



Meeting Summary

Lower Sacramento Regional Conditions Work Group Meeting #3

September 3, 2009, 9:00 am – 3:15 pm
Location: Woodland Community Center
2001 East Street
Woodland, California 95776

WORK GROUP ATTENDANCE:

Name	Organization	Status
Ryan Bonea	Sutter County Resource Conservation District; Yuba County	Member
Francis Borcalli	FloodSAFE Yolo; Water Resources Association of Yolo County	Member
Bill Busath	City of Sacramento	Member
Bill Center	American River Recreation Association, Planning & Conservation League, CABY (Cosumnes, American, Bear, Yuba) IRWMP	Member
Andrea Clark	Three Rivers Levee Improvement Authority	Member
William Edgar	Sutter Butte Flood Control Agency	Member
Dan Fua	Central Valley Flood Protection Board	Member
Miki Fujitsubo	U.S. Army Corps of Engineers (USACE)	Member
Mike Hardesty	RD 2068, RD 2098, California Central Valley Flood Control Association	Member
Gena Lasko	California Department of Fish and Game	Alternate
John Powderly	City of West Sacramento	Alternate
Tom Smythe	Lake County	Member
Ronald Stork	Friends of the River	Member
Helen Swagerty	River Partners	Member
Jeffrey Twitchell	District One of Sutter County; urban and rural interests of Yuba City-Sutter Basin	Member
Tim Washburn	Sacramento Area Flood Control Agency	Member
Gary Hester	CA Department of Water Resources	CVFMP* Program Manager
Erin Mullin	CA Department of Water Resources	CVFPO**
Loren Murray	CA Department of Water Resources	DWR Regional Coordinator
Pierre Stephens	CA Department of Water Resources	DWR*** Lead
Todd Hillaire	CA Department of Water Resources	Team
Vanessa Nishikawa	MWH Americas Inc.	Technical Lead
Craig Wallace	MWH Americas Inc	Team

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Name	Organization	Status
Pam Jones	Kearns & West	Facilitator
Janet Thomson	Kearns & West	Facilitation Support / Note Taker

*Central Valley Flood Management Planning

**Central Valley Flood Planning Office

***California Department of Water Resources

Absent:

Michael Bessette	City of West Sacramento	Member
Tovey Giezentanner	Conaway Preservation Group LLC; RD 2035; Water Resources Association of Yolo County	Member
Julia McIver	Yolo County	Member
Tim Miramontes	Yolo County Farm Bureau; California Rice Commission; California Farm Bureau Rice Advisory	Member
David Zezulak	California Department of Fish and Game	Member

Observers:

None

WORK GROUP HOMEWORK/ACTION ITEMS

- Review and provide comments on the DRAFT Regional Conditions Summary Report for the following sections: Chapter 1: Introduction; Chapter 2: Study Area Description; Section 2.1: History of Flood Control Facility Construction, and Operations and Maintenance; Section 2.2: General Regional Descriptions**

 - Document emailed to work group members on 8/28/09
 - Comments should be made in “track changes” and should focus on errors, omissions, redundancy, mischaracterization, and other major issues with the draft. These should be emailed to DWR lead Pierre Stephens by 9/4/09 (email: jrstephe@water.ca.gov)
- Review and provide comments on the DRAFT Regional Conditions Summary Report for Partial Chapter 2.3: Existing Resource Conditions for Physical, Infrastructure, and Institutional**

 - Document emailed to work group members on 09/01/09
 - Comments should be made in “track changes” and should focus on errors, omissions, redundancy, mischaracterization, and other major issues with the draft. These should be emailed to DWR lead Pierre Stephens by 9/10/09 (email: jrstephe@water.ca.gov)
- Provide additional comments on the “Establishing Critical Drivers” exercise (Worksheet 7) or the “Translating Risks to Problem and Opportunity Categories” exercise (Worksheet 8)**

 - Worksheet emailed to work group members on 9/4/09
 - Additional input should be inserted into the worksheet and emailed to DWR lead Pierre Stephens by 9/11/09 (email: jrstephe@water.ca.gov)

ACTION ITEMS: PROGRAM TEAM

- CVFMP Team will send an email to the Lower Sacramento Work Group (LSWG) regarding the newly-forming agricultural stewardship subcommittee.

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2. Janet Thomson will send out a Doodle poll to determine availability for LSWG meeting dates in December (week of September 7).
3. Vanessa Nishikawa will add "floodplain management" to the Regional Conditions Summary Report glossary (next version of glossary).
4. Pierre Stephens will distribute the draft section on flood management history to the LSWG for review and comment (likely in October).

GROUP RECAP

The following may be edited and used by Work Group partners in communicating with their constituencies:

Members of the Lower Sacramento Regional Conditions Work Group received an update on the following items:

- Responses to issues raised in Meeting #2
- Action items from previous meetings

Members provided initial input into the development of the Regional Conditions Summary Report in the following areas:

- **"Drivers" and Influencers** -- Identification of conditions/factors (e.g., population) likely to influence flood susceptibility or be susceptible themselves to flood damage but not under the control of the flood manager. This included trends and timeframes associated with those conditions and the effects/impacts those conditions and trends may have on flood management.
- **Problems and Opportunities** – Continued discussion to identify problem statements based on Meeting #2 identification of community assets at risk from flooding. This included why they are at risk, the consequences of lack of protection from flooding, and initial discussion of opportunities associated with those problem statements.

FUTURE MEETINGS SCHEDULE

Meeting #4 has been cancelled to provide the technical team adequate time to synthesize input received thus far, and prepare materials for future meetings. The time will also allow partners to review materials in preparation for the next meeting.

Note: Project management team is reviewing the schedule for future meetings, which may change to reflect a narrower focus of input.

MEETING OVERVIEW

The purpose of Meeting #3 was to continue developing content for Chapter 2 of the Regional Conditions Summary Report.

MEETING GOALS

1. Respond to issues raised in Meeting #2 (including coordination among the regions)
2. Refine Drivers and Challenges and consider implications for the Regional Conditions Summary Report
3. Complete a first round discussion on the regional description
4. Confirm categories of Problems and key Problem Elements
5. Begin generating content for Problem Statements and consider sample Opportunity Statements
6. Preview work for Meeting #5 and discuss options for reducing full group meeting time

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SUMMARY

Welcome and Greetings

Pierre Stephens, DWR, and meeting facilitator Pam Jones, Kearns & West, welcomed the meeting participants. Following introductions, Pam Jones reviewed the meeting purpose, goals, and agenda.

Vanessa Nishikawa, MWH lead, informed the group that an agricultural stewardship subcommittee has been formed. Representation for this subcommittee will come from current agricultural representatives from the regional and topic work groups. The subcommittee will likely have a few meetings, after which the content from the meetings will be input into the Central Valley Flood Protection Plan (CVFPP) process.

Pierre Stephens reviewed the Projects and Programs list provided in the draft Meeting #2 summary with the group. The partners agreed to provide edits to the document by email to Pierre Stephens after the meeting. Pierre clarified that projects that are constructed, permitted, or funded by 2015 should go on the list. Those that are constructed by 2015 will be considered “existing conditions” for the purposes of the Regional Conditions Summary Report (RCSR), while those that are only permitted or funded by 2015 will be factored into the future conditions analysis.

Q: Should we include projects that deal with water quality?

A: Yes.

Comment: It may be useful to split the table into two – one table for infrastructure, and another table for non-structural activities such as studies and Habitat Conservation Plans (HCPs).

The group discussed the need to provide a coherent narrative to explain how the flood system was iteratively developed, and requested that this include the history of assurances about levels of protection.

Review of Meeting #2 Action Items

1. Vanessa Nishikawa to report on access to reference documents identified in the Additional References List
Status: In progress
2. Pierre Stephens to post the Lower Sacramento Regional Conditions Work Group Member Contact List to the CVFMP Web site
Status: Complete, will be updated as needed
3. Pierre Stephens to report on strategy to engage tribal and environmental justice interests
Status: The program management team adopted a policy for engaging with tribal and environmental justice interests. It will use a variety of outlets to form an engagement program and will coordinate with California Water Plan tribal outreach. He acknowledged the need to coordinate this with those working on Integrated Water Resource Management (IWRM) plans.
4. Erin Mullin, DWR, to report on the recommendations developed in the Climate Change Topic Work Group regarding the period of analysis for the CVFPP
Status: In progress
5. Michelle Ng, DWR, to report on briefings for County Boards of Supervisors
Status: Will occur as needed. If Lower Sacramento Work Group LSWG partners know of groups that want briefings from the project team they should let Pierre Stephens know.
6. Pierre Stephens to distribute the list of Projects and Programs for the Lower Sacramento Regional Conditions Work Group for review
Status: This document is in the summary for Meeting #2. A list with input from all regional workgroups will be distributed once it is compiled.

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7. Michelle Ng to plan joint meetings and subcommittees between regional conditions work groups as appropriate
Status: There will be two joint meetings in November, one with the Delta group and one with the Upper Sacramento group.
8. Once meeting summaries are finalized, Vanessa Nishikawa to provide hard copies to partners to add to the meeting binders
Status: The draft Meeting #2 summary is available in hard copy today.
9. Facilitation team to post draft meeting summaries on the CVFMP Web site so that the documents are available in a timely fashion, noting that the summaries are still in draft form and subject to review and revision
Status: The program team is checking with all the regional conditions work groups to ensure that participants are comfortable with posting draft meeting summaries on the CVFMP Web site.

Review and Confirm Final Draft Chapter 1 & 2 Outline

MWH technical lead Vanessa Nishikawa informed the work group members that the planning team continues to receive comments on chapters 1, 2.1, and 2.2 of the RCSR. The planning team will soon distribute sections of chapter 2.3 (physical, infrastructure, and institutional) for LSWG review. The partners will review these sections as part of their homework. In response to requests from LSWG partners, the planning team will distribute the draft history section (which will address how the flood management system was developed over the years) in order to receive partner review and comment.

Chapter 2, Priority Challenges and Drivers

Facilitator Pam Jones reviewed the definition of a driver, noting that a driver:

- a) Is an external factor that impacts flood management but is not under the control of the flood manager
- b) Has a "trend" (up or down) and a "speed" (slow, medium, fast)
- c) Will be considered in the 2015-2050 time frame for the CVFPP

The group defined additional categories of drivers:

- Institutional
- Legislation
- Public awareness/perception

The members were divided into two break-out groups to identify important drivers and trends for the Lower Sacramento region, building on their work from Meeting #2. The results of the exercise are listed in Worksheet 7 following the meeting summary. The content from this exercise will feed into the description of future conditions.

Executive Remarks

Gary Hester, DWR Executive Lead, thanked the group for attending, provided a program update, and addressed policy questions from the group. Mr. Hester announced that the planning team had decided to have a pause for the technical team to synthesize and incorporate the input that has already been provided, and sharpen the focus on the questions that will be presented to work group members in future meetings. As a result, Meeting #4 will be held on October 7, 2009 (originally the date for Meeting #5). Mr. Hester noted that the work group would still achieve the milestones that were initially identified. He also announced that the USACE, DWR, and CVFPB have agreed on funding arrangements to proceed with the USACE's Central Valley Integrated Flood Management Study.

Q: How is DWR going to be clear about the lands for which the state will be liable and those for which the state will not be liable?

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A: The focus area will be the lands protected by the State Plan of Flood Control (SPFC) that will tie back to the state's liability. Beyond that, the Department will be evaluating improvements in the overall system in the broader watersheds. DWR will explain more of the history of the development of the system in the Central Valley Flood Protection Plan (CVFPP). The Lower Sacramento Work Group partners will have an opportunity to review and comment on that text.

Comment: It will be useful to have a written explanation of the extent to which communities that are urbanizing are covered by the CVFPP.

Problems and Opportunities, Categories and Sub-Categories

MWH technical lead Vanessa Nishikawa gave a presentation on Problems and Opportunities related to flood management, including how the consideration of Problems and Opportunities will be incorporated into the preparation of the CVFPP. During Meeting #2 the LSWG identified assets at risk from flooding in the Lower Sacramento region. Today's exercise asks the LSWG to identify *problem statements* and potential *opportunity statements* related to the problems/threats to assets identified in Meeting #2. The LSWG was divided into two break-out groups to conduct the exercise. The results of the group discussions are listed in Worksheet 8 following the meeting summary.

Establishing Critical Drivers (Worksheet 7)

The work group broke into two small groups for this exercise. For each driver the group was asked to note the trend of the driver, the timeframe, and how the driver impacts flood management.

Driver	Rate or Trend of Change within your region or sub-region	How does this driver impact flood management
Type and location of development <ul style="list-style-type: none"> • Residential • Agricultural • Industrial 		<ul style="list-style-type: none"> • SB5 requires that builders meet standards for development behind levees. • Counties are working with the Federal Emergency Management Agency (FEMA) to get waivers for ag and other non-urban structures. • Communities may rely on FEMA or exceed FEMA standards (all legal subdivisions must comply with SB5); if communities don't comply with FEMA regulations they put the entire community at financial risk due to withholding of funds. • Areas likely to be developed will need expensive protective structures. • Areas not likely to be developed will rely heavily on flood plain management and other methods for protection. • FEMA Map Modernization is very restrictive and restricts new development in flood prone areas. • Flood management will need a zoned approach that distinguishes between high-improvement-value areas that can be protected from flooding and lower value areas that have to modify how they operate (without state or federal help). • Broad areas will not be as protected as high-value areas, but there is still a need to provide reasonable protection. • Ring levees provide some protection to broad areas; managers must augment flood management where ring levees do not exist with insurance, notification, and smaller structural protection. • Both flood management and floodplain management must be addressed. • Segregate land use practices and solutions (how to protect lands), and separate into urban (ag, structural, small communities) and non-urban. • Four historic urban areas are bounded by either levees or defined boundaries. • General plans need to reflect actual flood risk. • Small communities need special consideration. • There is a need for integrated urban-rural system flood management. • Results in a redistribution of liability/responsibility to flood managers • Results in future political decisions (how to spend common wealth on what we value), and requires tough decisions on existing buildings (different fire chief,

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		different ruling)
Change in the number of people living in the floodplain	<ul style="list-style-type: none"> •Trend toward beneficiary paying more •Timeframe is 3-5 years when FEMA mapping is completed and rates will go up (stair step) 	<ul style="list-style-type: none"> • Population will need to be concentrated in urban areas (SB5) • As population grows there will be an increasing imperative for the new development to pay for the increase in required protection. • Unless population grows in urban areas the demand for flood protection will be disproportionate to ability to pay/cost share. • In absence of DWR regional management, local communities must go through Prop. 218 public approval process to increase fees to generate revenues to pay for increased protection. • Increased burden on local non-urban entities to pay for flood control; economies of scale for payment are more favorable in urban areas.
Climate change <ul style="list-style-type: none"> • Sea level rise • Runoff patterns • Temperature 		<ul style="list-style-type: none"> • Requires altered design of new facilities (e.g. building higher, more robust levees) • Increased flows from runoff and more rain/less snow will alter water supply and water use patterns and cause changes in operations. • Requires coordination with single-purpose facilities to address multipurpose issues • Increases competition between water supply and flood storage in multipurpose facilities • Agricultural practices, cropping patterns, and timing will change • Uncertainty with sea rise and “no-regrets” policies (those in which a reduction in greenhouse gases can be justified on other grounds)
Environmental regulations		<ul style="list-style-type: none"> • Future endangered species listings will determine when and where construction can occur. • Restores access to upper watersheds • Drives land-use decisions • Changes groundwater management (replenishment and storage)
Water Quality <ul style="list-style-type: none"> • Regulatory requirements (e.g. irrigated lands program, land use regulations, TMDLs, ESA, emergency response, etc.) • Habitat development • Mercury issue in Cache Creek system, Putah Creek, Yolo Bypass, American River system, also Feather River and 	<ul style="list-style-type: none"> •Trend towards more regulation, higher level of impact on flood management •Low-impact development is in its infancy but likely to increase •Delta is far more sensitive than other areas for all these issues 	<ul style="list-style-type: none"> • Land use regulations may require different farming cultural practices and change infiltration rates. • Meeting Endangered Species Act requirements results in improved water quality in the ag sector • Low-impact urban development practices change permeability rates • Sediment management (e.g. removal of sediment behind dams) affects main stems of rivers • There is a distinction between the levee system itself and drained areas – endangered species regulations might negatively affect flood management

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<p>everything downstream</p> <ul style="list-style-type: none"> • Salinity in the Delta • Temperature • Contaminants transport 		
<p>Funding</p> <ul style="list-style-type: none"> • O&M (operations and maintenance) • R&R (replacement and repair) • New facilities 	<ul style="list-style-type: none"> • Trend for funding is decreased availability. Will there be enough? If not, how distributed? • Shift from federal to state to local funding responsibility • Increased competition between regions • Funding hard to come by in rural areas, resulting in increased incentive to develop to generate income • Decreasing funds leads to decreasing O&M • Decreasing vegetation on levees • Ability to provide flood protection will vary based on cost sharing ability (which varies sub-regionally) 	<ul style="list-style-type: none"> • To get local funding, communities must go through the onerous Proposition 218 public approval process to increase fees. • Local entities cannot get state or federal cost-sharing unless they go through the onerous Section 104 credit, 408 process • Federal funding is granted on a project-by-project basis, not system-wide, therefore some parts of the systems cannot be improved because no funding is available. This doesn't allow projects that might share a common purpose to be evaluated and funded together. • Locals don't have sufficient funding to do O&M and R&R. • Incremental analysis for cost-benefit does not connect properly and results in low-value areas funding benefits that accrue elsewhere. • Decrease in public funding leads to decreased O&M and decreased system improvements as well as decreased floodplain management • Federal policy provides incentives for development, as does state development-in-lieu fee (either pay fee or provide 200-year protection) • Providing for 100- and 200-year flood protection carries nearly equivalent costs, so it's cost effective to go for the higher goal.
<p>Institutional</p>	<ul style="list-style-type: none"> • Trend towards more state and federal involvement in local decisions • Trend towards USACE and state pushing liability towards local jurisdictions • Land use authority varies from subregion to subregion or county to county 	<ul style="list-style-type: none"> • One-size-fits-all regulations can result in either inadequate flood protection activities or overly redundant flood protection activities. • Lack of historic knowledge of the system and on how to protect against and respond to floods negatively affects emergency response capabilities. • Loss of institutional knowledge within agencies decreases ability to conduct effective floodplain management. • Change in regulations (e.g. FEMA re-map) can affect floodplain management by re-characterizing systems and changing their required management • FEMA's re-map will result in many previously-certified now not certified designations, putting people back into flood zones. • Changes in engineering standards will affect the entire system. • ESA drives flood system maintenance – practical effect is that less of “old-style

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		<p>flood management” is undertaken.</p> <ul style="list-style-type: none"> • Lack of communication between and within agencies results in a decreased effectiveness of flood management. • Land use authority (e.g. local government) can have different perspectives and needs from specific authorities (e.g. flood control agencies), resulting in conflicting priorities for flood management.
<p>Legislation</p> <ul style="list-style-type: none"> • SB5 • Requirement of 200-year protection for urban areas • 2006-2007 legislation • Federal legislation driving USACE activities / authorizations 	<ul style="list-style-type: none"> •Funding uncertainties will get worse, especially at state level and especially due to reliance on bond funding). 	<ul style="list-style-type: none"> • Legislation affects types and amounts of available funding and cost-sharing, and the facilities being built (e.g. peripheral canal, flood control system improvements, etc.) • Liability or fear of liability can affect what is constructed. • Legislation drives land use entities to update general plans due to liability issue and regulations. • Differences in federal and state funding authorizations creates huge funding uncertainties upon entering a project, resulting in uncertainty about whether projects can be completed. • Flood management decision-makers need to be more savvy about communicating flood management needs to the legislature and public, since public and legislature drive what activities are funded. • Interaction between USACE, FEMA, Reclamation and local entities regarding flood management activities can be mandated.
<p>Public Awareness/Perception</p> <ul style="list-style-type: none"> • Rumors, hearsay, misinformation • Mistrust of government • Disasters • Perception of tax burden • Perception of the need for flood management 	<ul style="list-style-type: none"> •Trend for public perception might be towards greater understanding of how flood protection occurs, if the educational component of FloodSAFE succeeds; alternatively, the trend could be that of decreased awareness •General trend towards better risk communication •Regional aspect of public awareness is partly based on disaster location (e.g. recent floods in Marysville and 	<ul style="list-style-type: none"> • Disasters create policy opportunities (e.g. SB5 driven by Katrina). • Hard to convince people to support projects when they incorrectly believe that government does not properly manage the flood control system • Lack of support for policies/programs due to mistrust of government • Hard to maintain credibility in the face of changing standards and changing public perceptions/confusion about the changing standards • Perception of tax burden might result in less likelihood to fund flood management projects (legislators are reluctant to fight that battle). • Public perception drives legislation and funding (sometimes on a state level and not necessarily local level); this varies by location. • Government/managers are better at designing systems than at communicating what the needs and challenges are; there is a lack of consistency among agencies about communicating the issues. • Changing standards cause confusion about whether flood protection is adequate. • Public perception of flood risk influences where people develop. • Ag community tends to think too much money is going to urban areas, resulting in an urban vs. rural dichotomy. • Ag tends to be more aware than urban communities because they are physically

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	Yuba City)	connected to flood system; their livelihoods are more connected to success of flood control system, and there tends to be a deeper generational history with lands.
Climate Change	<ul style="list-style-type: none"> • Geography – bypass areas and Verona and above will be most affected • A sensitivity analysis around sea rise issue will help us understand how much of the system is in play • Changes in flood management will vary regionally (e.g. southern vs. northern Sierras) • Communities close to the Delta will need to do floodplain management 	<ul style="list-style-type: none"> • Sea level rise requires higher, more robust levees; overall climate change will alter the way we design new facilities or improvements to existing facilities. • Increased flows from runoff, more rain/less snow, and altered water supply and use patterns will require a change in facility operations. • Potential change in operation of reservoirs to balance water supply and flood management • Increasing coordination between water supply, hydro facilities, and flood management will be required. • Reservoir operations will likely need to change due to changes in rain/snow mix and timing – increased competition between water supply reservation and flood control storage in these multi-purpose reservoirs; only Folsom Dam is designed to deal with this problem. • Will need coordination of single-purpose facilities to coordinate and observe/share information; need integrated management without mandates • Agricultural practices may change – harvest planting, timing, cropping patterns, and flood sensitivities will all be affected (e.g. change from Mediterranean climate to summer rain pattern will fundamentally change agricultural practices.) • Refuge management will be affected by changing water timing/extent etc.. • Need to build a flexible system because predictability is tough/models don't exist • May see hydraulic changes in the Delta (e.g. levees breaking and not being repaired) • Physical circumstances in the Delta will change in the long run, and Delta will be moving upstream. Where we previously had channels, we may soon have open water; will need greater reliance on levees where they are not currently crucial • Temperature might fundamentally affect anadromy which will need to be addressed • There is a public perception that this region will see an increase in major flood events, which may not be true; this belief may affect flood management activities.
Habitat/Environmental Regulation	<ul style="list-style-type: none"> • Groundwater regulations • HCPs/NCCPs • ESA 	<ul style="list-style-type: none"> • Vegetation management will be a huge battle. (Affects water flow and maintenance and habitat) • New endangered species listings will cause regulations to change and will require flood managers to consider additional regulations in operations. • Might need to restore access to upper watersheds if climate change affects anadromy; this may result in dam removal which affects flood management

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		<p>operations.</p> <ul style="list-style-type: none"> • Land use decisions are driven by regulations such as development of additional habitat conservation plans (NCPs/HCCPs). • Regulations can make maintenance and improvement of facilities difficult or impossible • Possible that the move to concentrate development will result in more open space for mitigation, habitat, flood storage; flood managers will have to take into account how else their floodwaters can provide beneficial use for both habitat and flood water supply; groundwater replenishment and storage can be another tool to use.
<p>Water Supply</p> <ul style="list-style-type: none"> • Reservoir operations • Development • Subsidence • Conveyance 		<ul style="list-style-type: none"> • See climate change, above

Translating Risks to Problem and Opportunity Categories (Worksheet 8)

During Meeting #2 the Workgroup identified assets at risk from flooding in the Lower Sacramento region. This exercise asked the LSWG to identify problem statements and potential opportunity statements related to those assets. The work group broke into two small groups for this exercise.

Asset at Risk	Problem Statement	Opportunity Statement
<p>Provision of utilities: power supply, water supply, sanitation, communication</p>	<ul style="list-style-type: none"> • Utility infrastructure is at risk from flooding. For example, the Sacramento Regional Water Treatment Plant Northwest Interceptor needs protection. • There is insufficient protection or prioritization for regional facilities. The ability to isolate segments is necessary to minimize damage caused by regional facility impacts. • There is not a realistic assessment about whether utility infrastructure is at risk. • There are not sufficient institutional frameworks and floodplain guidance for local governments to ensure that they are providing proper protection. (There are two issues – designation of zones and developments within zones.) • There are not appropriate categories for flood zones. 	<ul style="list-style-type: none"> • Better characterization of flood risk in communities could impel communities to flood-proof their infrastructure to make it more resilient to flooding (both in new construction and by retrofitting existing structures).

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Asset at Risk	Problem Statement	Opportunity Statement
Capacity to farm	<ul style="list-style-type: none"> • Loss of critical infrastructure due to flooding will impact capacity to farm, creating severe damage to local and regional economy. • There is a lack of honest assessments about flooding risks to farm infrastructure and crops and a subsequent lack of preparation for that risk. 	<ul style="list-style-type: none"> • Adaptation to appropriate cropping choices or cultural practices can reduce long-term damage.
Quality of life	<ul style="list-style-type: none"> • Catastrophic flooding creates both short- and long-term impacts on a community's ability to recover. 	<ul style="list-style-type: none"> • Opportunity to take advantage of FEMA grants to mitigate for flooding to reduce risk, thereby improving quality of life (reducing worries/stress). • Opportunity to communicate about flood risks and coordinate recovery objectives within communities improves public awareness (and consequently helps to build political support for necessary flood protection activities). • Opportunity for communities to rebuild more resiliently (and plan more realistically for flooding) than the original community had been, pre-flood.
Jobs	<ul style="list-style-type: none"> • Ability and speed at which community recovers directly relates to whether or not jobs are retained. • Retaining state government infrastructure is closely linked to ability of state to operate. • Flooding can destroy the entire socio-economic infrastructure of a community, beyond jobs. • Emergency recovery costs need to be accounted for, especially in rural communities. 	<ul style="list-style-type: none"> • Proper planning for flood recovery enhances the ability to retain jobs.
Public health	<ul style="list-style-type: none"> • Flooding can release industrial/chemical solvents and pollution, resulting in public health concerns via the water supply. • The public health risk from flooding is local, regional, and statewide. • Wastewater plants will require flood protection to provide clean water and avoid public health risks. • Livestock is at risk of disease because floods disperse waste matter. 	

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Asset at Risk	Problem Statement	Opportunity Statement
Faith in public sphere	<ul style="list-style-type: none"> •Lack of government transparency impedes ability of the public to trust in government. •Often-insufficient risk communication to people about their flood risk. •Public does not understand that flooding involves much more than just the levees. Public also does not understand the effort going on to improve flood protection. •Planning efforts are too lengthy and the resulting products are often not sufficiently useful or easily accessible to the public. 	<ul style="list-style-type: none"> • Opportunity to return faith in the public sphere when local communities have flexibility to respond to problems more quickly than the state or federal government. • Completing quality projects is an opportunity to gain faith in the public sphere. • Flood management creates the opportunity for multiple agencies to begin working together to further regional interests, gain a more comprehensive approach to flood protection, flood management, floodplain management. • Development of flood protection plans and activities provides an opportunity to educate the public about the state's activities and interests with regard to flood protection. • Revamping flood control infrastructure provides the opportunity to make more environment-friendly, recreation-friendly, and community-friendly infrastructure. Creating multi-purpose flood control infrastructure provides an opportunity to improve faith in the public sphere. (A good example – American River Parkway – restoration and public use in the floodway) • Creating multi-purpose flood protection projects engages additional agencies with different jurisdictions, building bridges, leveraging funding.
Public safety	<ul style="list-style-type: none"> •There are too many hurdles before necessary flood protection projects can be implemented for public safety. •Lack of warning system about floods precludes the opportunity for evacuation. •There is a lack of proper preparation/evacuation plans/ emergency response plans for levee breaks. 	<ul style="list-style-type: none"> • There is an opportunity to create habitat while instituting flood protection projects. • There is an opportunity to remove structures from floodplains when preparing emergency response plans.

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Asset at Risk	Problem Statement	Opportunity Statement
All water supply	<ul style="list-style-type: none"> • Drinking water supply is at risk from floodwater contamination via vulnerabilities in the system including wells (due to infiltration of floodwaters into vented wells), abandoned mines, miscellaneous penetrations, pesticide storage, septic systems, and landfills. • Many of the water supply facilities are on private property, potentially limiting government access, monitoring, and regulation. • Landfills and storage of pesticides (hazardous chemicals) can lead to contamination via flood waters. 	<ul style="list-style-type: none"> • There is an opportunity to conduct studies and increase awareness of the relationship between floodwaters and public health. Need to focus on those linkages.
Human Mobility	<ul style="list-style-type: none"> • Levee roads are de facto emergency ingress/egress pathways that will have conflicting demands placed on them during emergencies. • Economic activity will be compromised by road closures. 	<ul style="list-style-type: none"> • There is an opportunity to leverage increased funding between road, flood, builders, districts, for transportation funding and flood protection. It may be possible to create bike pathways that are gated and can be closed down in event of emergency. Conjunctive use opportunities create efficiency. • Investment in raising key roads (to provide for emergency access and mobility) may have significant economic payback and may concurrently protect public safety.
Sacramento Airport/ Railroad Elevations	<ul style="list-style-type: none"> • The major airport of the region is in a flood plain. If flooded, it would be out of service for a long period of time. 	<ul style="list-style-type: none"> • There are plans to protect this asset because of its high value. • (Note – other than as a venue for emergency relief, with Mather and McClellan Air Force Bases, what is the role/importance of an airport in a flood if you can't get to or from it?) • There may be a way to integrate transportation between the airport and elevated railroads.
I-5 West of Yolo Bypass	<ul style="list-style-type: none"> • Inundation in these regions renders the corridor ineffective. • There is a legacy problem of mercury-contaminated sediment collecting in the Cache Creek settling basin. 	<ul style="list-style-type: none"> • Leverage protection of essential infrastructure to protect communities that would not necessarily be able to provide protection on their own. For example, have Cache Creek, I-5, and Woodland all work together for integrated transportation, water quality, and flood management plan. • Develop protocol to safely use, reuse, and treat sediment contaminated with methyl mercury. • Managing the threat is better than mitigating the results. There is an opportunity to clean the materials before they are classified as hazardous waste.

Meeting Summary: Lower Sacramento Regional Conditions Work Group Meeting #3

Asset at Risk	Problem Statement	Opportunity Statement
Areas of I-5 at grade	<ul style="list-style-type: none"> • Similar to I-5 west of Yolo Bypass 	
Shaded riverine habitat	<ul style="list-style-type: none"> • Vegetation that creates shade compromises channel capacity and can threaten levee integrity, though root structure may hold sandy soil levees together. • Overlapping jurisdictions/interests are being compromised by the “silo,” non-integrated nature of public agencies. • There is no functional marketplace to value/quantify benefits of integrated regional water management. 	<ul style="list-style-type: none"> • There is an opportunity to jointly consider the environment and flood control by jointly providing habitat and flood protection. • Multiple beneficiaries (boaters, water users, local agencies) can cooperate and contribute to multi-purpose projects. • Opportunity to create a venue and value for integrated, multi-purpose floodplain management, similar to that perceived of dams.
Community infrastructure	Did not discuss	Did not discuss