

## **Geoduck (*Panopea abrupta*) aquaculture in the Neah Bay beaches, Washington**

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### **Abstract**

The Pacific geoduck, *Panopea abrupta* (Conrad, 1849), is one of the most valuable shellfish resources around the Puget Sound, Washington. The Makah Fisheries Management (MFM) started a feasibility test on intertidal geoduck aquaculture in Neah Bay since 2006. To provide technical support for future commercial geoduck aquaculture in the Makah Reservation, MFM conducted a geochemical monitoring project from the beginning of tube installation and systematically collected samples from seawater, clam shell and flesh, and environmental parameters (e.g., temperature, salinity, dissolved oxygen, eelgrass, macro-algae, and sand size and distribution) surrounding the geoduck beds on a daily basis. Preliminary data analyses showed that the  $^{18}\text{O}/^{16}\text{O}$  variations were consistent with seawater temperature changes whereas the elemental ratios (i.e. Sr/Ca, Mg/Ca, and Zn/Ca) were more related to water quality conditions. The monitoring results appear in agreement with stable isotopic and trace elemental analyses on the subtidal geoduck shells from Hood Canal of Puget Sound. If successful, the project may provide the first-hand information about the geoduck survival, growth, and ocean climate changes to which the animal was exposed, and make a positive contribution to the Washington geoduck aquaculture industry and scientific community.