



Meeting Summary

Upper Sacramento Regional Conditions Work Group Meeting #1

August 5, 2009, 9:00 am – 4:00 pm

**Location: Butte County Dept. of Employment & Social Services
202 Mira Loma Drive, Oroville, California**

WORK GROUP ATTENDANCE:

Name	Organization	Status
Patricia Bratcher	California Department of Fish and Game	Member
Tom Ellis	Sacramento West Side Levee District, Land owners in the Colusa Basin, Member of the Board of Directors of Colusa County Farm Bureau.	Member
Ren Fairbanks	Farming, SRWP, BSAGU	Member
Les Heringer	Sacramento Valley Landowners Association	Member
Ashley Indreiri	Family Water Alliance	Member
Jason Larrabee	Larrabee Farms, Glenn County, and Butte Creek Watershed Conservancy	Member
John Linhart	City of Colusa Planning Department	Member
Eugene Jr. Massa	Colusa Basin Drainage District	Member
Leigh W. McDaniel	Glenn County BOS, Nor Cal Water Assn, Tehama Colusa Canal Authority, Colusa Basin Drainage District, Farm Bureau	Member
Jas O'Growney	Tehama County RCD	Member
Ernie Ohlin	Water Resources for Tehama County	Member
Ben Pennock	GCID, Sacramento River Water Contractors, Glenn County Water Advisory Committee, Stony Creek Fan Conjunctive Water Management Group/ Partners. Association with groups: Technical Advisory Committee Representative	Member
Marty Stripling	River Garden Farms Co., Sacramento River Westside Levee District, Reclamation Districts 108 and 787	Member
Shawn O'Brien	Butte County Public Works	Alternate
Michael Rogner	River Partners, RHJV	Alternate
Gary Hester	CA Department of Water Resources	CVFMP Program Manager
Merritt Rice	CA Department of Water Resources	CVFPO*
Michele Ng	CA Department of Water Resources	CVFPO*
Dan McManus	CA Department of Water Resources	DWR Lead
Scott Rice	CA Department of Water Resources (consultant)	Regional Coordinator

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Name	Organization	Status
Yung-Hsin Sun	MWH Americas Inc.	Program Manager
Roger Putty	MWH Americas Inc.	Technical Lead
Erica Bishop	MWH Americas Inc	Technical Team
Austin McInerney	Center for Collaborative Policy	Facilitator
Ariel Ambruster	Center for Collaborative Policy	Facilitation Support / Notetaker

*Central Valley Flood Planning Office

Absent:

John Carlon*	River Partners, RHJV	Member
Stuart Edell*	Butte County Public Works	Member
Pete Ghelfi	Sacramento Area Flood Control Association	Member
Ryan Luster	The Nature Conservancy	Member
Max Sakato	Reclamation District No. 1500 and CCFVCA	Member
Tom Smythe	Lake County Flood Control District	Member
David van Rijn	U.S. Army Corps of Engineers	Member

*Alternate attended in their place

Observers:

Butch Hodgkins	Central Valley Flood Protection Board
Greg Eldridge	CH2M Hill (Consultant to DWR FloodSAFE CVFED)

ACTION ITEMS/WORK GROUP HOMEWORK (requested by 8/12/09):

- Review and provide comments on general description of Upper Sacramento Region (Worksheet 1, Question 1)**
 - Document sent as attachment to meeting summary
 - Suggested revisions and comments to be captured in track changes, emailed to DWR lead Dan McManus (email: mcmanus@water.ca.gov) and facilitation support Ariel Ambruster (aambrust@yahoo.com)
- Review Master Reference List based on familiarity with studies/reports (Worksheet 2)**
 - Spreadsheet sent as attachment to meeting summary
 - Comments to references (category/reasons) to be inserted into spreadsheet. Also please add additional references you would recommend, appended to the spreadsheet table. Email to DWR lead Dan McManus (email: mcmanus@water.ca.gov) and facilitation support Ariel Ambruster (aambrust@yahoo.com)
- Complete Worksheet 3: Initial Identification of Community Success Factors**
 - Worksheet sent as attachment to meeting summary
 - Members should consult with their constituencies to fill out worksheet, bring to Meeting #2 for discussion
- Review and, if desired, suggest terms for Glossary (Binder Tab 7.5)**
 - Suggested terms to be emailed to DWR lead Dan McManus (email: mcmanus@water.ca.gov) and facilitation support Ariel Ambruster (aambrust@yahoo.com)

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GROUP RECAP

(Meeting highlights for use by Work Group partners in their communications)

The Upper Sacramento Regional Conditions Work Group of the Central Valley Flood Management Planning Program (CVFMP) initiated its work on August 5, 2009 with the following actions:

- An initial review of existing and unique conditions/resources in the area that should be considered in the development of the Central Valley Flood Management Plan. These include biological, physical, infrastructure, socioeconomic, cultural, institutional, agricultural and other considerations.
- An initial review of reference documents/studies that might be used to study and evaluate the Upper Sacramento region.

The Work Group's purpose is the development of content for the Regional Conditions Summary Report (RCSR), a key component for developing the 2012 Central Valley Flood Management Plan (CVFMP). The RCSR will identify resources at risk in the absence of an integrated, sustainable statewide flood protection plan as well as opportunities for the Plan to address flood prevention and protection in ways that reflect community priorities. The Upper Sacramento Work Group is one of five regional Work Groups in the Central Valley.

FUTURE MEETINGS SCHEDULE:

The following meeting dates were agreed upon. Meeting facilitator to send Microsoft Outlook calendar invitations on the following schedule:

- August 24, 2009
- September 3 & 23, 2009
- October 5 & 15, 2009

The following meeting dates were tentatively set. Alternate days are listed in parentheses. These dates will be revisited at a future meeting.

- October 29, 2009 (October 26, October 28, November 2)
- November 19, 2009 (November 8, November 12)
- December 2, 2009 (November 25, November 26, November 30)
- December 14, 2009 (December 9, December 10, December 17)

The following potential locations were identified for future meetings:

- Colusa Industrial Park, Colusa
- Mendocino National Forest Office, Willows
- Bureau of Reclamation Office, Willows
- US Fish And Wildlife Service Office, Red Bluff
- City or Glenn County Offices, Willows

MEETING OVERVIEW:

The goal of the first of ten meetings of the Upper Sacramento Regional Conditions Work Group was to introduce and establish a shared understanding of:

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1. The contexts of FloodSAFE Initiative, CVFPP, the Regional Conditions Summary Report, and the work group.
2. The purpose of the Regional Conditions Summary Report, as the first major milestone in preparing the 2012 Central Valley Flood Protection Plan (CVFPP), is to define existing and likely future resources conditions within the Central Valley, flood and related problems and opportunities, and goals and objectives of the CVFPP. The plan is to develop a system approach for integrated flood management in the Central Valley, with an emphasis on areas currently receiving protection from the facilities of the State Plan of Flood Control.
3. The role of the Upper Sacramento Regional Conditions Work group to develop content for the Regional Conditions Summary Report based on their knowledge and understanding of the regional area and existing conditions as they relate to past, current and potential threats from flooding.

MEETING OBJECTIVES:

- Confirm group charter, schedule and membership
- Clarify relationship of work group to the larger FloodSAFE effort
- Outline Regional Conditions Summary Report – the main deliverable of this work group
- Receive initial input on “Study Area Descriptions” (Chapter 2)
- Receive initial input on unique existing “Resource Conditions” (physical, biological, infrastructure, socioeconomic, cultural, institutional and other)
- Receive initial input on the compiled “Reference List” of Central Valley flood-related studies, documents and resources that might be used in the development of the Central Valley Flood Management Plan
- Introduce discussion of the “Community Success Factors” necessary to further a shared vision of and support for flood management in the Central Valley

SUMMARY:

Welcome and introductions

Dan McManus and meeting facilitator Austin McInerny welcomed the meeting participants. Austin McInerny clarified that while meeting observers were welcome to attend the meeting and observe, only invited members of the working group would participate in the meeting discussion and break-out groups. Work Group Members and observers introduced themselves.

Opening Remarks

Gary Hester welcomed the group and provided opening remarks.

Overview: FloodSAFE & CVFPP

Michele Ng gave a PowerPoint presentation on FloodSAFE and the Central Valley Flood Protection Plan. The PowerPoint is available on the CVFMP web site and included in the binder.

Q: How will the public forums identified in the presentation as future participation opportunities be coordinated?

A: They will be timed to occur close to milestones.

Q: How will information sharing between topic and regional work groups be coordinated?

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A: Some members sit on both regional and topic work groups. We will report on available topic group work during subsequent regional work group meetings. Also, there will be an attempt to schedule topic group meetings between regional group meetings. The output from topic groups will be made available for the regional conditions groups to use. We expect additional topic work groups to be formed. Regional work groups might identify an issue that warrants creating a topic work group.

Q: Agriculture should be considered the same as the environment in the Regional Conditions Summary Report.

A: The work group recommended consideration of forming a topical work group to address agricultural issues. How "agriculture" is considered in the Regional Conditions Summary Report needs to be further coordinated.

Charter Review

Michele Ng, Austin McInerney and participants reviewed the charter for mission and deliverables, membership, roles and responsibilities, process and work schedule of the Upper Sacramento Regional Conditions Work Group.

Q: How was the Upper Sacramento boundary established?

A: The work group boundaries were developed based on past work, including the Comp Study (Sacramento and San Joaquin River Basins Comprehensive Study), the Urban and Non-Urban Levee Evaluation Programs, and the Central Valley Flood Evaluation and Delineation Program. The enabling legislation includes language that other systems outside the state system may affect it. We acknowledge that the region includes upland areas in addition to the northern Central Valley and will be seeking additional discussion to assess the relationship between those upland areas and flood related issues in the valley.

Comment: The map should show county borders, and perhaps legislative district borders, as this process arose from legislation.

Q: How do you envision the group talking about opportunities?

A: There will be room for differing opinions regarding what constitutes an opportunity. That discussion will happen during later meetings. The idea behind discussing problems and opportunities is that you cannot solve a problem until you define the problem. One example of the way we are defining "opportunity" would be, for example: in addressing flood problems you might be able to identify opportunities that address other resource conditions, such as agriculture or the ecosystem.

Comment: Public safety is not mentioned as the ultimate goal of this process. This is the intent of the legislation, and it should be stressed to a greater degree.

Glossary

The group reviewed the glossary for common understanding of terms, names and acronyms. As homework, members were asked to consider any terms that should be added to the glossary.

One Member named an additional term for the glossary:

- FEMA FIRM map

Comment: There are no environmental terms, such as "ecosystem."

Response: Perhaps the Environmental Stewardship Work Group could define those terms for addition to the glossary.

Regional Conditions Summary Report Overview

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Roger Putty of MWH gave an overview of the Regional Conditions Summary Report, including its purpose and its contents.

Purpose: Define resource conditions for each region of the Central Valley

Scope:

- Define/document current resources conditions and future challenges
- Identify flood management and related problems/needs
- Identify ecosystem problems and opportunities
- Define Central Valley Flood Protection Plan goals and objectives

Utility:

- Identify management actions
- Define what the CVFPP is to accomplish

Comment: Will this group study the original intent of the flood control system from the 1950s and 60s, and attempt to determine what has gone wrong? The original intent is not being honored. We need to focus on the original intent.

Response: Through a separate process in the CVFMP, we will be developing a description of the state plan of flood control. In addition, a Flood Control System Status Report will be developed. It will answer the questions of: What is the system? Is it working? What are the deficiencies? This will go into the CVFPP. The plan will identify solutions. You can review drafts of these documents as they are completed.

Comment: We need to be careful about reinventing the wheel. We have a plan already that has worked well for 50-60 years.

Comment: I represent locals; we maintain a two-levee system. Conflict resolution is huge for us. I hope the Corps of Engineers will be here. If we want the existing or proposed system to work properly, we need to have the issues and conflicts between DWR, the Corps, USFWS, Fish and Game, and FEMA identified. We need to identify the issues around channel maintenance.

Response: We are aware that not all of the issues can wait for a plan to be addressed. The timing of the work groups is good. The trick will be coordinating the process to work the content into the plan. We are trying to address these issues and develop something that can be implemented sustainably in the long term. A representative from USACE has been identified for the work group but was not able to attend. We are working with USACE to identify how they can best participate in the work group process

Comment: It would be helpful if group members had a good working knowledge of reservoir management and conditions.

Response: A topic work group is planned to discuss reservoir operations and the potential for reoperation for flood management.

Study Area Description and Resources Conditions (Worksheet 1)

As homework, members were asked to review the draft area description for the Upper Sacramento region and the detailed Chapter 2 outline. An electronic version of the document will be sent to members so they can add comments and edits. In addition, members were asked to answer Question 1 of the worksheet, what (if anything) would they add, subtract, or change about the outline?

The members were divided into two break-out groups to define important regional resource conditions. One group focused on Socioeconomic, Cultural, and Institutional conditions. The other group focused on the Physical, Biological, and Infrastructure conditions, as well as Agriculture, a topic several members suggested deserved a separate focus. It was agreed that Public Safety, which several members considered an important topic, would be covered under Infrastructure.

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The results of the Worksheet 1, Question 2 exercise are embedded below.

In the full Work Group discussion of resources conditions, the following points were raised:

- A major institutional issue is the conflicts between the Corps, the Bureau of Reclamation, the National Marine Fisheries Service and the national wildlife agencies. How can the state help resolve those? In addition, there are conflicts between local, state and federal policies.
- Another issue is the disconnect between Sacramento and the counties, where regulations implemented at the State level can result in unknowing impacts at the local level. An example is the implementation of state restrictions on burning in rice fields. The restriction has resulted in local farmers needing to flood rice fields to help with rice decomposition, which in turn has reduced the ability of the fields to absorb rainfall in early winter, and increased runoff and the potential for additional flooding.

References List (Worksheet 2)

The group was presented with the Master Reference List, a list of about 300 studies, reports and resources that could be helpful to the work group. The purpose of asking members to review this list is to ensure that the CVFPP does not miss important documents, and is able to benefit from previous work that members believe is important. The members then worked in two groups to review a shorter list of sample references and a tool for providing input on them (Worksheet 2). They assigned each reference a code based on his/her opinion of its value and utility and provided an explanation (narrative) explaining the basis of their judgment, in order to practice using the tool. The group as a whole then discussed the tool and potential alterations to it. Members will review the full Master Reference List as part of homework for the next meeting.

The results of the Worksheet 2 exercise are embedded below.

Members recommended the following additions to the reference list:

- Kelley, Robert. *Battling the Inland Sea*
- The 1959 Profile of the Sacramento River with accompanying document.
- Heringer, Les. 2007. White Paper on critical erosion site at Sacramento River mile 192.4 east (left) bank, May 24, 2007.
- The SB 1086 Legislation and subsequent document "Sacramento River Conservation Area Forum Handbook."
- A 1964 CA Reclamation Board document entitled "Master Plan for Flood Control in Butte Basin."

In the full Work Group discussion about the tool, the following points were raised:

- It would be desirable to add an additional overall category of "use/don't use" to enable easier sorting. Team members agreed to make this change.
- It was suggested that another category could be added: "important to my area (subregion)." It was suggested instead that members could use the narrative section to add such comments.
- A member said the tool would be easier to review if rows were more compact.
- In response to a question, team members confirmed that group members can be sent an Excel spreadsheet so that the references are sortable.
- Members expressed interest in being able to access the references themselves. It was suggested that members identify any references they are interested in reviewing, and the team will send links or information about how the references can be obtained.

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Pework for Meeting 2: Community Success Factors (Worksheet 3)

The facilitator reviewed Worksheet 3, Initial Identification of Community Success Factors. This topic will be the subject of an extensive discussion at the next meeting. Members were asked to fill out the worksheet as homework, to identify what aspects of each topic are important to their communities. If members choose to consult with constituencies on what would constitute a successful Central Valley and regional flood management plan, they were asked to aggregate the responses they receive to one worksheet.

- One member expressed that his community wants to avoid becoming an island, as highways are closed off during repeated flooding episodes. The high numbers of elderly people in the community are not able to access medical services. How can people leave the area during flooding?

Additional Perspectives to Capture

The group was asked what people and perspectives were not represented in the room, and should be included in this process in some capacity.

- Emergency Services Sector, such as local OES officers
- The Sacramento River Conservation Area Forum
 - Bev Anderson was to be on the work group representing this organization, but she has changed jobs. The team has been exploring replacements, including Jas O'Growney of Tehama County RCD.
- Environmental Justice
 - Revisit the CALFED environmental justice framework and contacts

Q: How will local governments be involved?

A: DWR plans to conduct feedback forums. Those will occur at a time when there is something concrete to present to boards of supervisors and city councils. Local governments can request a presentation at any point in time.

- Tehama County holds the quarterly meeting of its board of supervisors and all city councils.

Summary of Worksheet #1 Responses: Resource Conditions

PHYSICAL:

Unique Conditions to focus on in the CVFPP:

- This region is the major source of water supply in California
- Page 12 of Battling the Inland Sea says the Sacramento River system is the most volatile in the United States. Mississippi River: 1.5 cfs per square mile; Columbia River: 5.8 cfs; Sacramento River: 23 cfs. These comparisons should be included to give perspective.
- The historical hydrologic record -- historically, flows in the system were much different than today. Compare regulated versus nonregulated systems.
- Distribution of rainfall and the differences on the west side versus east side of the valley, where the flows kick up.
- How groundwater is recharged. We have a city dependent on groundwater.
- Distribution and differences in soil types throughout the valley. Infiltration is limited by the clay soils of the valley floor. If water is not spread out for recharge, it causes erosion. How to handle large flows: store them, or impact levees and the Delta?
- South of Colusa, the river is on high ground relative to surrounding land, so setback levees are problematic.
- The Sacramento River has a TMDL
- Mercury issues - the region has a history of mining activities and mercury is one of the residual problems.
- It is surrounded by three mountain ranges
- Air -quality restrictions
- Climate change: Shasta, the timing of precipitation and snow, recognizing that Shasta is primarily operated for rainfall runoff.
- There are several unregulated tributaries without dams or reservoirs
- The bypasses need to be maintained or they plugged up. They need to be treated as part of a system.
- The area of Sutter Buttes to Rio Vista is a holding area where sediments are deposited
- Sediment transport: the upper Sacramento contribution to lower Sacramento and the Delta. What works, what doesn't? Oceanic health from the tributaries to the Bay and Delta
- The rice farms are flooded, so there's no capacity when the rains come
- Rice straw is plugging up culverts and pipes
- Watersheds -- flashy or not. Revisit the relationship of the watersheds and flood control
- Are the reaches behind Shasta Dam relevant? Management decisions on the Pit and McCloud may affect downstream. There may be climate change issues, as well, with snow/precipitation
- Iron Mountain Mine contributes to water quality problems in the Upper Sacramento River
- Sutter Buttes as a plug in the system
- Ag waiver on water quality (State Water Resources Control Board -- regulator) ** added post-meeting

Studies and Data Sources:

- Battling the Inland Sea
- State of the Sacramento River Report, The Nature Conservancy, 2008. A CALFED report. It discusses geomorphological changes over time, and includes a gravel study
- Stacy Cepello of DWR worked with a model developed in the late 1990s looking at historic flows along the Sacramento River

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- DWR flood channel design flow
- Water quality/contaminants: data collected by the Sacramento River Watershed Program (SRWP), www.sacriver.org ** added post-meeting

BIOLOGICAL:

Unique Conditions to focus on in the CVFPP:

- The refuges, the role they play in the Pacific flyway
- Unique listed species such as winter run Chinook some of the spring run and the fall run (commercial); the state-listed bank swallow; the elderberry betel; the giant garter snake
- Arundo, water hyacinth and other non-native plant invasive species which clog creeks and irrigation channels
- There is less than 2-5% of the original riparian habitat. This ties into the refuge system.
- The important role agriculture and duck clubs play with habitat and species and the flooding of farmland
- Environmental issues and restrictions (brush clearing = habitat degradation) have affected channel capacities

Studies and Data Sources:

- State of the Sacramento River Report, The Nature Conservancy, has a comprehensive approach beyond a single species approach
- CALFED ecosystem documents
- Tributaries have watershed assessments
- California Rice Commission for information on the role agriculture plays with habitat

SOCIO-ECONOMIC:

Unique Conditions to focus on in the CVFPP:

- Changing land ownership (to Federal or State) may create habitat or recreational opportunities but removes agricultural land from the tax base in an area that relies on the agricultural sector of the economy.
- Sustainability of funding needs to be built into all plans to reflect the region's funding limitations
- There is a disparity in funding available to Upper Sac region; our communities often do not have the initial resources to apply for grants.
- New mapping and flood protection requirements (100-200 yr protection) put compliance requirements on communities that can't afford it or simply don't want that level of protection.
- Towns do not want to deal with land uses that are assumed to be allowed by changes in zoning due to new flood protection.
- Flood management actions made outside of the region have impacts within the region both to flood protection (e.g. overflow/bypass) and to water resources (e.g. increased water export and reduced groundwater recharge, higher reliance on groundwater pumping).
- The region has a greater amount of existing and potential recreational facilities (e.g. wildlife refuges) and thus provides statewide benefits that may not be factored effectively into cost-benefit analyses.
- There are more demands on land use within the floodplain in the region (e.g. agricultural, ecosystem, recreation, flood management...) with a greater potential socio-economic impact in those areas.

CULTURAL:

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Unique Conditions to focus on in the CVFPP:

- Unique and specialty agricultural operations exist in the region (olives, olive oil, wines, etc.) that facilitate interest and tourism in the region.
- Numerous historic communities and tribal resources are undisturbed in this region as opposed to others.
- There are many ethnic and disadvantaged communities requiring unique methods of outreach, education and communication.

INFRASTRUCTURE:

Unique Conditions to focus on in the CVFPP:

- Existing versus plan envisioned a never completed. Issues: Chico is penned in. Lack of Auburn Dam. The American River stops Sacramento flows from moving south.
- Shasta Lake and Whiskeytown have been managed concurrently for fish passage, hydroelectric, flood control, Iron Mountain Mine
- The number of wastewater treatment plants that are located along the Sacramento River.
- Emergency escape routes need to be identified. The roads are too low: 20, 32, 162, etc. They either need to be raised or the water needs to be moved. There need to be causeways with hydraulic design.
- The railroad system goes through Upper Sacramento to out-of-state
- SB 1086: agreed to give a high priority to protecting public structures. GCID has the largest fish screen in the world. M&T pumps were moved from Big Chico Creek to the Sacramento River to assist with fish passage, but now the new pumps are being threatened by a migrating gravel bar. Make sure there is no legislative mandate unless there are funds to expand and maintain. Cities right now are designed for 100 year flood, and counties for a 10 year flood. They would have to meet 200 year flood requirements.
- Agricultural distribution systems can also serve to divert flood flows – OPPORTUNITY
- Caltrans is protecting infrastructure that could be damaged
- Maintenance/repair of existing weirs for design flood flows
- Shasta has an enormous effect on the system
- Protection of the agricultural distribution system
- Protection of sewage treatment plants and septic systems
- Power corridors from Pit to Redding
- Maintain all facilities, state federal and private, take a systemwide approach. Solutions include more than the state and federal governments.
- Need a comprehensive review of Butte Basin -- the historic intent of it. A thorough analysis is needed. It's an overflow, not a bypass. There is a refuge there. How is it supposed to function, how is it functioning? OPPORTUNITY
- Aging infrastructure
- Environmental regulations cause expenses for agriculture and maintenance
- Levees -- levees of the sand may be okay if there is maintenance of bypasses and weirs
- Dredging of the Sacramento River is important to many, but snags are important for fish. There has been a tendency for wildlife policies to be single species driven rather than a comprehensive approach
- If bypasses work properly, it can be good for fish
- Problems caused when levees are abandoned and not maintained
- Sutter Bypass has a large refuge, and now doesn't pass the same amount of water. There is a need to maintain bypass flows or people, urban populations, should move out.

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- Refuges: concern that their vegetation is inhibiting flows. A 1997 levee break into Meridian occurred near a vegetated north border of a USFWS refuge. Although natural ecological processes can be eight tool for managing flood flows. Hands-on management in perpetuity versus natural state, dynamic equilibrium.
- Gravel-starved areas downstream from existing dams
- There are many levees on tributary streams, not as much on main stems.
- The region has many SPFC “facilities” that aren’t levees (bypasses, floodways, etc.) and it seems that too much focus is on levees.

Studies and Data Sources:

- SB 1086, Nielsen, Upper Sacramento Riparian and Habitat Restoration and the Sacramento River Conservation Area Forum Handbook.
- Woodson bridge study
- DWR study -- hydrologic analysis of Sutter Bypass
- A 1964 CA Reclamation Board document entitled; “Master Plan for Flood Control in Butte Basin”
- Channel maintenance reports, design manuals, guidelines

INSTITUTIONAL:

Unique Conditions to focus on in the CVFPP:

- Flood management and water resource policy decisions made outside the region have a disproportionate affect within the region (e.g. water exports lead to reduced groundwater recharge and increased reliance on groundwater).
- Flood management actions within the region have a significant beneficial impact outside of the region that need to be accounted for in cost-benefit analyses for future projects and their impacts on the region.
- Small but very beneficial projects could be built in this region rather than large repairs elsewhere but this does not happen because political favor lies elsewhere.
- The region’s upstream location in less populated areas favorable for water retention, recharge, and ecosystem improvements gives it a high potential to improve flood control while providing agricultural, ecological, and economic benefits.
- Cost/benefit analyses should be modified in order to show sensitivity to unique land uses and their relative value in the Upper Sac region
- Different land uses, not necessarily decided by locals, affect flood flows and flood management differently (i.e. spreading water, detention basins, channel maintenance, etc.)
- Water conservation in the Upper Sac is not rewarded regionally; the benefits are realized in other regions.

AGRICULTURE:

Unique Conditions to focus on in the CVFPP:

- Rice is an important agricultural output in the Upper Sacramento River Basin
- Sometimes agricultural operations conflict with flood management. For example, flooding rice fields, as opposed to burning rice stubble, has taken up some potential floodplain flood space.
- Agriculture supports the levees
- Compatibility of agriculture and flood control, working together
- Oroville is a state project; Shasta is a CVP project for flood control and water storage, funded by agriculture and farmers

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- Water for environmental purposes is paid by agriculture
- Agriculture maintains open space and bypasses. The system would otherwise choke up.
- Natomas is an example of land that was once agricultural replaced by people. It reduces the flexibility of the system. The issue of urban people getting higher protection and agricultural people.
- Stringent development controls or more agriculture-friendly approaches to maintain agriculture are good for implementing flood management. The current model needs a larger population of people to support the system -- it doesn't work.
- Food supply and food security issues.
- The valley was historically used for rangeland, and when it is converted to cropland, the consequent leveling affects the natural floodplain processes.
- Many small communities are impacted by sheetflow flooding and flood protection from large perimeter levees cannot be economically justified.



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Summary of Worksheet #2 Responses: References

During the August 5, 2009 meeting the group conducted a first pass review of the references, which was followed by a homework assignment to consider the references in more depth.

The groups broke into two subgroups and practiced by reviewing the reference list and using the category codes. The aim was to become familiar with the system rather than complete the worksheet. The results from those two subgroups are reflected below.

CATEGORY CODES

MUST	Extremely important, must include
GOOD	Good general reference
USE	Use – but with caution

IRR	Irrelevant
NO	Not acceptable

SUP	Superseded by later documents/studies
UNK	Unknown

REFERENCE NAME	CATEGORY	NARRATIVE
DWR. 2005. White Paper. Flood Warnings: Responding to California's Flood Crisis. January.	Group 1 GOOD	One individual was familiar with the document, others were not.
	Group 2	

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REFERENCE NAME	CATEGORY	NARRATIVE
DWR. 2006. Progress on Incorporating Climate Change into Planning and Managing California's Water Resources.	Group 1	
	Group 2	
DWR. 2008. Draft FloodSAFE Strategic Plan, May.	Group 1	
	Group 2	
USACE and Reclamation Board. 1999. Sacramento-San Joaquin River Basins Comprehensive Study Phase I Documentation Report. March.	Group 1	
	Group 2	

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REFERENCE NAME	CATEGORY	NARRATIVE
USACE and Reclamation Board. 2002b. Sacramento and San Joaquin River Basins California Comprehensive Study, Interim Report. 2002.	Group 1	
	Group 2	
USACE. 1955. Sacramento District. Standard Operation and Maintenance Manual for the Sacramento River Flood Control Project. Revised May.	Group 1 MUST	
	Group 2	
USACE. 1959. Sacramento District. Standard Operation and Maintenance Manual for the Lower San Joaquin River and Tributaries Project, California. April.	Group 1 MUST	
	Group 2	
USACE. 1978. Maps, River and Harbor, Flood Control and California Debris Commission. Sacramento District, Civil Works Projects.	Group 1	

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REFERENCE NAME	CATEGORY	NARRATIVE
	Group 2	
USACE. 1999. Post-Flood Assessment for 1983, 1986, 1995, and 1997 Central Valley, California. Sacramento District.	Group 1	
	Group 2	
Mount, Jeffery F. 1995. California Rivers and Streams: The Conflict Between Fluvial Process and Land Use.	Group 1	
	Group 2	
USACE and Reclamation Board. 1953. Memorandum of Understanding Respecting the Sacramento River Flood Control Project. November 30.	Group 1	
	Group 2	

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REFERENCE NAME	CATEGORY	NARRATIVE
U.S. Congress. 1944. Flood Control Act of 1944. Public Law 534.	Group 1	
	Group 2	
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