Agenda Item 7

# REPORT OF ACTIVITIES
# OF THE
# DEPARTMENT OF WATER RESOURCES

**By**

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## FLOOD EMERGENCY RESPONSE (FLOOD ER)

***Flood ER prepares for and responds to flood threats in close coordination with local, state, and federal entities. Preparing for flood response requires continuous data collection, regular flood system inspections and evaluations, forecasts and information dissemination, annual training and exercises, review and replenishment of supplies and equipment, and preseason coordination.***

### REAL-TIME FLOOD CONDITIONS, STATUS, & WARNING

*The purpose of the Real Time Flood Conditions, Status, and Warning element is to provide information needed to manage floods as they are occurring. This element supports flood operations by 1) inspecting, documenting, and assessing the integrity of the Sacramento and San Joaquin Flood Control Project levees, 2) storing and managing information so that it is accessible to flood managers and the general public, 3) providing emergency flood information and warnings based upon existing and forecasted conditions and field reports, and 4) developing information management tools to support emergency operations.*

Staff published channel and structure inspection reports and began fall levee inspections. An effort to conduct inspections of Designated Floodways is ongoing. Staff continues to work with Central Valley Flood Protection Board (Board) staff inspecting and coordinating encroachment permits. The Encroachment Permit database continues to be updated and levee alignments are being revised in coordination with the U.S. Army Corps of Engineers (USACE) to more accurately reflect actual alignments and to be used with a new levee mile calculator. The new alignments and levee mile calculator are expected to be completed shortly. A program to field-verify the levee log data continues with staff from the Division of Integrated Regional Water Management (DIRWM). Staff continues to coordinate with the Department of Water Resources (DWR), USACE, Board, and Local Maintaining Agency (LMA) staff in a number of venues including flood preparedness efforts.

Staff continued to integrate levee vulnerability data into the Flood Emergency Response Information Exchange (FERIX) web portal. FERIX will allow flood emergency response managers to share and visualize both historic and real-time flood system data. Staff presented a demo of the FERIX web-portal to Sacramento County executives.

In October, staff continued conducting the Annual Flood Project Hydraulic Conveyance Capacity Evaluation and Reporting work for supporting flood system status and integrity assessment, and flood emergency response planning, preparedness, and operation. This effort also supports coordinated reservoir operations, forecasting, and issuing flood warning by providing updated existing hydraulic conveyance capacity information of the flood control system. Preliminary analyses using Central Valley Floodplain Evaluation and Delineation (CVFED) and Central Valley Hydrology Study (CVHS) models and data, as well as a preliminary draft annual report for this year are under quality assurance review, and are expected to be completed during the upcoming flood season.

Staff continued to develop tools and applications with FERIX as the platform to integrate flood system hydrologic, hydraulic, topographic and mapping information developed from CVFED, CVHS, Alluvial Fan Floodplain Evaluation and Delineation (AFFED), California Statewide Hydrology (CSH) and Climate Variability Sensitivity Study (CVSS) to facilitate visualization and exchange of important system information and tools (data and models) for flood emergency response managers.

Staff continued to manage and disseminate CVFED model, data, and tools. This month staff processed four requests for data, and transferred a total of 5,924 Light Detection and Ranging (LIDAR) tiles and 23,035 tiles of Aerial Imagery. One request also included bathymetric and field survey data. Three requests were from DWR and the other one was from an outside public agency. Approximately 3,088 GB of data were transferred covering a land area of approximately 5,310 square miles.

**HYDRO-CLIMATE DATA COLLECTION & PRECIPITATION/RUNOFF FORECASTING**

*This element supports Flood Emergency Response by providing information on current and forecasted water conditions, and by providing meteorological and climate information. Additionally, this element includes evaluating and improving the data collection and exchange network and forecasting models, providing water supply and watershed runoff information and forecasting, and the development of a new generation of forecasting and data collection tools to improve the quality, timeliness, and length of watershed and river forecasts. Real-time data, its timely availability, and quantities and quality are all critical to improving forecasting quality and timeliness.*

As of September 30, 2014, the end of Water Year 2014, statewide hydrologic conditions were as follows: precipitation, 55% of average to date; runoff, 35% of average to date; and reservoir storage, 60% of average for the date. Sacramento River Region unimpaired runoff for Water Year 2014 observed through September 30, 2014 was about 7.5 million acre-feet (MAF), which is about 41% of average. In comparison to Water Year 2013, the observed Sacramento River Region unimpaired runoff through September 30, 2014 was about 12.2 MAF, or about 67% of average.

On September 30, 2014, the Northern Sierra 8-Station Precipitation Index Water Year total was 31.3 inches, which is about 63% of an average water year (50.0 inches). During September, the total precipitation for the 8-Stations was 1.6 inches, or about 178 % of average for the month. Last year on September 30, 2014, the Water Year 2013 seasonal total for the 8-Stations was 44.3 inches, or about 89% of average.

On September 30, 2014, the San Joaquin 5-Station Precipitation Index Water Year total was 20.4 inches, which is about 50% of an average water year (40.8 inches). During September, the total precipitation for the 5-Stations was 0.8 inches, or about 114% of average for the month. Last year on September 30, 2014, the Water Year 2013 seasonal total for the 5-Stations was 26.5 inches, or about 65% of average.

| Selected Cities Precipitation Accumulation as of 09/30/2014 (National Weather Service Water Year. July through June) | | | | | |
|---|---|---|---|---|---|
| City | July 1 to Date 2014 – 2014 (in inches) | % Average | July 1 to Date 2013 – 2013 (in inches) | % Average | % Avg "Water Year" July 1 to June 30 2014 - 2015 |
| Eureka | 3.13 | 290 | 3.22 | 298 | 8 |
| Redding | 3.44 | 378 | 1.39 | 153 | 10 |
| Sacramento | 0.47 | 138 | 0.59 | 174 | 3 |
| San Francisco | 0.64 | 237 | 0.43 | 159 | 3 |
| Fresno | 0.19 | 100 | 0.01 | 5 | 2 |
| Bakersfield | 0.01 | 8 | 0.00 | 0 | 0 |
| Los Angeles | 0.19 | 66 | 0.03 | 10 | 1 |
| San Diego | 0.08 | 40 | 0.05 | 25 | 1 |

| Key Reservoir Storage (1,000) AF) as of 09/30/2014 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reservoir | River | Storage | Average Storage | % Average | Capacity | % Capacity | Flood Control Encroachment | Total Space Available |
| Trinity Lake | Trinity | 607 | 1,666 | 36 | 2,448 | 25 | --- | 1,841 |
| Shasta Lake | Sacramento | 1,157 | 2,725 | 42 | 4,552 | 25 | -3,395 | 3,395 |
| Lake Oroville | Feather | 1,076 | 2,188 | 49 | 3,538 | 30 | -2,275 | 2,462 |
| New Bullards Bar Res | Yuba | 419 | 593 | 71 | 970 | 43 | -492 | 547 |
| Folsom Lake | American | 345 | 554 | 62 | 977 | 35 | -632 | 632 |
| New Melones Res | Stanislaus | 520 | 1,343 | 39 | 2,400 | 22 | -1,754 | 1,900 |
| Don Pedro Res | Tuolumne | 777 | 1,371 | 57 | 2,030 | 38 | -995 | 1,253 |
| Lake McClure | Merced | 122 | 464 | 26 | 1,032 | 12 | -731 | 903 |
| Millerton Lake | San Joaquin | 184 | 210 | 88 | 520 | 35 | -336 | 336 |
| Pine Flat Res | Kings | 114 | 338 | 34 | 1,000 | 11 | -886 | 886 |
| Isabella | Kern | 50 | 187 | 27 | 568 | 9 | -254 | 518 |
| San Luis Res | (Offstream) | 464 | 955 | 49 | 2,041 | 23 | --- | 1,575 |

The latest National Weather Service Climate Prediction Center (CPC) long-range 1-month precipitation outlook for October, issued September 30, 2014, suggests no tendency for above or below average rainfall for much of California. The exceptions are the northern part of the state where below-normal precipitation is indicated, and the southern portion of the state where above-normal precipitation is indicated.

**RESERVOIR OPERATIONS & RIVER FORECASTING**

*This element supports Flood ER through a coordinated effort with various agencies operating reservoirs in the system to enhance reservoir operations. The goal of coordinated operation of the reservoirs will be to reduce peak flood flows downstream of the reservoirs. Additionally, this element supports Flood ER through river forecasting activities conducted in coordination with the National Weather Service River Forecast Center located at the Joint Operations Center in Sacramento. By conducting real-time and long-range hydrologic and watershed analyses, this element provides accurate and timely runoff and river peak flow forecasts.*

In this month, staff continued managing the development of system-wide hydraulic channel routing models to support enhanced River Forecasting and Forecast Coordinated Reservoir Operations. The model developments for the Sacramento and San Joaquin River systems are 75% and 65% completed, respectively.

Staff continued developing the flood inundation map atlas and retrieval and display system. A series of levee breach scenarios and associated floodplain inundation extent and depth information are pre-run and stored in the Flood Inundation Map Atlas at 55 selected locations along Sacramento and San Joaquin River flood control projects. A retrieval and display system is being developed to enable easy and quick reference during a flood event, to a similar pre-run scenario from the Atlas. By October, 90% of the modeling and mapping effort is completed. It is expected the system will be implemented during the upcoming flood season.

Staff continued to populate and manage Library of Models (LOM) with CVHS and CVFED models to support River Forecasting and Forecast Coordinated Reservoir Operations to provide necessary flood intelligence during an event. LOM also supports the Central Valley hydrology update for risk assessment and project development. In October, it remained at 96% of the CVFED hydraulic models populated in LOM while waiting for the last sets of models being finalized for inclusion. Completed CVHS watershed, reservoir and channel routing models are also being populated in LOM.

**FLOOD EMERGENCY PREPAREDNESS & OPERATIONS**

*This element includes preparing DWR to respond to flood emergencies by providing emergency response training, flood fight training, coordinating emergency preparedness endeavors with the various flood response partners, analyzing season flood threats, and assuring the staffing and function of the State-Federal Flood Center to coordinate state response to flood events.*

**2014 DWR Preseason Flood Coordination Meetings**

Staff conducted Preseason Flood Coordination meetings with emergency responders in Stanislaus, Sutter, Santa Cruz, and Sacramento Counties. In addition, staff participated in Preseason meetings sponsored by others including Cal OES Mutual Aid Response Advisory Committee (MARAC) and Santa Clara Valley Water District.

Turnout Statistics as of 11-10-14

| Date | Location/Host County | Turnout (not incl. DFM staff) | County Representative Present |
|---|---|---|---|
| 9/16 | Ventura | 30 | Ventura, Santa Barbara, San Luis Obispo, Los Angeles |
| 9/17 | Riverside | 19 | Riverside, San Bernardino |
| 9/22 | San Joaquin | 54 | San Joaquin, Alameda |
| 9/25 | Fresno | 27 | Fresno, Merced, Madera, Kern, Mariposa |
| 9/30 | Napa | 38 | Napa, Solano, Contra Costa, |

| Date | Location/Host County | Turnout (not incl. DFM staff) | County Representative Present |
|---|---|---|---|
| | | | Sonoma, Marin, Lake, Mendocino |
| 10/2 | Stanislaus | 48 | *Stanislaus County only - Cities:* Modesto, Ceres, Turlock, Patterson, Waterford, Riverbank, E & J Gallo |
| 10/7 | Sutter | 38 | Sutter, Yuba, Butte, Sierra, Colusa |
| 10/9 | Santa Cruz | 12 | Santa Cruz, Monterey, San Benito |
| 10/14 | Sacramento | 64 | Sacramento, Yolo, El Dorado |
| 11/6 | Humboldt | 30 | Humboldt, Hoopa Tribe, Yurok Tribe |

2014 County Organized Preseason Meetings

| Date | Location/Host County | Turnout |
|---|---|---|
| 9/29 | Orange | Approximately 25 |
| 10/30 | Santa Clara Water District | 25 |
| 12/5 | San Diego | TBD |

**Statewide Emergency Response Grants**
Staff continued to manage the 14 executed grant contracts with local agencies to improve their flood emergency response. Staff submitted a Proposal Solicitation Package to DWR Executive for approval to make up to an additional $5 million in Proposition 84 funds available as grants.

## FLOOD MANAGEMENT PLANNING (FMP)

***FMP formulates strategies, plans, and investment priorities for implementation of flood management projects and development of flood risk management policy. It includes the Statewide Flood Management Planning Program and the Central Valley Flood Management Planning Program, which developed California's Flood Future: Recommendations for Managing the State's Flood Risk (California's Flood Future) and the 2012 Central Valley Flood Protection Plan (CVFPP).***

### CENTRAL VALLEY FLOOD MANAGEMENT PLANNING (CVFMP)

*The CVFMP focuses on working with stakeholders to formulate plans for reducing flood risk and increasing the resiliency of the State Plan of Flood Control (SPFC). As recommended in the CVFPP, this program is currently implementing major planning efforts: locally led RFMP, which is working with more than 180 local entities to prepare regional flood management plans; state led Basin-wide Feasibility Studies (BWFS); the Central Valley Flood System Conservation Strategy (CS); and the CVFPP Financing Plan. Each of these planning efforts will inform the 2017 update of the CVFPP, the first five-year update as required by the California Water Code (CWC).*

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 system configurations based on study objectives and evaluations of individual system elements. The feasibility studies

are currently in Phase 2, where the draft array of system configurations is being evaluated consistent with the State Systemwide Investment Approach (SSIA). The draft system configurations have been shared with regional representatives and will be further revised based on stakeholder input and preliminary technical evaluations currently underway.

Phase 2 will culminate in mid-2016 along with the final basin-wide feasibility reports. The Regional Flood Management Plan (RFMP) Reports and CS are being used to guide formulation of potential ecosystem features associated with flood improvements. The Central Valley Flood Planning Office (CVFPO) is coordinating with both the RFMPs and NGOs in an iterative planning process that will further refine potential multiple-benefit opportunities within the expanded footprints of the system configurations. The next milestone for the BWFS is the selection and recommendation of a State Preferred Plan in each basin, which is scheduled for early 2015.

DWR held two webinars to provide information and answer questions on the recently released *Guidance on General Plan amendments for Addressing Flood Risk* (Guidance). The first webinar had over 90 participants. This document will assist cities and counties in the Sacramento-San Joaquin Valley to comply with the general plan amendment requirements per California Government Code Section 65302.9. As part of DWR's technical assistance, the Guidance is intended as an advisory resource for consideration by cities and counties in amending their general plan. This Guidance serves as an extension of the 2010 DWR's award-winning effort, *Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities Local Communities Handbook* to provide updated information on legislative requirements on state's efforts in regional and statewide flood risk management since 2010.

The communication and engagement for BWFS continues 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.

**Storyboard**

The storyboard for the CVFPP 2017 update is being developed to communicate and refine the major headlines, main points, and messaging for each chapter. This will help describe the scope and content of the CVFPP update and provide a vehicle for communicating and confirming direction. It will serve as a guide for the development of the 2017 update and be used as a launch platform for alignment and integration activities. The storyboard will be presented to the Board on November 21, 2014.

**Basin-Wide Reference Documents (Atlases)**

Sacramento and San Joaquin Basin Reference Documents will be developed as a tool to facilitate alignment between local, state, and federal agencies so that all can converge on sustainable systemwide solutions. These Atlases will contain maps, summaries, and photographs; and will be helpful sources of information in addressing the complex challenges of the flood management system in each basin.

**RFMP Phase 2**

A RFMP Phase 2 Fact Sheet was finalized and reviewed by Kim Floyd, who in turn sent it to all Coordinating Committee attendees. RFMP Phase 2 is intended to extend the constructive collaboration, coordination, and meaningful engagement developed in Phase 1 through adoption of the 2017 CVFPP update. The six RFMP directed funding agreements expire in January 2015 and the state has proposed amending the agreements for time (through June 2017), budget (additional $500,000 each), and scope. The focus of RFMP Phase 2 is to continue communication and engagement, establish regional governance, and develop strategies for dealing with institutional barriers.

**CONSERVATION STRATEGY**

*The Central Valley Flood Protection Act of 2008 directs DWR to achieve multiple objectives through implementation of the CVFPP. Among these are environmental objectives to improve natural dynamic hydrologic and geomorphic processes; habitat quantity, diversity, and connectivity; and native species populations. The CS describes DWR's approach for achieving these objectives. It outlines actions to improve programmatic environmental permitting, provide advance mitigation for flood projects, improve systemwide vegetation management, integrate environmental stewardship into multi-benefit flood improvement projects, promote agricultural stewardship, and improve the quality of scientific and planning information needed for wise decision making.*

**Conservation Strategy Document**

Staff revised the CS in response to comments received on the *Administrative Draft Conservation Strategy and Appendices (July2014)*. Appendix D (vegetation management) was posted for Interagency Advisory Committee (IAC) review and responses are pending. Pending internal DWR review, the Draft CS is expected to be released to the Board in December.

**Measureable Objectives Technical Memorandum**

The Conservation Strategy Measurable Objectives Advisory Workgroup met three times in October. They successfully summarized the conservation needs of flood system T&E species based on existing conservation plans, and identified conservation opportunities through evaluation of the preliminary planning of multi-benefit flood risk reduction projects. The workgroup has recommended that the magnitude of achievable ecosystem improvements be moved forward as ecosystem targets for both the Central Valley Flood System Conservation Strategy and discussion in the Measurable Objectives Subcommittee of the Board. The findings of the workgroup are expected to be summarized and included in an appendix to the CS by December 12, 2014.

**Advance Mitigation Projects**

Three Rivers Levee Improvement Authority (TRLIA) Feather River Floodway Corridor Restoration Project: DGS approved the TRILA Advance Mitigation contract. This project will enhance riparian vegetation and grasslands on a 500-acre parcel of land within the 1,600-acre Feather River setback area to provide mitigation credits for flood management projects consistent with the SSIA. A site visit to the TRLIA mitigation area is scheduled for November

21, 2014. Staff from DWR, USFWS, NMFS, US EPA, and California Department of Fish and Wildlife is expected to attend.

To date, four advance mitigation projects (including the TRLIA project mentioned above) are moving forward, and one land acquisition continues to be negotiated internally at DWR. Funding dedicated to these projects is approximately $16.5 million. When these five projects are completed, over 1400 acres of floodplain, riparian habitat, and grasslands will be protected, improved or restored to provide habitat for several key species including giant garter snake, valley elderberry longhorn beetle, riparian brush rabbit, salmon, and steelhead. These improvements will provide advance mitigation credits for future flood management activities at SPFC facilities, consistent with the SSIA.

**STATEWIDE INTEGRATED FLOOD MANAGEMENT PLANNING (SIFMP)**

*Statewide Integrated Flood Management Planning (SIFMP) has identified flood risks facing Californians and proposed solutions to manage the risks. Working closely with USACE and more than 140 public agencies, SIFMP compiled comprehensive information about exposure to flood risk in each of California's counties, and about specific projects and associated costs that local agencies are planning to implement to reduce flood risks to their communities. Using this information, SIFMP presented recommendations to improve flood management in a comprehensive report titled California's Flood Future: Recommendations for Managing the State's Flood Risk. The report identified that more than 7 million Californians, or one in five, live within a 500-year level of flood risk floodplain, and approximately $580 billion in assets (crops, structures, and public infrastructure) are exposed to flooding. This estimate does not include the impacts of future development, population change, climate change, costs due to loss of major infrastructure and critical facilities, or losses to commerce. The impact of a major flood would be devastating to California and the nation.*

On October 30, 2014, the Governor's Office released the California Water Plan Update 2013 which includes flood related risk reduction management actions.

Information developed for *California's Flood Future* was used to create flood management content for the 2013 update of the *California Water Plan*. Currently, the SIFMP program is working to further define ways to implement the *California's Flood Future* recommendations. A primary focus is on development of funding strategies for flood risk management throughout California within the context of overall water management investment. A report is being developed that will describe the state investment priorities and finance options necessary to support the programs and projects that help improve flood management and reduce residual flood risk, as detailed in *Action 8* of the *California Water Action Plan*, with a draft to be produced in January 2015. The program has recently wrapped up an information gathering effort, in which approximately 240 flood and other water management agencies were interviewed.

## FLOODPLAIN RISK MANAGEMENT (FRM)

***FRM promotes prudent management of floodplains to reduce flood risks by working closely with local governments and federal agencies including the Federal Emergency Management Agency (FEMA) and USACE. Policies, guidance documents, and technical products are developed to guide actions taken in floodplains. An important program of successful floodplain risk management includes educating the general public about flood risks so they can plan, prepare, and take individual actions to reduce flood risk for themselves, families, and property.***

### CALIFORNIA FLOODPLAIN RISK MANAGEMENT (CFRM)

*The CFRM works with individuals, communities, and professionals to reduce the risk of flooding. It is a comprehensive integrated program that preserves and enhances the natural and beneficial functions of floodplains, and identifies opportunities to minimize the impacts of flooding. The goal of CFRM is to reduce the frequency and severity of flood loss, loss of life, damage to property, and damage to the natural resources of floodplains. One of the basic foundations of CFRM is the identification and delineation of flood hazard areas within the state. This program promotes awareness of flood risks through risk assessment and risk mapping; the community assistance program; Flood Risk Notification (FRN); floodplain management mitigation planning; and mitigation cost recovery.*

### Floodplain Management Assistance

*Floodplain Management Assistance provides statewide technical support to federal, state and local agencies as well as the public for flood hazard maps, levee data, and the National Flood Insurance Program (NFIP) activities including the Community Rating System (CRS). As part of the NFIP Community Assistance Program (CAP) grant-partnership with the Federal Emergency Management Agency (FEMA), DWR conducts audits of communities participating in the NFIP, provides technical assistance to the public, and trains community officials.*

- Staff conducted a preparation course for the Certified Floodplain Manager (CFM) Examination and proctored the examination for 20 applicants.
- Staff participated in the Sea Level Rise Focus Group meeting. This group will produce an appendix for the current NFIP Quick Guide which will provide Sea Level Rise information to Community Officials.
- Staff conducted a Substantial Damage/Substantial Improvement workshop hosted by the City of Napa. This was a post-earthquake workshop to inform local officials of the NFIP Substantial Damage/Substantial Improvement requirements for reconstruction. The workshop was attended by local officials in the region affected by the recent Napa earthquake.

### Flood Risk Notification (FRN)

*The annual FRN focuses on communicating flood risk to the public and local, state and federal agencies to increase flood hazard awareness for areas protected by SPFC. The objective of this notice are to 1) Meet all requirements of State law, including other relevant information as*

*determined by DWR; 2) Inform property owners about flood risk and encourage them to take appropriate preventative actions to minimize potential losses caused by flooding; 3) Increase Community Rating System (CRS) points for Levee Flood Protection Zone (LFPZ) communities that participate in FEMA's National Flood Insurance Program (NFIP); and, 4) Make notices unique for each property owner by providing information about potential flooding sources customized for each property address.*

*This year, DWR's annual FRN program identified more than 367,000 parcels in the Sacramento-San Joaquin River basins that are protected by project levees. Based on our Geographic Information System (GIS) and parcel data analyses, about 275,000 property owners in 17 counties are to receive a written notice. Of these owners, 50 own at least 100 parcels within the LFPZs and over 29,000 own at least 2 properties. About 246,000 property owners receive a notice for a single parcel. For the multiple-property owners, we will send a cover letter with the 2014 FRN and a table listing the parcels and flooding sources. This approach avoids sending duplicate notices to owners of multiple parcels.*

To meet the mandated requirements and goals, staff is preparing for the 2015 FRN. Activities include the flyer design, website update, Levee Flood Protection Zone Maps web viewer update, parcel data acquisition and development, printing, mailing, and flood risk communication and outreach.

**Coastal Floodplain Evaluation and Planning**
No new information this month.

**CENTRAL VALLEY FLOODPLAIN EVALUATION AND DELINEATION (CVFED)**
*The CVFED is tasked with obtaining new physical data and developing analytical tools and other work products such as topography acquisition, riverine and overland flow hydraulic models, and floodplain delineation maps. The project will develop datasets and tools allowing state, federal, and local entities to use CVFED developed models or develop new models using CVFED datasets for integrated flood management of the Central Valley's primary rivers and streams.*

Staff continued to develop tools and applications with FERIX as the platform to integrate flood system hydrologic, hydraulic, topographic and mapping information developed from CVFED, CVHS, Alluvial Fan Floodplain Evaluation and Delineation (AFFED), California Statewide Hydrology (CSH) and Climate Variability Sensitivity Study (CVSS) to facilitate visualization and exchange of important system information and tools (data and models) for flood emergency response managers.

Staff continued to manage and disseminate CVFED model, data, and tools. This month staff processed four requests for data, and transferred a total of 5,924 Light Detection and Ranging (LIDAR) tiles and 23,035 tiles of Aerial Imagery. One request also included bathymetric and field survey data. Three requests were from DWR and the other one was from outside public agencies. Approximately 3,088 GB of data were transferred covering a land area of approximately 5,310 square miles.

## FLOOD RISK REDUCTION PROJECTS (FRRP)

***FRRP works in coordination with local and federal agencies to implement new flood projects; provide funding that enables local agencies to repair and improve levees and other flood management facilities statewide; provide advanced mitigation for the SPFC to aid project delivery; and enhance ecosystems associated with the flood system. A primary responsibility of this program is to work closely with USACE.***

## DELTA FLOOD PROJECTS

*This is a grants program that works with more than 60 reclamation districts in the Delta and Suisun Marsh to maintain and improve the flood control system and provide protection to public and private investments in the Delta, including water supply, habitat, and wildlife. The program, through its two major components of Delta Levees Maintenance Subventions Program and Delta Levees Special Flood Control Projects, works with the local agencies to maintain, plan, and complete levee rehabilitation projects. One of the requirements to qualify for available funds is for the project to result in no net loss of Delta habitat.*

### Delta Levees Maintenance Subvention Program

*This is a cost-share program providing financial assistance to local agencies for maintenance, rehabilitation, and improvement of approximately 700 miles of project and non-project levees. Due to the public-private partnership nature of this program, it provides significant improvement to critical levees at a very reasonable cost. Staff, on behalf of the Board initiates and manages work agreements to fund levee maintenance and rehabilitation. The current status of work agreements is as follows:*

Work Agreements for FY 2012-2013

The Board's Executive Officer executed 65 work agreements.

- Staff received 60 final claims by the November 1, 2013 deadline totaling approximately $12 million in work.
- Staff conducted 60 joint levee inspections with the California Department of Fish and Wildlife and local agencies.
- Claims are being reviewed for eligibility and completeness. The eligible amounts will be reimbursed to the local agencies after the review.
- Staff completed the reimbursement process for 60 final claims, totaling approximately $8.4 million in reimbursements.

Work Agreements for FY 2013-2014

- On September 13, 2013, the Board approved the FY 2013-14 funding plan for $12 million.
- The Board's Executive Officer executed 68 work agreements.
- Final claims for work completed July 1st through June 30th are due to DWR by November 1, 2014.

Work Agreements for FY 2014-2015

- Staff received applications from 69 local agencies to participate in the FY 2014-2015 Subventions Program.
- On October 24, 2014, the Board approved the FY 2014-15 funding plan for $12 million.

**DELTA LEVEES SPECIAL FLOOD CONTROL PROJECTS**

No new information this month.

**DELTA LEVEE SYSTEM INTEGRITY (DLSI)**

*This program focuses on levee repair, maintenance, and improvement within the Sacramento-San Joaquin Delta. Funding is also available for planning, research, and habitat enhancement. The program includes the following components:*

**Delta Stewardship Council (DSC) Interagency Agreement (IA)**

The DSC IA funds the Delta Levees Investment Prioritization Study. August is the month that work began in earnest on the tasks outlined in the IA; though the contract between ARCADIS and the DSC to complete the work described in the IA was signed in June, it took most of July for ARCADIS to have all of their subcontractors in place. Data transfers between DWR and ARCADIS have been begun. The DSC is working to develop the Independent Peer Review Process as required by the IA. The current schedule for the peer review is April 2015. Other areas that are in development are the role that California Environmental Quality Act (CEQA) will play in this study and the Quality Management Plan. An Interagency Group team consisting of DWR, Delta Protection Commission (DPC), DSC and Board staff met in August and will continue to meet monthly to confer and coordinate on relevant issues. More information on the Delta levees investment strategy is available on the DSC website.

**Delta Protection Commission (DPC) Interagency Agreement (IA)**

The DPC IA funds the study to investigate the feasibility of a statewide benefit assessment district for the Delta. The DPC is currently drafting their Request for Proposal (RFP). The Commission hopes to award the contract at its November meeting.

**USACE/BOARD PROJECTS**

*The Central Valley Flood Protection Board participates with the United States Army Corps of Engineers (USACE) to ensure that state flood management needs and mandates are met, and provides required non-federal cost-share funds and technical assistance to repair or upgrade the Central Valley's flood management systems. These congressionally authorized State Plan of Flood Control (SPFC) projects are being constructed to improve flood protection for urban or urbanizing areas to a 200-year level of flood protection; reduce flood risk in rural areas; reduce the risk to life, infrastructure, and property; and reduce the state's liability. The following are USACE/Board projects:*

**American River Common Features (ARCF) Project**

*The ARCF project improves levee systems along the American and Sacramento Rivers.*

- Construction of the Natomas East Main Drainage Canal (NEMDC) North, L5A, and Jacob Lane (Reach C) sites are complete.
- Construction of Site R7, L7, R3A, L10, and Mayhew Extension are ongoing.
- A recirculated environmental assessment/initial study with subsequent mitigated negative declaration (MND) was released for public comment on August 8, 2014, for sites L7 and R7; this included design changes, night work, and traffic control. A public workshop was held on August 26, 2014. Comments were accepted from August 8 through September 8, 2014. CVFPB adopted the MND and approved the design changes at the October 23, 2014 CVFPB meeting.
- Construction at sites R3A, L10, L7, and R7 were temporarily suspended due to air quality violations on October 24, 2014. USACE met with the California Air Quality Control Board and the contractor to resolve the issue and construction resumed on November 4.
- The NEMDC Extension site construction start is scheduled for summer 2015.

**American River Watershed – Natomas Basin Project**
*The Natomas Basin Project was approved by President Obama in the Water Resources Reform and Development Act in June 2014. It includes significant improvements to the Natomas Basin levees resulting in a 200-year level of flood protection for the basin.*

- In September, USACE awarded a geotechnical services task order to URS to evaluate the structural integrity of the west levee of NEMDC, Reach H.
- USACE and DWR continue discussing credit for non-federal work performed for the Natomas Levee Improvement Program; a draft credit report submittal for this work to USACE is planned by the end of 2014.
- USACE, DWR, and the Sacramento Area Flood Control Agency (SAFCA) is planning to present a design agreement amendment to CVFPB in November to increase federal and non-federal funds, and to designate DWR and SAFCA as non-federal sponsors for the design agreement.

**Folsom Dam Modifications Joint Federal Project (JFP)**
*The purpose of the JFP is to construct an auxiliary spillway at Folsom Dam that will work in conjunction with the existing spillways to help the Sacramento region achieve a 200-year level of flood protection. The estimated construction completion date is October 2017.*

Construction and Design – The project status as of October 1, 2014, is as follows:

| Phases | Planning & Design | Construction |
|---|---|---|
| Preconstruction Engineering and Design | 100% | N/A |
| Phase III – Control Structure | 100% | 83% |
| Phase IV – Approach Channel, Chute, and Stilling Basin | 100% | 33% |
| Phase V – Site Restoration | 33.6% | 0% |
| Project Overall | 91.5% | 55% |

**Folsom Dam Raise Project**
*This project will improve flood protection by increasing the reservoir storage capacity with a 3.5-foot dam raise and strengthening the existing tainter gates for operational safety.*

- As requested by USACE, the state and SAFCA have provided Self-Certifications of Financial Capability to serve as the non-federal sponsors for project construction.
- Negotiations for a three-party (USACE, SAFCA, and CVFPB) Project Partnership Agreement (PPA) are nearly complete. After the PPA is approved by USACE leadership, the PPA will be presented to CVFPB for approval and signature in 2015.

**Lake Kaweah Enlargement Project (Terminus Dam, Kaweah River Project)**
*The Lake Kaweah Enlargement Project construction was completed in 2006. Remaining administrative, financial, and turnover work completion is scheduled for December 2015.*

Project Team members from USACE, DWR, and Kaweah Delta Water Conservation District continue to hold bi-weekly team meetings to communicate and to encourage progress on long-outstanding activities remaining to close out the project, including operation and maintenance manual finalization, project cooperation agreement amendment approval, monitoring activities, and right-of-way activities.

**Marysville Ring Levee Improvement Project**
No new information this month.

**South Sacramento County Streams Project**
*This project will increase flood protection for a portion of south Sacramento County's urbanized area, and an area to the southeast of the City of Sacramento.*

DWR, SAFCA, and the City of Sacramento are in the final phase of approving documents to provide the necessary rights for the Florin Creek Project. This enables USACE to begin the solicitation for construction contract in November 2014. The planned construction start date is May 2015.

**USACE/BOARD STUDIES**
*The Board participates with USACE to ensure that state flood management needs and mandates are met, and provides required non-federal cost share funds and technical assistance for studies to repair or upgrade the Central Valley's flood management systems. These studies identify recommended project alternatives that lead to congressionally authorized projects. These multi-benefit projects will improve flood protection for urban or urbanizing areas; reduce flood risk in rural areas that are protected by the facilities of the State Plan of Flood Control (SPFC); reduce the risk to life, infrastructure, and property; and reduce the state's liability. The following are USACE/BOARD studies:*

**American River Common Features (ARCF) General Re-evaluation Report (GRR)**
No new information this month.

**Central Valley Integrated Flood Management Study**
No new information this month.

**Cache Creek Settling Basin Project GRR**
No new information this month.

**Lower San Joaquin River Feasibility Study**
No new information this month.

**Merced County Streams Project – Bear Creek GRR**
No new information this month.

**Sutter Basin Feasibility Study**
No new information this month.

**West Sacramento Project GRR**
No new information this month.

**Woodland/Lower Cache Creek Feasibility Study**
No new information this month.

**Yuba River Basin Project GRR**
No new information this month.

**URBAN FLOOD RISK REDUCTION PROGRAM (UFRR)**
*This program was created to address state investment priorities as a result of the adoption of the Central Valley Flood Protection Plan (CVFPP). UFRR supports implementation of regional flood damage reduction projects for urban and urbanizing areas protected by SPFC facilities in the Sacramento-San Joaquin Valley to achieve at least a 200-year level of flood protection. UFRR provides cost-share funding to local agencies to repair and improve levees and facilities of the SPFC. UFRR is based on competitively awarded grants and directed funding. Projects must be multi-benefit flood projects consistent with the CVFPP and State Systemwide Investment Approach. The program evolved from the Early Implementation Program (EIP) developed in 2007 in response to the passage of Propositions 1E and 84. The following projects were funded through EIP:*

**Knights Landing Levee Repair Project**
No new information this month.

**Reclamation District 17 (RD-17) – 100-Year Seepage Area Project**
*RD-17 levees have unacceptably low safety factors due to under-seepage and through-seepage. These issues are being remedied by constructing seepage berms, slurry walls, and a setback levee to improve the flood protection level for south Stockton, Lathrop, and Manteca.*

RD-17 plans to circulate phase III 65% design documents for review in November 2014.

**Three Rivers Levee Improvement Authority (TRLIA) – Feather River Levee Improvement Project**
No new information this month.

**TRLIA – Upper Yuba River Levee Improvement Project**
*This project provides a 200-year level of flood protection for Highways 65 and 70, and improves flood protection for Olivehurst, Linda, Plumas Lake, Marysville, and Yuba City. This project includes a portion of the Yuba River's south levee and small section of Western Pacific Interceptor Canal.*

On September 24, 2014, the Department of General Services approved Funding Agreement Amendment No. 3 extending the completion date to June 30, 2016. This amendment includes work on the Western Pacific Interceptor Canal, and it reduces the State's cost-share $7M.

**SAFCA – Natomas Cross Canal Project**
*This Natomas Levee Improvement Program project constructs cutoff walls to remediate through and under-seepage, and raises the levee to improve the Natomas Basin's flood protection to a 200-year level of flood protection.*

This project is in close-out phase. SAFCA continues submittal of project closeout documentation for construction and real estate; these documents are being reviewed by DWR staff as they are received.

**SAFCA-Sacramento River East Levee Project**
*This Natomas Levee Improvement Program project constructs cutoff walls to remediate through and under-seepage, and raises the levee to improve the Natomas Basin's flood protection to a 200-year level of flood protection. SAFCA plans to complete components to program 12A (RM 67) along the Sacramento River and is relying on USACE to complete the remaining work.*

- Construction continues on the Pritchard Lake Pumping Plant. Construction is behind schedule but the project manager, from CH2MHill, is taking measures to get construction back on schedule. Work will continue under a temporary CVFPB permit extension until weather conditions are no longer conducive.
- Project closeout on the construction completed portions of the project continues.

**San Joaquin Area Flood Control Agency (SJAFCA) – Smith Canal Closure Structure**
*The Smith Canal Closure Project will construct a miter gate at the mouth of the Smith Canal on the San Joaquin River/Stockton Deep Water Ship Channel to provide a 100-year level of flood protection to a portion of the City of Stockton. The state share of this project's design cost is $2,412,500.*

Design efforts continue. Resolution of water quality issues remains to be the main design components. The gate choice has shifted from an Obermeyer gate to a miter gate.

**West Sacramento Area Flood Control Agency (WSAFCA) – North and Southport Improvement Project**
*North Area Plan entails the California Highway Patrol Academy, Rivers, and I Street Bridge sites. Construction of remedial measures to correct through and under-seepage, embankment instability, and erosion is complete for these sites; these improvements provide a 200-year level of flood protection for approximately 47,000 residents. The Southport area project is being designed and will include a large setback levee along the Sacramento River.*

WSAFCA is revising their EIP funding application to include construction of the Southport Setback Levee in addition to all relocations and real estate necessary for the Southport project.

**Sutter Butte Flood Control Agency (SBFCA) – Feather River West Levee Project (FRWLP)**
*FRWLP repairs approximately 35 miles of levees along the west bank of the Feather River from the Thermalito Afterbay to the north end of Star Bend. This project includes construction of slurry walls and seepage berms to protect Gridley, Biggs, Live Oak, Yuba City, and parts of Sutter and Butte counties. FRWLP's highest priority segment is identified as Project Area C. DWR chose Project Area C for the first construction contract.*

SBFCA received an approval from CVFPB to extend the construction period until December 23, 2014, contingent upon favorable site and weather conditions.

**SMALL COMMUNITIES FLOOD RISK REDUCTION (SCFRR) PROGRAM**
No new information this month.

**FLOOD CORRIDOR PROGRAM (FCP)**
*The FCP is the only statewide grant program in which non-structural flood risk reduction is the primary goal, with habitat and agricultural conservation incorporated as prominent program components. The goal of FCP is to reduce flood risk by enabling waterways to function more naturally, while enhancing native wildlife habitat, and preserving agricultural uses. To do this the program provides grant funding to local agencies statewide for FRRP that improve floodwater conveyance and transitory floodwater storage, using primarily non-structural methods while preserving or enhancing agricultural production and/or wildlife habitat. By incorporating non-structural solutions, the program achieves flood benefits at a fraction of the cost of traditional structural solutions.*

**Ecosystem Restoration and Floodplain Attenuation, San Joaquin River Project**
River Partners presented an informational briefing at the CVFPB meeting on October 24, 2014. The purpose was to inform the Board of their role in the project, including possible easement relinquishment, California Environmental Quality Act coordination, and future permitting.

**Lower Ash Creek Wildlife Restoration Area Project**
Construction of Lower Ash Creek channel connection to a 3,000-foot wide floodplain was completed this month. The project provides substantial wildlife habitat benefits in addition to lowering flood risk by reducing the channel flows.

**FLOOD CONTROL SUBVENTIONS PROGRAM (FCSP)**
No new information this month.

**LOCAL LEVEE ASSISTANCE PROGRAM (LLAP)**
*The LLAP was developed to help fund projects implemented by flood management agencies, mainly outside of the Sacramento-San Joaquin Delta. The goals of LLAP include minimizing flood risk; identifying deficiencies in flood control structures; and minimizing high flood insurance costs related to FEMA unaccredited levees.*

**Alameda County Sulphur Creek Project**
The project was closed out and final payment was sent to the grantee, the Alameda County Flood Control and Water Conservation District.

**YUBA-FEATHER FLOOD PROTECTION PROGRAM**
*The Yuba-Feather Flood Protection Program provides Proposition 13 financial assistance to local entities that can demonstrate nonstructural flood management projects that show a peak flood flow reduction, flood stage, and flood risk in the Yuba and Feather River and Colusa Basin (including wildlife habitat enhancement and/or agricultural land preservation).*

**Oroville Wildlife Area Flood Stage Reduction Project**
The funding agreement for this project was executed on October 28, 2014.

**LEVEE EVALUATIONS (NON-URBAN AND URBAN)**
*Levee Evaluations consists of urban levee evaluations (ULE) and non-urban levee evaluations (NULE). The program was developed to evaluate current levels of performance for SPFC levees and associated non-SPFC levees whose failure would flood areas protected by the SPFC. Information and data obtained under this effort will assist flood managers at federal, state, and local levels in understanding overall flood risks and support them to better manage those risks in areas of the Central Valley protected by the SPFC.*

*Urban levees provide protection to developed areas with a population of at least 10,000 people. ULE is evaluating 470 miles of levees in 27 study areas to determine if they meet defined urban*

*geotechnical criteria and when not, identifying remedial measures and providing cost estimates to meet the urban criteria.*

*Non-urban levees provide protection to agricultural areas and developed areas with a population of at least 1,000 to less than 10,000 people. NULE is evaluating approximately 1,500 miles of levees in 22 study areas to determine if they meet defined non-urban geotechnical criteria at current design water surface elevations (USACE 1955/57 water surface profiles) When the criteria is not identified, remedial measures and cost estimates will be provided.*

The overall status of the ULE program intermediate and final deliverables for the 27 urban levee study areas is shown in the table below:

| No. | Urban Study Area | Historic Data Collection (TRM) | Initial Field Investigations (P1GDR) | Preliminary Analyses | Supplemental Field Investigations (SGDR) | Final Analyses & Geotechnical Evaluation Report (GER) |
|---|---|---|---|---|---|---|
| 1 | Chico | Done | Done | Done | Done | Draft Volume 1 and 2 in preparation |
| 2 | Marysville | Done | Done | Done | Done | **Done** |
| 3 | RD 784 | Done | Done | Done | Done | **Done** |
| 4 | Feather River West Levee | Done | Done | Done | Done | Print Check Volume 1 under review by DWR; Draft Volume 2 in preparation |
| 5 | Sutter Bypass Wadsworth | Done | Done | Done | Done | **Volume 1 Done**; Print Check Volume 2 in preparation |
| 6 | American River | Done | Done | Done | Done | Print Check Volume 1 and 2 in preparation |
| 7 | Sacramento River | Done | Done | Done | Done | **Volume 1 Done;** Print Check Volume 2 in preparation |
| 8 | Davis | Done | Done | Done | Done | Draft 2 Volume 1 in preparation; Draft Volume 2 in preparation |

| No. | Urban Study Area | Historic Data Collection (TRM) | Initial Field Investigations (P1GDR) | Preliminary Analyses | Supplemental Field Investigations (SGDR) | Final Analyses & Geotechnical Evaluation Report (GER) |
|---|---|---|---|---|---|---|
| 9 | Woodland | Done | Done | Done | Done | Final Volume 1 in preparation; Draft Volume 2 in preparation |
| 10 | NEMDC East | Done | Done | Done | Done | Draft 2 Volume 1 in preparation |
| 11 | NEMDC West | Done | Done | Done | Done | Print check Volume 1 under review by DWR; Draft Volume 2 in preparation |
| 12 | Natomas North | Done | Done | Done | Done | Draft Volume 1 and 2 in preparation |
| 13 | Natomas South | Done | Done | Done | Done | **Volume 1 Done**; Print Check Volume 2 in preparation |
| 14 | West Sacramento | Done | Done | Done | Done | **Done** |
| 15 | Deep Water Ship Channel [DWSC] | Done | N/A | N/A | Done | **Volume 1 Done**; Print Check Volume 2 in preparation |
| 16 | South Sac Streams | Done | N/A | Done | Done | Draft Volume 1 in preparation |
| 17 | RD 404 | Done | Done | Done | Done | **Volume 1 Done**; Print Check Volume 2 in preparation |
| 18 | RD 17 | Done | Done | Done | Done | Draft 2 Volume 1 in preparation |
| 19 | Bear Creek | Done | Done | Done | Done | Print check Volume 1 under review by DWR; Draft Volume 2 in preparation |
| 20 | Calaveras River | Done | Done | Done | Done | Draft 2 Volume 1 in preparation |

| No. | Urban Study Area | Historic Data Collection (TRM) | Initial Field Investigations (P1GDR) | Preliminary Analyses | Supplemental Field Investigations (SGDR) | Final Analyses & Geotechnical Evaluation Report (GER) |
|---|---|---|---|---|---|---|
| 21 | Lincoln Village | Done | N/A | N/A | Final GDR in preparation | Draft Volumes 1 and 2 in preparation |
| 22 | Brookside | Done | N/A | N/A | Final GDR in preparation | Draft Volumes 1 and 2 in preparation |
| 23 | Rough and Ready | Done | N/A | N/A | Draft GDR under review by DWR | Draft Volumes 1 and 2 in preparation |
| 24 | Boggs Tract | Done | N/A | N/A | Final GDR in preparation | Draft 2 Volume 1 under review by ICB; Draft 1 Volume 2 in preparation |
| 25 | Shima Tract | Done | N/A | N/A | Final GDR in preparation | Draft Volume 1 under review by DWR |
| 26 | Smith Canal | Done | N/A | N/A | Final GDR in preparation | Draft Volumes 1 and 2 in preparation |
| 27 | Walthall Slough | Done | N/A | N/A | Final GDR in preparation | Draft Volumes 1 and 2 in preparation |
| 28 | Bear Creek Wing | Done | N/A | N/A | Final GDR in preparation | Draft Volumes 1 and 2 in preparation (SJAFCA areas to be combined into one GER) |
| 29 | Walker Slough | Done | N/A | N/A | Draft GDR under review by DWR | |
| 30 | Pixley Slough | Done | N/A | N/A | Draft GDR under review by DWR | |
| 31 | Mosher Diversion | Done | N/A | N/A | Draft GDR in preparation | |
| 32 | Mosher Slough | Done | N/A | N/A | Draft GDR in preparation | |

| No. | Urban Study Area | Historic Data Collection (TRM) | Initial Field Investigations (P1GDR) | Preliminary Analyses | Supplemental Field Investigations (SGDR) | Final Analyses & Geotechnical Evaluation Report (GER) |
|---|---|---|---|---|---|---|
| 33 | Upper Calaveras | Done | N/A | N/A | Draft GDR in preparation | |

**ULE Summary**

- Overall, ULE is 94 % complete.
- Several Tasks 5, 6, and 7s completed for multiple study areas.
- DWR completed their review of GER Volume 1 Draft 1 for American River (Volume 1 and 2 combined) and RD 17.
- DWR, Independent Consulting Board (ICB), and Stakeholders completed their reviews of GER Volume 2 Draft 2 for Sacramento River, Natomas South, Deep Water Ship Channel [DWSC], and RD 404.
- GER Volume 2 Draft 2 for Sutter Bypass submitted for DWR, ICB, and Stakeholder review.

The overall status of the NULE program intermediate and final deliverables for the 21 non-urban levee study areas is shown in the table below.

| No. | Non-Urban Study Area | Geotechnical Assessment Report (GAR) | Remedial Alternatives and Cost Estimate Report (RACER) | Geotechnical Data Report (GDR) | Geotechnical Overview Report (GOR) |
|---|---|---|---|---|---|
| 1 | Chico/North/ South | Done | Done | Done | **Volume 1 Done**; final volume 2 in preparation |
| 2 | Clarksburg | Done | Done | Done | **Done** |
| 3 | Colusa Drain | Done | Done | Done | **Done** |
| 4 | Colusa North | Done | Done | Done | **Done** |
| 5 | Colusa South | Done | Done | Done | **Volume 1 Done**; draft volume 2 under review by the ICB |
| 6 | Gerber | Done | Done | Done | **Done** |
| 7 | Knights Landing | Done | Done | Done | **Done** |
| 8 | Sutter | Done | Done | Done | **Done** |
| 9 | Wheatland | Done | Done | Done | **Done** |
| 10 | Woodland South | Done | Done | Done | **Done** |
| 11 | Ash Slough | Done | Done | Done | **Volume 1 Done** |

| No. | Non-Urban Study Area | Geotechnical Assessment Report (GAR) | Remedial Alternatives and Cost Estimate Report (RACER) | Geotechnical Data Report (GDR) | Geotechnical Overview Report (GOR) |
|---|---|---|---|---|---|
| 12 | Berenda Slough | Done | Done | Done | Draft Volume 1 in preparation for ICB review |
| 13 | Black Rascal/ Fairfield | Done | Done | Done | **Volume 1 Done** |
| 14 | Diverting Canal/ Mormon | Done | Done | Done | **Volume 1 Done** |
| 15 | ESB/ Chowchilla | Done | Done | Done | Draft Volume 1 in preparation |
| 16 | Fresno River | Done | Done | Done | **Volume 1 Done** |
| 17 | Gravelly Ford | Done | Done | Done | **Volume 1 Done;** responses to DWR comments on Draft Volume 2 in preparation |
| 18 | RD 2064 | Done | Done | Done | Responses to DWR comments on Draft Volume 1 in preparation |
| 19 | RD 2075 | Done | Done | Done | Draft Volume 1 in preparation |
| 20 | RD 2095 | Done | Done | Done | Responses to DWR comments on Draft Volume 1 under review by DWR |
| 21 | SJRRP/CCID | Done | Done | Done | Draft Volume 1 under review by ICB |
| 22 | SJAFCA upland levees | Print check of Final GAR under review by DWR | NA | NA | NA |

**NULE Summary**

- Overall, Non-Urban Levee Evaluations are 95 % complete.
- GOR Volume 1 was finalized for Fresno River.
- GOR Volume 2 was finalized for Colusa North.

**SAN JOAQUIN RIVER RESTORATION PROJECT (SJRRP)**

*Division of Flood Management has created the SJRRP Project to assist the Bureau of Reclamation (Reclamation) in assessing flood risks associated with the San Joaquin River Restoration Program. The San Joaquin River Restoration Program is a comprehensive long-term effort to restore flows to the upper San Joaquin River and restore a self-sustaining Chinook salmon fishery while avoiding adverse water supply impacts. Reclamation, lead agency for the SJRRP, has initiated Interim releases from Friant Dam and is evaluating alternatives for releases and routing of restoration flows up to 4,500 cubic feet per second to support reintroduction of fish into the San Joaquin River as required by the Stipulation of Settlement (Settlement). DWR has offered technical and funding assistance to the program in recognition of the Department's role in habitat restoration and flood management.*

*The purpose of the SJRRP is to assist the San Joaquin River Restoration Program in assessing the flood risk impacts of Restoration flows under this program due to seepage and stability and identifying potential remedies to address increased flood risks under Restoration flows in coordination with the CVFPP.*

- Draft Phase 1/2 Geotechnical Data Report is under review by DWR.
- Geotechnical analysis of the Eastside Bypass continues.
- Developed the table of contents for the SJRRP geotechnical evaluation report.

**FLOOD SYSTEM OPERATIONS AND MAINTENANCE (FSO&M)**

***FSO&M focuses on maintaining individual elements such as levees, hydraulic control structures, pumping plants, bridges, and channels to continue to achieve risk reduction benefits the system was designed to provide communities and the state. Local agencies and the state share responsibility for this work. LMAs operate and maintain a majority of the system through management of their individual levee systems, while the state is required to operate and maintain those portions of the SPFC identified in the California Water Code (CWC). Local agencies and the state work closely with the Board, USACE, and environmental resource agencies to ensure that operation and maintenance activities meet statutory requirements that promote public safety, environmental stewardship, and economic stability.***

**CHANNEL EVALUATION AND REHABILITATION**

*As part of the FSO&M mega program, the Channel Evaluation and Rehabilitation Program is responsible for operating, maintaining, and repairing SPFC channels identified in assurances to the federal government and defined in CWC Section 8361. DWR operates and maintains approximately 1,200 miles of SPFC channels of the Sacramento River Flood Control Project to ensure proper flood protection function and conveyance capacity.*

*Proposition 1E funding is being used for extraordinary operation and maintenance activities, including SPFC channel evaluations, mercury characterization and control implementation, and channel conveyance capacity deficiency correction. Routine operations and maintenance requirements will be separately funded by General Fund augmentation.*

*Specific Channel Evaluation and Rehabilitation Program activities include channel inspections and evaluations, as well as developing and utilizing hydraulic models to identify critical areas within channels requiring the removal of vegetation or sediment to maintain channel capacity and flood protection function.*

*Channel responsibilities also include those under the Central Valley Regional Water Quality Control Board's adopted Total Maximum Daily Loads (TMDLs) and Basin Plan Amendment, wherein the DWR is assigned responsibility for monitoring, evaluating and reducing total methyl mercury loads passing through the Flood Control System and into the Yolo Bypass and the Delta. DWR is mandated to conduct characterization and control studies for activities including flood control improvements, modifications, and wetland mitigation work with the potential to impact methyl mercury concentrations in the Yolo Bypass and Delta.*

**Bear River Hydraulic Model**
HEC-RAS model development is on-going. Staff developed a preliminary estimate of benefits of vegetation management for the Western Pacific Interceptor Canal (tributary to Bear River) to support on-going permitting efforts. The proposed vegetation management should reduce water surface elevation and increase freeboard.

**Cherokee Canal Hydraulic Model**
Staff conducted a field review to confirm assumptions relative to channel roughness used in an FMO model developed for the entire channel length. Staff finalized FMO's HEC-RAS model.

**Chico Area Streams Hydraulic Model**
No new information this month.

**East Side Canal (aka Coon Creek Interceptor, Sacramento County)**
No new information this month.

**Knights Landing Ridge Cut/Colusa Drain Hydraulic Model**
Staff initiated model development. Staff reviewed the USACE Common Features Model R5, CVFED TO25 Sac System Model, and the CDEC Library of Models for existing/completed models of the two channels. Staff used CVFED models as a starting point to develop the model.

**Llano Seco Riparian Sanctuary Unit Restoration and Pumping Plant/Fish Screen Facility Protection Project**
No new information this month.

**Middle Creek Hydraulic Model (Lake County)**
Northern Region Office conducted a bathymetric survey in October to support continued model development.

**Natomas East Main Drainage Canal (NEMDC)**
FMO staff met with Sacramento Maintenance Yard staff at NEMDC to identify areas for planned vegetation management that will occur in the NEMDC channel this fall between the D-15 pumping plant and Arcade Creek.

**Putah Creek Hydraulic Model**
No new information this month.

**Sutter Pumping Plants Fish Screen Investigation**
No new information this month.

**Additional activities during the month of October** included:
- Mowing is complete at Freemont Weir (550 acres), complete in Sycamore Creek (10 acres), complete in Cherokee Canal (130 acres), ongoing in Sutter Bypass (100 acres), and ongoing in O'Conner Lakes (100 acres).
- Mulching is ongoing in the Sutter Bypass (200 acres).
- Discing is ongoing in the Butte Slough Wildlife Area (100 acres).
- Tree removal is complete in the Yolo Bypass (15 acres), and 90% complete in the Sacramento Bypass (10 acres).
- Debris removal is ongoing in Sutter Bypass seepage ditches, Little Chico Creek, Little Chico Diversion, and at Sutter Bypass low water bridges.

**FLOOD CONTROL FACILITIES EVALUATION AND REHABILITATION (FCFER)**
*The FCFER program includes evaluating, operating, maintaining, and repairing SPFC facilities defined in CWC Section 8361 and state assurance to the federal government. DWR is responsible for operating and maintaining Sacramento River Flood Control Project SPFC facilities including 11 weirs, 5 gate structures, 4 pumping plants, and specific bridges associated with the east levee of the Sutter Bypass, ensuring proper flood protection function and facility condition. Rehabilitation and improvement work includes proactive repair of known and documented problems with prioritization based on flood risks and safety.*

**Butte Slough Outfall Gates (BSOG)**
Staff is working on access and right of entry agreements as well as requisite permit applications and associated environmental documents for the proposed work.

**LEVEE OPERATIONS AND MAINTENANCE COMPONENTS**
The Levee Operation and Maintenance Program includes the following components:
- *Inspection and Evaluation*
- *Routine Operations and Maintenance*
- *Non-Routine Projects*

*The Levee Maintenance Program, like the Channel Maintenance Program, is generally organized around the continual and ongoing maintenance of specific levee structures in the Sacramento River Flood Control Project. Both the Sacramento and Sutter Yards have assigned responsibilities for specific levee reaches to provide performance-based levee maintenance to help ensure the levee will perform satisfactorily during any high water flood event.*

*When a levee evaluation and inspection report indicates that a significant repair or rehabilitation is required, the design and construction will be turned over to the levee repair program and constructed as a capital outlay project under the flood risk reduction mega-program. Otherwise the three component activities are considered as "operations and maintenance".*

**Activities during the month of October** included:

- Vegetation spot spraying at Putah Creek is 95% complete (15 acres) and 50% complete at Cache Creek (25 acres).
- Mowing is ongoing at MA7 (2 miles).
- Slope dragging is complete at Cache Creek (60 acres), complete at MA12 (11.31 miles), and complete at Tisdale Bypass (4 miles).
- Levee burning is 75% complete at the north levee of Cache Creek (80 acres), 95% complete at the south levee of Cache Creek (95 acres), 80% complete at the Sacramento Bypass (30 acres), and 20% complete at Putah Creek (6 acres).
- Crown road grading is 30% complete at Willow Slough Bypass (5 acres).
- Tree trimming is 95% complete at Cache Creek (25 acres) and 95% complete at MA9 (20 acres).
- Slope repair on the south levee of the Sacramento Bypass is complete (10 acres).
- Land side toe road maintenance is ongoing at the Sutter Bypass east levee (15 miles).

**FLOOD SYSTEM EVALUATION AND REHABILITATION (FSER)**

*The FSER program includes evaluating, operating, maintaining, and repairing SPFC facilities pursuant to state assurances to the federal government. This FSER program supports implementation of the SSIA laid out in the CVFPP. The program improves DWR's integrated flood protection mission. Specific FSER activities include: program management; policy development; support for Board permitting and encroachment enforcement; corridor management strategy development; Title 23 regulation updates; easement identification and reconciliation; management of state-owned properties and easements; and integrated water management activities.*

**Lower Feather River Corridor Management Plan**

No new information this month.

**LEVEE REPAIRS**

The Levee Repairs program in DFM/FMO makes repairs to the State Plan of Flood Control facilities (primarily levees) through several projects. Among these are the Flood System Repair

Project (FSRP), the Sacramento River Bank Protection Project (SRBPP), and the Federal Public Law 84-99 Emergency Repair Project (PL 84-99). FSRP is a bond funded program that repairs rural SPFC facilities under a state-local cost share. SRBPP is a USACE-led program that repairs urban SPFC critical erosion sites along the Sacramento River and tributaries. PL 84-99 repairs minor damages incurred from a significant flood event. DWR is cost-sharing partners and manages the state's responsibilities for the SRBPP and PL 84-99 projects.

**Flood System Repair Project (FSRP)**
No new information this month.

**Sacramento River Bank Protection Project (SRBPP)**
No new information this month.