

**REPORT OF ACTIVITIES  
OF THE  
DEPARTMENT OF WATER RESOURCES**

**By**

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### **FLOOD EMERGENCY RESPONSE (FER)**

***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.*

The Flood Project Inspection Section has begun its spring inspection cycle for levees throughout the Central Valley.

### **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 January 31, statewide hydrologic conditions were as follows: precipitation, 115 percent of average to date; snow water content, 115 percent of average to date (75 percent of the April 1 average); runoff, 95 percent of average to date; and reservoir storage, 65 percent of average for the date. Sacramento River Region unimpaired runoff, for Water Year 2016, observed through January 31, 2016 was about 4.9 million acre-feet (MAF), which is about 87 percent of average. In comparison to Water Year 2015, the observed Sacramento River Region unimpaired runoff through January 31, 2015 was about 4.3 MAF, or about 76 percent of average.

On January 31, the Northern Sierra 8-Station Precipitation Index Water Year total was 32.8 inches, which is about 123 percent of the seasonal average to date and 66 percent of an average water year (50.0 inches). During January, the total precipitation for the 8-Stations was 16.1 inches, or about 179 percent of average for the month. Last year on January 31, the Water Year 2015 seasonal total for the 8-Stations was 23.1 inches, or about 87 percent of average.

On January 31, the San Joaquin 5-Station Precipitation Index Water Year total was 25.7 inches, which is about 125 percent of the seasonal average to date and 63 percent of an average water year (40.8 inches). During January, the total precipitation for the 5-Stations was 10.0 inches or about 133 percent of average for the month. Last year on January 31, the Water Year 2015 seasonal total for the 5-Stations was 9.3 inches, or about 45 percent of average.

Daily Precipitation (in inches) for Selected Stations as of 01/31/2016					
Station	October 1 to Date 2015-2016	% Average	Season to Date 2014-2015	% Average	% Average Oct 1 – Sep 30
Mount Shasta	21.73	97	19.67	88	50
Eureka	30.83	137	19.14	85	76
Redding	22.36	119	16.55	88	65
South Lake Tahoe	13.25	125	3.89	37	65
Sacramento Executive Airport	8.87	89	10.41	105	48
Santa Rosa (Sonoma Co AP)	17.89	86	16.52	79	49
San Francisco	13.55	102	14.45	108	57
Stockton	9.49	127	7.84	105	67
Yosemite	22.99	119	7.81	41	61
Monterey	14.10	169	11.76	141	87
Paso Robles	5.32	83	5.96	93	42
Fresno	9.61	170	3.40	60	84
Bakersfield	3.21	103	3.36	108	50
Death Valley	1.28	136	0.79	84	54
Los Angeles	3.84	54	5.71	80	26
Riverside	3.70	64	2.88	50	30
Palm Springs	2.41	85	1.07	38	42
San Diego	6.06	119	5.30	104	59

Key Reservoir Storage (1,000) AF) as of 01/31/2016								
Reservoir	River	Storage	Average Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	695	1,730	40	2,448	28	---	1,753
Shasta Lake	Sacramento	2,346	3,072	76	4,552	52	-1,188	2,206
Lake Oroville	Feather	1,534	2,317	66	3,538	43	-1,254	2,004
New Bullards Bar Res	Yuba	582	584	100	966	60	-214	384
Folsom Lake	American	529	508	104	977	54	-48	448
New Melones Res	Stanislaus	393	1,423	28	2,400	16	-1,577	2,027
Don Pedro Res	Tuolumne	818	1,391	59	2,030	40	-872	1,212
Lake McClure	Merced	139	489	28	1,025	14	-536	886
Millerton Lake	San Joaquin	208	333	62	520	40	-227	312
Pine Flat Res	Kings	202	470	43	1,000	20	-538	798
Isabella	Kern	36	173	21	568	6	-134	532
San Luis Res	(Offstream)	693	1,607	43	2,041	34	---	1,346



The latest National Weather Service Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for March 2016, issued February 18, 2016, suggests above normal precipitation for almost all of California, except for the northern quarter of the state where equal chances of wet or dry conditions are suggested.

### **RESERVOIR OPERATIONS & RIVER FORECASTING**

*This element supports Flood Emergency Response 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 Emergency Response 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.*

No new information this month.

### **FLOOD EMERGENCY PREPAREDNESS & OPERATIONS**

*This element includes preparing the 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.*

Staff provided a demonstration of the Delta Emergency Response Tool for the Delta Working Group. The tool estimates the cost and time needed to repair Delta levee breaches. Also, the tool forecasts water quality (i.e. salinity) in the Delta to estimate the amount of time that water exports will be disrupted. Staff scoped out needed improvements to the tool including additional calibration and validation.

Staff compiled a comprehensive list of websites, web-applications, map books, databases, reports, and other documents that are useful for flood emergency responders. The list will be shared with the Flood Operations Center staff and Incident Command Teams.

### **Statewide Flood Emergency Response Grants- Round 1**

Staff continued to manage the 14 executed grant contracts with local agencies to improve their flood emergency response capabilities. Of the \$5 million awarded, approximately \$2.5 million has been invoiced by the grantees.

Flood Operations staff provided California Office of Emergency Services and FEMA staff with a Delta Tour. Tour stops included the DWR Emergency Rock Stockpile Facilities, the new Twitchell Island Radio Tower, Jones Tract 2004 failure location and the Delta Cross Channel gates. The 2016 first quarter Delta Working Group meeting was held on March 2 at Yolo County OES. DWR staff provided a presentation on the Delta Emergency Response Tool.

### **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 2012 CVFPP, this program is currently implementing major planning efforts: locally led Regional Flood Management Planning 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).*

### **2017 Central Valley Flood Protection Program**

No new information this month.

### **2016 State Plan of Flood Control Descriptive Document Update**

DWR has developed an initial draft high-level outline for an update to the 2010 SPFC Descriptive Document and is in the process of collecting and reviewing associated reference documentation to draft the update.

### **Basin-wide Feasibility Studies**

The Basin-wide Feasibility Studies, Sacramento Basin, is preparing a draft document for stakeholder review. At the January CVFPP Coordinating Committee, DWR provided an update on its development of the study, including description of a tentatively recommended option. No recommended option will be identified for the Feather River/Sutter Bypass. Next steps are release of a stakeholder review draft Sacramento River BWFS in the spring and incorporation into the CVFPP.

The Basin-wide Feasibility Studies, San Joaquin Basin, identifies a tentatively recommended plan for the San Joaquin River Basin. Next steps are communications and engagement with stakeholders on the tentative recommendations, incorporation into the CVFPP, and preparation of a stakeholder review draft San Joaquin River BWFS in summer 2016.

### **Basin-Wide Feasibility Study Atlases**

No new information this month.

### **Regional Flood Management Planning (RFMP) Phase 2**

No new information this month.

### **Small Communities Flood Risk Reduction Program**

The draft Guidelines for the Small Communities Flood Risk Reduction (SCFRR) Program are in the process of being updated based on comments received in the comment period, which concluded on December 28, 2015. The following milestones are anticipated:

#### **Schedule:**

- **April 15:** Complete review of comments and approval of guidelines.
- **April 30:** 15-day public review of guidelines and response to comments ends. Guidelines become final.
- **May 1-30:** Application period.

### **Public Engagement**

CVFPO staff makes monthly presentations on the progress of development of the 2017 CVFPP at each monthly CVFPB meeting. The presentation can be viewed via archived video available at the CVFPB website [CVFPB.ca.gov](http://CVFPB.ca.gov). Past presentations can be found on the CVFMP website at [www.water.ca.gov/cvfmp/](http://www.water.ca.gov/cvfmp/).

### **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** - No new information this month.
- **Advanced Mitigation Projects** - No new information this month.

### **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 the 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.*

No new information this month.

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

*Statewide Integrated Flood Management Planning (SIFMP) has identified flood risks facing Californians and proposed mitigation measures to manage the risks. 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. It was produced working jointly with the USACE and more than 140 public agencies and presented 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. Information developed for "California's Flood Future" was used to create flood management content and recommended flood related risk reduction management actions presented in the "California Water Plan Update", published in October 2013.*

The SIFMP program is currently working to further define ways to implement the *California's Flood Future* recommendations. A primary focus is on development of a "water management effectiveness framework", which is the foundation of providing for investment for flood and water management. This framework will provide for a long-term, outcome-based approach to flood risk management throughout California within the context of overall water management investment. In addition, the program has wrapped up an expanded information gathering effort, in which approximately 240 flood and water management agencies were interviewed. A draft report titled *Investing in California's Flood Future* is being developed that will describe the state's investment priorities and finance options necessary to support the programs and

projects that help improve flood management and reduce residual flood risk using an outcome-based approach. This report supports *Actions 8 and 10* of the *California Water Action Plan*.

### **FLOOD RISK REDUCTION PROJECTS**

***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 collaborate and work closely with U.S. Army Corps of Engineers (USACE).***

### **DELTA LEVEE SYSTEM INTEGRITY (DLSI)**

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

#### **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:*

#### **Subventions Program FY 2013-2014**

- On October 13, 2013, the Board approved the FY 2013-14 funding plan for \$12 million.
- Staff has reviewed 62 claims for eligible reimbursements. Fifty nine claims for \$5.6 million have been processed for payment. Three claims need final CDFW approval before payment can be made.

#### **Subventions Program FY 2014-15**

- On October 24, 2014, the Board approved the FY 2014-15 funding plan for \$12 million.
- Sixty-eight final claims for work completed between July 1, 2014 and June 30, 2015 have been received by DWR for review, inspection and reimbursement.
  - Levee inspections complete.
  - Final claims are being processed for reimbursement.

#### **Subventions Program FY 2015-16**

- The Department received 71 applications for participation in the FY 2015-16 Delta Levees Subventions Program.
- On October 23, 2015, the CVFPB approved \$12 million from Proposition 1E funds for the FY 2015-16 Subventions Program.
- Work Agreements for the FY 2015-16 Subventions Program are being executed upon receipt from the LLMA.

## **USACE/CVFPB PROJECTS**

*The Central Valley Flood Protection Board (CVFPB) participates with the 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 ongoing USACE/CVFPB projects:*

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

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

- Water Resources Development Act (WRDA) 96/99 Project completion Ribbon Cutting Ceremony is scheduled on April 8, 2016; Congresswoman Matsui is anticipated to attend. USACE public affairs office will send invitations in March 2016.

### **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 minimum of 100-year level of flood protection for the basin. This project in combination with other projects will provide the Natomas Basin with 200-year level flood protection.*

- Reach I – Department of Water Resources comments on the 60 percent design for Contract 1 - the cutoff wall and blanket on the waterside - were submitted to USACE on January 29, 2016. DWR comments on the 60 percent design for Contract 2 - the landside slope flattening, maintenance road construction, landslide utility relocations, and tree removal - were submitted to USACE on February 29, 2016. Construction starts for Contract 1 and 2 is planned for 2017 and 2018 respectively.
- Reach H - Alternatives analysis is complete. Geotechnical Basis of Design Report and the 60% design are due in March 2016. Construction start is planned for the 2018 construction season.
- USACE initiated the contracting process for the Reach D modification - relocating the Vestal Drain and Pumping Plant 4. Sixty percent design is due in June 2016; construction start is planned for the 2018 construction season.
- USACE maintains that Natoma Basin Project is a "new start" and a Project Partnership Agreement (PPA) is required. USACE indicated that the PPA must be signed by August 2016 to qualify for federal Fiscal Year 2017 funding.

### **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 February 1, 2016, is as follows:

Phases	Planning & Design	Construction
Preconstruction Engineering and Design	100%	N/A
Phase III – Control Structure	100%	99%
Phase IV – Approach Channel, Chute, & Stilling Basin	100%	86%
Phase V – Site Restoration	70%	8%
Project Overall	98%	90%

- ✓ Granite is finalizing closeout items on the Control Structure.
- ✓ Kiewit continues work on the Upper Chute and Approach Channel.
- ✓ On January 26, 2016, water was impounded against the bulkhead gates of the Control Structure, marking a milestone that the Control Structure is now a Dam Safety Feature.
- ✓ Marine excavation to complete the Approach Channel is anticipated to start in April 2016.

### **Folsom Dam Raise Project**

*The Folsom Dam Raise Project will provide flood damage reduction by increasing the reservoir storage capacity by 3.5 feet and performing structural modifications to the existing Folsom Dam tainter gates for operational safety.*

- USACE returned the PPA to DWR for review. DWR continued coordinating with USACE to clearly define creditable costs and procedures before presenting to the Board for approval, tentatively scheduled for September 2016.
- USACE plans to begin developing a 65 percent design for raising Dikes 4, 5 & 6 in April 2016; 100 percent design is due in April 2017.

### **Lake Kaweah Enlargement Project (Terminus Dam, Kaweah River Project)**

*The Lake Kaweah Enlargement Project was completed in 2006, and the remaining administrative, financial, and turnover work is planned to be complete by September 2015.*

- No new information this month.

### **Marysville Ring Levee Improvement Project**

*The Marysville Ring Levee Project will provide a 200-year or greater flood protection level to the city of Marysville by constructing cut-off walls, levee strengthening, and reshaping of the existing levee systems surrounding Marysville.*

- A resolution to accept and delegate authority to sign an amendment to the Marysville Ring Levee PPA between USACE, CVFPB, and the Marysville Levee District was approved at the February 26, 2016, Board Meeting. The purpose of the PPA amendment is to credit state and local agencies for work done in the Yuba River Basin and use a portion of the credit towards the remaining Non-Federal Marysville Ring Levee project cost share.

### **South Sacramento County Streams Project**

*The South Sacramento County Streams Project will increase the flood protection level for South Sacramento County's urbanized area and an area to the south and east of the city of Sacramento.*

- USACE plans to send the “Take” letter for acquiring Operations and Maintenance (O&M) easements along the Morrison Creek alignment in March 2016.
- Pump Station 89 gauge and data recording system installation is scheduled for completion by May 2016.

### **USACE/CVFPB Studies**

*CVFPB 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/CVFPB studies:*

### **American River Common Features (ARCF) General Reevaluation Report (GRR)**

*The GRR will provide a 200-year level of flood protection for the Lower American River, downstream of the Folsom Dam, the Sacramento River (downstream of the Natomas Cross Canal), and the Natomas Cross Canal.*

- No new information this month.

### **Central Valley Integrated Flood Management Study (CVIFMS)**

*This Study will identify federal interest in the Sacramento River Basin by identifying opportunities to reduce flood risk and protect floodplain and environmental assets.*

- A Letter of Support for the recommendations included in the CVIFMS Watershed Plan will be presented at the March 2016 Board meeting. The CVIFMS Watershed Plan will be a federal companion document to the 2012 Central Valley Flood Protection Plan (CVFPP) that establishes a partnership with USACE to allow necessary coordination of state flood risk management goals outlined in the CVFPP.

### **Cache Creek Settling Basin Project GRR**

*This settling basin was initially constructed in 1937 and modifications were completed in 1993. As a part of the federal authorization for the most recent improvements completed in 1993, the project authorization specified additional improvements to be considered at year 25, or when the sediment trapping efficiency fell below 30 percent.*

- No new information this month.

### **Lower San Joaquin River Feasibility Study (LSJRFS)**

*The LSJRFS will evaluate feasible flood risk reduction alternatives focused in the Stockton, Lathrop and Manteca areas, identify a project having federal interest that is consistent with the Central Valley Flood Protection Plan and complete a Final Chief’s Report.*



- A resolution to approve and delegate authority to sign a letter of support and self-certification of Financial Capability, from CVFPB to USACE, was approved, with minor modifications to the letter of support, at the February 26, 2016, Board Meeting. The purpose of the letter and self-certification is to indicate support for the recommended plan and is required as part of the submittal packet that goes to USACE Headquarters.

#### **Merced County Streams Project – Bear Creek GRR**

*This project will evaluate options to increase the Merced urban area level of flood protection from a 50-year to 200-year event.*

- No new information this month.

#### **Success Reservoir Project GRR**

*The Success Reservoir is a multi-purpose facility built to provide flood control and irrigation. The Success Reservoir is currently under evaluation for flood risk; USACE and the non-Federal sponsors intend to move forward with improvements which reduce the risk of the Dam and provide the multipurpose flood control and irrigation improvements.*

- No new information this month.

#### **Sutter Basin Feasibility Study**

*This multipurpose study will address levee improvement measures for existing levee systems protecting Yuba City and the surrounding communities in the Butte/Sutter basin, as well as environmental restoration and recreation opportunities.*

- No new information this month.

#### **Sacramento River GRR**

*The GRR will evaluate flood risk reduction alternatives within the Sacramento River Flood Control Project area, identify a project having federal interest that is consistent with the Central Valley Flood Protection Plan and complete a Final Chief's Report.*

- No new information this month.

#### **West Sacramento Project GRR**

*The GRR will evaluate flood risk reduction alternatives within the West Sacramento area, identify a project having federal interest that is consistent with the Central Valley Flood Protection Plan and complete a Final Chief's Report.*

- No new information this month.

#### **Woodland/Lower Cache Creek Feasibility Study**

*This study is a state, USACE, and City of Woodland coordinated effort to investigate the feasible 200-year level flood protection and risk reduction alternatives and opportunities for floodplain restoration, recreational enhancements, and ecosystem restoration for the city of Woodland and surrounding areas. The study will continue efforts, suspended in 2004, after significant local resistance to the USACE-selected flood barrier option alternative halted the study.*

- No new information this month.

### **Yuba River Basin Project GRR**

*The Yuba River Basin Project GRR consists of increasing the Yuba River Basin flood protection level in Marysville, Linda, Olivehurst, and Arboga.*

- 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 are EIP and UFRR projects:*

#### **Knights Landing Levee Repair Project (EIP)**

*This project will repair 3.4 miles of levee along the left (east) bank of the Knights Landing Ridge Cut back to the USACE 1957 Design Profile.*

- No new information this month.

#### **Lathrop Study and Preliminary Design (UFRR)**

*This project has a long-term plan to fully comply with SB5 requirements, which is well beyond the RD-17 seepage project funded under Early Implementation Program (EIP). The state is requiring the area to regain federal interest and meet the Central Valley Flood Protection Plan requirements, which will require looking at floodplain development and a multi-benefit project.*

- No new information this month.

#### **Reclamation District 17 (RD-17) – 100-Year Levee Seepage Area Project (EIP)**

*RD-17 levees have low safety factors due to under-seepage and through-seepage. These issues are being addressed by constructing seepage berms, slurry walls, and a setback levee to increase the flood protection level for South Stockton, Lathrop, and Manteca.*

- No new information this month.

#### **Sacramento Area Flood Control Agency (SAFCA) – Levee Accreditation Project (UFRR)**

*SAFCA proposes levee improvements along 3-4 miles of levees along Arcade Creek and Natomas East Main Drainage Canal in the Sacramento North area and 5-6 miles of levees along the Sacramento River between downtown and the town of Freeport. Improvements are required to meet requirements under the Urban Levee Design Criteria Program (ULDC) and FEMA standards. This project is still under review for state funding from DWR.*

- No new information this month.

**SAFCA – Natomas Cross Canal Project (EIP)**

*This Natomas Levee Improvement Program project will install cutoff walls to prevent seepage, under-seepage, and raise the levee to improve the Natomas Basin's flood protection and create a 200-year minimum flood protection level.*

- No new information this month.

**SAFCA – Sacramento River East Levee Project (EIP)**

*This Natomas Levee Improvement Program project will install cutoff walls to prevent seepage, under-seepage, and raise the levee to improve the Natomas Basin's flood protection and create a 200-year minimum flood protection level. SAFCA plans to complete components to element 12A (RM 67) along the Sacramento River and have the USACE complete the remaining work.*

- No new information this month.

**San Joaquin Area Flood Control Agency (SJAFC) – Smith Canal Closure Structure Project (EIP & UFRR)**

*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.*

- No new information this month.

**Sutter Butte Flood Control Agency (SBFCA) – Feather River West Levee Project (FRWLP) (EIP & UFRR)**

*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.*

- No new information this month.

**Three Rivers Levee Improvement Authority (TRLIA) – 200-year Goldfields Levee Project (UFRR)**

*This project proposes to construct a new levee south of the Goldfields (Yuba River) area to complete 200-year flood protection for the Yuba Basin east of the Feather River.*

- No new information this month.

**TRLIA – Feather River Levee Improvement Project (EIP)**

*This project will result in a 200-year flood protection level for Highway 65 and 70, and will also improve flood protection for Olivehurst, Linda, Plumas Lake, Marysville, and Yuba City. This project includes one of the largest setback levees west of the Mississippi River, and creates 1600 acres for on-site mitigation, agricultural use, and habitat.*

- No new information this month.

### **TRLIA – Upper Yuba River Levee Improvement Project (EIP)**

*This project will result in a 200-year level of flood protection for Highway 65 and 70, and will also improve flood protection for Olivehurst, Linda, Plumas Lake, Marysville, and Yuba City.*

*This project includes a portion of the Yuba River's south levee.*

- On February 25, 2016, TRLIA submitted a Construction Completion Report for work done on the Yuba 1986 Break Site Remediation Project, documenting the completion of the Yuba South Levee Remediation to USACE and CVFPB levee design standards and meeting DWR Urban Levee Design Criteria.

### **West Sacramento Area Flood Control Agency (WSAFCA) – Design (EIP)**

*Design agreement funds all design activities for project elements in the North basin and majority of the project design in Southport.*

- No new information this month.

### **West Sacramento Area Flood Control Agency (WSAFCA) – Construction (EIP & UFRR)**

*Construction for the California Highway Patrol Academy, Rivers, and I-Street Bridge projects in the north basin is complete. These projects corrected through-seepage and foundation under-seepage that had excessive hydraulic gradients, embankment instability, and erosion problems. The Southport Improvement Project will construct flood risk reduction measures along approximately 5.6 miles of the Sacramento River right (west) bank levee. The project consists of approximately 1.6 miles of strengthen-in-place measures and 4 miles of setback levee. For setback levee areas, the work will include the breaching and degrading of the existing levee and allow for natural restoration of the Sacramento River floodplain.*

- No new information this month.

### **Woodland Study and Preliminary Design (UFRR)**

*This project's long-term objective is to provide flood protection to the City of Woodland while improving flood system elements in Yolo County. The state is requiring the city to continue to work with USACE to determine federal interest in the project and to meet Central Valley Flood Protection Plan requirements. The city is working to develop a multi-benefit project which will consider deep floodplain development, existing maintenance issues, and residual risk measures.*

- The project scope of work and financial plan was submitted to DWR in February 2016, and is currently under review.

### **FLOOD CORRIDOR PROGRAM (FCP)**

*The FCP is a 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 the 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.*

- No new information this month.

### **LOCAL LEVEE ASSISTANCE PROGRAM (LLAP)**

*The LLAP was created to help fund projects implemented by flood management agencies, mainly outside of the Sacramento-San Joaquin Delta. The goals of the LLAP include minimizing flood risk; identifying deficiencies in flood control structures and levees; by eliminating high flood insurance costs related to FEMA unaccredited levees. LLAP projects must fulfill at least one of the two goals of inspection and evaluation of the integrity and capability of existing flood control project facilities, or improvement, construction, modification, relocation of flood control levees, weirs, or bypasses, including repair of critical bank and levee erosion.*

- No new information this month.

### **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 reduction, and flood risk reduction in the Yuba, Feather River and Colusa Basin (including wildlife habitat enhancement and/or agricultural land preservation).*

- No new information this month.

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

*The Division of Flood Management has created the SJRRP to assist the United States Bureau of Reclamation (USBR) 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. USBR, 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 selected fish species 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 DWR'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, as well as identifying potential remedies to address increased flood risks under Restoration flows in coordination with the CVFPP.*

- No new information this month.

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

*FSO&M focuses on maintaining system features such as levees, hydraulic control structures, pumping plants, bridges, and channels to continue to achieve risk reduction benefits the system was designed to provide riverside communities, rural areas 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 State Plan of Flood Control (SPFC) identified in the California Water Code (CWC). Local agencies and the state work closely with the CVFPB, the USACE, and environmental resource agencies to ensure that operations 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 operations and maintenance activities, including SPFC channel evaluations, mercury characterization and control implementation, and channel conveyance capacity deficiency correction. Routine operations and maintenance requirements are **funded by the General Fund**.*

*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 DWR is assigned responsibility for monitoring, evaluating and reducing total mercury and 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.*

*The Channel Evaluation and Rehabilitation Program reports progress within the following components:*

- *Inspection and Evaluation*
- *Routine Operations and Maintenance*
- *Non-Routine Projects*

## **INSPECTION AND EVALUATION:**

### **Bear River Hydraulic Model**

No new information this month.

### **Cache Creek and Cache Creek Settling Basin Hydraulic Model**

Staff completed development of 2-D flow areas for the Settling Basin and incorporated it into existing HEC-RAS model previously developed by FMO. Staff is comparing results to previous 1-D model results.

### **Feather River Hydraulic Model**

Staff obtained a copy of latest CVFED Hydraulic model (TO-34) for the Feather River (including Honcutt Creek). Staff is refining land use and corresponding channel roughness assumptions in the existing model.

### **Linda and Arcade Creek Hydraulic Model**

No new information this month.

### **Llano Seco Riparian Sanctuary**

Staff is continuing to provide support to Central Valley Flood Planning Office for development of the Butte Basin 2-D Model.

### **Mercury Characterization Studies**

No new information this month.

### **Sacramento River (Colusa Weir)**

Staff extracted a river segment from the latest CVFED 1-D HEC-RAS model (TO-34) that includes the Colusa Weir (Sacramento River between Highway 162 and Butte Slough Outfall Gate which includes Moulton and Colusa weirs, approximate river miles 138 to 167) and converted upstream and downstream channel geometry in the vicinity of the Colusa Weir to a 2-D mesh. Model will be used to evaluate a proposed channel management project on the "island" that has formed in front of the Colusa Weir and appears to be reducing the flow over the weir.

### **Yuba River Hydraulic Model**

The HEC-RAS model and model report are finalized.

## **ROUTINE OPERATIONS AND MAINTENANCE:**

*The Maintenance Yards' routine channel maintenance is limited to vegetation management through such methods as spraying, mowing, and trimming. These activities are planned at the end of flood season and are completed before the next flood season. Although DWR manages large areas in channels, only a small percentage is actively maintained by DWR. Reporting on planned activities in actively maintained areas started on November 1, 2014, and ended on October 31, 2015. Additional work that is completed as needed includes removing debris,*

*removing trees, removing sediment, and removing beaver dens. These activities are reported as they are completed.*

The following activities were completed in the month of February:

- In Butte Creek, 20 cubic yards of debris were removed.
- In Cherokee Canal, 40 cubic yards of debris were removed.
- In Colusa Bypass, 80 cubic yards of debris were removed.
- In Sutter Bypass east and west borrow pits, 80 cubic yards of debris were removed.
- In Elder Creek, 10 acres of vegetation were cleared by hand.
- In Lake of the Woods, 300 acres were mowed.
- In Little Chico Creek, 50 cubic yards of debris were removed.

#### **NON-ROUTINE ACTIVITIES:**

##### **FLOOD CONTROL FACILITIES EVALUATION AND REHABILITATION (FCFER)**

*The FCFER program includes evaluating, operating, maintaining, and repairing Sacramento River Flood Control Project facilities defined in CWC Section 8361 and state assurance to the federal government. DWR is responsible for operating and maintaining 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 functionality and facility condition. Rehabilitation and improvement work includes proactive repair of known and documented problems with prioritization based on flood risks and safety.*

*The Flood Control Facilities Evaluation and Rehabilitation Program reports progress within the following components:*

- *Inspection and Evaluation*
- *Routine Operations and Maintenance*
- *Non-Routine Projects*

#### **INSPECTION AND EVALUATION:**

*Two times a year, once immediately after flood season and once prior to flood season, the Flood Maintenance Office (FMO) conducts inspections of structures, bridges, and pipes that penetrate the levee. Deficiencies are identified with corrective actions. Minor deficiencies can be remedied through maintenance practices while larger issues will require a project level effort.*

- No new information available for this month.

#### **ROUTINE OPERATIONS AND MAINTENANCE:**

*The Maintenance Yards' routine maintenance for flood facility structures varies based on the type of structure. Pumping plants require periodic mechanical and electrical maintenance while weir*



*maintenance primarily consists of concrete repairs. Additional work that is completed as needed includes removing debris and sediment, and emergency repairs. These activities are reported as they are completed.*

The following activities were completed in the month of February:

- At the Middle Creek Pumping Plant, crews checked the pumping operations regularly due to recent repair.

#### **NON-ROUTINE PROJECTS:**

##### **Bridge CC-2 Repair (Marcuse Road Bridge)**

FMO is evaluating alternatives for repairing Bridge CC-2 in Sutter County. The bridge is part of the drainage system of Project No. 6 east of the Sutter Bypass. As part of the Sutter Maintenance Bridge Inspection Program, Bridge CC-2 was identified as needing immediate repair. DWR has operations and maintenance responsibility for the bridge and the collecting canal it crosses as identified in California Water Code, Section 8361(c). The bridge provides access for DWR to conduct required maintenance activities and for Westervelt Ecological Services to manage the Sutter Basin Conservation Bank for Giant Garter Snake mitigation.

##### **Bryte Yard Groundwater Investigation**

The fourth groundwater sampling collection event to support a request to close the site under the low-risk underground storage tank closure policy has been completed. Upon receipt of the analytical data, a report requesting consideration for closure will be prepared. The report is scheduled for submittal to the Central Valley Water Quality Control Board by May 15, 2016.

##### **Butte Slough Outfall Gates (BSOG)**

Environmental staff is working with state and federal regulatory agencies to try and obtain long term operations and maintenance coverage for the proposed rehabilitation work. DWR Real Estate continues to work on access and right of entry agreements. Additional electrical updates are being incorporated into the design plans.

##### **Completion Contract**

This is a project to complete some items that were not included in the contracts for recent projects. The completion contract covers the Weir 2 project, Willow Slough project, Pumping Plant project, and Knights Landing Outfall Gates project. The contract was awarded to Valentine Construction with the notice to begin work on December 24. Construction is expected to commence in the summer of 2016.

## **LEEVE OPERATIONS AND MAINTENANCE COMPONENTS**

*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 operating and 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”.*

*The Levee Operation and Maintenance Program reports progress within the following components:*

- *Routine Operations and Maintenance*
- *Non-Routine Projects*

### **ROUTINE OPERATIONS AND MAINTENANCE:**

*The Maintenance Yards’ routine levee maintenance includes vegetation management through spraying, mowing, and trimming, maintaining levee geometry through dragging levee crown roads, dragging levee slopes, repairing minor erosion, and maintaining waterside and landside toe roads where they exist, protecting levees from rodent damage and repairing damage that has occurred through FMO’s Rodent Abatement/Damage Repair and Rehabilitation Program, and removing or remedying encroachments. Reporting on routine maintenance activities started on November 1, 2014, and ends on October 31, 2015. Additional activities that are completed as needed include repairing or replacing gates, barricades, and mile markers; placing gravel on crown roads; and repairing or replacing pipes that penetrate the levee. These activities are reported as they are completed.*

The following activities were completed in the month of February:

- At Cache Creek (21.63 miles), the following activities were completed:
  - Pre-emergent was sprayed along 2 miles,
  - Vegetation was burned along 2 miles,
  - Trees were trimmed along 2 miles, and
  - Spot spraying of vegetation occurred along 11 miles.
- At Maintenance Area (MA) 4 (3.4 miles), the following activities were completed:
  - Pre-emergent was sprayed along 2.25 miles,
  - Spot spraying vegetation occurred along 2.5 miles,
  - Mile markers were repaired or replaced along 3.5 miles, and
  - One (1) gate was repaired or replaced.
  -

- At MA 9 (19.61 miles), the following activities were completed:
  - Pre-emergent was sprayed along 9.2 miles,
  - Spot spraying vegetation occurred along 10.5 miles,
  - Waterside toe road maintenance occurred along 3 miles,
  - Mile markers were repaired or replaced along 19.5 miles, and
  - Two (2) gates were repaired or replaced.
- At Putah Creek (16.9 miles), the following activities were completed:
  - Pre-emergent was sprayed along 3 miles, and
  - Six (6) gates were repaired or replaced.
- At the Sacramento Bypass (3.56 miles), the following activities were completed:
  - Trees were trimmed along 2 miles, and
  - One (1) gate was repaired or replaced.
- At the West Yolo Bypass levees Units 1-4 (9.35 miles), the following activities were completed:
  - Pre-emergent was sprayed along 0.5 miles,
  - Vegetation was burned along 0.5 miles,
  - Trees were trimmed along 0.5 miles,
  - Spot spraying vegetation occurred along 2.7 miles,
  - Road grading occurred along 0.25 miles,
  - One (1) erosion repair was completed, and
  - Pipe inspections occurred along 3.61 miles.
- At Willow Slough Bypass (12.82 miles), the following activities were completed:
  - Trees were trimmed along 1 mile, and
  - One (1) erosion repair was completed.
- At the Colusa Bypass (4.58 miles), the following activity was completed,
  - Rodent baiting along 4.58 miles.
- At the East Levee of the Sacramento River (20.31 miles), the following activities were completed:
  - Pre-emergent was sprayed along 20.31 miles,
  - Rodent baiting along 20.31 miles, and
  - Nine (9) downed trees were removed.
- At the East Levee of the Sutter Bypass (22.37 miles), the following activities were completed:
  - Crown road grading along 7 miles, and
  - One (1) erosion repair was completed with 500 cubic yards of revetment.
- At MA 1 (17.12 miles), the following activities were completed:
  - Pre-emergent was sprayed along 17.12 miles,
  - Rodent baiting along 17.12 miles, and
  - Fire guarding along 16 miles.
- At MA 5 (33.42 miles) , the following activity was completed:
  - Fire guarding along 33.42 miles.
- At MA 7 (12.07 miles), the following activity was completed:
  - Crown road grading occurred along 8 miles.

- At MA 13 (41.97 miles), the following activities were completed:
  - Crown road grading occurred along 41.97 miles.
  - Fire guarding along 41.97 miles.
- At MA 16 (4.09 miles), the following activity was completed:
  - Pre-emergent was sprayed along 17.12 miles.
- At MA 17 (3.14 miles), the following activity was completed:
  - Rodent baiting along 3.14 miles.
- At Tisdale Bypass (9miles) , the following activity was completed:
  - Fire guarding along 4.5 miles.
- At Wadsworth Canal (9.32 miles) , the following activity was completed:
  - Fire guarding along 9.32 miles.

#### **NON-ROUTINE PROJECTS:**

No new information this month.

#### **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 CVFPP-SSIA. 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.

#### **Small Erosion Repair Program (SERP)**

No new information this month.

#### **LEVEE REPAIRS**

*The Levee Repairs Program in the Division of Flood Management, Flood Maintenance Office, makes repairs to the State Plan of Flood Control (SPFC) 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 of the Sacramento and San Joaquin River Systems 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 a cost-sharing partner and manages the state's responsibilities for the SRBPP and PL 84-99 projects on behalf of the CVFPB.*

### **Flood System Repair Project (FSRP)**

On February 26, 2016, DWR provided a program status update on FSRP to the CVFPB. This briefing included an update on the Levee Penetrations Rehabilitation component of FSRP. This Levee Penetrations Rehabilitation program aims to address critical levee problems associated with pipes and conduits running through SPFC levees. This program, still in development stages, will identify, evaluate, and repair prioritized penetrations as a component of FSRP. Coordination with DWR Flood Projects Inspection Branch, CVFPB Staff, and USACE is being conducted as part of the development of this program.

As of February 2016, FSRP has completed two construction projects; one a proactive erosion repair in State Maintained Area ST008, and the other an all-weather access road repair in RD 1500. The total cost of these projects was approximately \$660,000, which includes \$60,000 in local cost share. Additionally, FSRP has committed approximately \$39.4 million for all-weather access road improvements and levee repair projects to rural portions of the SPFC. This amount includes approximately \$4.2 million in local-share contributions. These committed projects are in various stages of permitting/design/construction. Projects supported with these funds include 10 all-weather levee access road repair projects, 7 critical erosion repair projects and 1 control structure repair project. FMO staff continues to develop work agreements to commit additional FSRP funding for these types of rural levee repair projects.

### **Sacramento River Bank Protection Project (SRBPP)**

Erosion Repair Site at SAC 16.8L: USACE is in the permitting and design phase of this project (with DWR providing Lands, Easements, Rights of Way, Disposal, and Stockpiles (LERDS) support), which provides approximately 700 linear feet of erosion protection on the left bank of the Sacramento River near Isleton. Construction is targeted for the fall of 2016.

### **Federal Public Law 84-99 Emergency Repair Project (PL 84-99)**

No new information this month.