

## **Effects of suspended bivalve aquaculture on the physical and chemical composition of sediment in the Bagaduce River, Maine**

The objective of the present study was to determine whether there were significant differences in chemical and physical properties of surface sediments among aquaculture sites and a reference site. Percent organic matter, percent inorganic carbonates, and grain size distribution were tested at four sites in the Bagaduce River, Maine. Significant differences among sites were found in each of the parameters tested. When compared to the reference site, a significant increase in organic matter was found at one aquaculture site as well as a midpoint site but not at the other aquaculture site. There was significantly higher inorganic carbonates at one aquaculture site compared to the three other sites. Grain size distribution was compared by percent mud and differences were found at each site. There was also a correlation between percent mud and organic matter when looking across all sample locations. This study's results imply differences in chemical and physical properties at aquaculture sites compared to a reference site. One conclusion of this study is to sample an area before aquaculture is implemented to have baseline information to compare differences over time.

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