New York Bight Water Quality Monitoring Program

USEPA Region 2
Division of Environmental Science and Assessment

Helen Grebe, Regional Coastal Monitoring Coordinator
History

- 1974  program initiates
- 1976  massive algae blooms, fish kills, wash-up of debris
- 1977  sampling from a helicopter
- 1985  extensive low dissolved oxygen
- 1987 & 1988 extensive garbage wash-ups
- 1989  floatable surveillance began
- 1995  went contract
- 1996  “Coastal Crusader”
- 1998  EPA 1600
Objectives: Region 2’s Response to EPA’s Mandated Responsibilities

Marine Protection, Research and Sanctuaries Act of 1972
Water Pollution Control Act Amendments of 1972 and 1977
Water Quality Act of 1987

Basic Networks

- The Beach Station Network - water quality data on swimmability.
- The Perpendicular Station Network - predict environmental crises
- The Floatables Surveillance Network - prevent floatable wash-ups
  - Develop Trends
  - Phytoplankton Sampling
  - Emergency Response, Oil Spill Response
  - Superfund/Wetland assessment
  - Educational/Public Outreach

Partnerships

- NJDEP & NYSDEC National Shellfish Sanitation Program
- DRBC Water Quality Program

- Time Frame: Pre-Memorial Day to Labor Day
Floatable Surveillance Network

Floatable Action Plan (EPA, NJDEP, NYSDEC, NYCDEP, NYCDOH, USCG, USACOE)

Clean-up
• Corps of Engineers
• NYCDEP (Cormorant & Boom and Skim Program)
• NJDEP (Clean Shores Program & Adopt-A-Beach Program)

Aerial Surveillance by NJDEP
Figure 4
New York Bight Apex
New York/New Jersey Harbor Complex
Results and Trends
# Beach Station Network Trends

## Five Years of Data (2001 – 2005)

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<th>New Jersey</th>
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* Bacteriological Water Quality Exceedances
Figure 7
Dissolved Oxygen Trends - Percent of Bottom Values Below 4 mg/l
Off the New Jersey Coast, 1981 - 2005
Figure 6
New Jersey Perpendiculars, 1992 - 2005
Average Dissolved Oxygen Concentrations: One and Nine Nautical Miles off the Coast

Dissolved Oxygen (mg/l)

Year

'92  '93  '94  '95  '96  '97  '98  '99  '00  '01  '02  '03  '04  '05

Nine Nautical Miles off the Coast

One Nautical Mile off the Coast
Figure 8
Trends of Floatable Observations in the NY/NJ Harbor Complex
late May - early September, 1989 - 2005

Total Number of Significant Slicks Observed

Year

'89  '90  '91  '92  '93  '94  '95  '96  '97  '98  '99  '00  '01  '02  '03  '04  '05
New York/New Jersey Coastal Beach Closure Incidences
Due to Floatable Debris
1988 - 2005
Benefits

- Prevents wash-ups of wood, household and medical debris on bathing beaches
- Provides maximum monitoring coverage to protect the health of the bathing public
- Economic benefits derived by maintaining open beaches
- Allows for early detection of potentially low dissolved oxygen episodes and potential phytoplankton blooms
- Promotes partnerships with states
- Promotes public awareness
- Establishes good community relations, press
- Provides a platform for environmental education
STORET
NY Bight Report
http://www.epa.gov/region02/desa/nybight/