

***US EPA Regions 1 and 2***  
***Informational Webinar –***  
***Dredging Permit Process,***  
***Testing, and***  
***Dredged Material Disposal***

**Patricia Pechko and Jeannie Brochi**  
**U.S. Environmental Protection Agency**  
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# Outline:

- Regulations
- Guidance documents
- EPA's role
- Permit process



# Clean Water Act

- Section 404 regulates dredging and the disposal of dredged material inside the baseline and in the territorial sea (3 miles)
- Upland – handled through other programs w/specific requirements



# Marine, Protection, Research, and Sanctuaries Act (MPRSA)

- Long Island Sound, all federal projects and private projects with a volume of 25,000 cubic yards or more.
- Guidelines rely heavily on use of physical, chemical and bioassay tests to determine acceptability of material.
- EPA has veto authority



# EPA's Role in Dredging

- Designate dredged material disposal sites and develop site monitoring and management plans (SMMPs)
- Manage and monitor jointly with USACE.
- Promulgate regulations and criteria for disposal site selection and permitting discharges
- Review dredging projects and permits



# ***Regulation of Dredged Material***

**Before dredged material is permitted for removal and placement, it must satisfy, among many other things, a three part review in accordance with the applicable statutes and regulations.**

- Needs analysis.
- Alternatives analysis.
- Testing (as needed)



# Regulation of Dredged Material Jurisdictional Boundaries



# ***Ambro Amendment***

In 1980, MPRSA was amended to add what is known as the "Ambro Amendment", named after Congressman Jerome Ambro .

As a result of this provision, the disposal in Long Island Sound of dredged material from Federal projects (both projects carried out under the Corps civil works program or the actions of other Federal agencies), or from non-Federal projects involving 25,000 cubic yards of material or more, must satisfy the requirements of both CWA § 404 and the MPRSA. Disposal from non-Federal projects involving less than 25,000 cubic yards however, is subject only to CWA § 404.





# Federal Agency Roles

- U.S. Army Corps of Engineers:
- Administers day-to-day program, including individual and general permit decisions;
- Conducts or verifies jurisdictional determinations;
- Develops policy and guidance; and
- Enforces Section 404 provisions.



# Federal Agency Roles

- U.S. Environmental Protection Agency
- Develops and interprets policy, guidance and environmental criteria used in evaluating permit applications;
- Reviews and comments on individual permit applications; and
- Has authority to prohibit, deny, or restrict the use of any defined area as a disposal site and to designate a disposal site for long-term use.



# Federal Agency Roles

- U.S. Fish and Wildlife Service and National Marine Fisheries Service:
- Evaluates impacts on fish and wildlife of all new Federal projects and Federally permitted projects, including projects subject to the requirements of Section 404 (pursuant to the Fish and Wildlife Coordination Act).



# State Agency Roles

- Water Quality Certificate
- Coastal Zone Management Act
- Federal Consistency



# Dredge/Fill permit process – open water disposal

- Dredge and Fill application submitted to U.S. Army Corps of Engineers, forwarded to agencies for review.
- Must include history of project, volume to be dredged, location map with sample sites and pollutant/spill history



# Dredge/Fill permit process – open water disposal

- human health, welfare, or amenities
- marine environment, ecological systems, or economic potentialities
- Other regulatory requirements apply (need to dredge, alternatives, etc...)



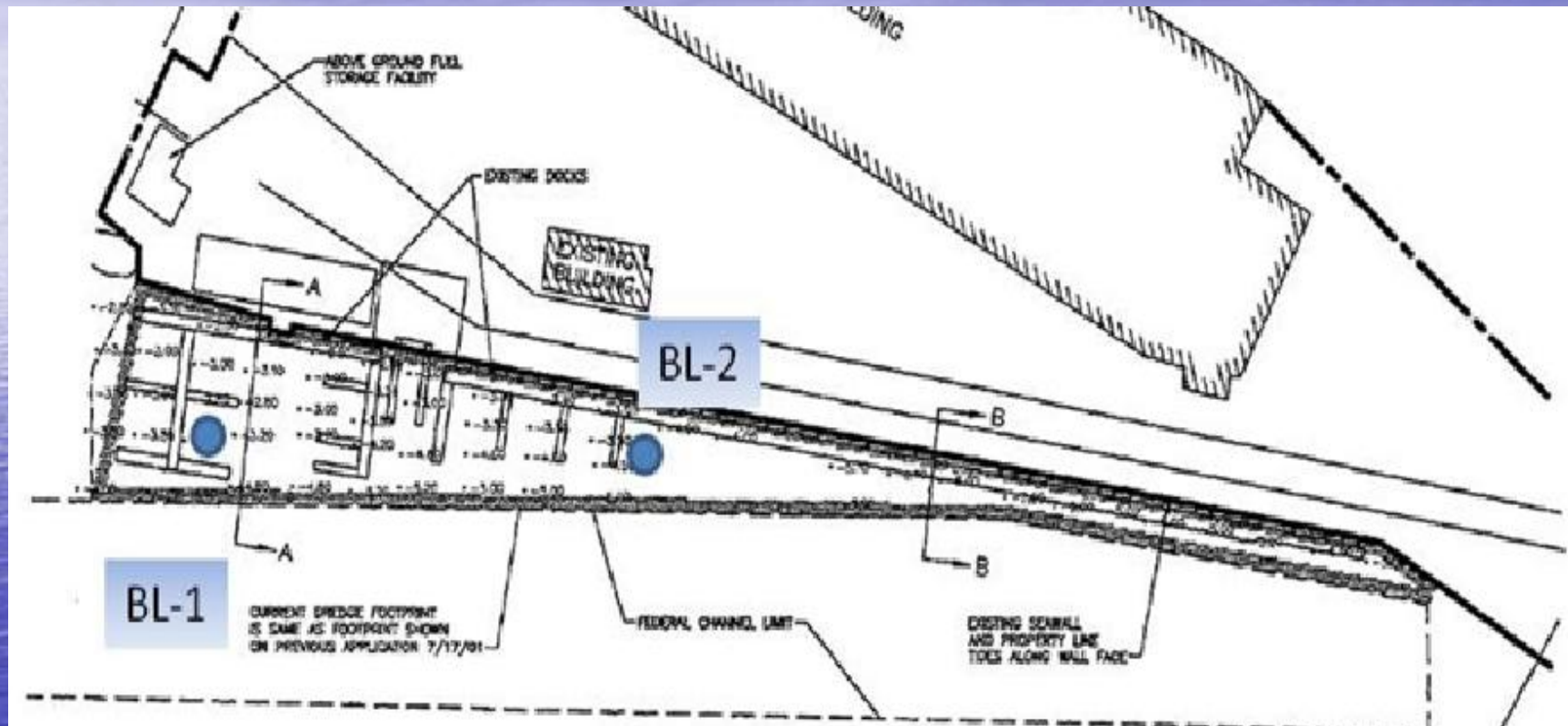
# Dredge/Fill permit process – open water disposal

## Evaluation:

- Contaminants of concern
- Frequency of testing/evaluation
- Sampling plan
- Reference site



# Dredge/Fill permit process – open water disposal





# Dredge/Fill permit process – open water disposal

- Tiered testing and evaluation
- Testing Procedures for water column
- Computer models for mixing
- Testing for benthic toxicity and bioaccumulation
- Case specific evaluations
- Statistical tools, QA/QC, and data interpretation



# Dredge/Fill permit process – open water disposal

- Testing Procedures for water column
- Computer models for mixing
- Risk Assessment



# Dredge/Fill permit process – open water disposal

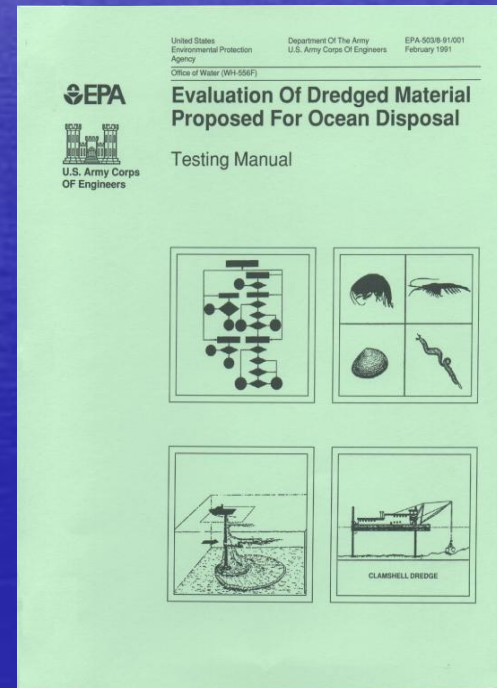
- Sediments must be evaluated to determine most appropriate disposal management option

Uncontaminated:

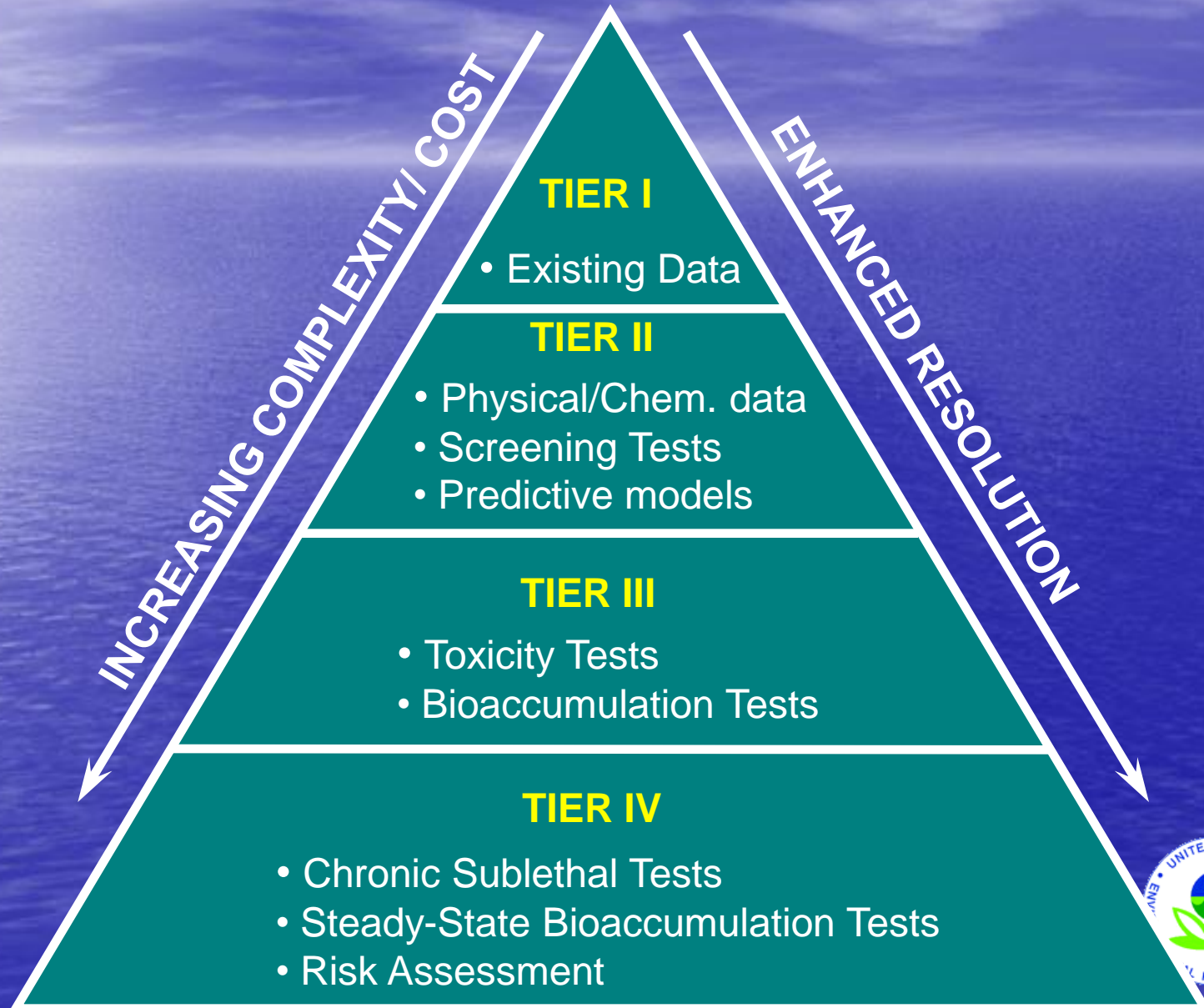
- Open water placement
- Beneficial uses

Contaminated:

- Confined disposal facility
- In place capping
- Upland Placement
- Alternative



# Tiered Approach



# Dredge/Fill permit process – open water disposal

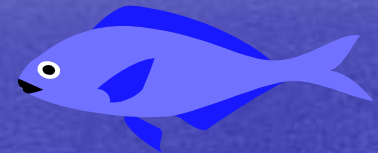
## Effects-Based Evaluations:

- Integrates contaminant effects
- Considers toxicity and bioaccumulation
- Basis for risk-based approach



# Benthic Evaluations

Biomagnification



Toxicity



Accumulation



Dredged Material



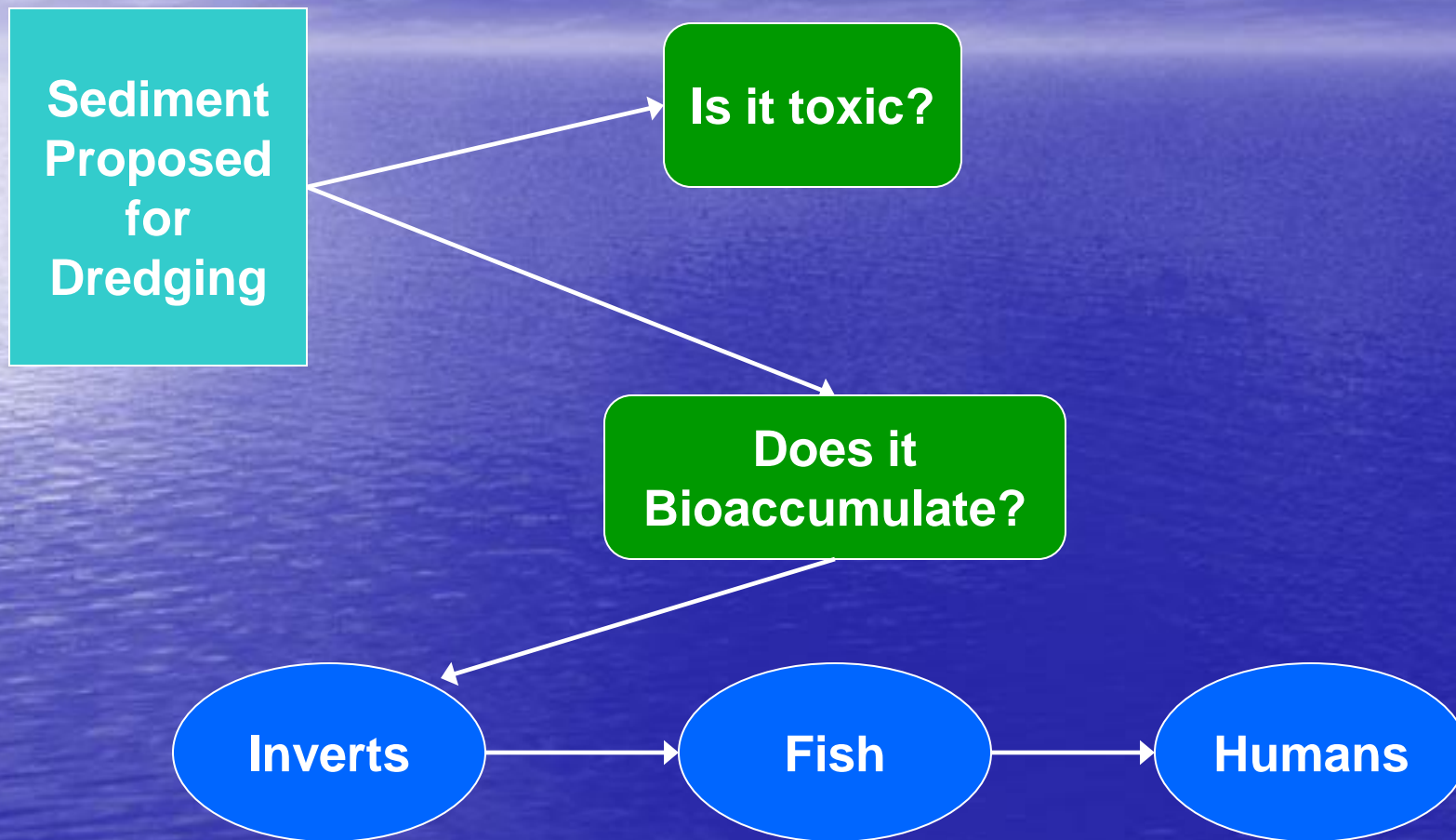
# Dredge/Fill permit process – open water disposal

## Exposure Pathways:

- Water Column
  - Whole sediment screen/WQC Compliance
  - Elutriate analysis
  - Acute Toxicity
- Benthic
  - Bioaccumulation
  - Acute, chronic sublethal toxicity



# Dredge/Fill permit process – open water disposal

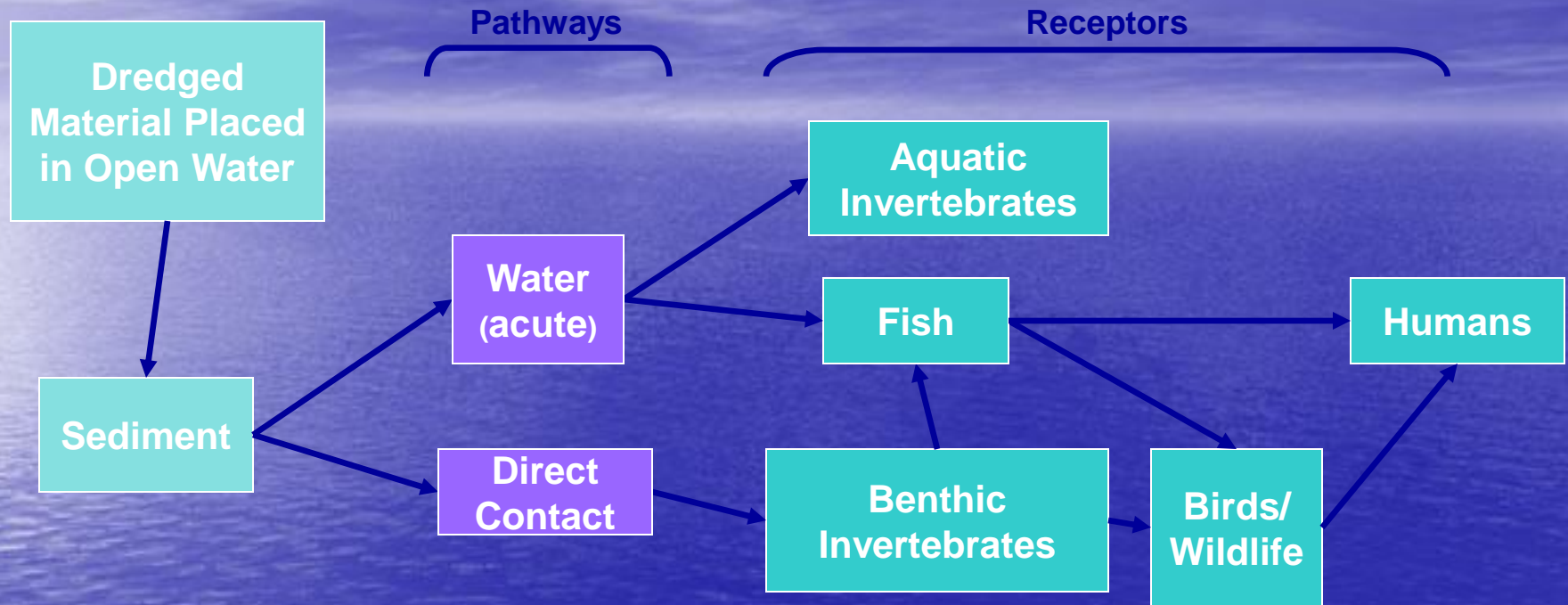


Unacceptable Adverse Risk?





# Use of Risk-Based Approach



## Characterization of Exposure

- Bioaccumulation tests (28-day)
- Food web model to fish, humans



# Toxicity Testing

- 10 day exposure to sediments
- 4 day exposure to water/sediment mix
- 2 or 3 diverse sensitive organisms
- Compared to reference survival (or dilution requirements)

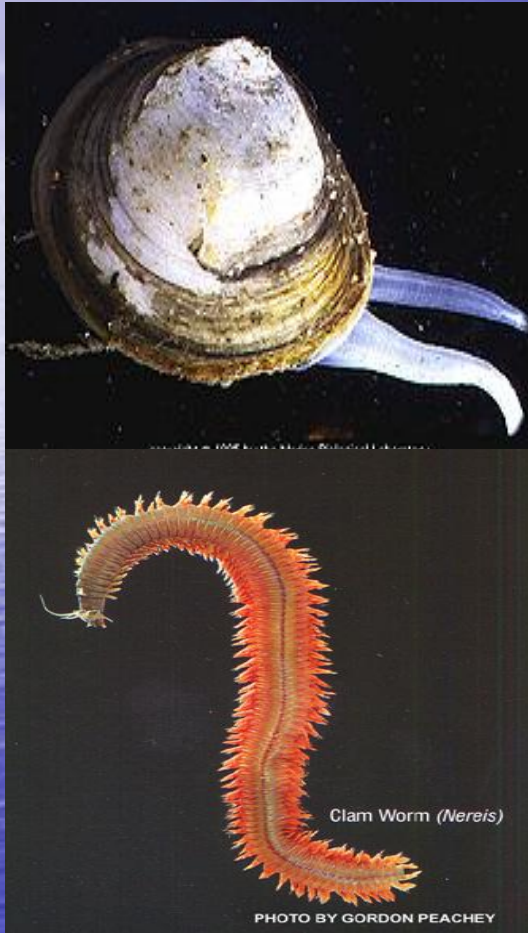


# Effects-Based Evaluations

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# Bioaccumulation Tests



- Expose test organisms to sediment sample for 28 d
- Measure accumulation in test organisms
- Correct to "steady state"
- Compare to FDA Action Limits
- Compare to accumulation from a "reference" sediment
- Evaluate risk to humans and ecological receptors



# Steps in the Decision Making Process

- Scientific/Technical Issues
- Legal Issues
- Policy Considerations
- Public Comment



QUESTIONS?

