

# Focus on: Sediment Quality in East Possession Sound

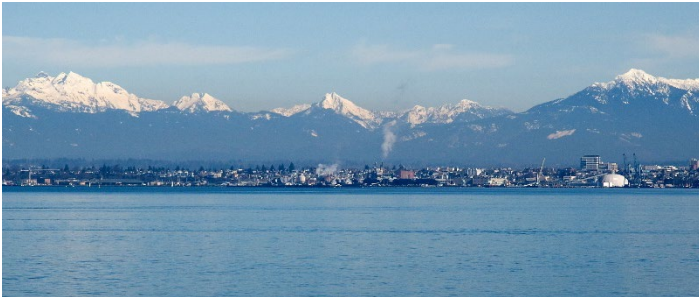


Photo of Everett shoreline (photo by Kimon Berlin).

## East Possession Sound sediments evaluated

In June 2019, we sampled surface sediments at 30 monitoring stations in East Possession Sound as part of the Department of Ecology's Marine Sediment Monitoring Program - Urban Bays surveys. We published results in an [interactive story map](#)<sup>1</sup>. This story map provides a summary of findings from analyses of physical, biogeochemical, and chemical contaminant parameters measured in sediment samples, as well as the composition of sediment-dwelling invertebrate communities. These results are also compared to those from our previous survey conducted in 2012.

## Summary of Findings

### Habitat

The East Possession Sound study area has a wide depth range, with surface sediments composed predominantly of sand or mixtures of sand and silt. Sediments had some of the highest recorded total organic carbon values and lowest total nitrogen values in Puget Sound.

### Chemical contamination

Exposure to potentially harmful chemicals, as measured with the Sediment Chemistry Index, decreased since the 2012 survey of East Possession Sound. Mercury concentrations were found above (not meeting) the Washington State's Sediment Quality Standards in Everett Harbor. Metal pollutants were associated with fine sediments, and PAHs with organic carbon content. Contaminant concentrations were highest in Everett Harbor.

### Benthos

Benthic (bottom-dwelling) community condition improved in East Possession Sound since 2012.

### Associations

Station depth, sediment characteristics, and several biogeochemical parameters explained 49.5% of the variability observed in the benthic community. Over one-third (36%) of the variability observed in the benthic community, however, was associated with unmeasured parameters.

## Related Links

[Collection of interactive story maps on sediment quality in Puget Sound](#)<sup>2</sup>

[Marine sediments - Washington State Department of Ecology](#)<sup>3</sup>

### Contact information

Julianne Ruffner  
Julianne.Ruffner@ecy.wa.gov  
360-280-4518

### ADA accessibility

To request an ADA accommodation, visit <https://ecology.wa.gov/accessibility> or call 360-407-6764. For Relay Service or TTY, call 711 or 877-833-6341.

<sup>1</sup><https://storymaps.arcgis.com/collections/aaec1a6656ff43e098d209c75ce00244?item=10>

<sup>2</sup><https://storymaps.arcgis.com/collections/aaec1a6656ff43e098d209c75ce00244>

<sup>3</sup><https://ecology.wa.gov/Water-Shorelines/Puget-Sound/Sound-science/Marine-sediments>