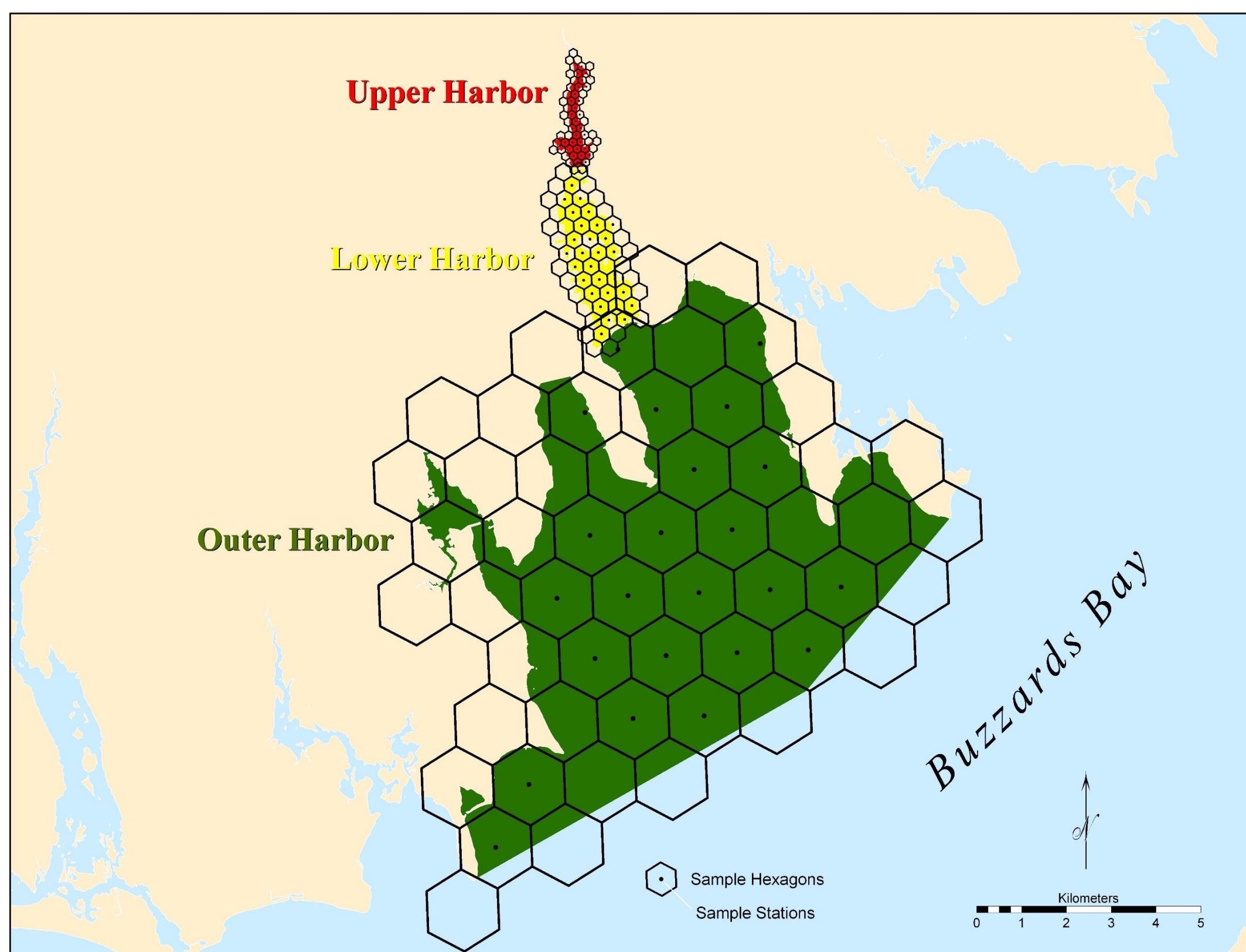# New Bedford Harbor Long Term Monitoring Program: Overview

Dr. Barbara Bergen, USEPA, Office of Research and Development, NHEERL, Atlantic Ecology Division, Narragansett, RI
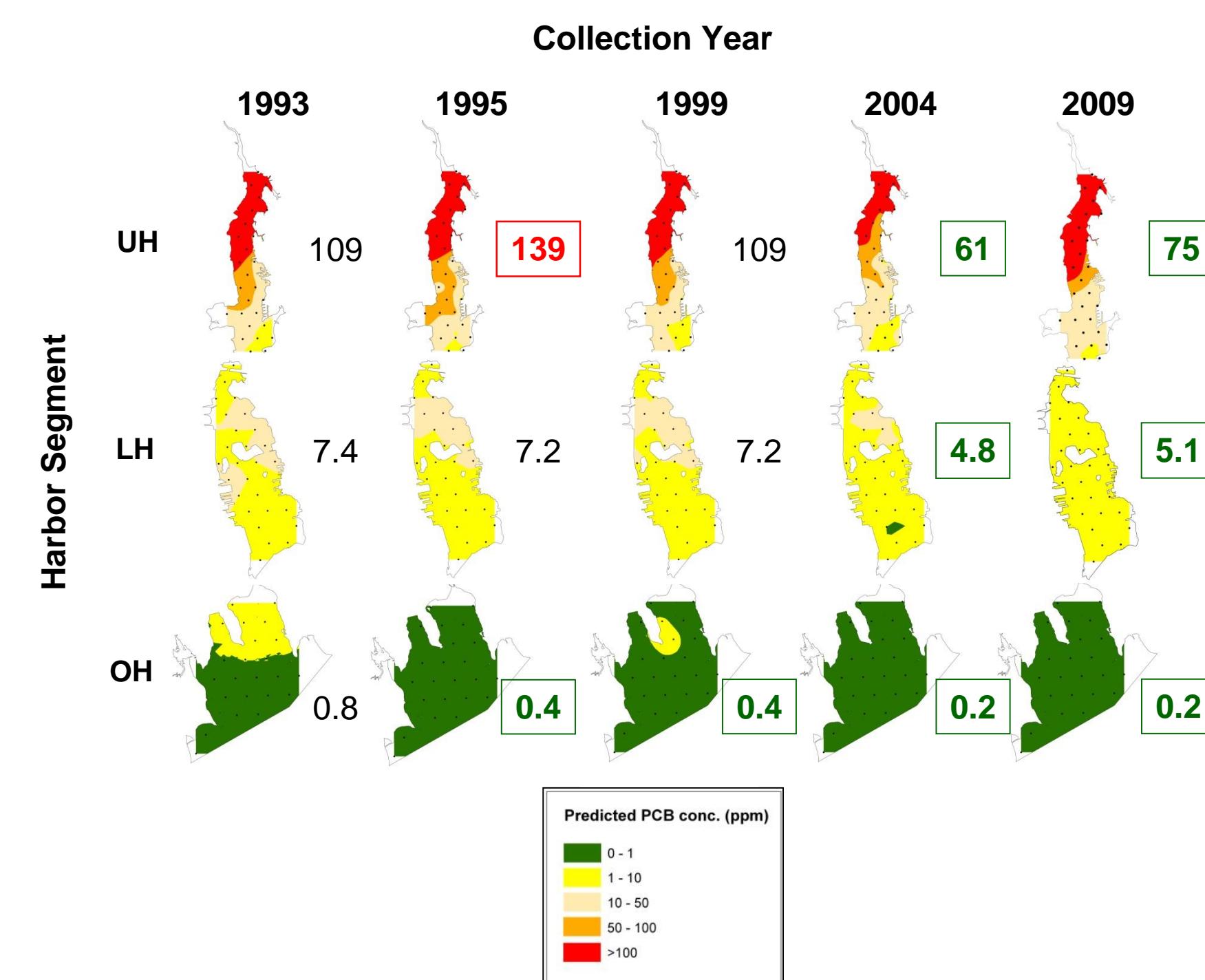
- **New Bedford Harbor (NBH) Long-Term Monitoring (LTM) Program**:

  Designed in 1993 by the Atlantic Ecology Division, Narragansett, RI, with EPA Region I, ACE-NED, and the State of Massachusetts

- **Goal**:

  Quantify the effects and effectiveness of Superfund activities by collecting chemical, physical, and biological data throughout NBH site at sampling locations over time.

- **Sample Collection Dates**:
  - Baseline - 1993
  - Post Hot Spot - 1995
  - Pre-Upper Harbor remediation - 1999
  - Full scale dredging – 2004
  - Full scale dredging – 2009
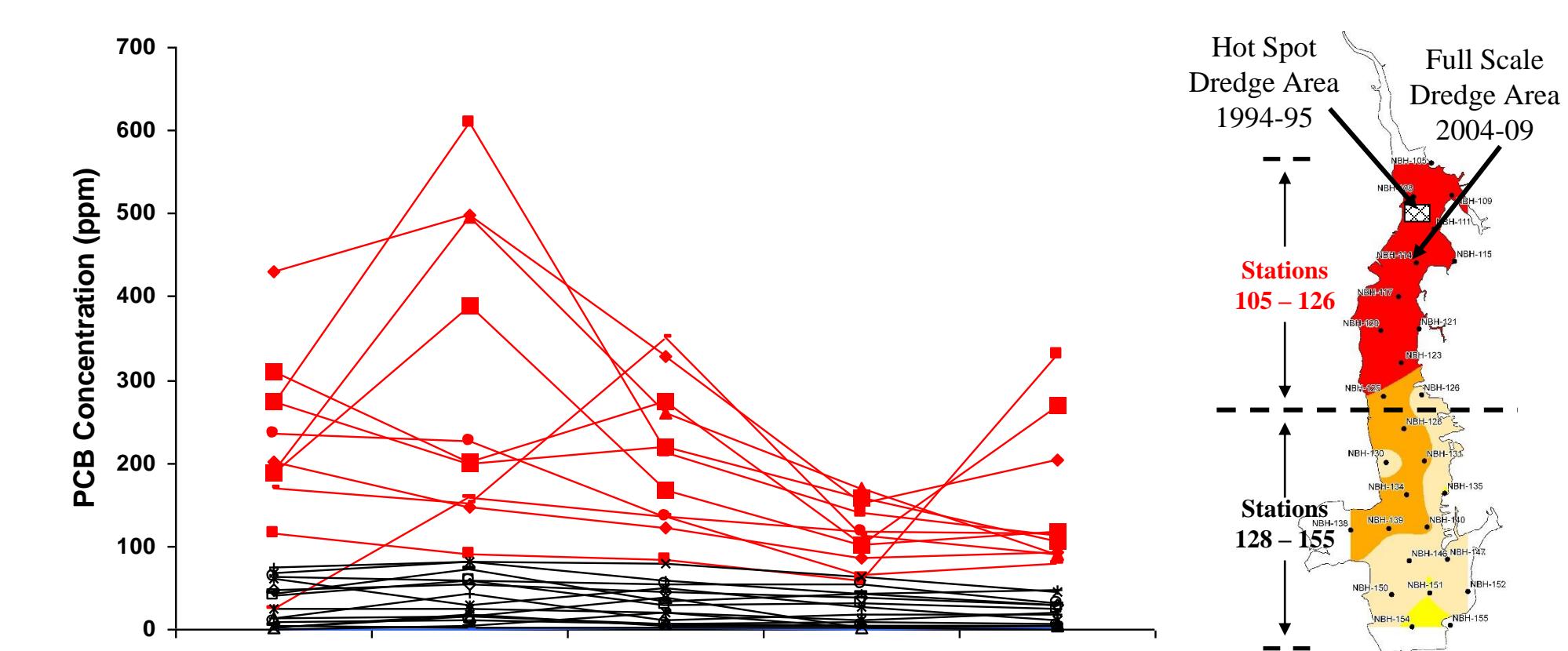 - Full scale dredging - 2014

- **Sample Locations (74 Stations):**

- **Measurements**:
  - Chemical: PCBs (18 congeners), 8 metals (Cu, Cd, Pb, Cr, Ni, Zn, Hg, Se, As), TOC, AVS
  - Physical: Grain Size, Temperature, Salinity
  - Biological: Sediment toxicity, Benthic community (diversity & condition)
  - Water column PCB bioaccumulation in blue mussels

Outer Harbor (~17,000 acres)
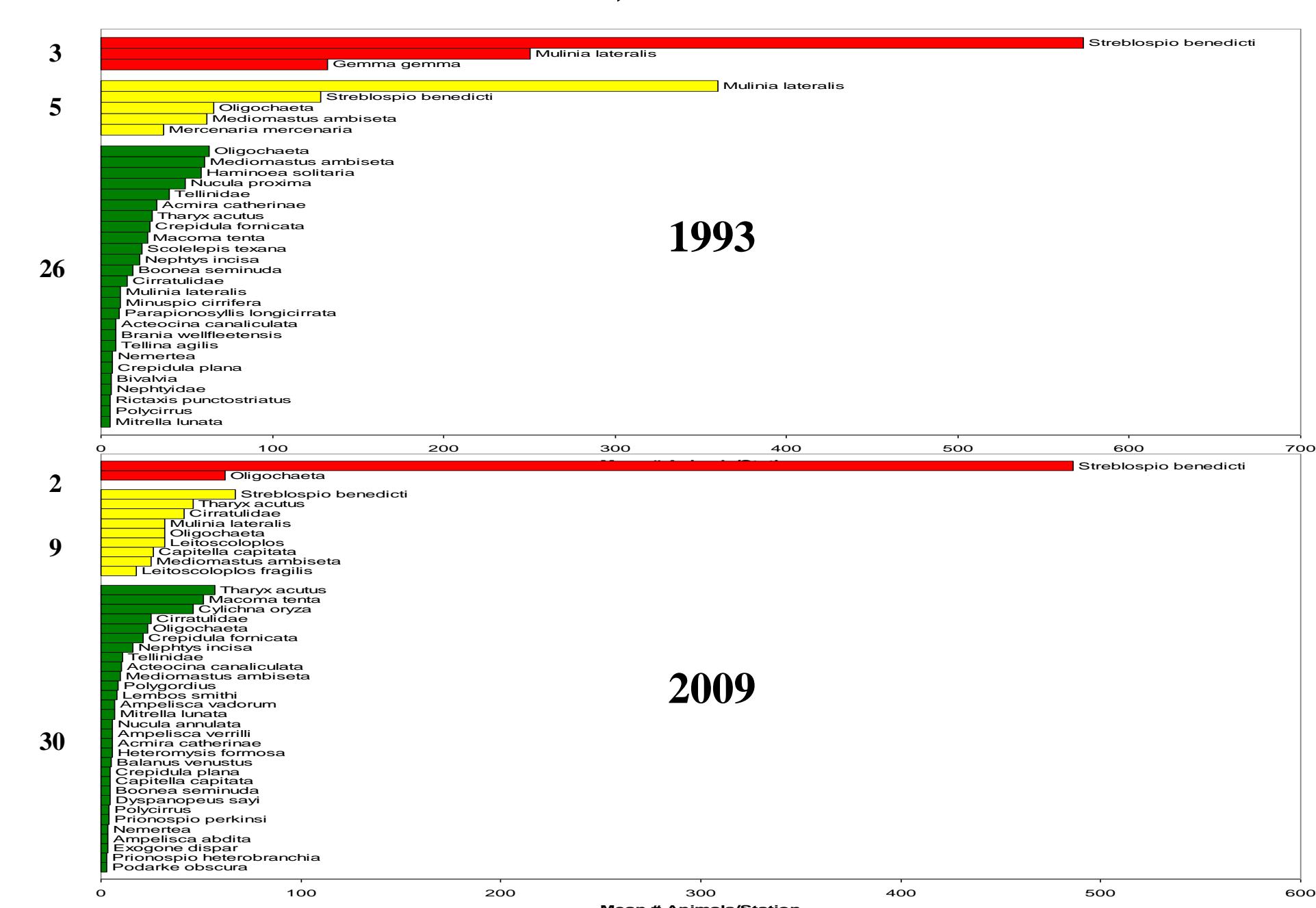Lower Harbor (~800 acres)
Upper Harbor (~200 acres)

Chemical Data: Surficial Sediment (2 cm) PCB Conc. (ppm) 1993 – 2009

Chemical Data: Upper Harbor Surficial Sediment (2 cm) PCB Conc. (ppm) – Localized View

Biological Data: Benthic Community Comparison 1993 – 2009 (Similar spatial and temporal patterns between 1993 and 2009)

Biological Data: Benthic Community Condition Index