

Revised Take Request for the Bainbridge Island Ferry Terminal Overhead Loading Replacement Project

Washington State Ferries has submitted a request to renew the Incidental Harassment Authorization (IHA) issued on September 16, 2022 with coverage until September 15, 2023 for the Bainbridge Ferry Terminal Overhead Loading Replacement Project and Eagle Harbor Slip F Project at Bainbridge Island, Washington. WSF requests that the renewal be issued for the full year in order to capture potential delays in construction, with effective dates from September 16, 2023 to September 15, 2024.

Due to the small amount of work still to be completed, NMFS has requested new take calculations for the remaining work only. This letter provides that request.

Number of Marine Mammals that May be Affected

This section summarizes potential incidental take of marine mammals during the Bainbridge Island Ferry Terminal project.

Due to the vibratory pile removal source levels, this IHA application proposes incidental take of small numbers of marine mammals by Level A acoustical injury (three species) and Level B acoustical harassment (eleven species).

It is anticipated that harbor seal, harbor porpoise and Dall's porpoise that enter a Level A acoustical injury ZOI will be exposed to pile driving noise only briefly as they are transiting the area.

With the exception of harbor seals and California sea lions, it is anticipated that all of the marine mammals that enter a Level B acoustical harassment ZOI will be exposed to pile driving noise only briefly as they are transiting the area. Only harbor seals and California sea lions are expected to forage and haul out in the ZOIs with any frequency and could be exposed multiple times during a project.

1.0 Estimated Duration of Pile Driving

For the Bainbridge project, the total worst-case time for pile removal is 22.5 hours over 10 days (Table 1).

Table 1. Pile Removal Durations for the Bainbridge Project

Project Element	Diameter	Drive or Remove	Pile Type	Method	Number of Piles	Duration per Pile (minutes)	Duration (hours)	Rate per day	Duration (days)
Old Overhead Loading Structure Removal	12-in	Remove	Timber/Steel	Vibratory	45	30	22.5	10	5
Total Piles Removed					45				
Total Durations							22.5		5

2.0 Estimated Zones of Influence/Zones of Exclusion

Distances to the NMFS threshold for Level A (injury) take and Level B (harassment) take and Zones of Exclusion (Shutdown Zones) are presented in Table 2 below. To simplify the Shutdown zones (Zones of Exclusion), Level A and Level B Take, and monitoring, the 12 threshold distances in Table 2 will be conservatively simplified to those shown in Table 3. Level A Take distances and areas are noted in Table 3. Level B Take distances and areas are noted in Tables 4 and 5.

Table 2. Level A and B Thresholds

Pile size, type & method	Level A Thresholds (m)					Level B Thresholds (m)
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid	All Species
12-in timber/steel vibratory	3.7	0.3	5.5	2.2	0.2	1,600

Table 3. Shutdown/Zone of Exclusion

Pile size, type & method	Level A Shutdown/Zones of Exclusion (m)					SRKW Shutdown (m)
	LF	MF	HF	Phocid	Otariid	
12-in timber/steel vibratory	6	6	6	6	6	2,175

Table 4. Level B Take ZOIs

Pile size, type & method	Level B Shutdown/Take Zone (m)					
	LF	MF	HF	Phocid	Otariid	Days Present
12-in timber/steel vibratory	6-1,600	6-1,600	6-1,600	6-1,600	6-1,600	5

Table 5. Level B Take ZOI Areas

Pile size, type & method	Level B Take Areas (km ²)				
	LF	MF	HF	Phocid	Otariid
12-in timber/steel vibratory	1	1.7	1	1.7	1.7

3.0 Estimated Level A and B Takes

Incidental take is estimated by the likelihood of a marine mammal being present within a ZOI during active pile driving or removal. Species density data is presented in the current IHA application, and these take calculations are based on that data.

Density Based Take

The calculation for density-based take is:

- Density X Area km² X Days zone is present = Take Estimate

Species densities is provided in Table 3-2 of the current IHA application. Where a range of densities is given in Table 3-2, the highest will be used.

Bainbridge days that a zone is present and zone areas are provided in Table 4. Bainbridge Level A Take density calculations are shown in Table 6-9, and Level B Take calculations are shown in Table 5. All estimated takes are summarized in Table 6-11. Level A take is not requested.

Level B LF ZOI's:

- Density X 1.0 km² X 9 days

Level B MF ZOI's:

- Density X 1.7 km² X 9 days

Level B HF ZOI's:

- Density X 1.0 km² X 9 days

Level B Phocid ZOI's:

- Density X 1.7 km² X 9 days

Level B Otariid ZOI's:

- Density X 1.7 km² X 9 days

Sightings-based Level B Take

Based on project specific observations, the following species are present more often than density data suggests. Sightings data is provided in Table 3-2 of the current IHA application. Average sightings/day, maximum one-day sightings and/or best professional judgement will be used to determine take. Level B ZOI's are present 10 days. The take estimates are:

- Northern Elephant Seal – Take is based on best professional judgement. Seattle monitoring data shows one total sighting. With the Level B ZOI's present for 10 days, take is conservatively estimated at 5 animals. Take based on Navy density (0) and average sightings/day (0), or maximum one-day sightings (57) is estimated to be too low, and too high.
- California sea lion – Take is based on the average sightings/day (7.05). With the Level B ZOI's present for 10 days, take is conservatively estimated at 71 animals. Take based on Navy density (125) and maximum one-day sightings (2,166) is estimated to be too low, and too high.
- Steller sea lion – Take is based on best professional judgement. Steller sea lions are more common on the Western side of Puget Sound. With the Level B ZOI's present for 10 days, take is conservatively estimated at 32 animals. Take based on Navy density (26) and maximum one-day sightings (570) is estimated to be too low, and too high.
- Killer Whale Transient – Take is based on best professional judgement. Transients are usually present in small to large groups. The maximum one-day sighting was 20 animals. With the Level B ZOI's present for 10 days take is conservatively estimated at 30 animals. Take based on Navy density (1) and maximum one-day sightings (1,140) is estimated to be too low, and too high.
- Gray Whale – Take is based on best professional judgement. Seattle monitoring data shows 4 total sightings. With the Level B ZOI's present for 10 days take is conservatively estimated at 10 animals. Take based on density (0) and average sightings/day (1), or maximum one-day sightings (57) is estimated to be too low, and too high.
- Minke Whale – Take is based on best professional judgement. Seattle monitoring data shows 1 total sighting. With the Level B ZOI's present for 10 days take is conservatively estimated at 10 animals. Take based on density (0) and average sightings/day (1), or maximum one-day sightings (57) is estimated to be too low, and too high.

- Dall's Porpoise – Take is based on best professional judgement. Seattle monitoring data shows 8 total sightings. With the Level B ZOI's present for 10 days take is conservatively estimated at 5 animals. Take based on density (0) and average sightings/day (0), or maximum one-day sightings (285) is estimated to be too low, and too high.
- Long-beaked Common Dolphin – Take is based on best professional judgement. Seattle monitoring data shows 2 total sightings. With the Level B ZOI's present for 10 days take is conservatively estimated at 5 animals. Take based on density (0) and average sightings/day (1), or maximum one-day sightings (57) is estimated to be too low, and too high.
- Common Bottlenose Dolphin – Take is based on best professional judgement. Seattle monitoring data shows 6 total sightings. With the Level B ZOI's present for 10 days take is conservatively estimated at 5 animals. Take based on density (0) and average sightings/day (1), or maximum one-day sightings (342) is estimated to be too low, and too high.
- Pacific White-sided Dolphin – Take is based on best professional judgement. Seattle monitoring data shows 2 sightings. With the Level B ZOI's present for 10 days take is conservatively estimated at 5 animals. Take based on density (0) and average sightings/day of unidentified dolphins (1), or maximum one-day sightings (342) is estimated to be too low.

Table Error! No text of specified style in document.-1 Bainbridge Level B Density Take

Species	High Density (km ²)	12-in Timber	Total Level B Take
Harbor Seal	3.91 ¹	60	60
Northern Elephant Seal	0 ¹	0	0
California Sea Lion	0.2211 ¹	3	3
Steller Sea Lion	0.0478 ¹	1	1
Killer Whale Southern Resident	0.007828 ²	N/A	N/A
Killer Whale Transient	0.002373 ¹	1	1
Gray Whale	0.000086 ¹	0	0
Humpback whale	0.00074 ¹	N/A	N/A
Minke Whale	0.00045 ¹	0	0
Harbor Porpoise	0.58 ³	9	9
Dall's Porpoise	0.00045 ¹	0	0
Long-beaked Common Dolphin	0 ¹	0	0
Common Bottlenose Dolphin	0 ¹	0	0

Species	High Density (km²)	12-in Timber	Total Level B Take
Pacific White-sided Dolphin	0 ¹	0	0

¹Navy 2019

² No Southern Resident Killer Whale take is requested

³ Evenson 2016