

Managing and Understanding Sediments in Your Watershed

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

24-25 July 2012

USACE Duluth Area Office
600 Lake Street, Duluth, MN 55802

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

24 JULY (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: <ul style="list-style-type: none">• Fish• Benthic invertebrates• Flooding, erosion, etc.	(Travis Dahl, 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 – 11:30	Monitoring for Sediment Sampling Equipment Sampling Methods Accessing Historic Data	(Chris Ellison USGS, Mounds View, MN)
11:30 – 1:00	LUNCH	
1:00 – 2:00	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	(Bob Jarzemsky, USACE – Chicago District)

2:00 – 3:00 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

3:00 – 3:15 BREAK

3:15 – 3:45 Understanding and Quantifying Bank Erosion (Travis Dahl, USACE – Detroit District)

3:45 – 4:30 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

25 JULY (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 – 1:30 LUNCH

1:30 – 2:30 Local sediment issues

2:30 – 3:00 Local and NRCS Programs for Soil Conservation (Dan Weber, NRCS)

3:00 – 3:15 BREAK

3:15 – 3:30 GL Basin Program for Soil Erosion and Sediment Control (Ryan Hughes, Minnesota Board of Water and Soil Resources)

3:30 – 4:00 Sediment in History (Jim Selegean, USACE – Detroit District)