Managing and Understanding Sediments in Your Watershed

U.S. Army Corps of Engineers, Detroit District
Great Lakes Hydraulics and Hydrology Office

11-12 January 2011
Northeast Ohio Regional Sewer District
Environmental and Maintenance Services Center (EMSC)
4747 East 49th Street, Cuyahoga Heights, OH

Note: Advance registration is required. Please contact Michael Schneider, Great Lakes Commission, at (734) 971-9135 or michaels@glc.org to confirm your participation.

11 JANUARY (Tuesday)

8:00 – 8:30	Introduction Class Overview Section 516 Program	(Jim Selegean, USACE – Detroit District)
8:30 – 9:30	The Role of Sediment in a Stream: The Good and the Bad The influence of sediment on: • Fish • Benthic invertebrates • Flooding, erosion, etc.	(Missy Kropfreiter, USACE – Detroit District)
9:30 – 9:45	BREAK	
9:45 – 10:45	Sources of Sediment Sediment Production • Raindrops and Entrainment • Benefits of a Closed Forest/Vegetation • Incision and Channel Evolution • Dam Removal Constructing a Sediment Budget • Sources (bank erosion, overland runoff) • Sinks • Data Sets • Corps Guidance Generalizations about Urban, Agricultural and Forested Watersheds	(Jim Selegean, USACE – Detroit District)
10:45 – 11:45	Monitoring for Sediment Sampling Equipment Sampling Methods Accessing Historic Data	(Cyndi Rachol USGS, Lansing, MI)
11:45 – 12:30	LUNCH	
12:30 – 1:30	Web-based Tools for Soil Erosion Assessment/Management • High (sediment) Impact Targeting • Digital Watershed • RUSLE Tool for Agriculture and Construction Sites	(Glenn O'Neil, MSU)

1:30 – 2:30 Web-based Tools for Soil Erosion Assessment/Management (Bernie Engel, Purdue Univ.)
- L-THIA (Long-Term Hydrologic Impact Assessment) Model
- SEDSPEC - A Web-based Tool to Estimate Peak Runoff and Design Runoff and Erosion Control Structures
- Web-based Environmental Decision Support Tools

2:30 – 2:45 BREAK

2:45 – 3:15 Understanding and Quantifying Bank Erosion (Calvin Creech, USACE – Detroit District)

3:15 – 4:00 Advanced Tools (Jim Selegean, USACE – Detroit District)
- Why Use Models?
- Modeling Assumptions
- 1-D, 2-D, 3-D: Which Model to Use?
- Lumped Models vs. Spatially Distributed Models

12 JANUARY (Wednesday)

SEDIMENT PREVENTION/STABILIZATION METHODS

8:00 – 10:00 Riparian Zone Mitigation (Rich Fischer, USACE - ERDC)
- Buffer Strip design
- Riparian Corridors

10:00 – 10:15 BREAK

10:15 – 12:15 In-Stream Mitigation (Dave Derrick, USACE - ERDC)
- Bank Stabilization Methods
- Grade Control Methods
- Sediment and Flow Retention Basins

12:15 – 1:00 LUNCH

1:00 – 1:45 Sediment Loads to Lake Erie (Pete Richards Heidelberg University)

1:45 – 2:15 Fundamentals of Construction Site Pollution Prevention (Lisa Vavro, Cuyahoga SWCD)

2:15 – 2:45 NRCS Programs for Soil Conservation (Al Bonnis, NRCS)

2:45 – 3:00 BREAK

3:00 – 3:30 GL Basin Program for Soil Erosion and Sediment Control (Michael Schneider, Great Lakes Commission)

3:30 – 4:00 Corps Technical Assistance Programs – WOTS/DOTS (Tony Friona, USACE – ERDC)

4:00 – 4:30 Sediment in History (Jim Selegean, USACE – Detroit District)