

## “Remediation of Contaminated Sediments in the Elizabeth River”

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Mr. Rieger is a scientist with the Elizabeth River Project—part of a 200-square-mile watershed, encompassing four cities and the Great Dismal Swamp (freshwater source and a “trap” estuary). The Elizabeth River Project (ERP) is a nonprofit group that works cooperatively with federal, city, business interests in the watershed; has 2000 members, including 59 industries.

ERP focuses its efforts on actions that will make the most difference. Their research on the mummichog is the focus of today’s presentation. Briefly, mummichogs are found in Elizabeth River sediments contaminated with PAHs. Many populations have 75% pre-cancer or cancer indicators. Specific sites referenced: Atlantic Wood, Money Point (lead), and Scuffletown Creek.

Details of sites:

- Money Point Background:
  - o 189 acres of subaqueous lands dredged
  - o 10.3 mill cubic acres
  - o Trust Fund established in 2003 to focus money for rest work; \$5 mill to dredge for remediation
  - o Plan for cleanup – broad stakeholder participation; took landscape approach – oysters, uplands, poll prevention, multi-faceted
- Money Point remedial actions:
  - o Dredging at northern and central corridors, remove hotspot
  - o Habitat enhancement at milder areas – provide continuum from soft bottom to oyster reefs, to berm area
  - o 19 acres site
  - o Saltwater marsh, 2 acres
  - o 4.3 acres oyster reef restoration
  - o Sand fill included drainage channel for habitat maximization
- Atlantic Wood Sediment Restoration (superfund site) Background:
  - o Contamination: at Portsmouth site, near bridge, very hot spots
    - Very productive, but contaminated fisheries habitat
  - o Want to bulkhead upland area, bring in clean sand, and install sheet piling around site at top of bad sediment/water interface
  - o Material could be brought upland (have 50 acres), spread and cap
  - o Also, could bulk head out, bring in bad sediment behind bulkhead and cap there; but state would have to maintain and could be pricey
- Project issues at Atlantic Wood:
  - o River bottom loss
  - o Wetlands and sand beach habitat
  - o Upland owners could become land locked
  - o Structural issues with cutoff wall

Lessons learned:

Community consensus on design is needed; sit at table with everyone, especially anyone who could stop you, and listen; collaborate with players who have much to learn, because they have the greatest potential to improve the watershed.