



Hawaii Regional Sediment Management (RSM) –
Kahului Harbor RSM

Description

Kahului Deep Draft Harbor is located on the northern coast of the island of Maui (Figure 1). During Phase I dredging of Kahului Harbor in fiscal year (FY) 2016, approximately 57,000 cubic yards (cy) of material was removed using the U.S. Army Corps of Engineers (USACE) dredge ESSAYONS. All dredged material was placed in the Kahului Ocean Dredged Material Disposal Site (ODMDS). Following the dredging activities, approximately 50,000 cy of material remained above authorized project depth. The Honolulu District will identify whether any of the remaining shoaled material can be beneficially used, identify requirements for environmental coordination and permitting, and estimate the costs of beneficial use options.



Figure 1. Location of RSM region. (A) Maui’s location in the greater Hawaiian Island chain. (B) Kahului, located on the north-central coast of Maui, boarded by the Puu Kukui range in the west and agricultural regions to the east. (C) Kahului Harbor within the city of Kahului, including breakwaters separating the harbor from Kahului Bay.

**Issue/Challenge
To Address**

Honolulu District is currently in the process of a three-phase dredging cycle for all deep draft harbors in the State of Hawaii. In the past, all dredged material has been placed in either offshore or upland disposal sites, due to various obstacles for beneficial use including (but not limited to) incremental cost, permitting time, and quality of dredged material. Based on FY16 post-dredge survey data, there is approximately 10,000 cy of material located within the federal project limits along the western edge of the harbor. Grab samples were acquired at five locations within this area as part of FY15 RSM investigations at the harbor. Based on the grab sample analysis, this material is comprised mainly of sand (on the order of 98%) with limited amounts of fines (less than 2%). Organics content is also relatively low (1.3% to 2.4%). This RSM initiative seeks to determine if some of the remaining shoaled material in Kahului Harbor could be dredged by non-federal stakeholders for beneficial use on Maui and to assist in identifying the required processes.

In 2012, a comprehensive assessment of Hawaii’s beaches by the U.S. Geological Survey and the University of Hawaii found that 70 percent of beaches were eroding on Kauai, Oahu, and Maui and over 13 miles of beach have been completely lost to erosion. The



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sustainable management and judicious use of sediment in Hawaii is critical part of addressing the state's shoreline management issues. Beneficial use of USACE dredge material is one of several ways to implement improvements and make changes to current practices to manage and use sediment.

Successes Lessons Learned

Lessons learned will be compiled during the duration of this study.

Expected Products

- Detailed Evaluation of Sediment Testing Results
- List of Potential Beneficial Use Options
- Cost Estimates for Beneficial Use of Dredge Material
- Plan for Environmental Coordination
- Final Report and Presentation

Stakeholders/Users

Stakeholders include the State of Hawaii Department of Land and Natural Resources, State of Hawaii Department of Transportation – Harbors Division, County of Maui Planning Office, and potentially non-governmental entities such as the homeowner associations. Stakeholder participation will be important for the identification, coordination and resolution of RSM challenges that would be encountered by this endeavor.

Projected Benefits Value Added

Benefits would be gained if material remaining in the federal project limits was removed for beneficial use by non-federal partners such as Maui County, the State of Hawaii, or private stakeholders. This would lower the quantity of material taken to the ODMDS during the next harbor dredging cycle, and thereby lower USACE maintenance costs. In addition, if the material can be beneficial used on a nearby beach, it would provide environmental, recreational, and economic benefits to Maui County, the State of Hawaii and the nation.

Leveraging Opportunities

Harbor surveys and sediment testing were completed during the FY16 maintenance dredging. The RSM and Dredging Operations and Environmental Research programs provided funds to acquire grab samples in the target area in FY15. Preliminary evaluation of sediment properties of the material has been completed, and indicates that it is beach quality (i.e. limited percentage of silts and clays). Additional sediment characterization of the material will be conducted by the companion FY18 CHL/EL/POH RSM project: Sources and Transport Pathways of Sediment Infilling Kahului Harbor, Maui.

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Participating Partners

Participating partners include the State of Hawaii Department of Land and Natural Resources' Office of Conservation and Coastal Lands and the County of Maui.