

## Meeting Record

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<b>To:</b>		<b>From:</b>	
<b>Name:</b>	Earl Nelson and meeting attendees	<b>Name:</b>	Anne Hoagland
<b>Firm:</b>	DWR - DFM	<b>Firm:</b>	AECOM
<b>Fax number:</b>		<b>Date Sent:</b>	August 5, 2011
<b>Meeting Date:</b>	July 21, 2011		
<b>Project Name:</b>	Lower Feather River Corridor Management Strategy		
<b>Project Number:</b>	60217656		
<b>List of Attendees:</b>	See last page for attendee list		

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**Subject:** Lower Feather River Corridor Management Plan Meeting

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**Distribution:** Attendees

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The following is a summary of the meeting held on July 21, 2011.

ITEM	Description	ACTION ITEMS
<b>Introductions and Agenda Review</b>	<p>Introductions and review of action items from June Meeting:</p> <ol style="list-style-type: none"> <li>River Meander Modeling:                      Terri Gaines: People are looking at current river meander modeling information but the Eric Larsen proposal is old. We are now directed to review current information and background information and will try to have update by next meeting.</li> <li>Draft Permitting Project Description is complete and will be the subject of the next Permitting Subcommittee meeting.</li> <li>Drew Sutton went over meeting agenda.</li> <li>Earl Nelson provided an overview of the recent Public Meetings: Meeting with the Sutter County of Board of Supervisors went well; they were thankful for the information and asked a lot of good questions. Public Meetings at the Yuba City Farm Bureau were not well attended. Reclamation District 1 was represented by Barbara Labake who said, "these things sound good but we are skeptical". Tried to reassure her that maintenance is always a high priority because of public safety.</li> </ol>	<p>Drew will send out the notes from Board of Supervisors meeting.</p> <p>Post Sutter and Yuba County Board of Supervisor and Yuba City Farm Bureau Public Meeting Draft Meeting Notes on Website.</p>
<b>Schedule and Approach</b>	<p>Susan Sanders started the discussion by giving a general update: The new schedule is to get the draft Corridor Management Plan out by February 2012. This would mean we need an administrative draft done by</p>	<p>Provide comments on the draft CMP Outline to AECOM by July 29<sup>th</sup>.</p>

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	<p>November 2011 to accommodate review by DWR legal and other parties. Goals are currently pretty general and we need to get more specific because we can't model proposed actions and their effect on the floodway unless we have their spatial footprint. The next step is to complete the hydraulic analysis and we expect to get the results around late October.</p> <p>Susan started the discussion on outline item 2f by asking people what they would use the CMP for.</p> <p>Paul Brunner (TRILA) asked for clarification on what the document will do?</p> <p>Susan went over each chapter in the CMP: Chapter 2 is a description of biological resources from Phase 1, land ownership information, recreation and agricultural needs; Chapter 3 describes efforts in Phase I; Chapter 4 discusses existing conditions and constraints; Chapter 5 covers what we plan to do to achieve the goals laid out in Phase 1; Chapter 6 deals with understanding assumptions; Chapter 7 is the permitting strategy; Chapter 8 will be what can we come up with in terms of site specific recommendations and policy guidance; and Chapter 9 is implementation and guidance.</p> <p>Earl: From DWR's perspective the CMP is going to be an overall vision of the management activities in the area and how they can work together. Each stakeholder, regulatory agency and landowner should look at the outline and ask how this guidance document is relevant to me, can I use the information to make decisions in the future, and will it be relevant when I have to apply it to a specific proposal or project.</p> <p>Paul: My opinion is DWR and Central Valley Flood Protection Board (CVFPB) will use it the most. DWR's mission is better maintenance and this document will be a good tool for that. CVFPB staff can use it as a resource to answer questions from the Board.</p> <p>Earl: It will be the foundation leading to programmatic permits and will make everyone's lives easier, including the maintenance offices and regulatory agencies.</p> <p>Jeff Twitchell (LD 1): I think it will provide great guidance but each project will have specific concerns.</p> <p>Terri: It can be used as a template for future Central Valley flood management planning. In the future we will have to do more on a regional scale.</p> <p>Stan Cleveland (Sutter County): Use it as a baseline for projects and ideas. Baselines can be established and projects relationships to each other. My idea is to use it for flood control and protection.</p> <p>Ken Cumming (NOAA-NMFS) asked if this would be a template just for DWR or for all agencies.</p> <p>Earl: DWR maintains the channel here and some levees. Getting the programmatic permit between USFWS and DWR, for example, could serve as a template for RD 784 to get a similar permit for the work they have to do. Other folks who are regulated by the</p>	<p>AECOM will send out a word version of the Outline for use in making comments.</p> <p>Comments should be sent to Drew, with CC to Susan.</p>

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	<p>regulatory agencies can use it as an example and tweak it to fit their specific situation. We want to get away from individual permits for individual actions.</p> <p>Ken: USACE has granted programmatic permits for the Sacramento River for a long time, so are we planning to start fresh or use their templates?</p> <p>Earl: Where the templates exist and apply we will use them, but a lot of permits have been traditionally done on an individual basis. DWR is getting hit with mitigation requirements over and over again for the same activity. Goal is to try to improve benefits over baseline conditions.</p> <p>Lisa Grudzinski (USACE): A programmatic approach would help but wouldn't necessarily reduce the mitigation requirements. It would help by tracking the credits and debits systemwide, and being able to better track activities that are happening in terms of habitat enhancement and restoration.</p> <p>Earl: DWR is trying to change the paradigm. He sees the regulatory agencies using the Plan as the foundation for the permits. The permits will govern more so than the Plan. However, the models will always have ongoing utility.</p> <p>Paul: Currently from a regulatory perspective we get individual permits for projects, and then we look at those permits for impacts to everyone else but are always looking at the individual project. I think the goal is to move away from a specific project area being a specific project so everything within the corridor benefits from the same permits. The CMP gives us the ability to operate from that goal.</p> <p>Jennifer Hobbs (USFWS): I am hearing that the Plan will cover more than the permits and I still have lots of opinions on how and what to permit once the Plan has been developed. We are constantly asked by DWR for permits to do maintenance. But when we ask them what that entails, we receive no clear answer, so hopefully this will change that.</p> <p>Ken: NOAA-NMFS shares a lot of the same concerns. We are already trying to consolidate Section 7 requests. The reclamation districts want to come in with a quick fix and that is not acceptable. If the resistance to helping us with our demands is resource protection, then we need to iron this out from the beginning and need to have some baseline consensus on what a repair is.</p> <p>Earl: These examples are not within our study area but we are hoping to develop some consensus on how these things should move forward.</p> <p>Stan: We are trying to stay as far away from the USACE 1957 (design water surface) profile as possible. Developing baselines so that we don't have these problems in the future is necessary and having permanent permits with review after so many years is important for certain activities.</p>	

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	<p>Earl: Everyone should look at the CMP Table of Contents and make sure everything you think should be in there is there.</p> <p>Ken: From my perspective what's happening here is we are trying to develop a spatially diverse solution to the permitting problem upfront. However, it's impossible to anticipate all of the needs in a one-time fix over ten years. Are we going to have a subcommittee that meets annually to discuss modifications?</p> <p>Earl: The part of the Plan dealing with the five year review and revision of the document can be adapted as necessary. Each permit will probably have monitoring and annual reporting requirements.</p> <p>Terri: I wasn't aware that we were going to review the Plan every five years; not sure we should commit to a five year review. This is something we need to clarify internally.</p> <p>Steve Chainey: Everything that people want to get out of this portion of the Feather River is doable; we just need to agree to a master plan. We have the capacity to accomplish a lot due to the Three River Levee setback projects. I think we'll find there are some areas in the channel where vegetation has been maintained prior to the setbacks, and may not require anymore maintenance. We need to use the hydraulic modeling to identify permanent maintenance areas and other areas where vegetation removal may no longer be needed to reduce annual maintenance costs.</p> <p>John Carlon (River Partners): We would like to use the Plan to restore large floodplain areas. Ideally we would use our ideas and concepts and the framework of the Plan to see if we can match all other interests. The Plan has aggregated all interests in the corridor in one place and provides tools to see if your project fits with the overall objectives in the area.</p> <p><u>Discussion on goals and objectives of the plan:</u></p> <p>Paul: My take is the goals and objectives come straight out of goals we developed when we first started meeting?</p> <p>Susan: They have been expanded a bit. We looked at a variety of sources such as the Delphi Exercise, meeting outcomes, etc.</p> <p>Steve: A lot of the original CMP goals were process oriented. We now need more specific features because we need to tell the modelers what to model and the permitting agencies want to know concrete details.</p> <p>Stan: We have items 5b and 5c on the outline completely separated and I believe they are so closely related at times that something like "ecorestoration opportunities" should be in there. It could be accomplished by adding an educational component.</p> <p>Debra Bishop (HT Harvey): Agreed that something should be added as far as education.</p> <p>Terri: An organizational point: include fisheries as a</p>	

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	<p>subset of habitat enhancement.</p> <p>Ron Unger: Under “flood management” would we want to consider transitory water storage within the area and integration with CVFPP?</p> <p>Debra: it is a management action in the CVFPP and not a bad idea to be consistent here.</p> <p>Ron: What is the cost effectiveness of a structural approach versus non structural approach to flood control? Should we include an economic analysis?</p> <p>Terri: Including it in the goals and objectives doesn't mean we have to do anything.</p> <p>Ron: Considering how this plays into water supply could be an asset to the Plan.</p> <p>Paul: Would like to add Native American input as a goal.</p>	
<p><b>Hydraulic Modeling and Geomorphic Analysis</b></p>	<p>Steve initiated the discussion by giving an overview of where things stand: We have gathered the information we need, which includes the as-built data, topographic and bathymetric data, Google Earth files, etc. MBK and cbec are working to compile this data and will use it to create the baseline conditions. We are going to ask Earl and Mark List to get topographic information from USACE. What we are defining in the modeling as the baseline is all three setbacks, as-built topography and restoration. That will be what we compare everything against. We have realized we don't know what to model to compare against the baseline. We need to know where more vegetation might be planted, sediment capture zones, and potential future modifications to floodplain topography. We won't give the modelers the go ahead until we have the green light from the Work Group and DWR on how we should simulate baseline to future conditions.</p> <p>Chris Campbell (cbec) went over the animations of the hydraulic study flows: There is back water inundation in the two-year dynamic flow hydrograph scenario. In the ten-year flow there is much broader inundation of setback floodplains and the State Cut channel. These models do not address fish stranding issues and are based on a confluence of the Feather and Yuba Rivers.</p> <p>Paul: The high water we had this year was about the two year mark, which is approximately 40,000 cfs.</p> <p>Steve went over what is going on in the Feather River: Due to hydraulic mining, there was more sediment coming down the watershed than the river was capable of transporting. This meant more materials were delivered to the floodplain, and the riverbed elevations were raised 10-12 feet. After cessation of hydraulic mining and construction of large dams, the river was subsequently gradually starved for sediment. Over several decades, the river eventually incised (eroded) back down to roughly its original riverbed elevation. Reservoir operations have evened out the spikes in winter and spring flows, so there is less being released during these events to periodically inundate natural</p>	<p>Provide input/comments on Table 1/hydraulic modeling to AECOM by August 5<sup>th</sup>.</p>

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	<p>floodplains. The rivers have become entrenched. We need to find surgical areas where we can expedite the split flow from channel to overbank areas and swales) on as frequent a basis as possible, and get the water to flow across floodplains more often. This is a primary ecosystem function for restoration to focus on. We do have some areas of bank erosion, and in a fifty year timeline this erosion will become a risk. The best way to go is to comingle a bunch of problems in one solution. We can't allow sediment to aggrades in the Sutter Bypass as this is essential to flood control. A possible solution is lowering the floodplain with a mass excavation project and moving that material to where it can benefit other types of projects that need earth fill material. Sculpting overbank swales where the river can flow out of its banks onto natural floodplains is an important idea. Star Bend should be looked at as a potential sculpting project</p> <p>Earl: Where orchards are currently in private ownership, they should be left where they are. Where they are underwater they should probably be converted to some other use.</p> <p>Steve: It is good to be deliberate about future constraints on agricultural productivity in some areas, and decide in advance where orchards will likely remain viable or not in the future.</p> <p>Steve provided more details on additional modeling scenarios: He encouraged everyone to look at Murphy's Slough west of Chico on Google Earth, and then pan to the south where multiple swales of Angels Slough gathers overbank flow from the Sacramento River. It demonstrates how overbank swales form and collect and concentrate flow over floodplains of natural river systems. These features would be a good natural template to consider when we are deciding what to do in the larger setback floodplains. The idea is for riparian vegetation patterns to be matched with overbank drainage collector patterns. Shanghai Bend is not an efficient flow pathway; the exposed formation is resistant to erosion but it erodes slowly. If erosion of the exposed Riverbank formation that created Shanghai Rapids continues to migrate upstream, it will change the hydrodynamics in this area. It will be harder to get flows to jump out of the river and move water into the floodplains we have created by the setback projects. If we can agree that the corridor could be an area for pre-mitigation of future projects, restoration does double duty. All of these projects have the potential for enhancement; restoration and ecological enhancement go hand in hand.</p> <p>John: Swales that were constructed for fish passage as part of the Bear River Setback Project is an example for what Steve is talking about, and provides a good model for what we are trying to do.</p> <p>Steve: If we were able to identify the areas of outflow we would not only reduce fish entrapment but would also increase flow capacity. If we agree that rearranging floodplain topography has a much better</p>	

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	<p>long term ecological benefit, then sculpting a few overbank swales through existing vegetation may have more value than preserving some existing trees, for example. Trees can be reestablished in five to ten years. Is it worth looking at those types of projects?</p> <p>Paul: On the west bank if there is opportunity for beneficial outcomes we should pursue them.</p> <p>Tony Danna: How do we get past the “bench” point? Is it still the idea to possibly increase the flow to reduce roughness (vegetation)?</p> <p>Steve: As specific as we can get spatially or pattern wise the better off we will be.</p> <p>Ken: Can you see the elevation profile of the foliage on the maps?</p> <p>Steve: All we have is downward projections of tree canopy.</p> <p>Chris: The geomorphic fieldwork by cbec will be conducted in a few weeks and we will be extending the analysis down to Sutter Bypass. In a few weeks we will start constructing the geomorphological model and fine tuning the areas of interest. There will be a slight lag behind the flood model being developed by MBK.</p> <p>Debra: I suggest getting in contact with the DWR staff (Bob Duffey) who conduct inspections by boat to get ideas on what they are doing in terms of dealing with bank erosion.</p> <p>Steve: The target time to get baseline data for baseline models is two weeks from today. From that point we will run with what we've got.</p>	
<b>New Action Items</b>	<p>Provide input/comments on the draft CMP Outline to AECOM by 7/29.</p> <p>Provide input/comments on Table 1/hydraulic modeling to AECOM by 8/5.</p> <p>AECOM will send out the Outline and Table 1 in Word format.</p> <p>AECOM will send out the Board of Supervisor meeting minutes.</p> <p>AECOM will send out a link to download the modeling maps.</p>	
<b>Next Meeting</b>	<p>Drew Sutton solicited input on agenda items for August Work Group Meeting:</p> <p>Discuss references used to assemble Table 1.</p>	

**END OF NOTES**

The record herein is considered to be an accurate depiction of the discussion and/or decisions made during the meeting unless written clarification is received by AECOM within five (5) working days upon receipt of this meeting record.

## Lower Feather River Corridor Management Plan Thursday, July 21, 2011 Meeting Work Group Member Attendance

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