Punta Gorda Lighthouse Stabilization Project (Phase 2)
Incidental Harassment Authorization Permit Application

Submitted By:

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To:

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October 2022

Contents

Background and Setting

The Punta Gorda Lighthouse (a.k.a. PGL, 40.249435°, -124.350223°) was established as an aid to navigation in 1912. Located 10 km SW of Petrolia, CA (40.325021°, -124.286589°) and 17.7 km south of Cape Mendocino, PGL experienced a relatively short service life when it was decommissioned by the U.S. Coast Guard in 1951. The PGL once consisted of the lighthouse, oil house, three residences, and numerous other small buildings typical of small military outposts. An overview map is included in Appendix A.

The Bureau of Land Management (BLM) assumed management of the site after the Coast Guard abandoned the site in 1951. The windy ocean environment quickly took a toll on the wooden structures which the BLM later intentionally burned down. After years of problematic squatters and falling further behind on upkeep, the agency decided they would not be able to maintain the structures. The concrete lighthouse and oil house were all that remained by the time the site was listed in the National Registry of Historic Places in 1976. The King Range was the first National Conservation Area in the United States and most of the King Range National Conservation Area (King Range NCA) was designated as Federal wilderness in 2006 including the project location.

The Lost Coast Trail follows the coast and passes by PGL, connecting the Mattole Campground (40.289062°, -124.356455°) at the mouth of the Mattole River to Shelter Cover, CA (40.045051°, -124.079254°) approximately 39.5 trail km south. The Lost Coast is the longest stretch of undeveloped coastline in California and attracts a steady stream of hikers from all over the world. The permit system limits overnight hikers to 30 new hikers per day in the winter and 60 new hikers per day in the summer.

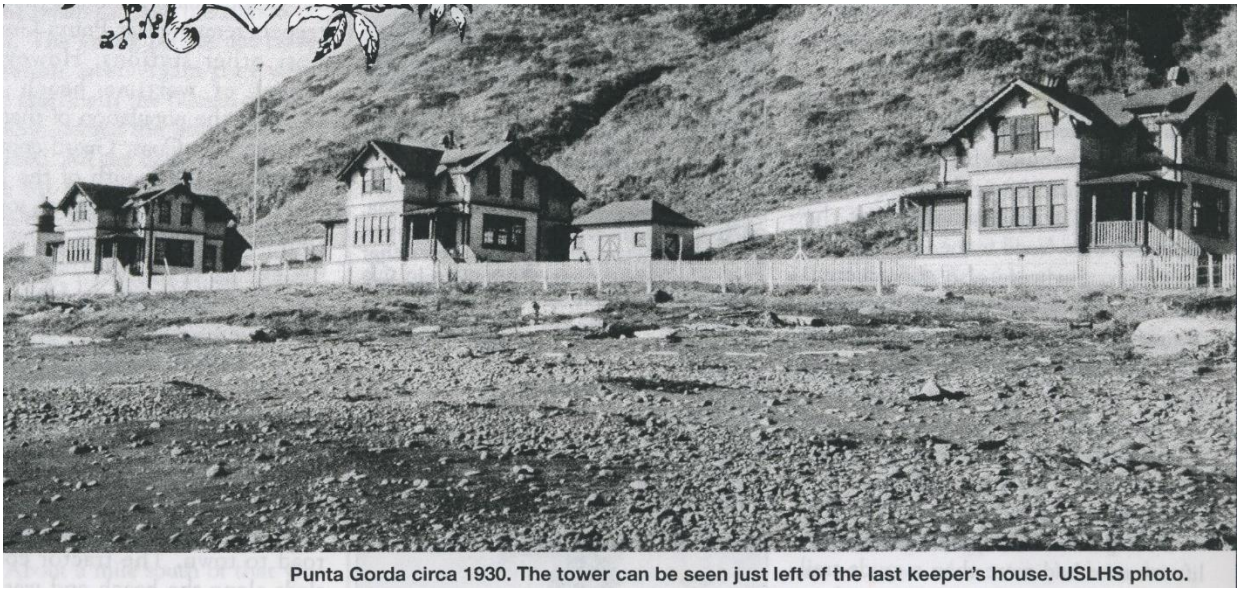

Figure 1. The Punta Gorda Lighthouse during the operational period. The three houses provided the lighthouse keepers, their families, and military personnel shelter from the frequent harsh winds and rain. The lighthouse and oil house are the only buildings still standing. Notice the rocky shore in front of the residences. The rocky area in the foreground is currently covered with sand.

Marine Mammals at the Project Location

Northern elephant seals (*Mirounga angustirostris*) colonized the sight in 2013 and 2014 with individuals from other colonies in California and the colony has grown rapidly. Approximately 165 elephant seal pups were born during the 2020-2021 breeding season, up from 110 the previous year. The highest attendance counted during the 2021 spring molt totaled approximately 700 individuals. Most of the elephant seals are found hauled out on the beach between the intertidal zone and the narrow marine terrace. The elephant seals sometimes make their way on to the marine terrace while hauled out. During breeding season males without harems can be found on the terrace. The oil house sits upon a small hill above the marine terrace providing a buffer of 80 meters from the closest elephant seals haul out location. Occasionally, elephant seals will make there way up to the trail within 65 meters of the oil house. Table 1 provides the census data collected during surveys from June 22 – September 1, 2022. The lighthouse repairs were originally scheduled for 2021, the proposed construction window was pushed back and phase one was completed on September 1, 2022. Phase 2, the oil house, will be implemented in June 2023.

Table 1. Northern elephant seal census data collected over four years from 2019-2022 at Punta Gorda.

2019 Dates	Count	2020 Dates	Count	2021 Dates	Count	2022 Dates	Count
6/8/2019	101	6/4/2020	177	6/10/2021	199	6/22/2022	39
6/15/2019	74	6/11/2019	83	6/29/2021	59	6/23/2022	53
6/23/2019	34	6/14/2020	80	7/10/2021	48	6/24/2022	34
7/7/2019	40	6/24/2020	37	7/26/2021	34	6/25/2022	50
7/14/2019	50	6/27/2020	38	8/7/2021	30	6/27/2022	38
7/21/2019	54	7/4/2020	36	8/22/2021	42	6/28/2022	61
8/3/2019	39	7/12/2020	39	9/2/2021	106	6/29/2022	54
8/21/2019	44	7/16/2020	38	9/16/2021	135	6/30/2022	56
8/31/2019	62	7/24/2020	36			7/1/2022	52
9/15/2019	162	7/30/2020	38			7/5/2022	48
9/27/2019	244	8/6/2020	32			7/6/2022	51
		8/9/2020	28			7/7/2022	34
		8/13/2020	28			7/8/2022	33
		8/20/2020	27			7/9/2022	56
		8/27/2020	33			7/11/2022	28
		8/30/2020	48			7/12/2022	37
		9/5/2020	60			7/13/2022	38
		9/19/2020	133			7/14/2022	34
		9/27/2020	177			7/15/2022	37
						7/16/2022	30
						7/18/2022	29
						7/19/2022	30
						7/20/2022	25
						7/21/2022	27
						7/22/2022	32

						7/23/2022	31
						7/25/2022	29
						7/26/2022	33
						7/27/2022	30
						7/28/2022	29
						7/29/2022	33
						8/1/2022	31
						8/2/2022	28
						8/4/2022	32
						8/5/2022	28
						8/6/2022	29
						8/8/2022	26
						8/9/2022	27
						8/10/2022	28
						8/11/2022	32
						8/12/2022	38
						8/15/2022	34
						8/16/2022	40
						8/17/2022	42
						8/18/2022	44
						8/19/2022	42
						8/20/2022	39
						8/22/2022	40
						8/23/2022	48
						8/24/2022	48
						8/25/2022	54
						8/26/2022	51
						8/27/2022	54
						8/29/2022	65
						8/30/2022	57
						8/31/2022	46
						9/1/2022	60
AVG	82.18	AVG	61.47	AVG	81.62	AVG	39.54
						Total AVG	52.27

The lowest elephant seal attendance of the year occurs in July and August. The June surveys had a higher number of animals as the spring molt is winding down. Juveniles and non-breeding females start to appear in September before the pregnant females begin arriving in mid-October. Figures 2 and 3 are maps of the elephant seal colony location.

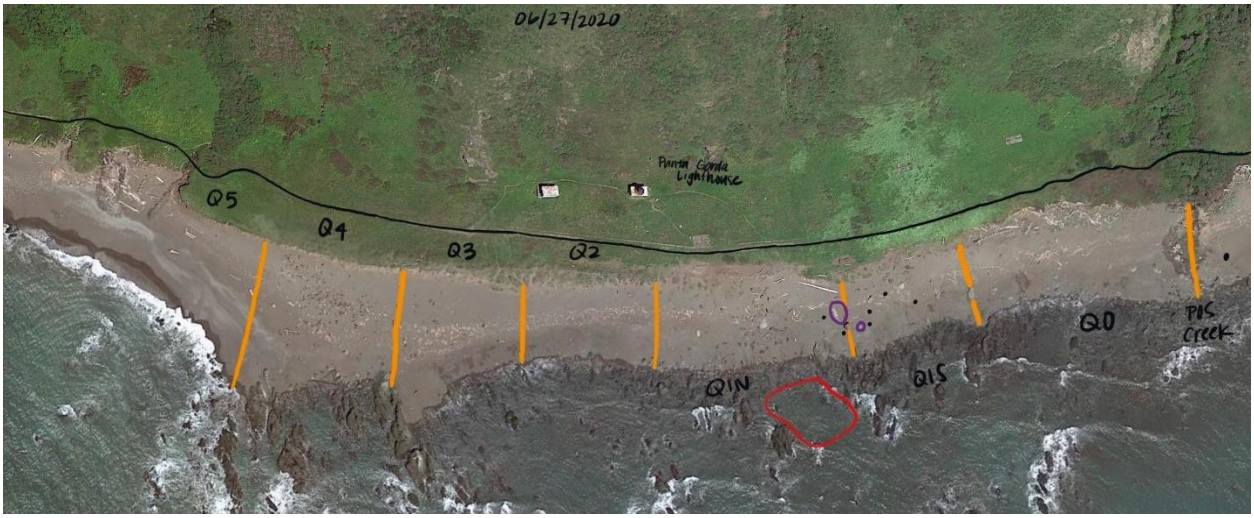

Figure 2. Northern elephant seal distribution observed on a survey June 27, 2020. The purple polygon represents the densest cluster of animals. The red polygon represented a scattered distribution. The largest purple polygon is 95 meters from the Punta Gorda Lighthouse.

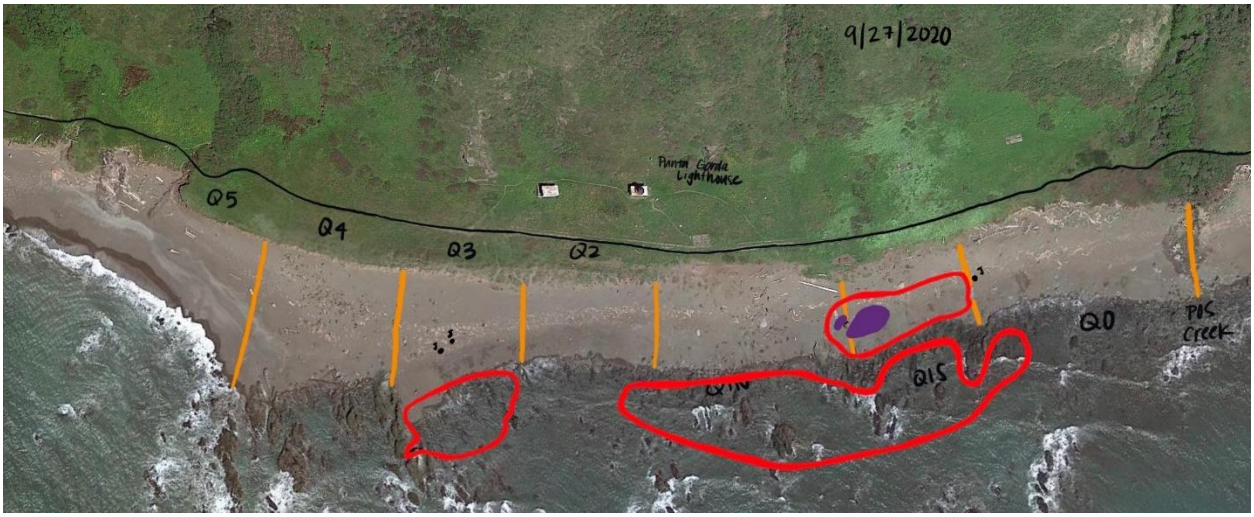

Figure 3. Northern elephant seal distribution observed on a survey September 27, 2020. The purple polygon represents the densest cluster of animals. The red polygon represented a scattered distribution. The closest purple polygon is 105 meters from the Punta Gorda Lighthouse. (Goley et al. 2021)

Harbor seals (*Phoca vitulina*) routinely haul on the beach near the intertidal zone and on the adjacent rocks. The main colony is 120 meters from the oil house, the closest part of the stabilization project. There are two nearby harbor seal haul out sites, Sea Lion Gulch (2.5 km south; 40.239086°,

-124.333926°) and the Mattole River Spit (6 km north; 40.298898°, -124.354946°). Harbor seal census data from the 2022 construction season are presented in Table 2.

Table 2. Punta Gorda harbor seal census data from Phase 1 construction window of June-September 2022.

2019 Dates	Count	2020 Dates	Count	2021 Dates	Count	2022 Dates	Count
6/8/2019	51	6/14/2020	55	6/29/2021	109	6/22/2022	42
6/15/2019	107	6/27/2020	77	7/10/2021	128	6/23/2022	50
6/23/2019	81	7/12/2020	90	7/26/2021	104	6/24/2022	117
7/7/2019	116	7/24/2020	123	8/7/2021	103	6/25/2022	110
7/14/2019	180	8/9/2020	73	8/22/2021	68	6/27/2022	150
7/21/2019	123	8/30/2020	36			6/28/2022	126
8/3/2019	105	9/5/2020	38			6/29/2022	132
8/21/2019	80	9/19/2020	51			6/30/2022	169
8/31/2019	22	9/27/2020	53			7/1/2022	137
9/15/2019	22					7/5/2022	156
9/27/2019	28					7/6/2022	142
						7/8/2022	121
						7/9/2022	141
						7/11/2022	106
						7/12/2022	139
						7/13/2022	156
						7/14/2022	190
						7/15/2022	134
						7/16/2022	136
						7/18/2022	114
						7/19/2022	108
						7/20/2022	122
						7/21/2022	99
						7/22/2022	109
						7/23/2022	109
						7/25/2022	115
						7/26/2022	93
						7/27/2022	58
						7/28/2022	91
						7/29/2022	73
						8/1/2022	82
						8/2/2022	76
						8/4/2022	77
						8/5/2022	105
						8/6/2022	72
						8/8/2022	71
						8/9/2022	55
						8/10/2022	48
						8/11/2022	41
						8/12/2022	56

						8/15/2022	46
						8/16/2022	56
						8/17/2022	61
						8/18/2022	50
						8/19/2022	64
						8/20/2022	56
						8/22/2022	57
						8/23/2022	58
						8/24/2022	60
						8/25/2022	59
						8/26/2022	48
						8/27/2022	38
						8/29/2022	37
						8/30/2022	51
						8/31/2022	49
						9/1/2022	41
AVG	83.18	AVG	66.22	AVG	102.4	AVG	90.34
						Total AVG	87.46

California sea lions (*Zalophus californica*) are observed traveling in the coastal waters and hauled out at on offshore rocks near the access route. They were infrequently observed in the waters near the proposed project area (Table 3). Steller sea lions (*Eumatopias jubata*) are also observed in the water near Punta Gorda and hauled out on offshore rocks near Sea Lion Gulch. A single Steller sea lion was observed on one occasion at PGL.

Table 3. California sea lion and Steller's sea lion 2022 census data at Punta Gorda.

Date	California sea lion	Steller sea lion
7/12/2022	0	1
8/5/2022	2	0
8/9/2022	10	0
8/10/2022	7	0
8/16/2022	3	0
8/22/2022	7	0
8/23/2022	6	0
8/30/2022	1	0
AVG	4.5	0.12

Construction Activities

During the summer of 2022 the BLM restored the PGL during phase one. The oil house repair was the final phase of this project and is slated for summer of 2023. The foundation and walls of the oil house are cracked and separated with lead-based paint deteriorating. A portion of the marine terrace east of the Lost

Coast Trail north would be designated and fenced for support of construction activities: parking vehicles, storing tools and materials, fuel storage and containment etc.

Correcting the deficiencies in the building will require several separate operations. The first stage will consist of lead paint remediation and demolition of the failing concrete and re-bar followed by treating the remaining structure to prevent further corrosion. The roof of the oil house will be completely demolished along with the northwestern corner of the oil house foundation. Numerous other small concrete repairs will also occur simultaneously. The demolition will use gas powered construction saws, various jack hammers, heavy equipment (likely a backhoe or small excavator), saws, and hand tools. Materials created during the demolition have been proposed for disposal by on site burial, however that detail is not finalized. The alternatives to burial include transport to waste facilities by ground vehicles and/or helicopter lifts.

Once the concrete demolition is complete, concrete forms will be erected and new concrete poured in place. The new concrete will include corrosion inhibitors and will be formed to mimic the visual characteristics of the existing structures. To further protect against corrosion, a sealing elastomeric (or similar product) paint will be applied once the new concrete has thoroughly dried.

Figure 4. The condition of the oil house at Punta Gorda during a site visit in August 2016.

The public is only allowed to the access the site on foot. Due to the substantial construction activities vehicles will be used to complete the project. Vehicle use for the stabilization project was analyzed in the 2005 King Range National Conservation Area Resource Management Plan. There was no elephant seal colony present when the King Range Conservation Area Management plan was drafted and adopted. The vehicles will include all-terrain vehicles (ATVs), Side by Side ATVs (UTVs), helicopters, and possibly

heavy equipment. Helicopters would be used to transport supplies much faster than ground transportation would allow, reducing the duration of disturbance. We do not expect helicopters to land at the site. Helicopters will hover 50-100 feet above ground for a short duration (up to five minutes) while the sling load is disconnected. If helicopters are used to transport materials there will be a maximum of 10 days of helicopter use with 2-4 trips per day lasting 5-10 minutes per trip for the entire project. It is unknown whether helicopters will be less disturbing than ground transport.

Vehicle access to the site is from the north from the trailhead at the Mattole Campground. The route from the Mattole Campground Trailhead requires traveling across sand and can be limited by high tides. Federally endangered beach layia (*Layia carnosa*) and Menzies' wallflower (*Erysimum menziesii*) both can be found along the beach route limiting the time of year the route would be available. Use of the beach route may require consultation with US Fish and Wildlife Service due to potential impacts on the endangered plants.

Dates, Duration and Specified Areas

Elephant seals and harbor seals can be found at the site all year. The previous phase of the project, repairing the lighthouse was permitted using census data researchers at Humboldt State University have been collecting since 2018. This data has allowed us to identify the time of year the project will have the least impact. The BLM proposes a work period of June 1-October 1, 2023. June through September is when the elephant seal population is lowest and the harbor seal pups are older and less susceptible to abandonment by their mother. We anticipate that the work will be completed in one season.

We expect the work crew to work 8-10 hours per day, Monday-Friday. However, weekend work may be necessary intermittently to meet work schedule objectives. An area will be fenced to store and secure supplies and equipment. The area designated for storage will be east of the Lost Coast Trail where the seals have not been observed (365106e, 4456365n UTM Zone 10N). A sight plan is included in Appendix A.

Maximum anticipated noise levels are expected to reach 140 dbl. The maximum sustained dbl levels will occur occasionally for unknown durations with 90 dbl more typical. There will be no noise generated in the water so we expect no impacts to at sea marine mammals from ultrasonic noise.

Affected Species and Distribution

Four marine mammal species can be found at the project site throughout the year, northern elephant seals, harbor seals, California sea lions, and Steller sea lions. Primarily, there are only northern elephant seals and harbor seals, with sea lions occurring only infrequently. A northern fur seal (*Callorhinus ursinus*) carcass was recovered from a site approximately 10km south of the project area in 2017, but no live animals have been observed in the area. Northern river otters (*Lontra canadensis*) occupy the Mattole River to the northern and larger creeks to the south such as Randle Creek. River otters have been observed around Four Mile Creek and observed in the waters near the site. The focus will be on the two primary species, northern elephant seals and harbor seals, affected by the PGL Stabilization Project and two species (California sea lions and Steller sea lions) known to occur nearby.

Northern elephant seals use the beach year around for pupping, breeding, molting, and resting. The colony has expanded to 165 pups in 2020/2021 breeding season. Conditions at the site are ideal with pools in the intertidal zone leading to sandy, moderately sloped fine-sanded beaches. Although the colony has expanded rapidly, there is ample space for continued growth.

Northern elephant seals were nearly extinct in 1970. Ranging from Baja, Mexico to southeast Alaska and the Aleutian Islands, they have recovered rapidly and the California population was estimated at 187,386 by NOAA in 2021. The peak counts recorded at the Punta Gorda colony included around 600 individuals during the 2020 pupping season. However, since not all of the animals arrive and depart at the same time the actual colony numbers are higher, possibly up to 1,500 animals who use the site throughout the year. Cal Poly Humboldt is currently analyzing their re-sight data and expects to have an estimated population using mark-recapture techniques. In any case, the Punta Gorda colony represents less than one percent of the total northern elephant seal population.

California, Oregon and Washington are estimated to have a minimum of 43,513 harbor seals inhabiting the intertidal areas of the coastline, offshore rocks and islands, and coastal sloughs and estuaries. The population is down from the peak in 2004 but appears stable (NOAA 2015). The highest number of harbor seals observed at Punta Gorda is 180 individuals. Adding a correction factor of 1.2 for animals that were not present during the surveys gives a crude population estimate of 216 animals or, 0.005 percent of the West Coast population.

Harbor seals can be found in coastal waters from southern California to the farthest reaches of the Aleutian Islands. They are not known to migrate but may travel up to 500 km foraging and looking for breeding sites (NOAA 2019).

California sea lions range from the West Coast of Mexico and Baja California north to British Columbia. NOAA estimated a minimum 2014 population size at over 233,000 animals and Lowry et al. (2014) estimated the population at 257,606 individuals. The California sea lion population has continued to grow at an average rate of 7% per year and is nearing the estimated carrying capacity.

The eastern distinct population segment population of Steller sea lions was recently delisted as a species protected by the Endangered Species Act (NOAA 2013) as the population had met the recovery criteria. Ranging from Cape Suckling, Alaska to central California, the 2017 eastern stock population of adults and pups was estimated at over 77,000 individuals in 2017 (NOAA 2019) and the population is increasing at an estimated rate of 3-4 percent per year.

Table 3. Summary of the current stock status of marine mammals found at or near the PGL Stabilization Project.

Common Name	Stock	ESA/MMPA Status	Known Spatially/Temporally Important Areas	Stock Abundance	PBR	Annual M/SI	Stock Status Factors (UMEs, spills, etc.)
N. Elephant Seals	1,500	none/protected	California Coast	187,386 (CA)	4,882	13	fishing
Harbor Seals	270	none/protected	West Coast	30,968	1,641	73	fishing, human caused pup abandonment
California Sea Lion	0	none/protected	Southern CA, Baja	257,606	14.011	518	fishing, shooting
Steller Sea Lion	0	none/protected	se AK to Cen Cal	77,149	2,592	112	fishing, ship strikes, shooting, subsistence

Type of Incidental Take

We do not anticipate any direct physical harm resulting from the stabilization project. We do anticipate harassment resulting from the visual and audio disturbance during the project. Northern elephant seals have been shown to acclimate to human activities relatively well compared to harbor seals. The disturbance level required to flush harbor seals into the water is very low. Harbor seals utilize a pack

vigilance where at any given moment some of the individuals are wary of predators such as humans. Harbor seals detect humans from a several hundred meters away and will flush if approached within 50-75 meters. Elephant seals expend no effort on predator searching while on land outside of the pupping season. They tend to spend most of the day sleeping and are quite easily approached without disturbance. They will do a defensive display once they realize a person is too close.

We believe the PGL Stabilization Project will result in Level 1 and 2 harassment on a frequent basis and likely Level 3 harassment during initial stages of construction, helicopter operations, and certain construction activities. There will be no intentional harm or harassment of the animals and we do not expect direct injury resulting from completion of the project. The most likely risk to harbor seals is workers causing them to panic flush into the water or causing pup abandonment. We believe harbor seal pups will be old enough to travel with their mother during a flushing event and the probability of abandonment is low.

Take Estimates

The activities required to complete the project are likely to cause Level 1, 2, and 3 harassment to seals located at the project site. Noise from machinery, tools, vehicles, helicopters, and the presence of personnel will alarm many of the seals and sea lions present during those construction activities. Construction personnel will access the site via UTVs or ATVs.

The previous phase of this project has provided us with census data from the proposed work window so we can make an accurate but conservative estimate of take likely to occur as a result of the project. A large portion of the elephant seals are uniquely tagged and dye stamped to identify individuals enabling us to verify the seals at the site are the same individuals. The scheduled work window will be after the 2023 spring molt when the of elephant seals attendance at the colony at one time may reach up to 1,500 animals. The colony attendance declines rapidly after the May peak. The lowest colony attendance occurs during the summer and early fall when we have scheduled the work to take place.

We anticipate the majority of harassment will be repeated on the same individuals although there is turn over throughout the season as animals arrive and depart at different times. To arrive at our take estimate of elephant seals we used the total daily average from four years of surveys multiplied by the number of days in the work window. Our Formula is the following: 52.3 animals per day X 122 day work window = 6,381 harassment incidents. We anticipate the actual harassment total will be substantially lower but we believe our estimate is a maximum if all the animals present are harassed on a daily basis. There will days with little or no harassment but we are unable to foresee the precise schedule of the project and what the actual colony attendance will be during the project. The contract has not been awarded at this time and the final methodology will depend on the contractors selected.

We expect the harbor seals to be highly sensitive to the PGL Stabilization Project. The presence of vehicles, workers and the construction noise will likely cause harbor seals hauled out on the beach and nearby rocks to flush into the water several times per week when the work is taking place. We believe that the harbor seal colony is largely made up of the same individuals who move between Punta Gorda and the other nearby haul out sites but we do not have a tagging program uniquely identifying individuals. It is also likely that after several repeated flushing events some harbor seals may temporarily abandon the site. Furthermore, it is also expected that harbor seals will habituate to the presence of construction workers and equipment as time progresses. The Punta Gorda harbor seal population appears to be stable but variable from year to year. We arrived at out harassment estimate of 10,675 animals using the following formula: 87.5 avg animals X 122 workdays = 10,675 level B takes..

Similar to the elephant seals, we expect the actual harassment of harbor seals to be much lower than our projection as there will likely be numerous days where most or all of the harbor seals will not be disturbed or will be absent from their resting location.

California and Steller sea lion infrequently show up in the project area and are observed in the waters near the project site. Should it be necessary to access the project via the Mattole beach access route it is possible that a sea lion could be encountered. We request an additional 25 level B takes to include a total take of up to 30 individuals of each species for this phase since we encountered more sea lions than expected along the access route during phase 1.

Table 4. Annual take estimates relative to stock abundance.

Species	**Level B Takes**	**Stock Abundance**	**% of Stock (take / abundance * 100)**
N. Elephant Seals	6,381	187,386	3.4 %
Harbor Seals	10,675	30,968	34.5 %
CA. Sea Lions	30	257606	<0.01 %
Steller Sea Lions	30	77,149	<0.01 %

Anticipated Impact of the Activity

The noise, vehicles, and activity of the project may cause elephant seals on the marine terrace to move away from the construction and relocate to the beach. Our observations during the same period in 2019 and 2020 indicate there will be few individuals on the marine terrace when the construction is taking place. Elephant seals hauled out at this time of year are not as sensitive to disturbance as those that are hauled out during the breeding season. It is likely that disturbance will occur only when the highest level of noise activity is taking place such as helicopter supply drops, demolition with jack hammers, or drilling into the concrete, etc. Regular daily construction activities (forming and pouring concrete, painting, etc.), and transportation will probably have limited impacts on the elephant seals hauled out on the beach.

Harbor seals at Punta Gorda were initially not habituated to human activity such as vehicles and construction. The project area is located on a remote stretch of coastline where vehicles are not allowed. Hikers are usually the only human interaction these harbor seals have while on land. The noise, vehicles, and daily activity will cause the harbor seals to flush into the water on many occasions. At a minimum, the workers at the site will cause the harbor seals to be vigilant until the workers leave for the day. As observed during Phase 1 of the project, we anticipate that harbor seals will somewhat habituate to the presence of personnel and equipment. Helicopter drops and demolition of the oil house will likely cause the greatest levels of disturbance where we anticipate flushing events to occur. We suspect that the harbor seals may temporarily relocate to nearby haul out sites until construction activity at Punta Gorda is completed.

To quantify the noise disturbance noise levels of the types of equipment proposed for use is provided in Table 5. The readings are measured in close proximity to the equipment and the noise level is reduced by approximately 20 decibels for every 10 meters. Noise levels at the harbor seal locations will be reduced but probably still high enough to cause them to escape into the water on some days.

Table 5. Decibel levels from the equipment needed for the PGL Stabilization Project.

Equipment Type	Max Decibel Level
Helicopter	98
Pick Up	84
UTV	77
Backhoe	78
Mini Excavator	81
Jack Hammer	120
Concrete Saw	102
Air Compressor	78
Generator	81
Concrete Mixer	79
Needle Gun	112
Drill	94
Sand Blaster	122
Hammer	140

Data from www.fhwa.dot.gov and
www.hearing.health.mil

Anticipated Impact on Subsistence Uses

Elephant seals rarely haul out in Alaska where subsistence hunting is permitted for native peoples. It appears little or no subsistence hunting occurs targeting northern elephant seals. We do not anticipate physical harm to any elephant seal as a result of the PGL Stabilization Project. Harbor seals from the project area are not known to travel to Alaska therefore there are no relevant subsistence uses of marine mammals implicated by this action.

Anticipated Impacts on Habitat

There will be no impacts to the marine environment other than noise transmission from the construction zone. We do not expect to release any materials into the sea. The only place where a release of chemicals has the potential to occur is during the crossing at Four Mile Creek. It may be necessary to bring a fuel storage tank to power generators and heavy equipment. Fuel will be stored behind fencing upland of the beach and the fuel tank will have a secondary containment system in place. In order to minimize the potential for a spill into Four Mile Creek we will attempt to cross the creek as quickly as possible and inspect equipment prior to attempting the crossing. Flows in Four Mile Creek are low during the proposed work window and the crossings should be successful.

During the stabilization project a fence will be erected that will exclude a portion of the marine terrace from use by the elephant seals. The fenced area is usually unoccupied during the construction window so we expect few animals will be displaced from the project area.

Anticipated Effects of Habitat Impacts

Since the elephant seals and harbor seals do not use the terrestrial vegetation for any purpose, the bare soil is unlikely to impact their use of the area. The visual and auditory disturbance will pervade the marine terrace, beach, and intertidal zone at times during the construction project. It will cause the terrestrial habitat the elephant seals and harbor seals to temporarily become unsuitable and they may leave the area.

Mitigation Measures to Protect Marine Mammals and Impacts

The BLM has partnered with Cal Poly Humboldt University to conduct a demographic study of the elephant seals at Punta Gorda. Partners at Cal Poly Humboldt have been making multiple visits to the site every month taking a census, mapping the harems, marking the individuals, tracking productivity etc. Their data has been invaluable in designing mitigation measures to reduce the impacts of the stabilization project on the marine mammals found at Punta Gorda.

The most important step to our mitigation plan is identifying the work window when the elephant seal population is at the lowest number and the harbor seal pups that may be on the site are old enough to be self-sufficient should the colony be flushed into the water. There will be no elephant seal pups or weanlings present when the construction is underway.

We are working with our engineers to complete the project as efficiently as possible with a minimum of disturbance to the seals. Unfortunately, there is no way to complete the project without vehicles, personnel, and noises typical of this kind of work. The access is across a beach route from Mattole Campground requires driving on the beach or marine terrace for 5 km where intertidal rocks that may occasionally be used by very small numbers of harbor seals to haul out. Harbor seals encountered while driving this route may be flushed into the water.

A fence will be erected to exclude elephant seals from entering the construction area to prevent accidental injury from vehicles and debris. Protected Species Observers (PSOs) will be present to ensure there are no seals on the vehicle access route. Most locations on the route of travel will have enough room for vehicles to maneuver around the animal. If a pinniped is encountered along the route and a vehicle is unable to maneuver around it, a trained PSO will safely approach the animal to encourage it to flush. We are developing a protocol to limit the daily number of vehicle trips from the project area to the contractor's off-site camp where the additional tools and supplies will be stored in trailers or storage containers. Contractors will be expected to bring all necessary materials for the day to the site to be stored in the least amount of trips possible. We are factoring remote site experience in the contractor selection criteria to help us evaluate the contractor's ability to work in an area with sensitive resources and no supply stores available. The nearest available supplies to the project area are located in Fortuna, CA, an approximately 1.5 hour drive each way. We expect the contractors to have all the materials needed for each day with them when they arrive to start work in the morning. We realize that it is not possible to foresee all of the needed tools and supplies but repeated round trips everyday are not acceptable.

The BLM is encouraging the use of helicopters to deliver the tools, supplies, and storage containers. While helicopter use is a high intensity disturbance event we feel the benefits outweigh the costs. By staging the supplies nearby at Windy Point the helicopter will have a short turnaround time and could possibly deliver everything to the site in one or two days, but no more than 10 days total. The overall disturbance from the helicopter is anticipated to be less then delivering all equipment and materials via ground vehicles.

The BLM will have PSOs onsite to observe the seals, record incidental harassment, and track the progress of the contractors. The PSOs will consist of BLM wildlife biologists and technicians, BLM interns, and Cal Poly Humboldt Marine Mammal Lab students.

Mitigation Measures to Protect Subsistence Uses

We do not anticipate impacts to subsistence hunting therefore no mitigation measures are in place.

Monitoring and Reporting

The BLM will provide trained PSOs each day the construction is underway. Two PSOs will travel ahead of construction crews and arrive onsite 10 minutes ahead of the contractors to obtain counts in two separate locations viewing both haul outs before work commences (Fig 5). If contractors need to make a trip offsite while construction is still occurring onsite, one PSO will escort the vehicle back while the other PSO remains on site in view of both haul outs. All PSOs will undergo a two-day field training course conducted by BLM wildlife biologist and Dr. Dawn Goley of Cal Poly Humboldt Marine Mammal Lab. Dawn Goley is a professor of marine biology at Cal Poly Humboldt and oversees the research underway at Punta Gorda. Justin Windsor is a BLM wildlife biologist with experience working around seals and sea lions at the King Range NCA. The BLM is responsible for recruiting, training, and coordinating the PSOs. The two-day training course will include identification of pinniped species, age classification of pinnipeds, how to identify disturbance behaviors, and offshore monitoring for predators. All PSOs will be trained on how and what to communicate with contractors as well as when to notify NMFS in the event of a stranding or discovery of a carcass. Furthermore, PSOs will be trained on how to safely approach a pinniped when needed along the access route.

The BLM will compile the data and submit a report to NOAA Fisheries within 90 days of cessation of the project. We will report the colony attendance, harassment, conditions, and any unanticipated events such as an injury to an animal.

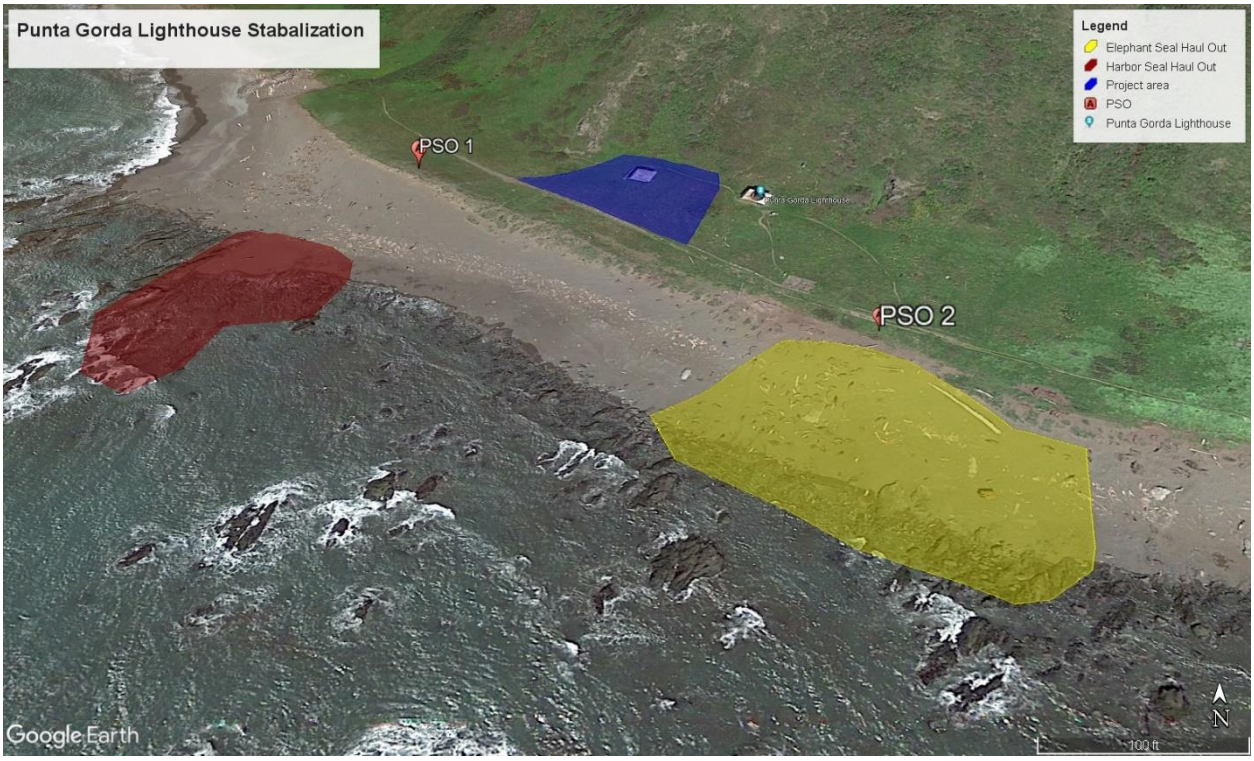

Figure 5. Site map including harbor seal and elephant seal haul outs in relation to PSO observation locations at Punta Gorda Light House.

Suggested Means of Coordination

The research program at Cal Poly Humboldt will continue throughout the stabilization project. Data collected by the monitors will also be incorporated into the Cal Poly Humboldt data set. Cal Poly Humboldt currently shares data with elephant seal researchers from other colonies in California and will continue to do so for the foreseeable future.

During the course of the project we will be working closely with the engineers and contractors to minimize disturbance that will cause harassment. There may be opportunity to adjust methods or timing of certain parts of the job to alleviate harassment incidents.

We do not believe there are any additional take authorizations issued near the project area. According to the mapping tool at the NOAA website the nearest permitted non-research activity is taking place at the St. George Reef Lighthouse (41.744084, -124.203096), approximately 180 km north of Punta Gorda. (https://www.fisheries.noaa.gov/resource/map/incidental-take-authorizations-points-map)

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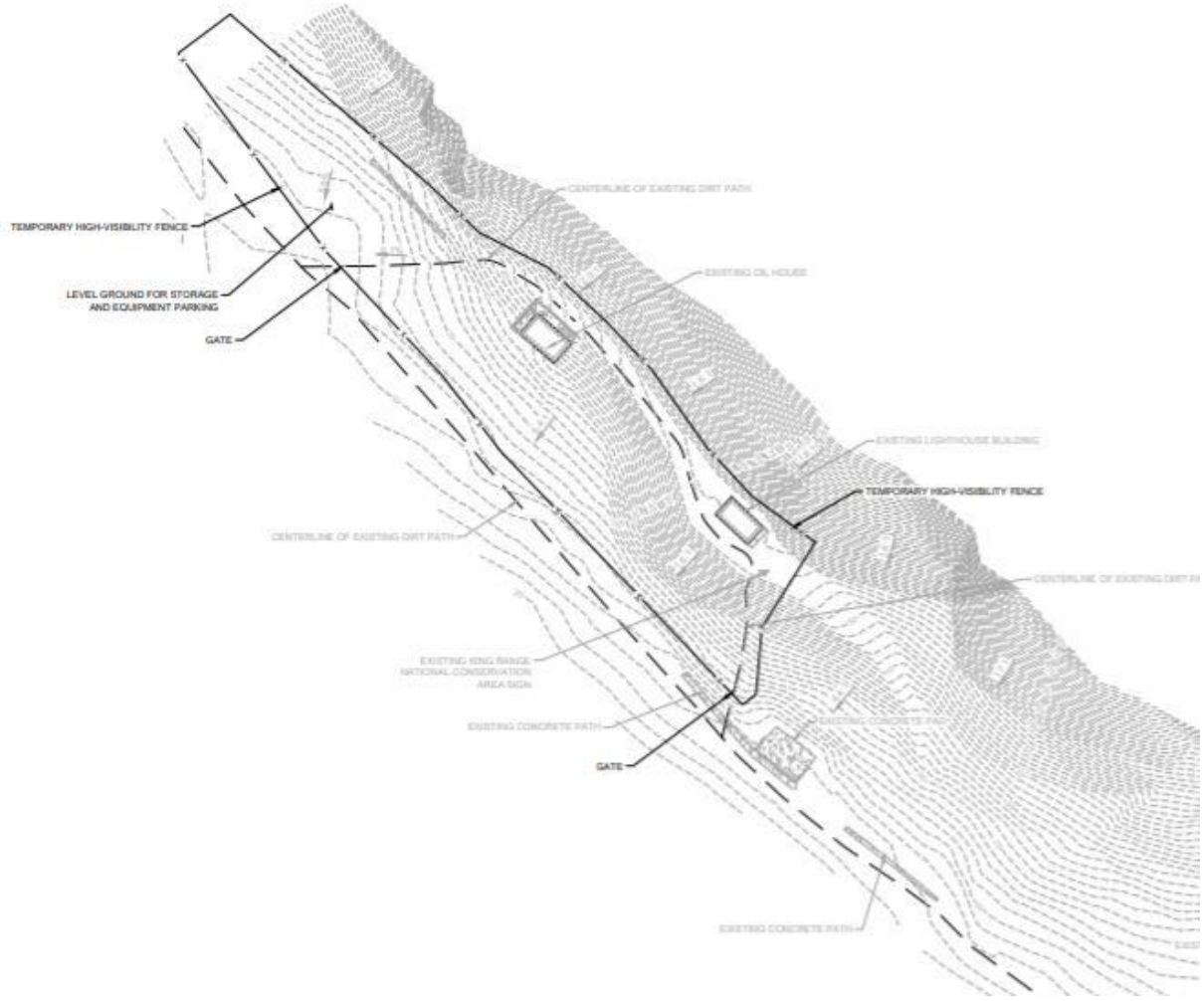
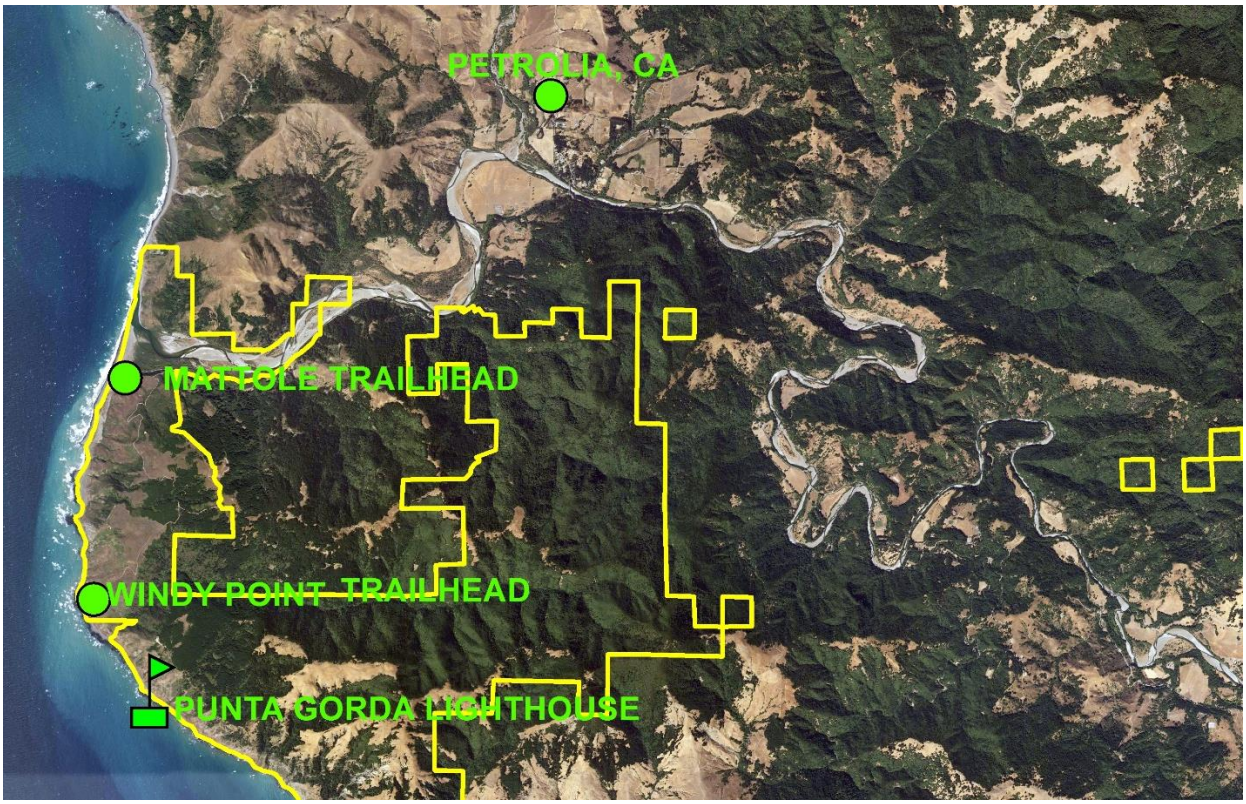
Appendix A. PGL Stabilization Project Maps. Shape Files Sent Separately.

Map 1. Project perimeter. The solid line represents proposed fencing. The dashed line represents the Lost Coast Trail.



Map 2. Aerial photo of the project area with coordinates.

Map 3. The project location is 10 km southwest of Petrolia, CA with King Range NCA boundary in yellow.


PETROLIA, CA
MATTOLE TRAILHEAD
WINDY POINT TRAILHEAD
PUNTA GORDA LIGHTHOUSE