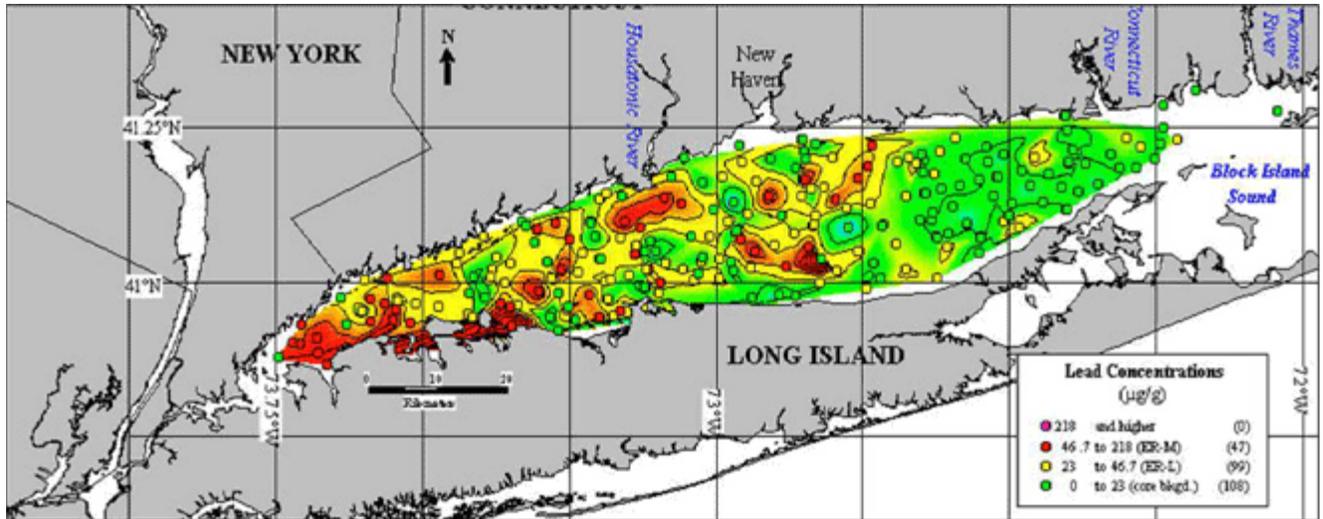


# Archived Long Island Sound Study Legacy Indicator

## Lead Concentrations in Sediment by Basin



Mecray, E.L. and M.R. Buchholtz ten Brink, 2000, "Contaminant Distribution and Accumulation in the Surface Sediments of Long Island Sound", *Journal of Coastal Research*, v. 16, no. 3, p. 575-590

### WHAT ARE SEDIMENT LEAD CONCENTRATIONS?

Low concentrations of heavy metals such as lead are normal, natural, and necessary in healthy marine and estuarine environments. The problem arises when additional amounts of lead are discharged into the surface waters of these environments from industrial and sewage treatment plants.

### WHAT DOES THIS INDICATE?

The map above illustrates lead concentrations in surface sediments taken around Long Island Sound. Each circle on the map represents a single sample and the colors are interpolated across samples. In the map, high lead concentrations (46.7-218 micrograms of lead per gram of sediment) are shown in red, moderate concentrations (23-46.7) are shown in yellow and low concentrations (0-23) are shown in green. The numbers in parentheses represent the number of samples falling into each of the concentration categories. ER-L and ER-M stand for Effects Range-Low and Effects Range-Medium, which are toxicity criteria used to define ranges of sediment lead concentrations that could adversely affect marine life. Lead concentrations above the natural range have the potential of causing toxic effects on marine organisms, and may subsequently affect humans through contamination of seafood.

### STATUS

The concentrations of lead and other metals in bottom sediments are generally higher in the western Sound and lower in the bottom-scoured regions of the eastern Sound. This is primarily due to both the locations of pollutant sources and the westward transport of contaminants associated with fine-grained particles.

### **what are historical/legacy indicators?**

Some of our indicators are categorized as either historical or legacy indicators. The Lead Concentrations in Sediment indicator is a historical indicator. This type of indicator provides perspective on past environmental conditions in Long Island. It is not measured periodically like our other indicators. Many indicators of this type use sediment core samples to measure how conditions in the Sound have changed over hundreds to thousands of years.

A legacy indicator is another type of indicator that is no longer actively tracked by the Long Island Sound Study. This is often due to lack of funding or termination of field sampling programs. A legacy indicator might also be replaced by a more effective indicator or may not need to be updated because the goal has been met. We continue to present these legacy indicators because they can still provi