

Bank Erosion and Deposition Assessment Protocol: A Tool for Monitoring Watershed Restoration Projects

Presentation By:

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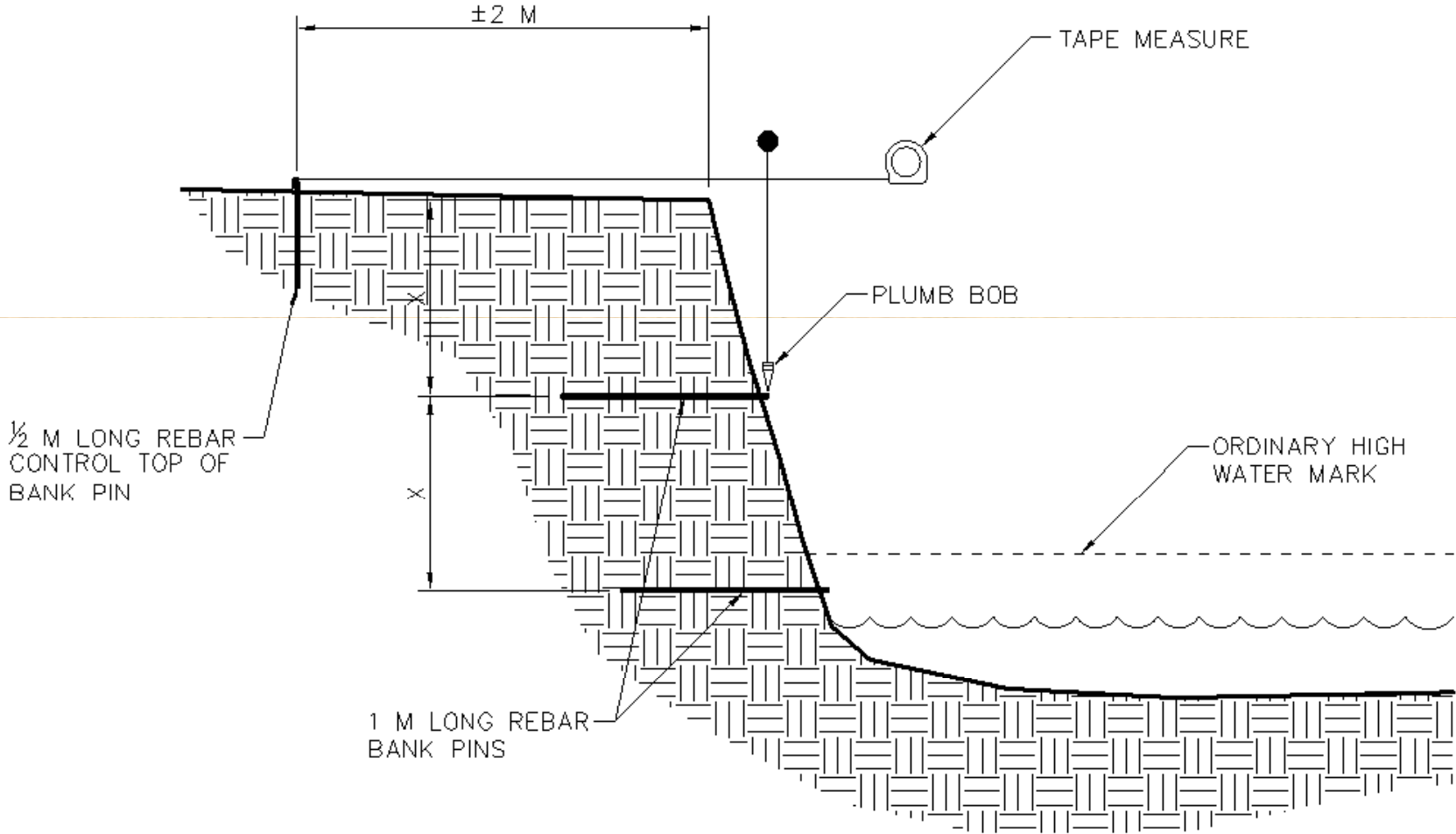
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Why?



Installed Pin Cross Section View



Transect Installation

- Transect: 8 sets of bank pins, 10 m interval spacing on one bank
- Representative sampling of bank stability and in-stream conditions
- Pin #1: Just below the ordinary high water mark
- Pin #2: 1/2 the distance from the ordinary high water mark to the top of the bank
- Pin #3: Control point on the top of bank



Data Analysis

- Sampled Monthly
- Volunteer data entry into spreadsheet
- Qualitative evaluation
- Rainfall and bank erosion/deposition change rate over time
- Semi-quantitative comparisons of rainfall events and the bank erosion/deposition rate



Study Site Selection

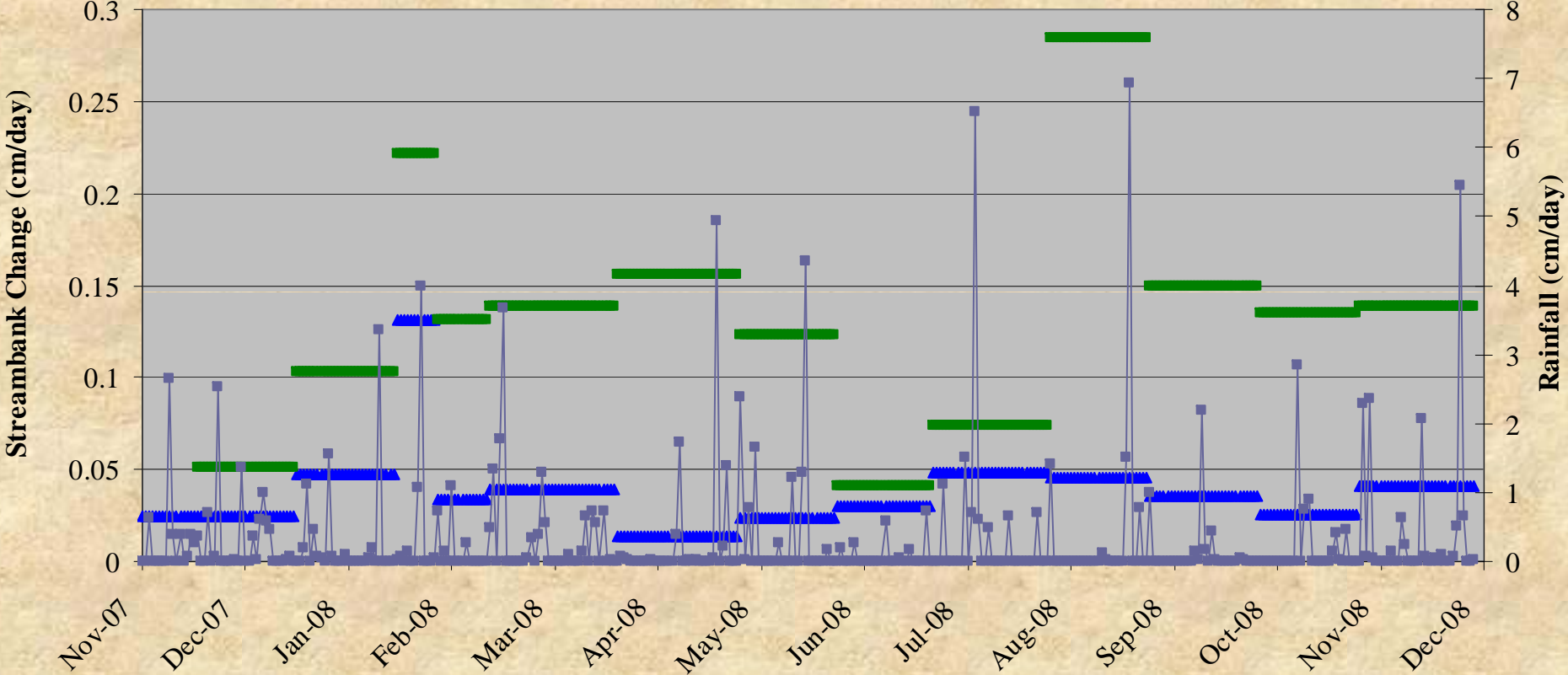
- Selected Four Sites Throughout Radley Run Watershed:
 - “Stable” Control Site
 - Impaired Site Selected for a Restoration Project
 - Typical Mowed Lawn where Volunteers Monitor Watershed
 - Legacy Sediment Future Restoration Project



Results

<u>Sample Site:</u>	<u>Bridlewood Pool</u>	<u>Leadline</u>	<u>Walker</u>	<u>Spring Meadow</u>
Floodplain:	Connected	Disconnected	Disconnected	Disconnected
Sediment Impacts:	Minimal	Development/ Ag	Development/ Ag	Legacy/ Mill Dam
Vegetation:	Forested	Invasive Herbaceous	Mowed Lawn	Forested
Stormwater Impacts:	Heavy	Heavy	Heavy	Heavy
Upper Pin Average Yearly Change Rate (cm/year):	9.0	16.8	18.1	19.3
Lower Pin Average Yearly Change Rate (cm/year):	17.8	20.0	20.7	76.1
Reach Average Yearly Change Rate (cm/year):	13.4	18.4	19.4	47.7

Average Streambank Change



▲ Bridlewood Pool ■ Spring Meadow ■ Rainfall (cm)





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