Seafloor Mapping of Long Island Sound

Why Map the Seafloor?

Managers and researchers simply do not have the necessary knowledge of seafloor habitats required to make effective decisions about balancing resource protection and human uses in Long Island Sound in the 21st century.

Underneath the surface of Long Island Sound exists a wide range of seafloor habitats—from the muddy, silty bottom in the Narrows near New York City, to the deep and rocky recession in the Race near Fishers Island. Mapping the seafloor provides a framework to better understand and manage the resources dependent on these diverse habitats.
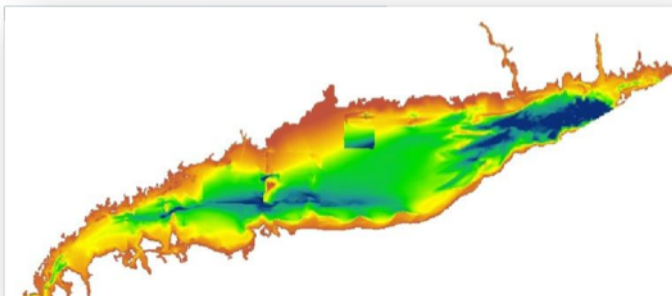
A 2004 settlement between the states of Connecticut and New York, two power companies, and a cable company is providing funding for seafloor mapping. The settlement resolved a permitting dispute relating to two electrical cable crossings of Long Island Sound. As part of the settlement, the companies agreed to contribute $6 million to a Long Island Sound Research and Restoration Fund.

In 2004, the Long Island Sound Study Policy Committee signed a Memorandum of Understanding on administering the fund for research and restoration projects to enhance the waters and related natural resources of Long Island Sound.

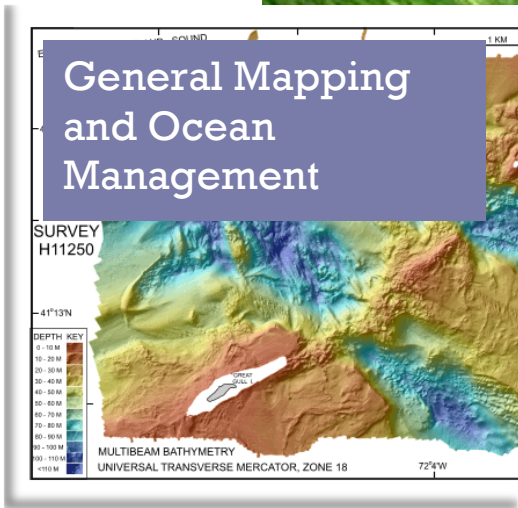In 2006, the Long Island Sound Study Policy Committee signed a second Memorandum of Understanding formally establishing a framework for the fund's use.

The Fund will be used to improve scientific understanding and effective management, emphasizing benthic mapping as a priority need. The surveys supported by the fund will be initiated in 2012 and will focus on a pilot area in Long Island Sound.

Existing maps such as the generalized bathymetry shown here are useful for large-scale, Sound-wide planning, but are insufficient for smaller or regional efforts. The forthcoming maps and data from this effort will provide improved detail and address seafloor habitats and their ecological communities as well as geological, chemical, and physical characteristics of the seafloor.
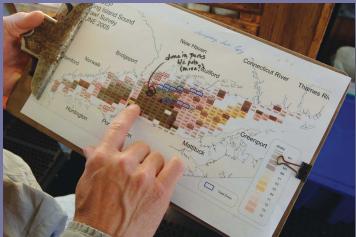
Bathymetric map of the sea floor in Long Island Sound
U.S. Geological Survey, Woods Hole Coastal and Marine Science Center

Infrastructure Planning

Species and Habitats Identification

General Mapping and Ocean Management

SURVEY H11250

41°13'N

DEPTH KEY
0 – 10 M
10 – 20 M
20 – 30 M
30 – 40 M
40 – 50 M
50 – 60 M
60 – 70 M
70 – 80 M
80 – 90 M
90 – 100 M
100 – 110 M
+110 M

GREAT GULL I

MULTIBEAM BATHYMETRY
UNIVERSAL TRANSVERSE MERCATOR, ZONE 18   72°4'W

Identified Management Needs

Seafloor Mapping products will support:

Infrastructure Planning:
Understanding the nature of the seafloor itself and the areas beneath it will help better determine how structures placed in the Sound such as cables and pipelines can balance human use and environmental concerns.

Species and Habitats Identification:
The seafloor environments where differing types, distributions, and concentrations of organisms is not well understood. By systematically identifying and mapping these we can better understand the nature of important species and ecological communities and develop ways to protect and sustain them.

General Mapping and Ocean Management:
Capturing data on the general physical, chemical, and biologic nature of the Long Island Sound seafloor will provide needed information to managers and researchers on a variety of topics ranging from tides and circulation, hypoxia, coastal hazards modeling, sediment and dredged material management, and natural resource management.

Collaboration between Partners

The successful completion of Seafloor Mapping of Long Island Sound is an immense goal. A project of this size has many challenges, including a large geographic project area, a diverse assemblage of collaborators, disparate past and present research activities, limited financial resources, and outcomes that are generally identified, but not explicitly defined. Multiple partners have come together to identify, define, organize and guide this effort.

For more information:

http://longislandsoundstudy.net/research-monitoring/seafloor-mapping/

Longislandsoundstudy.net

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