Marine Mammal Monitoring Report
Western Marine Construction
United States Coast Guard Base Floating Dock Extension Project
Ketchikan, Alaska
2023 April 23-27

Introduction

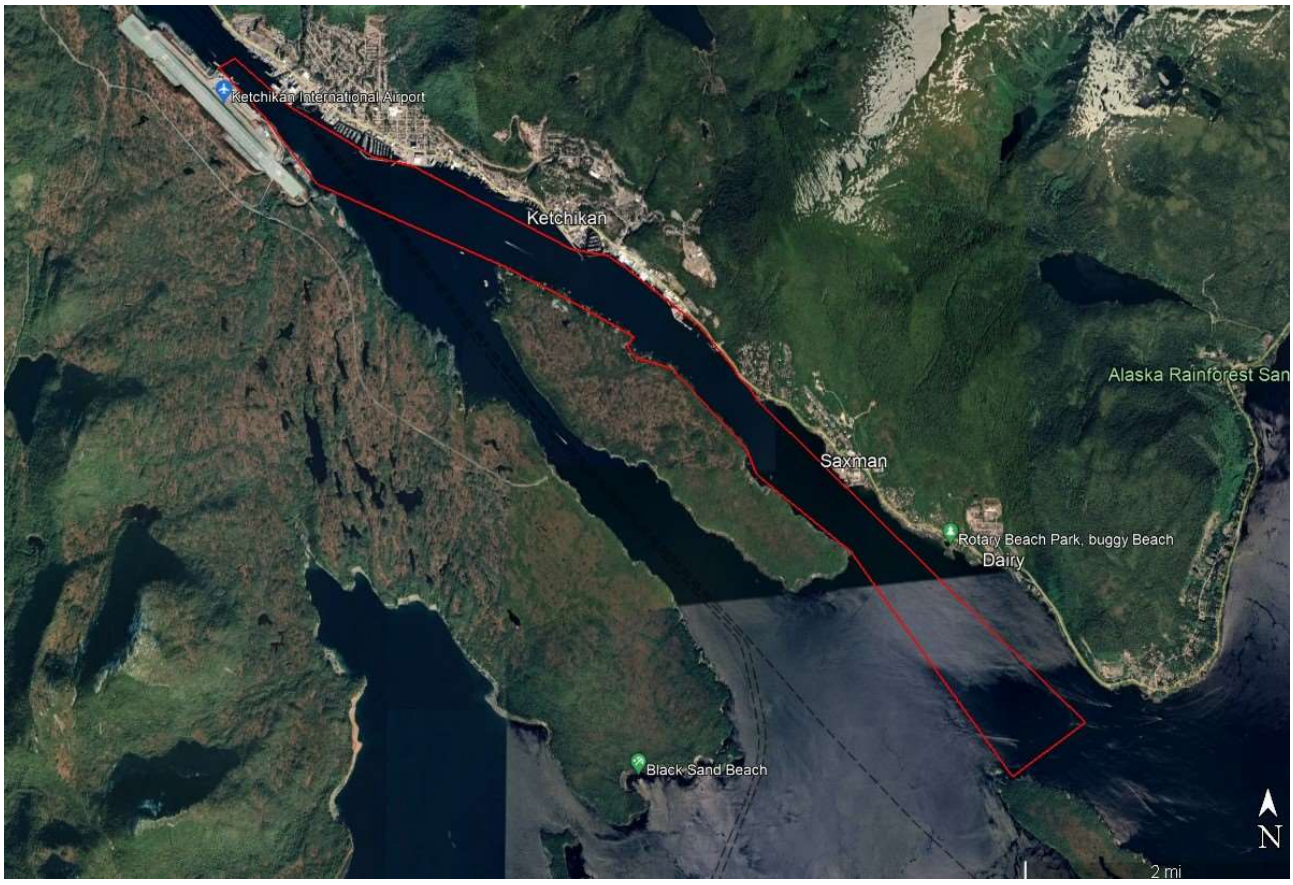
The United States Coast Guard (USCG) contracted Western Marine Construction to extend the floating dock at their base in Ketchikan, Alaska by installing a new section of floating dock. This included installing ten piles using down-the-hole (DTH) drivers that produce noise with the potential to disturb or harm some marine mammal species. The National Marine Fisheries Service issued an Incidental Harassment Authorization (IHA) for the project (Appendix A).

In accordance with the IHA, Western Marine Construction hired Protected Species Observers (PSOs) to monitor and record the presence of marine mammals during pile driving. This report gives the results of that effort.

Area Description

Located at the southern end of Southeast Alaska, Ketchikan sits on Revillagigedo Island along the Tongass Narrows which is part of the Inside Passage. Tongass Narrows runs in a northwest-southeast direction. The US Coast Guard base is at the southern edge of Ketchikan where it is roughly one third of a mile across Tongass Narrows to Pennock Island.

The survey area (level B disturbance and harassment zone) extended almost four miles both northwest and southeast from the base. The northwest portion is heavily populated and developed and terminated where the Tongass Narrows constricts to less than a quarter mile in width between Revillagigedo Island and the Ketchikan International Airport on Gravina Island. The southeast portion of the survey area terminated at Mountain Point on Revillagigedo Island and the northern-most tip of Annette Island.



Rough approximation of the survey area. (Google Earth)

Observers

There were four PSOs working on the project. Cameron Hollywood, Fred Berkeley, and Andrew Nelson are residents of Metlakatla with a working knowledge of marine mammals in the area. All three worked as PSOs on a dock refurbishment project in Metlakatla in 2022. Nat Drumheller of Gustavus, Alaska has previous PSO experience at Metlakatla and Gustavus and worked as a marine mammal observer for Glacier Bay National Park.

Objectives

There were two main objectives. The first was to prevent harm to marine mammals during pile driving by alerting the construction crew to mammals approaching or within shutdown zones established in the IHA so that pile driving could be delayed or halted. The second objective was to record all observations of marine mammals before, during, and after pile driving to assess the number of B Takes (marine mammals within disturbance and harassment zones established in the IHA during pile driving).

Methods

Group PSO observations started at least 30 minutes prior to pile driving and continued at least 30 minutes after pile driving. The lead PSO was stationed on the USCG dock and was in radio communication with the construction lead. Two additional PSOs independently drove the road along Tongass Narrows at the start of observations going NW and SE to the survey area limits looking for whales. They then stationed at observation locations about 3600 meters to the NW of the construction site near the Safeway store and about 3700 meters SE of the construction site at Rotary Beach State Park. These two locations were chosen as observation locations after scouting in the days prior to drilling for vantage points offering the greatest likelihood of seeing marine mammals entering the survey area. A fourth PSO was on duty traveling the road system along the survey area looking for marine mammals and served as a back up to provide breaks for the other PSOs. The four PSOs communicated via cell phones, usually by text. The PSOs continually scanned for marine mammals using binoculars and the naked eye. The lead PSO also used a spotting scope.

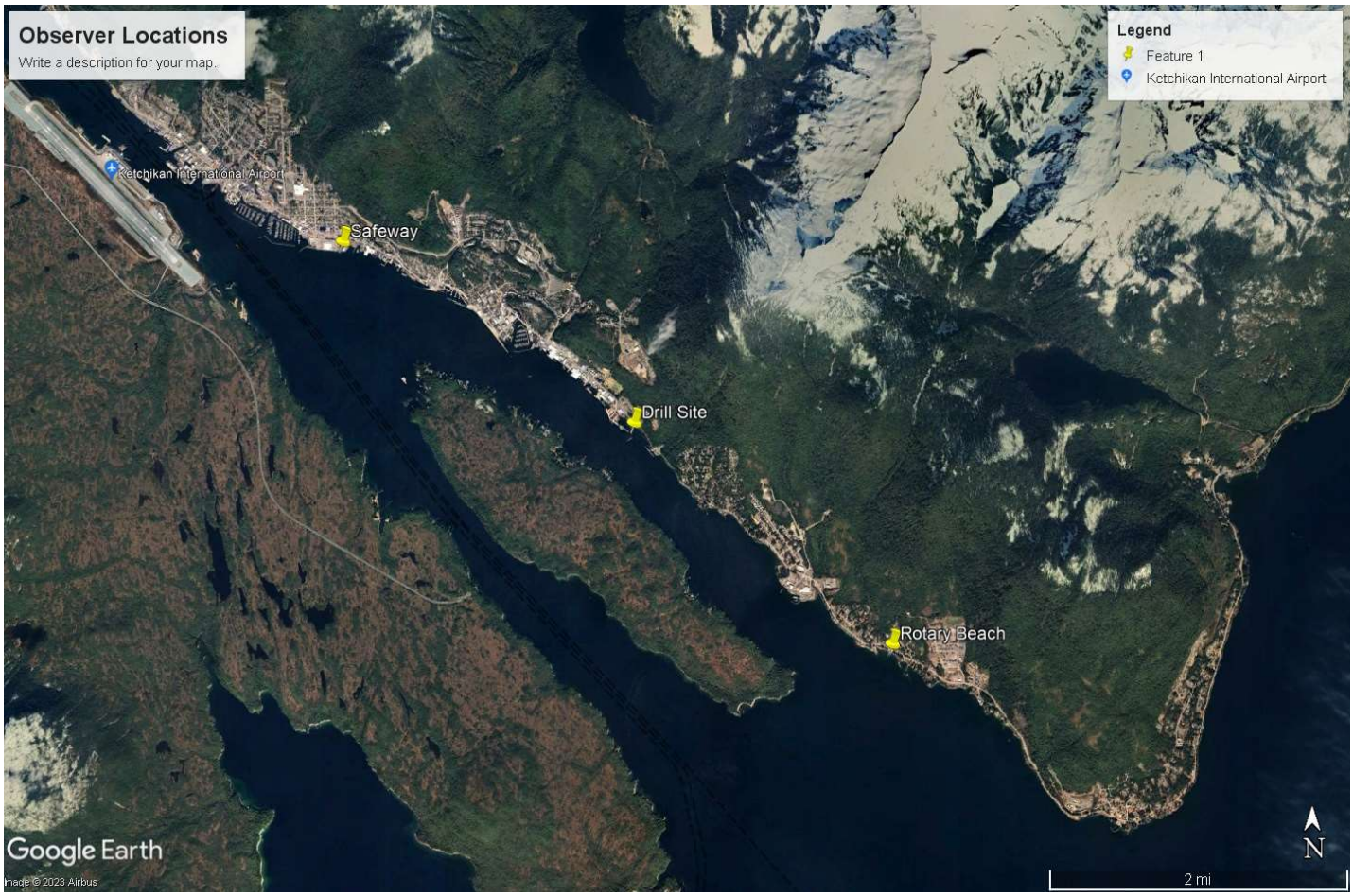
Each marine mammal or group was recorded with a sequential number when first observed and given the same number with a letter (1a, 1b, 1c, etc.) to indicate repeat sightings of an animal or group. For each observation the time, visibility, species, number of animals, distance in meters, bearing, and animal behavior were indicated. Distance and bearing to mammals were from the observer at the NW and SE stations. Distance and bearing were from the construction site at the USCG base. The lead PSO noted construction activity. Given the distances between observer stations, all three noted weather conditions.

Observations and Driving Times

There were five days of observations from 23 to 27 April, 2023 during which ten 24-inch piles were installed. There was a total of 37.25 hours of group PSO observation. There were an additional 4 hours of observation at the construction site by the lead PSO.

There was DTH pile driving on all five days. Total estimated DTH driving time was 7.5 hours. There was a brief period of vibratory driving on 27 April to seat each of the ten newly installed piles. There was no impact driving. DTH pile driving duration times are approximate due to the intermittent driving periods and the difficulty knowing when DTH driving was actually occurring during the DTH process.

Date	Driver Type	# of piles	Approximate Time
4/23	DTH	1	90 minutes
4/24	DTH	2	90 minutes
4/25	DTH	3	120 minutes
4/26	DTH	3	120 minutes
4/27	DTH	1	30 minutes
4/27	Vibe	10	1 minute (something like 5 seconds per piling)



The three PSO observation locations.

Visibility was good on all five days. Weather was generally cloudy and breezy with showers. There was steady rain on 27 April.
The only two species of marine mammal observed during the five days of pile installation were Harbor Seal and Humpback Whale.

Species	Number of days seen	Maximum group size	Total # observed
Harbor Seal	5	2	35
Humpback Whale	1	1	1

Level B Takes
Harbor seals seen at different observation locations were treated as unique animals even though they may have traveled between stations. Given the extensive size of the level B zone for DTH drilling, mammals seen within 30 minutes of drilling activity were assumed to have been in the B zone during the drilling activity and were considered B takes.
Even though noise considered harmful to marine mammals does not travel through land, we included all seals along shore regardless of terrain.
Using these criteria, there were 19 level B takes of Harbor Seals. If it is assumed that all observed Harbor Seals were unique individuals and were in the B zone at some point during drilling, then there would be 35 level B takes of Harbor Seals.

On 26 April at 10:48, the PSO at Rotory Beach saw a Humpback whale about 1800 meters to the SE. He notified the lead PSO. The whale was seen from both Rotary Beach and the USCG base (through a spotting scope) at 10:58 and appeared to be traveling south out of the level B zone. That was the last sighting within the level B zone. DTH drilling started at 11:20, so the whale was considered a level B take. Presumably the same Humpback Whale was seen later that day at 16:41 feeding off Mountain Point to the SE outside of the level B zone.
Given the favorable viewing conditions and the number of PSOs, it seems unlikely that any humpback whales went unnoticed in the survey area.

Level A Takes

There were four observed level A takes of Harbor Seals. These were seals that were traveling along shore or lingering near shore at the USCG base during DTH drilling. Since the USCG dock is built out over the water it was possible for seals to approach the drill site undetected. Ships moored at the dock also created visual barriers. It was necessary for the PSO at the base to move around in order to see in all directions and to scan the main channel. It is reasonable to assume that a few Harbor Seals traveling the shore within the shutdown zone could have been missed during drilling activities.

Species	**Observed B takes**	**Extrapolated B takes**	**Total B takes**
Harbor Seal	19	16	35
Humpback Whale	1	0	1
Species	**Observed A takes**	**Extrapolated A takes**	**Total A takes**
Harbor Seal	4	3	7

Shutdowns

On 23 April, DTH drilling was delayed for 15 minutes for a Harbor Seal that was about 50 meters from the site.
On 26 April, DTH drilling was stopped for 15 minutes for a Harbor Seal that was about 70 meters from the site.
On 26 April, DTH drilling was stopped a second time for 15 minutes for two Harbor Seals that were about 80 meters from the site.
On 26 April, the crew lead was notified (third time) of a Harbor Seal that was about 60 meters from the site as DTH drilling was ending.

New floating dock with 9th piling suspended from crane, 26 April 2023.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
1315 East-West Highway
Silver Spring, Maryland 20910

INCIDENTAL HARASSMENT AUTHORIZATION

The United States Coast Guard (USCG) and their designees are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to incidentally harass marine mammals, under the following conditions:

1. This incidental harassment authorization (IHA) is valid from July 1, 2022 through June 30, 2023.

2. This IHA authorizes take incidental to down-the-hole drilling, impact driving and pile installation, as specified in the (USCG)'s March 7th, 2022 IHA application, associated with the Floating Dock Extension Project (Project) in Base Ketchikan, Alaska.

3. General Conditions

   (a) A copy of this IHA must be in the possession of the Holder of the Authorization (Holder), supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the Holder operating under the authority of this IHA at all times that activities subject to this IHA are being conducted.

   (b) The species and/or stocks authorized for taking are listed in Table 1. Authorized take, by Level B harassment only, is limited to the species and numbers listed in Table 1.

   (c) The taking by serious injury or death or Level A harassment of any of the species listed in Table 1 or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.

   (d) The Holder must ensure that construction supervisors and crews, the monitoring team, and relevant USCG staff are trained prior to the start of activities subject to this IHA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

4. Mitigation Requirements

(a) The Holder must employ PSOs and establish monitoring locations as described in section 5 of this IHA. The Holder must monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

(b) Monitoring must take place from 30 minutes prior to initiation of down-the-hole drilling (DTH) and pile driving activity (i.e., pre-start clearance monitoring) through 30 minutes post-completion of DTH and pile driving activity. If in-water work ceases for more than 30 minutes, USCG must conduct pre-clearance monitoring of both the Level B harassment zone and the shutdown zone (Table 2).

(c) If a marine mammal is observed entering or within the shutdown zones indicated in Table 2, DTH and pile driving activity must be delayed or halted. Pile driving must be commenced or resumed as described in condition 4(e) of this IHA.

(d) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones indicated in Table 2 are clear of marine mammals. DTH and pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

(e) If DTH and pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone indicated in Table 2 or 15 minutes have passed without re-detection of the animal (30 minutes for large cetaceans).

(f) The Holder must use soft start techniques when impact pile driving. Soft start requires contractors to 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.

(g) DTH and pile driving activity must be halted (as described in condition 4(c) of this IHA) upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone (as shown in Table 2).

(h) The Holder, construction supervisors and crews, PSOs, and relevant USCG staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 meters of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.

(i) For humpback whales, if the boundaries of the harassment zone have not been monitored continuously during a work stoppage, the entire harassment zone must be surveyed again to ensure that no humpback whales have entered the harassment zone that were not previously accounted for.

(j) In-water activities must take place only: between civil dawn and civil dusk when PSOs can effectively monitor for the presence of marine mammals; during conditions with a Beaufort Sea State of 4 or less; when the entire shutdown zone and adjacent waters are visible (e.g., monitoring effectiveness is not reduced due to rain, fog, snow, etc.). Pile driving activities may continue for up to 30 minutes after sunset during evening civil twilight, as necessary to secure a pile for safety prior to demobilization for the evening. The length of the post-activity monitoring period may be reduced if darkness precludes visibility of the shutdown and monitoring zones.

5. Monitoring Requirements

(a) Marine mammal monitoring must be conducted in accordance with the conditions in this section.

(b) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:

(i) PSOs must be independent (i.e., not construction personnel) and have no other assigned tasks during monitoring periods.

(ii) At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(iii) Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience

performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(iv) Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

(v) PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.

(c) The Holder must establish the following monitoring locations:

(i) For all DTH and pile driving activities, at least three PSOs must be used.

(ii) For all pile driving and DTH activities, a minimum of one PSO must be assigned to each active pile driving or DTH site to monitor the shutdown zones and as much of the Level B harassment zone as possible.

(iii) For all DTH and pile driving activities, two additional PSOs are required. The additional PSOs must start at the project site and travel along Tongass Narrows, counting all humpbacks whales present, until they have reached the edge of the respective Level B harassment zone. At this point, the PSOs must identify suitable observation points from which to observe the width of Tongass Narrows for the duration of DTH and pile driving activities. For the largest zones, these are expected to be on South Tongass Highway near Mountain Point and North Tongass Highway just northwest of the intersection with Carlanna Creek.

(iv) If visibility deteriorates so that the entire width of Tongass Narrows at the harassment zone boundary is not visible, additional PSOs may be positioned so that the entire width is visible, or work must be halted until the entire width is visible to ensure that any humpback whales entering or within the harassment zone are detected by PSOs.

(d) PSOs must record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated in section 6 of this IHA.

6. Reporting

(a) The Holder must submit its draft report(s) on all monitoring conducted under this IHA within 90 calendar days of the completion of monitoring or 60 calendar days prior to the requested issuance of any subsequent IHA for construction activity at

the same location, whichever comes first. A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final.

(b) All draft and final monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *itp.corcoran@noaa.gov*.

(c) The marine mammal report must contain at minimum, the following:

(i) Dates and times (begin and end) of all marine mammal monitoring;

(ii) Construction activities occurring during each daily observation period, including:

A. The number and type of piles that were driven and the method (e.g., impact, vibratory, down-the-hole);

B. Total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving); and

C. For down-the-hole drilling, duration of operation for both impulsive and non-pulse components.

(iii) PSO locations during marine mammal monitoring;

(iv) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;

(v) Upon observation of a marine mammal, the following information:

A. Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;

B. Time of sighting;

C. Identification of the animal(s) (e.g., genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

D. Distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if DTH and pile driving was occurring at time of sighting);

E. Estimated number of animals (min/max/best estimate);

F. Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);

G. Animal's closest point of approach and estimated time spent within the harassment zone;

H. 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);

I. Number of marine mammals detected within the harassment zones, by species;

J. If a juvenile elephant seal is detected, note if a tag is located hind flipper and, if possible, record the tag identification number;

(vi) Detailed information about implementation of any mitigation (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

(d) The Holder must submit all PSO datasheets and/or raw sighting data with the draft report, as specified in condition 6(b) of this IHA. PSO data must be 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).

(e) Reporting injured or dead marine mammals:

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must report the incident to the Office

of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *itp.corcoran@noaa.gov*) and to the Alaska regional stranding network (877 925-7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this IHA. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

(ii) Species identification (if known) or description of the animal(s) involved;

(iii) Condition of the animal(s) (including carcass condition if the animal is dead);

(iv) Observed behaviors of the animal(s), if alive;

(v) If available, photographs or video footage of the animal(s); and

(vi) General circumstances under which the animal was discovered.

7. This Authorization may be modified, suspended or revoked if the holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals, (2) the authorized taking is likely to have or is having an unmitigable adverse impact on the availability of the affected species or stocks for subsistence uses, or (3) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

8. Renewals

On a case-by-case basis, NMFS may issue a one-time, one-year Renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical, or nearly identical, activities (or a subset of those activities) are planned or (2) the specified activities will not be completed by the time the IHA expires and a Renewal would allow for completion of the activities, provided all of the following conditions are met:

(a) A request for renewal is received no later than 60 days prior to the needed Renewal IHA effective date (note a Renewal IHA expiration date cannot extend beyond one year from expiration of this IHA).

(b) The request for renewal must include the following:

(i) An explanation that the activities to be conducted under the requested Renewal IHA are identical to the activities analyzed for this IHA, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).

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

(c) Upon review of the request for Renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings made in support of this IHA remain valid.

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Kimberly Damon-Randall,
Director, Office of Protected Resources
National Marine Fisheries Service

Table 1. Authorized Incidental Take.

Common name	Scientific name	Stock	Level A harassment	Level B harassment
Humpback whale	*Megaptera novaeangliae*	Central North Pacific	0	17
Minke whale	*Balaenoptera acutorostrata*	Alaska	0	1
Killer whale	*Orcinus orca*	Alaska Resident	0	12
		Northern Resident		
		West Coast Transient		
Pacific White-sided dolphin	*Lagenorhynchus obliquidens*	North Pacific	0	86
Harbor porpoise	*Phocoena phocoena*	Southeast Alaska	5	10
Dall's porpoise	*Phocoenoides dalli*	Alaska	20	40
Gray whale	*Eschrichtius robustus*	Eastern North Pacific	0	2
Harbor seal	*Phoca vitulina richardii*	Clarence Strait	10	350
Steller sea lion	*Eumetopias jubatus*	Eastern	0	300
Northern Elephant Seal	*Mirounga angustirostris*	California Breeding Stock	0	30

Table 2. Shutdown and Harassment Zones.

Activity	Minimum shutdown zone (m)					Harassment zone(m)
	Low-frequency	Mid-frequency	High-frequency	Phocid	Otariid	
Vibratory	20	20	20	20	20	29
DTH	440	20	520	240	20	6310
Impact	30	20	30	20	20	1848

Observation Data

USCG Dock					Distance and Bearing from Observer						
Date	Obs #	Time	Vis	Species	#	Distance	Bearing	Behavior	Construction Activity	Take	Location
23-Apr	1	1045	good	harbor seal	1	200	100	head out looking around near shore	positioning floating dock	no	USCG
23-Apr	2a	1344	good	harbor seal	1	50	355	milling about near shore	adjusting drill, radioed Ned about seal	B	USCG
23-Apr	2b	1348	good	harbor seal	1	50	350	milling about near shore	delaying DTH for seal	no	USCG
24-Apr	1	1100	exc	harbor seal	1	140	330	head up looking around near shore/dove	removing drill frame from piling	B	USCG
								surfaced 3 times in same area through 11:15			
25-Apr	1	1447	good	harbor seal	1	300	300	traveling NW away from base	DTH	B	USCG
26-Apr	1	826	good	harbor seal	1	70	350	milling near shore	DTH, called and shut down for 15 min	A	USCG
26-Apr	2	1058	good	humpback w.	1	5100	145	blowing/dove	loading pile 8, whale first spotted by	no	USCG
									Cameron at RB who notified me		
26-Apr	3a	1116	good	harbor seal	1	300	230	head out/dove	preparing for DTH	no	USCG
26-Apr	4	1131	good	harbor seal	2	80	350	heads out milling near shore	DTH, radioed Ned and he shut down	A	USCG
26-Apr	3b	1132	good	harbor seal	1	300	160	head out/dove	continuing shut down	B	USCG
26-Apr	5	1302	good	harbor seal	1	80	350	traveling SE along shore	removing drill from pile, radioed Ned about seal, no DTH	B	USCG
26-Apr	6	1402	exc	harbor seal	1	100	340	traveling NW along shore	moving equipment on barge	no	USCG
26-Apr	7a	1428	good	harbor seal	1	60	350	traveling NW along shore	setting up drill for pile	no	
26-Apr	7b	1625	good	harbor seal	1	60	350	head out/dove	DTH, radioed Ned, he acknowledged	A	USCG
26-Apr	8	1655	good	harbor seal	1	60	350	traveling SE	Putting drill away	B	
27-Apr	1	636	good	harbor Seal	1	320	290	head out/dove	setting up	no	USCG
27-Apr	2a	827	good	harbor Seal	1	180	100	milling near shore	setting pile jig	no	USCG
27-Apr	2b	859	good	harbor Seal	1	60	350	head out/dove	welding on pile	no	USCG
27-Apr	3	913	good	harbor Seal	1	350	270	nose out/dove	placing pile	B	USCG

27-Apr	4	1049	good	harbor Seal	1	70	345	trav SE along shore	pulling drill from pile	B	USCG
27-Apr	5	1435	good	harbor Seal	1	65	100	head out/dove	setting up vibe	no	USCG
27-Apr	6	1439	good	harbor Seal	1	190	340	head out/dove	setting up vibe	no	USCG
Rotary Beach				**Distance and Bearing from Observer**							
Date	**Obs #**	**Time**	**Vis**	**Species**	**#**	**Distance**	**Bearing**	**Behavior**	**Approx. Distance to Drill Site**	**Take**	**Location**
23-Apr	1	1019	ex	harbor seal	1	130	199	milling, watching people on beach, diving	3700	no	R. Beach
24-Apr	1	1242	exc	harbor seal	1	93	131	swimming south	3700	no	R. Beach
24-Apr	2	1429	exc	harbor seal	1	77	123	looked at shore, dove	3700	B	R. Beach
25-Apr	-	-	-	-	-	-	-	no mammals seen	-		R. Beach
26-Apr	1a	1048	exc	humpback w.	1	1800	125	spouting, swimming in circles	5100	B	R. Beach
26-Apr	1b	1641	exc	humpback w.	1			feeding off Mt. Point out of survey area	Behind land from drill site 8000	no	Mt. Pt.
									Seen from Mt. Pt. Fred Berkeley		
27-Apr	1a	954	exc	harbor seal	1	82	196	behind land mass, looked at beach/dove	3700	B	R. Beach
27-Apr	1b	956	exc	harbor seal	1	90	175	took a breath, swimming east	3700	no	R. Beach
Safeway					**Distance and Bearing from Observer**			**Approximate Distance to Drill Site**			
23-Apr	1	907	good	harbor seal	1	30	190	lounging	3600	no	Safeway
23-Apr	2	1114	good	harbor seal	1	40	100	milling, scared off by float plane	3600	no	Safeway
23-Apr	3	1257	good	harbor seal	2	100	260	1 big, 1 smaller, traveling along shore	3600	B	Safeway
23-Apr	4	1513	good	harbor seal	1	2	140	swimming off rocks towards Bar Harbor	3600	B	Safeway
24-Apr	1	1304	good	harbor seal	1	80	260	lounging	3600	B	Safeway
25-Apr	1	728	exc	harbor seal	1	10	100	swimming along shore going south	3600	B	Safeway
25-Apr	2a	846	exc	harbor seal	1	10	120	swimming SE	3600	B	Safeway
25-Apr	2b	849	exc	harbor seal	1	10	220	lounging, stayed in area for awhile	3600	no	Safeway
26-Apr	1a	754	good	harbor seal	1	10	110	milling	3600	B	Safeway
26-Apr	1b	801	good	harbor seal	1	10	120	milling	3600	no	Safeway
26-Apr	2	1022	good	harbor seal	1	140	260	milling	3600	no	Safeway
26-Apr	3	1137	good	harbor seal	1	10	110	milling	3600	B	Safeway
27-Apr	1	739	good	harbor seal	1	10	90	milling	3600	no	Safeway
27-Apr	2	1032	good	harbor seal	1	10	260	milling	3600	B	Safeway

Date	Obs Start	Obs End	Weather	Driving
23-Apr	840	1550	cloudy, rain showers, winds 3-13 mph, good visibility, Beufort state 1-3	DTH 1240-1340, 1406-1515 Est. total 1.5 hours, one 24" pile
24-Apr	635	1505	cloudy, periods of rain, winds 5-15 mph, good visibility, Beufort state 1-3	DTH 0950-1046, 1335-1422 Est. total 1.5 hours, two 24" piles
25-Apr	630	1533	cloudy, light showers, winds 2-20 mph, good visibility, Beufort state 0-3	DTH 0747-0834, 1015-1054, 1323-1500 Est. total 2 hours, three 24" piles
26-Apr	705	1708	Partly cloudy, winds 5-20 mph, good visibility, Beufort state 1-3	DTH 0817-0826, 0843-0921, 1120-1131, 1147-1210, 1243-1245, 1525-1631 Est. total 2 hours, three 24"piles
27-Apr	635	1550	Steady rain, winds 5-20 mph, good visibility, Beaufort state 1-3	DTH 0943-1044, Vibe 1430-1520 Est. total DTH 30 min. Est. total vibe about 1 min. (5 secs per pile)

Daily Environmental Conditions, Construction, and Communication Logs from US Coast Guard Dock.

USCG Base Ketchikan
Dock Extension Project 2023

HDR

Daily Environmental Conditions, Construction, and Communication Activity Log Page 1 of 1

Project: Ketchikan Location: USCG Base Observer(s): NKD Date: 4/23/2023

Environmental Conditions (Recorded every 30 minutes or as conditions change)									Construction and Communication Activities (Include all start up and shut-down activities and all communication to construction crew)		
Time	Weather Conditions	Wind Speed	Wind Direction	Beaufort Sea State	Glare (%)	Visibility (m)	Cloud Cover (%)	Comments	Time	Type of Construction Activity (Ramp up, Startup, shutdown, type of pile driving)	Communication/Comments
0840	L	7	SE	2	0	Ex	100%	occ. sprinkles			
0900	OC	13	SE	3	0	G	100	occ. sprinkles	0900	Bringing Float in	/ Radio check w/ Nedi
1200	OC	10	SE	2	0	G	100		1240	super soft DTH	2 10 secs.
1220	L	12	SE	2	0	G	100		1250	Int. Soft DTH	→ 1320
1300	R	10	SE	2	0	G	100	RAIN	1330	Light DTH	→ 1340
1400	OC	7	SE	1	0	G	100	occ. Showers	1345	Adj. Drill	HS in Zone A. Radioed Nedi. Delay DTH.
									1403	Delay	Radio all clear
									1406	DTH - Soft + Int.	to 1515 (Breaks)

Weather Conditions: (S) Sunny, (PC) Partly Cloudy, (L) Light Rain, (R) Steady Rain, (F) Fog, (OC)Overcast, (LS) Light Snow, (SN) Snow
Beaufort Scale: (0) Calm (1) ripples- up to 4 in (2) small wavelets- up to 8 in (3) large wavelets- up to 2 ft, (4) small waves- up to 3 ft (5) moderate waves- up to 6 ft (6) large waves- up to 9 ft

1410 – R. Otter → onto dock

USCG Base Ketchikan
Dock Extension Project 2023

HDR

Daily Environmental Conditions, Construction, and Communication Activity Log

Page 1 of 1

Project: ______ **Location:** USCG Base **Observer(s):** NKD **Date:** 4/24/23

1355

Environmental Conditions (Recorded every 30 minutes or as conditions change)									Construction and Communication Activities (include all start up and shut-down activities and all communication to construction crew)		
Time	Weather Conditions	Wind Speed	Wind Direction	Beaufort Sea State	Glare (%)	Visibility (m)	Cloud Cover (%)	Comments	Time	Type of Construction Activity (Ramp up, Startup, shutdown, type of pile driving)	Communication/Comments
0635	L	7	SE	2	0	6	100	Chilly.	0635	Staging Equip.	
0845	OC	7	SE	2	0	6	100	Occ. Light Showers	0825	"	Vis. → NW Greatly Improved w/ 2 Ships gone.
0900	OC	10	SE	2	0	6	95	Occ. Showers	0950	Start w/ 1st Soft	Taps DTH start up ≈30 sec
1355	R	10	SE	2	0	6	100	Rain	0955	DTH - I can't	hear our compressor - Noise Too Much Activity on Coast Guard Dock.
									1046	DTH off.	Piling Done
									1335	DTH Start	Piling #3 of 10.
								1422 →	1422	DTH off	Piling #3 done.
									1505		confirmed Done for Day.

Weather Conditions: (S) Sunny, (PC) Partly Cloudy, (L) Light Rain, (R) Steady Rain, (F) Fog, (OC)Overcast, (LS) Light Snow, (SN) Snow
Beaufort Scale: (0) Calm (1) ripples- up to 4 in (2) small wavelets- up to 8 in (3) large wavelets- up to 2 ft, (4) small waves- up to 3 ft (5) moderate waves- up to 6 ft (6) large waves- up to 9 ft

USCG Base Ketchikan
Dock Extension Project 2023

HDR

Daily Environmental Conditions, Construction, and Communication Activity Log

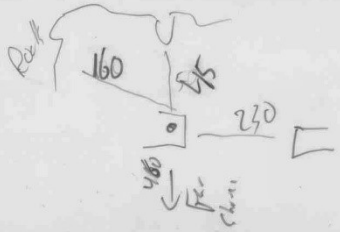
Page 1 of 1

Project: _____ Location: USCG Base Observer(s): NHD Date: 4/25

Environmental Conditions (Recorded every 30 minutes or as conditions change)									Construction and Communication Activities (Include all start up and shut-down activities and all communication to construction crew)		
Time	Weather Conditions	Wind Speed	Wind Direction	Beaufort Sea State	Glare (%)	Visibility (m)	Cloud Cover (%)	Comments	Time	Type of Construction Activity (Ramp up, Startup, shutdown, type of pile driving)	Communication/Comments
0630	OC	2	SE	0	0	Ex	90		0630	putting pile	in DTH frame
0815	OC	5	SE	1	0	Ex	90		0747	DTH Begins	Piling #4 of 10
0925	OC	10	SE	2	0	6	95		0884	DTH stop	4th Piling done
1015	OC	11	SE	2	0	6	100		1015	DTH start	#5 pile
1111	L	10	SE	2	0	6	100	Light Rain	1054	DTH stop	#5 done
1330	OC	7	SE	1	0	Ex	100		1323	DTH start	#6 P. (Hitting a Rock or something. Lots of Breaks in DTH)
1300	OC	13	SE	3	0	6	80		1500	DTH STOP	#6 P. done
1430	OC	10	SE	2	0	6	100				

Weather Conditions: (S) Sunny, (PC) Partly Cloudy, (L) Light Rain, (R) Steady Rain, (F) Fog, (OC)Overcast, (LS) Light Snow, (SN) Snow
Beaufort Scale: (0) Calm (1) ripples- up to 4 in (2) small wavelets- up to 8 in (3) large wavelets- up to 2 ft, (4) small waves- up to 3 ft (5) moderate waves- up to 6 ft (6) large waves- up to 9 ft

30
80



1443

USCG Base Ketchikan
Dock Extension Project 2023

10:58 Sighting of Cameron's HB whale through scope – was last time Cameron saw it. He did not put that entry on HB data sheet but said it was going SW out of zone.

HDR

Daily Environmental Conditions, Construction, and Communication Activity Log

Page 1 of 1

Project: ______ Location: USCG Base Observer(s): NRD Date: 4/26

Environmental Conditions (Recorded every 30 minutes or as conditions change)										Construction and Communication Activities (include all start up and shut-down activities and all communication to construction crew)		
Time	Weather Conditions	Wind Speed	Wind Direction	Beaufort Sea State	Glare (%)	Visibility (m)	Cloud Cover (%)	Comments		Time	Type of Construction Activity (Ramp up, Startup, shutdown, type of pile driving)	Communication/Comments
0705	PC	11	S	2	0	EX	80	couple showers variable wind + clouds		0705	0705	Divers Prepping to clear wires
1130	PC	8	S	1	0	Good	85			0732	Divers clear	Dive Boat departing. Crew prepping pilings.
1600	PC	8	S	1	10	Good	70			0817	DTH	start. Pile 7
										0823	A Coast Guard ship left.	Improved site visibility
										0826	Called Ned	for H.S. Shut down. He stopped DTH. Advised it will be at least 15 min.
										0841	called w/	all clear for shut down. DTH resumed ~0843
										0921	DTH stopped	Pile #7 done.
										0930 -> 0945		couldn't Remove drill, so pulled #7 piling out.
										0950-0955	- Dropped	Piling #7 Back in ~~Lost~~ DTH.
										1120	DTH start.	#8

Weather Conditions: (S) Sunny, (PC) Partly Cloudy, (L) Light Rain, (R) Steady Rain, (F) Fog, (OC)Overcast, (LS) Light Snow, (SN) Snow
Beaufort Scale: (0) Calm (1) ripples- up to 4 in (2) small wavelets- up to 8 in (3) large wavelets- up to 2 ft, (4) small waves- up to 3 ft (5) moderate waves- up to 6 ft (6) large waves- up to 9 ft

1131 called shutdown for DTH – 2 seals.
1146 – Called all clear
1147 – DTH Resumed DTH end 12:10 #8 done.
1225 – pulling Pile 8 to get drill out.
1243 – 22min DTH while re-planting #8.

Over

(4/26 cont.)

1302 - called Ned for seal on start down zone. Acknowledged.
Not Drilling, just trying to get drill out of piling.

1345 - finish sinking #8 3rd Time - NO DTH used

Had to pull #8 2nd Time.

1525 DTH start #9 piling

1625 - Called for Shutdown on H.S. Ackn.

1631 DTH Done. #9 Pile Done.

USCG Base Ketchikan
Dock Extension Project 2023

HDR

Daily Environmental Conditions, Construction, and Communication Activity Log

Page 1 of 1

Project: _____ Location: CG Base Observer(s): NKD Date: 4/27/23

Environmental Conditions (Recorded every 30 minutes or as conditions change)									Construction and Communication Activities (include all start up and shut-down activities and all communication to construction crew)		
Time	Weather Conditions	Wind Speed	Wind Direction	Beaufort Sea State	Glare (%)	Visibility (m)	Cloud Cover (%)	Comments	Time	Type of Construction Activity (Ramp up, Startup, shutdown, type of pile driving)	Communication/Comments
0635	R	9	SE	2	0	6	100			0745	They have been staging.
0745	R	11	SE	3	0	6	100			0943	DTH Start
										1044	DTH stop # 10 Down
										1430	Vib Start ~5 sec/ pile
										1520	Vib End 50 secs total

Weather Conditions: (S) Sunny, (PC) Partly Cloudy, (L) Light Rain, (R) Steady Rain, (F) Fog, (OC)Overcast, (LS) Light Snow, (SN) Snow
Beaufort Scale: (0) Calm (1) ripples- up to 4 in (2) small wavelets- up to 8 in (3) large wavelets- up to 2 ft, (4) small waves- up to 3 ft (5) moderate waves- up to 6 ft (6) large waves- up to 9 ft

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
1011 East Tudor Road
Anchorage, Alaska 99503

In Reply Refer to:
FWS/R7/AFES/MMM

INCIDENTAL HARASSMENT AUTHORIZATION
(IHA-22-01)

ISSUED: July 13, 2022
EXPIRES: July 12, 2023

The United States Coast Guard (USCG) are authorized to take, by non-lethal Level B harassment, small numbers of northern sea otters (*Enhydra lutris kenyoni*: hereafter "sea otters") during dock construction activities in the Tongass Narrows at the USCG Base Ketchikan in Ketchikan, Alaska. This Incidental Harassment Authorization (IHA) is valid between the date of issuance and July 12, 2023. It is issued by the Assistant Regional Director-Fisheries and Ecological Services-Alaska Region, U.S. Fish and Wildlife Service (Service) in accordance with section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA), as amended (16 U.S.C. 1371).

Activities are described in full in the following documents:

- Notice of receipt of application; *proposed incidental harassment authorization; draft environmental assessment; request for comments. Proposed Incidental Harassment Authorization for Southeast Alaska Stock of Northern Sea Otters Ketchikan, Alaska* (87 87 FR 33500, June 1, 2022, the "Proposed IHA").
- Wood Environment and Infrastructure Solutions, Inc. 2021: *Incidental Harassment Authorization Application for the Coast Guard's Floating Dock Extension Project at Base Ketchikan, Alaska, July 1, 2022, through June 30, 2023.* Prepared for: United States Coast Guard.

General Conditions

1) The taking of northern sea otters from the Southeast Alaska stock whenever the required conditions, mitigation, monitoring, and reporting measures are not fully implemented as required by the IHA is prohibited. Failure to follow measures specified may result in the suspension or revocation of the IHA.

2) If incidental take exceeds the level or type identified in this IHA (e.g., greater than 35 incidents of incidental take of 5 otters by Level B harassment), this IHA may be invalidated, and the Service will re-evaluate its findings. If project activities cause unauthorized take, such as any injury due to construction noise, acute distress, or any indication of the separation of mother from pup, USCG must take the following actions:

    a) cease its activities immediately (or reduce activities to the minimum level necessary to maintain safety);
    b) report the details of the incident to the Service's Marine Mammals Management

(MMM) within 48 hours; and

c) suspend further activities until the Service has reviewed the circumstances, determined whether additional mitigation measures are necessary to avoid further unauthorized taking, and notified USCG that it may resume project activities.

3) All operations managers and machine operators must receive a copy of this IHA and maintain access to it for reference at all times during project work. These personnel must understand, be fully aware of, and be capable of implementing the conditions of this IHA at all times during project work.

4) This IHA will apply to activities associated with the project as described in this document and in USCG's application (USCG 2021). Changes to the project without prior authorization may invalidate this IHA.

5) USCG's IHA application is approved and fully incorporated into this IHA. The application includes:

   a) USCG's original request for an IHA, dated July 22, 2021; and
   b) A revised application, dated September 10, 2021.

6) Operators will allow Service personnel or the Service's designated representative to visit project work sites to monitor impacts to sea otters and subsistence uses of sea otters at any time throughout project activities so long as it is safe to do so. "Operators" are all personnel operating under the USCG's authority, including all contractors and subcontractors.

Avoidance and Minimization

7) Construction activities must be conducted using equipment that generates the lowest practicable levels of underwater sound within the range of frequencies audible to sea otters.

8) During all pile-installation activities, regardless of predicted sound levels, a physical interaction shutdown zone of 20 meters (66 feet) must be enforced. If a sea otter enters the shutdown zone, in-water activities must be delayed until either the animal has been visually observed outside the shutdown zone, or 15 minutes (min.) have elapsed since the last observation time without redetection of the animal.

9) If the impact driver has been idled for more than 30 min., an initial set of three strikes from the impact driver must be delivered at reduced energy, followed by a 1-min. waiting period, before full-powered proofing strikes.

10) In-water activity must be conducted in daylight. If environmental conditions prevent visual detection of sea otters within the shutdown zone, in-water activities must be stopped until visibility is regained.

Monitoring

11) Operators shall work with Protected Species Observers (PSO) during pile driving activities to apply mitigation measures and shall recognize the authority of PSO up to and including

stopping work, except were doing so poses a significant safety risk to personnel.

12) Duties of PSO include watching for and identifying sea otters, recording observation details, documenting presence in any applicable monitoring zone, identifying and documenting potential harassment, and working with operators to implement all appropriate mitigation measures.

13) Monitoring of the shutdown zone must continue for 30 min. following completion of pile installation.

Measures to Reduce Impacts to Subsistence Users

14) Prior to conducting the work, the USCG will take the following steps to reduce potential effects on subsistence harvest of sea otters:

    a) Avoid work in areas of known sea otter subsistence harvest;
    b) Discuss the planned activities with subsistence stakeholders including Southeast Alaska villages and traditional councils;
    c) Identify and work to resolve concerns of stakeholders regarding the project's effects on subsistence hunting of sea otters; and
    d) If any concerns remain, develop a Plan of Cooperation (POC) in consultation with the Service and subsistence stakeholders to address these concerns.

Reporting Requirements

15) The USCG must notify the Service at least 48 hours prior to commencement of activities.

16) Reports will be submitted to the Service's MMM weekly during project activities. The reports will summarize project work and monitoring efforts.

17) A final report will be submitted to the Service's MMM within 90 days after completion of work or expiration of the IHA. It will summarize all monitoring efforts and observations, describe all project activities, and discuss any additional work yet to be done. Factors influencing visibility and detectability of marine mammals (e.g., sea state, number of observers, fog, and glare) will be discussed. The report will describe changes in sea otter behavior resulting from project activities and any specific behaviors of interest. Sea otter observation records will be provided in the form of electronic database or spreadsheet files. The report will assess any effects the USCG's operations may have had on the availability of sea otters for subsistence harvest and if applicable, evaluate the effectiveness of the POC for preventing impacts to subsistence users of sea otters.

18) Injured, dead, or distressed sea otters that are not associated with project activities (e.g., animals found outside the project area, previously wounded animals, or carcasses with moderate to advanced decomposition or scavenger damage) must be reported to the Service within 24 hours of discovery. Photographs, video, location information, or any other available documentation shall be provided to the Service.

19) All reports shall be submitted by email to: *fw7_mmm_reports@fws.gov*.

20) The USCG must notify the Service upon project completion or end of the work season.

_____ _____

Assistant Regional Director, Date
Fisheries and Ecological Services, Alaska Region