

# Cleveland Harbor Dredged Material Management Update/ Beneficial Use Assessment

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Joe Kreitinger, Ph.D.  
Project Scientist  
Engineer R&D Center  
U.S. Army Corps of Engineers



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## Focus on Area of Advance Maintenance Dredging Upper Reach

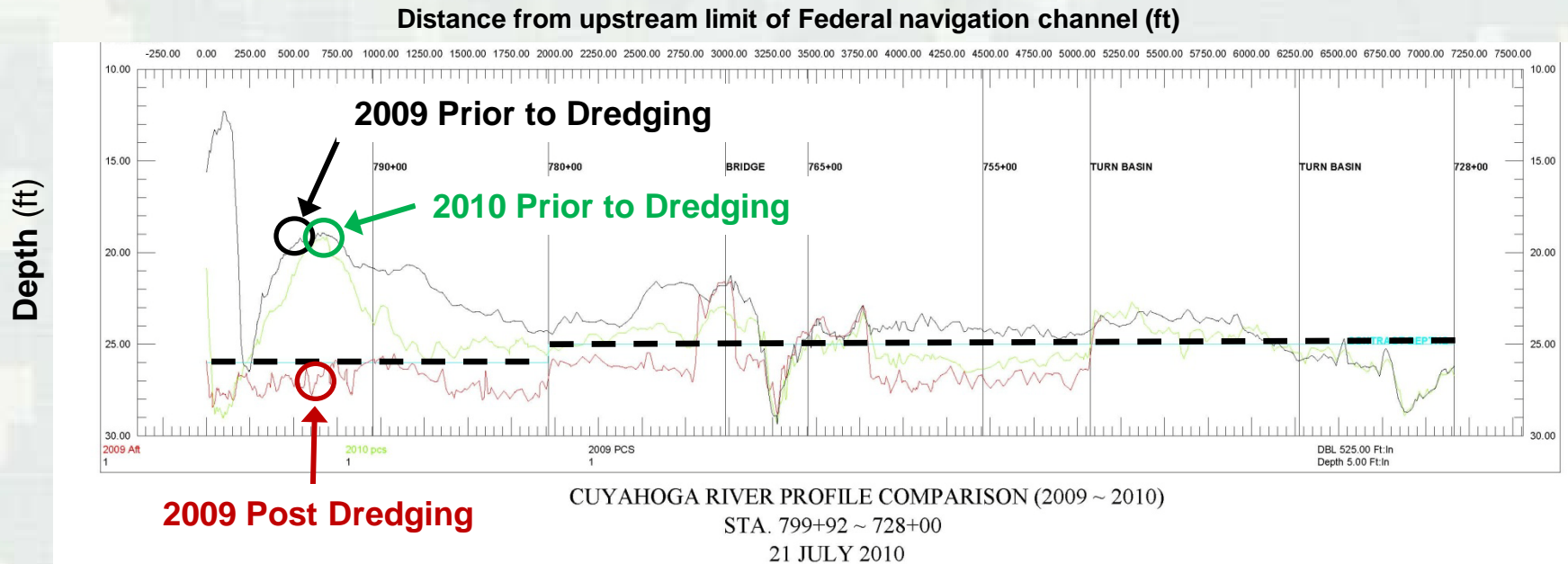


- ✓ Advance Maintenance Dredge Area ~1.3 miles in length starting at the upstream limit of Federal navigation channel
- ✓ Since 2005, 70 to 90% of sediment has been dredged from this upper reach.



## Shoaling of Sediment in Navigation Channel in 2009 and 2010

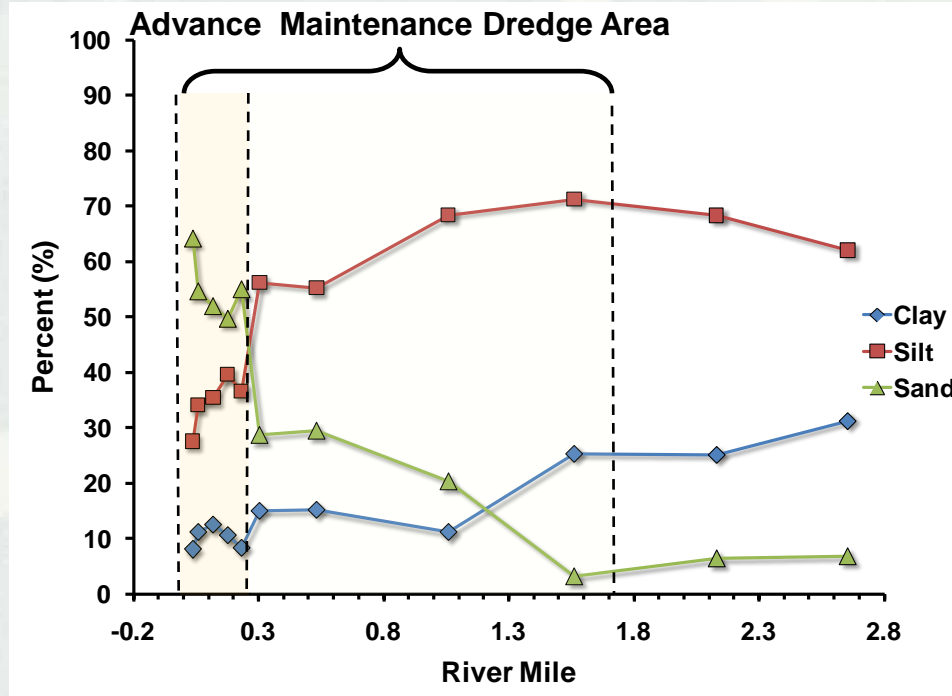
Advance Maintenance Dredging Area



- ✓ Primary accumulation of sediment is in first 0.6 miles
- ✓ 2009 and 2010 may be years with lower accumulation



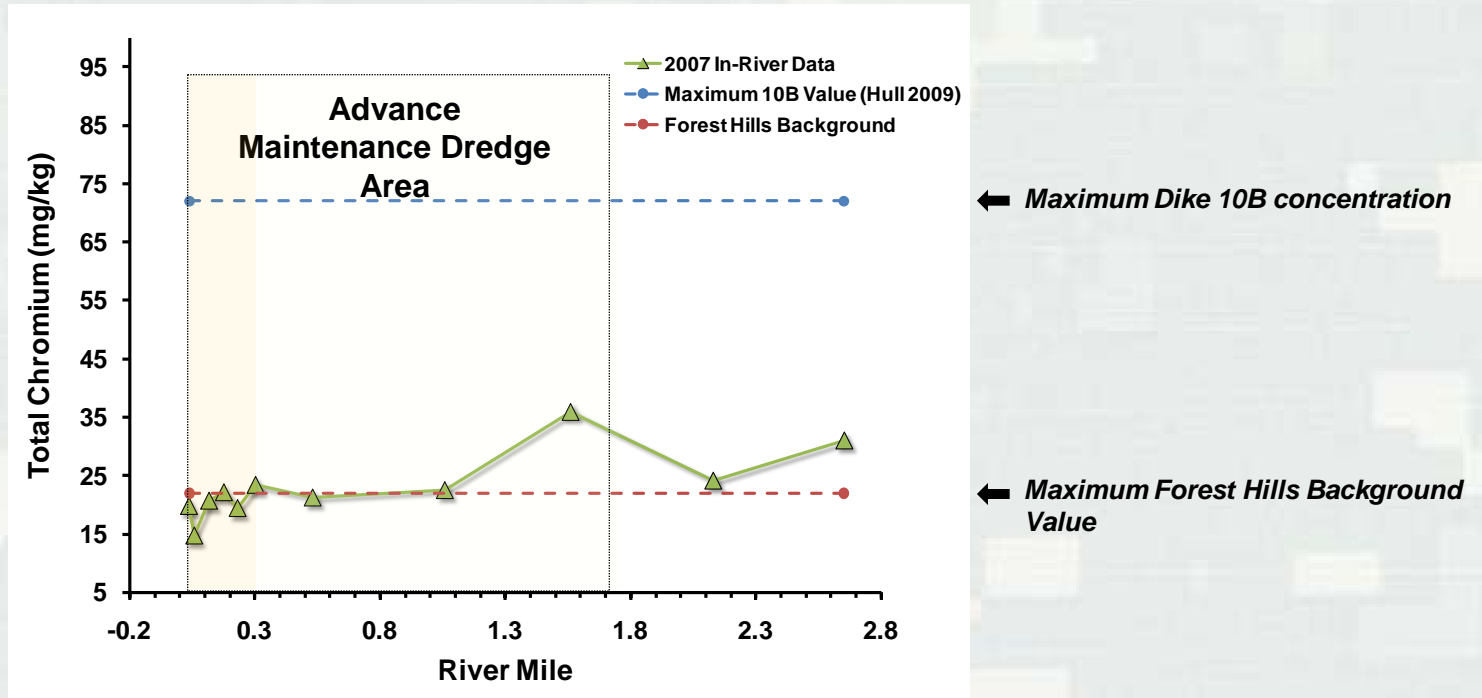
## **Sand Dominates the Upper Most Reach of the Navigation Channel**



- ✓ Majority of sediment in the first quarter mile consists of sand
- ✓ Percent fines (silt + clay) increase rapidly downstream



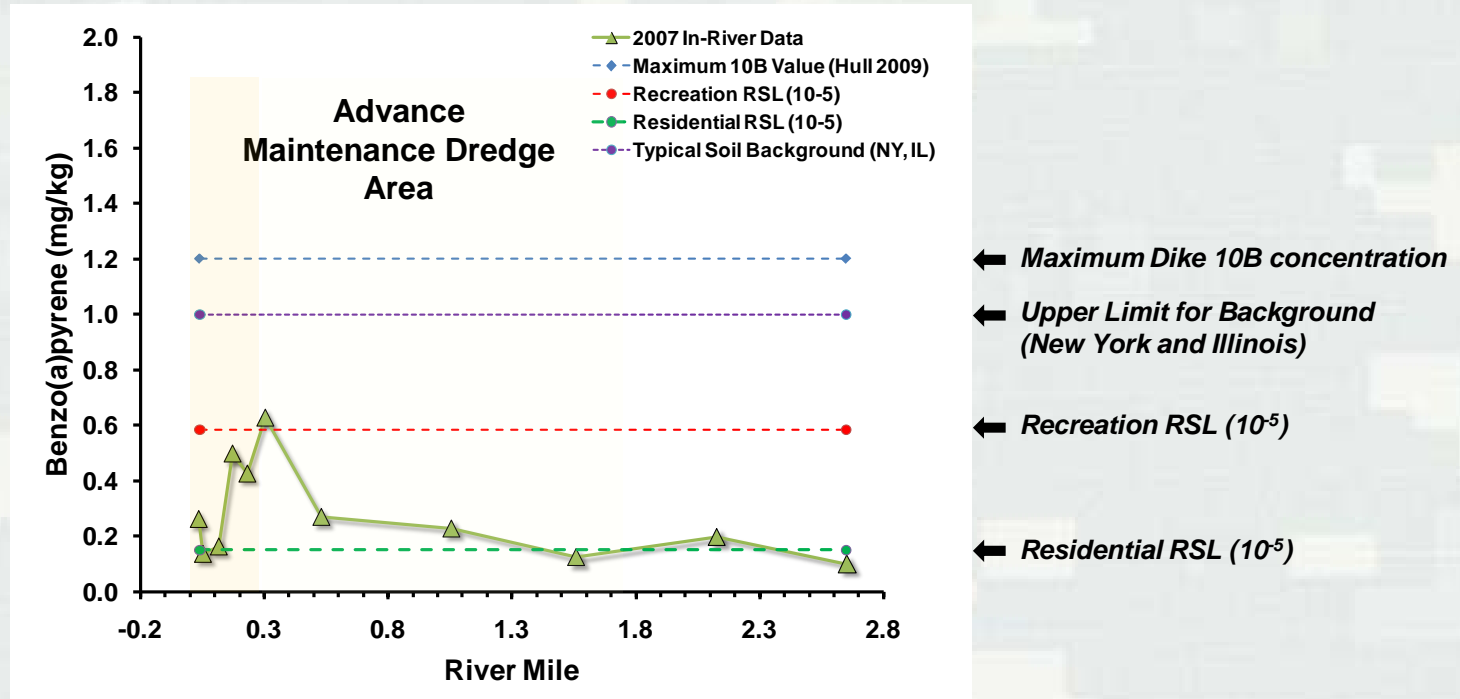
## **2007 Total Chromium Concentration is Lower In River than in Dike 10B Sediment**



- ✓ Chromium was metal contaminant with highest risk in Dike 10B sediment
- ✓ 2007 Chromium concentration appears to be very near background with the concentration varying with sediment clay content



## Benzo(a)pyrene Concentration in River Sediment is Lower Than Sediment Moved from Dike 10B



- ✓ Benzo(a)pyrene is the organic contaminant with highest risk in Dike 10B samples
- ✓ Benzo(a)pyrene appears to be in a concentration range suitable for recreational use and is lower than typical upper limits for background in New York and Illinois.



# *Summary and Data Gaps*

- ✓ Grain size is an important characteristic for assessing Beneficial Use Options – Coarser grained sediment is deposited near the head of navigation
- ✓ Contaminant levels in River sediment appear to be less contaminated than in the material removed from Dike10B
- ✓ Additional sampling and analysis will be required to confirm potential human health risks, ecological risk, and suitability for various end uses
- ✓ These sampling and analysis requirements to be worked out with Ohio EPA

