

Beneficial Uses of Dredged Materials



Case Study: Jetty Island, Puget Sound

The U.S. Army Corps of Engineers (USACE), Seattle District, and the Port of Everett, Washington, collaborated on using dredged materials from a long-term dredging project maintaining navigation channels. Placement of this dredged material was used for beach nourishment; more specifically it was used to create a protective sand berm that allowed for the formation of saltmarsh, lagoon, and backshore dune habitats on Jetty Island. Jetty Island is a 200-acre port-owned intertidal island at the mouth of the Snohomish River. This beneficial use project was funded by the USACE and the Port. Using normal operation and maintenance (O&M) funds, the USACE paid all costs for the dredging and disposal of maintenance dredged materials. The Port of Everett obtained all necessary permits and funded biological baseline and monitoring studies for the project.

Federal and state natural resource management agencies and the Tulalip Tribe assisted in planning and meeting regulatory requirements. Agencies involved included the USACE, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, NOAA's National Marine Fisheries Service, Washington Department of Natural Resources, Washington Department of Ecology, and the Washington Department of Fish and Wildlife. These agencies considered development of saltmarsh and other habitats to be mutually beneficial and proceeded to create new feeding habitat for juvenile salmon.

The USACE initially placed 323,000 cubic yards of material on the island during a 4-month construction period, which was completed in January 1990. The close proximity of the dredging site to Jetty Island enabled the use of hydraulic dredging rather than clamshell. It also made the project more economical in comparison to open-water disposal. USACE's physical monitoring included annual topographic surveys. By 1999, the results from these physical monitoring surveys confirmed that the projected erosion rates for the newly constructed sand berm and risk for potential breaching or stormwater overtopping of the berm were accurate. Biological monitoring data collected by the Port showed that saltmarsh habitat development greatly exceeded expectations and thereby justified beach nourishment. The USACE placed an additional 239,000 cubic yards of dredged material to restore the berm width and elevation in January 1998. In the planning process for future projects, project sponsors advise other project proponents to integrate all affected parties into planning as early as possible. They also advise planning begin early, so that beneficial uses projects can be ready to take advantage of funding for scheduled O&M navigation activities.

A number of the agencies participating in the Jetty Island project have continued their interest in and commitment to the beneficial use of dredged materials by forming a beneficial uses group for Puget Sound which has provided a forum for encouraging and coordinating beneficial use projects. The success of the Jetty Island Project has helped pave the way for other beneficial use and mitigation projects.

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