



# Focus

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## Inner Shelton Harbor sediment study

The Washington Department of Ecology (Ecology) is conducting a study of the underwater sediments in Oakland Bay, specifically, in the inner Shelton Harbor.

### Reasons for the Study

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Lack of information about sediments in this area was identified as an important data gap in a 1998 study Ecology conducted called the Eastern Olympic Water Quality Management Area Needs Assessment.

Other Washington harbors have experienced sediment and water quality problems. Hylebos Waterway in Tacoma and Port Angeles Harbor recently were evaluated by Ecology to determine the distribution and effects of wood debris in sediments. Both showed there is environmental harm from heavy underwater accumulations of wood waste.

Various studies suggest that the long-term practice of log rafting and storage can create underwater wood waste that has a variety of harmful physical and chemical effects on aquatic life. These can include:

- Organic enrichment of sediments;
- Oxygen depletion in the water column;
- Alteration of benthic (underwater) communities with species that are more pollution-tolerant;
- Leaching of chemicals such as phenols, methylated phenols, benzoic acid, benzyl alcohol, terpenes, and tropolones; and
- Physical alteration of the benthic substrate.

Basically, rotting wood waste robs water of oxygen that fish, shellfish and other aquatic life need to survive.

### Background

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Throughout Shelton's existence, the forest products industry has played a major role in the economy and history of the area.

In 1989, Ecology collected sediments from several storm drains that discharge to Oakland Bay. Concentrations of several metals and organics, while typical of urban drainage, were present at concentrations above the marine-sediment quality standards. Ecology recommended that sediments in the receiving environment near these discharges be collected to determine if concentrations of metals and organics were at problem levels in Oakland Bay.

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## **Objectives of sediments survey**

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- Conduct chemical screening of sediments from selected locations near potential sources in inner Shelton Harbor to determine if further investigation is warranted. This determination will be made based on comparison with chemical criteria in Ecology's sediment-management standards.
- Evaluate the distribution and significance of wood waste in sediments from inner Shelton Harbor.

Samples for chemical screening will be collected from the 10 nearshore areas. These sites were chosen based on a reconnaissance survey of the study area to identify potential sources of sediment contamination.

Since larger wood debris will be excluded from the grab sampling, underwater video transects will be conducted through each strata. The locations of individual transects will be determined after grab sampling is completed in May.

## **Next steps**

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On May 25, Ecology will collect underwater video in the harbor. A final report on the sediments study is planned for September.

## **Contacts for more information**

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