

## **Evaluating the relationship between salinity and total phenolic concentration of *Fucus vesiculosus* along the Penobscot River, ME**

Increased precipitation and/or changes in sea surface circulation patterns derived from human-induced climate change may impact the survival and distribution of estuarine biota as well as induce changes in ecological community structure. The Gulf of Maine is predicted to become warmer and have increases in storm frequency, strengthening the hydrologic cycle and decreasing surface salinity. One of the dominant macroalgal species in Maine, *Fucus vesiculosus*, may be responsive to these environmental changes and vary production a chemical known as polyphenolics in relation to changes in salinity. To investigate whether there was a relationship between salinity and total phenolic concentrations for *F. vesiculosus*, samples were collected along a salinity gradient on the shores of the Penobscot River, Maine. Phenolics were extracted from algal tissue and quantified with a colorimetric analysis using the Folin-Ciocalteu assay and comparison to a standard curve. This study revealed significant differences in phenolic concentration of *F. vesiculosus* at sites along the Penobscot River, ME, with highest concentrations in Bucksport (18 ppt) and Morse Cove (31 ppt). However, salinity was not correlated with phenolic concentration. Other abiotic factors such as anthropogenic activity through aquatic pollutants may explain the differences in phenolic concentrations among sampled sites.

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