

This DMMP considers a no-action plan and one more placement or disposal sites for the maintenance dredging of the federal channels starting in 2022 for a period of at least 20 years. The sites include, but are not limited to:

- Whaler Island (available: sandy material only)
- Outer Breakwater Beach Nourishment (unavailable: sandy material only)
- Humboldt Open Ocean Disposal Site (available: all clean material)
- Onshore (currently no known coastal or upland sites)
- New Ocean Disposal Site (unavailable: all clean material)

All alternatives assume that 100,000 yd³ would be dredged from the federal channels every 5 years, with approximately 38,400 yd³ being sand from the Entrance Channel and 61,600 yd³ being fine-grained material from the Inner Harbor Basin and Access Channels. These volumes depict the anticipated worst-case scenario in terms of percentages of fine-grained versus sandy sediment within the dredging footprint.

Note that DMMPs are for federal dredging only, but non-federal dredging can be considered when both would use the same disposal or placement site and the site volume would more than support 20 years of federal dredging.

1.1 NO ACTION PLAN

A no action plan must be evaluated and compared to action alternatives. For this study, the no action plan would consist of not searching for an adequate placement or disposal site. Since the existing placement site for sand (Whaler Island) does not provide confirmed long-term maintenance dredging and the Dredge Ponds are going to be closed, it could become infeasible to continue maintenance dredging. This would lead to shoaling of the federal channel and non-federal mooring basins that would render the Harbor unusable. Analysis of the economic consequences of ceasing maintenance dredging at Crescent City Harbor compared to the action alternatives that would involve continued maintenance dredging concludes that the economic losses that would result from discontinuing maintenance dredging are high enough to establish a federal interest in continued maintenance dredging. Therefore, planning focuses on comparing action alternatives.

1.2 WHALER ISLAND

A partial solution to the need for a Crescent City dredged material placement site was found in 1988 with the use of Whaler Island for indirect beach nourishment. There is no maximum annual volume that can be placed at Whaler Island for beach nourishment. Placement, however, is limited to material that meets certain physical and chemical sediment standards, particularly for grain size and organic carbon content. Historically, dredged material from the Entrance Channel that met these standards has been placed at Whaler Island. Dredged material from the Inner Harbor Basin Channel has failed to meet these standards because of a low percentage of sand content. Sediment

characterization from 2009 indicates that dredged material from the Entrance Channel and Access Channel would meet the physical and chemical sediment standards for placement at Whaler Island.

In about 2011, concern that sand placement at Whaler Island was causing culverts passing under Highway 1 to back up, threatening the endangered Western lily, the Corps was informed that permits to use Whaler Island might not be issued. Recently, the USFWS has coordinated with CalTrans to maintain and upgrade the culverts draining the marsh, which might ensure that Whaler Island could be used without uncertainty.

1.3 OUTER BREAKWATER BEACH NOURISHMENT (BENEFICIAL USE)

The creation of a new offshore beach nourishment area to the west or north of the outer breakwater would beneficially use dredged sand to improve protection of coastal structures, as well mitigation of waves from the Entrance Channel. The dimensions, capacity, and specific location of the outer-breakwater beach-nourishment area are still to be determined. Anecdotal reports indicate that beaches to the north of the breakwater have eroded; dispersal of material from this placement site could help restore material to these beaches. This placement site is not currently designed or permitted, but because of its proximity to the harbor and ability to pump dredged material via hydraulic pipeline, it could be a cost-effective dredged material management solution. The process would involve conducting studies in accordance with Section 404 of the Clean Water Act for concurrence with regulatory agencies.

1.4 HUMBOLDT OPEN OCEAN DISPOSAL SITE

The Humboldt Open Ocean Disposal Site (HOODS) was designated by the USEPA in 1995 per Section 102 of the MPRSA. The site is located approximately 66 miles south of Crescent City Harbor and 3.5 miles northwest of the mouth of Humboldt Bay. The site spans approximately 4 square miles, with depths between 160 and 180 feet. Disposal is limited to suitable dredged material from Northern California dredging sites.

USEPA Region 9 officials have indicated that HOODS could still accommodate the forecasted sediment to be dredged from the Crescent City federal channels as well as within the Crescent City Harbor without overtaxing the site because of the relatively small volume and limited frequency as compared to Humboldt Bay dredging projects. HOODS can accept both sandy and fine-grained dredged material, but the USEPA prefers that sandy material be used for beneficial use and will only allow sandy material to be disposed at HOODS if no other cost-effective beneficial-use option is available.

1.5 ONSHORE SITE (BENEFICIAL-USE PREFERRED)

The Corps could develop an onshore site or place dredged material at an existing landfill or other location. As of now, none have been identified, and indications are that costs would be high and permits hard to obtain for a given dredging episode.

1.6 NEW OCEAN DISPOSAL SITE

A new ocean disposal site (NODS) could replace the de-authorized SF-1 historical site. Ideally, this new site would be within 10 miles of Crescent City and could either be situated offshore from Crescent City Harbor or located at the California–Oregon Border to accommodate dredged material from both states and USEPA regions. For this site to be a viable disposal option, an independent Permanent Site Designation Study would need to be completed in accordance with Section 102 of the MPRSA. The USEPA Region 9 provided a preliminary estimate that it could take 3 years to designate a new site, with the study process costing approximately \$3 million. The USEPA would be the lead for the designation process; however, it does not have the funding for the necessary studies. Therefore, USACE would be responsible for providing sufficient funds to the USEPA or for conducting the designation studies themselves with USEPA oversight.

1.7 SUMMARY OF POTENTIAL PLACEMENT AND DISPOSAL SITE DETAILS

Table 1. Summary of Potential Placement or Disposal Sites

Site	Distance From Crescent City Harbor (miles)	Annual Capacity (yd ³)	Dredged material Composition Requirement	Permitting Authorities	Notes and Special Considerations
Whaler Island	<1	No limit is assumed	Sand	North Coast RWQCB, CCC, SLC, USFWS	USFWS is concerned that dredged material placement could cause flooding and affect the endangered Western lily. Blocked culverts would require excavation and USFWS would need to agree that placement would not affect the lily. Monitoring will likely be required.
Outer Breakwater	<1	No limit is assumed	Sand	North Coast RWQCB, CCC, SLC	Site is not yet developed or authorized for use.
HOODS	66	> 1,000,000	Silt or sand	USEPA Region 9	HOODS will only accept sandy material only if no other feasible beneficial use options exist.
Onshore Site	Unknown	Unknown	Silt (sand to Whaler Is.)	North Coast RWQCB & ?	Previous searches have been unable to identify any suitable sites.
NODS	TBD (likely within 10)	No limit is assumed	Sand or silt is assumed	USEPA Region 9 or 10	Site is not yet developed or authorized for use.