Prepared in cooperation with the
STATE OF CONNECTICUT, DEPARTMENT OF ENVIRONMENTAL PROTECTION,
GEOLOGICAL AND NATURAL HISTORY SURVEY

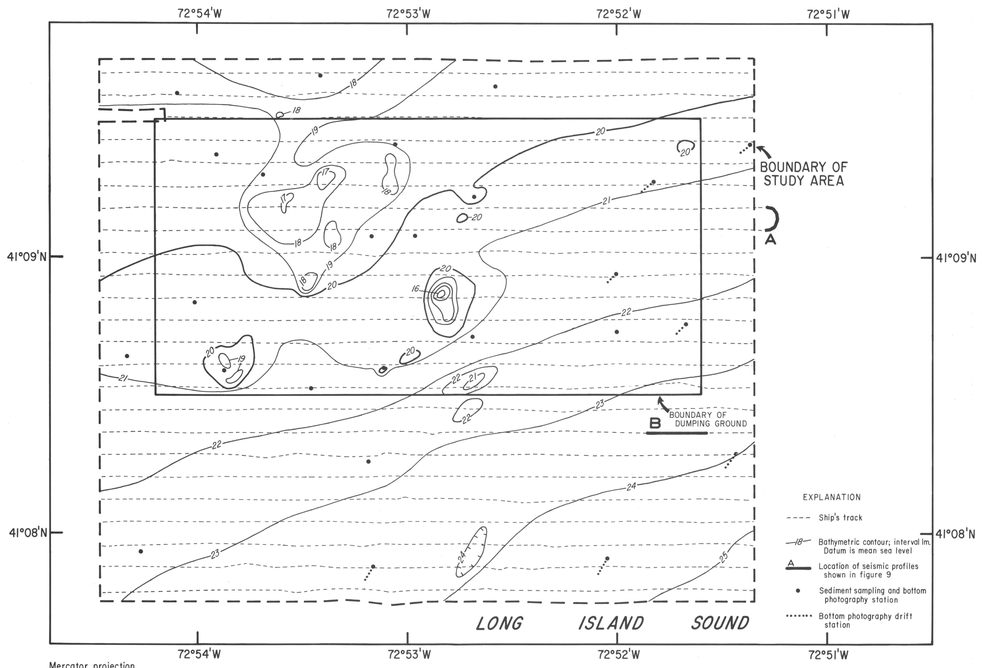


Figure 8.—Bathymetric map of the New Haven Dumping Ground study area. Depths are in meters, have been corrected for tides, and are adjusted to mean sea level. Fine dashed lines represent tracks along which the geophysical data were collected. Locations of seismic-reflection profiles A and B (shown in figure 9) and of the sediment sampling and bottom photography stations are indicated. At seven of the stations the research vessel was allowed to drift at least 50 m. These sites are called bottom photography drift stations; each is shown by a series of smaller dots trailing from the sampling station dot. The orientation and length of each smaller-dot series shows the direction and extent of drifting.

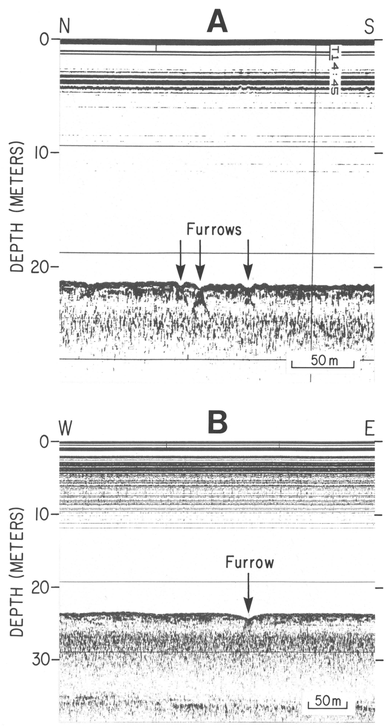


Figure 9.—Subbottom profiles in the eastern part of the New Haven Dumping Ground study area showing characteristics of sedimentary furrows. Profile locations are shown in figure 8. **A**, Cross section across three east-west-trending furrows. Data were collected while the vessel was turning to come on line. **B**, Oblique cross section of a well-developed east-northeast-trending furrow. Note slight asymmetry of the furrow walls.

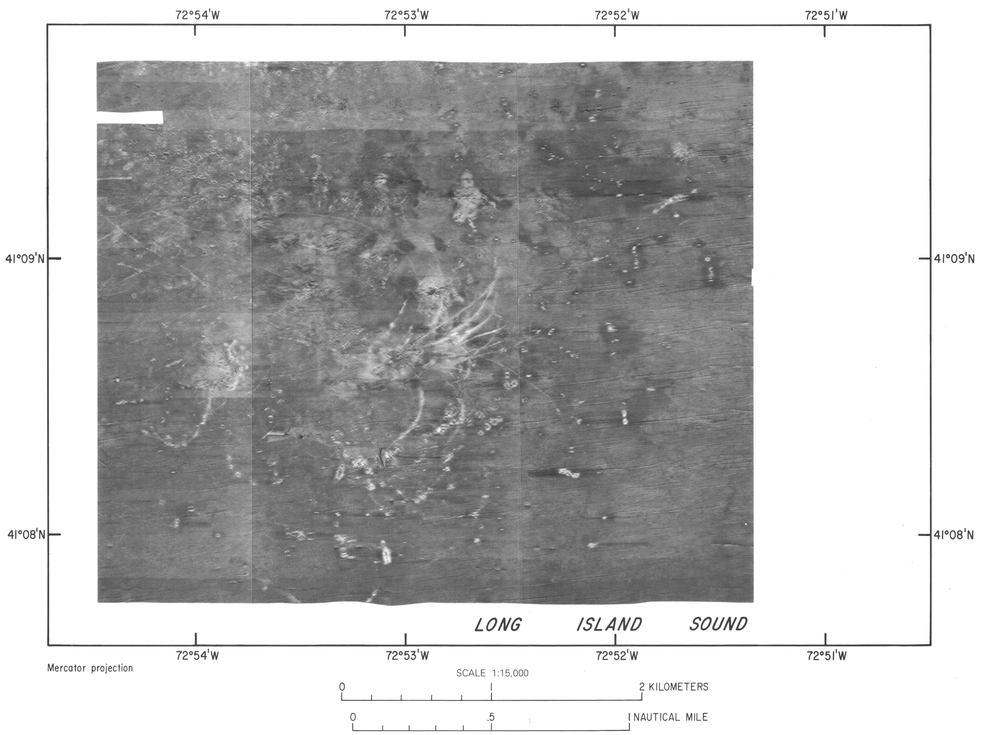
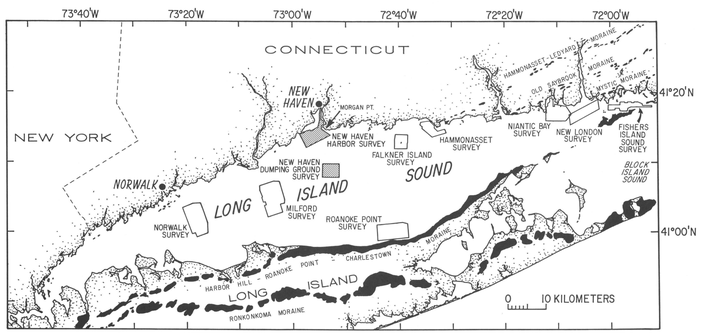


Figure 10.—Sidescan sonar mosaic of the sea floor in the New Haven Dumping Ground study area. Light tones on the image represent areas of relatively high backscatter (typically coarser grained sediments); dark tones represent areas of relatively low backscatter (typically finer grained sediments).



Location of the New Haven Harbor and New Haven Dumping Ground study areas (diagonal-stripe-filled polygons).

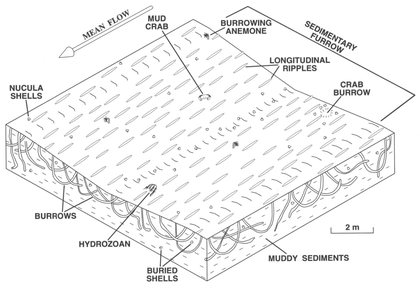


Figure 13.—Perspective view of an idealized sedimentary furrow in the muddy cohesive sediments of north-central Long Island Sound. Figure shows the linear depression with gently sloping walls, longitudinal ripples, bioturbation, and nutclam (nucula) shells.

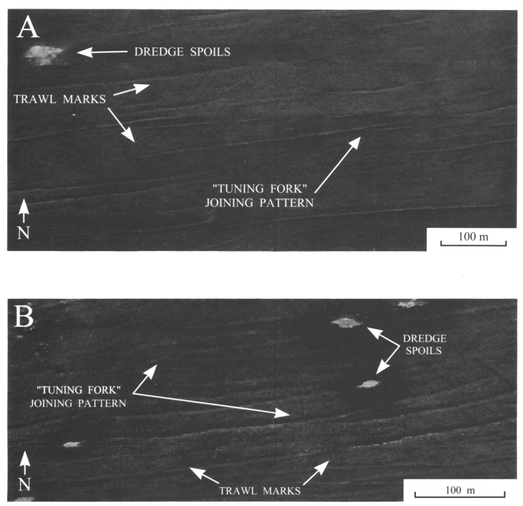


Figure 12.—Sections of sidescan sonar records from the New Haven Dumping Ground study area. Locations of sections are shown in figure 11. **A**, "Tuning fork" joining pattern exhibited by some sedimentary furrows. Most forks open to the east (right), suggesting net westward transport. **B**, Association of some furrows with piles of dredge spoil. The extension of furrows off both the east and west sides of the dredge spoils is evidence for the oscillatory nature of the tidal currents.

The faint trawl marks revealed in these sections are not included in the interpretation of the sidescan sonar mosaic of the New Haven Dumping Ground study area (fig. 11) because they are not visible in the mosaic at its presented scale (fig. 10).

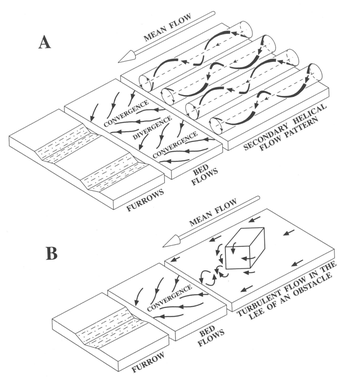


Figure 14.—Schematic representation showing two possible mechanisms (modified from Flood (1983) and McLean (1981), respectively) for the formation of sedimentary furrows in north-central Long Island Sound. **A**, Secondary helical-flow patterns sweep coarse material, such as nucula shells or sand, into linear zones of convergence. These relatively coarse particles, driven by tidal currents, cut furrows into soft, cohesive sediments. **B**, Turbulent wakes produced by flow around dredge-spoil disposal mounds or other obstacles on the sea floor may also initiate furrow development. Sand grains eroded from the mounds then abrade the lengthening furrows into the soft seabed.

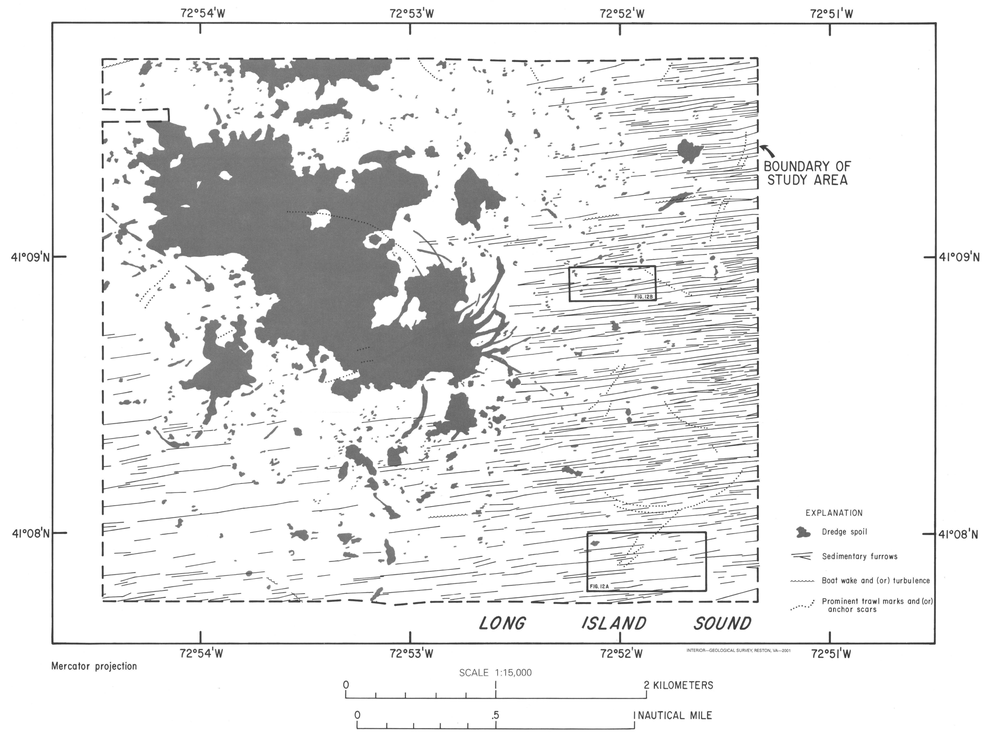


Figure 11.—Interpretation of the sidescan sonar mosaic of the New Haven Dumping Ground study area. The features defined in the explanation are discussed in the text pamphlet. Locations of the sections of sidescan sonar records shown in figure 12 are indicated.

SIDESCAN SONAR IMAGES, SURFICIAL GEOLOGIC INTERPRETATIONS, AND BATHYMETRY OF THE LONG ISLAND SOUND SEA FLOOR IN NEW HAVEN HARBOR AND NEW HAVEN DUMPING GROUND, CONNECTICUT

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