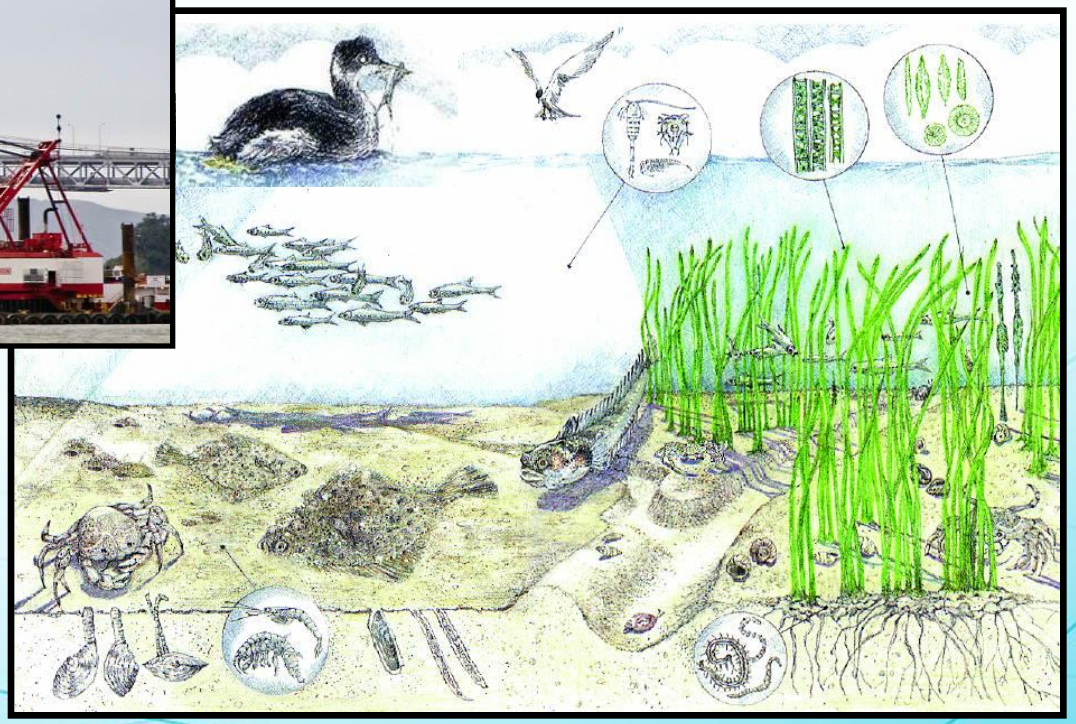
Identification, Removal and Management of Contaminated Sediments



AAPA Harbors and Navigation Committee Winter Meeting

January 15, 2013

WESTON SOLUTIONS

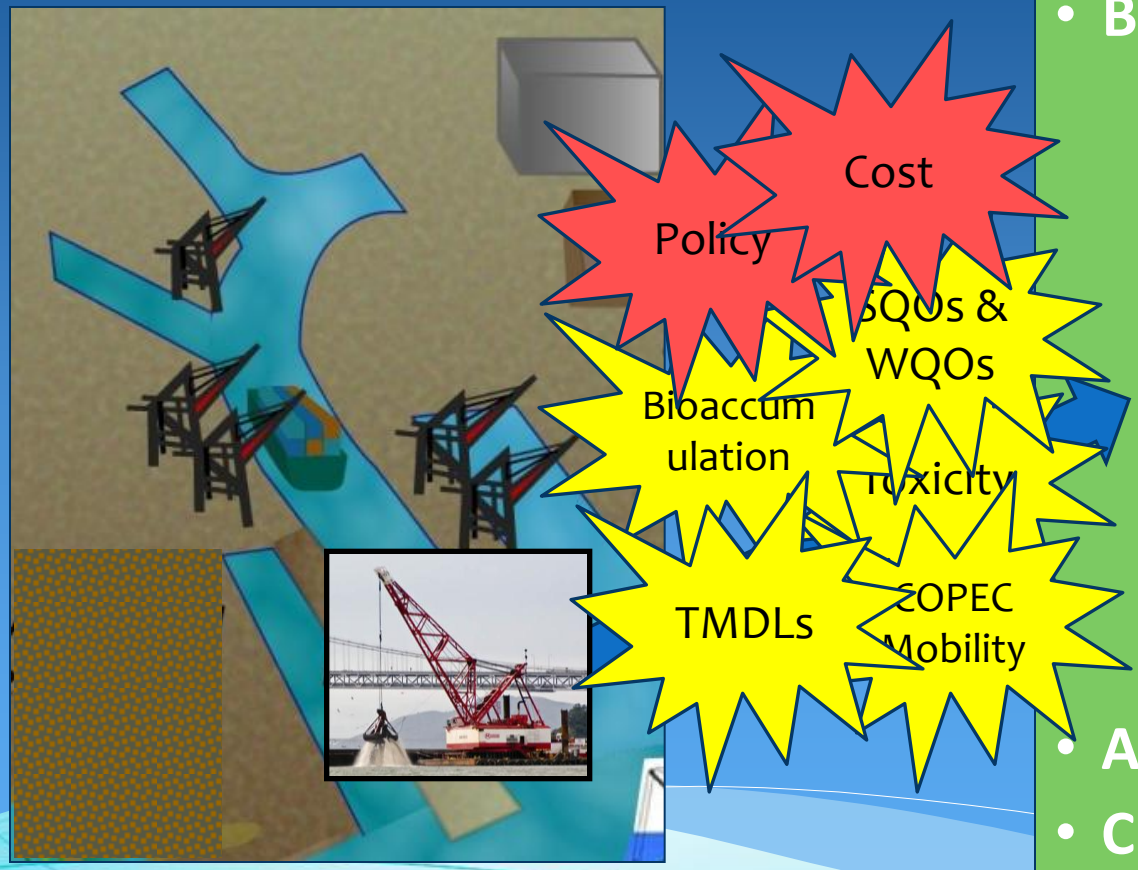
Integrated Sustainable Sediment Management

WESTON SOLUTIONS

Identifying Sediment Contaminants Type, Magnitude and Extent

Comprehensive approach for addressing the long-term management and conservation of sediments within a watershed to maintain current and future beneficial uses while addressing regional environmental, economic, and social objectives.

Assessment of Feasibility and Environmental Risk Associated with Available Management Options



- **BENEFICIAL USE**
  - Habitat Restoration
  - Parks and Recreation
  - Agriculture/Forestry
  - Mine Reclamation
  - Landfill Cover
  - Beach Nourishment
  - Shoreline Stabilization
  - Levees
  - Construction Material
- **AQUATIC DISPOSAL**
- **CDF/CAD**

Identifying Sediment Contaminants Type, Magnitude and Extent

SAMPLE SCHEME

- **Review current and historical land-use**
- **Sampling and testing history**
- **Overlay historical data using GIS tools**
- **Multiple samples in areas of potential concern**
- **Align sample locations with effective dredge footprint**

Identifying Sediment Contaminants Type, Magnitude and Extent

SAMPLING PROCEDURES

- **Vertical segmentation**
- **Appropriate equipment**
  - **Surface grab sample**
  - **Vibracore**
  - **Piston core**

Identifying Sediment Contaminants Type, Magnitude and Extent

ANALYTICAL PROCEDURES

- **Standard analyses**
  - **Sediment chemistry**
  - **Biological**
  - **Physicochemical**
- **Additional analyses**
  - **Leachate chemistry/toxicity**
  - **Acid generating potential**
  - **Redox potential**
  - **Toxicity Identification Evaluations**

Sediment Management Options

- **Minimization of contaminated footprint**
- **Site specific modeling for biological impacts**
- **Cover vs. Non-cover material for habitat restoration**
- **Remediation options**
- **Leave in place**
- **Management option combinations**