

# Memorandum

March 15, 2024

To: Jenna Harlacher, National Oceanic and Atmospheric Administration  
From: Merri Martz, Brianna Blaud, and Delaney Inman, Anchor QEA  
cc: Kathleen Leonard, National Oceanic and Atmospheric Administration

**Re: Skagway Ore Peninsula Redevelopment Project Incidental Harassment Authorization Amendment Request**

The National Marine Fisheries Service (NMFS) issued an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act (MMPA) to the Municipality of Skagway (MOS), Alaska, in August 2023 for construction activities associated with the replacement of the Skagway Ore Peninsula Dock. The IHA is valid from October 1, 2023, through September 30, 2024. The IHA authorizes impact and vibratory installation of steel piles and the vibratory removal of timber and steel piles during this time period. The IHA application submitted by the MOS originally intended for all work to be conducted from October through March to avoid the eulachon run into the Skagway River and to avoid the cruise ship season; thus, the species densities, and therefore take requests, proposed in the original application were focused on fall and winter months. However, due to weather and other construction delays, construction will not be completed by March 31, 2024, making the original densities inaccurate for the entirety of the construction window, which is now proposed to extend into the spring and possibly summer months as well.

Additionally, it is requested that take for northern fur seal (*Callorhinus ursinus*) be added. This species has not been previously documented in Skagway and was not expected to appear in the project area; therefore, no take was originally requested. However, a northern fur seal yearling was observed by a Protected Species Observer (PSO) near the project site on January 8, 9, 10, and 24, 2024, resulting in this request for Level A and B take for this species.

As such, the MOS is requesting an amendment to the issued authorization to add take for northern fur seal and to adjust our take requests based on average species densities throughout the year due to work occurring in all seasons. Which, consequently, increases our take request for Steller sea lion (*Eumetopias jubatus*). No other changes to the proposed activities, mitigation, or monitoring are proposed.

## Northern Fur Seal Observation

As mentioned, a northern fur seal yearling was observed near the project site on January 8, 9, 10, and 24, 2024. Northern fur seal is protected by the MMPA and listed as depleted. Northern fur seal is not currently listed under the Endangered Species Act (ESA), and no critical habitat has been designated.

The density for the species in Behm Canal during the originally expected work window of November to March is zero animals per square kilometer ( $\text{km}^2$ ); this density increases to 0.2763 animal per  $\text{km}^2$  during the spring (Duke University 2021).

### **Pertinent Life History and Behavior**

Northern fur seal primarily inhabits open ocean and rocky or sandy beaches on islands for resting, reproduction, and molting (NOAA 2022a). Non-breeding northern fur seals may occasionally haul out on land at other sites in Alaska, British Columbia, and on islets along the west coast of the United States (Fiscus 1983). During the reproductive season, adult males usually are on shore during the 4-month period from May to August, although some may be present until November. Adult females are on shore during a 6-month period, June to November. Following their respective times ashore, Alaska northern fur seals of both sexes then move south and remain at sea until the next breeding season (Roppel 1984). In Alaska, pups are born during summer months and leave the rookeries in the fall, on average around mid-November but ranging from late October to early December. Alaska northern fur seal pups generally remain at sea for 22 months (Kenyon and Wilke 1953).

### **Density and Stock Information**

The most recent estimate for the number of northern fur seals in the Eastern Pacific stock, based on pup production estimates on Sea Lion Rock (2014), on St. Paul and St. George islands (mean of 2014, 2016, and 2018), and on Bogoslof Island (mean of 2015 and 2019), is 626,618 northern fur seals (NOAA 2022b). Using this population estimate, the minimum population estimate for the Eastern Pacific stock is 530,376 northern fur seals (NOAA 2022b).

### **Take Analysis**

Based on the number of piles left to be installed and removed as of February 7, 2024, and the conservative estimate for the number of piles that can be installed each day as estimated in the authorized IHA, there are approximately 128 days of construction left for this project (Tables 1 and 2). The remaining days of activity for each activity type are outlined in Table 3. While vibratory removal/installation and impact installation can occur on the same days, conservatively, the total remaining days of activity are carried forward in the take analysis.

**Table 1**  
**Remaining Pile Removal Quantities**

Pile Type	Design Quantity	Quantity removed (as of 2/7/24)	Quantity Remaining (as of 2/7/24)
Timber Piles Removed	423	156	267
Steel (10.75-inch)	54	54	0
Steel (14-inch)	32	20	12
Steel (16-inch)	59	8	51
Steel (20-inch)	47	47	0
Steel (24-inch)	28	16	12
Steel (28-inch)	32	6	26
Steel (30-inch)	17	17	0
Temporary Piles (24-inch or smaller)	36	18	18
<b>TOTAL</b>	<b>728</b>	<b>342</b>	<b>386</b>

**Table 2**  
**Pile Installation Quantities**

Pile Type	Design Quantity	Quantity installed (as of 2/7/24)	Quantity Remaining (as of 2/7/24)
Steel (24-inch)	170	8	162
Steel (36-inch)	57	36	21
Steel (42-inch)	11	11	0
Steel (48-inch)	6	0	6
Temporary Piles (24-inch or smaller)	36	18	18
<b>TOTAL</b>	<b>280</b>	<b>73</b>	<b>207</b>

Note: Pile installation above MHHW/HTL is not part of the take request.

**Table 3**  
**Zone of Impact Summary Table**

ZOI	Activity Type	ZOI Area (km <sup>2</sup> )	Remaining Days of Activity
1	Impact installation of steel piles less than 30 inches in diameter	1.23	33
2	Impact installation of steel piles 30 inches in diameter or more	3.23	14
3	Vibratory installation/removal of steel piles less than 30 inches in diameter	9.08	60
4	Vibratory installation/removal of steel piles 30 inches in diameter or more	20.36	6
5	Vibratory removal of timber piles	8.06	15

Notes:  
ZOI: zone of impact

## Species Densities

The MOS has completed a take analysis for the extended work window and resulting species densities. The original IHA request's species density estimates were from data collected in the fall and winter, as the original intent was for all work to be completed during these seasons. Construction activities have been delayed due to weather and other factors and are now expected to extend into the early summer; thus, using the average species density across all seasons is more appropriate for determining take. Table 2 shows densities for each species and each season, as well as the annual average density for each species, which were used to calculate take in this amendment request.

**Table 2**  
**Seasonal Species Densities for Behm Canal (Duke University 2021)**

Species	Seasonal Density (animals per km <sup>2</sup> )				Average Density (animals per km <sup>2</sup> )
	Spring	Summer	Fall	Winter	
Humpback whale	0.0081 <sup>1</sup>	0.0117	0.018	0.0081 <sup>1</sup>	0.0115
Minke whale	0.0003 <sup>1</sup>	0.0008	0.0005	0.0003 <sup>1</sup>	0.0005
Killer whale	0.0153	0.005 <sup>2</sup>	0.0349	0.005 <sup>2</sup>	0.0151
Harbor porpoise	0.01 <sup>3</sup>	0.01 <sup>3</sup>	0.01 <sup>3</sup>	0.01 <sup>3</sup>	0.0100
Dall's porpoise	0.121 <sup>3</sup>	0.121 <sup>3</sup>	0.121 <sup>3</sup>	0.121 <sup>3</sup>	0.1210
Harbor seal	1.727 <sup>4</sup>	0.7811	1.727 <sup>4</sup>	1.727 <sup>4</sup>	1.4905
Steller sea lion	0.2662	0.3162	0.2205	0.2662	0.2673
Northern fur seal	0.2763	0	0	0	0.0691

Notes:

1. Listed density was provided for winter and spring.
2. Listed density was provided for winter and summer.
3. Listed density was annual average.
4. Listed density was provided for fall, winter, and spring.

As stated, the average densities calculated and displayed in Table 2 were used for the take analysis. The amended take requests using these average densities are detailed in Tables 3 through 10 and summarized in Table 11. Steller sea lion have an increased take request when compared to the issued authorization.

## Humpback Whale

Based on Marine Species Density Database estimates in Behm Canal averaged across the year, potential take of humpback whale is estimated in Table 3 (Duke University 2021).

**Table 3**  
**Take Estimates for Humpback Whale**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.0115	2.155	1.23	33	0.5	1	1	--	--
2	0.0115	5.85	3.23	14	0.5	1	1	--	--
3	0.0115	0.0005	9.08	60	6.3	7	0	--	--
4	0.0115	0.0135	20.36	6	1.4	2	0	--	--
5	0.0115	0.0007	8.06	15	1.4	2	0	--	--
Total	--	--	--	--	10.1	13	2	10,103	0.15%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
  - b. (take/abundance) x100
- : not applicable

In summary, from the recalculation of potential take, the Level B take would only be minimally reduced to 13 takes. Therefore, no change in take is requested from the originally authorized request of 14 Level B takes and two Level A takes.

## Steller Sea Lion

Based on Marine Species Density Database density estimates for Behm Canal averaged across the year, potential take of Steller sea lion is estimated as shown in Table 4 (Duke University 2021). Marine Species Density Database estimates do not distinguish between stocks; therefore, both stocks are summed.

**Table 4**  
**Take Estimates for Steller Sea Lion**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.2673	0.014	1.23	33	10.8	20	1	--	--
2	0.2673	0.048	3.23	14	12.1	20	1	--	--
3	0.2673	0	9.08	60	145.6	150	0	--	--
4	0.2673	0	20.36	6	32.7	40	0	--	--
5	0.2673	0	8.06	15	32.3	40	0	--	--
Total	--	--	--	--	233.5	270	2	130,081	0.21%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

The calculated Level B take for the remaining activities is 233.5; however, Steller sea lion have been commonly seen in the project area and 64 Level B takes have already occurred, to date. Therefore, the requested Level B take has been rounded up in each case so that the requested take accounts for the high likelihood of take occurring. In summary, the project requests 270 Level B takes, and two Level A takes, for a total of 272 individuals, an increase from the authorized 196 Level B takes and two Level A takes.

## Minke Whale

Based on Marine Species Density Database density estimates averaged across the year in Behm Canal, the potential take of minke whale (*Balaenoptera acutorostrata*) is estimated as shown in Table 5 (Duke University 2021).

**Table 5**  
**Take Estimates for Minke Whale**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.0005	2.155	1.23	33	0.02	1	1	--	--
2	0.0005	5.85	3.23	14	0.02	1	1	--	--
3	0.0005	0.0005	9.08	60	0.27	1	0	--	--
4	0.0005	0.0135	20.36	6	0.06	1	0	--	--
5	0.0005	0.0007	8.06	15	0.04	1	0	--	--
Total	--	--	--	--	0.44	5	2	Unknown	Unknown

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

In summary, the revised take estimates five Level B takes, and two Level A takes of minke whales, a minimal decrease from the originally authorized six Level B takes and two Level A takes of minke whales. Therefore, no change in the originally authorized take is requested for minke whale.

## Killer Whale

Based on Marine Species Density Database density estimates averaged across the year in Behm Canal, the potential take of killer whale (*Orcinus orca*) is estimated as shown in Table 6 (Duke University 2021).

**Table 6**  
**Take Estimates for Killer Whale**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.0151	0.01	1.23	33	0.6	15	1	--	--
2	0.0151	0.02	3.23	14	0.7	15	1	--	--
3	0.0151	0	9.08	60	8.2	30	0	--	--
4	0.0151	0.0001	20.36	6	1.8	15	0	--	--
5	0.0151	0	8.06	15	1.8	15	0	--	--
Total	--	--	--	--	13.2	90	2	3,585	2.57%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

In summary, although the calculated Level B take based on the densities for killer whale is 15 individuals, the local observation data indicate killer whales are observed in groups of 15 to 20 individuals (MOS 2016). Thus, rather than one individual being sighted at a time, a group is most likely to be observed. The 90 Level B takes, and two Level A takes originally authorized based on local observation data remain valid and no change in take is requested for the work window extension.

### Harbor Porpoise

Based on Marine Species Density Database average annual density estimates for Behm Canal, potential take of harbor porpoise (*Phocoena phocoena*) is estimated as shown in Table 7 (Duke University 2021).

**Table 7**  
**Take Estimates for Harbor Porpoise**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.0100	2.88	1.23	33	0.4	1	2	--	--
2	0.0100	6.95	3.23	14	0.5	1	3	--	--
3	0.0100	0.001	9.08	60	5.5	6	0	--	--
4	0.0100	0.03	20.36	6	1.2	2	0	--	--
5	0.0100	0.0015	8.06	15	1.2	2	0	--	--
Total	--	--	--	--	8.7	12	5	1,057	1.6%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

In summary, the estimated 12 Level B takes, and five Level A takes is a decrease from the originally authorized take of 78 Level B takes and 17 Level A takes for harbor porpoise due to reduced densities when averaged across the year. However, no change in authorized take is requested for harbor porpoise.

## Dall's Porpoise

Based on Marine Species Density Database annual density estimates for Behm Canal, potential take of Dall's porpoise (*Phocoenoides dalli*) is estimated as shown in Table 8 (Duke University 2021).

**Table 8**  
**Take Estimates for Dall's Porpoise**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.1210	2.88	1.23	33	4.9	5	12	--	--
2	0.1210	6.95	3.23	14	5.5	6	12	--	--
3	0.1210	0.001	9.08	60	65.9	66	1	--	--
4	0.1210	0.03	20.36	6	14.8	15	1	--	--
5	0.1210	0.0015	8.06	15	14.6	15	1	--	--
Total	--	--	--	--	105.7	107	27	13,110	1.02%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100



In summary, the revised take estimates are 107 Level B takes and 27 Level A takes of Dall’s porpoise, a decrease from the originally authorized take of 193 Level B takes and 43 Level A takes for Dall’s porpoise. However, no change in take is requested for Dall’s porpoise.

## Harbor Seal

Based on Marine Species Density Database annual density estimates for Behm Canal, potential take of harbor seal (*Phoca vitulina*) is estimated as shown in Table 9 (Duke University 2021).

**Table 9**  
**Take Estimates for Harbor Seal**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	1.4905	0.88	1.23	33	60.5	65	44	--	--
2	1.4905	2.2	3.23	14	67.4	70	46	--	--
3	1.4905	0.00017	9.08	60	812	815	1	--	--
4	1.4905	0.005	20.36	6	182.1	185	1	--	--
5	1.4905	0.0002	8.06	15	180.2	185	1	--	--
Total	--	--	--	--	1,302.2	1,320	93	13,338	10.6%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

In summary, the revised take estimates of 1,320 Level B takes, and 93 Level A takes of harbor seal, are a decrease from the originally authorized total take of 2,760 Level B and 193 Level A for harbor seal. However, no change in take is requested for harbor seal, in consideration that, to date, there have been 146 Level B, and 16 Level A takes.

## Northern Fur Seal

Based on Marine Species Density Database density estimates for Behm Canal throughout the year, potential take of northern fur seal is estimated as shown in Table 10 (Duke University 2021).

**Table 10**  
**Take Estimates for Northern Fur Seal**

ZOI	Density	Level A ZOI Area (km <sup>2</sup> )	Level B ZOI Area (km <sup>2</sup> )	Days of Activity	Level B Take Estimate	Level B Take Request <sup>a</sup>	Level A Take Request <sup>a</sup>	Stock Abundance	% of Stock <sup>b</sup>
1	0.0691	0.014	1.23	33	2.8	5	1	--	--
2	0.0691	0.048	3.23	14	3.1	5	1	--	--
3	0.0691	0	9.08	60	37.6	15	0	--	--
4	0.0691	0	20.36	6	8.4	10	0	--	--
5	0.0691	0	8.06	15	8.4	10	0	--	--
Total	--	--	--	--	60.4	45	2	626,618	0.007%

Notes:

- a. Take estimates are rounded up to the nearest individual for each activity. Because density implies only a likelihood of occurrence, takes are not rounded for each day of activity.
- b. (take/abundance) x100

Based on these calculations, the potential 60.4 Level B takes for northern fur seal seems unrealistically high considering northern fur seal had not been observed in the Skagway area until the one individual that has been observed so far during this project. Thus, a lower number of 45 Level B takes is proposed. Local observations of northern fur seals in Behm Canal range from 0.00 individuals per km<sup>2</sup> in the summer, fall, and winter to 0.2763 individual per km<sup>2</sup> in the spring according to the Marine Species Density Database. For the remainder of the project, the average density is used due to northern fur seal sightings on January 8 and 9, 2024.

Because the Level A thresholds for otarrid pinnipeds are so close to the project site for three of the five planned activities, there is little likelihood that a northern fur seal would enter the Level A ensonified area during vibratory pile driving. The Level A threshold extends further out during impact installation of steel piles to 48.5.5 meters for 24-inch steel pile installation and 91.4 meters for 36-, 42-, and 48-inch steel pile installation. Due to the northern fur seal sighting in the area, two Level A takes are requested for the remainder of the project.

In summary, the project requests 45 Level B takes, and two Level A takes for northern fur seal.

### Summary of Requests for Take

Table 11 shows the summary of takes requested for each species and stock based on project activities.

**Table 11**  
**Summary of Requested Takes with Updated Work Window**

Amended Take from Authorized IHA	Species	Stock	Level A Take	Level B Take	Total Take	Stock Abundance	Take Percentage of Total Stock
No	Humpback whale ( <i>Megaptera novaeangliae</i> )	Central North Pacific Stock (Hawaii DPS) + California/Washington/Oregon Stock (Mexico DPS)	2	14	16	10,103	0.16%
No	Minke whale ( <i>Balaenoptera acutorostrata</i> )	Alaska	2	6	8	Unknown	Unknown
No	Killer whale ( <i>Orcinus orca</i> )	Eastern North Pacific, Northern Residents – Southeast Alaska + Eastern North Pacific, Alaska Residents + West Coast Transients + Gulf, Aleutian, Bering Transients	2	90	92	302 + 2,347 + 349 + 587 = 3,585	2.57%
No	Harbor porpoise ( <i>Phocoena phocoena</i> )	Southeast Alaska	17	75	92	1,057	8.9%
No	Dall's porpoise ( <i>Phocoenoides dalli</i> )	Alaska	43	193	236	13,110	1.8%
No	Harbor seal ( <i>Phoca vitulina</i> )	Alaska – Lynn Canal/Stephens Passage	193	2,760	2,953	13,338	22.14%
Yes	Steller sea lion ( <i>Eumetopias jubatus</i> )	Eastern U.S. Stock + Western U.S. Stock	2	270	272	77,149 + 52,932 = 130,081	0.21%
Yes, new species	Northern fur seal ( <i>Callorhinus ursinus</i> )	Eastern Pacific Stock	2	45	47	626,128	0.007%

Note:

DPS: distinct population segment

## Monitoring and Mitigation

All monitoring and mitigation requirements discussed in the original application and included in the issued authorization will be completed as part of this amendment request.

The shutdown zones for this project are not altered as compared with the authorized IHA.

PSOs will be made aware of addition of the northern fur seal to the protected species they are responsible for identifying. All PSOs will be trained on identification of the northern fur seal, including appearance and behavior. Locations and training for the PSOs remain the same as included in the application.

## Conclusion

Based on the available information, the proposed modifications to add authorized take to Steller sea lion and northern fur seal are not expected to adversely affect either species on a population level.

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