**Woody Vegetation on Levees Synthesis Web Meeting 2**
**28 February 2012**

Julie Marcy: Good morning everyone and welcome to our Web meeting on Woody Vegetation on Levees. I'm (Julie Marcy) from the Engineer Research and Development Center's [ERDC] Environmental Lab, and I'll be serving as your host this morning.

We have just a small group so far so why don't we go ahead and introduce the folks that are currently present and then we'll just let the others catch up as they join. I'll begin with the other two individuals here in Vicksburg. First, with Dr. Beth Fleming.

Beth Fleming: Good morning. This is (Beth Fleming); I'm the ERDC Civil Works Business Area Lead and Director of the Environmental Lab.

Julie Marcy: And we also have (Dr. Maureen Corcoran).

Maureen Corcoran: Hi, (Maureen Corcoran), Associate Technical Director, Water Resources Infrastructure at ERDC and also the Project Manager for the Vegetation on Levees Research.

Julie Marcy: And (Pete Rabbon), why don't you go next?

Pete Rabbon: Good morning, (Pete Rabbon), Corps Headquarters Flood Risk Management Program.

Julie Marcy: Okay, and (Siya) can you introduce your group please?

(Siyavash Araumi): Yeah, Hi, this is (Siyavash Araumi) from L.A. County Department of Public Works.

Julie Marcy: And looks like you have about eight folks with you is that correct?

(Siyavash Araumi): Yes. Do you want every single one of them to introduce themselves?

Julie Marcy: That's okay. I just want to verify that we have an accurate count. And (Tammy), why don't we finish up with you?

Tammy Conforti: Yes, this is (Tammy Conforti), and I'm the Levee Safety Program Manager here at Corps Headquarters.

Julie Marcy: Great. Thank you so much. As you see, we're going to have a couple of presentations today and a few discussion rules to guide our presentations. These are our standard Web meeting rules. Remember to use the chat feature to identify yourself and most of you have already done that.

Later on when you want to speak, if you would identify yourself each time you speak that will help everyone understand the nature and origin of the comments.

Note that we do record these sessions so that we have a transcript that provides a written record of what we've discussed so we can go back to that for reference. As always, we'll take turns and try to give everybody an opportunity to ask questions or make comments.

We do have a mixed group so I ask that you identify or define an acronym the first time it's used. And remember to use your mute button to silence any background noise when you're not actually speaking to us.

We're going to begin with a welcome from (Dr. Beth Fleming) and then that will be followed by a presentation on flood risk management by (Pete Rabbon). We will end with the results of a research and development workshop held in December by (Dr. Maureen Corcoran).

After that, we'll spend the majority of our time allowing you to comment and ask questions on the presentations. With that, we'll begin with a welcome from (Dr. Beth Fleming), the Director of the Engineer Research and Development Center's Environmental Lab.

Beth Fleming: Thanks, (Julie). Good morning everyone. Just to tell you a little bit about history leading up to this point. This is the third in a series of meetings that we've held relevant to research in identifying future areas where we could potentially collaborate to study woody vegetation on levees. The first phase of meetings involved webinars to talk about plans that we had for a workshop that we held in December.

The purpose of that second phase of meetings through that workshop was to promote interactions between scientists and Headquarters [U.S. Army Corps of Engineers] and state policymakers to better understand the questions that policymakers have and the answers that we're seeking relative to vegetation on levees, to share key highlights of levee vegetation research. They [Headquarters, U.S. Army Corps of Engineers] also suggested high priority research areas and then identified and prioritized topics for potential future research of woody vegetation on levees.

Today is the third phase of meetings where we plan to talk about the outcomes of the research workshops. We've had two webinar series already last week, and this is the third.

This media [webinars] seems to be working very well for us because we're able to invite as many people as would like to participate in this particular type of meeting. So today, we're going to share some of the results of that and also talk about flood risk management corporate goals for levees. With that, I'll turn the discussion over to (Mr. Pete Rabbon – Pete).

Pete Rabbon: Okay. Thank you, (Beth). The reason I want to take a couple of minutes here is to make sure that during our discussions today, we all stay focused on the big picture of what we are trying to achieve in how the research and development fits into that overall picture.

The slide here this is the statement on where we are trying to go from a public safety perspective is we do want to transition all the levees within the Corps program to Corps standards. We do understand the need for eligibility for PL [Public Law] 84-99, and so we do want to maintain that eligibility for the levee maintainers.

We also understand that this will be difficult considering the Endangered Species Act, other environmental laws and other local, state and federal laws. The overall picture is how do we transition our levees? R&D [Research and Development] work is one piece to help us in this large process of reducing flood risk.

There are three ways that we can improve the levee system to reduce flood risk, and what you see are three key policy elements. The first one that I want to actually cover is in the middle, and that is the standards. That's the most traditional process, comply with the standards, which does, by the way, allow for vegetation under certain conditions.

There are two other processes that we have created because we do understand from a regional perspective that there can be difficulties out there as we transition our levees.

The first process up on the top is the System-Wide Improvement Framework (SWIF) and that provides a process where you can, over time given you have an approved framework, transition your levees. As you can see, it looks at the prioritizing -- the worst first and you have to have milestones. It's a long-term plan, and it also takes into account regional considerations.

At the bottom, the third process to help us transition levees is the vegetation variance process. And that is a mechanism whereby you can have a permanent change to how your vegetation is managed provided you meet certain conditions. That process currently is in the Federal Register for comment within this month, and it's in there for 60-day review.

I've already covered this in a previous slide in terms of what is in the System-Wide Improvement Framework, and so I'll just go down to the bottom. It is a two-phased process. We would need a letter of intent if it's approved and then that would be followed by development and approval of the System-Wide Improvement Framework and then we'd look for implementation thereafter.

The second process we've created to try to help more easily transition the levees. This is the policy guidance letter [PGL], and again it is in draft and the one bullet I would like to point out is you still have to maintain the safety, the structural integrity, and the functionality of the levee. That is key, in terms of when you actually start the process, of going through a vegetation variance request.

Here's what we are doing to move forward. We already have distributed this list, and in fact, we have received a request from one entity, and they currently have an approved letter of intent. They are working on developing their System-Wide Improvement Framework now. I've talked about the PGL is in the Federal Register for comment.

We're going to be talking today about future research. There are collaborative, regional field efforts primarily with the state of California on the Sacramento San Joaquin River System and in the state of Washington where we are working with them to try to develop the System-Wide Improvement Framework plans that would be acceptable for them to transition their levees.

As we continue our discussions today, you can keep in mind the big picture of what we are trying to do which is reduce flood risk, and R&D is one part of that process. Okay, thank you – (Beth).

Beth Fleming: Thank you, (Pete). Now, we'll hear from (Dr. Maureen Corcoran).

Maureen Corcoran: Okay. Thanks, and good morning again. What I'd like to talk to you today about are the results of the research and development workshop that was in Sacramento in December and say a few things about how USACE is using that information. The intent of the workshop as I was mentioning was to bring scientists and engineers together for discussion on research, on vegetation research and to get input on direction of research and provide scientific information to decision makers and policymakers concerning exiting noncompliant vegetation on levees.

The objectives as you see here were to encourage and exchange between these scientists involved in the field of research and to share some key highlights of completed and also of ongoing research.

We asked for input from this group to be able to identify and prioritize research areas. The last bullet is what I'll be discussing today and that's how USACE is using this information.

We had 30 participants both within and outside the federal government as you can see here from this list of organizations. We had quite a variety from the participants from the workshop.

There were several principles presented to the workshop participants for their consideration when discussing the research topics. The first one is that vegetation is just one part of a broader based risk assessment approach, as (Pete Rabbon) mentioned earlier, that's used by USACE.

Another point is for the participants to consider tools and methods to improve the decision-making and to also provide specific topics rather than broad research areas and to make these also as descriptive as possible. The topics should also include some creative solutions and also recognize that there are regional differences and to consider these differences. The workshop was then organized into four breakout sessions to discuss the top four topics.

This list included documenting case histories of incidents related to vegetation on levees, developing analytical tools and methods for levee vegetation condition assessment to support levee vegetation variance process as defined by the USACE policy guidance letter, characterization of noncompliant vegetation on levees so that USACE can make decisions about vegetation given all the variables that should be addressed.

And the last one is risk assessment to include a better understanding of the relative risk of vegetation that may contribute to a breach on a levee system. The first one, the case history, involves developing a study for incidents where vegetation has impacted an activity related to the levee system, such as inspection, maintenance and flood fighting.

For this topic, it was also suggested by the group that nonincidents in cases where vegetation was present, but did not impact these activities, should also be collected. This group also suggested developing interim recommendations, such as trimming and maintenance guidelines for vegetation.

It was further suggested that the vegetation-type maintenance of the vegetation, description and seriousness of the incident and the quality of the source data also be recorded. This study would also include the response to the incident and if vegetation was a primary or secondary issue. The data collection would also include recording if a variance currently exists.

The next step for the research is for ERDC to develop a scope of work for a two to three year effort. The scope of work would then undergo both internal and external reviews.

The second suggested topic of research is to develop analytical tools and methods for vegetation assessment to support the levee vegetation variance process by improving the geotechnical methods used to assess scour and erosion when a tree is present.

This group suggested that a study should develop geographic information system-based screening tools that levee sponsors could then use and forward to decision makers.

The major task within this study suggested by the workshop participants is to improve tools for scouring erosion analysis for standing and also wind thrown vegetation, to improve geotechnical analysis methods that address the impact of the presence of vegetation, such as slope stability and seepage analysis, to also develop software for hand held devices to collect real time data, such as levee deficiencies, maintenance and accessibility issues, and incorporate these data into the [USACE] National Levee Database.

Also, they suggested that they wanted to ensure that the current database can adequately accommodate all types of current and future data and format. And also to perform case studies to select and analyze representative vegetated levee reaches for application to variance process.

The next step for USACE on this topic is to develop a scope of work within the [USACE] H&H [Hydrology & Hydraulics] Community of Practice to develop a scour model that will address scour and erosion effect from vegetation.

We will look at this from several phases of research, from initially modifying existing scour models to developing models from physical tests and will further develop this as we progress with the research.

The third topic discussed at the workshop is the characterization of noncompliance vegetation on levees. This group suggested that an inventory plan with peer review and consensus building to confirm accuracy needs to be developed and use these data to support a risk-based assessment.

It was also suggested that two approaches be used. One where an observational method would be used to perform a systematic assessment of

levee performance to evaluate the effects of vegetation, and a second approach would be a more focused, experimental and also numerical study on key factors, such a tree size, soil type within two or three different levee systems.

The last topic that was discussed at the workshop includes a risk assessment approach. This team suggested that the relative risk of vegetation contributing to failure mechanism or failure modes on a levee system should be known.

These include underseepage, through seepage, scour, overtopping, erosion and wave wash and slope stability. Vegetation is one of the multiple factors that could contribute to these. The situation posed by this group is that it was assumed that all vegetation must be removed and that this group considered that some vegetation might be retained in some location because of the variance approval.

The consequences of tree removal, as well as the need for access for inspection, flood fighting and maintenance, would also need to be considered. The group also encouraged expanding existing risk assessment tools, such as the USACE levee screening tools.

The suggestions from this group included continuing modeling research on slope stability as well as furthering studies on vegetation effects also on seepage, erosion and scour. The next step for USACE is to develop a scope of work through interaction with our [USACE] Risk Management Center.

In addition to the breakout sessions, there are a few general points of discussion that were included; that research on woody vegetation remains complicated and the issue of the effects of vegetation on levees is not easily studied.

As I mentioned in the information from the last group in the breakout session, decisions on vegetation should be addressed in a risk context to include both positive and negative impacts. We also discussed that scopes of work developed for research on vegetation should be submitted for both internal and external peer reviews.

To summarize, the actions of USACE include that we will continue to coordinate with workshop participants for all input on the scopes of work. In particular, the scope for scour erosion analysis and the case history studies that will be funded and executed for FY12. These scopes will soon be finalized and reviewed.

The last slide is my contact information if anybody has any thoughts of what was discussed today. And I would like to point out that any suggested research is not constrained by the topics that were discussed during this webinar. With that I'll turn it back to (Julie).

Julie Marcy: Okay, thank you, (Maureen). At this time, we would like to open the floor to comments or questions from our folks calling in. You may either ask verbally or you use the chat feature as you prefer.

(Alan): Hello, this is (Alan) from L.A. County.

Julie Marcy: Hi, (Alan).

(Alan): I have a question. With regards to the research, was sediment transport considered?

Maureen Corcoran: (Alan), this is (Maureen). Are you talking about the research that we had just finished or any future research that was discussed at the workshop?

(Alan): Both.

Maureen Corcoran: Okay. Sediment transport; we did not look at that on our initial research. That was discussed on some of the areas that vegetation could have an impact. We will look at that under the topic of analytical tools.

(Alan): Thank you.

Julie Marcy: We had one question came in. Yes, we will be making both the PowerPoint and the written transcript from the three Web meetings available. We'll be providing those as soon we receive them. Don't be shy if you have any other comments or questions or need clarification on any of the points that (Pete) or (Maureen) presented.

(Alan): Hello, this is (Alan) again. Is there a copy of the SWIF [System-Wide Improvement Framework] available online?

Julie Marcy: (Pete) or (Tammy), could you address that?

Pete Rabbon: Yes, if you just give me your e-mail address, I'll send one directly to you.

Julie Marcy: (Alan), if you will input your e-mail address in chat, we'll follow up and send that to you.

(Alan): Okay, all right, thank you.

Julie Marcy: You're welcome.

Maureen Corcoran: I would also like to point out that we are conducting a case history study for FY12. We have received some information from our past webinars from people with information that contribute to our study and that's been a big help. So if anybody has any information on that, it would be great if you could send it to me. My e-mail's on the last slide.

Julie Marcy: Any additional questions or comments concerning the presentations or what the current plan of action is?

(Herb Bessey): Yeah, this is (Herb Bessey) out of [USACE] Walla Walla District.

Julie Marcy: Hi, (Herb).

(Herb Bessey): This is a question for (Dr. Corcoran), I believe. I guess I'm a little bit confused as what's your path forward here for FY12. Do you have funding? Are you moving out with the study? And what areas do you plan to use for case studies?

Maureen Corcoran: Hi (Herb), thanks. So let me clarify this. For FY12, yes, we are funded to conduct the case history study and also funded to look at the scour models to support the PGL.

On the case histories, we'll be visiting and contacting every USACE district. We'll be looking at levees that are under or have been under the PL 84-99 program.

For the scour model research, the first phase will be collecting existing models and see how those can be modified and if those fit our needs. So that's what we'll be conducting this FY12.

(Herb Bessey): Well thanks, (Maureen), and again I'd like to extend an invitation to your team to come out and visit Walla Walla again. You're certainly welcome to come and take a look at our projects.

Maureen Corcoran: Well, thank you. We sure appreciated the hospitality you showed us when we visited last time. We had a great time.

Julie Marcy: Any additional comments or questions about the workshop, the ongoing research or comments on the Federal Register listing?

(Siyavash Araumi): Hi this (Siya) on the L.A. County Public Works.

Julie Marcy: Hello.

(Siyavash Araumi): Quick question. Is there going to be a difference between your study and the study that's being done as part of the Central Valley Flood Plain Protection Plan here in California?

Maureen Corcoran: In particular, on the case histories we will use a similar approach. We'll also include something I didn't point out earlier during (Herb)'s question is that we will also be collecting information on maintenance and tree removal.

We coordinated closely with the California team to not overlap our research and that we conducted the past few years. For instance, they're conducting research on animal burrows and that's something that we have not included in our research. We are exchanging research, however, and so that's been very helpful. Does that answer your question?

(Siyavash Araumi): Yes, thank you very much.

Maureen Corcoran: Thanks.

Julie Marcy: Okay, any other questions or comments? (Pete) or (Tammy), do you have any additional remarks before we conclude?

Tammy Conforti: I don't have any.

Julie Marcy: Okay, thanks, (Tammy).

Pete Rabbon: And none for me, but if you can forward me the e-mail I'd appreciate it.

Julie Marcy: Yes, I sure will, (Pete), soon as we finish. Last chance for any questions or comments. Thank you so much for joining us this morning. We will follow up once we have all of the transcripts to share those, along with the PowerPoint presentation that you viewed. We appreciate your taking the time to join us. And with that, we'll conclude our Web meeting. Good bye.

*Note: The Internet connection was lost after attendees signed off as the Chat was being extracted. Therefore, we do not have a Chat transcript. It was very brief and the content is reflected in the transcript.*

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