

Humboldt Bay Subtidal Mariculture Pre-Permitting Project
Marine Habitat Mitigation Plan
January 31, 2018

Introduction

The Humboldt Bay Subtidal Mariculture Pre-permitting Project is being implemented by the Humboldt Bay Harbor, Recreation and Conservation District (District). This project will allow for development of subtidal mariculture operations in Humboldt Bay as described in the project's final Environmental Impact Report (SCH 2013062068) and conditioned by the project's regulatory approvals from the District, California Coastal Commission, North Coast Regional Water Quality Control Board and US Army Corps of Engineers. These conditions include the removal of 21 derelict piles. Removal of these piles will create new benthic habitat that will mitigate for habitat loss due to the project's placement of piles, anchors and other mooring devices. The California Coastal Commission staff report (#9-16-0204) requires submittal and approval of a plan describing the process for pile removal. Specifically, Condition 9 of the staff report states:

Marine Habitat Mitigation. PRIOR TO PERMIT ISSUANCE, the Harbor District shall submit, for Executive Director review and written approval, a Marine Habitat Mitigation Plan that clarifies the location, and removal method for the 21 derelict piles that are proposed to be removed to create new soft substrate benthic habitat as mitigation for the benthic habitat that would be lost to install the eight project piles and the additional benthic habitat that would be used to support the project anchors and mooring devices.

This Marine Habitat Management Plan is intended to satisfy this condition. Following is a description of pile removal methods and locations.

Methods

Pile removal will be conducted from shore and/or from a barge. A 70 ton P&H truck crane with a 120' boom carrying a vibratory hammer and timber clamp will be used to remove the piles. Piles that break off above the bottom will be reattached to the vibratory hammer and removed. In the event that a pile cannot be fully extracted, an alternate pile within 100' will be removed. The removal operation is expected to take one or two days.

Removal with barge: The crane referenced above would be on a barge. The barge would be approximately 79' X 116' with a 4' draft and would be moved with a small tug boat. Removed piles would be placed on the barge and taken to either 14th street dock or Woody's dock in Humboldt Bay for unloading.

Removal from shore: The crane referenced above would operate from the road immediately adjacent to the bay. Removed piles would be placed on a truck and taken to Redwood Marine Terminal 2 for unloading.

The following best management practices (BMP) will be followed:

- A Harbor District staff or representative will be present to ensure that the correct piles are pulled and these BMPs are adhered to.
- Neither the barge nor the tug will anchor during the project. The barge may attach to existing piles in order to maintain its position.
- Piles will be removed at a tide of sufficient elevation to float the barge and tug boat adjacent to the piles being removed without scarring the mudflats or injuring eelgrass.
- Grounding of the barge will not be permitted.
- A floating containment boom will surround each pile being removed to collect any debris. To collect debris that floats below the surface but does not sink to the bottom, weighted plastic mesh (similar to orange construction fencing) will be attached to the boom and extended across the area surrounding the pile. If debris sinks to the bottom, then it will be removed by a diver.
- All equipment will be checked before use in order to minimize risk of petroleum product releasing to the bay. A spill response kit, including oil absorbent pads will be on-site to collect any petroleum product that is accidentally released.
- The crane and tug operators will be experienced with vibratory pile removal.
- The crane operator will break the soil/pile bond prior to pulling in order to limit pile breakage and sediment adhesion.
- Piles will be removed slowly to limit sediment disturbance.
- Piles will not be hosed off, scraped, or otherwise cleaned once they are removed from the sediment.
- Piles will be placed in a containment area on the barge to capture sediment attached to the piles.
- The containment area will not allow sediment or contaminated water to reenter the bay.
- Holes left in the sediment by the pilings will not be filled. They are expected to naturally fill.
- Piles and debris will be removed from the barge carefully and moved to a designated site for disposal preparation. Prior to disposal, the piles and debris will be stored in paved areas, covered with tarps and surrounded by a soil erosion boom in order to prevent potential leaching or discharge of debris or contaminated material.
- All removed piles or portions of piles will be disposed of at an authorized facility. No piles or portions of piles will be re-used in Humboldt Bay or along shoreline areas

Figures 1-6 show the location of the 21 piles proposed for removal and representative photos. The piles appear to be in relatively good condition (e.g., there are no signs of substantial rotting) and it's expected that they can be removed without breaking off. Table 1 presents the geographic coordinates of the piles.



Figure 1. Location of piles proposed for removal.

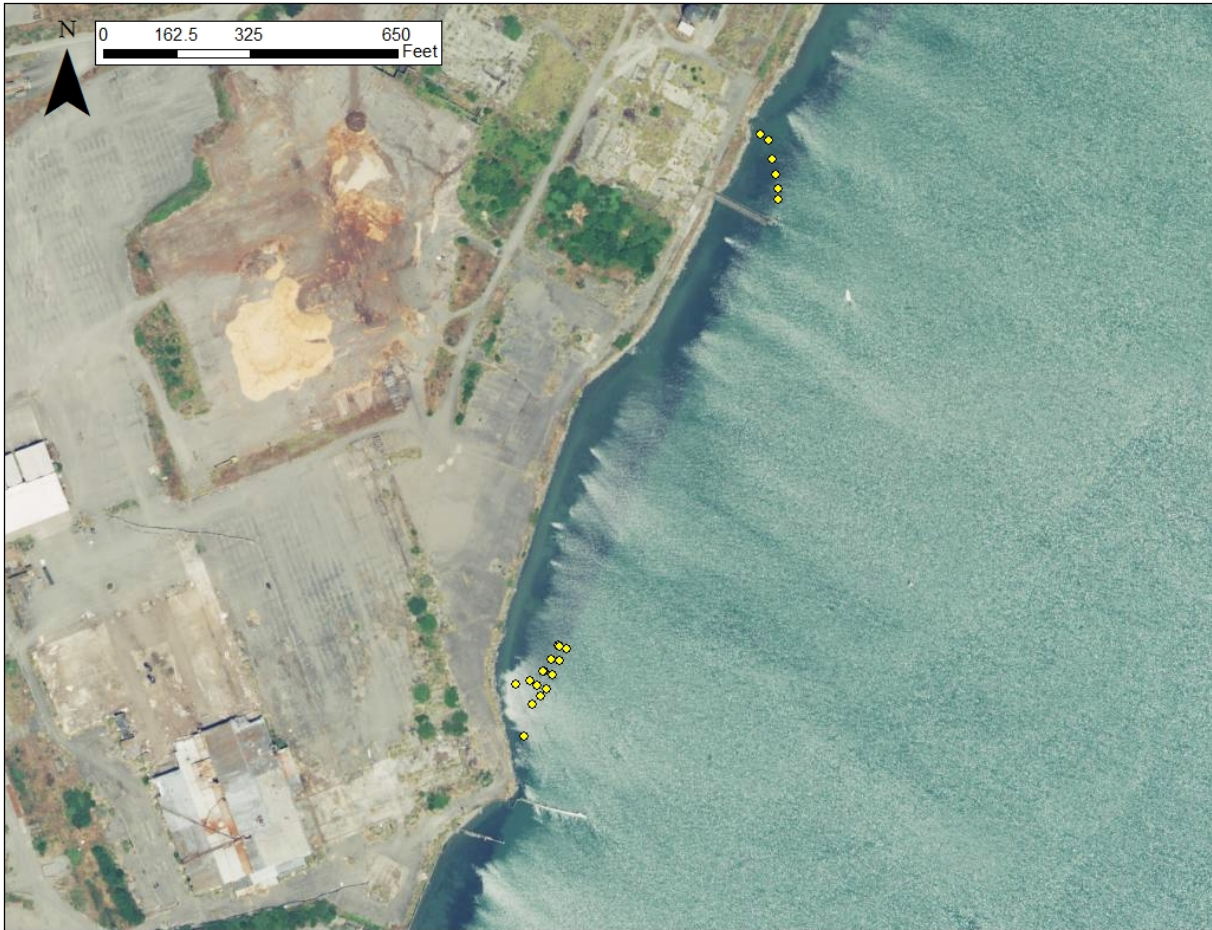


Figure 2. Twenty-one piles proposed for removal.



Figure 3. Northern set of piles proposed for removal.



Figure 4. Representative photos of northern set of piles proposed for removal.



Figure 5. Southern set of piles proposed for removal.



Figure 6. Representative photos of southern set of piles proposed for removal.

Table 1. Geographic coordinates of piles proposed for removal.

Pile ID	Latitude	Longitude
1	40.811897	-124.186359
2	40.811860	-124.186292
3	40.811744	-124.186259
4	40.811652	-124.186233
5	40.811566	-124.186212
6	40.811504	-124.186208
7	40.808788	-124.186208
8	40.808780	-124.187903
9	40.808768	-124.187848
10	40.808706	-124.187967
11	40.808695	-124.187894
12	40.808628	-124.188028
13	40.808631	-124.188020
14	40.808613	-124.187949
15	40.808574	-124.188131
16	40.808546	-124.188076
17	40.808520	-124.187998
18	40.808548	-124.188244
19	40.808477	-124.188048
20	40.808429	-124.188109
21	40.808237	-124.188174