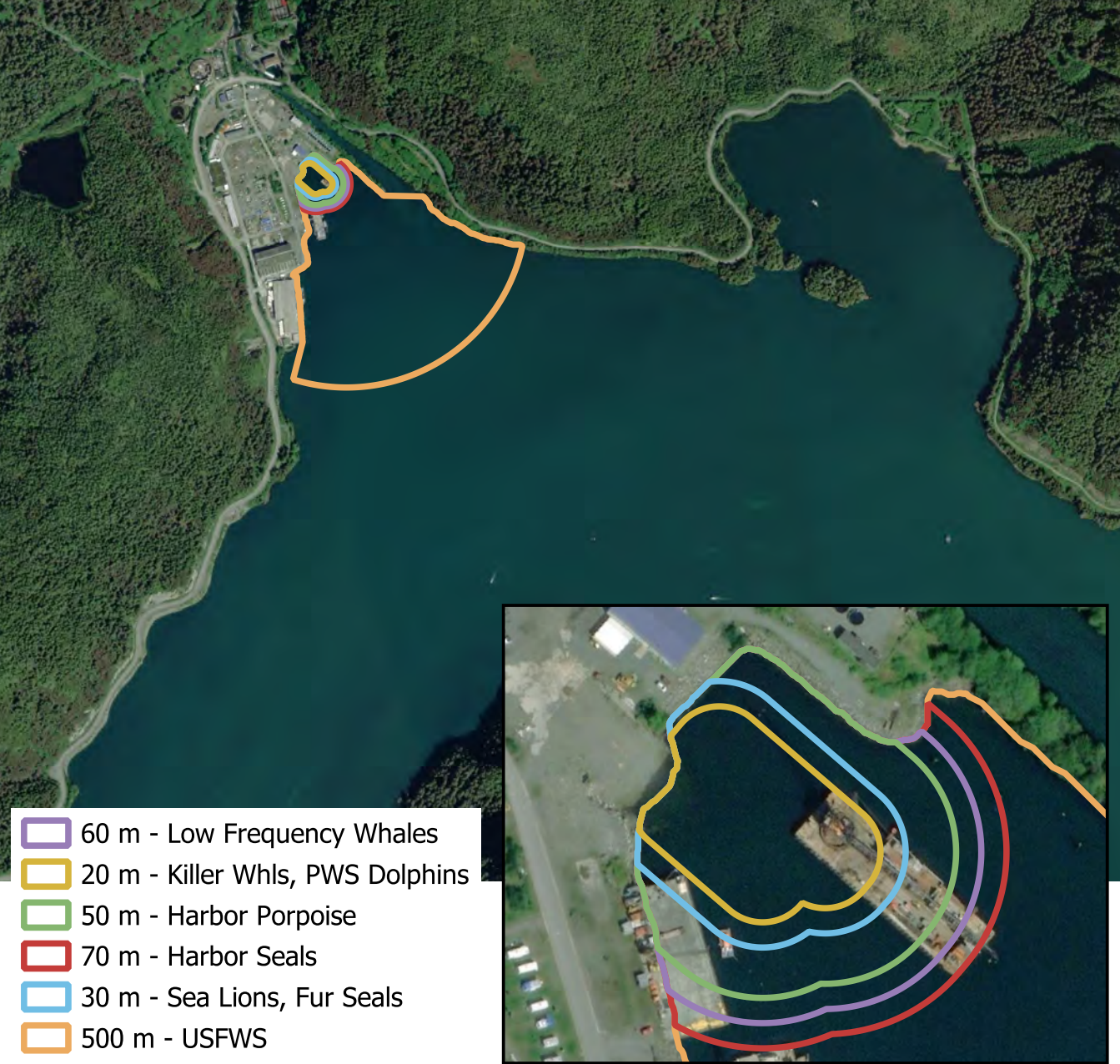
Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
40 m	20 m	20 m	30 m	50 m	20 m	20 m	500 m	Visible range



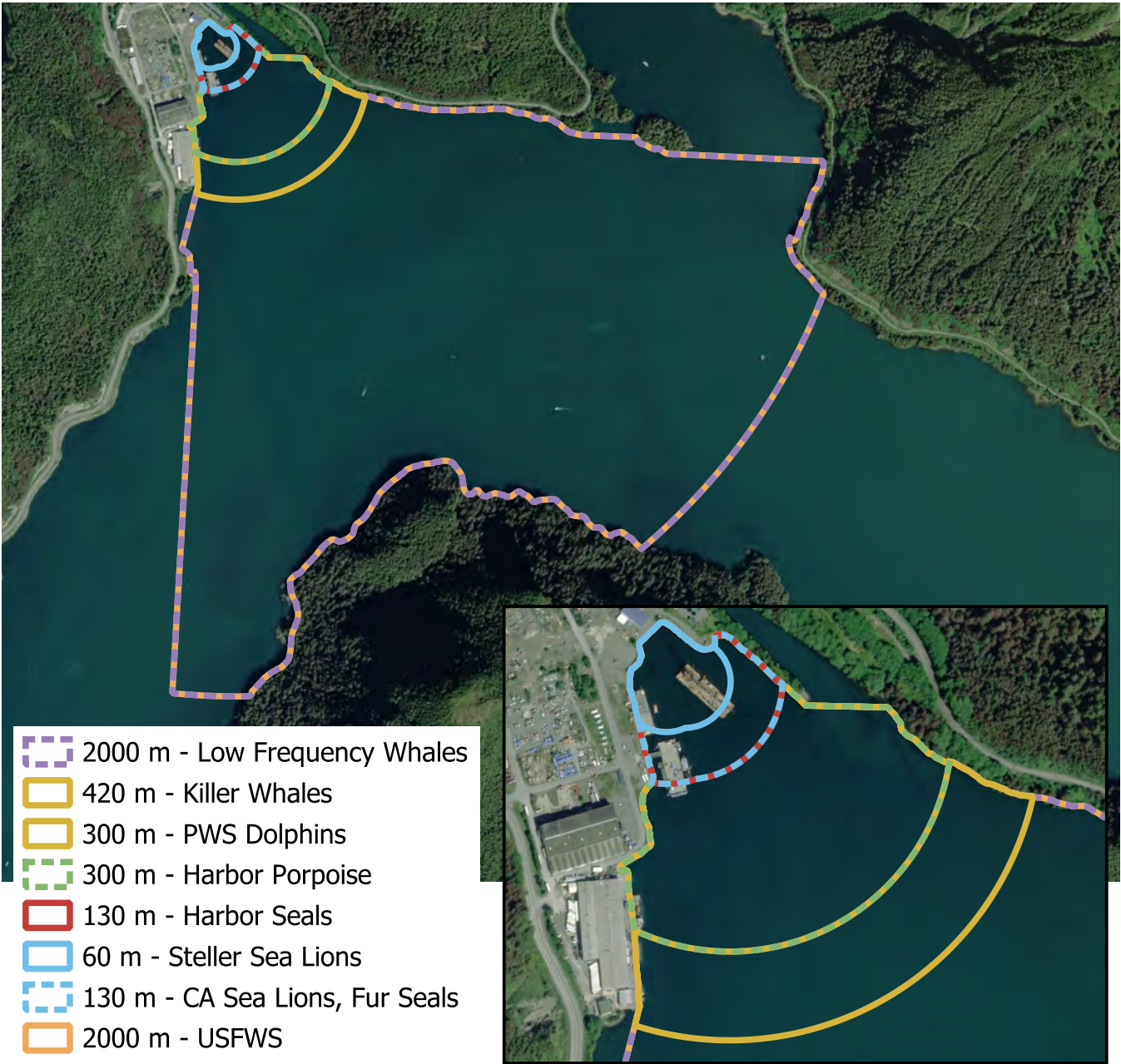


Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
2000 m	320 m	300 m	300 m	130 m	60 m	130 m	2000 m	Visible range



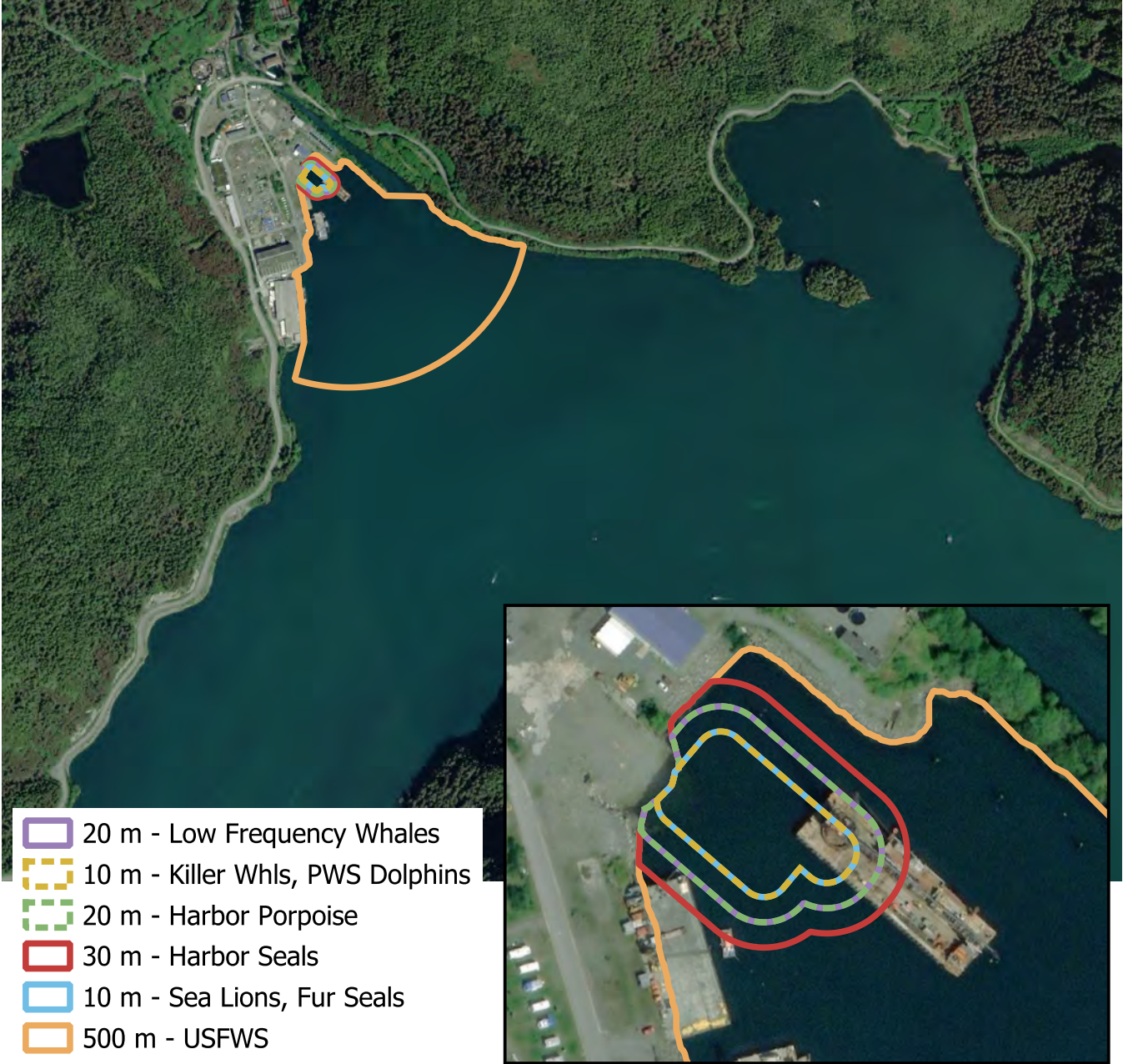


Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
60 m	20 m	20 m	50 m	70 m	30 m	30 m	500 m	Visible range

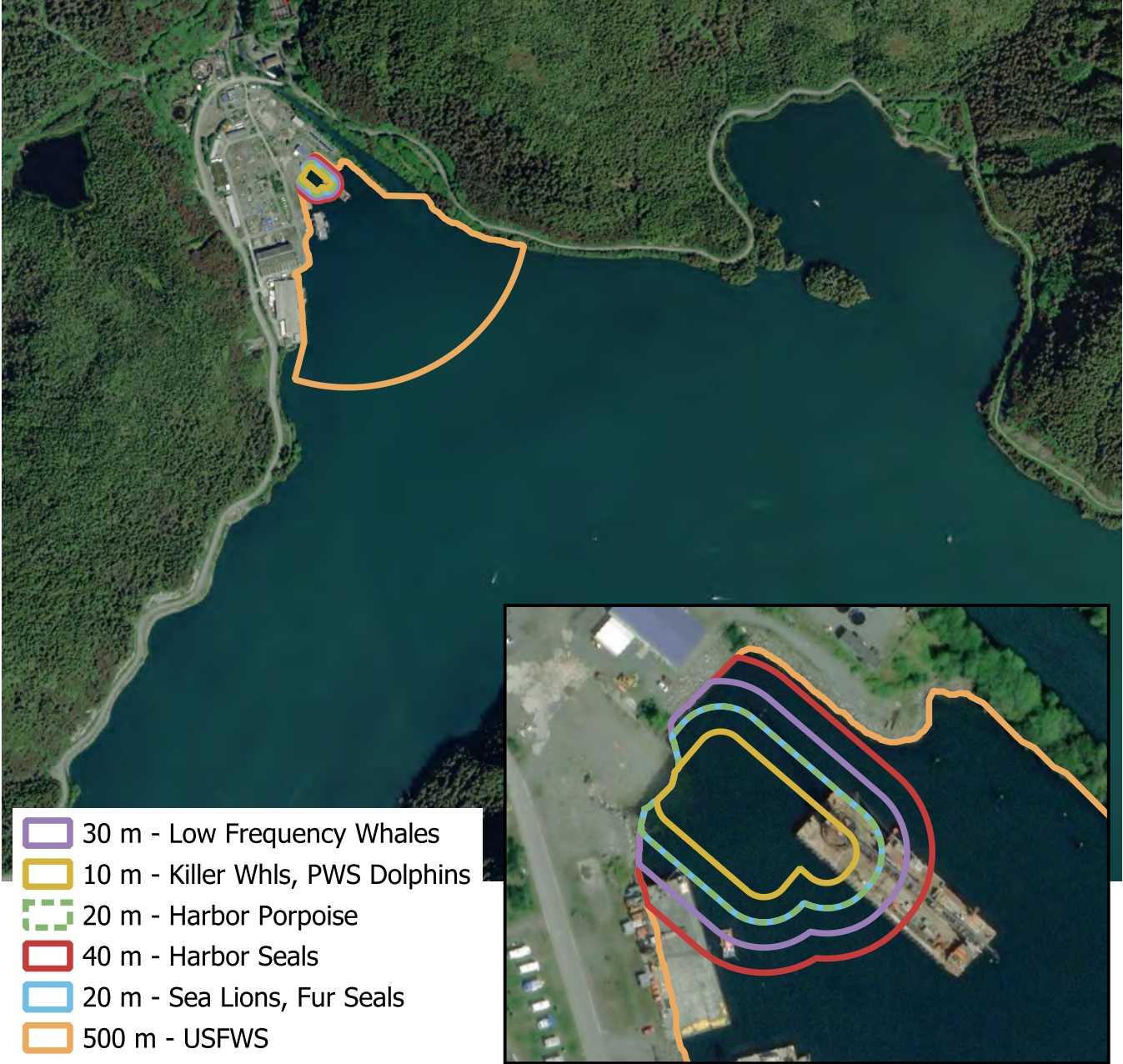


Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
2000 m	420 m	300 m	300 m	130 m	60 m	130 m	2000 m	Visible range





Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
20 m	10 m	10 m	20 m	30 m	10 m	10 m	500 m	Visible range



Humpback whales, gray whales	Killer whales	Pacific white-sided dolphins	Harbor porpoise	Harbor seals	Steller sea lions	California sea lions, northern fur seals	Northern sea otters & Steller's eiders	Other Unauth. Marine Mammals
30 m	10 m	10 m	20 m	40 m	20 m	20 m	500 m	Visible range

## APPENDIX 2. SAMPLE PROTECTED SPECIES OBSERVATION RECORD



# MARINE MAMMAL OBSERVATION RECORD

Project Name: \_\_\_\_\_

Monitoring Location: \_\_\_\_\_

Date: \_\_\_\_\_

Time Effort Initiated: \_\_\_\_\_

Time Effort Completed: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Time	Visibility	Glare	Weather Condition	Wave Height	BSS	Wind	Swell	% Zone Visible
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	
:	B-P-M-G-E	%	S-PC-L-R-F-OC-SN-HR	Lt/Mod/Hvy		N S E W	N S E W	

Event Code	Sight # (1 or 1.1 if re-sight)	Time/Dur (Start/End time if cont.)	WP/ Grid #/ DIR of travel	Zone/ Radius/ Impact Pile #?	Obs- erver	Sighting Cue	Species	Group Size	Behavior Code (see code sheet)	Construction Type	Mitigation Type	Exposure Type (A/B)	Behavior Change/ Response to Activity/Comments/Human Activity/Vessel Hull # or Name/ Visibility Notes
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		
E ON PRE/POST CON S M OR E OFF		:	Grid N or S W or E			BL BO BR DF SA OTHER		Min: Max: Best:		SSV SSI V DR I DP ST OWC NOWC / NONE	SS/BC DE SD None		



## Marine Mammal Observation Record – Sighting Codes

### Behavior Codes

Code	Behavior	Definition
BR	Breaching	Leaps clear of water
CD	Change Direction	Suddenly changes direction of travel
CH	Chuff	Makes loud, forceful exhalation of air at surface
DI	Dive	Forward dives below surface
DE	Dead	Shows decomposition or is confirmed as dead by investigation
DS	Disorientation	An individual displaying multiple behaviors that have no clear direction or purpose
FI	Fight	Agonistic interactions between two or more individuals
FO	Foraging	Confirmed by food seen in mouth
MI	Milling	Moving slowly at surface, changing direction often, not moving in any particular direction
PL	Play	Behavior that does not seem to be directed towards a particular goal; may involve one, two or more individuals
PO	Porpoising	Moving rapidly with body breaking surface of water
SL	Slap	Vigorously slaps surface of water with body, flippers, tail etc.
SP	Spyhopping	Rises vertically in the water to "look" above the water
SW	Swimming	General progress in a direction. Note general direction of travel when last seen [Example: "SW (N)" for swimming north]
TR	Traveling	Traveling in an obvious direction. Note direction of travel when last seen [Example: "TR (N)" for traveling north]
UN	Unknown	Behavior of animal undetermined, does not fit into another behavior
AWA	Approach Work Area	
LWA	Leave Work Area	
Pinniped only		
EW	Enter Water (from haul out )	Enters water from a haul-out for no obvious reason
FL	Flush (from haul out)	Enters water in response to disturbance
HO	Haul out (from water)	Hauls out on land
RE	Resting	Resting onshore or on surface of water

Code	Behavior	Definition
LO	Look	Is upright in water "looking" in several directions or at a single focus
SI	Sink	Sinks out of sight below surface without obvious effort (usually from an upright position)
VO	Vocalizing	Animal emits barks, squeals, etc.
Cetacean only		
LG	Logging	Resting on surface of water with no obvious signs of movement

**Sea State and Wave Height:** Use Beaufort Sea State Scale for Sea State. This refers to the surface layer and whether it is glassy in appearance or full of white caps. In the open ocean, it also takes into account the wave height or swell, but in inland waters the wave height (swells) may never reach the levels that correspond to the correct surface white cap number. Therefore, include wave height for clarity.

**Glare:** Percent glare should be the total glare of observers' area of responsibility. Determine if observer coverage is covering 90 degrees or 180 degrees and document daily. Then assess total glare for that area. This will provide needed information on what percentage of the field of view was poor due to glare.

**Swell Direction:** Swell direction should be where the swell is coming from (S for coming from the south). If possible, record direction relative to fixed location (pier). Choose this location at beginning of monitoring project.

**Wind Direction:** Wind direction should also be where the wind is coming from.

### Event

Code	Activity Type
E ON	Effort On
E OFF	Effort Off
PRE	Pre-Construction Watch
POST	Post-Construction Watch
CON	Construction (see types)
S	Sighting
M	Mitigation (see types)
OR	Observer Rotation

### Sighting Cues

Code	Distance Visible
BL	Blow
BO	Body
BR	Breach
DF	Dorsal Fin
SA	Surface Activity
OTHR	Other

### Visibility

Code	Distance Visible
B	Bad (<0.5km)
P	Poor (0.5 – 0.9km)
M	Moderate (0.9 – 3km)
G	Good (3 - 10km)
E	Excellent (>10km)

### Marine Mammal Species

Code	Marine Mammal Species
HPBK	Humpback Whale
GRWL	Gray Whale
KLWL	Killer Whale
PWSD	Pacific White-Sided Dolphin
HARP	Harbor Porpoise
STSL	Steller Sea Lion
CASL	California Sea Lion
NOFS	Northern Fur Seal
HSEA	Harbor Seal
NSO	Northern Sea Otter
UNID	Unidentified Whale
OTHR	Other – describe in notes

### Construction Type

Code	Activity Type
V	Vibratory Pile Driving
D	Down the Hole Hammering
I	Impact Pile Driving
DP	Dead pull
ST	Stabbing
DR	Drilling
OWC	Over-Water Construction
NOWC	No Over-Water Construction
NONE	No Construction

### Mitigation Codes

Code	Activity Type
SS	Soft Start
DE	Delay onset of In-Water Work
SD	Shut down In-Water Work

### Weather Conditions

Code	Weather Condition
S	Sunny
PC	Partly Cloudy
L	Light Rain
R	Steady Rain
F	Fog
OC	Overcast
SN	Snow
HR	Heavy Rain

### Wave Height

Code	Wave Height
Light	0 – 3 ft
Moderate	4 – 6 ft
Heavy	>6 ft