Stony Brook, New York 11794-5000

SURFACE SEDIMENT CHARACTERISTICS IN THE HUDSON RIVER BETWEEN KINGSTON AND NEW BALTIMORE, NEW YORK

JoAnn Thissen, Henry Bokuniewicz, Vicki Lynn Ferrini, Roger D. Flood

As part of a joint project between the Marine Sciences Research Center and the Lamont-Doherty Earth Observatory, four sections of the Hudson River were surveyed using a Simrad 3000 multi-beam echosounder.

In an attempt to ground-truth the multi-beam surveying (Ferrini, et.al) and to understand the link between the physical processes at work on the river, the sediment transport and final deposition of sediments downriver and along the shoreline into the marshes, 361 surface sediment samples were taken in four areas of the Hudson River estuary. Of these 103 samples were taken in the area from Kingston to Saugerties and 84 samples were taken in the area from the City of Hudson to New Baltimore (Mill Creek).

The two study areas contain many shallows and flats, have several large tributaries contributing sediment, and in many places the banks of the river are lined with wetlands and marshes.

Sedimentary analysis of the grabs samples collected in the area from Mill Creek to the City of Hudson to the south are predominately medium to fine sand. The northern section of the area from Saugerties southward to Kingston are predominately fine sand with the exception of the area at the mouth of Esopus Creek and the shallow areas along the banks which are predominately finer grained silty sands and silty clays. The southern section of this area contain a greater percentage of silty sand fining to silty clays with the exception of the area at the mouth of Rondout Creek in Kingston. The grabs in this area are predominately coarse to medium sands. Both areas also contained a high percentage of zebra mussels.

This work is being supported by the New York State Department of Environmental Conservation Benthic Habitat Mapping project.