



Pearce Creek Confined Disposal Area

Public Meeting

Bohemia Manor High School
Chesapeake City, Maryland
March 16, 2013



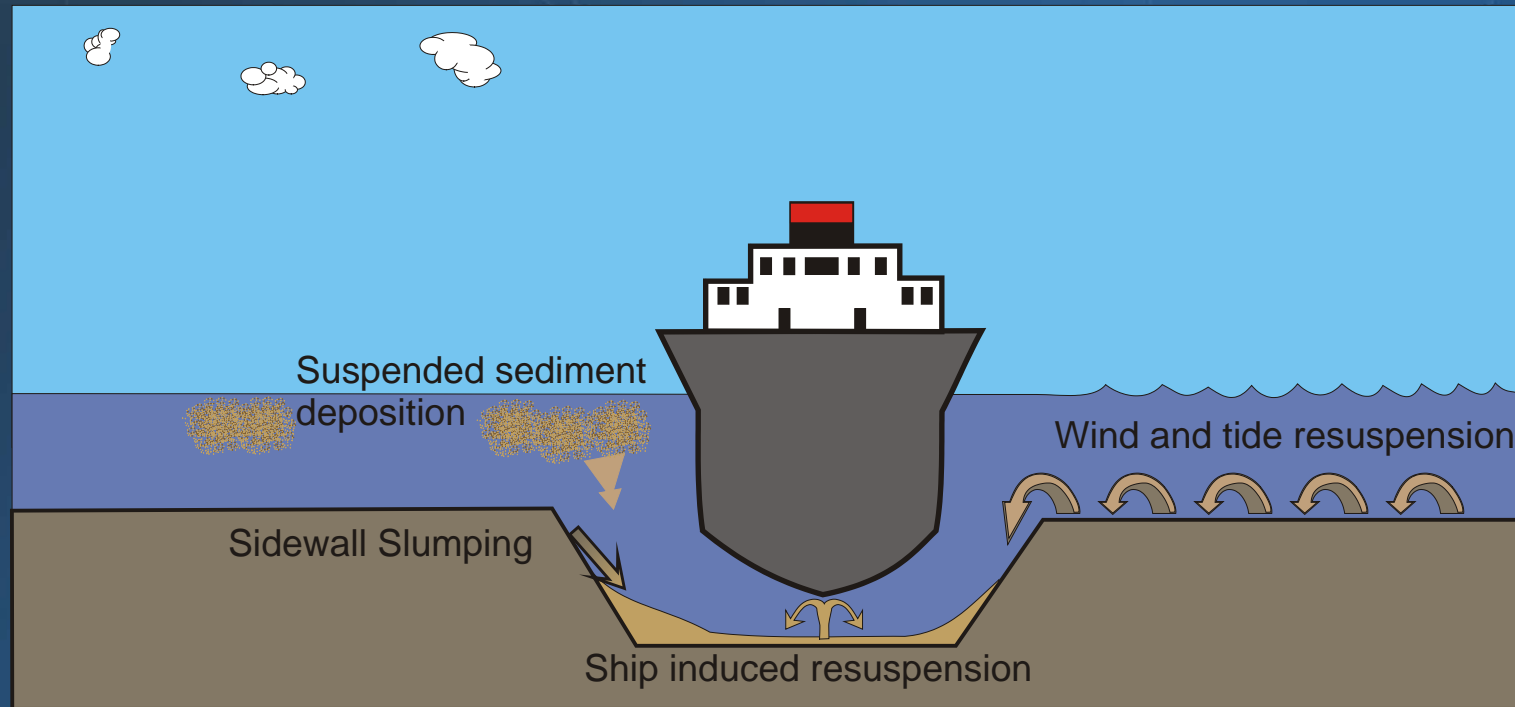
What's in Dredged Material? Upper Bay Sediment Quality

March 16, 2013

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Maryland Environmental Service



Mechanisms of Channel Sediment Transport



- **Wind and tide driven resuspension**
 - Dominant process for moving sediment deposited in shallow Bay area into deeper channels
- **Suspended sediment deposition**
 - Sediments from upland sources is a major source to shallow Bay, but minor direct source to the channels
- **Sidewall slumping**
 - Relatively minor source of sediment except following channel deepening
- **Ship induced resuspension**
 - Redistributes sediments already in the channel

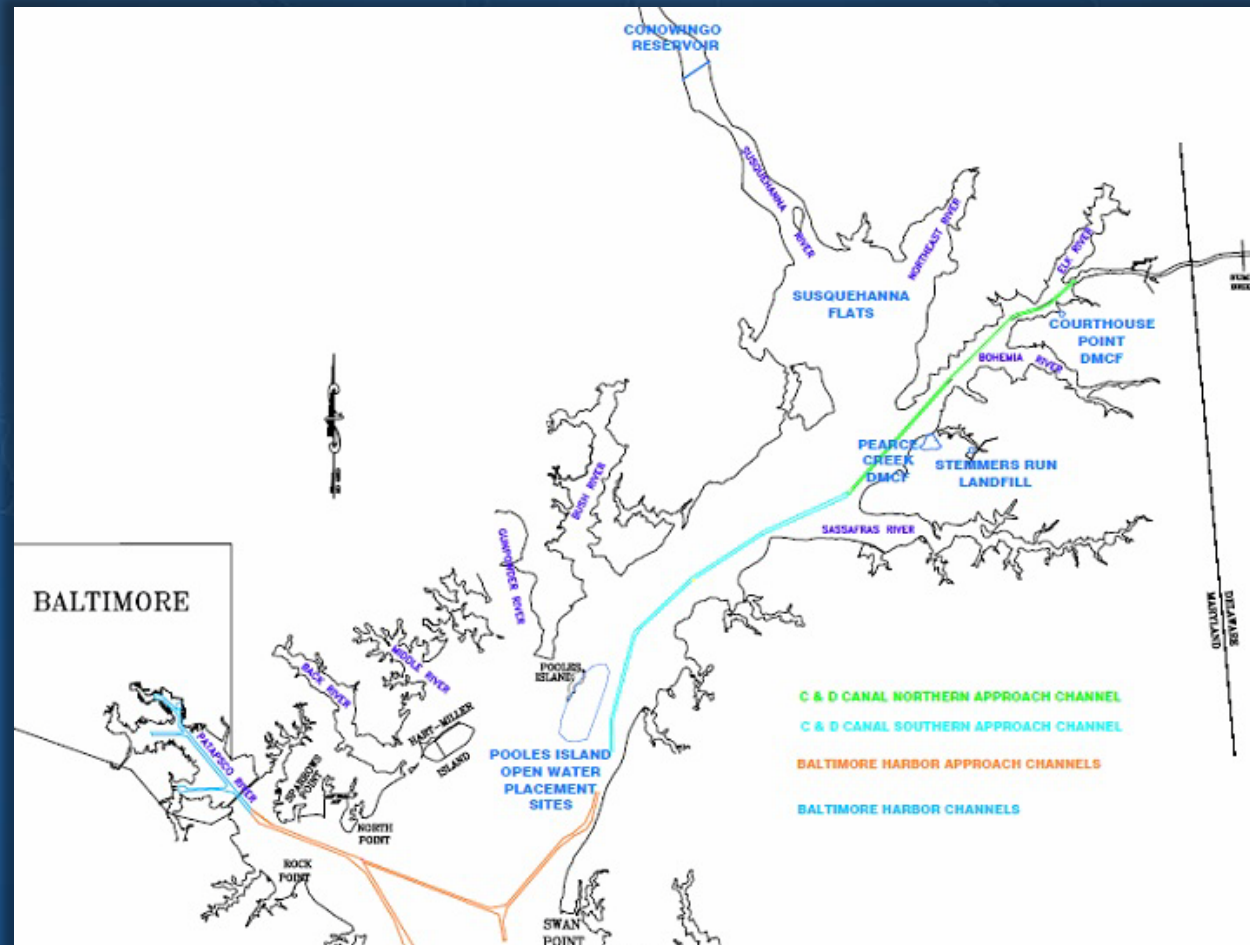


Upper Chesapeake Bay Sediment Quality Comparison Study



Existing sediment data was collected from reference sites in Cecil County and these Upper Bay areas:

- Pearce Creek DMCF
- Courthouse Point DMCF
- Pooles Island Open Water Placement Sites
- C&D Southern Approach Channels
- Conowingo Reservoir
- Susquehanna Flats





Upper Chesapeake Bay Sediment Quality Comparison Study

- The compounds identified were not consistent throughout all the collected data sets.
- Various data sets included concentrations of metals, pesticides, PCBs, volatile and semi-volatile organic compounds, and PAH's (Metals were by far the most commonly available data set).
- The collected data was compiled and then compared to MDE Soil Clean-Up Standards (residential and non-residential criteria).
- The data indicates that most metals levels are below MDE soil standards.



Upper Chesapeake Bay Sediment Quality Comparison Study

- The majority of pesticides, VOC's and Semi-VOC's were undetected.
- No organic parameters exceeded the non-residential standards.
- Overall, the sediment quality for the areas was not appreciably different from the reference soil data from Cecil County.



Upper Bay Sediment Radionuclide Testing

- The Department of Natural Resources – Power Plant Research Program (PPRP) is mandated to evaluate conditions near nuclear power plants.
- As part of this program radionuclide concentrations are routinely monitored in surface sediment and some biota in Conowingo Pond, Susquehanna River (below Conowingo Dam), Susquehanna Flats, and upper Chesapeake Bay.
- Sediment monitoring was initiated in 1981 and is ongoing.
- Routine reports are published every 2 years.
- The radionuclides in the sediments accumulated as a result of fallout from nuclear weapons testing, and are similar to atmospheric fallout across the landscape.
- Cores collected in the mid-1980's revealed concentrations also attributable to weapons testing deeper in the sediment layers.