

Date: June 6, 2016

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NOAA Fisheries
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cc: Jeff Bertram, SDOT

From: Mark Mazzola, SDOT

Subject: Elliott Bay Seawall Project (NWS-2011-778-WRD and NWR-2013-10650)
Marine Mammal and Acoustic Monitoring Season 3 Annual Reports

We are sending you:

<input checked="" type="checkbox"/>	Enclosures	<input type="checkbox"/>	Shop Drawings	<input type="checkbox"/>	Specifications	<input type="checkbox"/>	Prints
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No. of Copies	Description
1	<i>Marine Mammal Monitoring Season 3 Annual Report</i>
1	<i>Season 3 (2016) Acoustic Monitoring Report</i>

<input type="checkbox"/>	For Your Information	<input type="checkbox"/>	For Your Signature	<input type="checkbox"/>	For Your Approval	<input checked="" type="checkbox"/>	For Your Use
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Remarks:

In compliance with the Endangered Species Act Incidental Take Statement and the Marine Mammal Protection Act Letter of Authorization, the Seattle Department of Transportation is submitting the *Marine Mammal Monitoring Season 3 Annual Report* and the *Season 3 (2016) Acoustic Monitoring Report*. Season 3 encompasses the 2015/2016 in-water work window.

Date: May 31, 2016

To: Mark Mazzola, City of Seattle Department of Transportation (SDOT)

From: Calvin Douglas, Anchor QEA, LLC

Cc: Maureen Meehan, SDOT
Jody Robinson, Jacobs
Jennifer Horwitz and Heather Page, Anchor QEA, LLC

Re: Elliott Bay Seawall Project (NWS-2011-778-WRD and NWR-2013-10650)
Marine Mammal Monitoring Season 3 Annual Report

This report provides the marine mammal monitoring results for Season 3 (Fall/Winter 2015/2016 in-water work window) for the Elliott Bay Seawall Project (EBSP). In compliance with the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA), marine mammal monitoring was conducted during all in-water impact and vibratory pile driving and removal activities for the EBSP. As part of the MMPA compliance, National Marine Fisheries Service (NMFS) issued an ESA Incidental Take Statement and issues a Letter of Authorization (LOA) for each season of in-water pile driving activity, which allows take of marine mammals by harassment incidental to pile driving 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 EBSP monitoring plan and permit documents:

- *Marine Mammal Protection Act and Endangered Species Act Updated Marine Mammal Monitoring and Mitigation Plan* (City of Seattle 2013)
- *National Marine Fisheries Service Endangered Species Act Incidental Take Statement for the Elliott Bay Seawall Project* (NOAA 2013)
- *Marine Mammal Protection Act Letter of Authorization for the Elliott Bay Seawall Project* (NOAA 2015)

The marine mammal monitoring included the following eight species, which are organized into three groups:

- Pinnipeds (seals)
 - California sea lion (*Zalophus californianus*)
 - Harbor seal (*Phoca vitulina*)
 - Steller sea lion (*Eumetopias jubatus*)
- Small cetaceans (porpoises)
 - Dall's porpoise (*Phocoena dalli*)
 - Harbor porpoise (*Phocoena phocoena*)

- Large cetaceans (whales)
 - Gray whale (*Eschrichtius robustus*)
 - Humpback whale (*Megaptera novaeangliae*)
 - Killer whale Southern Resident (*Orcinus orca*)
 - Killer whale transient (*Orcinus orca*)

The monitoring area included two zones, designated as Exclusion Zone and Level B Harassment Zone. The two zones varied by the type of pile work and marine mammal species. The Exclusion Zone included areas where a stop-work order was to be issued if species were present. Within the Level B Harassment Zones, marine mammals were closely monitored and take was documented, but work was allowed to continue. The Exclusion Zones and Level B Harassment Zones are presented on Table 1 and shown on Figure 1 in Attachment A.

**TABLE 1. EXCLUSION ZONE AND LEVEL B HARASSMENT ZONE MONITORING THRESHOLDS
BY SPECIES GROUP AND PILE INSTALLATION TYPE**

Zone Threshold	Location to Monitor	Species Group
Vibratory/Steel Sheet Piles		
Exclusion Zone (Stop Work Order)	2.5 miles (4.0 kilometers [km]) to Source	Large Cetaceans
Level B Harassment Threshold (Take)	From 3.9 miles (6.3 km) to 2.5 miles (6.3 km to 4.0 km)	Large Cetaceans
Level B Harassment Threshold (Take)	From 3.9 miles (6.3 km) to Source	Pinnipeds and Small Cetaceans
Impact/Steel Sheet Piles		
Exclusion Zone (Stop Work Order)	3,280 feet (1.0 km) to Source	Large Cetaceans
Exclusion Zone (Stop Work Order)	200 feet (61.0 meters [m]) to Source	Pinnipeds and Small Cetaceans
Level B Harassment Threshold (Take)	3,280 feet to 200 feet (1.0 km to 61.0 m)	Pinnipeds and Small Cetaceans
Impact/Concrete Piles		
Exclusion Zone (Stop Work Order)	3,280 feet (1.0 km) to Source	Large Cetaceans
Exclusion Zone (Stop Work Order)	50 feet (15.2 m) to Source	Pinnipeds and Small Cetaceans
Level B Harassment Threshold (Take)	400 feet to 50 feet (121.9 m to 15.2 m)	Pinnipeds and Small Cetaceans

All monitoring was performed by land-based observers. The number of land-based observers was determined by the type of pile-related activity. One observer was located at the project site during pile installation (vibratory and impact hammers) and removal (vibratory hammer). During vibratory hammer use, two additional observers were located at designated viewpoints on the north and south entrance of Elliott Bay with unobstructed views of the bay. When both impact and vibratory pile driving occurred on the same day, three observers performed monitoring. On days when pile installation was occurring on the north end of the project and pile removal was occurring on the south end, a project site monitor was located near each activity, resulting in a total of four monitors on some days. The south monitoring point is located at the Hamilton Viewpoint Park pier, identified as the Alki monitoring site. The north monitoring

point is located at the West 32nd Avenue City pump station, identified as the Magnolia monitoring site. The monitoring locations are shown on Figure 2 in Attachment A.

Trained Anchor QEA marine mammal monitors used binoculars to search the monitoring zone for the presence of marine mammals during pile driving activities. Observations and positions of marine mammals were recorded on a daily monitoring data sheet. The daily data sheet was developed prior to program implementation and was used to record the following information: date; weather conditions; time and location of environmental conditions that could deter or prevent marine mammal detections; observation time period; marine mammal species observed; time, duration, and location of marine mammals observed; observable species behavior during pile driving activities; pile-related activities taking place during the monitoring; communication between the observers and the contractor or SDOT; and, if applicable, why a stop-work order was or was not initiated. The locations of marine mammal sightings were also identified on grid maps.

MARINE MAMMAL MONITORING RESULTS

Marine mammal monitoring during vibratory and impact pile activities was performed by trained Anchor QEA marine mammal monitors for a total of 50 days, between December 21, 2015, and February 29, 2016. Marine mammal monitoring was also conducted on one additional day (February 15, 2016) during which there was no hammer activity due to equipment issues. The majority of the pile installation and removal activity was with a vibratory hammer, occurring on 49 of the monitoring days. Impact hammer activity occurred on nine of the monitoring days. Both impact and vibratory hammer activity occurred on eight of those nine days, and on one of the days only impact hammer activity occurred. Overall, pile installation and removal activity typically occurred throughout the day, with breaks of various intervals ranging from a few minutes to several hours. On some days, pile driving and removal activity occurred off and on throughout the entire period during which hammer operation was allowed. On other days, the duration of pile installation or removal activity was significantly shorter. For example, pile installation activity lasted about half an hour or less due to mechanical issues on January 29, February 17, and February 23, 2016. Similarly, on December 22, 2015, a vibratory hammer was used for less than five minutes due to the sequencing of related pile removal activities.

Overall, six of the eight potential marine mammal species were observed during the monitoring period. Five species were observed in the Level B Harassment Zone during pile driving. Total takes documented during the monitoring are as follows: 155 California sea lions, 95 harbor seals, 2 Steller sea lions, 1 killer whale, and 1 harbor porpoise. The 6th species, humpback whale, was also observed, but no take was documented for reasons described later in this report.

Pile-driving activity was stopped or delayed twice during the monitoring period. A stop-work order was initiated during vibratory pile driving when a killer whale was observed in Elliott Bay during a pause in vibratory pile installation (January 24, 2016). A delay in the start of impact pile driving occurred when six killer whales were observed in Elliott Bay while no hammers were operating (February 5, 2016). One humpback whale was also observed in Elliott Bay, approximately 1,000 feet (30 meters) from the construction site (January 18, 2016). However, because hammer operation was not occurring at the time

of the sighting, or within 30 minutes of hammer use, a stop-work order was not required and take was not documented.

No observable changes in behavior in the California sea lions, harbor seals, Steller sea lions, killer whales, or harbor porpoises were noted during pile driving activities. The majority of the California sea lion observations occurred from the Alki monitoring site (133 out of 155). They were frequently observed resting on the two buoys that are located in the southwest area of Elliott Bay (Figure 3 in Attachment A). The number of sea lions observed from all three monitoring locations combined ranged from zero to nine per day; the average number observed per monitoring day was three. On many of the monitoring days, sea lions occupied these mooring buoys during the entire monitoring period. Monitoring days when no Californian sea lions were observed usually occurred when large vessels were moored to one or both buoys or when weather conditions were very windy and rainy. However, there were a few days when no California sea lions were occupying the buoys when no vessels were moored to the buoys. Overall, the sea lion group that occupies these mooring buoys accounted for the vast majority of takes documented during the monitoring period. As described more fully in the Elliott Bay Seawall Project Season 3 (2016) Acoustic Monitoring Report (Greenbusch 2016), sound levels associated with vibratory pile driving are predicted to attenuate to background for pinnipeds well before these mooring buoys.

The presence of Californian sea lions during the Year 3 monitoring was notably less than what was observed during the Year 1 and 2 monitoring periods. For example, during Year 1 the number of California sea lions observed during each monitoring day ranged from 2 to 15, and the average number observed per monitoring day was 7 (Anchor QEA 2014). During Year 2 the number of sea lions observed ranged from 0 to 12, and the average number observed per monitoring day was 7 (Anchor QEA 2015).

The majority of the harbor seal observations occurred from the Alki monitoring site and the Magnolia monitoring site (54 at Alki, 30 at Magnolia, for a total of 84 out of 95). Harbor seals were observed relatively frequently during the monitoring period. The number of harbor seals observed per monitoring day ranged from zero to six. The average number observed per monitoring day was two. Harbor seals were typically observed swimming for a few minutes or less. On January 17, 2016, two harbor seals were observed exhibiting mating behavior for about 15 minutes, flipping tails out of the water. This behavior was observed while vibratory pile driving was occurring.

Two Steller sea lion observations within the Level B Harassment Zone occurred during the monitoring; one was on December 29, 2015, and the second on January 25, 2016. Both observations occurred from the Alki monitoring site. On December 29, 2015, a Steller sea lion was observed swimming for about five minutes. On January 25, 2016, a Steller sea lion was observed resting on the mooring buoy for 1 hour and 46 minutes. During this period, California sea lions were swimming in the vicinity of the buoy but were not observed resting on the buoy.

One harbor porpoise was observed within the Level B Harassment Zone during the monitoring on February 20, 2016. The observation occurred from the Magnolia monitoring site. The harbor porpoise was observed swimming for about one minute.

Per monitoring protocols, internet sites that track whale activity in Puget Sound were viewed prior to and during monitoring shifts. As a result, both of the stop-work orders that were initiated during the Year 3

monitoring effort occurred on days when the monitors were aware that killer whales had been observed in the main body of Puget Sound and approaching Elliott Bay.

One stop-work order was initiated on January 24, 2016, when a killer whale was observed for two minutes in Elliott Bay from the Alki monitoring site. The whale was about 9,000 feet (2,740 meters) from the construction site. Vibratory pile installation was not actively occurring at the time of the sighting. The vibratory hammer was not allowed to resume until 30 minutes after the last sighting of the killer whale. Because the construction crew was taking a lunch break when pile driving was allowed to resume, an additional 45 minutes passed before pile driving actually did resume. Take was documented for this killer whale because it was observed approximately eight minutes after active pile driving.

The second stop-work order occurred on February 5, 2016, when six killer whales were observed about 900 feet (270 meters) from the construction site. At the time the killer whales were observed, vibratory pile installation was finished for the day, and the impact hammer was not operating. The resumption of impact pile installation was delayed until the killer whales were observed outside the 3,280-foot (1,000-meter) Exclusion Zone for impact hammer use. The killer whales were continually observed in Elliott Bay outside the Exclusion Zone from the Alki and Magnolia monitoring sites until they left Elliott Bay. The killer whales were observed for about two hours. No takes were documented for these killer whales because they were not observed in the Exclusion Zone within 30 minutes of pile driving.

The number of takes documented for California sea lions, harbor seals, Steller sea lions, killer whales, and harbor porpoises during the Season 3 monitoring were all significantly below the maximum number of takes per year authorized for these species in the EBSP LOA for Season 3 (NOAA 2015). As described previously, no change in behavior was observed for any of the marine mammal species. Table 2 compares documented take per species to the amount of take authorized.

TABLE 2. TAKE PER SPECIES SEASON 3

Species	Documented Take	LOA Authorized Take
California sea lion	155	225
Harbor seal	95	700
Steller sea lion	2	175
Killer whale	1	40
Harbor porpoise	1	315

Note:

LOA – Letter of Authorization

Monitoring information from the daily monitoring forms is included in Attachment B. Table B-1 provides a daily summary of pile driving activity and weather conditions during the monitoring period. Table B-2 provides a daily summary of marine mammal species observed, time and duration of observations, distance from pile driving activities, and species behavior. Table B-3 provides a daily summary of California sea lion and harbor seal takes. Because only two Steller sea lions (December 29, 2015, and January 25, 2016), one killer whale (January 24, 2016), and one harbor porpoise (February 20, 2016) takes were documented during the 51 monitoring days, these species are not included in Table B-3. Table B-4

provides a summary of takes documented during the monitoring period. As noted in Table B-1, some monitoring days included fog, rain, 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 driving activities because marine mammal species could not be observed.

REFERENCES

Anchor QEA, 2014. *Elliott Bay Seawall Project Marine Mammal Monitoring Season 1 Annual Report*. Elliott Bay Seawall Project.

Anchor QEA, 2015. *Elliott Bay Seawall Project Marine Mammal Monitoring Season 2 Annual Report*. Elliott Bay Seawall Project.

City of Seattle, 2013. *Marine Mammal Protection Act and Endangered Species Act Updated Marine Mammal Monitoring and Mitigation Plan*. Elliott Bay Seawall Project.

Greenbusch (The Greenbusch Group, Inc.), 2016. *Elliott Bay Seawall Project Season 3 (2016) Acoustic Monitoring Report*.

NOAA (National Oceanic and Atmospheric Administration), 2013. *National Marine Fisheries Service Endangered Species Act Incidental Take Statement for the Elliott Bay Seawall Project*.

NOAA, 2015. *Marine Mammal Protection Act Letter of Authorization for the Elliott Bay Seawall Project*. Valid from October 22, 2015 through August 31, 2016. National Oceanic and Atmospheric Administration, National Marine Fisheries Service.

ATTACHMENT A – FIGURES

Figure 1 Exclusion Zones and Level B Harassment Zones

Figure 2 Marine Mammal Monitoring Area and Monitoring Locations

Figure 3 Marine Mammals Sightings and Monitoring Locations

ATTACHMENT B – TABLES

Table B-1 Daily Summary of Pile Driving Activity and Weather Conditions during the Marine Mammal Monitoring

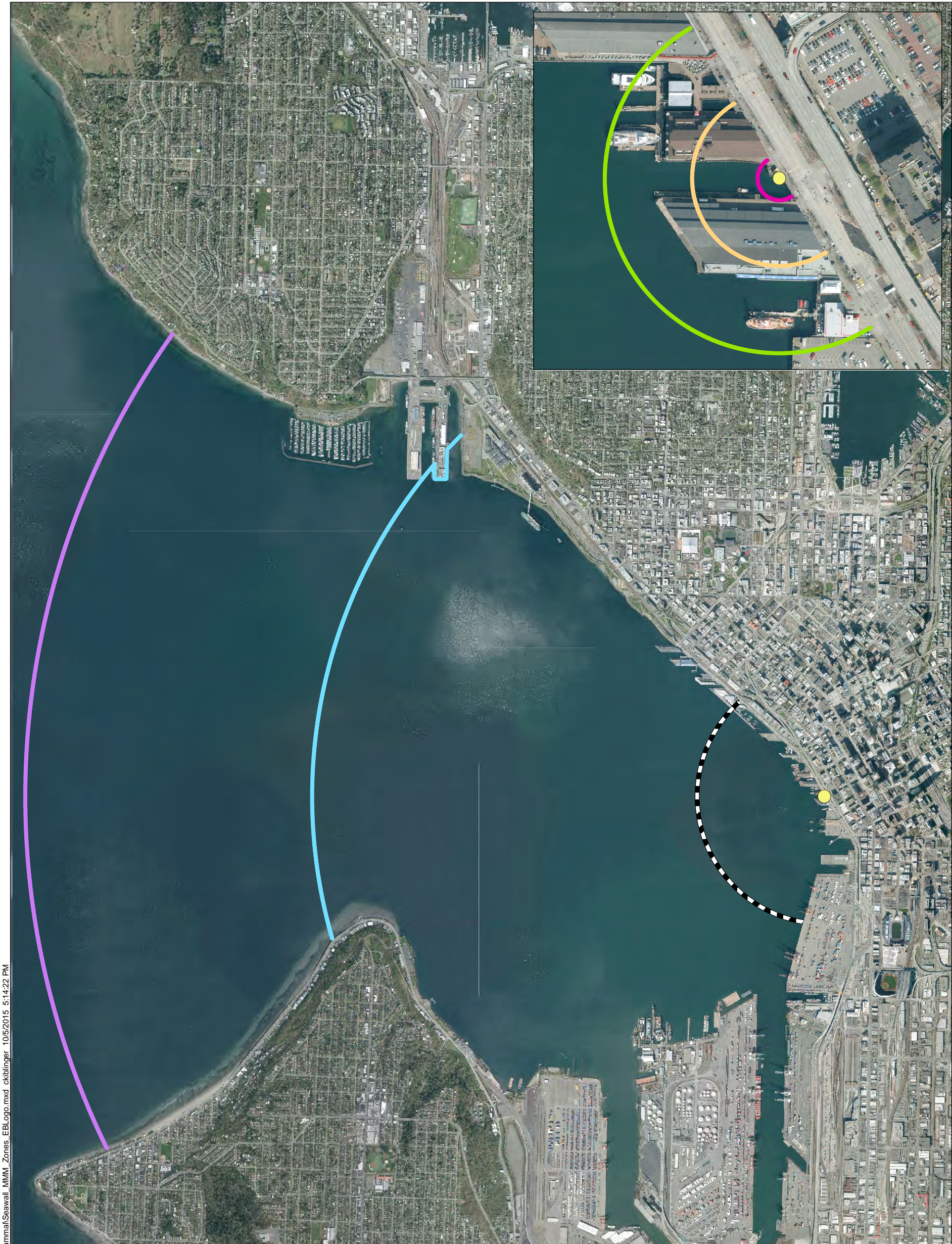
Table B-2 Daily Summary of Species Observed, Time, Duration, Distance from Pile Driving, and Species Behavior per Monitoring Site

Table B-3 Daily Summary of Documented California Sea Lion and Harbor Seal Takes per Monitoring Site

Table B-4 Summary of Documented Takes Per Species by Monitoring Site

ATTACHMENT A

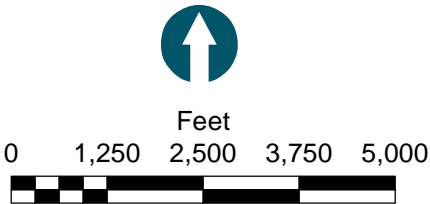
FIGURES



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- Example Pile Related Noise Point Source¹
- Exclusion Zone Thresholds**
(stop-work order will be issued if threshold is crossed)
- Pinnipeds & Small Cetaceans - Impact Concrete
50 feet/15 meters
 - Pinnipeds & Small Cetaceans - Impact Steel Sheet
200 feet/61 meters
 - Large Cetaceans - Impact Steel Sheet & Concrete
3,280 feet/1,000 meters
 - Large Cetaceans - Vibratory Steel Sheet
2.5 mi/4,023 meters

- Level B Harassment Zone Thresholds**
("take" will be issued for a marine mammal in applicable zone)
- Pinnipeds & Small Cetaceans - Impact Concrete
400 feet/122 meters to 50 feet/15 meters (stop work)
 - Pinnipeds & Small Cetaceans - Impact Steel Sheet
3,280 feet/1,000 meters to 200 feet/61 meters (stop work)
 - Large Cetaceans - Vibratory Steel Sheet
3.9 mi/6,276 meters to 2.5 miles/4,023 meters (stop work)
 - Pinnipeds & Small Cetaceans - Vibratory Steel Sheet
3.9 mi/6,276 meters to Point Source



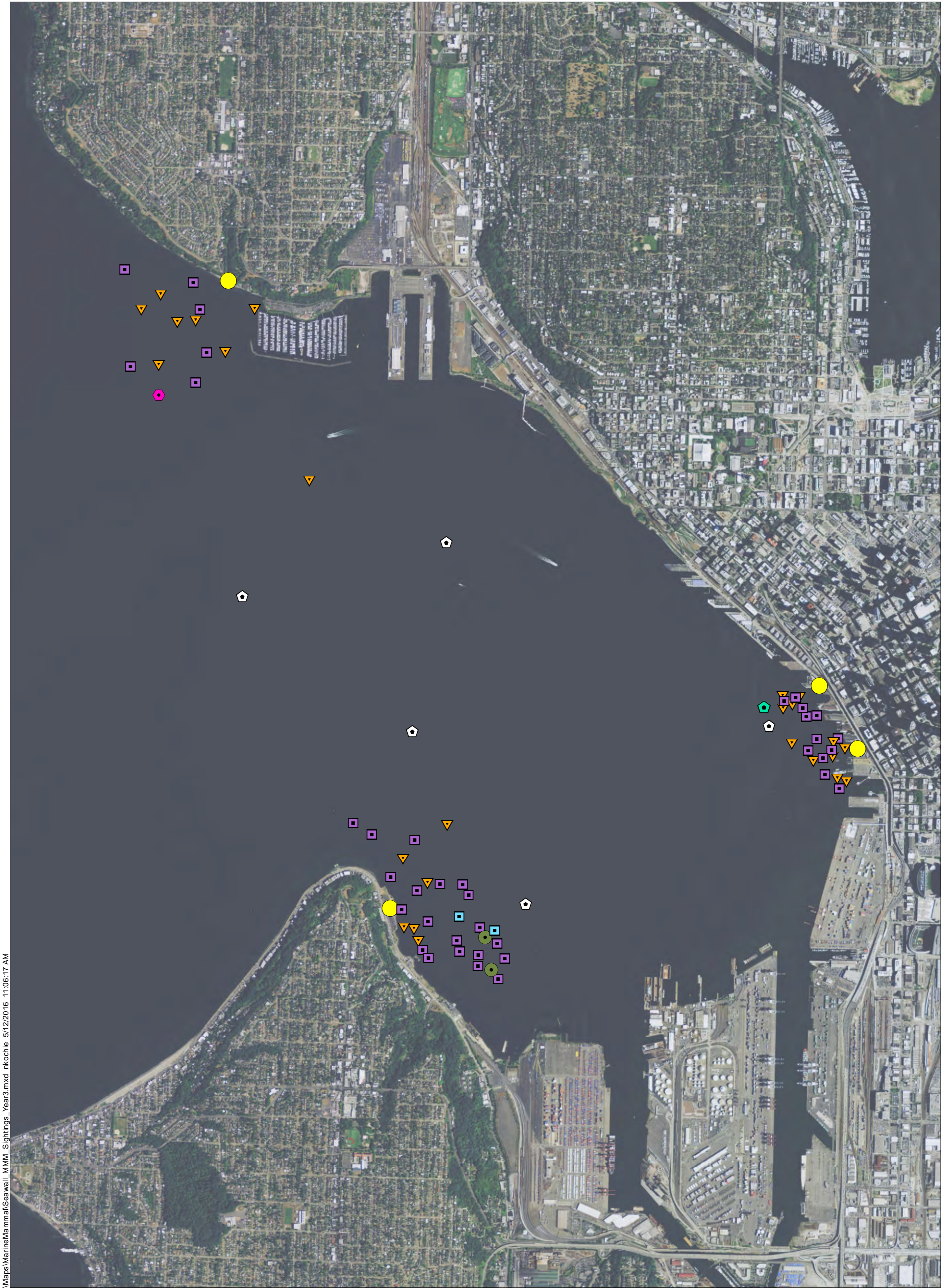
Note:
This figure replaces Figure 1 from the Updated Marine Mammal Monitoring and Mitigation Plan (April 2013). It incorporates NOAA's revised Level B harassment zones for impact driving of steel sheets and vibratory driving of steel sheets of 1,000 meters and 6,276 meters respectively.

¹Actual pile driving location varies north and south within the EBSP Project Area.

Figure 1
Exclusion Zones and Level B Harassment Zones
Marine Mammal Monitoring Season 3 Report
Elliott Bay Seawall Project



Figure 2. Marine Mammal Monitoring Area and Monitoring Locations



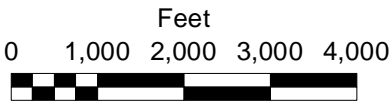
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Marine Mammal Sightings¹

- Killer Whale²
- Humpback Whale
- Harbor Porpoise

- Harbor Seal
- California Sea Lion
- Stellar Sea Lion
- Mooring Buoys

Marine Mammal Monitoring Location



¹ Locations where marine mammals were observed, many of the symbols represent multiple sightings over the 51-day monitoring period.

² Represents whale observed by all monitors over a 2-hour period.

Figure 3
Marine Mammal Sightings and Monitoring Locations
Marine Mammal Monitoring Season 3 Annual Report
Elliott Bay Seawall Project

ATTACHMENT B
TABLES

TABLE B-1. DAILY SUMMARY OF PILE DRIVING ACTIVITY AND WEATHER CONDITIONS DURING THE MARINE MAMMAL MONITORING

Date	Pile Driving Activity^a	Weather Conditions
Monday, December 21, 2015	Vibratory removal from 0815 to 1605	Overcast, with light rain, moderate wind, mid 40°F (4°C)
Tuesday, December 22, 2015	Vibratory removal from 1138 to 1142	Overcast, with rain off and on during day, mid 40°F (4°C)
Monday, December 28, 2015	Vibratory removal from 0815 to 0835, 1005 to 1315	Overcast, low 40°F (4°C)
Tuesday, December 29, 2015	Vibratory removal from 0852 to 0853, 1010 to 1307, 1455 to 1613	Clear, with light breeze, high 30°F (-1°C)
Wednesday, December 30, 2015	Vibratory removal from 0815 to 1618	Clear, with light breeze, mid 30°F (-1°C)
Thursday, December 31, 2015	Vibratory removal from 0815 to 1124	Clear, high 30°F (-1°C)
Saturday, January 2, 2016	Vibratory removal from 0953 to 1339, 1517 to 1605	Clear, with light breeze, mid 30°F (-1°C)
Monday, January 4, 2016	Vibratory removal from 1050 to 1555	Overcast, with rain off and on during day, mid 40°F (4°C)
Tuesday, January 5, 2016	Vibratory removal from 1015 to 1628	Overcast, with rain off and on during day, mid 40°F (4°C)
Wednesday, January 6, 2016	Vibratory removal from 0810 to 1211, 1333 to 1353, 1527 to 1616	Overcast, with mild wind, mid 40°F (4°C)
Thursday, January 7, 2016	Vibratory removal from 0810 to 1226, 1527 to 1615	Overcast, with mild wind, high 30°F (-1°C)
Friday, January 8, 2016	Vibratory removal from 0859 to 0920, 1031 to 1120, 1402 to 1605	Overcast, mid 40°F (4°C)
Monday, January 11, 2016	Vibratory removal from 0941 to 1607	Overcast, with rain off and on during day, mid 40°F (4°C)
Tuesday, January 12, 2016	Vibratory removal from 0842 to 1142, 1335 to 1609	Overcast, with rain, and fog in the afternoon, mid 40°F (4°C)
Wednesday, January 13, 2016	Vibratory removal from 1142 to 1335, 1458 to 1605	Overcast, with rain, and fog in the morning, mid 40°F (4°C)
Thursday, January 14, 2016	Vibratory ^b installation and removal from 0818 to 1218, 1306 to 1401, 1614 to 1618	Sunny, mid 40°F (4°C)
Friday, January 15, 2016	Vibratory ^b installation and removal from 0827 to 1625	Overcast, with rain off and on during day, mid 40°F (4°C)
Saturday, January 16, 2016	Vibratory installation from 0920 to 1621	Overcast, with rain, and fog in the afternoon, mid 40°F (4°C)
Sunday, January 17, 2016	Vibratory installation from 0905 to 1552	Overcast, with rain, and fog in the morning, mid 40°F (4°C)
Monday, January 18, 2016	Vibratory installation from 1501 to 1532	Sunny, mid 40°F (4°C)
Tuesday, January 19, 2016	Vibratory ^b installation and removal from 0820 to 1220, 1325 to 1625	Overcast, mid 40°F (4°C)
Wednesday, January 20, 2016	Vibratory ^b installation and removal from 0815 to 1220, 1417 to 1550	Overcast, mid 40°F (4°C)
Thursday, January 21, 2016	Vibratory ^b installation and removal from 0819 to 1247, 1405 to 1610	Overcast, with rain and wind, low visibility, mid 40°F (4°C)
Friday, January 22, 2016	Vibratory installation from 0820 to 0837, and 1014 to 1620	Overcast, with rain in the morning, sunny with wind and whitecaps in the afternoon, mid 40°F (4°C)
Saturday, January 23, 2016	Vibratory installation from 0922 to 1635, and impact from 1120 to 1630	Overcast, with rain off and on during day, mid 40°F (4°C)

TABLE B-1. DAILY SUMMARY OF PILE DRIVING ACTIVITY AND WEATHER CONDITIONS DURING THE MARINE MAMMAL MONITORING

Date	Pile Driving Activity ^a	Weather Conditions
Sunday, January 24, 2016	Vibratory installation from 0908 to 1150. Killer whale observed within Exclusion Zone at about 9,000 feet from construction site at 1158. Vibratory hammer delayed in resuming until 30 minutes after sighting, at 1230. Construction crew on lunch break at 1230. Vibratory work resumed from 1316 to 1635, and impact from 1455 to 1509.	Overcast, mid 40°F (4°C)
Monday, January 25, 2016	Vibratory installation from 0940 to 0954, 1248 to 1353, 1554 to 1558, and impact from 1037 to 1523	Overcast, with some sun, mid 40°F (4°C)
Tuesday, January 26, 2016	Vibratory installation from 0811 to 1000, 1135 to 1203, 1530 to 1619, and impact from 1453 to 1638	Overcast, with rain off and on during day, low visibility in morning, mid 40°F (4°C)
Wednesday, January 27, 2016	Vibratory installation from 0801 to 0805, and impact from 0816 to 1330	Overcast, with rain in the morning, sunny with wind and whitecaps in the afternoon, mid 40°F (4°C)
Friday, January 29, 2016	Vibratory installation from 1208 to 1238	Overcast, with some sun, mid 40°F (4°C)
Monday, February 1, 2016	Vibratory installation from 0941 to 1005, 1143 to 1230, 1332 to 1630	Overcast, with rain off and on during day, mid 40°F (4°C)
Tuesday, February 2, 2016	Vibratory installation from 0830 to 0950, 1058 to 1645	Overcast, with some sun, mid 40°F (4°C)
Wednesday, February 3, 2016	Vibratory installation from 0906 to 1158, 1310 to 1323, 1510 to 1655	Overcast, with rain off and on during day, mid 40°F (4°C)
Thursday, February 4, 2016	Vibratory installation from 0803 to 1225, 1335 to 1606	Overcast, with rain and mild wind, high 40°F (4°C)
Friday, February 5, 2016	Vibratory installation from 0820 to 0910, 1120 to 1135, and impact from 0920 to 1305, 1455 to 1630. At 1340, while no hammers were operating, six killer whales were observed at about 900 feet from the construction site. Vibratory hammer was done operating for the day. Killer whales were within the 3,280-foot impact hammer Exclusion Zone. Impact hammer delayed in resuming until after killer whales were observed outside the 3,280-foot Exclusion Zone. Monitors observed killer whales moving northwest until leaving Elliott Bay at 1545.	Overcast, with rain off and on during day, mid 40°F (4°C)
Saturday, February 6, 2016	Vibratory installation from 1430 to 1445, and impact from 0920 to 1202, 1401 to 1503	Overcast, mid 40°F (4°C)
Monday, February 8, 2016	Vibratory installation from 1321 to 1344, and impact from 1015 to 1200	Sunny, with wind, mid 50°F (10°C)
Wednesday, February 10, 2016	Vibratory installation from 0756 to 0836, 1005 to 1022, 1249 to 1424, 1658 to 1701	Overcast, with rain off and on during day and fog in the afternoon, mid 40°F (4°C)

TABLE B-1. DAILY SUMMARY OF PILE DRIVING ACTIVITY AND WEATHER CONDITIONS DURING THE MARINE MAMMAL MONITORING

Date	Pile Driving Activity ^a	Weather Conditions
Thursday, February 11, 2016	Vibratory installation from 0813 to 1129, 1332 to 1656	Overcast, mid 40°F (4°C)
Friday, February 12, 2016	Vibratory installation from 0812 to 0850, 1000 to 1040, 1230 to 1705	Overcast, with rain off and on during day and some wind, low 50°F (10°C)
Saturday, February 13, 2016	Vibratory installation from 0910 to 1450	Overcast, with rain off and on during day, mid 40°F (4°C)
Monday, February 15, 2016	Monitors mobilized but no pile driving occurred	Overcast, with rain off and on during day, fog in morning, mid 40°F (4°C)
Tuesday, February 16, 2016	Vibratory installation from 0902 to 1200	Overcast, low 50°F (10°C)
Wednesday, February 17, 2016	Vibratory installation from 1003 to 1020	Overcast, with rain off and on during day, low 50°F (10°C)
Thursday, February 18, 2016	Vibratory installation from 1208 to 1210, 1520 to 1650	Overcast, with rain and wind, low 50°F (10°C)
Friday, February 19, 2016	Impact installation from 0832 to 0920, and vibratory from 1312 to 1450, 1635 to 1705	Overcast, with rain and wind, mid 40°F (4°C)
Saturday, February 20, 2016	Vibratory installation from 0912 to 1155, 1259 to 1515	Sunny, mid 40°F (4°C)
Tuesday, February 23, 2016	Vibratory installation from 0757 to 0835	Sunny, mid 40°F (4°C)
Friday, February 26, 2016	Vibratory installation from 1035 to 1524	Overcast, with rain and some sun, high 40°F (4°C)
Saturday, February 27, 2016	Impact installation from 0955 to 1700	Overcast, with rain and wind, low 50°F (10°C)
Monday, February 29, 2016	Vibratory installation from 1214 to 1420	Overcast, with rain and some sun, high 40°F (4°C)

a. Time shows approximate beginning and end of pile driving activity. Monitoring times began and ended at least 30 minutes outside pile driving activity. All pile driving days included breaks in pile driving. Some breaks lasted several hours.

b. Two construction monitors were used due to the distance between pile driving activities.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, December 21, 2015	Construction Site	CSL (1)	0815 to 1435 (6 Hours, 20 Minutes)	~500 ft (~150 m)	Swimming intermittently. No observable change in behavior during hammer use.
	Alki Site	CSL (2)	0740 to 1605 (9 Hours, 35 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		CSL (1)	1009 to 1012 (3 Minutes), 1033 to 1043 (10 Minutes) and 1428 to 1430 (2 Minutes)	~10,000 ft (~3 km)	Swimming intermittently. No observable change in behavior during hammer use.
	Magnolia Site	CSL (1)	1117 to 1118 (1 Minute)	~15,000 ft (~4.6 km)	Swimming and foraging near shoreline. No observable change in behavior during hammer use.
		HS (1)	0831 to 0834 (3 Minutes)	~15,000 ft (~4.6 km)	Swimming and foraging near shoreline. No observable change in behavior during hammer use.
Tuesday, December 22, 2015	Construction Site	HS (1)	0833 to 0836 (3 Minutes)	~450 ft (~135 m)	Swimming intermittently. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
	Alki Site	CSL (4)	0800 to 1212 (4 Hours and 12 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		HS (1)	0910 to 0911 (1 Minute)	~10,500 ft (~3.2 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
	Magnolia Site	None	NA	NA	NA
Monday, December 28, 2015	Construction Site	CSL (1)	0805 to 0806 (1 Minute) and 1055 to 1056 (1 Minute)	~500 ft (~150 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (3)	0830 to 1600 (7 Hours, 30 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (4)	0812 to 0900 (48 Minutes)	~10,500 ft (~3.2 km)	Swimming and foraging parallel to shoreline. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1053 to 1103 (10 Minutes)	~15,000 ft (~4.6 km)	Swimming parallel to shoreline. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Tuesday, December 29, 2015	Construction Site	CSL (1)	1136 to 1137 (1 Minute)	~500 ft (~150 m)	Swimming. No observable change in behavior during hammer use.
		CSL (1)	1520 to 1521 (1 Minute)	~400 ft (~120 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (8)	0740 to 1613 (8 Hours 33 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming and foraging in water near buoy. No observable change in behavior during hammer use.
		HS (3)	0757 to 0841 (44 Minutes), 0848 to 0855 (7 Minutes), and 1016 to 1221 (2 Hours and 5 Minutes)	~11,500 ft (~3.5 km)	Intermittently swimming. No observable change in behavior during hammer use.
		SS (1)	1016 to 1021 (5 Minutes)	~10,500 ft (~3.2 km)	Swimming and foraging. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	0905 to 0910 (5 Minutes), 1315 to 1320 (5 Minutes), and 1515 to 1525 (10 Minutes)	~16,000 ft (~4.8 km)	Swimming and foraging. No observable change in behavior during hammer use.
Wednesday, December 30, 2015	Construction Site	CSL (1)	1040 to 1041 (1 Minute)	~500 ft (~150 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (5)	1340 to 1650 (3 Hours and 10 Minutes)	~10,000 ft (~3 km)	Alternating between resting on mooring buoy and swimming. No observable change in behavior during hammer use.
		HS (2)	1000 to 1030 (30 Minutes), 1130 to 1135 (5 Minutes), 1325 to 1330 (5 Minutes), 1420 to 1425 (5 Minutes)	~10,500 ft (~3.2 km)	Swimming and submerging. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Thursday, December 31, 2015	Construction Site	None	NA	NA	NA
	Alki Site	CSL (2)	0740 to 1154 (4 Hours and 14 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming. No observable change in behavior during hammer use.
		CSL (1)	0751 to 1031 (2 Hours and 40 Minutes)	~10,500 ft (~3.2 km)	Swimming, submerging, surfacing, and foraging periodically. No observable change in behavior during hammer use.
	Magnolia Site	CSL (2)	0851 to 0852 (1 Minute)	~15,000 ft (~4.6 km)	Swimming. No observable change in behavior during hammer use.
		HS (1)	0923 to 0924 (1 Minute)	~15,000 ft (~4.6 km)	Swimming and foraging. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Saturday, January 2, 2016	Construction Site	HS (1)	0958 to 1002 (4 Minutes)	~800 ft (~240 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (3)	1014 to 1625 (6 Hours and 9 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		CSL (2)	1014 to 1016 (2 Minutes) and 1604 to 1606 (2 Minutes)	~11,500 ft (~3.5 km)	Swimming. No observable change in behavior during hammer use.
		HS (2)	1029 to 1030 (1 Minute) and 1138 to 1139 (1 Minute)	~11,500 ft (~3.5 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1130 to 1131 (1 Minute)	~15,000 ft (~4.6 km)	Swimming. No observable change in behavior during hammer use.
Monday, January 4, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (2)	1130 to 1330 (2 Hours)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (4)	1140 to 1600 (4 Hours and 20 Minutes)	~10,500 ft (~3.2 km)	Intermittently swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (3)	1126 to 1235 (1 Hour 9 Minutes)		Intermittently swimming. No observable change in behavior during hammer use.
Tuesday, January 5, 2016	Construction Site	CSL (1)	1433 to 1436 (3 Minutes)	~600 ft (~180 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (2)	0800 to 1150 (3 Hours and 50 Minutes) and 1220 to 1620 (4 Hours)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (1)	1055 to 1056 (1 Minute), 1520 to 1521 (1 Minute), and 1605 to 1610 (5 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	0914 to 0915 (1 Minute) and 1147 to 1153 (6 Minutes)	~12,500 ft (~3.8 km)	Swimming and foraging. No observable change in behavior during hammer use.
Wednesday, January 6, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (1)	0943 to 0947 (4 Minutes) and 1112 to 1113 (1 Minute)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
		HS (3)	0743 to 0753 (10 Minutes), 0831 to 0856 (25 Minutes), 0844 to 0947 (1 Hour and 3 Minutes), and 1340 to 1341 (1 Minute)	~11,500 ft (~3.5 km)	Intermittently swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	0841 to 0843 (2 Minutes), 0855 to 0858 (3 Minutes), and 1030 to 1031 (1 Minute)	~15,000 ft (~4.6 km)	Intermittently swimming. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Thursday, January 7, 2016	Construction Site	HS (1)	0820 to 0822 (2 Minutes)	~800 ft (~240 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (3)	1330 to 1640 (3 Hours and 10 Minutes)	~10,500 ft (~3.2 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (1)	0953 to 0957 (4 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	0907 to 0908 (1 Minute) and 1609 to 1610 (1 Minute)	~16,000 ft (~4.8 km)	Swimming, submerging, and foraging. No observable change in behavior during hammer use.
Friday, January 8, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (1)	0805 to 1500 (6 Hours and 55 Minutes)	~13,000 ft (~4 km)	Swimming intermittently. No observable change in behavior during hammer use.
		CSL (1)	0930 to 1515 (5 Hours and 45 Minutes)	~10,000 ft (~3 km)	Alternating between resting on mooring buoy and swimming. No observable change in behavior during hammer use.
		HS (1)	1205 to 1215 (10 Minutes) and 1430 to 1615 (1 Hour and 45 Minutes)	~12,500 ft (~3.8 km)	Swimming intermittently. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	0823 to 0842 (19 Minutes) and 1102 to 1104 (2 Minutes)	~16,000 ft (~4.8 km)	Swimming, submerging, and foraging. No observable change in behavior during hammer use.
Monday, January 11, 2016	Construction Site	None	NA	NA	NA
	Alki Site	HS (6)	0840 to 0900 (20 Minutes), 1005 to 1015 (10 Minutes), and 1230 to 1630 (4 Hours)	~10,000 ft (~3 km)	Swimming, submerging, and foraging periodically. No observable change in behavior during hammer use.
		CSL (2)	1400 to 1530 (1 Hour and 30 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Tuesday, January 12, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (1)	1548 to 1550 (2 Minutes)	~11,500 ft (~3.5 km)	Swimming. No observable change in behavior during hammer use.
		HS (1)	1342 to 1343 (1 Minute)	~11,500 ft (~3.5 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Wednesday, January 13, 2016	Construction Site	HS (1)	1025 to 1028 (3 Minutes)	~400 ft (~120 m)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
	Alki Site	CSL (1)	1057 to 1058 (1 Minute) and 1342 to 1348 (6 Minutes)	~11,500 ft (~3.5 km)	Swimming intermittently. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1120 to 1125 (5 Minutes)	~10,000 ft (~3 km)	Swimming intermittently. No observable change in behavior, occurred within 30 minutes prior to start of hammer use.
Thursday, January 14, 2016	Construction Sites ^a	None	NA	NA	NA
	Alki Site	CSL (2)	1110 to 1330 (2 Hours and 20 Minutes) and 1200 to 1640 (4 Hours and 40 Minutes)	~10,000 ft (~3 km)	Alternating between resting on mooring buoy and swimming. No observable change in behavior during hammer use.
		HS (2)	0915 to 1440 (5 Hours and 25 Minutes)	~10,500 ft (~3.2 km)	Swimming intermittently. No observable change in behavior during hammer use.
		HS (2)	1550 to 1640 (50 Minutes)	~10,500 ft (~3.2 km)	Swimming intermittently. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	1106 to 1108 (2 Minutes) and 1616 to 1618 (2 Minutes)	~20,000 ft (~6 km)	Swimming. No observable change in behavior during hammer use.
Friday, January 15, 2016	Construction Sites ^a	HS (1)	1359 to 1404 (5 Minutes)	~700 ft (~210 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (1)	0836 to 0837 (1 Minute), 1130 to 1135 (5 Minutes), and 1545 to 1622 (37 Minutes)	~10,000 ft (~3 km)	Alternating between resting on mooring buoy and swimming and foraging. No observable change in behavior during hammer use.
		HS (3)	0810 to 1620 (8 Hours and 10 Minutes)	~10,000 ft (~3 km)	Swimming, submerging, and foraging periodically. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Saturday, January 16, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (3)	0934 to 0935 (1 Minute), 1027 to 1445 (4 Hours and 18 Minutes), and 1509 to 1512 (3 Minutes)	~15,000 ft (~4.6 km)	Swimming intermittently. Unusual behavior observed included one CSL floating and rolling in the same area during the monitoring. Did not appear to be associated with hammer use because the behavior occurred over the course of the day, during hammer use breaks, etc.
		HS (1)	1535 to 1556 (21 Minutes)	~15,000 ft (~4.6 km)	Swimming and intermittently whipping tail. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Sunday, January 17, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (2)	1440 to 1520 (50 Minutes) and 1532 to 1540 (8 Minutes)	~10,000 ft (~3 km)	Swimming and submerging periodically. No observable change in behavior during hammer use.
		HS (3)	1030 to 1616 (5 Hours and 46 Minutes)	~10,000 ft (~3 km)	Swimming intermittently. From 1540 to 1555 two HS were exhibiting mating behavior, flipping tails out of the water. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Monday, January 18, 2016	Construction Site	HW (1)	1423 to 1424 (1 Minute)	~1,000 ft (~30 m)	HW observed surfacing once. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
		CSL (1)	1455 to 1457 (2 Minutes)	~300 ft (~90 m)	Swimming. No observable change in behavior, occurred within 30 minutes prior to start of hammer use.
	Alki Site	CSL (1)	0955 to 0959 (4 Minutes)	~10,000 ft (~3 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
	Magnolia Site	HS (1)	1006 to 1014 (8 Minutes)	~16,000 ft (~4.8 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
Tuesday, January 19, 2016	Construction Sites ^a	CSL (1)	0921 to 0922 (1 Minute)	~3000 ft (~910 m)	Swimming and foraging. No observable change in behavior during hammer use.
		HS (1)	0925 to 0927 (2 Minutes)	~800 ft (~240 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	None	NA	NA	NA
	Magnolia Site	HS (1)	1414 to 1416 (2 Minutes)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Wednesday, January 20, 2016	Construction Sites ^a	None	NA	NA	NA
	Alki Site	CSL (1)	0855 to 0931 (36 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		CSL (3)	0900 to 1650 (7 Hours and 50 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (3)	0854 to 0855 (1 Minute) and 0931 to 1630 (6 Hours and 59 Minutes)	~10,500 ft (~3.2 km)	Swimming and submerging periodically. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1633 to 1634 (1 Minute)	~16,000 ft (~4.8 km)	Swimming and foraging. No observable change in behavior, occurred within 30 minutes following the end of hammer use.
Thursday, January 21, 2016	Construction Sites ^a	CSL (1)	1554 to 1555 (1 Minute)	~400 ft (~120 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (1)	1109 to 1640 (5 Hours and 31 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		CSL (4)	0852 to 0858 (6 Minutes), 0939 to 0940 (1 Minute), 1244 to 1245 (1 Minute), and 1556 to 1557 (1 Minute)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Friday, January 22, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (6)	0800 to 1505 (7 Hours and 5 Minutes)	~10,000 ft (~3 km)	Alternating between resting on mooring buoy and swimming. No observable change in behavior during hammer use. When a ship was moored to one of the buoys, the CSL resting on that buoy moved to the adjacent buoy.
		HS (1)	1540 to 1545 (5 Minutes)	~11,000 ft (~3.3 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	CSL (1)	1104 to 1105 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.
		CSL (1)	1515 to 1516 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.
		HS (1)	1420 to 1421 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Saturday, January 23, 2016	Construction Site	HS (1)	1345 to 1354 (9 Minutes) and 1420 to 1429 (9 Minutes)	~900 ft (~275 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	HS (1)	0940 to 1005 (25 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
		HS (1)	1410 to 1415 (5 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Sunday, January 24, 2016	Construction Site	CSL (1)	0924 to 0927 (3 Minutes)	~600 ft (~180 m)	Swimming. No observable change in behavior during hammer use.
		CSL (2)	1522 to 1527 (5 Minutes)	~140 ft (~43 m)	Swimming and foraging.
	Alki Site	KW (1)	1158 to 1200 (2 Minutes)	~9,000 ft (~2.7 km)	Swimming towards Duwamish Waterway. Delay in vibratory activity issued at 1158 due to killer whale within Exclusion Zone. Killer whale was not seen again, and delay was lifted 30 minutes after the last sighting, at 1230. Take documented and stop work initiated.
		CSL (3)	0930 to 1650 (7 Hours and 20 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		HS (2)	1224 to 1322 (58 Minutes) and 1501 to 1518 (17 Minutes)	~10,500 ft (~3.2 km)	Swimming intermittently. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1030 to 1035 (5 Minutes) and 1552 to 1554 (2 Minutes)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, January 25, 2016	Construction Site	CSL (1)	0749 to 0750 (1 Minute)	~300 ft (~90 m)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
		CSL (1)	1442 to 1445 (3 Minutes)	~600 ft (~180 m)	Swimming. No observable change in behavior during hammer use.
		HS (1)	1249 to 1255 (6 Minutes)	~400 ft (~120 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	SS (1)	0814 to 1000 (1 Hour and 46 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
		CSL (3)	1120 to 1452 (3 Hours and 32 Minutes)	~10,500 ft (~3.2 km)	Intermittently swimming. No observable change in behavior during hammer use.
		HS (1)	0828 to 0830 (2 Minutes)	~10,500 ft (~3.2 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
		HS (1)	1345 to 1346 (1 Minute)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (3)	0750 to 0758 (8 Minutes)	~16,000 ft (~4.8 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.
		HS (1)	1012 to 1019 (7 Minutes)	~15,000 ft (~4.6 km)	Swimming. No observable change in behavior during hammer use.
Tuesday, January 26, 2016	Construction Site	CSL (1)	1122 to 1125 (3 Minutes)	~300 ft (~90 m)	Swimming and foraging. No observable change in behavior, occurred within 30 minutes prior to start of hammer use.
		HS (1)	1538 to 1540 (2 Minutes) and 1621 to 1626 (5 Minutes)	~350 ft (~106 m)	Swimming periodically. No observable change in behavior during hammer use.
	Alki Site	CSL (1)	1005 to 1016 (11 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior, occurred within 30 minutes following the end of hammer use.
	Magnolia Site	None	NA	NA	NA
Wednesday, January 27, 2016	Construction Site	CSL (1)	1052 to 1141 (49 Minutes)	~600 ft (~180 m)	Swimming and foraging. No observable change in behavior during hammer use.
	Alki Site	None	NA	NA	NA
	Magnolia Site	None	NA	NA	NA
Friday, January 29, 2016	Construction Site	None	NA	NA	NA
	Alki Site	None	NA	NA	NA
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, February 1, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (9)	0817 to 1700 (9 Hours and 43 Minutes)	~10,500 ft (~3.2 km)	Swimming and foraging periodically. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Tuesday, February 2, 2016	Construction Site	HS (1)	0835 to 0846 (11 Minutes)	~1,000 ft (~300 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (2)	0908 to 1015 (1 Hour and 7 Minutes) and 1210 to 1525 (3 Hours and 15 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming intermittently. No observable change in behavior during hammer use.
		HS (1)	1410 to 1416 (6 Minutes)	~10,000 ft (~3 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Wednesday, February 3, 2016	Construction Site	HS (2)	1121 to 1205 (44 Minutes), 1152 to 1159 (7 Minutes), 1545 to 1546 (1 Minute), and 1642 to 1654 (12 Minutes)	~1,000 ft (~300 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	None	NA	NA	NA
	Magnolia Site	HS (1)	0932 to 0933 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. No observable change in behavior during hammer use.
Thursday, February 4, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (3)	0940 to 1420 (4 Hours and 40 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Friday, February 5, 2016	Construction Site	CSL (1)	1125 to 1127 (2 Minutes)	~500 ft (~150 m)	Swimming. No observable change in behavior during hammer use.
		KW (5)	1340 to 1449 (1 Hour and 9 Minutes)	Throughout Elliott Bay	At 1340, while no hammers were operating, six killer whales were observed at about 900 feet from construction site. Vibratory hammer was done operating for the day. Killer whales were within the 3,280-foot impact hammer Exclusion Zone. Impact hammer delayed in resuming until after killer whales were observed outside the 3,280-foot Exclusion Zone. Monitors observed killer whales moving northwest until leaving Elliott Bay at 1545.
	Alki Site	KW (6)	1340 to 1545 (2 Hours and 5 Minutes)	Throughout Elliott Bay	At 1340, while no hammers were operating, six killer whales were observed at about 900 feet from construction site. Vibratory hammer was done operating for the day. Killer whales were within the 3,280-foot impact hammer Exclusion Zone. Impact hammer delayed in resuming until after killer whales were observed outside the 3,280-foot Exclusion Zone. Monitors observed killer whales moving northwest until leaving Elliott Bay at 1545.
		CSL (3)	1400 to 1700 (3 Hours)	~11,500 ft (~3.5 km)	Swimming outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
		HS (1)	1340 to 1355 (15 Minutes)	~11,500 ft (~3.5 km)	Swimming outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
	Magnolia Site	KW (4)	1439 to 1449 (10 Minutes)	Throughout Elliott Bay	At 1340, while no hammers were operating, six killer whales were observed at about 900 feet from construction site. Vibratory hammer was done operating for the day. Killer whales were within the 3,280-foot impact hammer Exclusion Zone. Impact hammer delayed in resuming until after killer whales were observed outside the 3,280-foot Exclusion Zone. Monitors observed killer whales moving northwest until leaving Elliott Bay at 1545.
Saturday, February 6, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (6)	0854 to 1530 (6 Hours and 36 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming. Both vibratory and impact hammer occurred during shift. No observable change in behavior during vibratory hammer use. Included in take tally count for vibratory hammer but not for impact hammer because it is outside of impact hammer Exclusion Zone.
		HS (2)	1159 to 1200 (1 Minutes)	~14,000 ft (~4.3 km)	Swimming. Occurred more than 30 minutes prior to active vibratory hammer use and outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
	Magnolia Site	HS (3)	0855 to 0857 (2 Minutes) and 1036 to 1037 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. Occurred more than 30 minutes prior to active vibratory hammer use and outside of impact hammer Exclusion Zone and therefore was not included in take tally count.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, February 8, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (1)	0710 to 1120 (4 Hours and 10 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. Occurred more than 30 minutes prior to active vibratory hammer use and outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
		HS (1)	0851 to 0859 (8 Minutes)	~11,500 ft (~3.5 km)	Swimming. Occurred more than 30 minutes prior to active vibratory hammer use and outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
	Magnolia Site	HS (1)	0843 to 0845 (2 Minutes)	~16,000 ft (~4.8 km)	Swimming. Occurred more than 30 minutes prior to active vibratory hammer use and outside of impact hammer Exclusion Zone and therefore was not included in take tally count.
Wednesday, February 10, 2016	Construction Site	None	NA	NA	NA
	Alki Site	None	NA	NA	NA
	Magnolia Site	None	NA	NA	NA
Thursday, February 11, 2016	Construction Site	CSL (1)	0750 to 0754 (4 Minutes)	~600 ft (~180 m)	Swimming and foraging. No observable change in behavior during hammer use.
	Alki Site	CSL (2)	0845 to 1659 (8 Hours and 12 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		CSL (3)	0921 to 0922 (1 Minute), 0934 to 0935 (1 Minute), and 1401 to 1404 (3 Minutes)	~9,000 ft (~2.8 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	1425 to 1435 (10 Minutes)	~15,000 ft (~4.6 km)	Swimming. No observable change in behavior during hammer use.
Friday, February 12, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (6)	0740 to 1720 (9 Hours and 40 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming and foraging in water near buoy. No observable change in behavior during hammer use.
	Magnolia Site	HS (1)	1012 to 1013 (1 Minute)	~18,000 ft (~5.5 km)	Swimming. No observable change in behavior during hammer use.
		HS (1)	1420 to 1421 (1 Minute)	~21,000 ft (~6.3 km)	Swimming. Outside vibratory hammer Exclusion Zone and therefore was not included in take tally count.
Saturday, February 13, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (4)	0910 to 1200 (2 Hours and 50 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, February 15, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (2)	0915 to 1020 (1 Hour and 5 Minutes)	~11,000 ft (~3.4 km)	Resting on mooring buoy and swimming in water near buoy. No pile driving occurred therefore was not included in take tally count.
		HS (8)	0915 to 0925 (10 Minutes)	~11,000 ft (~3.4 km)	Swimming. No pile driving occurred therefore was not included in take tally count.
	Magnolia Site	None	NA	NA	NA
Tuesday, February 16, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (5)	0730 to 1400 (6 Hours and 30 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		HS (2)	0947 to 1005 (18 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Wednesday, February 17, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (3)	0930 to 1430 (5 Hours)	~10,000 ft (~3 km)	Resting on mooring buoy. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Thursday, February 18, 2016	Construction Site	HS (1)	1405 to 1409 (4 Minutes)	~800 ft (~240 m)	Swimming. Occurred more than 30 minutes prior to and following active hammer use and therefore was not included in the take tally count.
	Alki Site	CSL (4)	1130 to 1720 (5 Hours and 50 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Friday, February 19, 2016	Construction Site	HS (1)	0829 to 0840 (13 Minutes)	~600 ft (~180 m)	Swimming. Outside impact hammer Exclusion Zone and more than 30 minutes prior to vibratory hammer use and therefore was not included in take tally count.
	Alki Site	HS (1)	1425 to 1440 (15 Minutes)	~10,500 ft (~3.2 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Saturday, February 20, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (1)	0941 to 1002 (21 Minutes)	~15,000 ft (~4.6 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	0939 to 0940 (1 Minute) and 1005 to 1006 (1 Minute)	~18,000 ft (~5.5 km)	Swimming and foraging. No observable change in behavior during hammer use.
		HP (1)	1310 to 1311 (1 Minute)	~19,000 ft (~5.8 km)	Swimming. No observable change in behavior during hammer use.
Tuesday, February 23, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (3)	0955 to 1250 (2 Hours and 55 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		HS (1)	0745 to 0750 (5 Minutes)	~10,000 ft (~3 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	None	NA	NA	NA
Friday, February 26, 2016	Construction Site	HS (1)	1256 to 1305 (9 Minutes)	~900 ft (~275 m)	Swimming. No observable change in behavior during hammer use.
	Alki Site	CSL (3)	1015 to 1700 (6 Hours and 45 Minutes)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use.
		HS (1)	0940 to 1005 (25 Minutes)	~10,000 ft (~3 km)	Swimming. No observable change in behavior during hammer use.
	Magnolia Site	HS (2)	1319 to 1320 (1 Minute) and 1411 to 1412 (1 Minute)	~16,000 ft (~4.8 km)	Swimming periodically. No observable change in behavior during hammer use.
Saturday, February 27, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (3)	0830 to 1730 (9 Hours)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. Outside impact hammer Exclusion Zone and therefore was not included in take tally count.
		CSL (2)	0835 to 0840 (5 Minutes) and 0843 to 0845 (2 Minutes)	~15,000 ft (~4.6 km)	Swimming periodically. Outside impact hammer Exclusion Zone and therefore was not included in take tally count.
	Magnolia Site	HS (2)	0829 to 0830 (1 Minute) and 1501 to 1502 (1 Minute)	~16,000 ft (~4.8 km)	Swimming periodically. Outside impact hammer Exclusion Zone and therefore was not included in take tally count.

TABLE B-2. DAILY SUMMARY OF SPECIES OBSERVED, TIME, DURATION, DISTANCE FROM PILE DRIVING, AND SPECIES BEHAVIOR PER MONITORING SITE

Date	Monitoring Site	Species Observed (number)	Time and Duration Observed	Distance from Pile Driving	Behavior
Monday, February 29, 2016	Construction Site	None	NA	NA	NA
	Alki Site	CSL (4)	0650 to 1450 (8 Hours)	~10,000 ft (~3 km)	Resting on mooring buoy and swimming in water near buoy. No observable change in behavior during hammer use. Benjamin Franklin vessel blocked view for part of the morning.
	Magnolia Site	HS (1)	0914 to 0915 (1 Minute)	~16,000 ft (~4.8 km)	Swimming. Occurred more than 30 minutes prior to active hammer use and therefore was not included in the take tally count.

Notes:

CSL = California Sea Lion

HS = Harbor Seal

SS = Steller Sea Lion

HP = Harbor Porpoise

KW = Killer Whale

HW = Humpback Whale

NA = Not Applicable

ft = feet

km = kilometer

m = meter

Gray shading identifies observations that are not included in the take count because they occurred more than 30 minutes outside of pile driving activity, occurred outside the Exclusion or Harassment Zones, or are duplicate sightings from other monitoring locations.

a. Two construction site monitors were used due to the distance between pile driving and removal activities.

TABLE B-3. DAILY SUMMARY OF DOCUMENTED CALIFORNIA SEA LION AND HARBOR SEAL TAKES PER MONITORING SITE

Date	California Sea Lion				Harbor Seal			
	Construction Site	Alki Site	Magnolia Site	Total Takes	Construction Site	Alki Site	Magnolia Site	Total Takes
Monday, December 21, 2015	1	3	1	5	0	0	1	1
Tuesday, December 22, 2015	0	4	0	4	0	0	0	0
Monday, December 28, 2015	1	3	0	4	0	4	1	5
Tuesday, December 29, 2015 ^a	2	8	0	10	0	3	1	4
Wednesday, December 30, 2015	1	5	0	6	0	2	0	2
Thursday, December 31, 2015	0	3	2	5	0	0	1	1
Saturday, January 2, 2016	0	5	0	5	1	2	1	4
Monday, January 4, 2016	0	2	0	2	0	4	3	7
Tuesday, January 5, 2016	1	2	0	3	0	1	1	2
Wednesday, January 6, 2016	0	1	0	1	0	3	2	5
Thursday, January 7, 2016	0	3	0	3	1	1	2	4
Friday, January 8, 2016	0	2	0	2	0	1	1	2
Monday, January 11, 2016	0	2	0	2	0	6	0	6
Tuesday, January 12, 2016	0	1	0	1	0	1	0	1
Wednesday, January 13, 2016	0	1	0	1	0	0	1	1
Thursday, January 14, 2016	0	2	0	2	0	4	2	6
Friday, January 15, 2016	0	1	0	1	1	3	0	4
Saturday, January 16, 2016	0	3	0	3	0	1	0	1
Sunday, January 17, 2016	0	2	0	2	0	3	0	3
Monday, January 18, 2016	1	0	0	1	0	0	0	0
Tuesday, January 19, 2016	1	0	0	1	1	0	1	2
Wednesday, January 20, 2016	0	4	0	4	0	3	1	4
Thursday, January 21, 2016	1	5	0	6	0	0	0	0
Friday, January 22, 2016	0	6	2	8	0	1	1	2
Saturday, January 23, 2016	0	0	0	0	1	2	0	3
Sunday, January 24, 2016 ^b	3	3	0	6	0	2	1	3
Monday, January 25, 2016 ^c	1	3	0	4	1	1	1	3
Tuesday, January 26, 2016	1	1	0	2	1	0	0	1
Wednesday, January 27, 2016	1	0	0	1	0	0	0	0
Friday, January 29, 2016	0	0	0	0	0	0	0	0
Monday, February 1, 2016	0	9	0	9	0	0	0	0
Tuesday, February 2, 2016	0	2	0	2	1	1	0	2
Wednesday, February 3, 2016	0	0	0	0	2	0	1	3
Thursday, February 4, 2016	0	3	0	3	0	0	0	0
Friday, February 5, 2016	1	0	0	1	0	0	0	0
Saturday, February 6, 2016	0	6	0	6	0	0	0	0
Monday, February 8, 2016	0	0	0	0	0	0	0	0
Wednesday, February 10, 2016	0	0	0	0	0	0	0	0
Thursday, February 11, 2016	1	5	0	6	0	0	2	2
Friday, February 12, 2016	0	6	0	6	0	0	1	1
Saturday, February 13, 2016	0	4	0	4	0	0	0	0

TABLE B-3. DAILY SUMMARY OF DOCUMENTED CALIFORNIA SEA LION AND HARBOR SEAL TAKES PER MONITORING SITE

Date	California Sea Lion				Harbor Seal			
	Construction Site	Alki Site	Magnolia Site	Total Takes	Construction Site	Alki Site	Magnolia Site	Total Takes
Monday, February 15, 2016 ^d	0	0	0	0	0	0	0	0
Tuesday, February 16, 2016	0	5	0	5	0	2	0	2
Wednesday, February 17, 2016	0	3	0	3	0	0	0	0
Thursday, February 18, 2016	0	4	0	4	0	0	0	0
Friday, February 19, 2016	0	0	0	0	0	1	0	1
Saturday, February 20, 2016 ^e	0	1	0	1	0	0	2	2
Tuesday, February 23, 2016	0	3	0	3	0	1	0	1
Friday, February 26, 2016	0	3	0	3	1	1	2	4
Saturday, February 27, 2016	0	0	0	0	0	0	0	0
Monday, February 29, 2016	0	4	0	4	0	0	0	0
Total	17	133	5	155	11	54	30	95
Average	0.3	2.6	0.1	3.0	0.2	1.1	0.6	1.9

a. Take of one Steller sea lion on December 29, 2015, was also documented.

b. Take of one Orca on January 24, 2016, was also documented.

c. Take of one Steller sea lion on January 25, 2016, was also documented.

d. Monitors mobilized and monitored but no pile driving occurred.

e. Take of one harbor porpoise on February 20, 2016, was also documented.

TABLE B-4. SUMMARY OF DOCUMENTED TAKES PER SPECIES BY MONITORING SITE

California Sea Lion			
Construction Site	Alki Site	Magnolia Site	Total Takes
17	133	5	155
Harbor Seal			
Construction Site	Alki Site	Magnolia Site	Total Takes
11	54	30	95
Steller Sea Lion			
Construction Site	Alki Site	Magnolia Site	Total Takes
0	2	0	2
Killer Whale			
Construction Site	Alki Site	Magnolia Site	Total Takes
0	1	0	1
Harbor Porpoise			
Construction Site	Alki Site	Magnolia Site	Total Takes
0	0	1	1