

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)

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| 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: <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• Raindrops and Entrainment• Benefits of a Closed Forest/Vegetation• Incision and Channel Evolution• Dam Removal Constructing a Sediment Budget <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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)