

Memorandum

March 30, 2023

To: Katherine Chesick, Jill Macik, and Ticson Mach, Seattle Department of Transportation
From: Michelle Havey and Hannah Fotherby, Anchor QEA, LLC
cc: Jeff Bertram, Seattle Department of Transportation
Jody Robinson and Dean Beauchamp, Jacobs
Heather Page and Adam Carlson, Anchor QEA, LLC

Re: Pier 63 Removal Project (NWS-2019-703-WRD) Marine Mammal Monitoring Report

This report provides the marine mammal monitoring results for the Fall 2022 in-water work window for the Pier 63 Removal Project (Project). Pier 63 is located on the downtown Seattle waterfront in Elliott Bay, Washington (Figure 1). In compliance with the Endangered Species Act and the Marine Mammal Protection Act, marine mammal monitoring was conducted during all in-water pile removal activities for the Project. As part of the Marine Mammal Protection Act compliance, the National Marine Fisheries Service issued an Incidental Harassment Authorization (IHA) for in-water pile removal, which allows take of marine mammals by harassment incidental to pile removal activities in Elliott Bay.

Marine Mammal Monitoring Methods

Marine mammal monitoring methods and protocols were established per agency guidelines and permits, based on information in the following Project monitoring plan and permit documents:

- *Marine Mammal Monitoring Plan for the Pier 63 Removal Project* (Anchor QEA 2022)
- *Request for Incidental Harassment Authorization: Pier 63 Removal Project* (Anchor QEA 2021)
- *Marine Mammal Protection Act Incidental Harassment Authorization for the Pier 63 Removal Project* (NOAA 2022)

Under the 2022 IHA, the Project was required to monitor for 12 species (NOAA 2022). The 12 species are organized into the following five functional hearing groups:

- High-Frequency Cetaceans (Porpoises)
 - Dall's porpoise (*Phocoenoides dalli*)
 - Harbor porpoise (*Phocoena phocoena*)
- Mid-Frequency Cetaceans (Dolphins and Whales)
 - Southern Resident Distinct Population Segment (DPS; *Orcinus orca*) and transient killer whales
 - Common bottlenose dolphin (*Tursiops truncatus*)
 - Long-beaked common dolphin (*Delphinus capensis*)

- Low-Frequency Cetaceans (Whales)
 - Gray whale (*Eschrichtius robustus*)
 - Humpback whale (*Megaptera novaeangliae*)
 - Minke whale (*Balaenoptera acutorostrata*)
- Otariid Pinnipeds (Sea Lions/Eared)
 - California sea lion (*Zalophus californianus*)
 - Steller sea lion (*Eumetopias jubatus*)
- Phocid Pinnipeds (Seals/Earless)
 - Elephant seal (*Mirounga angustirostris*)
 - Harbor seal (*Phoca vitulina*)

The monitoring area included an Exclusion Zone (Level A Take) and a Level B Harassment Zone (Level B Take) for each group. The two zones varied by pile type and marine mammal functional hearing group. The Exclusion Zone was composed of areas where a Stop Work Order was to be issued if species were present; for killer whales and humpback whales, the Exclusion Zones were equal to the size of the Level B Harassment Zones for other marine mammal species (see Table 1). Within the Level B Harassment Zones, marine mammals were closely monitored, and take was documented and work allowed to continue; if the mammals were killer whales or humpback whales, a Stop/Change/Delay Work would be initiated. Exclusion Zones and Level B Harassment Zones were established for each hearing group based on the type of in-water pile removal construction activity:

- Timber pile (12-inch) removal via vibratory hammer
- Steel pile (30-inch and 12-inch) removal via vibratory hammer

The Exclusion Zones and Level B Harassment Zones implemented are presented in Table 1 and shown in Figure 2 for timber pile removal and Figure 3 for steel pile removal.

Table 1
Exclusion Zone and Level B Harassment Zone Monitoring Thresholds, by Species Group and Pile Type

Zone Threshold	Location to Monitor ¹	Species Group
<i>Vibratory Removal (Timber Pile)</i>		
Level A Exclusion Zone (Stop Work Order)	33 feet (10 m) to Source	All hearing groups
	4,458 feet/0.8 mile (1,359 m) to Source	Killer whales, humpback whales ²
Level B Harassment Threshold (Take)	From 4,458 feet/0.8 mile (1,359 m) to Exclusion Zone for each hearing group	All hearing groups
<i>Vibratory Removal (Steel Pile – 12-inch and 30-inch)</i>		
Level A Exclusion Zone (Stop Work Order)	33 feet (10 m) to Source	Otariids
	33 feet (10 m) to Source	Mid-frequency cetaceans
	50 feet (15 m) to Source	Phocids

Zone Threshold	Location to Monitor ¹	Species Group
	66 feet (20 m) to Source	Low-frequency cetaceans
	100 feet (30 m) to Source	High-frequency cetaceans
	24,137 feet/4.6 miles (7,357 m) to Source	Killer whales, humpback whales ²
Level B Harassment Threshold (Take)	From 24,137 feet/4.6 miles (7,357 m) to Exclusion Zone for each hearing group	All hearing groups

Notes:

1. Rounded up to nearest whole number
2. If killer whales (Southern Resident and transient) or humpback whales entered the Level A Zone (1,359 m for timber removal and 7,357 m for steel removal), a Stop/Change/Delay Work was initiated to prevent a take of these species.

m: meter

Source: NOAA 2022

Monitoring was performed by two land-based monitors for timber pile removal and four monitors for steel pile removal: three land-based observers and one ferry boat-based observer.

One observer was located at the Project construction site during all vibratory pile removal. Two additional land-based observers conducted monitoring at designated viewpoints on the north and south entrances to Elliott Bay, with unobstructed views of the bay. The south monitoring point was located at the Alki Beach Pier, identified as the Alki Monitoring Site. The north monitoring point was located at the 32nd Avenue West Beach Access, identified as the Magnolia Monitoring Site. The ferry boat-based observer was based on the Seattle to Bainbridge Island ferry route, identified as the Ferry Monitoring Site. The monitoring sites are shown in Figures 4 and 5.

Trained marine mammal monitors from Anchor QEA, LLC, and The Greenbusch Group, Inc, used binoculars to search the monitoring zones for the presence of marine mammals during pile removal activities. Observations and positions of marine mammals were recorded on a daily electronic form within Esri's Survey123 application on each observer's phone, which was developed prior to program implementation for efficient and consistent data collection. The following data were collected:

- Date
- Time monitoring activity begins and ends
- Site
- Construction activity during monitoring period
- Weather conditions and environmental conditions that could deter or prevent marine mammal detections
- Marine mammal species observed and number of each species observed
- Time, duration, and location of marine mammals observed
- Observable species behavior during pile removal activities
- Pile-related activities taking place during monitoring
- Distances from pile activities to marine mammals

- Communication between the observers and the contractor or Seattle Department of Transportation
- Notable human activity in the area
- Reason a Stop Work Order was or was not initiated, if applicable

The locations of marine mammal sightings were also noted, shown in Figures 4 and 5. Take numbers were tallied each day to ensure the Project did not exceed the authorized number of incidental takes for each species.

Pier 63 Marine Mammal Monitoring Results

Marine mammal monitoring during vibratory steel and timber pile removal activities was performed by trained marine mammal monitors from Anchor QEA and The Greenbusch Group for 21 days between October 12, 2022, and December 1, 2022. On 3 monitoring days, November 23, 28, and 29, hammer activity was scheduled but did not occur due to mechanical issues. Hammer activity was scheduled on December 1, 2022, but pile removal proceeded without the need for the hammer. Overall, vibratory pile removal of steel and timber piles occurred on 17 monitoring days between October 12, 2022, and November 30, 2022. On most days, pile activity occurred off and on throughout the monitoring period, with breaks in hammer activity ranging from fewer than 30 minutes to several hours.

A total of 487 piles were removed from Pier 63 using a vibratory hammer. Additional timber piles and pile caps were dead pulled without the need to use a vibratory hammer.¹ Of the 487 piles, 8 were 30-inch steel, 21 were 12-inch steel, and 458 were 14-inch timber. The removal of 30-inch steel pile occurred on 3 days, 12-inch steel pile removal occurred on 10 days, and timber pile removal occurred on 12 days.

Throughout the monitoring period, 5 of the 12 potential marine mammal species were observed: California sea lion, Steller sea lion, harbor seal, harbor porpoise, and killer whale (Southern Resident DPS and transient). Four species were observed in the Level B Harassment Zone during pile removal. Total Level B takes documented during monitoring includes 29 California sea lions, 35 harbor seals, 1 Steller sea lion, and 1 harbor porpoise. No species were observed in the Exclusion Zone during pile removal; however, killer whales were observed approaching the Exclusion Zone on two separate days, which initiated a Delay Work and a Change Work. The Delay Work and Change Work events are described further in the following section. No observable changes in behavior in the marine mammal species were noted during pile removal activities. The general locations where marine mammals were observed during this monitoring season are presented in Figures 4 and 5.

¹ Although these additional piles were not quantified during removal, they were included in the total tonnage of creosote disposal.

During monitoring, the number of takes documented for California sea lions, Steller sea lions, harbor seals, and harbor porpoises was considerably below the maximum number of Level B takes authorized for these species in the Pier 63 IHA (NOAA 2022). No takes were authorized for killer whales (Southern Resident DPS) or humpback whales; marine mammal monitors treated all killer whale observations as Southern Resident DPS due to similarity in appearance to transients. Table 2 compares documented take per species to the amount of authorized Level A and Level B takes.

Table 2
Pier 63 Take Per Species

Species ¹	Documented Level A Take	IHA Authorized Level A Take	Documented Level B Take	IHA Authorized Level B Take
California Sea Lion	0	0	29	470
Harbor Seal	0	0	35	282
Harbor Porpoise	0	0	1	235
Steller Sea Lion	0	0	1	94

Note:

1. Only species with documented takes are listed.

Stop Work Initiation

Pile removal activity was delayed on 1 day and modified on 1 day. On November 8, 2022, work was delayed for 27 minutes when approximately 17 killer whales were observed approaching and inside the Exclusion Zone; work did not resume until monitors confirmed the killer whales were observed outside of the Exclusion Zone. On November 10, 2022, pile activity shifted from vibratory removal of 12-inch steel piles to removal of timber piles when approximately 22 killer whales were observed approaching and inside the Exclusion Zone for 23 minutes. Removal of 12-inch steel piles resumed later in the day after the killer whales were observed outside of the Exclusion Zone. As a result of these modifications, no takes of killer whales occurred on either day.

California Sea Lion

The number of California sea lion Level B takes from all four monitoring sites combined ranged from 0 to 3 per day, with a per-day average of 1.7. There were 2 monitoring days when no California sea lion takes were documented. More than half (15 of the 29) of California sea lion Level B takes and the largest single-day number of takes (3) from one monitoring location occurred at the Alki Monitoring Site (Figures 4 and 5). There were no observable changes in sea lion behavior during vibratory pile removal. In addition to the 29 California sea lion takes documented during the monitoring, 115 California sea lions were observed during the monitoring period that were not documented takes because they were observed more than 30 minutes outside of pile removal activity, outside the Level B Harassment Zone, or were previously observed as a Level B take.

California sea lion information from the daily monitoring forms is presented in the tables in Attachment A. Table 3 summarizes California sea lion takes per monitoring site during Pier 63 monitoring.

Table 3
Summary of Pier 63 California Sea Lion Level B Takes Per Monitoring Site

Monitoring Site	Total Level B Takes	Level B Takes Per Day Range
Construction	8	0 to 3
Alki	15	0 to 3
Magnolia	4	0 to 2
Ferry	2	0 to 1
Total	29	

Harbor Seal

Harbor seal Level B takes from all four monitoring sites combined ranged from 0 to 10 per day, with a per-day average of 2.1. Harbor seal Level B takes were documented on every day that pile activity occurred. Most (22 of 35) of the harbor seal Level B takes and the largest single-day number (8) from one monitoring site occurred at the Magnolia Monitoring Site. There were no observable changes in harbor seal behavior during pile activity. In addition to the 35 harbor seal Level B takes documented during the monitoring, 170 harbor seals were observed during the monitoring period that were not documented takes because they were observed more than 30 minutes outside of pile removal activity, outside the Level B Harassment Zone, or were previously observed as a Level B take.

Harbor seal information from the daily monitoring forms is presented in the tables in Attachment A. Table 4 summarizes harbor seal takes per monitoring site during Pier 63 monitoring.

Table 4
Summary of Pier 63 Harbor Seal Takes Per Monitoring Site

Monitoring Site	Total Level B Takes	Level B Takes Per Day Range
Construction	3	0 to 1
Alki	8	0 to 2
Magnolia	22	0 to 8
Ferry	2	0 to 1
Total	35	

Harbor Porpoise

A harbor porpoise was observed on 1 monitoring day, documented as one take. This one individual was observed from the Alki Monitoring Site on October 31, 2022, within the Level B Harassment Zone. There were no observable changes in harbor porpoise behavior during vibratory pile removal. No other harbor porpoises were observed during the monitoring period for Pier 63. Harbor porpoise information from the daily monitoring forms is presented in the tables in Attachment A.

Steller Sea Lion

A Steller sea lion was observed on 1 monitoring day, documented as one take. This one individual was observed from the Alki Monitoring Site on November 2, 2022, within the Level B Harassment Zone. There were no observable changes in Steller sea lion behavior during vibratory pile removal. No other Steller sea lions were observed during the monitoring period for Pier 63. Steller sea lion information from the daily monitoring forms is presented in the tables in Attachment A.

Killer Whale

Killer whales (Southern Resident or transient) were observed on 4 monitoring days, from November 7, 2022, to November 10, 2022. Because no takes were authorized for Southern Resident killer whales, and marine mammal monitors could not confirm observations of transient versus Southern Resident DPS, all killer whale observations were treated as Southern Resident DPS. On November 8, 2022, a Delay Work was initiated for approximately 17 killer whales approaching the Exclusion Zone. On November 10, 2022, a Work Modification was initiated for approximately 22 killer whales approaching the Exclusion Zone for steel piles. As a result of these actions, no killer whale observations were documented as takes. The remaining observations were recorded either outside of the Exclusion Zone or when no pile activity was occurring.

Killer whale information from the daily monitoring forms is presented in the tables in Attachment A.

Pier 63 Supporting Details

Detailed data collected during Pier 63 monitoring are presented in Attachment A, as follows:

- Table A-1 provides a daily summary of the daily log kept by the lead Protected Species Observer located at the Project site.
- Table A-2 provides a daily summary of pile removal activity, weather conditions during the monitoring period, marine mammal species observed, time and duration of observations, distance from pile removal activities, and species behavior.
- Table A-3 provides a daily summary of California sea lion Level B takes, observations that did not include takes, and the totals.
- Table A-4 provides a daily summary of harbor seal Level B takes, observations that did not include takes, and the totals.

- Table A-5 provides a daily summary of harbor porpoise Level B takes, observations that did not include takes, and the totals.
- Table A-6 provides a daily summary of Steller sea lion Level B takes, observations that did not include takes, and the totals.
- Table A-7 provides a daily summary of killer whale (Southern Resident and transient) Level B takes, observations that did not include takes, and the totals.

As noted in Table A-2, some monitoring days included fog, rain, sun glare, and wind conditions that made monitoring more challenging than during clear weather periods; however, no environmental conditions occurred during the monitoring period that warranted a stop or delay of pile removal activities because marine mammal species could not be observed. In addition, monitoring was conducted during a range of tidal cycles; however, no changes in marine mammal behavior were identified based on tidal fluctuations.

References

Anchor QEA (Anchor QEA, LLC), 2021. *Request for Incidental Harassment Authorization: Pier 63 Removal Project*. September 2021.

Anchor QEA, 2022. *Marine Mammal Monitoring Plan: Pier 63 Removal Project*. September 2022.

NOAA (National Oceanic and Atmospheric Administration), 2022. *Marine Mammal Protection Act Incidental Harassment Authorization for the Pier 63 Removal Project*. May 20, 2022.

Figures



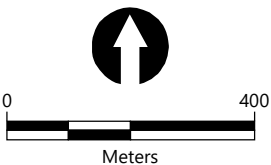
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Downtown Seattle

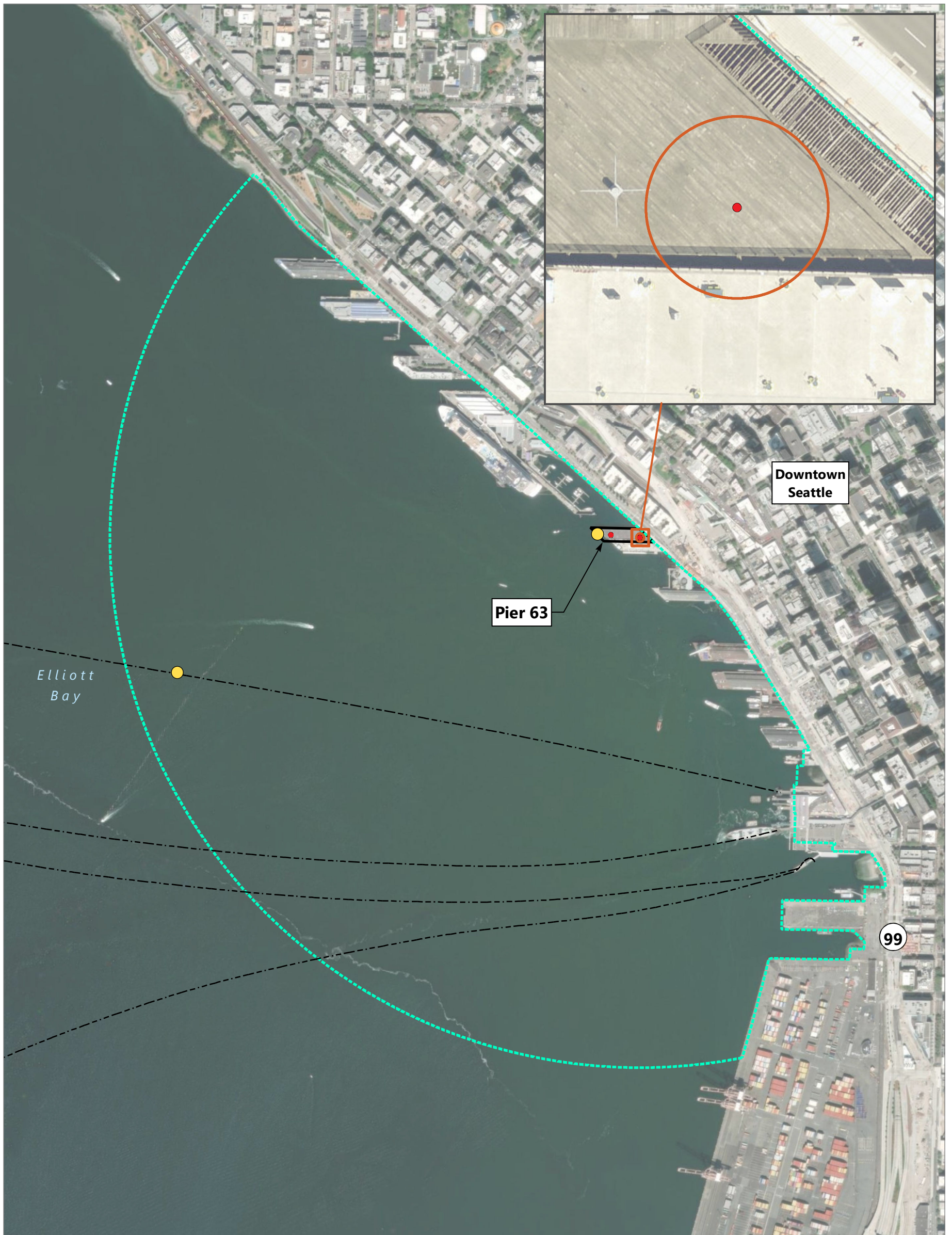
Pier 63

LEGEND:

 Pier 63



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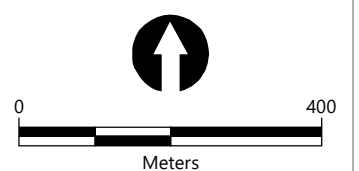


LEGEND:

- Hammer Location
- Marine Mammal Monitor Site
- Ferry Route
- ▭ Pier 63
- Level B Harassment Zone – All Hearing Groups**
- ▭ Vibratory Removal (Timber Pile): 1,359 meters
- Exclusion Zones**
- ▭ All Hearing Groups: 10 meters
- ▭ Killer Whales and Humpback Whales: 1,359 meters

NOTES:

1. Exclusion Zones were adjusted as needed, based on location of hammer operations.

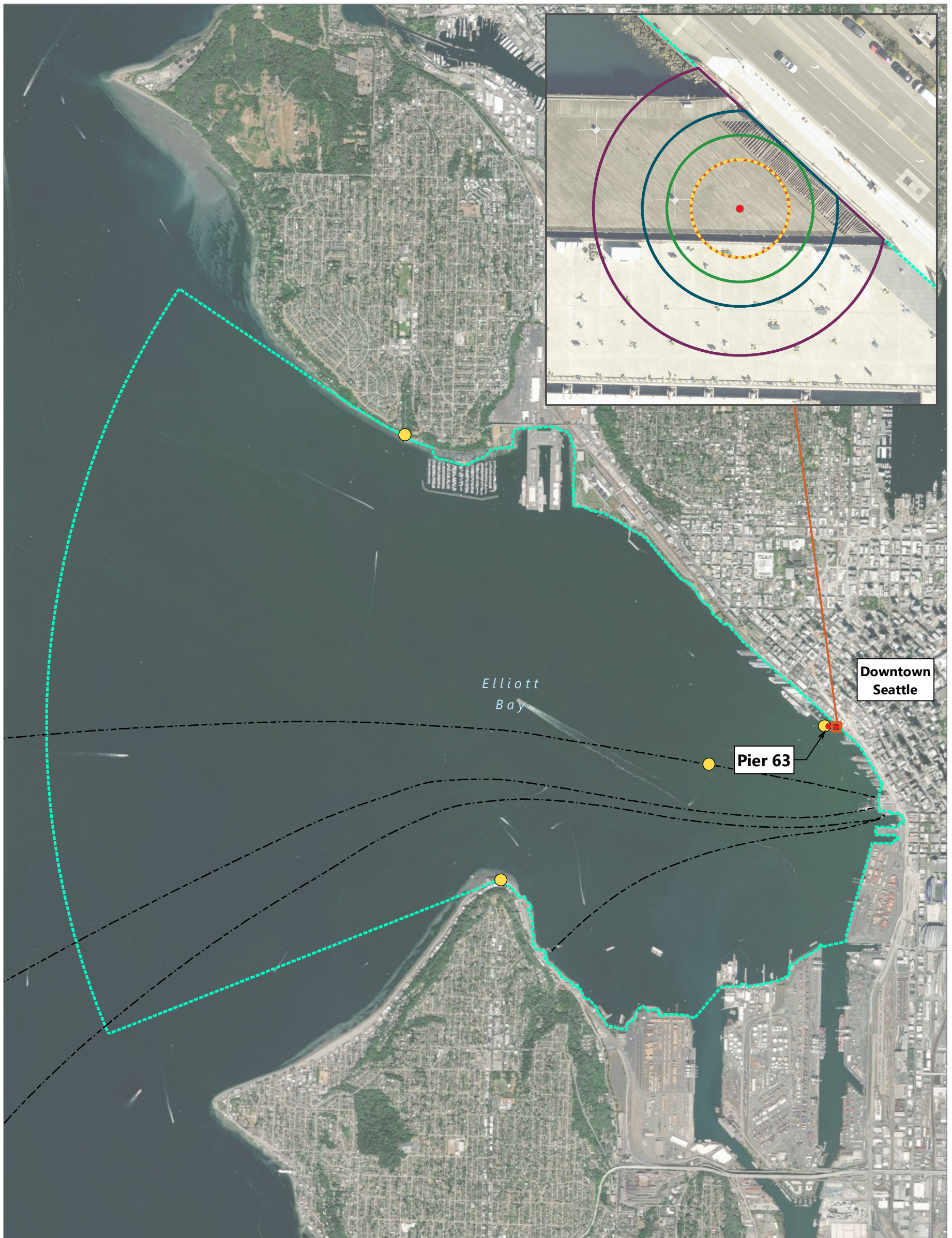


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Figure 2
Exclusion and Level B Harassment Zones for Vibratory Removal of Timber Piles

Marine Mammal Monitoring Report
 Pier 63 Removal Project

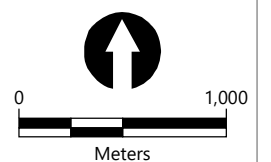


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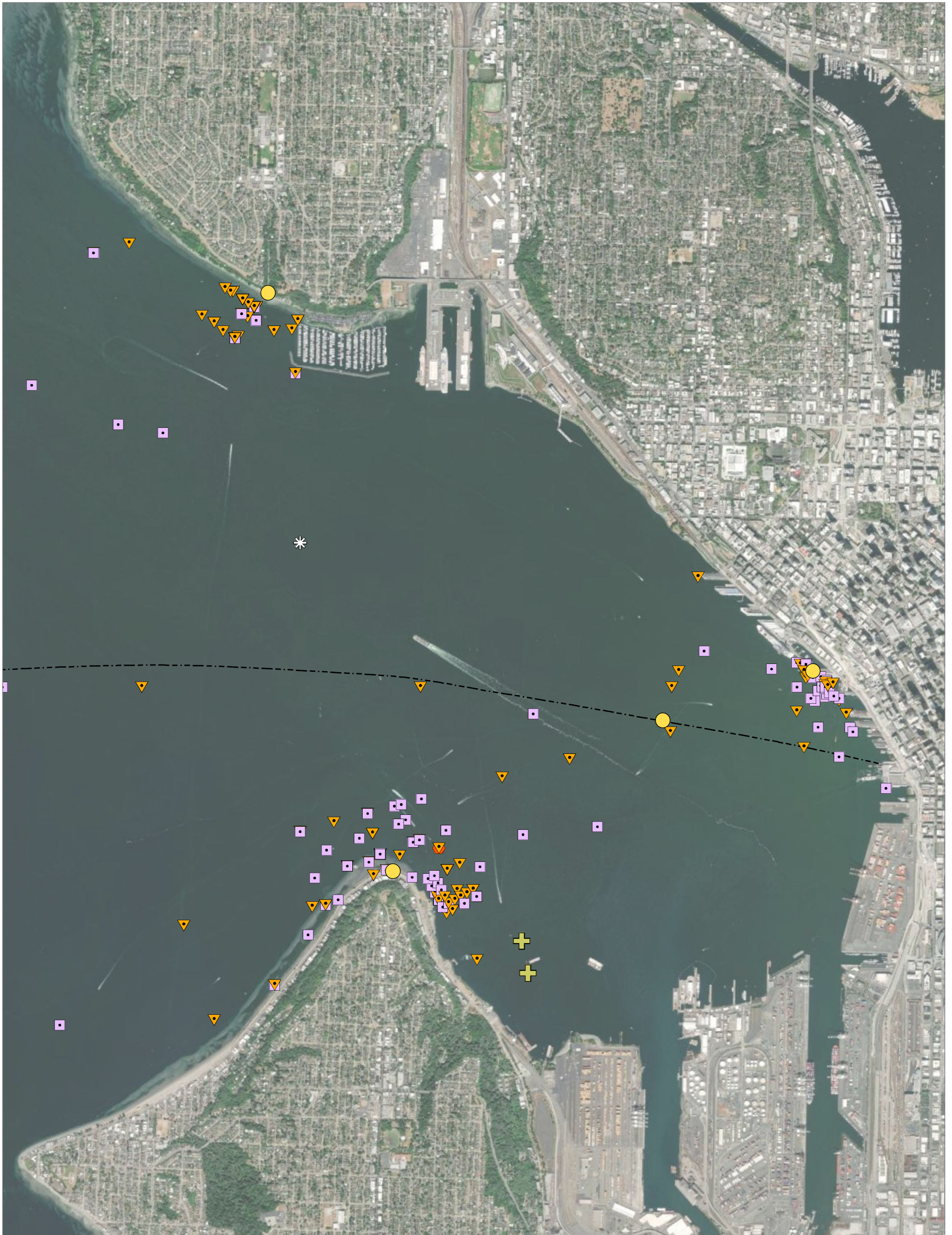
- Hammer Location
- Marine Mammal Monitor Site
- Ferry Route
- ▭ Pier 63
- Level B Harassment Zone – All Hearing Groups**
- ▭ Vibratory Removal (Steel Pile): 7,357 meters
- Exclusion Zones**
- ▭ Otariid Pinnipeds: 10 meters
- ▭ Mid-Frequency Cetaceans: 10 meters
- ▭ Phocid Pinnipeds: 15 meters
- ▭ Low-Frequency Cetaceans: 20 meters
- ▭ High-Frequency Cetaceans: 30 meters
- ▭ Killer Whales and Humpback Whales: 7,357 meters

NOTES:




1. Exclusion Zones were adjusted as needed, based on location of hammer operations.








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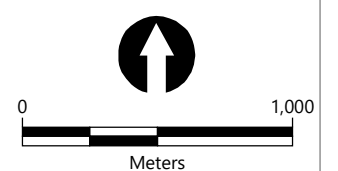
-  Mooring Buoy
-  Marine Mammal Monitor Site
-  Seattle-Bainbridge Island Ferry Route

Marine Mammal Sightings

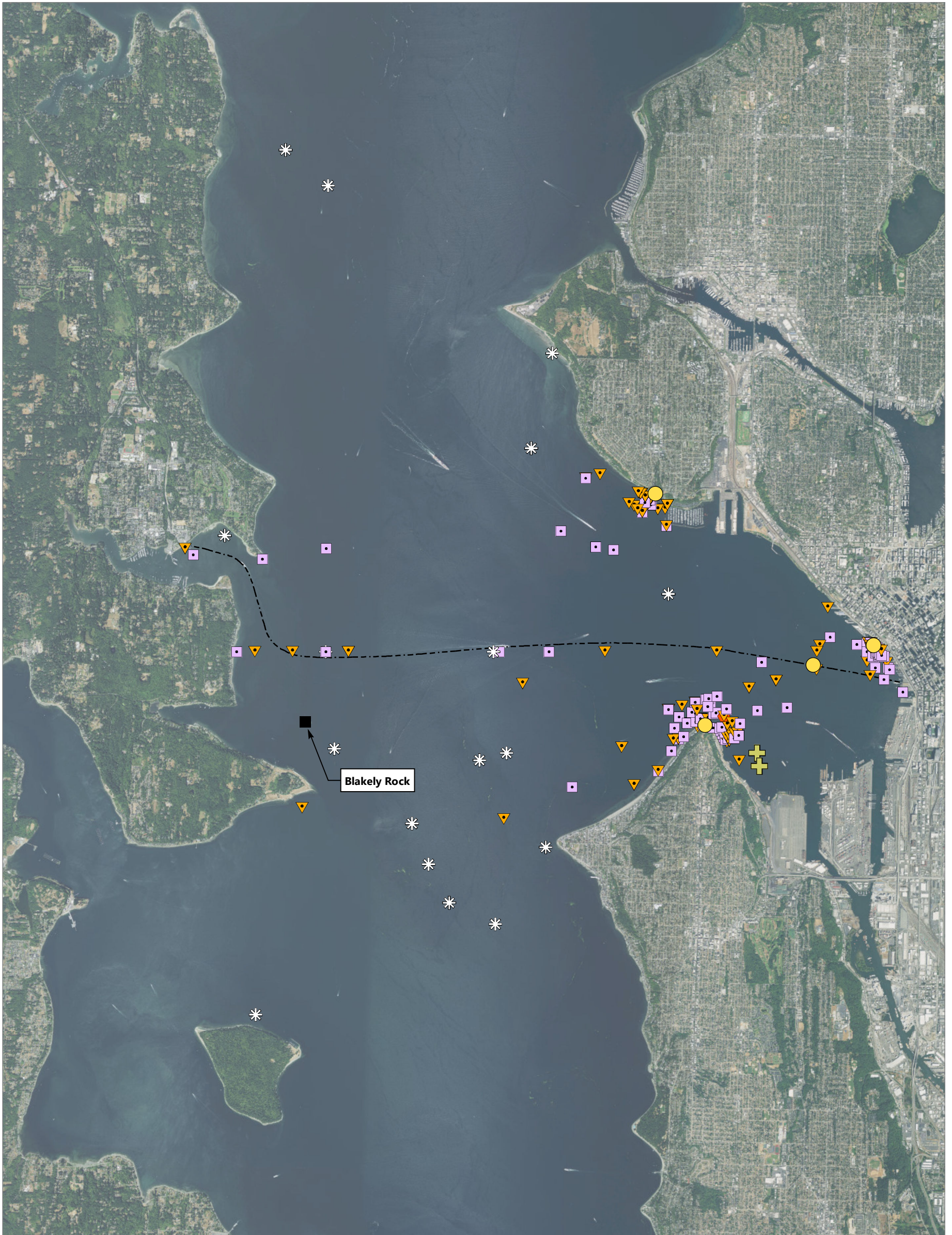
-  California Sea Lion (Otariid/Eared)
-  Harbor Porpoise (High-Frequency Cetacean)
-  Harbor Seal (Phocid/Earless)
-  Killer Whale (Mid-Frequency Cetacean)
-  Stellar Sea Lion (Otariid/Eared)

NOTE:

1. Approximate locations are where marine mammals were observed; many of the symbols represent multiple sightings over the monitoring period.



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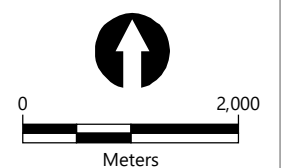


LEGEND:

-  Mooring Buoy
-  Marine Mammal Monitor Site
-  Seattle-Bainbridge Island Ferry Route
- Marine Mammal Sightings**
-  California Sea Lion (Otariid/Eared)
-  Harbor Porpoise (High-Frequency Cetacean)
-  Harbor Seal (Phocid/Earless)
-  Killer Whale (Mid-Frequency Cetacean)
-  Stellar Sea Lion (Otariid/Eared)

NOTE:

1. Approximate locations are where marine mammals were observed; many of the symbols represent multiple sightings over the monitoring period.



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Attachment A
Monitoring Data

Table A-1
Pier 63 Daily Pile Removal Activity

Date	Daily Monitoring Start Time	Daily Monitoring Stop Time	Daily Notes	Pile Activity	Pile Type	Activity Start Time	Activity Stop Time	Total Number of Piles Removed	Time Period Notes (Shutdowns/Delays/WQ Issues/Pile Names)
Wednesday, October 12, 2022	7:24	14:05	-	Vibratory Removal	Steel 30-inch	7:56	10:46	4	Piles: 1–4. Vibratory hammer off from 08:12–08:49 and 09:16–09:25
					Steel 30-inch	12:31	12:41	2	Pile: 1; Pile: 4
					Steel 30-inch	13:16	13:35	3	Pile: 2, 3. Did not complete vibratory removal of Pile 5.
Monday, October 31, 2022	7:52	14:36	-	Vibratory Removal	Timber	8:49	9:08	8	Piles: 1–8
					Steel 12-inch	9:10	9:16	1	Pile: 9
					Timber	9:20	9:30	3	Piles: 10–12
					Timber	11:28	11:57	12	Piles: 13–24
					Steel 12-inch	11:58	12:04	1	Pile: 25
					Timber	12:20	12:37	4	Piles: 26–29
					Steel 12-inch	12:41	12:57	1	Pile: 30
Tuesday, November 1, 2022	10:30	14:21	-	Vibratory Removal	Timber	12:38	12:41	3	Piles: 1–3
					Steel 12-inch	12:43	12:47	1	Pile: 4
					Timber	12:49	13:51	1	Piles: 5–28
Wednesday, November 2, 2022	7:55	15:09	-	Vibratory Removal	Steel 12-inch	9:46	9:53	1	Pile: 1
					Timber	9:55	10:08	9	Piles: 2–10
					Timber	13:56	14:39	29	Piles: 11–39
Thursday, November 3, 2022	8:30	14:36	-	Vibratory Removal	Timber	9:02	9:08	5	Piles: 1–5
					Timber	12:18	14:01	22	Piles: 6–27
					Steel 12-inch	14:03	14:06	1	Pile: 28
Monday, November 7, 2022	7:03	15:55	12 killer whales observed in the Exclusion Zone from 09:53–10:10. There was no associated stop or delay in work.	Vibratory Removal	Timber	8:58	9:31	19	Piles: 1–19
					Timber	12:02	12:43	38	Piles: 20–57
Tuesday, November 8, 2022	7:05	15:38	-	Vibratory Removal	Steel 30-inch	9:43	9:51	1	Pile: 1— STOP WORK from 10:46–11:13
					Steel 30-inch	11:18	11:20	1	Pile: 1
					Steel 12-inch	13:34	15:08	3	Piles: 2–4. Vibratory hammer off from 14:02–15:00
Wednesday, November 9, 2022	7:15	13:55	-	Vibratory Removal	Timber	10:00	11:03	44	Piles: 1–44. Vibratory removals conducted in quick succession.
Thursday, November 10, 2022	7:07	15:26	-	Vibratory Removal	Timber	7:38	8:16	26	Piles: 1–26
					Steel 12-inch	8:18	8:29	4	Piles: 27–30
					Timber	11:02	11:08	3	Piles: 31–34
					Steel 12-inch	11:10	11:11	1	Pile: 35. Vibratory removal not completed.
					Timber	11:16	11:38	23	Piles: 36–58
					Steel 12-inch	11:40	11:40	1	Pile: 35. Vibratory removal completed.
Timber	11:51	12:02	11	Piles: 59–69					

Table A-1
Pier 63 Daily Pile Removal Activity

Date	Daily Monitoring Start Time	Daily Monitoring Stop Time	Daily Notes	Pile Activity	Pile Type	Activity Start Time	Activity Stop Time	Total Number of Piles Removed	Time Period Notes (Shutdowns/Delays/WQ Issues/Pile Names)
Monday, November 14, 2022	7:13	15:37		Vibratory Removal	Timber	8:30	9:06	32	Piles: 1–32
					Timber	13:58	14:52	39	Piles: 33–71
Tuesday, November 15, 2022	7:15	13:20	Most of the day spent pulling out piles using an excavator.	Vibratory Removal	Steel 12-inch	8:23	8:25	1	Pile: 1
Wednesday, November 16, 2022	7:16	13:34		Vibratory Removal	Timber	7:47	7:48	2	Piles: 1–2
					Steel 12-inch	7:49	7:50	1	Piles: 3
					Timber	7:50	7:51	2	Piles: 4–5
					Steel 12-inch	7:52	7:52	1	Pile: 6
					Timber	7:54	8:13	14	Piles: 7–20
					Steel 12-inch	8:13	8:14	1	Pile: 21
					Timber	8:15	8:37	14	Piles: 22–35
					Timber	12:48	13:04	16	Piles: 36–44 Piles: 46-52
Thursday, November 17, 2022	7:18	13:57		Vibratory Removal	Timber	10:14	10:21	8	Piles: 1–8
					Timber	11:44	12:07	18	Piles: 9–26
Friday, November 18, 2022	7:19	14:10		Vibratory Removal	Steel 30-inch	9:04	9:18	2	Piles: 1–2
					Steel 30-inch	10:43	10:51	2	Piles: 1–2
					Steel 30-inch	13:11	13:19	1	Pile: 3
Monday, November 21, 2022	7:23	14:21		Vibratory Removal	Timber	10:50	10:50	2	Piles: 1–2
					Steel 12-inch	10:52	10:59	1	Pile: 3. Vibratory hammer caught on the pile cap.
					Timber	11:16	11:26	11	Piles: 4–14
Tuesday, November 22, 2022	7:25	13:54	Equipment issues extended the monitoring day much longer than needed.	Vibratory Removal	Steel 12-inch	9:05	9:05	1	Pile: 1. Equipment down for the remainder of the day.
Wednesday, November 30, 2022	7:36	13:30	Lead protected species observer on site at 08:15 due to snow related travel issues.	Vibratory Removal	Timber	10:08	10:14	7	Piles: 1–7
Wednesday, November 30, 2022					Timber	12:06	12:13	8	Piles: 8–15

Note:

WQ: water quality

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, October 12, 2022	Alki	Sunny, Light Wind	HS	1	10:38	10:39	No	7355	245	Swimming	No Reaction Observed	No Take	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Pier 63	Sunny	CSL	1	8:32	8:35	No	400	180	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Pier 63	Sunny	CSL	1	8:56	8:58	No	100	300	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Pier 63	Sunny	HS	1	9:45	9:57	No	100	300	Intermittent	No Reaction Observed	Level B	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Pier 63	Sunny	CSL	1	10:22	10:23	No	100	300	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Ferry	Sunny, Light Wind	CSL	1	10:20	10:40	No	200	195	Swimming	No Reaction Observed	No Take	Vibratory Removal Steel 30-inch	Previously observed recorded as a take of the day.
Wednesday, October 12, 2022	Magnolia	Sunny, Light Wind	HS	2	7:35	8:42	No	4500	304	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 30-inch	
Wednesday, October 12, 2022	Magnolia	Sunny, Light Wind	HS	1	7:38	14:05	No	5000	303	Intermittent	No Pile Activity	Level B		Intermittently observed for much of the monitoring day.
Wednesday, October 12, 2022	Magnolia	Sunny, Light Wind	HS	1	11:34	12:15	No	4500	303	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Monday, October 31, 2022	Alki	Light Wind, Whitecaps, Other	HS	4	7:52	9:37	No	5000	240	Intermittent	No Pile Activity	No Take		Group observed before the official start of the monitoring period. The group dispersed before swimming away during the monitoring period.
Monday, October 31, 2022	Alki	Light Wind, Whitecaps, Other	CSL	1	8:46	9:04	No	6000	245	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Observed foraging in the area before moving south.
Monday, October 31, 2022	Alki	Overcast, Light Rain	HP	1	9:05	9:15	No	3000	245	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber and Steel 12-inch	
Monday, October 31, 2022	Alki	Overcast, Light Rain	CSL	1	9:30	9:50	No	2800	240	Swimming	No Pile Activity	Level B		
Monday, October 31, 2022	Alki	Light Wind, Whitecaps, Other	CSL	1	11:06	11:31	No	4500	240	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, October 31, 2022	Alki	Light Wind, Whitecaps, Other	HS	1	13:41	14:09	No	4500	240	Resting	No Pile Activity	No Take		Observed resting on a log for a short time before swimming away.
Tuesday, November 1, 2022	Alki	Sunny	CSL	1	10:50	11:30	No	3500	250	Foraging	No Pile Activity	No Take		
Tuesday, November 1, 2022	Alki	Sunny	HS	1	11:00	11:30	No	3500	247	Resting	No Pile Activity	No Take		
Tuesday, November 1, 2022	Alki	Sunny	CSL	1	12:10	12:15	No	3500	247	Foraging	No Pile Activity	Level B		
Tuesday, November 1, 2022	Magnolia	Sunny	CSL	1	11:48	11:48	No	4750	302	Swimming	No Pile Activity	No Take		Observed swimming along the shoreline.
Tuesday, November 1, 2022	Magnolia	Sunny	CSL	1	11:48	11:48	No	4750	302	Swimming	No Pile Activity	No Take		Observed swimming along the shoreline.
Tuesday, November 1, 2022	Magnolia	Sunny	CSL	1	12:20	12:25	No	4750	302	Swimming	No Pile Activity	Level B		Observed swimming along the shoreline.
Tuesday, November 1, 2022	Magnolia	Sunny	CSL	1	12:20	12:25	No	4750	302	Swimming	No Pile Activity	Level B		Observed swimming along the shoreline.

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Tuesday, November 1, 2022	Magnolia	Sunny	HS	1	12:51	12:55	No	4600	302	Intermittent	No Reaction Observed	Level B	Vibratory Removal Timber	
Tuesday, November 1, 2022	Magnolia	Sunny	HS	1	12:51	12:55	No	4600	302	Intermittent	No Reaction Observed	Level B	Vibratory Removal Timber	
Tuesday, November 1, 2022	Magnolia	Sunny	HS	1	13:43	13:44	No	4800	303	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Observed swimming along the shoreline.
Tuesday, November 1, 2022	Magnolia	Sunny	HS	1	13:43	13:44	No	4800	303	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Observed swimming along the shoreline.
Wednesday, November 2, 2022	Alki	Overcast	HS	1	8:00	8:00	No	3200	240	Resting	No Pile Activity	No Take		The seal appeared to be interested in a fisherman in the area.
Wednesday, November 2, 2022	Alki	Overcast	HS	1	8:18	8:25	No	3200	240	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:20	8:26	No	3000	240	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:20	8:26	No	3000	240	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:37	8:39	No	3250	242	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:48	8:48	No	3250	242	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	8:49	8:49	No	3250	240	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:52	8:57	No	3250	241	Foraging	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	8:55	8:58	No	3200	241	Swimming	No Pile Activity	No Take		Appears to be a juvenile.
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	8:56	8:56	No	3000	240	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	2	9:01	9:03	No	3250	243	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	SSL	1	9:47	9:47	No	3250	243	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	9:48	9:50	No	3250	242	Foraging	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	10:08	10:09	No	3200	243	Swimming	No Pile Activity	Level B		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	10:31	10:35	No	3200	242	Resting	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	10:45	10:47	No	3000	241	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Alki	Overcast	HS	1	10:50	10:52	No	3000	241	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	11:08	11:08	No	3250	242	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	11:09	11:16	No	3250	241	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	11:26	11:26	No	3100	241	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	HS	1	12:43	12:43	No	3250	241	Resting	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	12:48	12:50	No	3200	241	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	12:48	12:50	No	3200	241	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	13:25	13:25	No	3200	244	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	13:25	13:25	No	3200	244	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Alki	Overcast	CSL	1	13:28	13:31	No	3250	242	Foraging	No Pile Activity	No Take		
Wednesday, November 2, 2022	Pier 58	Overcast	CSL	1	11:18	11:19	No	120	270	Swimming	No Pile Activity	No Take		

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Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, November 2, 2022	Pier 63	Overcast, Light Rain, Light Wind	CSL	2	11:30	11:45	No	120	235	Swimming	No Pile Activity	No Take		One individual in the group observed foraging.
Wednesday, November 2, 2022	Ferry	Overcast, Light Wind	CSL	1	9:20	9:22	No	6000	270	Swimming	No Pile Activity	Level B		
Wednesday, November 2, 2022	Ferry	Overcast, Light Wind	HS	1	10:35	10:40	No	9600	270	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Ferry	Overcast, Light Wind	HS	1	12:30	12:31	No	9600	270	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Ferry	Overcast, Light Wind	HS	1	12:50	12:50	No	1200	270	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Ferry	Overcast, Light Wind	HS	2	14:12	14:14	No	10600	270	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Wednesday, November 2, 2022	Ferry	Sunny	HS	1	14:24	14:25	No	6500	265	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Wednesday, November 2, 2022	Magnolia	Moderate Wind, Overcast, Whitecaps	HS	1	8:00	8:00	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Moderate Wind, Overcast, Whitecaps	HS	1	8:09	8:10	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Moderate Wind, Overcast, Whitecaps	HS	1	8:12	8:12	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Moderate Wind, Overcast, Whitecaps	CSL	1	8:30	8:31	No	5000	303	Foraging	No Pile Activity	No Take		Observed barking at a group of harassing seagulls.
Wednesday, November 2, 2022	Magnolia	Moderate Wind, Overcast, Whitecaps	HS	1	8:56	8:56	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast, Moderate Wind, Whitecaps, Light Rain, Heavy Rain, Light Wind	HS	1	8:58	8:59	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast, Moderate Wind, Whitecaps, Light Rain, Heavy Rain, Light Wind	HS	1	9:43	9:44	No	5000	300	Swimming	No Pile Activity	Level B		
Wednesday, November 2, 2022	Magnolia	Overcast, Moderate Wind, Whitecaps, Light Rain, Heavy Rain, Light Wind	HS	1	10:27	10:29	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast, Moderate Wind, Whitecaps, Light Rain, Heavy Rain, Light Wind	HS	1	10:31	10:31	No	5000	300	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Magnolia	Overcast, Moderate Wind, Whitecaps, Light Rain, Heavy Rain, Light Wind	HS	1	10:38	10:39	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Heavy Rain, Overcast	HS	1	11:01	11:02	No	5000	300	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Magnolia	Heavy Rain, Overcast	HS	1	11:09	11:09	No	5000	300	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Magnolia	Heavy Rain, Overcast	HS	1	11:44	11:45	No	5000	300	Swimming	No Pile Activity	No Take		

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Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, November 2, 2022	Magnolia	Heavy Rain, Overcast	HS	1	13:00	13:00	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Heavy Rain, Overcast	HS	1	13:04	13:05	No	5000	300	Intermittent	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast	HS	1	13:11	13:12	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast	HS	1	13:22	13:23	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 2, 2022	Magnolia	Overcast	HS	1	14:02	14:03	No	5000	300	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Wednesday, November 2, 2022	Magnolia	Overcast	HS	1	14:10	14:10	No	5000	300	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Previously observed recorded as a take of the day.
Wednesday, November 2, 2022	Magnolia	Overcast	HS	1	14:40	14:40	No	5000	300	Swimming	No Pile Activity	No Take		Previously observed recorded as a take of the day.
Thursday, November 3, 2022	Alki	Overcast	HS	1	11:20	11:43	No	3250	242	Intermittent	No Pile Activity	No Take		Observed swimming back and forth along the shoreline while foraging.
Thursday, November 3, 2022	Alki	Overcast	HS	1	12:16	12:18	No	3200	250	Resting	No Pile Activity	No Take		
Thursday, November 3, 2022	Alki	Overcast	HS	1	12:46	12:51	No	3100	242	Resting	No Reaction Observed	No Take	Vibratory Removal Timber	Observed resting in the water before swimming to a new location.
Thursday, November 3, 2022	Alki	Overcast	HS	1	13:02	13:06	No	3250	243	Resting	No Reaction Observed	No Take	Vibratory Removal Timber	
Thursday, November 3, 2022	Alki	Overcast	HS	1	13:22	13:37	No	3100	241	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	Appears to be an adult.
Thursday, November 3, 2022	Alki	Overcast, Light Rain	CSL	1	13:30	13:32	No	3300	255	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Appears to be a female.
Thursday, November 3, 2022	Alki	Overcast, Light Rain	CSL	1	13:41	13:41	No	3250	253	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	Previously observed recorded as a take of the day.
Thursday, November 3, 2022	Alki	Overcast, Light Rain	CSL	1	13:44	13:47	No	3250	241	Foraging	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 3, 2022	Alki	Overcast, Light Rain	CSL	1	13:50	14:13	No	3250	244	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Observed foraging for a long time in same general area.
Thursday, November 3, 2022	Alki	Overcast, Light Rain	CSL	1	13:59	14:00	No	3500	250	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 3, 2022	Alki	Overcast, Light Rain	HS	1	15:28	15:29	No	3250	243	Resting	No Pile Activity	No Take		
Thursday, November 3, 2022	Alki	Overcast, Light Rain	HS	1	15:51	15:51	No	3250	241	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Pier 63	Overcast, Light Wind	CSL	1	10:26	10:28	No	1000	285	Swimming	No Pile Activity	No Take		Observed moving south.
Thursday, November 3, 2022	Pier 58	Overcast, Light Rain, Moderate Wind, Light Wind, Whitecaps	CSL	1	11:32	11:34	No	150	300	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Ferry	Overcast	CSL	1	11:34	11:34	No	2200	265	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast	HS	1	8:35	8:36	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast	HS	1	8:37	8:38	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast	HS	4	8:40	8:41	No	5000	303	Foraging	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast	HS	1	8:46	8:46	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast	HS	1	10:39	10:40	No	5100	300	Swimming	No Pile Activity	No Take		

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Thursday, November 3, 2022	Magnolia	Overcast, Light Wind, Moderate Wind, Whitecaps, Light Rain, Heavy Rain	HS	2	10:41	10:43	No	5000	300	Swimming	No Pile Activity	No Take		
Thursday, November 3, 2022	Magnolia	Overcast, Light Wind, Moderate Wind, Whitecaps, Light Rain, Heavy Rain	HS	1	13:01	13:02	No	5000	300	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Thursday, November 3, 2022	Magnolia	Overcast, Light Wind, Moderate Wind, Whitecaps, Light Rain, Heavy Rain	HS	1	13:10	13:10	No	5000	300	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Observed successfully catching a fish.
Thursday, November 3, 2022	Magnolia	Overcast, Light Wind, Moderate Wind, Whitecaps, Light Rain, Heavy Rain	HS	1	13:13	13:13	No	5000	300	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Previously observed and recorded as a take of the day.
Monday, November 7, 2022	Alki	Overcast, Light Rain	KW	6	8:02	8:57	No	10000	260	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Alki	Overcast, Light Rain	HS	1	9:18	9:20	No	3750	255	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 7, 2022	Alki	Overcast, Light Rain	HS	1	9:27	9:27	No	3500	255	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 7, 2022	Alki	Overcast, Light Rain	HS	1	10:55	11:05	No	3500	250	Foraging	No Pile Activity	No Take		
Monday, November 7, 2022	Alki	Overcast	CSL	1	11:07	11:11	No	2500	245	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Alki	Overcast	HS	1	11:48	12:05	No	1250	255	Foraging	No Reaction Observed	Level B	Vibratory Removal Timber	
Monday, November 7, 2022	Alki	Overcast	HS	1	12:07	12:30	No	4000	255	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 7, 2022	Alki	Overcast, Light Rain	HS	1	12:55	13:31	No	3250	250	Intermittent	No Pile Activity	No Take		
Monday, November 7, 2022	Alki	Overcast, Light Rain	HS	2	14:48	14:49	No	3500	250	Foraging	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Monday, November 7, 2022	Pier 58	Overcast, Light Wind	CSL	1	10:12	10:12	No	100	240	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Pier 58	Overcast, Light Wind, Light Rain	HS	1	11:06	11:06	No	50	300	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Pier 63	Overcast, Light Wind, Fog	CSL	1	13:13	13:16	No	150	260	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Pier 58	Overcast, Light Wind	CSL	1	13:58	13:58	No	100	240	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Pier 63	Overcast, Light Wind, Fog	CSL	2	14:12	14:17	No	100	270	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Pier 58	Overcast, Light Rain, Light Wind	CSL	1	15:32	15:32	No	100	300	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Ferry	Overcast, Fog, Light Rain	KW	7	7:25	8:20	No	10000	270	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Ferry	Overcast, Fog, Light Rain	KW	2	9:00	9:08	No	13000	240	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 7, 2022	Ferry	Overcast, Fog, Light Rain	KW	10	9:55	10:13	Yes	7000	270	Swimming	No Pile Activity	No Take		

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Monday, November 7, 2022	Ferry	Overcast, Fog, Light Rain	HS	1	11:55	11:56	No	5000	270	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	HS	1	7:20	9:16	No	5000	303	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Stayed in the area for a while, observed foraging around flock of seabirds.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	HS	1	7:20	9:16	No	5000	303	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Stayed in the area for a while, observed foraging around flock of seabirds.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	KW	4	7:28	8:42	No	12000	280	Foraging	No Pile Activity	No Take		Pod seen near Bainbridge, then moved south individually.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	HS	1	8:24	8:54	No	5250	303	Foraging	No Pile Activity	No Take		Swimming and foraging with other observed harbor seal.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	HS	1	9:33	9:37	No	6000	302	Swimming	No Pile Activity	No Take		Observed swimming west out of the bay.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	KW	2	10:21	10:38	No	13000	310	Swimming	No Pile Activity	No Take		Swam north till out of sight.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain, Fog	KW	2	10:21	10:38	No	14000	310	Swimming	No Pile Activity	No Take		Swam north till out of sight.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	HS	2	11:09	12:15	No	5100	303	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	Two individuals foraging around the area in front of Magnolia.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	CSL	1	12:44	12:54	No	4500	300	Swimming	No Pile Activity	No Take		Observed swimming into Elliot Bay.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	CSL	1	12:57	13:02	No	5500	290	Swimming	No Pile Activity	No Take		Observed swimming southwest.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	CSL	1	12:57	13:02	No	5500	290	Swimming	No Pile Activity	No Take		Observed swimming southwest.
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	HS	1	13:09	13:53	No	5000	303	Swimming	No Pile Activity	No Take		
Monday, November 7, 2022	Magnolia	Light Wind, Light Rain	HS	2	13:48	13:53	No	4500	300	Swimming	No Pile Activity	No Take		Observed meeting group before swimming towards the marina together.
Monday, November 7, 2022	Magnolia	Light Rain, Fog, Light Wind	CSL	1	15:08	15:15	No	5000	300	Swimming	No Pile Activity	No Take		Observed swimming northwest out of the bay.
Monday, November 7, 2022	Magnolia	Light Rain, Fog, Light Wind	HS	1	15:39	15:50	No	5100	303	Swimming	No Pile Activity	No Take		Observed swimming east.
Monday, November 7, 2022	Magnolia	Light Rain, Fog, Light Wind	HS	1	15:46	15:50	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Alki	Heavy Wind, Whitecaps, Sunny	CSL	1	7:23	7:23	No	3100	240	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Alki	Heavy Wind, Whitecaps, Sunny	HS	1	7:45	7:45	No	3050	241	Resting	No Pile Activity	No Take		
Tuesday, November 8, 2022	Alki	Sunny, Heavy Wind, Whitecaps	HS	1	8:00	15:56	No	3250	233	Resting	No Pile Activity	No Take		Baby harbor seal has been resting on the boat ramp since this morning. A veterinarian came to check him out and said that he looked fine. Volunteers reported the seal has been on the beach for at least a full day now. Recently weaned pup.

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Tuesday, November 8, 2022	Alki	Heavy Wind, Whitecaps, Sunny	CSL	1	8:25	8:29	No	3100	240	Swimming	No Pile Activity	No Take		Observed swimming west.
Tuesday, November 8, 2022	Alki	Heavy Wind, Whitecaps, Sunny	CSL	1	8:38	8:39	No	3500	250	Resting	No Pile Activity	No Take		Previously observed swimming west earlier in the day.
Tuesday, November 8, 2022	Alki	Heavy Wind, Whitecaps, Sunny	CSL	1	9:08	9:20	No	3100	240	Swimming	No Pile Activity	Level B		
Tuesday, November 8, 2022	Alki	Sunny, Heavy Wind, Whitecaps	HS	1	9:28	9:43	No	3150	241	Resting	No Pile Activity	Level B		Swimming around and occasionally popping head up.
Tuesday, November 8, 2022	Alki	Sunny, Heavy Wind, Whitecaps	HS	1	11:52	11:52	No	3500	248	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Alki	Sunny, Heavy Wind, Whitecaps	CSL	1	14:09	14:09	No	3350	246	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	Observed swimming west.
Tuesday, November 8, 2022	Pier 63	Overcast	CSL	1	9:15	9:17	No	80	240	Swimming	No Pile Activity	Level B		
Tuesday, November 8, 2022	Ferry	Sunny, Moderate Wind	KW	2	8:10	8:16	No	9000	240	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Ferry	Sunny, Moderate Wind	HS	1	8:37	8:45	No	1280	308	Resting	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind	HS	3	7:18	7:19	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind	HS	1	7:38	7:38	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind	HS	1	7:57	7:58	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind	HS	1	8:00	8:02	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind	HS	1	8:11	8:11	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind, Sunny	HS	2	8:30	8:31	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind, Sunny	HS	1	8:43	8:44	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind, Sunny	HS	1	10:11	10:12	No	5000	300	Swimming	No Pile Activity	Level B		
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind, Sunny	HS	1	10:15	10:15	No	5000	300	Swimming	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Tuesday, November 8, 2022	Magnolia	Overcast, Light Wind, Sunny	KW	7	10:45	10:46	Yes	7300	300	Swimming	No Pile Activity	No Take		Difficult to accurately count the number of individuals; very hard to see with the intense whitecaps and wind.
Tuesday, November 8, 2022	Magnolia	Sunny, Overcast, Whitecaps, Moderate Wind	KW	8	10:54	10:55	Yes	7300	300	Swimming	No Pile Activity	No Take		Difficult to accurately count the number of individuals; very hard to see with the intense whitecaps and wind. The group did not enter the exclusion zone until after pile work had ended.
Tuesday, November 8, 2022	Magnolia	Sunny, Overcast, Whitecaps, Moderate Wind	HS	1	11:51	11:52	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Sunny, Overcast, Whitecaps, Moderate Wind	HS	1	12:23	12:24	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 8, 2022	Magnolia	Sunny, Overcast, Whitecaps, Moderate Wind	HS	1	15:01	15:01	No	5000	300	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	
Wednesday, November 9, 2022	Alki	Light Wind, Sunny	HS	1	7:16	7:31	No	3750	250	Intermittent	No Pile Activity	No Take		

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, November 9, 2022	Alki	Sunny	HS	1	8:01	8:08	No	3500	250	Resting	No Pile Activity	No Take		
Wednesday, November 9, 2022	Alki	Sunny	CSL	2	8:14	8:15	No	3250	255	Swimming	No Pile Activity	No Take		Observed swimming south.
Wednesday, November 9, 2022	Alki	Sunny	CSL	1	8:25	8:57	No	3750	250	Intermittent	No Pile Activity	No Take		Was resting and slowly floating east until hammer turned on, then began swimming east.
Wednesday, November 9, 2022	Alki	Sunny	KW	10	9:35	10:28	No	8500	235	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Observed swimming east out of the bay.
Wednesday, November 9, 2022	Alki	Sunny	HS	1	10:29	10:31	No	5000	250	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Wednesday, November 9, 2022	Alki	Sunny	HS	1	10:49	11:00	No	3750	250	Foraging	No Reaction Observed	No Take	Vibratory Removal Timber	
Wednesday, November 9, 2022	Alki	Sunny	HS	1	11:54	12:14	No	3750	250	Resting	No Pile Activity	No Take		
Wednesday, November 9, 2022	Alki	Sunny	CSL	1	13:25	13:52	No	4000	250	Foraging	No Pile Activity	No Take		
Wednesday, November 9, 2022	Alki	Sunny	HS	1	14:21	14:22	No	3100	245	Resting	No Pile Activity	No Take		
Wednesday, November 9, 2022	Alki	Sunny	HS	1	15:19	15:42	No	3750	250	Resting	No Pile Activity	No Take		
Wednesday, November 9, 2022	Alki	Sunny	KW	5	15:27	15:45	No	9000	245	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Pier 63	Sunny, Light Wind	CSL	1	7:16	7:23	No	75	210	Swimming	No Pile Activity	No Take		Observed swimming south out of vision.
Wednesday, November 9, 2022	Pier 58	Sunny	CSL	1	7:22	7:23	No	120	270	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Pier 63	Sunny, Light Wind	CSL	1	8:14	8:16	No	80	180	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Pier 63	Sunny, Light Wind	HS	1	8:34	8:36	No	100	255	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Pier 63	Sunny, Light Wind	CSL	1	9:43	9:44	No	200	300	Swimming	No Pile Activity	Level B		Observed swimming south.
Wednesday, November 9, 2022	Pier 58	Sunny	HS	1	10:26	10:28	No	100	180	Intermittent	No Reaction Observed	Level B	Vibratory Removal Timber	
Wednesday, November 9, 2022	Ferry	Sunny	CSL	1	8:54	8:54	No	500	180	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Ferry	Sunny	KW	20	9:41	10:08	Yes	4000	285	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Killer whales heading southbound. Multiple individuals (20+). Mainly stayed outside of Exclusion Zone but spotted within the zone after work ended. Very spread out.
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	7:26	7:28	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	7:45	7:50	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	9:05	9:05	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	KW	4	9:40	9:44	Yes	7500	255	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	2	9:43	9:45	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	12:07	12:08	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	12:23	12:24	No	5000	303	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	14:46	14:48	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 9, 2022	Magnolia	Sunny	HS	1	15:26	15:26	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	CSL	2	7:12	7:47	No	3500	250	Resting	No Reaction Observed	No Take	Vibratory Removal Timber	
Thursday, November 10, 2022	Alki	Overcast	KW	4	7:26	7:35	No	7000	240	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	HS	1	8:10	8:12	No	3100	245	Resting	No Reaction Observed	Level B	Vibratory Removal Timber	

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Thursday, November 10, 2022	Alki	Overcast	CSL	2	8:16	9:34	No	3500	250	Intermittent	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Alki	Overcast	CSL	1	8:24	10:10	No	3900	247	Intermittent	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	
Thursday, November 10, 2022	Alki	Overcast	HS	1	8:38	8:40	No	3500	250	Swimming	No Pile Activity	Level B		
Thursday, November 10, 2022	Alki	Overcast	HS	1	9:20	9:24	No	3600	248	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast, Sunny	CSL	1	9:25	9:31	No	3500	255	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	KW	3	9:51	10:32	No	9000	250	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	CSL	1	10:44	10:52	No	4200	245	Resting	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	CSL	2	10:52	10:52	No	3500	250	Resting	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Alki	Overcast	CSL	2	12:10	12:39	No	3750	250	Swimming	No Pile Activity	No Take		Observed swimming west along shore to where another California Sea Lion was observed. Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Alki	Overcast	CSL	1	12:29	15:25	No	4000	247	Intermittent	No Pile Activity	No Take		Observed mostly rested in the area with some foraging. Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Alki	Overcast	HS	1	12:29	12:39	No	4000	247	Resting	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	CSL	1	12:54	12:59	No	3100	255	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Alki	Overcast	CSL	2	14:21	14:21	No	3750	250	Swimming	No Pile Activity	No Take		Observed swimming northeast into Elliott Bay. Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Alki	Overcast	HS	1	14:21	14:40	No	3100	245	Swimming	No Pile Activity	No Take		Observed moving from resting point to the boat launch ramp. Previously observed and recorded as a take of the day.
Thursday, November 10, 2022	Pier 58	Overcast	HS	1	13:45	13:46	No	100	290	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Pier 58	Overcast	HS	1	15:16	15:18	No	80	275	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Ferry	Overcast, Sunny	KW	2	7:18	7:24	Yes	7000	255	Swimming	No Pile Activity	No Take		Killer whale network reported a large pod traveling south, but I only saw a few of them.
Thursday, November 10, 2022	Ferry	Overcast, Sunny	KW	8	9:50	10:05	No	9000	250	Foraging	No Pile Activity	No Take		Observed a lot of big splashes, so may have been foraging or playing. Heading north.
Thursday, November 10, 2022	Ferry	Overcast, Sunny	KW	5	10:53	11:07	No	8000	312	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	Same killer whales from earlier coming north. Spotted over by discovery. I saw about 5, but there's probably more spread out. I think this is the trailing group, so the rest might be further north.
Thursday, November 10, 2022	Ferry	Overcast, Sunny	HS	1	13:50	13:50	No	2000	255	Swimming	No Pile Activity	No Take		

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Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Thursday, November 10, 2022	Magnolia	Sunny	HS	1	7:18	7:19	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Magnolia	Sunny	HS	1	8:03	8:03	No	5000	303	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 10, 2022	Magnolia	Sunny	HS	1	9:02	9:02	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Magnolia	Sunny	HS	1	10:07	10:07	No	5000	303	Swimming	No Pile Activity	No Take		
Thursday, November 10, 2022	Magnolia	Sunny	HS	2	11:24	11:26	No	5000	303	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 10, 2022	Magnolia	Sunny	HS	5	11:25	11:27	No	5000	303	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 10, 2022	Magnolia	Sunny	HS	1	14:38	14:38	No	5000	303	Swimming	No Pile Activity	No Take		
Friday, November 11, 2022	Magnolia	Overcast	HS	1	10:22	10:24	No	5000	304	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Alki	Sunny, Light Wind, Moderate Wind	CSL	1	8:50	10:24	No	3200	250	Intermittent	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 14, 2022	Alki	Sunny, Light Wind, Moderate Wind	CSL	1	13:18	13:23	No	2000	240	Foraging	No Pile Activity	No Take		
Monday, November 14, 2022	Alki	Sunny, Light Wind, Moderate Wind	HS	1	14:25	14:27	No	3000	245	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 14, 2022	Pier 58	Sunny	CSL	1	7:34	7:36	No	300	270	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Pier 58	Sunny	CSL	1	7:39	7:39	No	200	290	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Pier 58	Sunny	CSL	1	8:08	8:10	No	150	260	Swimming	No Pile Activity	Level B		
Monday, November 14, 2022	Ferry	Sunny, Overcast, Heavy Wind	CSL	1	9:15	9:16	No	6900	270	Foraging	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	HS	2	7:26	7:26	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	HS	1	7:37	7:37	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	HS	1	7:45	7:46	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	HS	1	7:48	7:49	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	CSL	1	10:26	10:26	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 14, 2022	Magnolia	Sunny	HS	1	12:34	12:35	No	5000	300	Swimming	No Pile Activity	No Take		
Tuesday, November 15, 2022	Alki	Sunny, Moderate Wind	HS	1	8:01	8:03	No	3100	245	Swimming	No Pile Activity	Level B		
Tuesday, November 15, 2022	Alki	Sunny, Moderate Wind	CSL	1	10:17	10:25	No	3000	250	Swimming	No Pile Activity	No Take		
Tuesday, November 15, 2022	Alki	Sunny, Moderate Wind	CSL	1	10:54	11:28	No	3250	245	Foraging	No Pile Activity	No Take		
Tuesday, November 15, 2022	Alki	Sunny, Moderate Wind	CSL	1	12:50	13:04	No	3500	250	Foraging	No Pile Activity	No Take		Previously observed earlier in the day.
Tuesday, November 15, 2022	Alki	Sunny, Moderate Wind	CSL	1	12:55	13:04	No	3500	250	Swimming	No Pile Activity	No Take		Observed entering area to forage with another California sea lion that was already present.
Tuesday, November 15, 2022	Pier 63	Sunny	HS	1	7:19	7:24	No	200	165	Swimming	No Pile Activity	No Take		
Tuesday, November 15, 2022	Pier 63	Sunny	CSL	1	9:11	9:12	No	350	300	Swimming	No Pile Activity	No Take		Swam out from under Pier 62, then swam southwest.
Tuesday, November 15, 2022	Pier 63	Sunny	HS	1	10:18	10:19	No	350	240	Swimming	No Pile Activity	No Take		Appeared once and did not resurface again.
Tuesday, November 15, 2022	Pier 58	Sunny, Light Wind	CSL	1	14:35	14:35	No	100	265	Swimming	No Pile Activity	No Take		Observed breaching whilst leaving the Level B zone while the impact hammer was on.

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Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Tuesday, November 15, 2022	Ferry	Sunny	HS	1	7:34	7:38	No	11279	270	Swimming	No Pile Activity	No Take		
Tuesday, November 15, 2022	Magnolia	Sunny, Whitecaps	HS	1	7:22	7:26	No	5000	303	Swimming	No Pile Activity	No Take		Very curious about person swimming.
Tuesday, November 15, 2022	Magnolia	Sunny, Whitecaps	HS	1	7:33	7:42	No	5100	303	Swimming	No Pile Activity	No Take		Occasionally pops head out of water and looks at swimmers.
Tuesday, November 15, 2022	Magnolia	Sunny, Whitecaps	HS	1	7:41	7:42	No	5050	302	Swimming	No Pile Activity	No Take		Swam slowly across my line of sight, just hanging out and stretching some.
Tuesday, November 15, 2022	Magnolia	Sunny, Whitecaps	HS	1	7:46	7:46	No	5000	303	Swimming	No Pile Activity	No Take		Popped head up to look at paddleboarder.
Tuesday, November 15, 2022	Magnolia	Sunny, Whitecaps	CSL	1	7:48	8:12	No	5050	302	Swimming	No Pile Activity	Level B		Swam slowly across my line of sight, just hanging out and stretching some.
Tuesday, November 15, 2022	Magnolia	Sunny	HS	1	8:01	8:01	No	5000	303	Swimming	No Pile Activity	Level B		Popped head up to look at paddleboarder.
Tuesday, November 15, 2022	Magnolia	Sunny	HS	1	8:35	8:35	No	5050	303	Swimming	No Pile Activity	Level B		
Tuesday, November 15, 2022	Magnolia	Sunny	HS	1	8:47	8:47	No	5000	303	Swimming	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Tuesday, November 15, 2022	Magnolia	Sunny	HS	1	9:43	9:43	No	5100	303	Swimming	No Pile Activity	No Take		
Tuesday, November 15, 2022	Magnolia	Sunny	HS	1	12:50	12:51	No	5100	303	Resting	No Pile Activity	No Take		Popped head up to look at paddleboarder.
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	HS	1	8:02	8:09	No	3500	250	Foraging	No Reaction Observed	Level B	Vibratory Removal Timber	
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	CSL	1	8:12	8:16	No	3200	245	Foraging	No Reaction Observed	Level B	Vibratory Removal Timber	
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	HS	1	8:29	8:31	No	4000	247	Resting	No Reaction Observed	No Take	Vibratory Removal Timber	Previously observed and recorded as a take of the day.
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	CSL	1	9:25	10:01	No	3500	250	Foraging	No Pile Activity	No Take		Previously observed and recorded as a take of the day.
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	CSL	1	9:42	9:55	No	3250	250	Foraging	No Pile Activity	No Take		
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	CSL	1	12:05	12:17	No	3500	250	Resting	No Pile Activity	No Take		
Wednesday, November 16, 2022	Alki	Sunny, Light Wind	CSL	1	12:12	12:15	No	3250	250	Foraging	No Pile Activity	No Take		
Wednesday, November 16, 2022	Pier 63	Sunny	HS	1	10:27	10:28	No	320	300	Swimming	No Pile Activity	No Take		Surfaced once before diving and not appearing again.
Wednesday, November 16, 2022	Pier 63	Sunny	CSL	1	11:47	11:49	No	200	240	Swimming	No Pile Activity	No Take		Surfaced out of water and "porpoised" a few times. Headed south-southwest.
Wednesday, November 16, 2022	Ferry	Sunny, Moderate Wind	HS	1	8:27	8:27	No	3000	270	Resting	No Reaction Observed	Level B	Vibratory Removal Timber	Observed resting on the surface, and then diving underwater as the ferry moved past.

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Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, November 16, 2022	Ferry	Sunny, Moderate Wind	HS	1	10:11	10:11	No	500	210	Resting	No Pile Activity	No Take		Looked really small, perhaps a juvenile. Stayed on the surface for a while and then went under when the ferry got closer.
Wednesday, November 16, 2022	Magnolia	Sunny	HS	1	7:25	8:08	No	5000	300	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Wednesday, November 16, 2022	Magnolia	Sunny	CSL	2	10:47	10:49	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 16, 2022	Magnolia	Sunny	CSL	1	12:13	12:14	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 16, 2022	Magnolia	Sunny	HS	1	12:17	12:22	No	5000	300	Swimming	No Pile Activity	No Take		
Wednesday, November 16, 2022	Magnolia	Sunny	HS	1	12:45	12:50	No	5000	300	Intermittent	No Reaction Observed	Level B	Vibratory Removal Timber	
Thursday, November 17, 2022	Alki	Sunny	CSL	1	7:56	7:59	No	3500	250	Foraging	No Pile Activity	No Take		
Thursday, November 17, 2022	Alki	Sunny	HS	1	8:33	8:35	No	4000	255	Swimming	No Pile Activity	No Take		
Thursday, November 17, 2022	Alki	Sunny	CSL	1	9:16	9:17	No	3500	248	Swimming	No Pile Activity	No Take		
Thursday, November 17, 2022	Alki	Sunny	CSL	1	13:10	13:11	No	4000	255	Swimming	No Pile Activity	No Take		
Thursday, November 17, 2022	Pier 58	Sunny	HS	1	8:11	8:11	No	100	280	-	No Pile Activity	No Take		
Thursday, November 17, 2022	Ferry	Sunny	CSL	1	9:46	9:48	No	12500	278	Swimming	No Pile Activity	No Take		
Thursday, November 17, 2022	Ferry	Sunny	CSL	3	11:00	11:03	No	10000	270	-	No Pile Activity	No Take		
Thursday, November 17, 2022	Ferry	Sunny	HS	1	11:57	11:58	No	2000	255	-	No Reaction Observed	No Take	Vibratory Removal Timber	
Thursday, November 17, 2022	Magnolia	Sunny	HS	1	8:26	8:30	No	5000	300	Swimming	No Pile Activity	No Take		
Friday, November 18, 2022	Alki	Sunny, Light Wind	HS	1	7:27	8:06	No	3400	250	Swimming	No Pile Activity	No Take		
Friday, November 18, 2022	Alki	Sunny, Light Wind	HS	1	8:46	11:21	No	4000	245	Resting	No Pile Activity	Level B		
Friday, November 18, 2022	Alki	Sunny, Light Wind	CSL	1	10:18	10:20	No	3200	250	Swimming	No Pile Activity	Level B		
Friday, November 18, 2022	Pier 58	Sunny	HS	1	8:42	8:42	No	100	240	Swimming	No Pile Activity	Level B		
Friday, November 18, 2022	Pier 58	Sunny	HS	1	9:56	9:59	No	100	270	Swimming	No Pile Activity	No Take		
Friday, November 18, 2022	Pier 58	Sunny	HS	1	11:28	11:29	No	100	270	Swimming	No Pile Activity	No Take		
Friday, November 18, 2022	Pier 58	Sunny	HS	1	11:52	0:02	No	80	245	Intermittent	No Pile Activity	No Take		Diving and resurfacing.
Friday, November 18, 2022	Ferry	Sunny, Heavy Wind	CSL	1	12:25	12:26	No	500	150	Swimming	No Pile Activity	No Take		
Friday, November 18, 2022	Magnolia	Sunny	HS	1	7:19	7:48	No	5000	303	Swimming	No Pile Activity	No Take		Observed swimming west then back to Magnolia/marina to forage.
Friday, November 18, 2022	Magnolia	Sunny	HS	1	7:27	7:46	No	4500	304	Swimming	No Pile Activity	No Take		Observed foraging and swimming in front of magnolia with another harbor seal.
Friday, November 18, 2022	Magnolia	Sunny	HS	1	7:54	8:30	No	4800	300	Foraging	No Pile Activity	No Take		Entered area from west, foraged, then swam west out of sight
Friday, November 18, 2022	Magnolia	Sunny	CSL	1	8:06	8:43	No	5000	290	Swimming	No Pile Activity	Level B		Observed swimming east to marina then back west out of bay, surfaced often while foraging.
Friday, November 18, 2022	Magnolia	Sunny	HS	1	8:54	8:57	No	4500	304	Swimming	No Pile Activity	Level B		Observed swimming west.
Friday, November 18, 2022	Magnolia	Sunny	CSL	1	10:06	10:10	No	6000	290	Swimming	No Pile Activity	No Take		
Monday, November 21, 2022	Alki	Overcast	HS	1	7:39	13:29	No	3400	250	Intermittent	No Pile Activity	No Take		

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Monday, November 21, 2022	Alki	Overcast	CSL	4	7:55	9:33	No	3200	250	Swimming	No Pile Activity	No Take		Spent time resting and foraging while swimming around the area.
Monday, November 21, 2022	Alki	Overcast	HS	1	8:27	8:29	No	3000	245	Swimming	No Pile Activity	No Take		
Monday, November 21, 2022	Alki	Overcast	CSL	3	9:47	10:54	No	3750	250	Intermittent	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	Same group as initially observed, however one member of the group left and was no longer visible in the area.
Monday, November 21, 2022	Alki	Overcast	CSL	2	13:18	13:42	No	3750	250	Resting	No Pile Activity	No Take		Both were resting and were part of the California sea lion group observed previously.
Monday, November 21, 2022	Ferry	Overcast	CSL	1	11:25	11:26	No	10000	280	Swimming	No Reaction Observed	No Take	Vibratory Removal Timber	
Monday, November 21, 2022	Ferry	Overcast	HS	1	11:44	11:46	No	1000	270	Swimming	No Pile Activity	Level B		
Monday, November 21, 2022	Ferry	Overcast	HS	1	13:09	13:11	No	12500	278	Swimming	No Pile Activity	No Take		
Monday, November 21, 2022	Ferry	Overcast	CSL	1	13:21	13:22	No	11100	278	Swimming	No Pile Activity	No Take		
Monday, November 21, 2022	Magnolia	Sunny	HS	1	7:39	8:17	No	5000	300	Intermittent	No Pile Activity	No Take		
Monday, November 21, 2022	Magnolia	Sunny	HS	1	7:52	8:11	No	5100	300	Intermittent	No Pile Activity	No Take		
Monday, November 21, 2022	Magnolia	Sunny	HS	1	8:06	8:12	No	5000	300	Swimming	No Pile Activity	No Take		
Monday, November 21, 2022	Magnolia	Sunny	CSL	1	8:56	11:53	No	6000	300	Intermittent	No Pile Activity	No Take		
Monday, November 21, 2022	Magnolia	Sunny	HS	1	8:57	10:53	No	6000	300	Swimming	No Reaction Observed	Level B	Vibratory Removal Steel 12-inch	
Tuesday, November 22, 2022	Alki	Heavy Rain, Overcast	HS	1	10:02	10:02	No	2500	255	Resting	No Pile Activity	No Take		
Tuesday, November 22, 2022	Alki	Heavy Rain, Overcast	CSL	1	11:13	11:15	No	3500	255	Swimming	No Pile Activity	No Take		
Tuesday, November 22, 2022	Alki	Heavy Rain, Overcast	CSL	1	13:13	13:24	No	3000	250	Intermittent	No Pile Activity	No Take		May have been foraging because there were some big splashes, but it didn't stay in the area so may have just been passing through.
Tuesday, November 22, 2022	Alki	Heavy Rain, Overcast	HS	1	13:17	13:17	No	3375	249	Swimming	No Pile Activity	No Take		
Tuesday, November 22, 2022	Pier 58	Light Rain, Overcast	CSL	1	9:08	9:10	No	100	270	Swimming	No Pile Activity	Level B		
Tuesday, November 22, 2022	Pier 63	Light Rain, Heavy Rain, Fog	CSL	1	9:09	9:12	No	300	165	Swimming	No Pile Activity	Level B		Observed swimming south toward ferry dock.
Tuesday, November 22, 2022	Pier 63	Light Rain, Heavy Rain, Fog	CSL	1	13:14	13:16	No	500	285	Swimming	No Pile Activity	No Take		Observed swimming west out of the bay.
Tuesday, November 22, 2022	Ferry	Fog, Light Rain, Overcast	HS	1	8:24	8:26	No	10800	255	Swimming	No Pile Activity	No Take		
Wednesday, November 30, 2022	Alki	Overcast, Light Wind, Snow/Sleet/Hail	CSL	2	7:56	8:30	No	3000	240	Foraging	No Pile Activity	No Take		
Wednesday, November 30, 2022	Alki	Overcast, Light Wind, Snow/Sleet/Hail	CSL	1	9:12	9:24	No	3750	250	-	No Pile Activity	No Take		
Wednesday, November 30, 2022	Alki	Overcast, Light Wind, Snow/Sleet/Hail	CSL	1	9:35	9:42	No	3000	240	Swimming	No Pile Activity	No Take		
Wednesday, November 30, 2022	Alki	Overcast, Light Wind, Snow/Sleet/Hail	CSL	1	11:54	13:12	No	3500	250	Intermittent	No Pile Activity	No Take		

Table A-2
Pier 63 Daily Observations

Date	Monitoring Site	Weather Conditions	Species	Number of Individuals	Observation Start Time	Observation End Time	Stop Work?	Distance from Pile (m)	Bearing from Pile (absolute)	Behavior	Reaction to Pile Activity	Takes	Activity at Time of Sighting	Notes
Wednesday, November 30, 2022	Alki	Overcast, Light Wind, Snow/Sleet/Hail	CSL	1	12:43	12:45	No	3500	250	Foraging	No Pile Activity	No Take		
Wednesday, November 30, 2022	Alki	Overcast, Light Rain	CSL	2	13:21	13:31	No	3250	250	Swimming	No Pile Activity	No Take		
Wednesday, November 30, 2022	Ferry	Overcast, Moderate Wind, Fog, Light Rain	CSL	1	8:05	8:06	No	11600	270	Foraging	No Pile Activity	No Take		
Wednesday, November 30, 2022	Ferry	Overcast, Moderate Wind, Fog, Light Rain	CSL	1	12:04	12:07	No	800	155	Swimming	No Reaction Observed	Level B	Vibratory Removal Timber	
Wednesday, November 30, 2022	Magnolia	Light Wind	HS	1	7:57	7:58	No	5000	302	Swimming	No Pile Activity	No Take		Observed swimming towards the marina.
Wednesday, November 30, 2022	Magnolia	Light Wind	HS	1	8:42	8:44	No	5200	303	Swimming	No Pile Activity	No Take		

Notes:

CSL: California sea lion (otariids/eared)

HS: harbor seal (phocids/earless)

HP: harbor porpoise (high-frequency cetaceans)

SSL: Steller sea lion (otariid/eared)

KW: killer whale (mid-frequency cetaceans)

m: meter

Table A-3

Daily Summary of California Seal Lion Level B Takes, Observations with No Takes, and Totals

Date	California Sea Lion Level B Takes				California Sea Lion Observations with No Takes					
	Construction Site	Alki	Magnolia	Ferry	Level B Total	Construction Site	Alki	Magnolia	Ferry	No Take Total
Wednesday, October 12, 2022	3	0	0	0	3	0	0	0	1	1
Monday, October 31, 2022	0	1	0	0	1	0	2	0	0	2
Tuesday, November 1, 2022	0	1	2	0	3	0	1	2	0	3
Wednesday, November 2, 2022	0	2	0	1	3	3	14	1	0	18
Thursday, November 3, 2022	0	3	0	0	3	2	2	0	1	5
Monday, November 7, 2022	0	0	0	0	0	6	1	4	0	11
Tuesday, November 8, 2022	1	2	0	0	3	0	3	0	0	3
Wednesday, November 9, 2022	1	0	0	0	1	3	4	0	1	8
Thursday, November 10, 2022	0	1	0	0	1	0	14	0	0	14
Monday, November 14, 2022	1	0	0	0	1	2	2	1	1	6
Tuesday, November 15, 2022	0	0	1	0	1	2	4	0	0	6
Wednesday, November 16, 2022	0	1	0	0	1	1	4	3	0	8
Thursday, November 17, 2022	0	0	0	0	0	0	3	0	4	7
Friday, November 18, 2022	0	1	1	0	2	0	0	1	1	2
Monday, November 21, 2022	0	3	0	0	3	0	6	1	2	9
Tuesday, November 22, 2022	2	0	0	0	2	1	2	0	0	3
Wednesday, November 30, 2022	0	0	0	1	1	0	8	0	1	9
Total	8	15	4	2	29	20	70	13	12	115

Table A-4
Daily Summary of Harbor Seal Level B Takes, Observations with No Takes, and Totals

Date	Harbor Seal Level B Takes				Harbor Seal Observations with No Takes					
	Construction Site	Alki	Magnolia	Ferry	Level B Total	Construction Site	Alki	Magnolia	Ferry	No Take Total
Wednesday, October 12, 2022	1	0	3	0	4	0	1	1	0	2
Monday, October 31, 2022	0	0	0	0	0	0	5	0	0	5
Tuesday, November 1, 2022	0	0	2	0	2	0	1	2	0	3
Wednesday, November 2, 2022	0	0	1	0	1	0	10	18	6	34
Thursday, November 3, 2022	0	1	0	0	1	0	6	13	0	19
Monday, November 7, 2022	0	1	0	0	1	1	7	11	1	20
Tuesday, November 8, 2022	0	1	2	0	3	0	3	13	1	17
Wednesday, November 9, 2022	1	0	0	0	1	1	7	9	0	17
Thursday, November 10, 2022	0	2	8	0	10	2	3	4	1	10
Monday, November 14, 2022	0	0	0	0	0	0	1	6	0	7
Tuesday, November 15, 2022	0	1	2	0	3	2	0	7	1	10
Wednesday, November 16, 2022	0	1	2	1	4	1	1	1	1	4
Thursday, November 17, 2022	0	0	0	0	0	1	1	1	1	4
Friday, November 18, 2022	1	1	1	0	3	3	1	3	0	7
Monday, November 21, 2022	0	0	1	1	2	0	2	3	1	6
Tuesday, November 22, 2022	0	0	0	0	0	0	2	0	1	3
Wednesday, November 30, 2022	0	0	0	0	0	0	0	2	0	2
Total	3	8	22	2	35	11	51	94	14	170

Table A-5

Daily Summary of Harbor Porpoise Level B Takes, Observations with No Takes, and Totals

Date	Harbor Porpoise Level B Takes					Harbor Porpoise Observations with No Takes				
	Construction Site	Alki	Magnolia	Ferry	Level B Total	Construction Site	Alki	Magnolia	Ferry	No Take Total
Monday, October 31, 2022	0	1	0	0	1	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0

Table A-6

Daily Summary of Steller Sea Lion Level B Takes, Observations with No Takes, and Totals

Date	Steller Sea Lion Level B Takes					Steller Sea Lion Observations with No Takes				
	Construction Site	Alki	Magnolia	Ferry	Level B Total	Construction Site	Alki	Magnolia	Ferry	No Take Total
Wednesday, November 2, 2022	0	1	0	0	1	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0

Table A-7**Daily Summary of Killer Whale Level B Takes, Observations with No Takes, and Totals**

Date	Killer Whale Level B Takes					Killer Whale Observations with No Takes				
	Construction Site	Alki	Magnolia	Ferry	Level B Total	Construction Site	Alki	Magnolia	Ferry	No Take Total
Monday, November 7, 2022	0	0	0	0	0	0	6	8	19	33
Tuesday, November 8, 2022	0	0	0	0	0	0	0	15	2	17
Wednesday, November 9, 2022	0	0	0	0	0	0	15	4	20	39
Thursday, November 10, 2022	0	0	0	0	0	0	7	0	15	22
Total	0	0	0	0	0	0	28	27	56	111