

# Source Control Early Action Focused Feasibility Study

Introductory Presentation

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INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS AND CONSULTANTS

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# Overview of Presentations

- Introduction
- Geochemistry
- Risk Assessment
- Engineering
- Comparison of Alternatives



# Introduction

- Presentation Overview
- Scope and Purpose of FFS
- Contents of FFS Document
- Synopsis of FFS



# Geochemistry

- Conceptual Site Model
- Target Area Analysis
- Empirical Mass Balance Model
- Sediment Futurecast



# Risk Assessment

- **Human Health and Ecological**
  - Evaluation of Current Risks
  - Estimation of Future Risks for Remedial Scenarios
  - Estimation of Risk Reduction
- **Preliminary Remediation Goals**
  - ARARs
  - Risk Based Concentrations
  - Site Background (Dundee Dam)
  - Selected PRGs



# Engineering

- Alternative Development
  - Navigation
- Modeling (Cap Erosion & Flood)
- Concept Designs
- Geotechnical Evaluations
- Volume Estimates
- Dredged Material Management
- Cost Estimates



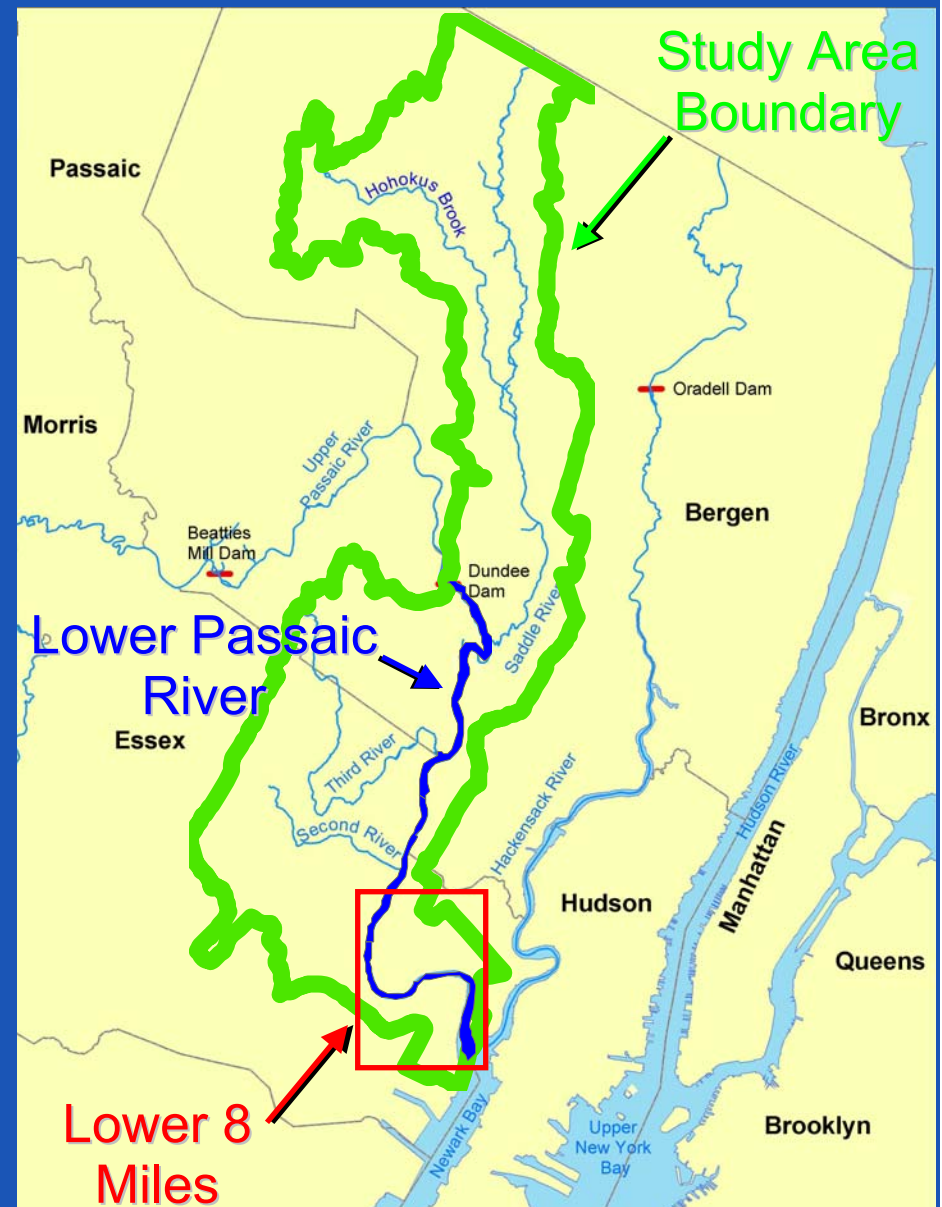
# Comparisons Under EPA's Nine Criteria

- Volumes
- Flooding
- Costs
- Other
  - Adequacy and Reliability (LT Maintenance)
  - Permanence (Cap vs. Backfill)
  - Short Term Effectiveness



# Description of Overall Project

- Comprehensive Study of the Lower Passaic River
  - Study Area includes 17-mile tidal portion of the river from Newark Bay to Dundee Dam (including tributaries) and watershed
  - Integrated CERCLA / WRDA project
  - Joint effort among USEPA, USACE, NJDOT, NOAA, USFWS, and NJDEP





# Purpose of FFS

- CSM: Fine grained sediments of lower 8 miles identified as major source of contamination
- FFS undertaken to evaluate range of remedial alternatives that might be implemented as early action to control source
  - Final action for the sediments in the lower eight miles
  - Intended to take place in the near term, while comprehensive 17-mile study is on-going.



# Contents of FFS Main Text

- Executive Summary
- Introduction
- Development of RAOs and Selection of Target Areas
- Identification and Screening of General Response Actions, Remedial Technology Classes, and Process Options
- Development of Remedial Alternatives
- Detailed Analysis of Remedial Alternatives



# Contents of FFS Appendices

- Conceptual Site Model
- Sediment TBCs and PRGs
- Risk Assessment
- Empirical Mass Balance Model
- Engineering Memoranda
- Navigation Studies
- Cap Erosion and Flood Modeling
- Dredged Material Management Assessments
- Dredging Volume Estimates
- Cost Estimates



# Synopsis

- High risk due to elevated surface concs.
- Neither No Action nor discrete remediation would achieve risk threshold within reasonable time frame
- Active alternatives achieve PRGs faster than No Action
  - Dioxin (65 percent of risk): 40 years faster
  - PCBs (33 percent of risk): 10 years faster
- Volume estimates range from 1.1M to 11M cy
- DMM relies on CDFs for disposal or storage
- Flooding impacts range from -17 to +93<sup>(1)</sup> acres
- Costs range from \$0.9B to \$2.3B

(1) Previously reported value of +24 acres has been corrected to +93 acres.

