

# **Identifying the Distribution of 20<sup>th</sup> Century Deposition in the Poughkeepsie and Newburgh Regions of the Hudson River Estuary**

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## **Abstract**

The Hudson River Benthic Mapping Project (HRBMP) is a program in which high resolution bathymetry and depositional data has been used to identify depositional patterns within the Hudson River, in particular contaminated deposition accumulated over the past century. Previous locations that have been studied are Haverstraw Bay and the area surrounding the Tappan Zee Bridge, however this study focuses on the both the Poughkeepsie and Newburgh Regions of the Hudson River. By using both acoustic sub bottom profiling to identify potential areas of deposition and a handheld X-ray fluorescence spectrometer (XRF) to identify and quantify lead concentrations, we can determine which areas contains elevated levels of lead above the background level of 15 to 25 parts per million. In the Poughkeepsie region, five out of six cores indicated a lead profile with concentrations of lead higher than the background level. In the Newburgh region 17 out of 28 cores had a lead profile with concentrations of lead higher than the background level. This indicates that these two regions contains contaminated deposition however this study can be continued further to quantify the total amount of recent deposition.