

# THE NEW JERSEY TOXICS REDUCTION WORKPLAN FOR NY-NJ HARBOR

## PROJECT OVERVIEW

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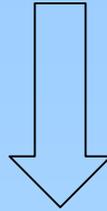
New Jersey Department of Environmental Protection

Trenton, NJ

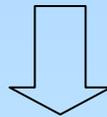
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# NY-NJ Harbor Estuary Program



## 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?

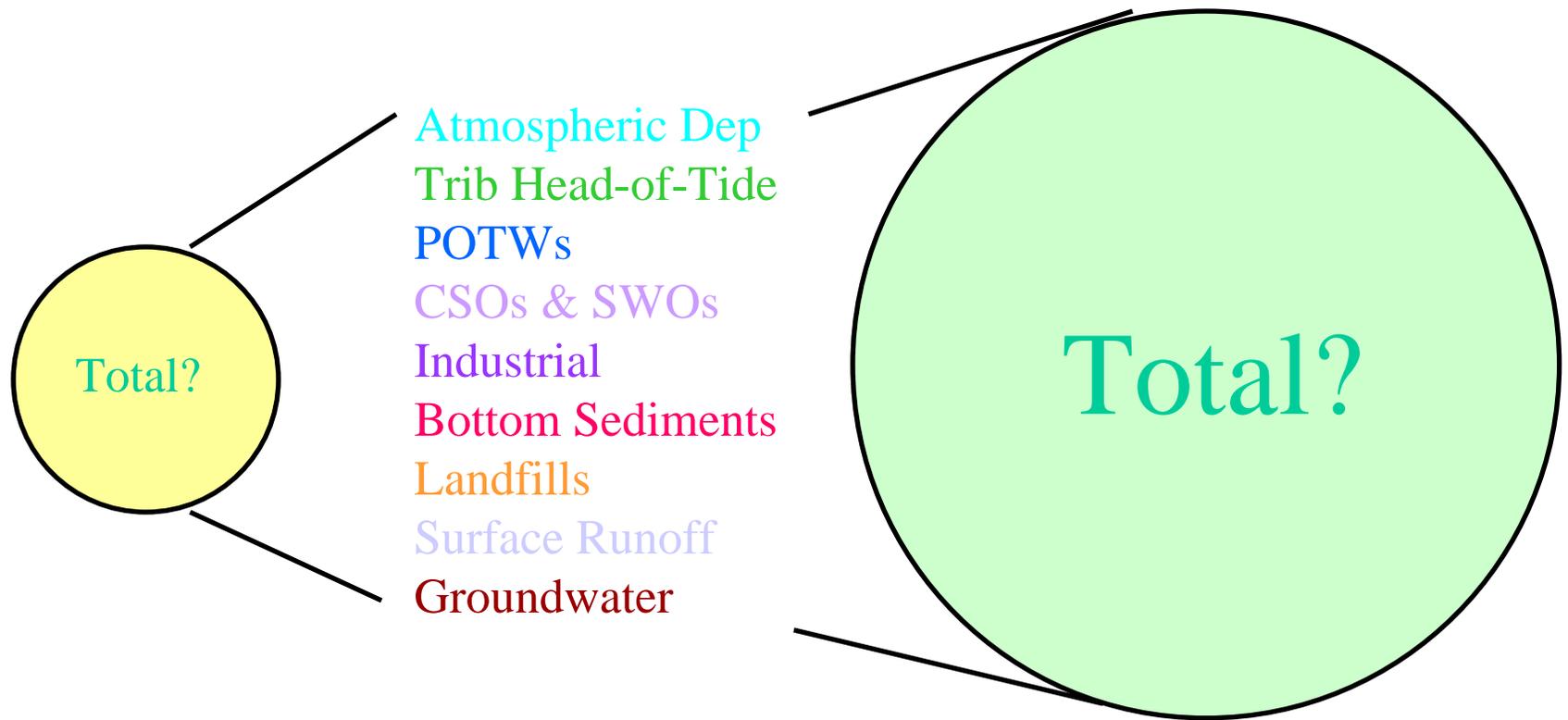
# GOAL & OBJECTIVES OF THE NJTRWP

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?



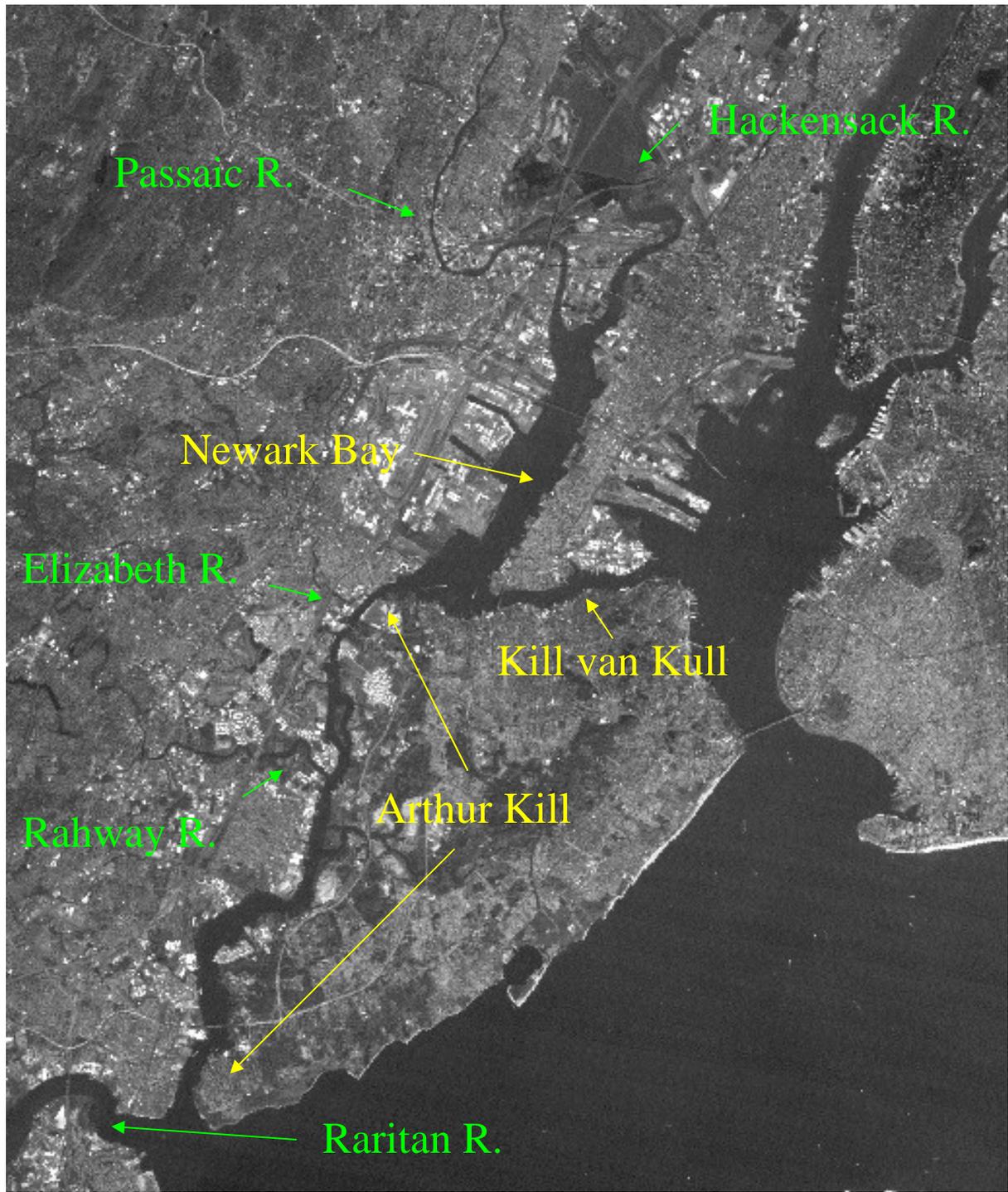
**How Big are the Slices?**

# NJTRWP CONTAMINANTS OF CONCERN

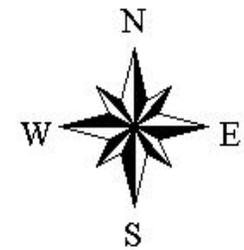
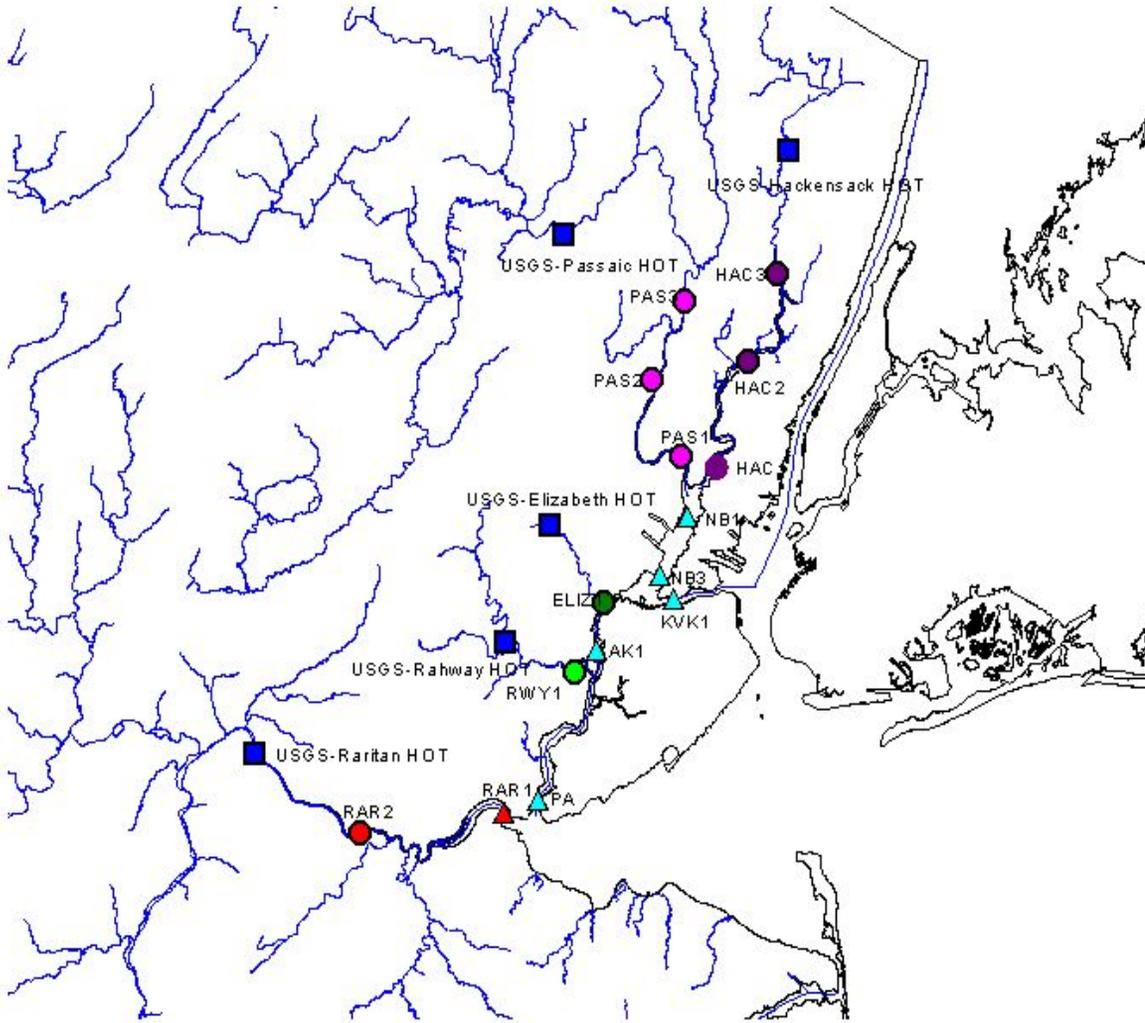
- Dioxins/Furans (17)
- PCB Congeners (114)
- Pesticides (27)
- PAHs (28)
  
- Metals: Total Hg, Cd, Pb
  - Dissolved Hg, Cd, Pb
  - Dissolved (& Total) methyl-Hg



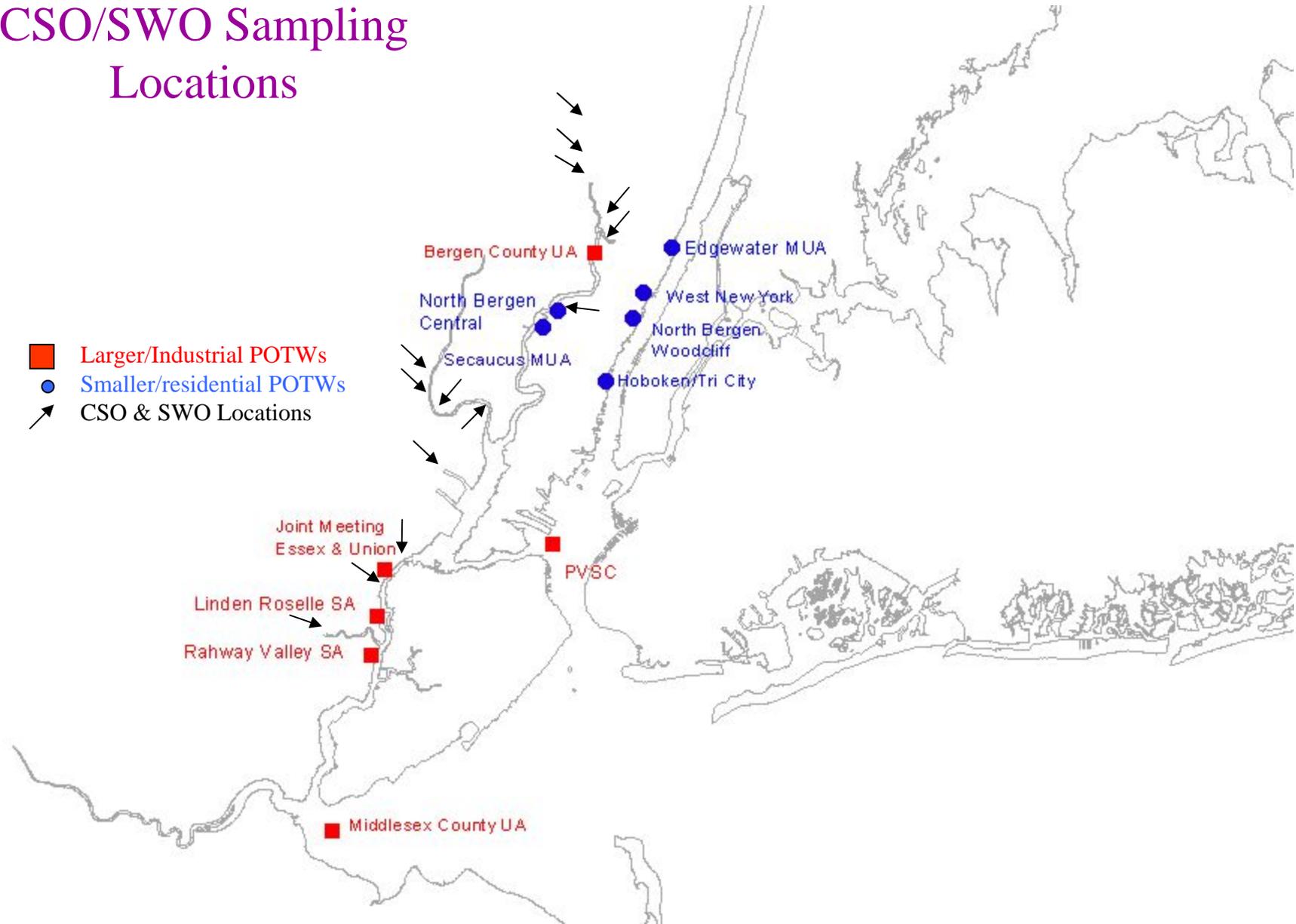
❖ Based on NY-NJ HEP List



# NJTRWP Phase One Sampling Stations



# New Jersey POTW & CSO/SWO Sampling Locations



# NJTRWP Principal Investigators



## **NJ Department of Environmental Protection**

Joel Pecchioli, Project Manager  
Gary Buchanan, Ph.D., Toxicologist

## **NJ Office of Maritime Resources, NJ Department of Transportation**

Scott Douglas, Project Monitor

## **US Geological Survey - NJ**

Timothy P. Wilson, Ph.D., P.I.  
Jennifer L. Bonin, Co-Investigator

## **Great Lakes Environmental Center on behalf of The New Jersey Harbor Dischargers Group**

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## **Rutgers University Institute of Marine and Coastal Sciences**

Scott Glenn, Ph.D., Co-PI  
Robert Chant, Ph.D., Co-PI  
Richard Styles, Ph.D., Co-PI

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.