

Benthic Species Comparison within the past 50 years in The Penobscot River (Estuary), Maine

The benthic community is made up of organisms that live in an on the seafloor sediment and because of that location, the benthic community in the Penobscot River (estuary) Maine, may have changed over the course of the last 50 years. These community composition changes were investigated by studying patterns of species variation within the river. Chemical changes that have occurred in the river include pollution from industrial and mill waste, untreated human waste, terrestrial sources such as runoff from farms and roads, and eutrophication as a result of nutrient enrichment. Physical changes included dam removals, and waters were to be unharmed and not polluted per The Clean Water Act of 1948 with amendments in 1972. At eight stations along the river ranging from Bangor to Penobscot Bay, Maine benthic samples were collected and analyzed to identify benthic species. Station composition and totals of benthic samples were analyzed and used to compare and evaluate with a study that was completed 50 years ago. Results show no major similarities in the past 50 years, revealing similar ranges of species diversity for different stations throughout the river. Water flow and water quality could give an explanation to changes such as salinity and seasonal changes.

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