

Marine Mammal Protection Act Letter of Authorization Final Monitoring Report 2023

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To:

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December 2023

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Summary of Project and Restoration Activities

Punta Gorda lighthouse and oil house (40.249435°, -124.350223°) are located 10 km SW of Petrolia, CA (40.325021°, -124.286589°) and 17.7 km south of Cape Mendocino in Humboldt County, CA. Established in 1912, the lighthouse was used as an aid to navigation and was in service until 1951, when it was decommissioned by the U.S. Coast Guard. The Bureau of Land Management (BLM) assumed management of the site after its decommissioning. In 1976 the concrete lighthouse and oil house were listed in the National Registry of Historic Places. The site was located within a Federally designated wilderness area of the King Range National Conservation Area (King Range NCA). Over the years, weathering and degradation of the structures has occurred from exposure to marine elements. The BLM proposed a project to stabilize and restore the remaining structures in two phases (i.e., phase one - the lighthouse and phase two - the oil house), the lighthouse restoration was completed in September of 2022 and the oil house restoration was completed in September of 2023.

The BLM contracted the project to a private contractor, Fasone Construction. Construction was initiated on July 11, 2023, and lasted until September 9, 2023. Access to Punta Gorda required the utilization of utility terrain vehicles (UTVs), where contractors drove approximately 3 miles of beach from the staging area at Mattole Campground to Punta Gorda (Fig. 1). Helicopters were not used as proposed in the application. All materials were transported via ground transport. A fence was erected around the immediate work area at the oil house (Figure 2). Construction activities involved fence construction, erecting scaffolding, paint removal, demolition of concrete, forming, pouring concrete, painting, excavating, and grading.

Summary of Incidental Take Authorization

Construction activities took place outside, near the rocky intertidal zone. Within this area the following marine mammals could be found.

- California sea lion (*Zalophus californianus*), U.S. stock
- Pacific harbor seal (*Phoca vitulina richardii*), California stock
- Northern elephant seal (*Mirounga angustirostris*), California stock
- Steller sea lion (*Eumetopias jubatus*), eastern stock

California sea lion (*Zalophus californianus*)

The range of California sea lions extends across the Pacific west coast of North America from Baja Mexico to British Columbia. Breeding rookeries occur along the west coast of Baja California and the Gulf of California as well as on the California Channel Islands. There are a total of three recognized California sea lion stocks (U.S. stock, Western Baja stock, and the Gulf of California stock) with the U.S. stock ranging from the U.S./Mexico border into Canada. Although some movement occurs between stocks, U.S. rookeries are primarily considered to be isolated from rookeries in Baja California (Barlow et al. 1995).

For thousands of years California sea lions were hunted by indigenous peoples. In the early 1900s, sea lions were hunted to reduce competition with commercial fisheries. In the 1920s-1940s they were hunted commercially. After the passage of the MMPA, the population has rapidly increased (Reeves et al. 2002). Declines in recruitment did occur during the 1983-84, 1992-93, 1997-98, and 2003 El Niño events, but pup production returned to pre- El Niño levels within 2-5 years (Carretta et al. 2017). The National Oceanic and Atmospheric Administration (NOAA) declared an Unusual Mortality Event (UME) due to

the increased number of sea lion pup strandings in southern California in 2013 and continued through 2016. The cause of this event is hypothesized to be caused by nutritional stress due to declines in prey availability (NMFS 2016).

According to the 2022 Pacific Marine Mammal Stock Assessment, the U.S. stock of California sea lions has a minimum population size of 233,515 and the population is estimated to be 257,606 animals (Carretta et al. 2023, Laake et al. 2018). This species is not listed under the Endangered Species Act (ESA) and is not a strategic species nor considered depleted under the MMPA.

Harbor seal (*Phoca vitulina richardii*)

The range of harbor seals extend widely across the coastal areas of the North Pacific and North Atlantic. Five subspecies exist based on geography, with *Phoca vitulina ricchardii* ranging along the west coast of North America from the Aleutian Islands to Baja California. For management purposes, there are three recognized harbor seal stocks along the west coast of the continental United States: California, Oregon and Washington outer coast, and Washington inland coast. Only the California stock can be found within the project area.

Historically, this species was hunted by indigenous peoples for several thousands of years. During the 1800s and early 1900s, harbor seals were hunted in attempts to reduce competition with commercial fisheries. The population was reduced to only a few hundred individuals (Bonnet 1928). Since the passage of the Marine Mammal Protection Act (MMPA), the population has increased substantially (Carretta et al. 2010).

According to the 2022 Pacific Marine Mammal Stock Assessment, the minimum population size of the California stock is 27,348 and the population is estimated to number 30,968 (Caretta et al. 2023). The species is not listed under the Endangered Species Act (ESA) and is not a strategic species or considered depleted under the MMPA.

Northern elephant seal (*Mirounga angustirostris*)

The Northern elephant seal's range extends widely across the eastern Pacific for most of the year. They return primarily to haul out locations along the west coast of the continental United States, including the Channel Islands and the central California coast, as well as the islands off of Baja California, to breed and molt. Breeding occurs from December to March, with males returning to haul out locations prior to females to compete and establish dominance hierarchies. Molting occurs from late April to August, with juveniles and adult females returning earlier than adult males (Reeves et al. 2002). Due to limited movement between colonies in Mexico and California, the California population is considered a separate stock (Carretta et al. 2010).

Northern elephant seals were hunted by indigenous peoples for thousands of years followed by commercial seal harvesting in the 1800s. By the late 1800s, the species was thought to be extinct, although several were observed on Guadalupe Island in the 1880s, as well as a few dozen to several hundred survived off the coast of Mexico (Stewart et al. 1994). The population increased in the early 1900s and their range began expanding into southern and central California through the 1980s (Reeves et al. 2002).

According to the 2022 Pacific Marine Mammal Stock Assessment, the minimum population size of the California stock is 85,369, and the estimated population size is 187,386 (Caretta et al. 2023, Lowry et al.

2020). This species has grown at 3.1% annually since 1988 (Lowry et al. 2020). Northern elephant seals are not listed under the ESA and are not a strategic species nor considered depleted under the MMPA.

Steller sea lion (*Eumetopias jubatus*)

Steller sea lions occur throughout the north Pacific from Japan to the Kamchatka Peninsula, along the Aleutian Islands, into the Gulf of Alaska, and along the west coast of North America to central California. The species in United States waters has been divided into two stocks, the eastern U.S. stock (east of Cape Suckling, AK) and the western U.S. stock (west of Cape Sucking, AK; Loughlin 1997). Breeding of the eastern stock occurs in rookeries found in Alaska, British Columbia, Oregon, and California.

Steller sea lions were traditionally hunted by indigenous peoples for thousands of years throughout their range, even as recently as the 1990s in the Aleutian Islands. In the early 1900s they were killed to reduce competition with commercial fisheries. The population dramatically declined from the 1970s to 1990s due to long-term environmental changes including competition with fisheries (Reeves et al. 2002). The population continued to decrease along the southern and central California coast. The decline may be attributed to a northward shift and subsequent decline of southern breeding rookeries (Pitcher et al. 2007). In 1990, due to extensive declines across its range, the species was listed as threatened under the ESA.

No estimate for Steller sea lion exists in the 2022 U.S. Pacific Marine Mammal Stock Assessment. According to the 2020 Alaska Marine Mammal Stock Assessment, the minimum population size of the eastern U.S stock is estimated to be 43,201 (Muto et al. 2021). Owing to an unknown number of animals at sea, there is no current estimated population size. In 2013, the eastern U. S. stock was determined to be recovered and was delisted from the ESA (NMFS 2013) and is therefore no longer a strategic species under the MMPA.

Incidental Harassment Authorization

Pinnipeds are frequently encountered at Punta Gorda and along the 3-mile stretch of beach extending between Punta Gorda and the Mattole Campground. Primarily Northern elephant seals and harbor seals are found in these areas, however on occasion California and Steller’s sea lions are observed. The BLM was issued an Incidental Harassment Authorization (IHA) under Section 101(a)(5)(D) of the Marine Mammal Protection Act for take, by level B harassment only, of a small number of pinnipeds incidental to construction and transit activities from June 1, 2023, through October 1, 2023. The issued IHA allows for the following take:

Table 1. Number of authorized takes by species for Phase 2 of Punta Gorda Project.

Species	Authorized Take
California Sea lion (<i>Zalophus californianus</i>)	73
Harbor seal (<i>Phoca vitulina richardii</i>)	10,663
Northern elephant seal (<i>Mirounga angustirostris</i>)	6,393
Steller sea lion (<i>Eumetopias jubatus</i>)	30

Monitoring Methods

All construction activities including access to and from the site were conducted under the supervision of a trained protected species observer (PSO). During transit to and from the site, two PSOs drove ahead of

the contractors to observe and record all pinnipeds by species, age class, and the level of disturbance observed along the beach access route. In accordance with the IHA, all personnel and vehicles maintained a minimum distance of 20 meters from all marine mammals. Prior to the arrival of construction personnel at the site, a PSO arrived first on scene and counted the number of pinnipeds by age class at the designated observation locations identified as Harbor Seal Point (HSP) or CAN (Figure 2). During transit and construction activities all disturbances were recorded. Disturbances were ranked on a three-level scale (from 1-3, Table 2), where level 2 and level 3 were considered as incidental take. Counts of pinnipeds were conducted every hour and delineated by species, age classification, and location. For harbor seals we differentiated adults from pups and for elephant seals we differentiated adult males from all others (i.e., females and pups). We included subadult males into our adult male classifications. The PSO monitored for offshore predators including great white sharks (*Carcharodon carcharias*) and Orcas (*Orcinus orca*). If either predator species were observed all construction activities would have stopped to prevent the flushing of pinnipeds into the water. When a pinniped carcass was observed, the lead PSO documented the carcass, took measurements, and contacted NMFS and the Marine Mammal Stranding Network to consult. If the death was believed to be project related all construction activities would have ceased until consultation with NMFS was complete.

Table 2. Levels of pinniped disturbance recorded during monitoring.

Disturbance Level	Response	Description
1	Alert	Head elevated facing disturbance source, changing posture from lying to sitting, erecting body in a rigid U-shape while craning head or neck.
2	Movement	Movements greater than two body lengths or shifting direction beyond 90 degrees.
3	Flush	Retreat or flush into water.

Monitoring Results

Construction began on July 11, 2023, and lasted until September 9, 2023. In total there were 36 days of monitoring with variable conditions (Table 3). There were no days where reduced visibility prevented monitoring from occurring. Daily high counts of pinnipeds varied over time (Table 4). The distribution of Northern elephant seals expanded north in 2023 where a second group overlapped with the harbor seal haul out (Figure 2). During this period there were a total of 289 level B harassment takes of harbor seals, 62 takes of Northern elephant seals, and 2 takes of California sea lions (Tables 5 & 6). The overall percentage of the populations affected include 0.009% of the harbor seal population and 0.000 % of the Northern elephant seal and California sea lion populations (Table 7). The greatest number of harbor seal takes were caused by vehicle approaches with 130 takes, followed by excavator noise with 104 takes, followed by jack hammering with 52 takes, PSO approach with 10 takes, and hammering with 3 takes (Figure 3). Noise generated from pressure washing was the leading cause of takes for Northern elephant seals with 47 takes (all of which were juveniles during one event), followed by excavator noise with 13 takes, and finally vehicle approach with 2 takes (Figure 4).

Disturbances varied with regards to distance. Distances were estimated afterwards using Google Earth and observer notes. In general, harbor seals were disturbed at distances between 90-240 meters from the construction site. For harbor seals at Punta Gorda, level B harassments (i.e., level 2 & 3 responses) were observed at 90-115 meters. Level 1 responses were recorded from 90-240 meters. On one occasion a PSO disturbed 2 harbor seals at 40 meters when approaching the Harbor Seal Point observation station causing a level 1 response. Along the beach access route, harbor seals were often observed on a cluster of offshore

rocks approximately 120 meters away from vehicles, where we observed all three behavioral responses depending on the day and the equipment that was passing by. For Northern elephant seals, distances in which behavioral responses were recorded varied between 75-125 meters. Level 2 & 3 responses were observed at 70-80 meters, where level 1 responses were observed at 50-125 meters. On one occasion the PSO approaching their CAN station caused a juvenile elephant seal to react with a level 1 response at 30 meters. Along the beach access on two occasions the dump truck disturbed a juvenile elephant seal at 30 meters causing both level 1 and level 2 behavioral responses. On two occasions, a California sea lion was observed and disturbed at 80 meters eliciting a level 1 response. California sea lions were also observed on Conical Rock, an offshore rock along the access route ~ 260 meters from the convoy on the beach. No disturbances were observed at this location.

On three separate occasions a total of 4 carcasses of pinnipeds were discovered throughout the duration of the project. On August 11, 2023, a dead California sea lion adult was observed along the access route to the PGL site, believed to be killed by a shark (Figure 5). On August 12, 2023, a dead harbor seal juvenile was observed upon arrival to beach below the construction site (Figure 6). The carcass was collected and transported to Cal Poly Humboldt Marine Mammal Lab for necropsy where it was believed to be killed by either shark or Orca. On August 23, 2023, a dead California sea lion was observed along the beach access < 1 mile away from the site (Figure 7), and a dead harbor seal was observed on the beach below the construction site (Figure 8). Both instances, the carcasses were too degraded to tell the cause of mortality. Upon discovery, all carcasses were documented, NMFS was consulted, and the Marine Mammal Stranding Network was notified. After investigation it was determined that all 4 mortalities were not project related. No observations of great white sharks or Orcas were observed. No unusual behaviors were observed.

Table 3. Daily weather conditions, estimated observable distances, tidal heights during observation periods, and start and end times at Punta Gorda.

Date	Start/End Times	Conditions	Obs. Distance	High Tide	Low Tide
7/11/2023	8:57/16:30	clear/windy	>1km	3.9	1.94
7/12/2023	8:20/14:20	clear	>1 km	3.85	2.49
7/17/2023	9:15/17:20	clear/windy	>1 km	4.56	3.15
7/18/2023	8:45/17:40	patchy fog	100-500m	4.64	-0.78
7/19/2023	8:28/17:50	partly cloudy/windy	500 m -1km	4.71	-0.62
7/20/2023	9:15/16:50	partly cloudy/windy	500 m -1km	4.79	-0.37
7/21/2023	8:25/16:50	clear/windy	> 1 km	4.88	-0.04
7/24/2023	8:03/17:40	clear/windy	> 1 km	5.29	1.36
7/25/2023	10:00/18:00	clear/windy	> 1 km	5.5	1.88
7/26/2023	8:10/15:50	overcast/windy	> 1 km	5.75	2.37
7/27/2023	8:00/11:00	overcast/windy	> 1 km	3.67	2.79
7/31/2023	8:40/16:30	overcast/windy	500 m -1km	4.73	3.04
8/1/2023	8:00/17:20	overcast/windy	> 1 km	5	2.75
8/2/2023	7:09/17:17	clear/windy	> 1 km	5.27	-1.59
8/8/2023	7:40/15:30	patchy fog	100 – 500m	4.19	2.21
8/9/2023	7:15/15:00	overcast/windy	> 1 km	3.93	2.79
8/10/2023	8:30/16:45	clear/windy	> 1 km	3.99	3.18
8/11/2023	8:08/17:00	foggy	50 – 100 m	4.19	3.37
8/12/2023	7:40/16:30	foggy/drizzle	50 – 100 m	4.38	3.36
8/14/2023	8:00/16:45	foggy	50 – 100 m	4.68	3.04
8/15/2023	6:30/16:50	foggy	50 – 100 m	4.81	2.84
8/16/2023	7:29/15:30	foggy then clear	500 m -1km	4.93	-0.26
8/17/2023	7:10/10:30	overcast/windy	> 1km	5.05	-0.08
8/21/2023	7:33/16:30	foggy/windy	50 – 100 m	5.48	1.54
8/22/2023	7:00/16:57	foggy	50 – 100 m	5.59	2.05
8/23/2023	7:10/16:00	overcast	500 m -1km	5.71	2.55
8/24/2023	8:20/11:00	clear	> 1km	5.85	2.99
8/28/2023	7:40/16:55	clear	> 1km	4.74	3.03
8/29/2023	8:05/17:00	clear/windy	> 1km	5.09	2.52
8/30/2023	7:35/17:30	clear/windy	> 1km	5.45	1.94
8/31/2023	7:50/11:30	clear	> 1km	5.8	1.37
9/5/2023	7:10/18:00	foggy then clear	50 -100 m	6.23	2.37
9/6/2023	7:35/18:20	foggy then clear	50 – 100 m	5.99	2.95
9/7/2023	7:39/17:45	clear	500 m -1km	4.07	3.36
9/8/2023	8:01/18:30	clear/windy	> 1 km	4.19	3.53
9/9/2023	7:55/13:20	clear/windy	> 1 km	4.39	3.47

Table 4. Daily high counts of pinnipeds from July 11, 2023, to September 9, 2023, at Punta Gorda.

Date	Harbor Seal		Northern Elephant Seal		California Sea Lion
	Total	Pups	Total	Adult Males	Total
7/11/2023	140	16	72	13	0
7/12/2023	176	2	71	34	0
7/17/2023	140	6	64	22	0
7/18/2023	147	6	62	41	0
7/19/2023	114	2	58	32	0
7/20/2023	136	0	59	42	0
7/21/2023	108	0	55	42	2
7/24/2023	119	10	50	38	0
7/25/2023	98	1	50	38	0
7/26/2023	133	0	48	43	0
7/27/2023	105	0	46	38	0
7/31/2023	106	1	40	39	0
8/1/2023	113	0	39	36	0
8/2/2023	108	0	42	34	0
8/8/2023	84	0	40	25	0
8/9/2023	108	0	38	30	1
8/10/2023	118	0	36	28	2
8/11/2023	86	0	38	28	0
8/12/2023	79	0	24	20	0
8/14/2023	79	0	41	22	0
8/15/2023	71	0	39	19	0
8/16/2023	62	0	40	22	0
8/17/2023	68	0	34	16	0
8/21/2023	45	0	47	19	0
8/22/2023	25	0	46	8	0
8/23/2023	57	0	59	7	0
8/24/2023	42	0	46	1	0
8/28/2023	32	0	61	0	0
8/29/2023	32	0	53	1	0
8/30/2023	27	0	59	0	0
8/31/2023	24	0	84	0	0
9/5/2023	29	0	113	0	1
9/6/2023	39	0	117	0	1
9/7/2023	29	0	101	0	0
9/8/2023	39	0	112	0	0
9/9/2023	35	0	111	0	0

Table 5. Total authorized take (level 2 & 3) versus actual take at Punta Gorda.

Species	Authorized Take	Actual Take
California Sea lion (<i>Zalophus californianus</i>)	73	2
Harbor seal (<i>Phoca vitulina richardii</i>)	9,218	289
Northern elephant seal (<i>Mirounga angustirostris</i>)	8,431	62
Steller sea lion (<i>Eumetopias jubatus</i>)	30	0

Table 6. Construction activities and daily number of disturbances for harbor seals and Northern elephant seals at Punta Gorda.

Date	HASE			ELSE			Construction Activities
	Level 1	Level 2	Level 3	Level 1	Level 2	Level 3	
7/11/2023	376	27	28	38	9	0	Material transport, excavating, fence construction
7/12/2023	76	2	10	1	0	0	Equipment and material transport
7/17/2023	20	3	43	0	0	0	Equipment and material transport
7/18/2023	17	0	4	10	0	0	Transport/fence construction/excavating
7/19/2023	49	0	0	2	0	0	Transport/fence construction
7/20/2023	94	0	0	0	0	0	Erect scaffolding
7/21/2023	13	0	0	0	0	0	Erect scaffolding
7/24/2023	75	9	19	1	0	0	Erect scaffolding/transport materials
7/25/2023	34	0	10	0	0	0	Erect scaffolding/transport materials
7/26/2023	87	4	7	0	0	0	Transport materials
7/27/2023	47	0	0	6	0	0	Framing
7/31/2023	106	11	30	5	0	0	Demolition of roof and foundation
8/1/2023	41	0	18	0	0	0	Transport materials cutting rebar
8/2/2023	67	5	0	0	0	0	Transport materials/framing
8/8/2023	88	2	14	1	0	0	Excavating/ framing
8/9/2023	37	0	0	1	1	0	Formwork
8/10/2023	41	0	0	0	0	0	Formwork
8/11/2023	4	0	0	0	0	0	Formwork
8/12/2023	0	0	0	0	0	0	Formwork
8/14/2023	134	10	7	8	0	0	Formwork/ transport materials
8/15/2023	49	1	3	5	0	0	Pour cement
8/16/2023	49	0	0	2	0	0	Pour cement
8/17/2023	51	1	0	7	0	0	Pour cement/formwork
8/21/2023	38	2	0	1	0	0	Pour cement
8/22/2023	59	0	0	12	0	0	Pour cement
8/23/2023	14	0	0	7	2	0	Drilling and hammering/transport materials
8/24/2023	57	0	12	8	0	0	Clean up/material transport
8/28/2023	29	0	0	18	0	3	Clean up/material transport
8/29/2023	17	1	1	10	0	0	Pour cement/transport materials
8/30/2023	17	0	0	5	0	0	Disassemble forms
8/31/2023	16	0	0	9	0	0	Disassemble forms/framing
9/5/2023	7	0	0	54	45	2	Pressure washing/plastering
9/6/2023	28	0	0	54	0	0	Equipment and material transport
9/7/2023	0	0	0	0	0	0	Clean up/fence deconstruction
9/8/2023	14	0	0	21	0	0	Patch cement/ deconstruct scaffolding
9/9/2023	10	5	0	25	0	0	Grading/material transport/clean up
TOTAL	1861	83	206	311	57	5	

Table 7. Daily observations of disturbances for California sea lions at Punta Gorda.

Date	California sea lion			Daily Construction Activities
	Level 1	Level 2	Level 3	
9/5/2023	0	0	1	Pressure washing/plastering
9/6/2023	0	1	0	Equipment and material transport
TOTAL	0	1	1	

Table 8. Percentage of population affected by takes (level 2 & 3) incidental to Punta Gorda oil house construction activities.

Species	Abundance (Carretta et al. 2023)	# Takes	% Population Affected
Harbor seal	30,968	289	0.009
Northern elephant seal	187,386	62	0.000
California sea lion	257,606	2	0.000

Discussion

Overall, the amount of disturbance to pinnipeds was far less than anticipated, with most of the takes coming from harbor seals. Disturbance events were often more prevalent during the start of the day as seals began to habituate to many construction activities as the day progressed. Initial UTV approaches to the project site caused multiple disturbances to harbor seals, primarily in the level 1 category, however these disturbances decreased over time as seals habituated to presence of UTVs. As previously reported in Phase 1, harbor seals that were hauled out on the beach tended to react more than those resting upon rocks offshore. Vehicle approaches from the excavator and dump truck had a greater impact on the harbor seals because of the volume and visibility of the equipment. The Northern elephant seals were less reactive to the sight of larger equipment. The noisiest activities included hammering, jack hammering, excavation, and pressure washing. These activities had the greatest impact on both harbor seals and Northern elephant seals, where the largest disturbance event to elephant seals occurred from the sound of pressure washing, where 45 juveniles fled into the water. California sea lions were observed primarily on the offshore rocks along the access route; however, they were not responsive. On three occasions California sea lions were observed near the project area with only two takes occurring.

Mitigation measures were implemented to reduce the number of takes. Limiting the project window from June 1st – October 1st, when numbers of pinnipeds were the lowest, was one of the more crucial measures the BLM took with this project. This period began just as harbor seal pupping season was ending and just before many of the elephant seals returned. Coincidentally, the contractors postponed their start date until July 11. The proposed timing and delay in start date, allowed the project to avoid crucial life cycle periods such as mating and pupping. Additional measures included erecting an exclusionary fence around the project footprint to keep seals out of the construction area, maintaining at least 20 meters from all seals, and limiting the number of trips to and from the site.

The overall distribution of Northern elephant seals along the beach at the Punta Gorda lighthouse and oil house expanded towards the north in 2023 (Figure 2). This expansion was not related to construction activities as the change in distribution occurred prior to the start of the project.

Figures

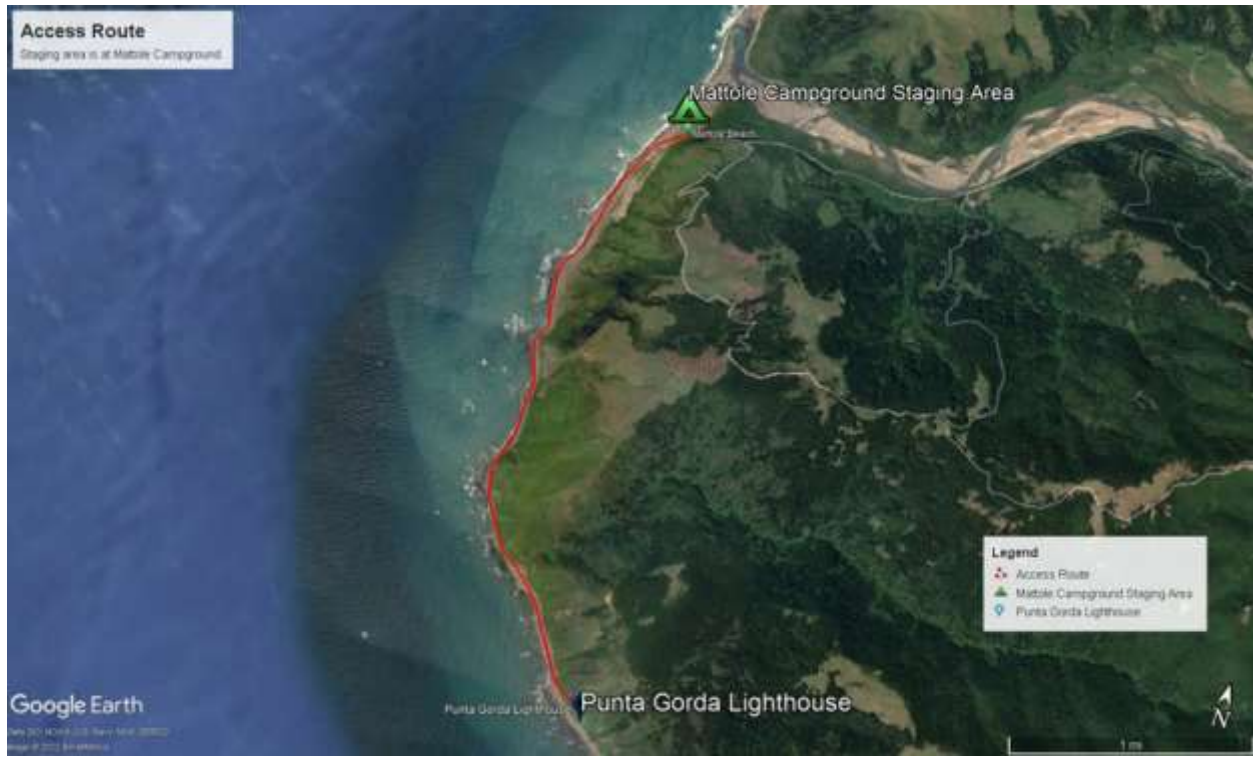


Figure 1. Beach access route from Mattole Campground Staging Area to Punta Gorda lighthouse and oil house.



Figure 2. Overview of Punta Gorda oil house project area in relation to Northern elephant seal and harbor seal haul outs with designated PSO observation stations (HSP and CAN) and the exclusion fence indicated in red.

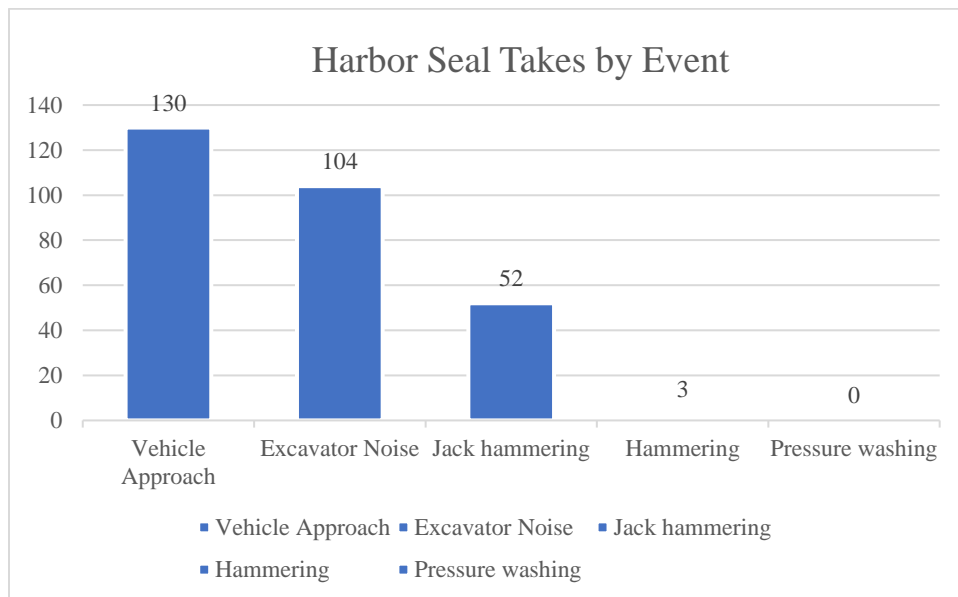


Figure 3. Comparison of the number of harbor seal takes (level 2 & 3) by event at Punta Gorda.

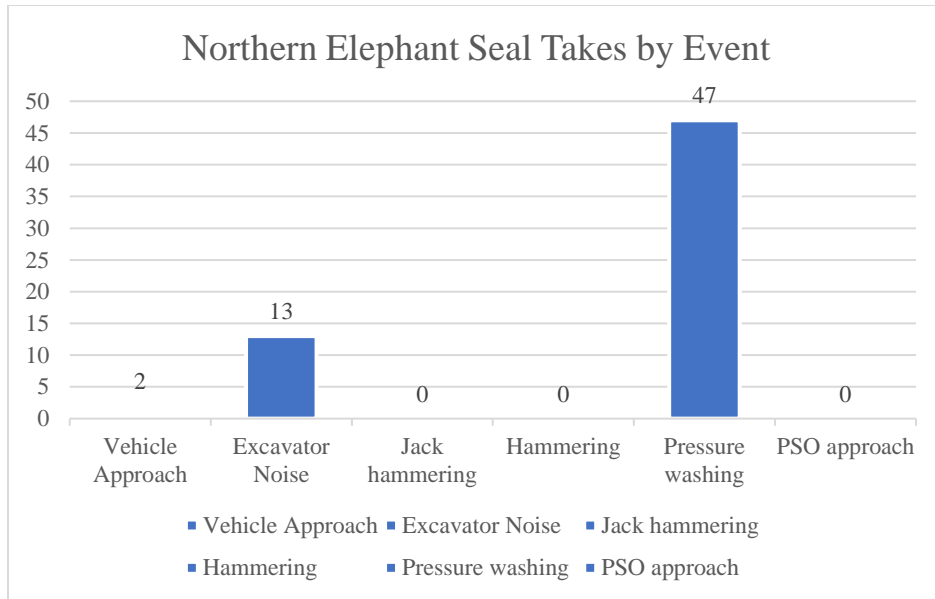


Figure 4. Comparison of the number of Northern elephant seal takes (level 2 & 3) by event at Punta Gorda.



Figure 5. Adult California sea lion carcass observed on August 11, 2023, near Punta Gorda Project site.



Figure 6. Juvenile harbor seal carcass observed on August 12, 2023, near Punta Gorda Project site.



Figure 7. Adult California sea lion carcass observed on August 23, 2023, approximately 1 mile North of Punta Gorda Project site.



Figure 8. Adult harbor seal carcass observed on August 23, 2023, near Punta Gorda Project site.

References

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