

EXECUTIVE SUMMARY

Material dredged from the Thames Shipyard and Repair Company was released in the northeast quadrant of the New London Disposal Site in October 1988, forming the NL-TR disposal mound. The 13,303 m³ of dredged material was classified as unsuitable for unconfined open water disposal and was capped with 59,500 m³ of clean material between 23 October 1988 and 23 January 1989. After a survey of the capped site in February 1989 it was recommended that additional cap material be released at the site. From 13 March to 17 June 1990, 39,483 m³ of supplemental material was deposited.

In addition to the 1989 and 1990 capping operations, approximately 21,200 m³ of dredged material from Noank and Mystic, CT was released at Buoy 88 (41°16.100' N, 72°04.350' W), a separate disposal point approximately 700 m south of the NL-TR disposal mound. The objectives of the most recent monitoring cruise at the New London Disposal Site were 1) to delineate the extent and topography of dredged material deposited since the August 1988 survey, 2) to determine mound stability, and 3) to assess near-bottom dissolved oxygen concentrations relative to REMOTS® benthic analyses.

Sampling was concentrated at two regions of recent disposal activity. The first location, designated NL-TR, was a region where sediments unsuitable for unconfined open water disposal were covered with a cap of clean material during early 1989. The second disposal location, identified as NL-88, was immediately adjacent (150 m west) to the former active mound listed as NL-85 in the July–August 1988 survey (SAIC 1990d).

The bathymetric survey revealed that 46,700 m³ of new sediment had accumulated in the vicinity of the NL-TR capped mound since the July–August 1988 survey. The radius of dredged sediment deposited at NL-TR was approximately 550 m × 400 m, and benthic recolonization was largely as anticipated, indicating a healthy recovery well within expected recolonization rates. A comparison of precapping and postcap bathymetry indicated less than 50 cm of cap material on three of the six disposal points designated for the 1988 capping operation. However, it is believed that consolidation of the underlying dredged material may have contributed to the apparent diminished cap thickness. As a precaution, future disposal operations should be directed to these three capping points.

The bathymetric survey also indicated an accumulation of an additional 11,560 m³ of material in the southern portion of the disposal site at disposal mounds NL-85 and NL-88. The REMOTS® survey at NL-85 found that dredged material was distributed across the mound and that benthic recolonization was substantially as predicted (Stage II and III).

Water column profiles of temperature, salinity, and density (sigma-t) showed that little stratification of the water column existed during the period of the survey. Near-bottom dissolved oxygen concentrations were uniformly high at all stations, both on and off the disposal site, and there was no indication that dredged material disposal operations were adversely influencing oxygen concentrations in the region.