

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

**By**

**Eric Koch, Chief  
Division of Flood Management  
Department of Water Resources  
California Natural Resources Agency  
State of California\***

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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.*

Staff continues working on the Real-Time Inundation Modeling project. The project includes the development of hydraulic models and interface tools to predict flood inundation timing and extents in near real-time for the Sacramento and San Joaquin systems. Sub-model development for the Sacramento system is 80% complete and the sub-models are now being tested and combined into a system-wide 2D model. The San Joaquin modeling is largely on hold and will leverage the use of existing models.

*The Flood Project Inspection Section is actively performing the spring inspection of SPFC levees.*

### **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 March 31, 2017, statewide hydrologic conditions were as follows: precipitation, 175 percent of average to date; snow water content, 160 percent of average to date (160% of the April 1 index average); runoff, 240 percent of average to date; and reservoir storage, 115 percent of average to date.

Sacramento River Region unimpaired runoff, for Water Year 2017, observed through March 31, 2017 was about 26.4 million acre-feet (MAF), which is about 246 percent of average. In comparison to Water Year 2016, the observed Sacramento River Region unimpaired runoff

through March 31, 2016 was about 12.2 MAF, or about 114 percent of average. San Joaquin River Region unimpaired runoff, for Water Year 2017, observed through March 31, 2017 was about 8.6 MAF, which is about 350 percent of average. In comparison to Water Year 2016, the observed San Joaquin River Region unimpaired runoff through March 31, 2016 was about 2.6 MAF, or about 106 percent of average. Tulare Lake Region unimpaired runoff, for Water Year 2017, observed through March 31, 2017 was about 2.5 MAF, which is about 282 percent of average. In comparison to Water Year 2016, the observed Tulare Lake Region unimpaired runoff through March 31, 2016 was about 0.6 MAF, or about 71 percent of average.

On March 31, 2017, the Northern Sierra 8-Station Precipitation Index Water Year total was 83.4 inches, which is about 200 percent of the seasonal average to date and 167 percent of an average water year (50.0 inches). During March, the total precipitation for the 8-Stations was 6.9 inches, or about 100 percent of average for the month. Last year on March 31, 2016, the Water Year 2016 seasonal total for the 8-Stations was 51.9 inches, or about 125 percent of average.

On March 31, 2017, the San Joaquin 5-Station Precipitation Index Water Year total was 64.9 inches, which is about 192 percent of the seasonal average to date and 159 percent of an average water year (40.7 inches). During March, the total precipitation for the 5-Stations was 4.3 inches, or about 70 percent of average for the month. Last year on March 31, 2016, the Water Year 2016 seasonal total for the 5-Stations was 35.8 inches, or about 106 percent of average.

On March 31, 2017, the Tulare Basin 6-Station Precipitation Index Water Year total was 43.2 inches, which is about 177 percent of the seasonal average to date and 147 percent of an average water year (29.2 inches). During March, the total precipitation for the 6-Stations was 2.3 inches, or about 48 percent of average for the month. Last year on March 31, 2016, the Water Year 2016 seasonal total for the 6-Stations was 23.7 inches, or about 97 percent of average.

<b>Daily Precipitation (in inches) for Selected Stations as of 03/31/2017</b>					
<b>Station</b>	<b>Water Year 2017 to Mar 31, 2017</b>	<b>% Average</b>	<b>Water Year 2016 to Mar 31, 2016</b>	<b>% Average</b>	<b>WY 2017 % of Avg Water Year (Oct 1 – Sep 30)</b>
Mount Shasta	49.41	139	35.50	100	113
Eureka	45.08	136	41.03	123	112
Redding	40.81	143	31.85	111	118
South Lake Tahoe	41.93	261	17.68	110	206
Sacramento Executive Airport	29.90	186	14.72	92	161
Santa Rosa (Sonoma Co AP)	53.32	166	28.65	89	147
San Francisco	29.69	141	20.51	98	126
Stockton	19.66	162	13.42	111	140
Yosemite	67.77	216	32.32	103	179



Monterey	22.81	162	20.64	147	142
Paso Robles	13.10	115	7.21	63	103
Fresno	13.66	141	12.87	133	119
Bakersfield	7.39	133	3.91	71	114
Death Valley	1.27	73	1.28	74	54
Los Angeles	17.46	131	6.06	45	117
Riverside	11.77	109	4.64	43	95
Palm Springs	6.96	155	2.45	55	121
San Diego	11.66	128	6.84	75	113

Key Reservoir Storage (1,000 AF) as of 03/31/2017								
Reservoir	River	Storage	Avg Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	2,177	1,927	113	2,448	89	---	271
Shasta Lake	Sacramento	4,031	3,691	109	4,552	89	616	521
Lake Oroville	Feather	2,681	2,696	99	3,538	76	-118	857
New Bullards Bar Res	Yuba	805	701	115	966	83	9	161
Folsom Lake	American	591	628	94	977	60	-43	386
New Melones Res	Stanislaus	1,812	1,510	120	2,400	75	-158	608
Don Pedro Res	Tuolumne	1,760	1,483	119	2,030	87	503	270
Lake McClure	Merced	696	565	123	1,025	68	72	329
Millerton Lake	San Joaquin	204	366	56	520	39	-5	316
Pine Flat Res	Kings	585	564	104	1,000	59	189	415
Isabella	Kern	246	201	122	568	43	62	322
San Luis Res	(Offstream)	2,015	1,846	109	2,041	99	---	24

The latest National Weather Service Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for May 2017, issued April 20, 2017, suggests average precipitation for all of California.

### 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.*

During the winter storms and ongoing spring snowmelt, the DWR Flood Operations Center is activated and operating under the Incident Command System (ICS). In coordination with the California-Nevada River Forecast Center, the Intelligence Section is producing real-time river and reservoir inflow forecasts. The Planning and Intelligence Sections are collaborating with reservoir operators to ensure that releases are coordinated to maintain river and bypass flows at safe levels.

### **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 completed the *Water Project Export Disruptions for Multiple-Island Breach Scenarios using the Delta Emergency Response Tool*. The report documents the expected export disruption times for various breach scenarios and response strategies. The report will be included as a supplement to the Delta Flood Emergency Management Plan. Staff are performing additional simulations of the Delta ERT to further optimize the response actions following a catastrophic earthquake event near the Delta.

### **Flood Emergency Response Grants**

#### **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 \$4.3 million has been invoiced for by the grantees. Nine of the grant projects have been completed and closed-out. The deliverables from the completed grant projects include Emergency Operations Plans, Flood Contingency Maps, and Decision Support Tools.

### **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).***

### **STATEWIDE INTEGRATED FLOOD MANAGEMENT PLANNING**

***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 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.*

- No new information this month.

### **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 Update to 2012 Central Valley Flood Protection Plan**

- DWR received 485 comments on the 2017 CVFPP Update and the Supplemental Program EIR (combined). Staff is working in consultation with the Central Valley Flood Protection Board staff to address comments.
- Additionally, Division of Flood Management staff and Central Valley Flood Protection Board staff are working together to host 2017 CVFPP Update public workshops. One was held April 28, 2017, another will be held May 19, 2017, followed by another on June 2, 2017.
- DWR is hosting a workshop on CVFPP Update 2017 during the upcoming World Environmental & Water Resources Congress (EWRI 2017) which will be held at Sacramento Convention Center from May 21 to 25. The workshop is scheduled for the afternoon of the opening day, May 21, from 2:00 pm to 5:30 pm and includes presentations that cover key technical analyses and plan development topics.

### **Supplemental Program EIR for 2017 Update to 2012 Central Valley Flood Protection Plan**

- DWR received 485 comments on the 2017 CVFPP Update and the Supplemental Program EIR (combined). Staff is working in consultation with the Central Valley Flood Protection Board staff to address comments. Refer to the section above for details.

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

- No new information this month.

### **2017 Flood System Status Report Update**

- No new information this month.

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

- The Flood Planning Office released to the public a revised draft of the San Joaquin River Basin-wide Feasibility Study on March 28, 2017. Individuals may access the draft report and corresponding comment log on DWR's CVFMP website (<http://water.ca.gov/cvfmp/2017-cvfmp-docs.cfm>). Comments can be provided to Ms. Sami Nall at [Sami.Nall@water.ca.gov](mailto:Sami.Nall@water.ca.gov).

### **Basin-wide Feasibility Study Atlases**

- No new information this month.

### **Channel Capacity Atlas**

- No new information this month.

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

- No new information this month.

### **Technical Services:**

- No new information this month.

### **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/).

- Please refer to the 2017 Update to 2012 Central Valley Flood Protection Plan section, above, for details on recent and upcoming public workshops where Division of Flood Management staff in consultation with the Central Valley Flood Protection Board staff are engaging the public on the 2017 CVFPP Update.

### **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 Conservation Strategy 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.*

### **Feather River Regional Permitting Program (FRRPP)**

*The Floodway Ecosystem Sustainability Office (FESO) is pursuing comprehensive regulatory compliance with endangered species, aquatic resource, and cultural resource laws for flood*

*management and related conservation activities (e.g., multi-benefit projects) conducted by the California Department of Water Resources (DWR) and participating local maintaining agencies (LMAs) in the Feather River region.*

*The core component of the FRRPP is the Habitat Conservation Plan (HCP). The HCP would support applications for incidental take permits (ITPs) by establishing a multi-species conservation program to avoid adverse effects, where possible, and minimize the potential adverse effects of covered activities on species and habitats. The program would also provide conservation to mitigate unavoidable losses of habitat and other take of covered species that may occur incidental to flood management activities.*

- DWR released an internal Working Draft HCP document to permitting agencies for initial review on March 9.
- DWR provided program briefing presentations at the March 22 CVFPB - Coordinating Committee meeting and at the March 24 Regular CVFP Board meeting, outlining the program components, objectives, status, and challenges.

#### **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.***

#### **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 Floodplain Management Review Course in San Diego, California, on April 3, 2017.
- Staff conducted a FEMA Elevation Certificate Workshop in San Diego, California, on April 4, 2017.
- Staff proctored a Certified Floodplain Manager Examination in San Diego, California, on April 5, 2017.
- Flood Planning Office staff briefed the Yuba-Sutter Farm Bureau on the Central Valley Flood Protection Plan (CVFPP) Update along with Central Valley Flood Protection Board members Jane Dolan and Emma Suarez in Yuba City, California, on April 5, 2017.

### **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 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 2014-15 – Fifty-eight final claims for \$6.0 million have been processed for reimbursement. Four unresolved claims require CDFW approval before payment can be made.
- Subventions Program FY 2015-16 – Sixty-five final claims were received and are being reviewed. Of these, forty-five final claims for \$2.6 million are being processed for reimbursement.
- Subventions Program FY 2016-2017 – The CVFPB approved \$12M for the FY 2016-2017 Funding Plan on August 26, 2016. CVFPB has executed 54 work agreements.
  - Emergency Funding - Early 2017, severe weather, high tides, high winds and heavy rains, caused considerable levee damage in the Delta. Three Reclamation Districts, Tyler Island, Venice Island, and Van Sickle Island, each requested \$50,000 in emergency assistance under the Delta Levees Maintenance Subventions Program, CA Water Code § 12994(b)(1)(A). Tyler Island requested an additional \$50,000 in emergency assistance for a second emergency incident at a separate site.

### **URBAN FLOOD RISK REDUCTION**

***FRR Projects 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 State Plan of Flood Control (SPFC) facilities in the Central Valley; provide advanced mitigation for the SPFC to aid project delivery; and enhance ecosystems associated with the***

***flood system. A primary responsibility of these programs is to collaborate and work closely with the U.S. Army Corps of Engineers (USACE) and local agencies to increase flood protection for urban areas. This Mega Program includes four programs: USACE Projects, USACE Studies, Early Implementation Program (EIP), and Urban Flood Risk Reduction (UFRR).***

**USACE/CVFPB PROJECTS**

*The Central Valley Flood Protection Board (CVFPB), along with local agencies where applicable, participates with USACE to ensure that state flood management needs and mandates are met, and provides its required non-federal cost share funds and technical assistance to repair or upgrade the Central Valley’s flood management systems. These congressionally authorized SPFC projects are being constructed to improve flood protection for urban or urbanizing areas; 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 improved levee systems along the American and Sacramento Rivers.*

- No new information this month.

**American River Watershed – Natomas Basin Project**

*The Natomas Basin Project was authorized in the 2014 Water Resources Reform and Development Act. 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.*

- USACE provided non-federal sponsors with 90% Reach D plans, specifications, Design Documentation Report, and Engineering Considerations and Instructions for Field Personnel for review on April 24, 2017. Comments for 90% review and backcheck for 60% submittal are due on May 8, 2017.

**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 status as of April 1, 2017, is as follows:

<b>Phases</b>	<b>Planning &amp; Design</b>	<b>Construction</b>
Preconstruction Engineering and Design	100%	N/A
Phase III – Control Structure	100%	99%
Phase IV – Approach Channel, Chute & Stilling Basin	100%	99%
Phase V – Right Bank Stabilization	100%	28%
Phase V – Site Restoration	100%	94%
Project Overall	100%	99%

- Phase III Control Structure – The dry and wet load testing for the gates continue.
- Phase IV Approach Channel, Chute and Stilling Basin – The construction is substantially complete. USACE and USBR are working on turnover checklist items.
- Water Control Manual Update – The environmental documents and engineering report are currently under USACE Agency Technical Review and sponsors' review. The agencies' comments have been provided. Comment on backcheck is planned for early May.

#### **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, DWR and SAFCA continued developing a Design Agreement for the design of this project.

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

*The Lake Kaweah Enlargement Project was completed in 2006, and is near the closeout phase.*

- No new information this month.

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

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

- No new information.

#### **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 areas to the south and east of the city of Sacramento.*

- DWR received the Take Letter from USACE on April 14, 2017 for O&M acquisition corridor along the North Beach Lake levees. DWR real estate branch in coordination with SAFCA is taking the lead on this effort, and has targeted April 2018 to complete the acquisition.

#### **USACE/CVFPB Studies**

*CVFPB, along with local agencies where applicable, 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 SPFC facilities; 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 ARCF GRR plan has been authorized in the 2016 WRDA. The plan and project 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.

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

*This settling basin was initially constructed in 1937 and modifications were completed in 1993. As part of the federal authorization for the 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.

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

*This Watershed Study identifies federal interest in the Sacramento River Basin by identifying opportunities to reduce flood risk and protect floodplain and environmental assets. The CVIFMS Watershed Plan, the final report of the study, will serve as a Federal companion document to the state's Central Valley Flood Protection Plan once approved by the Assistant Secretary of the Army for Civil Works.*

- No new information this month.

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

*The LSJRFS will evaluate feasible flood risk reduction alternatives focused in the city of Stockton and vicinity, 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.

### **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.

### **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.*

- A Locally Preferred Plan (LPP), developed in collaboration with the regional flood planning group, FloodProtect, was submitted to the USACE for consideration in developing a Tentatively Selected Plan (TSP). The USACE will analyze the LPP to determine the potential level of federal interest. The TSP milestone is anticipated on August 15, 2017.

### **Success Reservoir Enlargement Project (SREP) GRR**

*The Success Reservoir is a multi-purpose facility built to provide flood control, water supply, and recreation. USACE and the non-Federal sponsors intend to move forward with improvements which are intended to provide improved flood risk reduction, water supply, and recreation improvements.*

- No new information this month.

### **Sutter Basin Preconstruction Engineering and Design (PED)**

*The Preconstruction Engineering and Design (PED) phase is for the design of the federal project, authorized in the Water Resources Reform and Development Act of 2014 and modified in the Water Resources Development Act of 2016 that has not been already implemented by the Sutter Butte Flood Control Agency (SBFCA) and DWR through DWR's Early Implementation and Urban Flood Risk Reduction Programs.*

- Negotiations are underway to add the Central Valley Flood Protection Board to the existing two-party Design Agreement between USACE and SBFCA, rather than executing a new three-party agreement as reported recently. The matter is anticipated to be brought before the Board for approval at the June 23, 2017 Board meeting.
- Board, DWR and USACE staffs toured portions of the federal project on April 24, 2017, to view recent flood erosion damage and to receive a briefing from SBFCA on through/under seepage performance concerns related to a section of USACE-constructed cutoff wall in Yuba City near the 5th and 10th Street bridges.

### **West Sacramento Project GRR**

*The GRR-evaluated 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.*

- No new information this month.

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

*This study is a USACE, state, 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.*

- 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. The study is currently on hold.*

- 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 of SPFC facilities. UFRR is based on competitively awarded 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 repaired 3.4 miles of levee along the left (east) bank of the Knights Landing Ridge Cutback 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 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 NEMDC 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.*

- SAFCA is prepared to start construction of the North Sacramento Streams levee improvement (NSSLIP) project this spring. Due to UPRR real estate issues, the major cutoff wall construction is delayed until the 2018 construction season. However, construction of relief wells, drainage trench, etc., is planned for 2017 construction season.
- SAFCA, in early April, requested the state to process a local credit and advance payment of \$32,056,434 for work to be completed on the LAP for the period of April 2017 through September 2017. With the development of the UPRR issues and adjusted project schedule, SAFCA is currently revising (reducing from its original estimate) its state funding request.

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

*This Natomas Levee Improvement Program project installed 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.*

- Currently working with the Contract Services Office to finalize documents for Amendment number 5 to extend the agreement by 2 years, extending the termination date to June 30, 2019, and a funding reduction of \$3 million.

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

*This Natomas Levee Improvement Program project installed 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 completed components to element 12A (RM 67) along the Sacramento River and USACE will complete the remaining work.*

- Amendment number 3 was sent to DWR's Contracts Services Office for execution on April 13, 2017. This amendment will extend the termination date by 3 years to June 30, 2020.

**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 and meet ULDC requirements for 200-year 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.*

- 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 resulted in a 200-year flood protection from the Yuba River for Highway 65 and 70, and also improved flood protection from the Feather River 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 1,760 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 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 a portion of the Yuba River’s south levee, as well as 200-year improvements to the Western Pacific Interceptor Canal.*

- No new information this month.

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

*Design agreement funded 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 of 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.*

- The USACE Section 408 permit was received on April 19, 2017.
- The Southport Construction Ground-Breaking ceremony is planned for May 9, 2017.
- An advance payment of \$22 million is currently being processed by accounting and will be used to fund the start of the construction.

#### **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.*

- No new information this month

#### **SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM**

*The Small Communities Flood Risk Reduction (SCFRR) Program was created as a result of the adoption of the 2012 Central Valley Flood Protection Plan (CVFPP). The SCFRR Program objective is to reduce flood risks for small communities protected by the State Plan of Flood*

*Control (SPFC) facilities. Small communities are defined as developed areas with between 200 and 10,000 residents, as described in the CVFPP. The SCFRR Program supports the continued viability of small communities within the SPFC Planning Area to preserve cultural and historical continuity and important social, economic, and public services to rural-agricultural populations, agricultural enterprises, and commercial operations.*

- DWR distributed Proposition 1E funding commitment letters to the 35 communities that were successful applicants for the Phase 1 Feasibility Study proposal solicitations.

### **SYSTEMWIDE FLOOD RISK REDUCTION PROGRAM (SFRR)**

*Consistent with the Central Valley Flood Protection Plan, SFRR works with in coordination with local and federal agencies to implement large-scale flood system improvements that have cross-regional benefits and that when packaged together offer multi-benefit opportunities.*

#### **Lower Elkhorn Basin Levee Setback (LEBLS) Project**

*This project will reduce flood risk by increasing the capacity of the Yolo and Sacramento Bypasses, and lowering flood stages in the Sacramento River. New areas of inundated floodplain will result from the construction of the levee setback that may benefit ecosystem function in the future.*

- No new information this month.

#### **Other Systemwide Projects**

*Folsom Dam JFP, Folsom Dam Raise, and Sacramento River GRR are covered under the Urban Flood Risk Reduction Mega Program above.*

### **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 and excludes State Plan of Flood Control facilities. 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 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.*

- The DFM FPO technical support branch has completed a Seepage and Stability Assessment for the Geotechnical Basis of Design Report for a three-mile levee reach of the Eastside Bypass below Sand Slough in Merced County. The report describes the results of an assessment of levee seepage and stability performance under Restoration Flow releases and identifies design alternatives for levee remediation. The SJRRP selected the cutoff wall remediation as the preferred alternative and the Division of Engineering will prepare 60% designs for the potentially impacted levee. The improvements will ensure flood risk from Restoration Flows are managed to less-than-significant and are expected to also improve levee performance during floods. The improvements are part of DWR's SJRRP Eastside Bypass Improvement Project - a mixture of fish passage and levee improvements - that are planned for 2019.

### **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, 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:**

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

- No new information this month.



### **Chico Area Streams Project**

- No new information this month.

### **Feather River Hydraulic Model**

- No new information this month.

### **Llano Seco Riparian Sanctuary (Butte Basin 2-D Model)**

- No new information this month.

### **Mercury Characterization Studies**

- No new information this month.

### **Middle Creek Project (MCP)**

- Flood Maintenance Office (FMO) and Northern Region Office (NRO) engineers reviewed preliminary maintenance scenarios in order to refine channel management objectives. FMO and NRO decided that vegetation management plus channel modification within Middle Creek will be evaluated to determine the level of effort required to restore capacity and freeboard in Middle Creek and its tributaries. The MCP Channel Management Plan is expected to be completed in June 2017.

### **Natomas East Main Drainage Canal (NEMDC)**

- No new information this month.

### **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, 2016, and will end on October 31, 2017. 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.*

In the month of April:

- At Colusa Bypass, 5 acres of vegetation grading and bulldozing was completed.
- At Willow Slough Bypass, debris removal is in progress.

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

- No new information this month.

### **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.*

For the month of April:

- No new information 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.*

In the month of April:

- At Knights Landing Outfall Gates, repairs to actuator seals are ongoing.

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

##### **Collecting Canal Bridge CC-2 and CC-4 Repair**

- No new information available for this month.

##### **West Borrow Canal Bridge WL-1 Evaluation**

- A bridge support pier was observed by the Sutter Maintenance Yard to be failing. The pier is leaning and disconnected from the deck. FMO is currently working with DOE Real Estate office and FMO legal support to determine the responsible party to repair the bridge. The bridge was rebuilt by DWR in the early 1980s, but the property was sold to CDFW and then to a private entity.

### **Knights Landing Outfall Gates Fish Barrier**

- No new information this month.

### **Sacramento Maintenance Yard (SMY) Paving Project**

- Staff performed a field survey to determine the status of the existing storm drainage system within SMY related to the current project study. Storm drain pipe sizes and invert elevations were measured and recorded.

### **Bryte Yard Groundwater Investigation**

- The last of the monitoring wells associated with a leaking UST investigation and cleanup of the site were destroyed on April 26, 2017. A report documenting the work will be prepared by June 5, 2017, and submitted to the Central Valley Regional Water Quality Control Board as the final deliverable required to obtain a “no further regulatory action required” closure for the site.

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

- No new information this month.

## **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, 2016, and ends on October 31, 2017. 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 April:

- At Cache Creek, the following activity occurred:
  - Road grading is ongoing.
- At Cache Creek Settling Basin, the following activity occurred:
  - Vegetation spot spraying is ongoing.
- At the East Levee of the Sacramento River, the following activities occurred:
  - Levee gates were repaired, and
  - Vegetation spot spraying is ongoing.
- At the East Levee of the Sutter Bypass, the following activities occurred:
  - Levee gates and sign repairs are in progress,
  - Debris was removed from 13 acres,
  - Vegetation broadcast spraying is ongoing, and
  - Pipe inspections are ongoing.
- At MA 1, the following activities occurred:
  - Vegetation cutting and limbing is ongoing, and
  - Vegetation spot spraying is ongoing.
- At MA 5, the following activities occurred:
  - Vegetation spot spraying is ongoing, and
  - Debris removal is ongoing.
- At MA 9, the following activity occurred:
  - Rodent baiting is ongoing.
- At MA 13, the following activity occurred:
  - 1 levee gate was repaired.
- At MA 16, the following activities occurred:
  - 10 cubic yards of debris was removed,
  - Rodent depredating is ongoing, and
  - Levee gate repairs are ongoing.
- At the Murphy Slough, the following activity occurred:
  - Vegetation broadcast spraying was completed.
- At the Putah Creek, the following activities occurred:
  - Rodent baiting is ongoing,
  - 10 miles of vegetation cutting and limbing was completed, and
  - Vegetation spot spraying is ongoing.
- At the Sacramento Bypass, the following activity occurred:
  - 3 erosion repairs are in progress.
- At the Tisdale Bypass, the following activity occurred:
  - Road grading is in progress.
- At the Wadsworth Canal, the following activity occurred:

- 4 acres of vegetation broadcast spraying is complete.
- At West Yolo Bypass Units 1-4, the following activity occurred:
  - Debris removal is ongoing.
- At Willow Slough Bypass, the following activity occurred:
  - Rodent baiting is in progress.

**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.

**Deferred Maintenance Project (DMP)**

- DFM has developed the DMP to evaluate and repair levee penetrations, help implement statewide rodent damage mitigation, and perform specific deferred maintenance actions for DWR maintenance yard facilities. Work will address known threats to levee integrity, enhance emergency response capabilities, and ultimately reduce the potential for catastrophic flooding.

Field reconnaissance has begun (September 2016) with the goal of categorizing gravity drain pipes so contracts and agreements can be developed dependent upon actual field conditions (access, environmental constraints, etc.).

**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)**

As of April 2017, FSRP has completed a total of nine construction projects consisting of one proactive erosion repair in State Maintained Area ST008, and eight all-weather access patrol road repairs in RD 1500, RD 1600, RD 2063, RD 2085, RD 1001, RD 2102/RD 817, RD 10, and the Lower San Joaquin Levee District (109 miles total). The total project costs for these repairs included a paid state-share of approximately \$5.97 million and paid local-share of approximately \$824,000. Currently FSRP has executed Project Agreements with 17 LMAs, committing approximately \$35.9 million for all-weather access patrol roads and critical levee repairs projects in rural portions of the SPFC. These commitments include approximately \$4.8 million in local-share contributions. These projects are in various stages of permitting, design, and construction and include 7 all-weather access patrol road repairs (45 miles total), 11 critical erosion/seepage/stability repair projects (total length of 27,000 lf), and 1 control structure repair project. FMO staff is currently developing Project Agreements to commit additional funds with 111 LMAs for various types of rural levee repair projects within the SPFC.

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

In November 2016, the USACE completed construction on an 800 foot long SRBPP rock revetment erosion repair project on the Sacramento River at river mile 16.8L (Isleton). Currently, the USACE is working on finalizing the project close-out documents which include the as-built drawings and an updated O&M manual. The USACE will be turning over the construction portion of this project to the CVFPB by the end of 2017.

In November 2016, DWR completed construction on a 1,000 foot long setback levee on Cache Creek at Levee Mile 3.4L (Yolo). This DWR-led project was initiated to address identified critical erosion within the existing channel bank and original levee embankment. The Levee Repairs Project Headquarters is currently working on the Final Project Closeout Report, with an estimated completion date of December 2017.

Real Estate acquisitions have been completed and certified by DWR so that the USACE can begin their internal preparation and approval process required to construct a SRBPP rock revetment erosion repair project on the Sacramento River at river mile 71.3R (Yolo County). The USACE is currently working on preparing documents for advertising and bidding. The preliminary schedule has this work being completed by the end of November 2017.

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

As a result of the storm events of February and March 2017, federal and state agencies have responded to numerous emergency erosion and seepage locations throughout the Sacramento and San Joaquin River systems. Coordination efforts have been initiated between the USACE, DWR and the Board. DWR and the CVFPB have submitted a list of flood damaged sites to the

USACE for PL 84-99 repair consideration. It is anticipated that PL 84-99 levee rehabilitation repairs will be constructed following the 2017 flood season.

**Environmental Permitting for Operations and Maintenance Project (EPOM)**

- A Draft Environmental Impact Report (DEIR), prepared pursuant to the California Environmental Quality Act (CEQA), was sent out for public review on January 18, 2017. The proposed project would support a streamlined approach to permitting of Department of Water Resources mandated operation and maintenance (O&M) activities associated with maintaining the proper function of the Sacramento River Flood Control Project (SRFCP) and Middle Creek Project flood protection facilities, including but not limited to: levee maintenance, channel maintenance, flood control structure maintenance and repair, and data collection. The proposed project would allow the continuation of these maintenance activities within the regulatory limitations imposed by required permits. The SRFCP levees, channels, and structures are located along the Sacramento River and its tributaries between Red Bluff and the area just south of Rio Vista. The Middle Creek Project is located near Clear Lake in Lake County. The review period for the DEIR began January 18, 2017, and ended March 3, 2017, at 5:00 p.m. DWR staff are reviewing and preparing responses to comments received on the DEIR.
- On April 24, 2017, staff met with CDFW Region 2 and 3 staff to consult on developing the notification application for a new Lake and Streambed Alteration Agreement under Fish and Game code Section 1600 for DWR flood management maintenance activities (EPOM). The definition of what activities are subject to Fish and Game code Section 1600 appears to be more complicated than expected. More activities and areas may be subject to Section 1600 than in past agreements for flood maintenance activities. Staff will continue to meet and consult with CDFW through the notification process.