

**Department of Water Resources Quarterly Status Report
Central Valley Flood Protection Board Resolution 2012-25, 11(y)
Amendments and Adoption of the 2012 Central Valley Flood Protection Plan
(CVFPP)**

October 2014 Update

- 11(e) DWR anticipates completing a draft Central Valley Flood System Conservation Strategy not later than 2014, expanding on the Conservation Framework attached to the adopted CVFPP, to describe long-term, system-wide conservation objectives and covered actions associated with the flood management system.**

Conservation Strategy Document

Since the adoption of the CVFPP Board Resolution 2012-25, the FESSRO Floodway Ecosystem Sustainability Branch has been developing a Draft Conservation Strategy document, building upon the Conservation Framework adopted as part of the 2012 CVFPP. Through the Interagency Advisory Committee (IAC), resource agencies provided input on several previous drafts. FESSRO has also engaged other interested groups, including the Regional Flood Management Planning (RFMP) groups, Flood Board Coordinating Committee, agricultural interests and environmental non-governmental organizations (NGOs) to get initial feedback on key elements of the document. These elements include integrated flood/ecosystem measurable objectives, regional permitting, potential revisions to levee vegetation management approaches, approaches for agricultural land stewardship, improvements to fish passage, and targeted species conservation assessments.

In early 2014, FESSRO circulated the Administrative Draft Conservation Strategy (ADCS) for comment among multiple programs within DWR. In July, DWR released it to the Resources Agencies and other targeted stakeholders for a high level review. Comments have been received on the ADCS main document and appendices and revisions will be completed in time for release of a Public Draft to the Board in December 2014.

In response to feedback from resources agencies and NGOs regarding the importance of having measurable objective targets, FESSRO convened The Conservation Strategy Measurable Objectives Advisory Workgroup in September to develop a technical memorandum that includes scientifically based targets. It is anticipated that the information developed during this process will also provide a technical foundation for a Board chartered Advisory Committee.

FESSRO staff is also collaborating with DWR's Central Valley Flood Planning Office (CVFPO) on integrating conservation elements into preliminary planning for flood bypasses in the Sacramento and San Joaquin Basins.

Feather River Regional Permitting Program (FRRPP)

DWR is developing the Feather River Regional Permitting Program (FRRPP) within the Feather River region to support implementation of CVFPP and Conservation Strategy activities, including flood system operations and maintenance; structural repairs; improvements to levees; and conservation actions such as levee setbacks, riparian habitat restoration and removal of fish passage barriers. The IAC Permitting Subcommittee transitioned into the FRRPP Development Committee to aid in the development and review of the associated Habitat Conservation Plan and related permits, review stakeholder assessments, integrate with other plans, and determine a structure for additional stakeholder coordination.

This group is exploring how to integrate with the Lower Feather River Corridor Management Plan (LFRCMP) and Feather River Regional Flood Management Plan (RFMP). Two technical advisory committees (TAC) have been formed that focus on proposed covered fish and terrestrial species within the region. Three subcommittees for the Terrestrial TAC have been formed: The Riparian/Forest TAC, the Grasslands TAC and Wetlands TAC. Each subcommittee is looking at stressors for the FRRPP proposed covered species with at least one life stage occurrence within the focused habitat that may be impacted within the FRRP Planning Area.

Next steps in the process include the development of an Impacts Assessment, defining funding options and determining additional permit holders and permittee structure. FESSRO is working with DWR's legal staff to consider the most appropriate permitting options and potential liability.

Advance Mitigation Projects

DWR's first Project Solicitation Package (PSP) issued under the Central Valley Flood System Conservation Framework and Strategy Guidelines (approved February 2012) was issued in September 2012. The focus of the funding is to provide mitigation in advance of improvements to State Plan of Flood Control (SPFC) facilities that are expected to cause impacts to threatened or endangered species or their habitat. Nine proposals covering eight projects were approved by the Director in May through August 2013. At this time, five are moving forward (see below), one was withdrawn in early 2014, and three others are pending.

- FESSRO contracted with Westervelt Ecological Services to create a giant garter snake (GGS) conservation bank that will provide credits that can be used by DWR or levee maintaining agencies in the south Delta and the San Joaquin Valley, from Stockton to Fresno to mitigate for impacts to GGS from improvements to SPFC facilities.
- FESSRO, along with the DWR Flood Corridor Protection Program and the Wildlife Conservation Board, funded the acquisition of Hidden Valley Ranch at the confluence of the Tuolumne and San Joaquin rivers. This project, in conjunction with the Dos Rios Acquisition, will provide transient storage and ecosystem enhancements consistent with multi-benefit objectives of the State Systemwide

Investment Approach (SSIA). Phase 2 of the Hidden Valley Ranch project will fund restoration to enhance riparian vegetation and benefit riparian brush rabbit along the lower-mid San Joaquin River.

- FESSRO contracted with Westervelt Ecological Services to establish advance mitigation in the form of salmonid habitat within the Sacramento River in Yolo County for future SPFC mitigation needs resulting from CVFPP implementation and potential impacts to salmonids. DWR will ultimately receive credits that can be used for DWR impacts and/or impacts potentially caused by local maintaining agencies (LMAs) within the Sacramento River Watershed. The service area has yet to be determined.
- FESSRO funded the Three Rivers Levee Improvement Authority (TRLIA) to enhance riparian vegetation and benefit salmonids on a parcel of land within the Feather River setback area that would provide mitigation credits for flood management projects consistent with the SSIA.
- FESSRO expects to complete another land acquisition by early 2015. The second phase of the project would enhance riparian vegetation along the mid-Sacramento River.

11(f) Pursuant to CWC § 9620(c), DWR will prepare a recommended schedule and funding plan in 2013 to implement the recommendations of the adopted CVFPP, and DWR, by December 31, 2012, will brief the Board as to how it intends to collaborate with local, state and federal agencies on the development of the recommended schedule and funding plan.

Table 4-3 (Page 4-39) of the 2012 CVFPP provides a preliminary range of investments over time to implement the CVFPP-SSIA. This table, reflecting a preliminary funding plan was based on estimated federal cost-sharing and local cost-sharing for studies and projects and available Proposition 84 and Proposition 1E funds. DWR has developed a Bond Plan of Expenditures (BPE) for Proposition 84 and Proposition 1E funds. The BPE is updated each year and reflects DFM's current plans for expending remaining bond funds associated with FloodSAFE and implementing the CVFPP-SSIA.

Based on collaboration with local, state and federal agencies, DWR has established various projects and programs to assist local agencies in implementing the recommendations of the CVFPP. These projects and programs are evolving; some are being closed out and others are newly established. They include: Early Implementation Program (EIP), Urban Flood Risk Reduction Program (UFRR), Small Erosion Repair Program (SERP), Small Community Flood Risk Reduction Program (SCFRR), Flood System Repair Project (FSRP), Local Levee Assistance Program (LLAP), and Flood Corridor Program (FCP).

11(g) DWR intends to provide funding, to be cost shared by local agencies, to implement urban, small community, and rural levee repairs and improvements consistent with the adopted CVFPP.

Based on collaboration with local, state and federal agencies, DWR has established various projects and programs to assist local agencies in implementing the recommendations of the CVFPP. These projects and programs are evolving, some are being closed out and others are newly established. These projects and programs include: EIP, UFRR, SERP, SCFRR, Flood Risk Reduction Evaluation and Study Program, FSRP, LLAP, and FCP.

The following is the status of each of the projects/programs listed above:

- EIP - No new agreements are being executed, however, there are jurisdictions that still have funds appropriated that may be used to supplement existing agreements.
- UFRR - Comments on the draft guidelines and project solicitation package are under review. The final guidelines are planned for release in November 2014.
- SERP - Program is underway and focuses on small erosion repairs on state maintained levees that are part of the Sacramento River Flood Control Project. Phase 1, the initial 5-year effort, is currently underway and will address approximately 293 miles of state maintained levees.
- SCFRR - The guidelines for this program are under development and will undergo internal review in late October 2014.
- Flood Risk Reduction Evaluation and Study Program - This program has been eliminated since flood risk reduction feasibility studies will be included in the UFRR and SCFRR.
- FSRP - Guidelines have been finalized and four funding agreements for repair projects on the San Joaquin River Flood Control Project are being processed.
- LLAP - This is a statewide grant program for non-SPFC levees. This program has been very well received and is winding down. A final solicitation is planned for October/November 2014.
- FCP - Allocation of program funds is near completion. A final solicitation is planned for spring 2015 in anticipation of appropriation of remaining funds in the FY 2015/16 Budget Act.

11(j) DWR, in coordination with the Board, USACE, local agencies and the public will initiate state-led basin-wide feasibility studies for the Sacramento and San Joaquin River Basins (in time to inform the 2017 CVFPP update) to evaluate and refine the conceptual system improvement elements described in the adopted CVFPP, including bypass expansions and new bypasses, and evaluate appropriate regional plan elements at the system-wide level. These are likely to include the formation of one or more working groups to identify potential implementation challenges and solutions, potential effects on local and regional land uses and economies, and specific multi-benefit objectives for system elements.

Two basin-wide feasibility studies, the Sacramento River Basin Feasibility Study and the San Joaquin River Basin Feasibility Study, were initiated in September 2012. DWR has completed study Milestone 2 which includes the development of a draft array of configurations based on the objectives and evaluations of individual system elements.

The feasibility studies are currently in Phase 2 where the draft arrays of system configurations are being evaluated. The draft configurations have been shared with regional representatives and will be further revised based on stakeholder input and preliminary system evaluations currently underway. Phase 2 will culminate in mid-2016 along with the final basin-wide feasibility reports.

The next milestone for the feasibility studies is Milestone 3, which is scheduled for early 2015. At Milestone 3, a tentative state preferred configuration will be selected.

The communication and engagement for basin-wide feasibility studies will continue to leverage existing venues and opportunities, including the Board's Coordinating Committee, venues established by RFMP efforts, informal meetings, and other processes. Work groups and other venues will be established as necessary, in collaboration with the Board.

11(l) In conducting post-adoption implementation activities associated with the adopted CVFPP, DWR will work with the Board on other ongoing projects and programs in the Central Valley to identify mutual objectives, complementary project elements, and improve the efficiency of outreach and engagement with stakeholders and the public.

DWR meets regularly with the Board in a variety of forums to coordinate implementation of the CVFPP, including DWR's update at the monthly Board meeting. Furthermore, DWR participates in the monthly Coordinating Committee meeting and the Coordinating Committee Steering Committee, and an executive-level meeting between the Board's President and DWR's Executive Management and respective staff occurring on a monthly basis as well. The Board also receives project specific briefings when requested, or as necessary to inform the Board of significant issues, funding requests, or change in project status. CVFPO has regular discussions with Board staff and Board members for continuous coordination and for addressing specific concerns. Where appropriate, or upon request, DWR has included Board staff and member(s) in meetings and other engagements.

11(n) DWR will continue to make investments in new data, analysis tools, and system-wide benefit policies to support refinement of the physical elements of the adopted CVFPP, and assess the feasibility of project-specific implementation actions and local planning efforts.

To support implementation of the SSIA detailed in the CVFPP, DWR continues investing in new data, tools, and systemwide policies as discussed below:

- A Library of Hydraulic and Hydrologic Models has been developed to provide other agencies with access to all FloodSAFE models in order to reduce duplication of efforts and ensure the most current models are available for use and analysis. Continued progress is made in populating the library with new FloodSAFE models as they become available.
- Flood Forecasting continues to be enhanced by expanding a variety of hydro-meteorological monitoring efforts that also support improved reservoir operations and increase understanding of climate and climate change.
- Inspection and documentation of the State-Federal Flood Control System is ongoing and updated annually.
- The annual inspection of the levees, channels, and structures of the SPFC has been streamlined and modernized with geo-referenced data and maps and improved coordination with local maintaining agencies.
- Forecast-Coordinated Operations to reduce peak downstream flood flows is ongoing and is expanding from the Yuba-Feather Basin to flood control reservoirs in the San Joaquin Basin.
- Forecast-Informed Operations is being implemented in other river basins.
- Improving data exchange is an ongoing, continuous process. The development of the Flood Emergency Response Information Exchange (FERIX) system to facilitate exchange of information among flood agencies, local levee maintaining agencies, reservoir operators, etc., is complete and the system is available to flood management partners.
- Data acquisition under the Central Valley Topography Acquisition Project is complete. Data obtained includes Digital Aerial Photography (DAP) (9,000 square miles), Initial Post-Processed LIDAR (7,800 square miles), Final Post-Processed LIDAR (5,700 square miles), and bathymetric and field surveys (5,500 cross sections). DWR is releasing approved DAP and Final Post-Processed LIDAR to local, state and federal agencies.
- The Central Valley Hydrology Study, a partnership study with USACE to update stream flow frequencies and magnitudes of the Sacramento and San Joaquin rivers and major tributaries, is nearly complete.
- The Central Valley Hydraulic Evaluation Project to update hydraulic models for Central Valley rivers and streams to support local, regional, and basin-wide flood planning efforts, as well as new emergency response applications including enhanced river stage forecasting, is wrapping up at the end of the current calendar year.
- A geotechnical assessment of the Central Valley levees is ongoing and program status is updated monthly in the DWR report to the CVFPB. Efforts are currently underway to provide this information online.
- Floodplain mapping under the Central Valley Floodplain Delineation Project is completed. The project provided urban 200-year SPFC informational floodplain maps for the urban communities of Chico, Yuba City, Marysville, Davis, Woodland, West Sacramento, Sacramento, Stockton, Lathrop, and Merced. Some additional follow-up work is continuing.
- Development of a searchable electronic Library populated with pre-determined flood inundation maps for potential SPFC levee breach scenarios at various river stages

at selected locations along the Sacramento and San Joaquin Rivers systems is ongoing to support pre-season preparedness, emergency coordination and information exchange with partner agencies during real time flood operations.

- Development of Levee Flood Protection Zones (LFPZ) maps, to provide an initial level of awareness to property owners protected by SPFC levees, is complete for 2,205 square miles of land in 17 counties in the Central Valley protected by SPFC levees.
- Awareness Floodplain Mapping, 100-year advisory (non-regulatory) flood event maps for areas in the state expected to have some development in the next 25 years is complete with mapping of 26,500 river and stream miles.
- The Building Standards Code updates for areas protected by SPFC facilities where flood levels are anticipated to exceed 3 feet for a 200-year flood event were implemented as voluntary code within the 2010 California Building Standards Code.
- Community Assistance Visits are ongoing with more than 260 community assistance visits and 128 local floodplain management training workshops conducted to date.
- Flood Risk annual notification is ongoing with written flood risk notices mailed annually to property owners of more than 350,000 distinct properties in 2010, 2011, and 2012. This notification is unique in that it utilizes both GIS information about local flood risks and county assessor parcel databases to produce notices that are targeted to and provide specific local flood risk information for each parcel.
- A “best-available maps” database was established to provide best available federal, state, and local flood inundation maps for each county within California.
- DWR is working to develop robust benefit assessment procedures that can be applied to a broad range of integrated water management projects, including multi-benefit flood management improvement projects.
- DWR, in partnership with the Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, is refining an existing data management system to track gains and losses of habitat within the flood system over time.
- The Floodplain Restoration Opportunity Area analysis, initially described in the 2012 Conservation Framework, has been refined to incorporate other factors that add or detract from an area’s potential restoration suitability.
- DWR has completed a more detailed assessment of all major fish passage barriers within the flood system, focusing on strategic needs and opportunities along individual river reaches.
- The first fine-scale vegetation data set for the entire SPFC flood system has been completed. This provides higher resolution and more detailed information about the distribution and condition of natural habitat and other land cover within the flood system.

11(o) DWR will conduct additional analyses to evaluate the effects of climate change and the effectiveness of various flood system improvements proposed in the SSIA to accommodate future changes in hydrology and sea level rise, for use in the basin-wide feasibility studies.

DWR continues working with climate change experts to advance the knowledge of atmospheric rivers, a phenomenon that statistically correlates with historical California

flooding. Findings on climate change related to the CVFPP are scheduled to be available in late 2014. This new information will help bridge the gaps in current understanding of atmospheric river intensity changes under climate change conditions. A presentation titled "Incorporation of Climate Change in CVFPP Flood Planning Activities" was made at the CVFPP Coordination Committee meeting on June 25, 2014 and is available on the Regional Flood Management Planning (RFMP) website. A link to this website is available on the Board website.

11(p) The proposed CVFPP includes the Folsom Dam Joint Federal Project, the Folsom Dam Water Control Manual Update Project, the Folsom Dam Raise Project, the Yuba-Feather Rivers Joint Project for Forecast Coordinated Operations (FCO), and FCO for other reservoirs. These projects will have the effect of increasing and / or improving the use of the reservoir storage space for flood management. In addition to these projects, DWR will: (1) consider reservoir reoperations, expansions or modifications, including those proposed by local or regional entities; and (2) continue to consider flood management as an objective of its ongoing multi-benefit surface storage investigations and system-wide reoperation studies. Should these related DWR efforts identify flood management as a component of a feasible reservoir storage project, such project may be proposed for implementation under the adopted CVFPP and / or may be reflected in future updates to the adopted CVFPP.

DWR is actively collaborating with the USACE and other local flood management agencies in Board/USACE cost-shared flood control projects and feasibility studies in the Central Valley that will result in the increase and/or improvement of the use of reservoir storage space for flood risk reduction. The Folsom Dam Joint-Federal Project is currently under construction. The Folsom Dam Raise Project is on the near horizon and DWR is entering into initial negotiations with the USACE and the Sacramento Area Flood Control Agency for the Project Partnering Agreement. DWR is actively participating in the update of the Folsom Dam Water Control Manual in coordination with the USACE and the National Weather Service. DWR is analyzing and developing operational parameters to incorporate forecasts and upstream watershed conditions. Public outreach and collaboration is ongoing under the direction of the USACE.

Enhancement of the Yuba-Feather Forecast-Coordinated Operations is ongoing as is development of the San Joaquin Forecast-Coordinated Operations (see 11(n) above). Flood risk reduction is currently, and will continue to be, included as an objective in multi-benefit surface storage investigations and systemwide reoperation studies.

11(q) DWR will continue to provide guidance, criteria, data, analyses and technical support to assist cities and counties in making findings related to the urban level of flood protection and related land use planning requirements that come into effect upon adoption of the CVFPP to assist them to meet their statutory deadlines. The Board encourages DWR to provide preliminary 100- and 200-year floodplain mapping of areas

protected by SPFC facilities to cities and counties by July 1, 2013 to allow cities and counties to meet their statutory deadlines.

DWR has completed the Urban Levee Design Criteria (ULDC) in May 2012 and Urban Level of Flood Protection (ULOP) Criteria in November 2013. ULDC is engineering criteria that are incorporated by reference in the ULOP Criteria where levees and floodwalls are used for providing urban level of flood protection (200-year level of protection). Subsequent Senate Bill 1278 and Assembly Bill 1965 of 2012 amend the original Senate Bill 5 of 2007 to clarify certain aspects of the 2007 legislation and to amend some of the milestone dates and time frames included in the original legislation. In addition, SB 1278 requires DWR to provide information maps for the 200-year floodplain in urban areas from the Sacramento and San Joaquin river systems due to the failure of SPFC facilities by July, 2013. DWR has completed the draft information maps in June 2013 and made them available to 10 urban areas in the Central Valley. DWR is conducting additional coordination with cities and counties on map review and potential applications, as well as meeting with local agencies and their consultants who are in the process of making a Finding of Urban Level of Protection.

In response to the legislation amendments and associated changes, DWR reinitiated a work group process to refine the ULOP Criteria. The ULOP Criteria included participants from cities and counties, planning professionals, floodplain managers, environmental interests, and Board members and staff. The criteria refinements were completed in October 2013. As a separate effort, DWR also initiated efforts to develop model languages that could provide references for cities and counties when updating their General Plan per legislation requirements.

DWR has completed an administrative draft titled "Guidance on General Plan Amendments for Addressing Flood Risks". The purpose of this report is to provide technical assistance to cities and counties related to their compliance requirements to amend their General Plans and ordinances. DWR has worked with Board staff in this process, and invited agencies and organizations (including those identified in the legislation) to provide early review and comments on the document to ensure the guidance is accessible and useful for the intended audience. Staff is completing the final revision and anticipates a public release date in late August/early September.

11(r) Studies and analyses that result from implementation of the adopted CVFPP will be included in the 2017 update of the CVFPP and will be shared with the USACE to be considered in its Central Valley Integrated Flood Management Study scheduled for release at the same time, consistent with the state's goal to maximize federal and local cost sharing.

DWR worked closely with the USACE to re-scope the Central Valley Integrated Flood Management Study (CVIFMS) consistent with USACE planning modernization guidance, and as a result, a revised Feasibility Cost Share Agreement (FCSA) for CVIFMS was prepared and approved by the Board in August 2013. The revised FCSA for CVIFMS encompasses a 3-year, \$5 million watershed study focused on the

Sacramento Basin. The CVIFMS team continues to make progress with the study and has completed Milestone 1, a discipline-by-discipline gap analysis of technical work completed by the state and the USACE to date, as well as Milestone 2, a forecast of future without-project conditions. The team is currently identifying management measures and strategies that could be taken to capture benefits not currently pursued under existing studies in the Sacramento Basin on a systemwide basis. Planning and evaluations conducted as part of BWFS will be considered by the USACE within CVIFMS. DWR and USACE continue to coordinate planning efforts including ongoing federal cost share feasibility studies.

11(s) DWR will sponsor regional flood management planning efforts which will develop regional plans that present stakeholder perspectives of flood management priorities for each region, the results of which will be coordinated between regions and integrated into or consistent with the basin-wide plans. Regional planning should create a role for all interested stakeholders including representatives from agricultural, city and county, conservation, environmental, landowner, and water supply interests as well as the flood control agencies and organizations.

Regional Flood Management Plans (RFMP) are being developed for the following areas: Mid and Upper Sacramento Regional Flood Management Planning Area; Lower San Joaquin River/Delta South Regional Flood Management Planning Area; Lower Sacramento River/Delta North Regional Flood Management Planning Area; Upper San Joaquin River /Delta South Regional Flood Management Planning Area; and Mid San Joaquin River Regional Flood Management Planning Area.

RFMP local lead agencies have made substantial progress in their planning process and are actively engaging with local stakeholders and the state-led Basin-wide Feasibility Studies (BWFS) and Conservation Strategy. Several agencies have released draft sections of their RFMPs for review, and a few have released completed draft RFMPs. Coordination and engagement to date has been through informal small meetings, public outreach meetings and active attendance at the Board's Coordinating Committee. DWR has met individually with each RFMP to coordinate development of the BWFS with the RFMPs, and will continue to meet periodically as efforts progress. RFMP reports in various stages of completion are available at the RFMP website at www.RFMPCC.com.

Environmental staff has been assigned to work closely with RFMP groups and they have been actively and regularly attending RFMP meetings. They are sharing information about the Conservation Strategy, providing environmental planning information for RFMP use and getting regional input useful for systemwide conservation planning. Additional information on implementation of the Conservation Framework into the RFMPs is available in DWR's July 2014 monthly report to the Board.

11(y) For those deliverables and processes set forth in items (a) through (x) above, it is understood that DWR shall provide quarterly reports to the Board regarding schedules and progress.

This report provides an update on information regarding schedules and progress related to SSIA implementation as outlined within the Board's Resolution. In addition, DWR will continue to provide monthly reports and project specific briefings to the Board.