



# Washington's Dredged Material Management Program

Focus on the Anderson/Ketron Disposal Site



## Overview: Why dredging is important

Dredging affects nearly everyone who lives in or visits Washington State. Across the Puget Sound region, our harbor areas, ports, marinas and ferry terminals naturally silt in. This means that routine maintenance dredging and disposal is needed regularly to remove the mud and sand that can cause problems for navigation. Dredging helps keep commerce and people moving and recreational boating possible. There are numerous commercial and recreational facilities in South Sound that require periodic dredging. In-water construction projects also may require dredging. Examples include the Port of Olympia Harbor, Day Island Yacht Club, and construction of the Tacoma Narrows Bridge.



## Dealing with dredged material in South Sound

Dredged material must be taken somewhere for disposal. However, we cannot put dredged material just anywhere. Federal and state laws require that dredged material must be scientifically evaluated and disposed of in a manner that doesn't cause harm to people or the environment. The Anderson/Ketron disposal site was established by state and federal regulatory agencies in 1989 to accept clean sediment from South Sound dredging projects. Contaminated sediment must be removed from the water *and* taken to an upland landfill.



## Dredged Material Management Program

A group of experts led by the U.S. Army Corps of Engineers formed the Puget Sound Dredged Disposal Analysis (PSDDA) program in 1985 to ensure that disposed dredge material does not cause human or environmental health problems in Puget Sound. The program later expanded to cover the rest of the State of Washington and is now known as the Dredged Material Management Program (DMMP). The DMMP includes sediment specialists, biologists, chemists and other environmental experts from the U.S. Army Corps of Engineers Seattle District; the U.S. Environmental Protection Agency, Region 10; the Washington Department of Ecology; and the Washington Department of Natural Resources. DMMP provides the structure and system to manage publicly approved, environmentally acceptable open-water disposal sites in Puget Sound, Grays Harbor, and Willapa Bay.

## Siting of the Anderson/Ketron Disposal Site

The PSDDA disposal site work group established eight open-water disposal sites in Puget Sound – five of these are nondispersive sites and three are dispersive sites.

The Anderson/Ketron site is one of the five nondispersive sites. Dredged material placed at the nondispersive sites remains on site after disposal and is subject to periodic monitoring.

Two main factors were considered in finding suitable locations for the nondispersive sites. First, the sites had to be located in low-energy areas so that dredged material remained on site. Second, it was important to minimize the impact to biological resources.

In order to find nondispersive areas in South Sound, the workgroup reviewed historical current data and looked for areas with weak bottom currents so that the small silt and clay particles present in dredged material would not be washed away with the tides. To minimize the impact to biological resources, the work group reviewed maps of known resources and looked for areas at least 2,500 feet away from vulnerable species. Ideally, nondispersive sites would also be located in water at least 120 feet deep, because shallower waters are generally more biologically productive and of major importance to many of Puget Sound's important commercial fish and shellfish. Therefore, the workgroup looked for deep sites like Anderson-Ketron, which is 442 feet deep. On the basis of this review, three candidate sites in South Sound were identified for additional study.

Field studies were conducted at the candidate sites. Sediment samples were collected and their composition evaluated. The majority of sampling stations at the Anderson-Ketron site consisted of slightly sandy silts and clay. The fine-grained nature of the sediments at the site meant that current speeds at the bottom were not strong enough to resuspend these sediments and that the site met the nondispersive definition. Trawls were done to locate, identify and quantify important biological resources, including Dungeness crab, shrimp and bottomfish. The biological resource surveys that were done at the Anderson/Ketron site found no crabs of harvestable size, and relatively low numbers of commercially-important shrimp. There were also fewer numbers of bottomfish compared to the other candidate sites. Based on the available information and field work that was accomplished, the Anderson-Ketron site was selected over the other two candidate sites as the nondispersive site for South Sound.

### **Dredged Material Testing**

Dredged material disposed at the Anderson/Ketron site must meet stringent requirements. It is first tested for a wide range of chemicals. Biological testing is then performed if chemical screening levels are exceeded. Only dredged material that has been found suitable for open-water disposal by the DMMP agencies may be placed at the Anderson/Ketron site.

### **Disposal Site Monitoring**

The nondispersive sites are periodically monitored to ensure that the dredged material stays on site and is causing no harm to the environment. Between 1989 and 2005, approximately 33,000 cubic yards of dredged material was placed at the Anderson/Ketron site. The DMMP agencies monitored the site in 2005 and verified that the disposed material remained on site. A mound of dredged material was found at the center of the site and nowhere else. The rest of the site was unchanged from conditions in 1989. Chemical and biological testing verified that no environmental harm had occurred on or around the site as a result of dredged material disposal.

Additional environmental documentation associated with the DMMP program can be found at <http://www.nws.usace.army.mil/Missions/CivilWorks/Dredging/Disposal.aspx>.