# STOCKTON FLOODSAFE WORKSHOP SUMMARY
# JUNE 26, 2008

## OVERVIEW

The Department of Water Resources (DWR) FloodSAFE California Program sponsored a series of workshops to present information on the FloodSAFE Strategic Plan and related projects and regulations. Eight meetings were held throughout the State: four within the Central Valley and four outside the Central Valley. The Stockton workshop was held on June 26, 2008. The workshop agenda included:

- FloodSAFE Program Update
- Federal Flood Control Subventions Program Regulations Update
- Central Valley Flood Protection
- Local Levee Maintaining Agency Reporting Requirements
- Discussion

## FloodSAFE PROGRAM UPDATE

Ken Kirby, Executive Advisor to DWR, presented highlights of the FloodSAFE Program and public review draft Strategic Plan. Key elements of the Strategic Plan include: a vision statement, goals, foundational and near-term objectives, guiding principles, implementing partners and stakeholders, and an implementation framework. These key elements support the four action areas for the FloodSAFE program:

- improve emergency response
- inform and assist the public
- improve flood management systems
- improve operation and maintenance

In seeking to provide the multiple benefits outlined in the FloodSAFE vision, policy decision-makers and flood management professionals must consider and balance the outcomes identified in the FloodSAFE program goals:

- reduce the chance of flooding
- reduce the consequences of flooding
- sustain economic growth
- protect and enhance ecosystems
- promote sustainability

Twelve foundational, longer-term objectives and ten near-term objectives create an action plan for achieving those goals. To maximize the effectiveness of flood management decisions and investments, proposals must be considered in the context of the guiding principles, which promote: system-wide approaches, multiple benefits, integration with land-use and regional planning, natural processes and functions, equitable access to decision-making, informed understanding of flood risks, and adaptation to climate change.

The FloodSAFE program overview included a discussion of flood risk, defined by both the likelihood (probability) of flooding and the consequences of flooding. Through FloodSAFE program components and local actions, flood risk can be significantly reduced; however, some residual risk will always exist (no matter how small it may be). Residual risk represents the possibility of flood events that exceed the capacity of flood management systems.

The presentation also included bond funding allocations. Much of the bond funding is dedicated to the Central Valley due to legislative emphasis on the State-federal flood control system in the Central Valley and the Delta. In addition to geographic boundaries, FloodSAFE priorities are also tied to land use categories, such as urban and urbanizing areas, non-urban areas, and broad, system-wide areas that include complex land-use and/or environmental considerations. The FloodSAFE team is continuing to develop additional guidelines on investment strategies and cost-sharing approaches.

Also discussed were recent accomplishments in the FloodSAFE program including improvements in DWR's emergency response capabilities, early implementation projects, and other programs to evaluate and improve flood management systems, channel maintenance, and workshops and public outreach

materials. Lastly, near-term future activities were discussed, including completion of the Strategic Plan. Workshop participants were invited to submit comments on the Strategic Plan through July 25, 2008.

## SUBVENTIONS

Terri Wegener, Statewide Grants Branch Chief, recapped the Federal Flood Control Subventions Program. This program reimburses local agencies for a portion of the non-federal costs associated with federally authorized flood control projects, including watershed protection flood prevention projects administered by the Natural Resource Conservation Service. Traditionally, the program has reimbursed for a base 50% of the non-federal costs. As a result of Assembly Bill (AB) 1147, an additional 20% (for a total of 70% of non-federal costs) can be granted for projects that increase or enhance the level of protection for:

- habitat
- open space
- recreation
- impoverished areas
- state transportation and water supply facilities

Implementing regulations for AB 1147 are currently being developed, and workshop participants were invited to submit comments on the proposed regulations by July 28, 2008.

## CENTRAL VALLEY FLOOD PROTECTION

During the Central Valley Flood Protection session of the workshop, the following projects and programs were discussed:

- Central Valley Flood Protection Plan
- Central Valley Floodplain Evaluation and Delineation Project
- Geotechnical Levee Evaluations Program

Steve Bradley, Chief Engineer and Project Manager for the Central Valley Flood Protection Plan, outlined the key elements of Senate Bill (SB) 5 and the Central Valley Flood Protection Act of 2008, which set requirements for developing the Central Valley Flood Protection Plan (CVFPP). The resulting code provides definitions for the areas comprising the Sacramento-San Joaquin Valley and the Sacramento-San Joaquin River Flood Management System facilities, including the State Plan of Flood Control (SPFC) and other facilities as determined by the Central Valley Flood Protection Board (CVFPB).

The Act requires that identified flood management actions be taken by jurisdictions in the Central Valley in order to enter into development agreements for areas located in a flood hazard zone. Jurisdictions are required to incorporate CVFPP findings into their General Plans and zoning ordinances. Additional requirements in the Act are established for:

- State flood protection planning
- building standards
- local flood protection planning
- development of the CVFPP

The Act also details specific elements regarding content and development of the CVFPP. As with the FloodSAFE Strategic Plan, specific objectives and approaches that will guide the development of the plan have been identified.

A key element in developing the CVFPP is floodplain evaluation and delineation, which is being delivered under the Central Valley Floodplain Evaluation and Delineation Project. This technical effort is underway, with data being collected using LiDAR and bathymetry. The data will be used to support mapping outcomes, as identified in SB 5. Technical community meetings will be scheduled to review and refine information on topography, stream hydraulics, geotechnical data, and floodplain mapping.

Hamid Bonakdar, Supervising Engineer for the Levee Repairs and Floodplain Management Office,

described the levee evaluations program, which assesses the geotechnical integrity of Central Valley levees. The effort will identify geotechnical deficiencies within levee structures, as well as remedies and cost estimates associated with addressing those identified deficiencies. The Urban Levee Evaluations Program will assess both project and non-project urban levees; the Non-Urban Levee Evaluations Program will assess primarily project levees in non-urban settings. A phased work plan, including a general technical approach, has been developed for the evaluations and surveys, and is overseen by an independent consulting board.

At the time of the workshop, urban evaluations were 40% complete, and non-urban evaluations were being initiated.

## LOCAL LEVEE MAINTAINING AGENCY REPORTING REQUIREMENTS

Jon Ericson, Senior Engineer, outlined key elements of AB 156, which requires that specific, levee-related information be submitted to DWR, including the condition and performance of project levees, a summary of maintenance activities performed during the previous year, and estimated operation and maintenance costs for the current fiscal year. Local agencies who maintain either project levees or non-project levees that provide flood protection benefits to areas within a boundary benefited by a project levee must submit the information to DWR by September 30 each year. At the time of the workshop, DWR was developing a template for data collection that included an option for electronic submissions via the California Data Exchange Center website. DWR will summarize levee information from local agencies and submit an annual report to the CVFPB by December 31 each year.

Additionally, the team is seeking input to prevent duplication of reporting efforts associated with levee mile reports and integrity inspection grants.

## DISCUSSION

### Scope of Strategic Plan

Q: In looking at probability, what are the assumptions for upstream reservoirs?
A: Probability is complex. We look at hydrology, reservoir operations, and geomorphology.

Comment: Even though Tulare Lake Basin is excluded, Kings River does flow into the San Joaquin.
Response: The hydrology of the Kings River will be considered.

Q: Why is the focus on the Central Valley?
A: The State has a special role in flood protection for the Central Valley, because the State has provided assurance for federal projects as part of the State Plan of Flood Control. Also, the Central Valley includes areas that face deep flooding—less so outside the Central Valley.

Q: Will the 200-year level of protection be only in the Central Valley?
A: There is currently no requirement for 200-year protection outside the Central Valley.

Comment: Non-urban levees are related to Central Valley flood protection. The Peripheral Canal will increase salinity and put farmers out of business. Farmers maintain non-urban levees, so there would be no one left to maintain non-urban levees.

### Mapping

Q: How can you accomplish 200-year protection without understanding the floodplain? The 200-year maps rely on the Comp [Comprehensive] Study, which did not address reoperation of upstream dams.
A: That is true. The maps are providing the best information that is currently available. Subsequent efforts will consider reservoir reoperation.

Q: How will sea-level rise affect 100- and 200-year floodplains?
A: The mapping does not take into account sea-level rise. Work ongoing now will likely revise future maps to reflect the effects of climate change.

Q: Do the 200-year maps include 3' of freeboard?
A: The 200-year floodplain was developed as defined by the Comp Study, which followed Federal Emergency Management Agency (FEMA) standards, presumably including 3' of freeboard.
Comment: The 200-year delineation in the Comp Study used FEMA risk. However, the U.S. Army Corps of Engineers (Corps) have moved away from 3' of freeboard to 90% exceedance.
Response: DWR will need to develop a fact sheet on map assumptions.

Q: What is the effect of the maps for the public?
A: The maps are meant to provide information and let people know that they are living in a floodplain. Many people have no idea that they are at risk of flooding. The maps will also be a planning tool, as local entities are required to incorporate the best available information in their general plans.

Q: Which FEMA maps will local communities be expected to use—the adopted ones?
Comment: If you think the community is confused now, this will turn them upside down, after seeing that the FEMA maps and the State maps differ.
Response: The DWR maps are required by the Legislature and should be used for future decision-making and planning. They are not regulatory maps. Local communities will continue to use the FEMA maps that were adopted to administer the National Flood Insurance Program. In the future, FEMA maps may be modified to show the new 100-year floodplain boundaries as illustrated on the DWR maps; similarly, the DWR maps can be modified if a more recent FEMA map yields better data.
Comment: The FEMA process was very interactive.
Response: The State process is somewhat interactive, but not as much. There has been some conversation with locals.

Comment: We are in a real bind with these maps. There are real impacts for those areas with FEMA map modernization efforts.
Response: The DWR maps incorporate FEMA mapping information and boundaries where we believed they were accurate. Other information, including levee stability/geotechnical findings, was used in the DWR mapping process as well. DWR will release the information that supported map development.

Comment: SB 5 requires the use of FEMA criteria in development of the DWR maps.
Response: Yes, the legislation requires use of FEMA criteria, not use of FEMA maps.

Q: There is not agreement about levee stability. What will be the impact of the State process on provisional accreditation from FEMA?
A: That is not known. DWR has tried to make the maps as useful as possible.

Comment: The local perspective was that the DWR maps would not address the 100-year floodplain; that it focused only on the 200-year boundaries. Would you consider releasing these as draft form?
Response: We will take that proposal back to the management team.

Q: How will the DWR maps be distributed?
A: The maps will be announced online and posted on the website of the CVFPB. The maps will also be sent out on CD to cities and counties.

Q: Is DWR adopting regulations based on the maps?
A: There is nothing about enforcement in these provisional maps. They are for advisory purposes only. Planning agencies are required to consider the maps when making land-use decisions, and FEMA will look at them in the remapping process.

Q: Does this support the State's desire to shift liability resulting from the Paterno decision?
A: The maps will not affect the State's responsibility for the State-federal flood protection system in the Central Valley. The goal of the mapping process is to help the public understand what the risks are. The DWR maps indicate where the Department believes the risks are.
Comment: The State is trying to shed Paterno reliability. The heart and soul of Paterno is that the State had a defective levee, which they knew about. The State is now saying that they know about the defective levees, that is what trips Paterno.
Response: DWR is trying to reduce State liability where possible by addressing deficiencies. We know about deficiencies, and the State has liability for deficiencies. The mapping process lets everyone know which areas are subject to flooding.

**Levee Integrity**

Comment: In the 1960s, project levees were raised. There was inconsistent design for the levees, and there were design deficiencies. We know where they are, but nothing has been done about that.
Response: FloodSAFE may address design deficiencies. Available funding will not be adequate to make all the necessary repairs. It will be necessary to prioritize expenditures and find additional funding sources to best leverage existing State funds.

Comment: Districts on the south San Joaquin would benefit if Paradise Cut were improved.
Response: DWR's understanding on Paradise Cut is that locals and non-governmental organizations see this as a good project. The State thinks this might be a good project and will roll this forward into the CVFPP. If it qualifies as an early implementation project, it could be submitted. Grant guidelines should be released soon for the 2008-09 funding cycle.

Q: Approximately what level of need is currently being funded, and will there be a plan for further work, beyond what can currently be funded?
A: Current funding is expected to cover between 10% – 20% of the total need. There will be a plan for further work.

**Cost-share**

Q: Who has to cost-share for bypasses, reoperation, or upstream wetlands? Who will pay the locals? What about correcting design deficiencies created by the Corps?
A: AB 1147 provisions allow up to 70% State reimbursement to locals for the non-federal share, based on various criteria. There are not currently any supplemental regulations regarding other situations. DWR is required to set guidelines by 2010 for situations beyond AB 1147. For example, in the early implementation program, DWR paid 95% of the costs for setbacks; this is not covered in the AB 1147 regulations.

**Levee Inspection, Repairs, and Maintenance**

Q: Are there any levee repairs on the San Joaquin?
A: There are some on the San Joaquin River, but most are on the Sacramento River.

Q: Does the State have first-in-line access for funding? Do State projects compete for the same funding as local projects?
A: The budget process outlines capital outlay, budget proposals, and grant cycles. The State projects are funded through capital outlay allocations. Local projects are funded through local assistance (e.g., grant) programs.

Q: Is there a way to address PL 84-99 eligibility regarding levee maintenance and vegetation management?
A: We will bring this into the CVFPP process. DWR and the Corps have had conversations on vegetation management. A draft framework document lays out the problem.
Comment: The Corps has new guidance on levee maintenance with regard to vegetation; yet they will not issue the permits to remove trees that are already on the levees.
Response: The objective is for some level of compromise; e.g., strategic clearing to provide visibility and access. Where major levee work is underway, the State is following federal guidance.

Q: In restoring levees to design standards on the Sacramento and Feather Rivers, is it the State's intent to do that on their own, or with local cost-sharing?
A: The improvements will involve a capital outlay, with cost-share. No 100% State-funded projects are currently planned.

Comment: The 1955-1957 profile was designed to retain water to a certain level; now there is underseepage in some areas. The profiles should be restored. It seems like that should be a State and federal issue, without requiring local contribution.
Response: There is not enough funding to do that. The cost estimates to correct underseepage far exceed $4.35 billion.
Comment: Funding was pulled out to do studies on channel maintenance.
Response: The CVFPP will involve broad discussion. The reality is that no one will fix the levees for free. Funding for maintenance projects comes from various sources; some are included in legislation, others through Budget Change Proposals. DWR does not take funding for State maintenance projects out of bond allocations. In some specific cases, there has been direction from the Legislature to use bond funding for some DWR budget requests.

**Subventions**

Q: In trying to get a feasibility study off the ground, Reclamation District 17 is holding early implementation pending 104 agreements. Would these rules apply?
A: The cost-sharing formula might apply in trying to improve accrediting.

Q: Will this tie the State's hands for funding of early implementation?
A: The State has discretion on projects outside federal/non-federal cost-share. Additional guidelines or regulations will be developed for those types of projects.
A: A federally authorized navigation project that also has flood control aspects (levee reliability), could apply for early implementation funding. Other projects could also be submitted for consideration.

**CVFPP**

Q: Does the legislative exclusion of Tulare Lake Basin change the definition of the Central Valley?
A: Only for the purposes of the CVFPP.

Q: What levels of development would be covered? Is there a reference regarding size of development?
A: Any new development, including a single residence, within an urban area that is within a flood protection zone will be subject to new requirements. There is no exemption for infill.
Q: What about replacement homes (such as when a home burns down)?
A: If the structure is in a flood zone and a building permit is required, then the construction would be subject to the new flood protection requirements and must be rebuilt in accordance with any codes/regulations currently in effect.

Q: Who makes the decision about making adequate progress?
A: DWR has some responsibility to define what adequate 200-year protection is. The CVFPB and DWR will have to define adequate progress.

Q: What happens if an agency cannot meet flood protection requirements?
A: They will not be allowed to issue any new development permits.

Q: Do rural areas have to provide 200-year levels of protection? What is the basis for the 10-year window for reaching a population of 10,000?
A: The 200-year requirement applies to urban and urbanizing areas. It is not spelled out why the Legislature chose a 10-year window for reaching a population of 10,000.

Q: Can the State outline the information to be submitted for AB 156?
A: Required information includes: (1) Information known to the condition or performance of the project levee *(or jurisdictional non-project levee, as appropriate);* (2) Information identifying known conditions that might impair or compromise the level of flood protection provided*;* (3) A summary of maintenance performed by the LMA during the previous fiscal year; (4) A statement of work and estimated cost for O&M of the levee for the current fiscal year; and (5) Any other readily available information relevant to the condition or performance of the levee, as determined by the CVFPB or DWR. An electronic submission process for submitting the required information to DWR is currently being developed. DWR might be able to help provide templates for meeting the requirements.

Q: Who is required to develop a Local Flood Protection Plan?
A: Cities and counties are required; others could, but are not required.

Q: What is an 'outside area'?
A: An area within the Central Valley that is not protected by project levees.

Q: What does the design standard address—flow?
A: The design standard focuses on the geotechnical ability of the structure to pass the flow.

Q: What design criteria have been created?
A: DWR is working on defining a 100- and 200-year standard, as well as levee standards. Definitions of 100- and 200-year standards are likely to be released in the next few years. Those standards need to address sea-level rise. This will be part of the CVFPP. DWR has been working on new levee design guidance—Draft Interim Levee Design Criteria for Urban and Urbanizing Area State-federal Project Levees. The document presents design criteria to help local communities achieve protection from the 200-year flood.

Q: What about groundwater flood storage?
A: Groundwater flood storage includes redirecting flood flows to groundwater basins and providing longer times for percolation, including temporary berms in river channels and reoperating reservoirs during flood events.

Q: Will this program seek deaccreditation of levees?
A: DWR will pass on to FEMA any new information about geotechnical stability. DWR will not file for map changes.

Comment: DWR asserted a change on the map for the Feather River. Wouldn't it be better to try to fix those problems, rather than disqualify the community?
Response: DWR is required to identify perceived risks for areas protected by project levees.

**<u>Floodplain Delineation</u>**

Comment: It would be helpful to have mapping limits.
Response: The sectors that have been flown are drawn out.

Q: What level of protection will be mapped as levee flood protection zones?
A: Any level of protection will be shown. The levee flood protection zone maps will show areas that will be flooded if waters exceed levee tops.
Comment: You do not qualify the levee holding capacity.
Response: It relates to levee holding elevations.

Q: What kind of support will locals get when maps come out? Will DWR be here to support us in working with the public?
A: DWR will assist local agencies in presenting the maps.

Q: How widely will the maps be distributed?
A: The maps will be published on the CVFPB website, and CDs will be sent to city and county governments.

**Levee Evaluations**

Q: How do you determine sea level rise?
A: We will still be talking about that a year from now, but DWR has created curves to estimate impacts of sea level rise.
Comment: You do not want to set standards too high, thereby impacting costs that are uneconomical.
Response: This will be very difficult to balance. The goal is to find something workable for 200-year protection. DWR will engage communities on this.

Q: Will the standards include a scenario for taking water off the system earlier?
A: That could be considered.

Question: What do design requirements really mean? What was originally authorized? What has been changed? Project levee designs did not address underseepage in the way we talk about it today.
Response: DWR has been working on new levee design guidance; Draft Interim Levee Design Criteria for Urban and Urbanizing Area State-federal Project Levees. The report presents design criteria to help local communities achieve protection from the 200-year flood. The levee design approaches identified in the interim design criteria report will be available for use by local agencies to demonstrate compliance with the required level of flood protection for urban areas, until rescinded by DWR (expected to be no sooner than January 1, 2010). After this date, DWR should have new, updated hydrology and hydraulics information and modeling for use in levee design.

**Local Levee Maintaining Agency (LLMA) Reporting Requirements**

Q: The Corps sent out the Reclamation District 17 map. Are you working with the Corps on mapping?
A: Yes, on physical features, project features, and levee miles.

Question: Have you determined how much of this information is already being submitted through other formats? There is a lot of extraneous information that will fill up databases. The old operations and maintenance manuals are crazy compared to what we do today.
Response: We are looking at what information is already being collected.

Question: Is GIS available, up and ready for the public?
Response: The GIS data is being organized now. Public release is probably still a few months away.