THE NEW JERSEY TOXICS REDUCTION WORKPLAN FOR NY-NJ HARBOR

PROJECT OVERVIEW

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NY-NJ Harbor Estuary Program

Contaminant Assessment & Reduction Program (CARP)

NJ Toxics Reduction Workplan for NY-NJ Harbor (NJTRWP)

NYSDEC CARP Program

CARP Modeling Activities

CARP Database
Key CARP Questions

• What is the relative importance of specific loadings (discharges) of toxic contaminants to the quality of dredged material in the harbor today?

• What management actions to reduce contamination will produce the greatest overall benefits, both in time and areal extent?
GOAL & OBJECTIVES OF THE NJTRWP

**GOAL:** to understand the sources, transport, and fate of sediments and toxic contaminants in NY-NJ Harbor.

**OBJECTIVES:**

- To quantify the levels and loadings of the contaminants of concern in New York-New Jersey Harbor estuary.

- To identify and track down significant sources of these contaminants.
SOURCES & LOADS - HOW BIG is the PIE?

How Big are the Slices?

Total?

- Atmospheric Dep
- Trib Head-of-Tide
- POTWs
- CSOs & SWOs
- Industrial
- Bottom Sediments
- Landfills
- Surface Runoff
- Groundwater

Total?

Total?
NJTRWP CONTAMINANTS OF CONCERN

- Dioxins/Furans (17)
- PCB Congeners (114)
- Pesticides (27)
- PAHs (28)
- Metals: Total Hg, Cd, Pb
  - Dissolved Hg, Cd, Pb
  - Dissolved (& Total) methyl-Hg

- Based on NY-NJ HEP List
NJTRWP Phase One Sampling Stations
New Jersey POTW & CSO/SWO Sampling Locations

- Larger/Industrial POTWs
- Smaller/residential POTWs
- CSO & SWO Locations

Larger/Industrial POTWs:
- Middlesex County UA
- PVSC

Smaller/residential POTWs:
- Linden Roselle SA
- Rahway Valley SA

CSO & SWO Locations:
- Edgewater MUA
- West New York
- North Bergen
- Woodcliff

Locations:
- Bergen County UA
- North Bergen Central
- Secaucus MUA
- Joint Meeting Essex & Union
NJTRWP Principal Investigators

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Port Authority of NY-NJ: $9.5 million in funding
Today - Overview of Data Analyses

- SIT/Rutgers Hydrodynamic Work & Modeling
  - how sediments/contaminants move through harbor

- NJTRWP Phase 1 Ambient Water Quality Data
  - Metals (focus: Hg), Dioxins/Furans, and PCBs
  - summary of data (Passaic-Newark Bay-Hackensack)
  - identify potential significant sources/areas

- CARP Modeling Effort (Hydroqual)
  - development efforts
  - summary of initial results for PCBs & dioxins/furans
Potential Contaminant “Sources”

- Refers to watershed/area “sources” as reflected in the ambient data at the sampling locations.
- Does not necessarily reflect individual sources.
- Combination of potential “sources” - current and historical (bottom sediments) - interacting with hydrodynamic forces.
- Concentrations changes in the water column may not represent inputs or sources - hydrodynamics.