

EXECUTIVE SUMMARY

The western Long Island Sound Disposal Site (WLIS) is located 2.5 nautical miles north of Lloyd Point, NY, between the Stamford and Eatons Neck historic disposal grounds. An average of 153,000 cubic meters (200,000 yd³) of dredged material has been deposited annually at the site since disposal first began in March 1982. As a result, three dredged material disposal mounds ("A", "B", and "C") currently exist at the site (Figure 1-1).

The disposal buoy was located at the "B" mound at coordinates 40 59.340 N and 73 29.346 W during the 1986-87 disposal season (1 September 1986 to 1 May 1987). Scow estimates indicated that 18,000 m³ (23,000 yd³) of dredged sediments were disposed at the buoy during this time period. The material was predominantly sand with lesser amounts of silt and clay. Chemical contaminants present were generally at "Low" concentrations (interim guidelines, New England River Basins Commission (NERBC), 1980). "Moderate" levels of the following metals occurred in some of the dredged material: lead (28% of the material), arsenic (17%), and mercury (33%).

From 17 to 23 November 1987, field operations were conducted at WLIS to provide information on the fates and effects of past and recent disposal operations. The field operations included a precision bathymetric survey, REMOTS® sediment-profile photography, and sediment sampling for chemical and physical analyses. In addition, the deposit-feeding polychaete Nephtys incisa was collected for body burden analysis of selected contaminants, and vertical profiles of temperature, salinity, and dissolved oxygen were obtained at selected stations in the disposal site and at reference stations. The objectives of the 1987 monitoring cruise at WLIS were to:

- delineate the extent and topography of the recently deposited dredged material at the disposal site and assess environmental impacts related to past and recent disposal;
- assess the long-term transport of chemical contaminants along the axis of predominant water movement;
- provide additional baseline data on the relationship between sediment contamination and the biological uptake of contaminants by benthic infaunai and
- characterize the depth gradient of dissolved oxygen and assess near-bottom dissolved oxygen concentrations in and around the disposal site in relation to benthic habitat conditions.