

# Role of EPA in Managing Dredged Material under the Marine Protection, Research, and Sanctuaries Act and the Clean Water Act

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Several hundred million cubic yards (mcy) of sediment are dredged from United States ports, harbors, and waterways each year to maintain and improve the nation's navigation system

- ~ 20 percent: disposed of in the ocean under MPRSA
- ~ 75 percent: discharged to inland waters or used beneficially under CWA Section 404
- ~ 5 percent: unsuitable for open water disposal or beneficial use and placed in upland containment, or confined aquatic disposal facilities



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## EPA provides regulatory and technical support roles

- Office of Water, Oceans and Coastal Protection Division (OCPD) is lead for development of regulations, issuing policy and producing guidance documents
- Office of Research and Development (ORD) provides technical support, conducted the Field Verification Program, develops testing methods, *e.g.* acute and chronic toxicity tests, and conducts field demonstration projects

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## EPA works with the Army Corps of Engineers to manage dredged material under two authorities

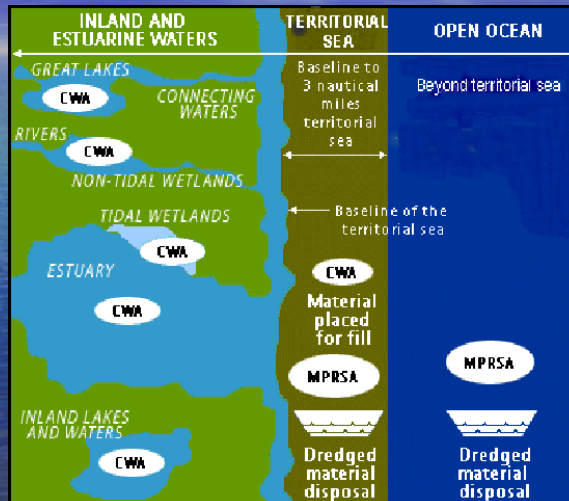
- Marine Protection Research and Sanctuaries Act (MPRSA, (AKA Ocean Dumping Act) sections 102 and 103
- Clean Water Act (CWA) Section 404



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## The jurisdiction for dredged material under the MPRSA and CWA overlaps in the territorial sea

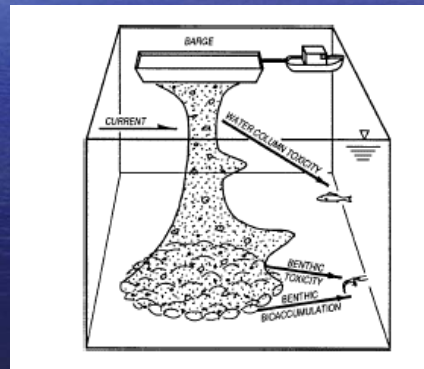


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## MPRSA (Section 103) prohibits discharge of dredged material into **ocean waters** without a permit from the Corps of Engineers

- Requires an evaluation of alternatives
- Disposal must not "unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities"
- With the Corps, EPA developed the **criteria** (40 CFR Parts 227, 228) and **testing manuals** to evaluate permits
- Permits are subject to EPA review and concurrence
- EPA can enforce provisions of permits

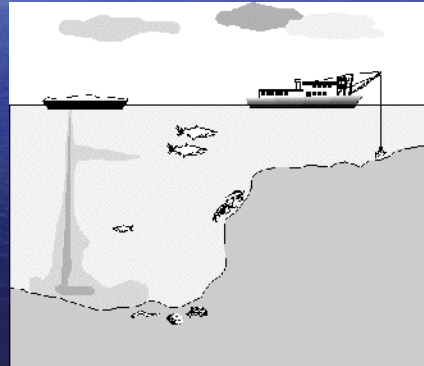


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# CWA Section 404 prohibits the discharge of dredged or fill material into **waters of the U.S.** without a permit from the Corps of Engineers

- Requires an evaluation of alternatives
- No discharge will be allowed that "will degrade the waters of the U.S" ...
- With the Corps, EPA developed Section 404(b)(1) evaluation **guidelines** (40 CFR part 230) and **testing manuals** to evaluate permits
- Permits are subject to EPA review and 404(c) "veto" if the guidelines are not met
- EPA can enforce under Section 309 of the CWA



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EPA Region 2 2004 News Releases: EPA Fines Dredging Company for Discharging Rock in Unauthorized - Microsoft Internet Explorer

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### EPA Fines Dredging Company for Discharging Rock in Unauthorized Areas

**For Immediate Release: Thursday, July 29, 2004**

**(#04122) New York, N.Y.** -- The U. S. Environmental Protection Agency (EPA) has taken action against Bean Stuyvesant L.L.C, for violating the [Marine Protection, Research and Sanctuaries Act \(MPRSA\)](#), commonly known as the [Ocean Dumping Act](#), by discharging dredged rock in the Atlantic Ocean, outside of authorized areas on two occasions. As part of the [NY/NJ Harbor Deepening Project](#), the dredged rock was to be deposited at the New Jersey Department of Environmental Protection's [Shark River Artificial Reef](#) site, located 15.6 nautical miles east of Manasquan, New Jersey. The proposed penalty for the two violations is \$110,000.

"This material was meant to benefit the reef project, but due to poor judgement it never reached its destination," said Jane M. Kenny, EPA Regional Administrator. "EPA keeps a close eye on ocean disposal operations to make sure material is placed where it is supposed to go."

In December 2003, a barge loaded with approximately 3,600 cubic yards of dredged rock departed from Bergen Point in the Kill Van Kull headed for the Reef. Rough seas and high winds were forecast at the time of departure but the decision was made by Bean Stuyvesant to proceed. On the way to the reef, bad weather forced the crew to attempt a return to the NY/NJ Harbor. According to the company, rock shifted within the barge, eventually causing it to flip and dump the rock into the ocean at an undesignated site. Placement of the rock outside the Shark River Artificial Reef was a violation of MPRSA.

In the second incident, also in December, Bean Stuyvesant dumped 3,600 cubic yards of dredged rock material approximately a half mile north of the Shark River Reef. As the barge approached the site, the Tug Captain noticed that it was rapidly leaning to one side. To avoid possible sinking or flipping, he dumped the rock. An inspection of the barge, once it returned to harbor, revealed that the hull had been punctured, most likely when the rock was loaded.

Trusted sites

## Evaluations under MPRSA and CWA differ in some respects

### MPRSA

Water Quality Criteria  
Mixing Specified  
Exclusions Restricted  
Bioassays Mandatory  
No Physical Isolation  
1977 Regulation

### CWA

Water Quality Standards  
Mixing Variable  
Exclusions Broad  
Bioassays Optional  
Physical Isolation  
1980 Regulation

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## EPA co-wrote the book(s)\* on evaluation of dredged material for dredged material disposal permits

- How do we evaluate material for open water disposal?
    - EPA worked with the Corps to establish the "ocean dumping criteria" in 40 CFR Part 227 and the 404(b)(1) guidelines in 40 CFR Part 230
  - How do we test the material?
    - EPA works with the Corps to produce testing manuals for both ocean and inland disposal
- \* = regulations, testing manuals, methods, etc.



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As an example of the regulations for MPRSA, Part 227.6 specifies what you may not dispose in “other than trace amounts”

- Organohalogen compounds
- Mercury and mercury compounds
- Cadmium and cadmium compounds
- Oil of any kind, and in any form
- Known or suspected carcinogens, mutagens, or teratogens

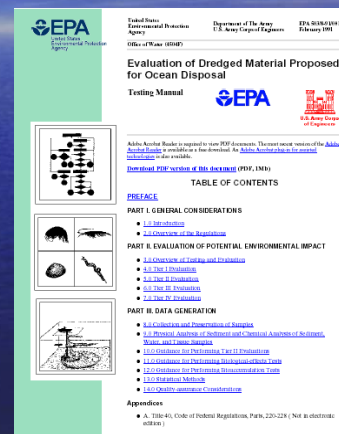


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The MPRSA (“Green Book”) and CWA (“Inland”) Dredged Material Testing Manuals are both effects-based

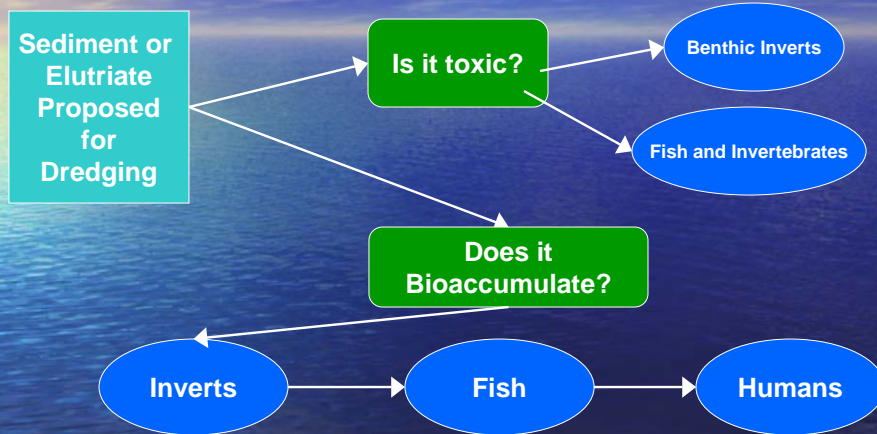
- Considers exposure via sediment, water column, bioaccumulation, and trophic transfer risk
- Tiered approach
- Recommends chemical, biological and statistical tests
- Accounts for differences among regions for test species



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Multiple exposure pathways are considered in evaluating dredged material

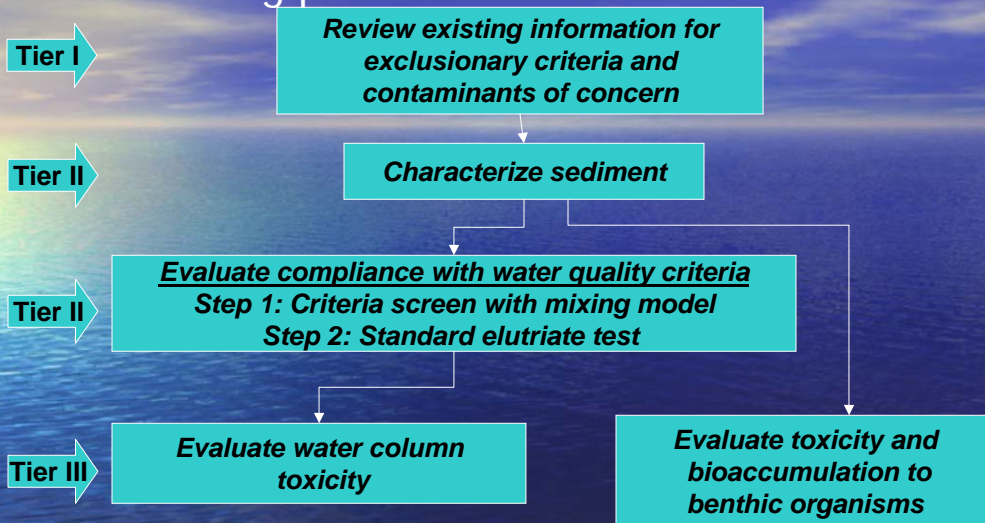


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Unacceptable Adverse Risk?



Tiered testing protocol



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## Both acute and chronic tests are used in evaluation of dredged material

<b>Tier I</b>	Evaluation of Existing Information			
	Water Column		Benthic	
	Water Quality Standards/Criteria	Water Column Toxicity	Benthic Toxicity	Benthic Bioaccumulation
<b>Tier II (chemical)</b>	Water Quality Screen/Elutriate Testing			TBP (CWA only)
<b>Tier III (biological)</b>		48/96-Hour Water Column Toxicity Tests	10-Day Benthic Toxicity Tests	28-Day Bioaccumulation Assay
<b>Tier IV</b>	Case Specific Testing and Evaluation			

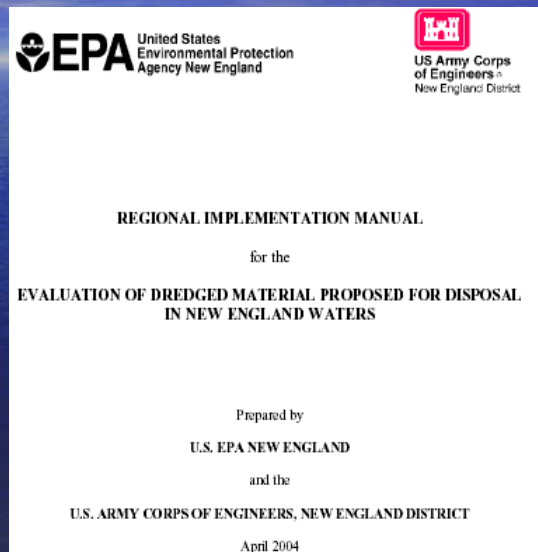
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## EPA Regions and Corps Districts issue "Regional Implementation Manuals" to address specific sampling and testing issues

- Guidance on information that needs to be submitted so regulatory agencies can make decisions
- An update to 1989 EPA Region 1/Army Corps New England Division document: *"Guidance for Performing Tests on Dredged Material to be disposed of in Open Waters"*

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The RIM addresses regional testing requirements and methods recommended to comply with the tiered testing requirements of the "Green Book" and the Inland Testing Manual (ITM)

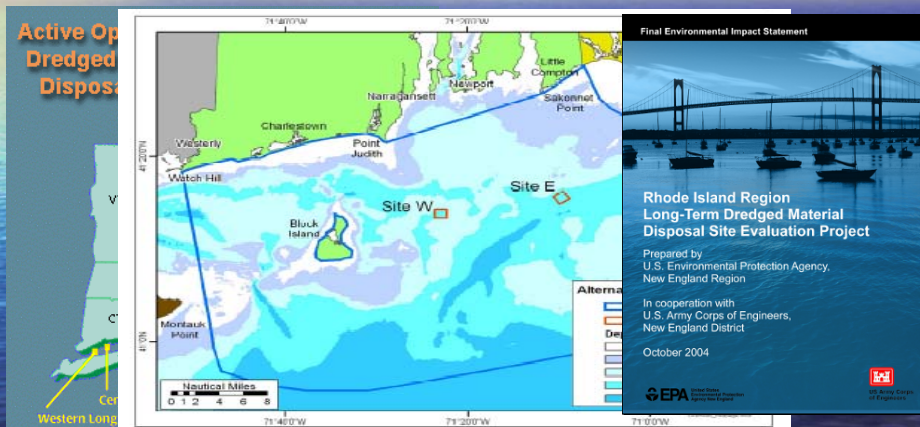
- Contaminants of concern
- Reporting (detection) limits
- Frequency of testing/evaluation
- Sampling scheme
- Reference sites
- Test species selection
- Special local considerations



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Where should dredged material be disposed? Under MPRSA Section 102 EPA designates ocean disposal sites using criteria in 40 CFR Part 228



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Under the MPRSA, all ocean disposal sites must include Site Management and Monitoring Plans (SMMPs) to determine whether disposal operations have significant adverse effects

- In New England, the Corps (DAMOS) conducts vast majority of monitoring, in other regions, such as Region 4, EPA is lead agency using OSV Anderson and now a new ship, the Bold
- SMMPs and site monitoring answer questions such as:
  - Are disposal activities in compliance with permit and site restrictions?
  - What are the short and long term impacts and fate of materials



Atlantic Dry Dock Corp.

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How EPA regional office coordinates with the Army Corps district office, and the states

- Coordination memos specify timeline for making decisions on sampling plans, and suitability determinations
- Regional dredging team – "Sudbury" group

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## The New England Regional Dredging Team addresses technical and policy issues

- Guided development of Regional Implementation Manual (RIM)
- Environmental windows
- Over-depth dredging
- Use of reference sediments
- Disposal site management and monitoring
- Policy issues addressed by “Mid Level Managers”



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## EPA co-chairs the National Dredging Team, a Federal interagency group

- Established in 1995 to:
  - Promote and implement the National Dredging Policy;
  - Promote national and regional consistency on dredging issues;
  - Provide mechanism for conflict resolution and information exchange. EPA (co-chair)
- Other agencies include: Army Corps of Engineers (co-chair), Maritime Administration, NOAA's National Marine Fisheries Service, NOAA's National Ocean Service, Fish and Wildlife Service, and U.S. Coast Guard

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## National Dredging Policy Principles

- The regulatory process must be timely, efficient, and predictable, to the maximum extent practicable.
- Advanced dredged material management planning must be conducted on a regional scale by partnerships including all stakeholders.
- Dredged material managers must become more involved in watershed planning to emphasize the importance of point and non-point source pollution controls to reduce harbor sediment contamination.
- Dredged material is a resource, and environmentally-sound beneficial use must be encouraged.

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## The RDT's Action Agenda for the Next Decade includes 22 recommendations across 4 themes

- Beneficial use of dredged material
- Sediment management in watershed context
  - Regional Dredged Material Management Plans
- Emerging issues (e.g., CZM, EFH)
- Strengthening Regional Dredging Teams

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