



**Central Valley Flood Protection Plan  
Climate Change Scope Definition Work Group  
Summary of Meeting #4 – October 20, 2009**

**October 7, 2009, 9:00- 1:00pm**

**Location: American River Room, MWH  
3321 Power Inn Road, Suite 300, Sacramento**

**MEETING ATTENDANCE**

**Present:**

<b>Name</b>	<b>Organization</b>	<b>Status</b>
Curtis Alling	EDAW/AECOM	Team
Michael Anderson	Department of Water Resources (DWR)	DWR Lead
Debra Bishop	EDAW/AECOM	Team
Charlotte Chorneau	Center for Collaborative Policy (CCP)	Facilitation Support
Stephen Crooks	National Blue Ribbon Panel: Wetlands Restoration Greenhouse Gas Mitigation Emission Offset Protocol	Member
David Curtis	Carlton Engineering, Inc.	Team
Michael Dettinger	U.S. Geological Survey	Member
Alexa La Plante	MWH	Team
Roger Lee	DWR, Central Valley Flood Protection Office (CVFPO)	CVFPO Representative
Elizabeth Patterson	DWR (Retired)	Member
David Raff	U.S. Bureau of Reclamation (USBR)	Member
Terry Roscoe	California Department of Fish and Game	Member
Nat Seavy	Point Reyes Bird Observatory (PRBO) Conservation Science	Member
Mary Selkirk	CCP	Facilitator
Yung-Hsin Sun	MWH	Technical Lead
Michael Tansey	USBR	Member
Susan Tatayon	The Nature Conservancy	Member
Stu Townsley	U.S. Army Corps of Engineers	Member
Robert Webb	National Ocean and Atmospheric Administration	Member

**Absent:**

David Edwards	California Air Resources Board	Member
Kelly Redmond	Western Regional Climate Center (Desert Research Institute)	Member

**Observers:**

Tom Filler	DWR	Observer, Climate Change Technical Advisory Group (CCTAG) Representative
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**WORK GROUP HOMEWORK / ACTION ITEMS:**

1. Provide comments on the Revised Draft of the CCSDWG Summary Report.

**FUTURE MEETINGS SCHEDULE:**

Meeting #4 is the last scheduled meeting of the CCSDWG. However the CCSDWG team will be presenting the CCSDWG Summary Report and work group outcomes to the Climate Change Technical Advisory Group (CCTAG) of the California Water Plan.

**MEETING OBJECTIVES:**

1. Overall feedback on draft report Chapters 2 and 3
2. Finalize existing problems/ challenges, feedback on Chapter 3
3. Finalize climate change considerations
4. Finalize related projects and programs
5. Finalize additional references

**SUMMARY:**

POWERPOINTS AND DOCUMENTS REFERENCED IN THE SUMMARY ARE AVAILABLE ONLINE at [www.water.ca.gov/cvfmp](http://www.water.ca.gov/cvfmp)

**WELCOME AND GREETINGS:**

Mary Selkirk, CCSDWG Facilitator, opened the final meeting of the CCSDWG and reviewed the objectives and agenda. Work Group members introduced themselves. Yung-Hsin Sun, Technical Lead (MWH), announced that the CVFMP will hold a Valley-wide forum on February 3, 2010. The Valley-wide forum will be designed as a conference and will include a panel discussion on the topic work groups to provide an opportunity for communication between the different work groups. Roger Lee, CVFPO Representative, mentioned that the CVFMP Team will be looking for volunteers to sit on the panel.

**Finalize Problems and Statements Priority Setting**

Ms. Selkirk explained that the first agenda item is to finalize the existing problem statements. In Meeting #3 the group worked through the majority of the problem statements and began to prioritize them; however there are four remaining categories the work group did not get to yet. Ms. Selkirk explained that the CCSDWG would go through the list and identify items as either (1) essential and can be fully addressed in this Plan (2) desirable – useful but not essential, cannot be fully addressed (3) beyond the scope of the 2012 Plan. A vote of half of the participants was considered a majority.

Ms. Selkirk asked the group to turn to Chapter 3 Section 3.5 of the CCSDWG Summary Report Draft. The CCSDWG worked through the list of the problem statements. Most of the edits made to the statements were combining and grouping similar statements. Most of the statements reviewed were seen as essential. Notes were captured on the list as the discussion unfolded seen below:

### **Water Supply/Demand and Quality**

12. Increase in temperature would increase water demands from all sectors, including M&I and agriculture, as well as ecosystem use for habitat protection, reservoir and river temperature management, and other environmental preservation efforts, while uncertainties in projected increase persists.  
*Desirable*  
*Context for #16*
13. Prolonged droughts interrupted by intensified flooding events will result in significant increase runoff and thus water quality impacts from pollutants (naturally occurring and human inducing) in the watershed being carried by that runoff.  
*Tie essential and desirable*
14. Changes in both hydrology and vegetation may result in changes in the stream sediment loads and sediment transport in the flood *management* system which would again affect the performance of the system.  
*Move to 3.1 flood system performance*
15. Sea level rise will lead to deterioration of water quality in the Sacramento-San Joaquin Delta by increasing salinity levels, among other effects.  
*SLR could lead to changes in water quality for human and ecological uses in the Sacramento- San Joaquin Delta by increasing salinity levels among other affects.*  
*Essential*  
One work group member pointed out that there is a lack of consistency in the report with the use of strong statements such as “will.”
16. The potential conflicts between water supply and flood management in the same system would requires significant changes in their integrated approach, policy updates, and facilities modifications and/or augmentation.  
*Provides the context – header statement – conflict between supply and flood management*

### **Level of Protection**

17. Climate change will affect, if not invalidate, the applicability frequency-based level of protection and the associated economic damage reduction of flood events.  
  
*Climate change may require a change to traditional frequency based level of protection and economic damage analysis.*  
  
1) *The hazard is moving with the climate and will change the level of protection.*  
2) *The approach to determine the level of protection may require modification. ACTION ITEM -- Yung Hsin-Sun to rewrite into problem statement*
18. Sea level rise will likely affect the level of *flood risk* in tidally influenced areas.  
*Essential*
19. Level of protection is not currently risk-based reflecting the accepted flood risks by local jurisdictions.

*Standards based on the concept of level of protection may not reflect flood risk under climate change.*

Fold into section 3.6 into 3.1

### **Emergency Response and Post-flood Recovery**

26. Climate change considerations may impact *economic and ecological benefits associated with recovery costs however with such analysis the criteria are not defined.*

27. Climate change *likely to increase required* emergency response and recovery efforts.

### **Information and education**

28. Communicating climate *change uncertainties and risk to the public is difficult.*

29. Climate change uncertainties will require increased investment in research, flood mapping, and agency coordination to effectively improve the understanding of climate change.

The work group members were asked to send additional edits or language to add to send to Alexa La Plante, MWH.

### **Add Additional References**

Ms. La Plante explained that Chapter 6.0-Related Climate Change References in the draft summary report shows an example of how the reference list will be displayed. References will be coded and narrative comments will also be included in the chart. The intent of the chart is to provide the planning team with context and the various perspectives on the different references.

### **Finalize Climate Change Considerations Checklist**

Ms. Selkirk asked CCSDWG members to turn to Chapter 4.0 of the Draft Summary Report-Check List of Climate Change Considerations. The group worked through the list the notes and edits appear in italics below.

## ***4.2 Check List of Climate Change Considerations for the 2012 CVFPP***

### **4.2.1 Expected Impacts of Climate Change**

1. Plan summarizes *climate change literature on flood risk including uncertainty and variability*

### **4.2.2 Flood System Performance *fold 4.2.7 in here***

2. The plan includes flood protection criteria that account for climate change to guide integrated flood management.
3. Types of facilities and operations needed to adapt to a certain level of conditions caused by climate change.

#### **4.2.3 System Maintenance and Repairs**

4. Revised strategy for maintenance and repairs for climate change impacts on flood management.

#### **4.2.4 Habitat Quality, Quantity, and Connectivity**

5. *Ecological functions in flood management should be incorporated in the CVFMPP - Carbon sequestration...*  
Changing hydraulic/hydrology/water quality scenarios under climate change and *restore or improve* ecological systems and functions within the flood control system.
6. Guidelines for identifying co-benefits of mitigation requirements tied to project actions (e.g., considering carbon capture from preservation and/or restoration of habitat for sequestration in buffer zones between setback levees) and their impacts on project cost/benefit ratios.
7. Objective and guidelines for creating ecosystem restoration opportunities above mitigation requirements for purposes of carbon capture/sequestration, including consideration of impacts on project cost/benefit ratios.

#### **4.2.5 Policy and Institutional Issues**

8. Identification of the assumed planning standard for sea level rise, extreme precipitation events, timing of snow-melt and run-off (i.e., what to plan for and in what time frame).
9. Documentation of process for incorporating/reconciling U.S. Army Corps of Engineers (USACE), FEMA and DWR flood management guidelines. *There are additional agencies that would be involved.*

*Establish a baseline/current conditions and standards to address the range of variability*

10. Documentation of what elements in the Resource Agency's Adaptation Strategy are reflected in the CVFPP.

*Additional recommendation: Make recommendations for integrating climate change adaption into local, state and federal permitting processes on a watershed basis using best available science.*

*Roadmap of where to use efforts to effect change in policy/regulations to better accommodate climate change*

#### **4.2.6 Water Supply and Quality**

11. Use precipitation scenarios *based on the best available climate science (determine locations that are particularly sensitive to climate)*. (i.e., the frequency, magnitude and timing of precipitation events -*what is the chance that we will reach these thresholds*) to establish range of uncertainty to be addressed in development of the CVFPP.

*-The plan should seek to define reasonable flood risk thresholds  
- preserve flexibility in operations*

12. Guidelines for developing climate change scenarios for projecting needed changes in reservoir operations to account for both increased water use and increased flood protection. *Hydropower and ecological benefits as well*

13. Guidelines for *integrating regional resource management including practices such as groundwater recharge.*

- *Need water quality consideration*
- *Future updates of the CVFMP must be sensitive to best available climate science*

#### **4.2.7 Level of protection**

14. Guidelines/*standards* for local agencies for fulfilling requirement of 200-year level of protection in urban or developing urban areas based on projected climate change effects.

#### **4.2.8 Land Use**

15. Identification of floodplains *as potential for improvement of flood management (Clinton's EO lifecycle costing, and Carter EO 11988) as well as* at risk due to sea level rise for incorporation in local land use plans.
16. Identification of how changed meteorology and hydrology may alter floodplains for incorporation in local land use plans, including recognition of uncertainties.  
*tie into the development of the flood frequency curve bullets*
17. Documentation of needed changes in local land use planning requirements/authorities to ensure enforcement of prohibitions on building in flood zones.
18. Identification of priority riparian corridors and tributary floodplains *that should be protected in local land use plans* for improving instream capacity for accommodating increased flood levels.

#### **4.2.9 Emergency Response and Post-Flood Recovery**

- Improving the monitoring of forecast systems*

#### **4.2.10 Information and Education**

19. Inclusion of a *public participation program explaining how climate change has been taken into account* with a component explaining how climate change has been taken into account in the CVFPP.

- Climate science will require on going investment*

## **Chapter 2: Key Aspects**

Mr. Sun pointed out that several revisions were made to Chapter 2 since the previous version that was sent out to work group members on October 5, 2009. In the interest of time, he asked that edits and revisions to this chapter be submitted via email.

## **Next Steps**

Comments on the CCSDWG Summary Report Chapters:

Chapter 2: review now and comments are due by 10/26

Chapter 3: revised version sent out 10/21 and comments are due by 10/26

Full report will be sent out 11/2

Chapter 4: comments should be made after full report is sent out

Comment on full report: 11/11

All comments should be sent to Alexa La Plante: [Alexa.LaPlante@us.mwhglobal.com](mailto:Alexa.LaPlante@us.mwhglobal.com)