

Flood Risk Management Program- Results of Workshop on Research for Woody Vegetation on Levees

As you log in online, please use the Chat feature to identify yourself or your group. Example – ERDC EL – Julie Marcy or ERDC EL – 6 attendees



Discussion Guide

- Please identify yourself/group via Chat if not apparent in the Participants list to include the number of participants.
- We are recording the meeting so a written transcript may be prepared
- Identify yourself every time you speak
- One person talks at a time, take turns
- Use Chat feature to begin question session
- Limit acronyse (define first time used)
- Use mute button when not speaking (quiet surroundings, cell phones on silent)



Agenda

- Introduction/Review discussion guide

20 Minutes:

- Welcome – Dr. Beth Fleming, *Director, Environmental Lab, U.S. Army Engineer Research & Development Center (ERDC)*
- Flood Risk Management – Mr. Pete Rabbon, *Special Assistant to the Director, National Flood Risk Management Program*
- Results of Research and Development (R&D) Workshop – Dr. Maureen K. Corcoran, *Associate Technical Director, Water Resources Infrastructure, ERDC*

40 Minutes:

- Questions and Discussion with Subject Matter Experts
- Next Steps



Flood Risk Management: Corporate Goal for Levees

In a collaborative and shared manner with resource agencies and levee sponsors, transition existing levees to Corps standards while maintaining Public Law 84-99 eligibility and adhering to the Endangered Species Act and other federal environmental laws.



Options

Policy Document

Policy Elements

Improve Levee System and/or
Seek Other Solutions

System-Wide
Improvement
Framework
(SWIF)

- Worst-first
- Interim Progress Milestones
- Long-term Plan
- Regional Solutioneering Teams

ETL 1110-2-571
Standards

- Set-back Levees
- Planting Berms
- National Solutioneering Team
- Can be part of SWIF

Vegetation
Variance
Process
(PGL)

- Environmental Considerations
- Technical Review
- Vegetation Management Plan
- Can be included in the SWIF

Reduce Flood Risk



System-Wide Improvement Framework

- Sponsors maintain eligibility for rehabilitation assistance while improving levee systems.
- Incorporates "worst first" to optimize risk reduction.
- Encourages intergovernmental collaboration.
- Provides time to address both levee safety and environmental and Tribal considerations.
- Recognizes regional differences.
- Two phase process – Letter of Intent followed by SWIF.



Policy Guidance Letter (PGL) Vegetation Variance Request

- Levee vegetation standards provide for reliable access (for inspections, operation and maintenance, and flood fighting) and reduce potential direct impacts from roots.
- Permanent vegetation variance may be requested to meet unique, regional situations to preserve, protect, and/or enhance natural resources and/or protect rights of Tribal Nations.
- Safety, structural integrity, and functionality of the levee, and accessibility for inspection and flood fighting must be retained.



Next Steps for Achieving Corporate Goal

- Widely distributed SWIF policy last quarter CY2011.
- Post draft vegetation variance policy in Federal Register for public comment first quarter CY2012.
- Finalize vegetation variance policy after comment review.
- Support future research on woody vegetation in CY2012.
- Continue supporting regional collaborative efforts, such as in Washington and California.



Results of the Research and Development Workshop Sacramento, CA 13-14 Dec 2011



Purpose of Workshop

- **Intent:** The intent of the workshop was to promote a national scientific discussion on the direction of future research to improve decision-making about existing, non-compliant vegetation on levee performance.
- **Objectives:**
 - Promote interaction between scientists.
 - Share key highlights of levee vegetation research.
 - Share suggested high priority research areas.
 - Identify and prioritize topics for future research of woody vegetation on levees.
 - Initiate a development plan for the research topics discussed at the workshop.



Workshop Participants

- 30 Participants
- Organizations
 - Biedenharn Group
 - HDR, Inc.
 - King County, WA
 - Sacramento Area Flood Control Agency
 - Univ of CA
 - Berkeley
 - Davis
 - Univ of Georgia
 - Federal Emergency Management Agency
 - National Oceanic & Atmospheric Administration
 - USACE
 - ERDC
 - HQ
 - Institute for Water Resources
 - Albuquerque District
 - Sacramento District
 - Seattle District
 - South Pacific Division
 - US Fish & Wildlife



Workshop Principles

- USACE is moving toward risk assessment for levees; vegetation is one element of the broader risk assessment approach.
- Focus research needs on methods and tools to improve decision-making (short-term and long-term) about existing levees with non-compliant vegetation.
- Keep research topics and research questions narrowly focused and descriptive as opposed to listing general topics.
- Seek creative solutions and recognize regional considerations.



Breakout Sessions

- Documentation of Case Histories
- Analytical Tools and Methods for Levee Vegetation Condition Assessment to Support Levee Vegetation Variance Process
- Characterization of Non-Compliant Vegetation on Levees
- Risk Assessments



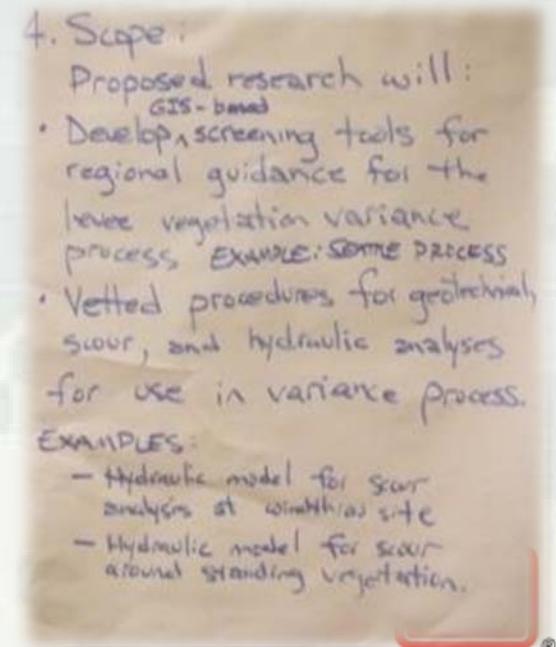
Case Histories

- Short-term
- Documentation of on the ground impacts
- Provide information for other areas – tools and risk assessments; development of interim guidelines for access; and creates a consolidated resource.
- Next Steps –
 - Scope of Work, 2-3 year effort
 - Peer Review of SOW



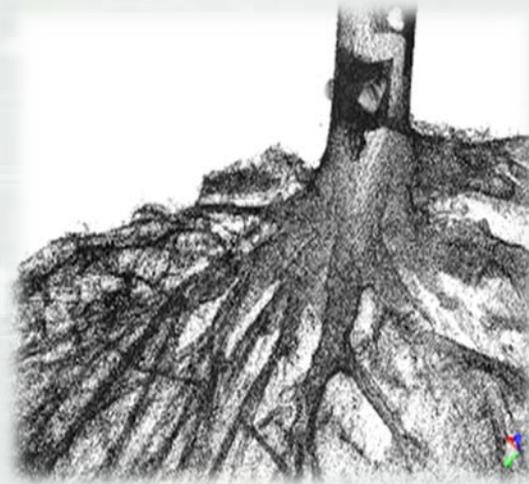
Analytical Tools and Methods

- Short-term to Mid-Term
- Support the variance process
- Scour/erosion model, improving geotechnical analysis methods when there is vegetation present; and field applications.
- Next Steps –
 - Scope of work for scour model within H&H Community of Practice
 - Further develop more detailed potential proposals



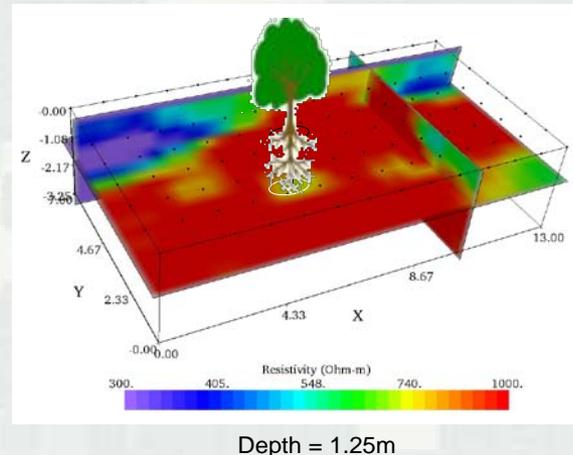
Characterization of Vegetation

- Mid-term to Long-term
- Not going to be able to analyze every tree
- Analyze representative situations by reach, including performance
- Consider statistical based relationships
- Information for risk assessments
- Next Steps –
 - Further develop potential proposal



Risk Assessments

- Long-term
- Identify vegetation impacts to failure-modes
- Look into expanding existing risk assessment tools
- Document consequences of removal
- Continue modeling work initiated on slope stability
- Next Steps –
 - Further develop proposal
 - Coordinate with the USACE Risk Management Center



General Points of Discussion

- Vegetation remains complicated.
- Decisions on vegetation should be addressed in a risk context (includes negative or positive impacts).
- Develop SOWs for research approach then submit SOWs for both internal and external peer review.



Summary of USACE Actions

- Continue coordination with workshop participants for input of SOWs for scour/erosion analysis and case history studies.
- Submit SOWs for both internal and external peer review.
- Finalize SOWs and begin FY12 funded research.



Research & Development Contact

Note: Research is not constrained by topics discussed at workshop.

To submit input on R&D, please contact:

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