REPORT OF ACTIVITIES
OF THE
DEPARTMENT OF WATER RESOURCES

By

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**Prepared for the Central Valley Flood Protection Board Meeting – January 27, 2017.*

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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 continued 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.

The Inspection Section has completed the Final 2016 Inspection and Local Maintaining Agency Report of the Central Valley State-Federal Flood Protection System. The report has been posted and is available online at http://cdec/fsir.html.

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 November 30, statewide hydrologic conditions were as follows: precipitation, 150% of average to date; runoff, 175% of average to date; reservoir storage, 90% of average to date.

Sacramento River Region unimpaired runoff, for Water Year 2017, observed through November 30, 2016, was about 2.0 million acre-feet (MAF), which is about 147 percent of average. In comparison to Water Year 2016 the observed Sacramento River Region unimpaired runoff through November 30, 2015 was about 0.6 MAF, or about 46 percent of average. San Joaquin River Region unimpaired runoff, for Water Year 2017, observed through November 30, 2016 was about 0.5 MAF, which is about 226 percent of average. In comparison to Water Year

2016, the observed San Joaquin River Region unimpaired runoff through November 30, 2015 was about 0.1 MAF, or about 52 percent of average. Tulare Lake Region unimpaired runoff, for Water Year 2017, observed through November 30, 2016 was about 0.07 MAF, which is about 62 percent of average. In comparison to Water Year 2016, the observed Tulare Lake Region unimpaired runoff through November 30, 2015 was about 0.06 MAF, or about 48% of average. On November 30, the Northern Sierra 8-Station Precipitation Index Water Year total was 18.0 inches, which is about 193 percent of the seasonal average to date and 36 percent of an average water year (50.0 inches). During November, the total precipitation for the 8-Stations was 5.4 inches, or about 85 percent of average for the month. Last year on November 30, the Water Year 2016 seasonal total for the 8-Stations was 4.9 inches, or about 53% of average.

On November 30, the San Joaquin 5-Station Precipitation Index Water Year total was 9.2 inches, which is about 135 percent of the seasonal average to date and 22 percent of an average water year (40.8 inches). During November, the total precipitation for the 5-Stations was 2.8 inches, or about 59 percent of average for the month. Last year on November 30, the Water Year 2016 seasonal total for the 5-Stations was 7.0 inches, or about 103 percent of average.

On November 30, the Tulare Basin 6-Station Precipitation Index Water Year total was 3.5 inches, which is about 81 percent of the seasonal average to date and 11 percent of an average water year (29.3 inches). During November, the total precipitation for the 6-Stations was also 1.9 inches, or about 61 percent of average for the month. Last year on November 30, the Water Year 2016 seasonal total for the 6-Stations was 5.1 inches, or about 117% of average.

Daily Precipitation (in inches) for Selected Stations as of 11/30/2016					
Station	October 1 to Date 2016 – 2016	% Average	Season to Date 2015 – 2016	% Average	% Average Oct 1 – Sep 30
Mount Shasta	15.73	211	1.83	24	36
Eureka	15.30	201	5.98	79	38
Redding	11.43	179	1.65	26	33
South Lake Tahoe	8.23	168	3.68	75	40
Sacramento Executive Airport	5.66	193	1.69	57	31
Santa Rosa (Sonoma Co AP)	9.44	145	1.38	21	26
San Francisco	4.50	108	1.43	34	19
Stockton	3.95	161	2.13	87	28
Yosemite	8.78	136	8.22	128	23
Monterey	4.22	155	4.06	149	26
Paso Robles	2.58	160	1.28	80	20
Fresno	2.05	123	2.23	134	18
Bakersfield	0.62	67	0.75	82	10
Death Valley	0.05	21	1.08	450	2
Los Angeles	1.39	84	0.46	28	9
Riverside	1.72	139	0.46	37	14
Palm Springs	0.27	28	0.13	14	5

San Diego	0.63	41	1.97	128	6

Key Reservoir Storage (1,000) AF) as of 11/30/2016

Reservoir	River	Storage	Average Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	1,104	1,587	70	2,448	45	---	1,344
Shasta Lake	Sacramento	2,910	2,705	108	4,552	64	-342	1,642
Lake Oroville	Feather	1,486	2,138	69	3,538	42	-1,550	2,052
New Bullards Bar Res	Yuba	669	529	126	966	69	-127	297
Folsom Lake	American	447	468	95	977	46	-130	530
New Melones Res	Stanislaus	529	1,355	39	2,400	22	-1,441	1,891
Don Pedro Res	Tuolumne	1,358	1,320	103	2,030	67	-332	672
Lake McClure	Merced	387	450	86	1,025	38	-288	638
Millerton Lake	San Joaquin	297	219	136	520	57	-138	223
Pine Flat Res	Kings	208	371	56	1,000	21	-426	792
Isabella	Kern	88	156	57	568	16	-82	480
San Luis Res	(Offstream)	867	1,225	71	2,041	42	---	1,172

The latest National Weather Service Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for January 2017, issued December 15, 2016, suggests average precipitation for all of California, except for the southern fourth of the state where below average precipitation is expected.

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 completed the improvements to the Delta Emergency Response Tool. The tool estimates the impacts following Delta levee failures, including the cost and time to make levee repairs and export disruptions for the State Water Project and Central Valley Project. Staff are running

simulations of multiple-island breach scenarios and response strategies to include in the Delta Flood Emergency Management Plan. The results will include the expected water export disruption durations for the scenarios and strategies.

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 million has been invoiced for by the grantees. Six 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. These deliverables are being collected and organized for reference during high water events.

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's Flood Planning Office released the formal public draft 2017 CVFPP Update on December 30, 2016. The public comment period will close on March 31, 2017.

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

- The Draft Supplemental PEIR has been made available for public review and comment, as of December 30, 2016. Accessible electronically at the CVFMP – 2017 CVFPP Update website which contains the appendixes, attachments, and support documents (http://www.water.ca.gov/cvfmp/2017-cvfpp-docs.cfm). There will be five public meetings to receive comments. The public comment period will close on March 30, 2017.

2016 State Plan of Flood Control Descriptive Document Update

- The document has been made available for public review and comment as of December 23, 2016. Accessible electronically at the CVFMP – 2017 CVFPP Update website which contains the appendixes, attachments, and supporting documents http://www.water.ca.gov/cvfmp/2017-cvfpp-docs.cfm). The public comment period will close on March 30, 2017.

2017 Flood System Status Report Update

- The document has been made available for public review and comment as of December 23, 2016. Accessible electronically at the CVFMP – 2017 CVFPP Update website which contains the appendixes, attachments, and supporting documents http://www.water.ca.gov/cvfmp/2017-cvfpp-docs.cfm). The public comment period will close on March 30, 2017.

Basin-wide Feasibility Studies

- DWR released a revised draft of the Sacramento River BWFS November 14, 2016. The comment period closed November 23, 2016. A revised draft is expected later in 2017. The stakeholder review draft of the San Joaquin River BWFS was available for public review and the review period closed November 23, 2016. DWR received a number of comments and is working to address those comments. A revised draft is expected in 2017. Relevant information and data from the basin-wide feasibility studies is being incorporated into the 2017 CVFPP update.

Basin-wide Feasibility Study Atlases

- No new information this month.

Regional Flood Management Planning (RFMP) Phase 2

- Both the Working Draft 2017 CVFPP Update and the Sacramento River BWFS have been open for review by the six flood management regional partners in November. DWR received Working Draft 2017 CVFPP Update review comments from all six of the flood

management regional partners. DWR also received Sacramento River BWFS review comments from two of the flood management Sacramento Basin regional partners.

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. Past presentations can be found on the CVFMP website at 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 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.

Conservation Strategy Document

- The California Department of Water Resources has released the 2016 draft *Central Valley Flood Protection Plan Conservation Strategy* (Conservation Strategy). The Conservation Strategy is a primary component of the 2017 Update to the *Central Valley Flood Protection Plan*. It outlines a comprehensive, long-term approach to improve riverine and floodplain ecosystems, and provides guidance on how multi-benefit projects can provide ecological benefits while protecting public safety.

- The 2016 draft Conservation Strategy and appendices are now available on DWR's website at: www.water.ca.gov/conservationstrategy/cs_new.cfm.

- A document describing the process for developing the Conservation Strategy is also available on the website.

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.

- December 2, 2016 –Staff participated in a workgroup meeting of the Agricultural Floodplain Ordinance Task Force. Consistent with the state's desire to see agriculture as a best-use for floodplains, final edits were discussed on a proposed technical memorandum that is planned to be submitted to FEMA regarding updating NFIP requirements for ag-related structures.
- December 2, 2016 - Staff proctored a Certified Floodplain Manager Examination in Napa, California.

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 2014-15 – Fifty-seven final claims for $6.0 million have been processed for reimbursement. Five unresolved claims require CDFW approval before payment can be made.

- Subventions Program FY 2015-16 – Sixty-five final claims were received by the due date of November 1, 2016. Staff has completed 44 joint levee inspections with California Department of Fish and Wildlife.

- Subventions Program FY 2016-2017 – The CVFPB approved $12M for the FY 2016-2017 Funding Plan on August 26, 2016. CVFPB has executed 29 work agreements.

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 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.

- On December 19, 2016, USACE sent out the Reach H 100% Plans and Specifications, Design Documentation Report, and cost estimates for a back-check review. State provided comments on January 1, 2017.
- USACE sent the state and SAFCA a draft of the Project Management Plan for review.

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 December 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%	98%
Phase V – Right Bank Stabilization	100%	11%
Phase V – Site Restoration	100%	91%
Project Overall	100%	99%

- ✓ Phase III: Granite Company continues finalizing closeout items on the Control Structure. Granite is coordinating with USACE and USBR regarding the pulling of the pin to determine the reason of the Hub noise. The pulling of the pin operation started on October 31, 2016 and investigation is still ongoing.
- ✓ Phase IV: Kiewit Company completed the wet-excavation work in the Approach Channel on November 4, 2016.
- ✓ Phase V-Site Restoration: Mass excavation work continues. Hydro-seeding was completed on October 31, 2016.
- ✓ Commissioning and O&M documents have been drafted. The wet commissioning is scheduled to take place between December 2016 and February 2017.
- ✓ JFP Turn Over schedule: (1) Financial Transfer is from May-July 2017; (2) Physical transfer is from November to June 2017; (3) transfer memo is from February-June 2017.
- ✓ Right Bank Stabilization, the final element of Phase V is scheduled to be completed on June 17, 2017.

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 and USBR are collaborating closely to address the service gates design issues.
- USACE brought onboard Internal Subject Matter Experts (SMEs) to review the service gates design. DWR DSOD staff are assisting with this effort.
- USACE is moving forward with embankment design (Dikes 1-4 and MIAD) with the plan to award the contract in December 2017. Dikes 4-6 65% design was scheduled to be completed in December 2016. The 65% design is currently in District Quality Control

(DQC) review. It is currently scheduled to start Agency Technical Review (ATR) and Sponsor review on January 26, 2017.

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.

- Florin Creek Erosion damage repairs and remaining punch-list items are being discussed between USACE and nonfederal partners. A path forward to complete the work is expected to be finalized the second week of January 2017.

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.

- The Cache Creek Settling Basin Project GRR was included in the 2016 Water Resources Development Act signed by the President on December 16, 2016. This will allow funds to be appropriated for the study as part of a future congressional action.

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.

- The Final Draft Watershed Plan was submitted to USACE HQ on December 21, 2016 and Assistant Secretary of the Army Approval is expected in May 2017.

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.

- DWR and USACE staff presented an informational briefing to the Board on the current status, accomplishments, next steps, and need for a 3X3X3 SMART Planning Initiative Waiver Request to the Board in December. As a follow-up to the informational briefing, DWR and USACE staff will be presenting an Action Item to the Board in February to amend the Feasibility Cost Share Agreement.

Success Reservoir Enlargement Project (SREP) GRR
The Success Reservoir is a multi-purpose facility built to provide flood control, water supply, and irrigation. USACE and the non-Federal sponsors intend to move forward with improvements which are intended to provide improved flood risk reduction, water supply, and irrigation improvements.

- No new information this month.

Sutter Basin Feasibility Study/Preconstruction Engineering and Design (PED)
The multipurpose study addressed 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. The study resulted in a project that was federally authorized by Water Resources Reform and Development Act (WRRDA) 2014. The Preconstruction Engineering and Design (PED) phase will start the design of the federal project that has not be already implemented by SBFCA.

- Water Resources Development Act 2016 deauthorized the Locally Preferred Plan segment from the WRRDA 2014 construction authorization. The deauthorization does not affect the NED Plan segment authorized for construction under WRRDA 2014 or any of the previous authorizations for the Sacramento River and major and minor tributaries project.

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 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 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.

- The funding agreement has been finalized and it is being circulated for locals and DWR signatures.

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.

- No new information this month.

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.

- No new information this month.

San Joaquin Area Flood Control Agency (SJAFCA) – 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 level for Highway 65 and 70, and also improved 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 1,760 acres for on-site mitigation, agricultural use, and habitat.

- TRLIA has proposed a land transfer document of the Feather Setback Levee in fee to the SSJDD. Amendment 3 to the Feather EIP Segment 2 Real Estate Plan was approved by DWR on October 7, 2016. Amendment 3 will allow TRLIA to combine the majority of parcels under one parcel to facilitate the transfer.

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.

- 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.

- 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 is continuing its expedited review and evaluation of 37 Proposal Solicitation Package (PSP) applications received from 14 counties. DWR anticipates that presentation of the initial PSP rankings to the Evaluation Panel will begin in late January 2017.

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 flood plain will result from the construction of the levee setback that may benefit ecosystem function in the future.

- **Coordination Efforts** – DWR is continuing to work with local flood management agencies, landowners, farmers, fish and wildlife agencies, and environmental NGOs to develop project design details that will be used for CEQA/NEPA analysis. An overview of the Lower Elkhorn Levee Setback Project was given to the Yolo County Water Resources Association

(WRA) on Monday, November 14, 2016. The Water Resources Association of Yolo County (WRA) is a consortium of entities authorized to coordinate and facilitate solutions to water issues in Yolo County. The WRA is governed by a Board of Directors which represents each of the member agencies: city of Davis, city of West Sacramento, city of Winters, city of Woodland, county of Yolo, Dunnigan Water District, Reclamation District 108, Reclamation District 2035, University of California in Davis, Yolo County Flood Control & Water Conservation District. An overview of the Lower Elkhorn Levee Setback Project was also given to the CVFPB Coordinating Committee on Wednesday, November 16, 2016.

- **Tribal Consultation –** Informational meetings to share project information and to seek information on potential tribal cultural resources in the project area were held from late October through December 2016 with the United Auburn Indian Community (UAIC), the Yocha Dehe Wintun Nation, the Ione Band of Miwok Indians, Wilton Rancheria and the Shingle Springs Band of Miwok Indians. All five tribes are interested in the project area, and would like to be engaged as project progresses.

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.

- The Department of Finance (DOF) distributed their confidential draft findings report from the Hamilton City Flood Damage Reduction and Ecosystem Restoration Project audit.

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, 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.

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)

- No new information this month.

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 ended 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.

The following activities were completed in the month of December:

- At Magpie Creek Diversion, 1.37 acres of aquatic vegetation spraying was completed.
- At Magpie Creek Diversion, a rodent den was removed.
- At the Sacramento Bypass, 35 acres of vegetation spot spraying was completed.
- At Yuba River State Cut, vegetation masticating 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 December:

- 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 December:

- At Knights Landing Outfall Gates, 15 cubic yards of debris were removed.
- At Fremont Weir, 4 cubic yards of debris were removed.
- At Little Chico and Butte Creek Diversion Weir, 50 cubic yards of debris were removed.

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 recently 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

- Staff is coordinating with Project Geology to obtain requisite permits and schedule the destruction of each remaining well at the site. The well destruction activities are scheduled for January 2017, following which a report documenting the work will be prepared 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.

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 (KLOG) project. The contract was awarded to Valentine Construction with the notice to begin work on December 24, 2016. Construction has started with the pumping plants. Work on the Willow Slough Weir, Weir 2, and KLOG will follow.

LEVEE 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 December:

- At Cache Creek, the following activities occurred:
  - Signs were repaired or replaced, and
  - 4 cubic yards of vegetation debris piles were burned.
- At the East Levee of the Sutter Bypass, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- At the East Levee of the Yolo Bypass, the following activity occurred:
  - 3 cubic yards of vegetation debris piles were burned.
- At MA 5, the following activities occurred:
  - Vegetation spot spraying for fire guarding is complete,
  - Vegetation masticating is in progress, and
  - Levee gates are being repaired or replaced.
- At MA 9, the following activity occurred:
  - Rodent baiting is in progress.
- At MA 13, the following activities occurred:
  - High water patrolling, and
  - 41.97 miles of vegetation broadcast spraying is complete.
- At Moulton Bypass Levees, the following activity occurred:
  - 2 miles of vegetation cutting and limbing was completed.
- At Putah Creek, the following activity occurred:
  - Rodent baiting is in progress.
- At Wadsworth Canal, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- At West Yolo Bypass, Units 1-3, the following activities occurred:
  - 3 cubic yards of vegetation debris piles were burned, and
  - Vegetation broadcast spraying is in progress.
- At West Yolo Bypass, Unit 4, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- 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)

- Construction to repair erosion at levee mile 4.6, along the Sacramento River just northeast of the city of Colusa, started October 10, 2016. The construction and final hydro-seeding of the site was completed on October 27, 2016. Vegetation installation at the site, riverward of the levee, is planned to start in the next two weeks.

Deferred Maintenance Project (DMP)

- The State Legislature has authorized $100 million in General Funds to address flood risks associated with the deferred maintenance of the aging State Plan of Flood Control (SPFC) levees and appurtenant structures in the Sacramento and San Joaquin River basins. Funds became available with the passage of the Fiscal Year 2016/2017 budget and must be expended or committed by June 30, 2018 and liquidated by June 30, 2019. 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 November 2016, FSRP has completed a total of six construction projects consisting of one proactive erosion repair in State Maintained Area ST008, and five all-weather access road repairs in RD 1500, RD 1600, RD 2063, RD 2085, and the Lower San Joaquin Levee District (75 miles total). The total project costs for these repairs included a state-share of

approximately $4.7 million and a local-share of approximately $700,000. Currently FSRP has executed Project Agreements with 20 LMAs, committing approximately $45.4 million for all-weather access road improvements and critical levee repair projects to rural portions of the SPFC. These commitments include approximately $5.3 million in local-share contributions. These projects are in various stages of permitting, design, and construction and include 10 all-weather levee access road repair projects (86 miles total), 10 critical erosion/seepage/ stability repair projects (total length of 8,500 lf), and one control structure repair project. FMO staff continues to develop additional Project Agreements to commit FSRP funding for these types of rural levee repair projects. FMO staff is currently developing Project Agreements to commit additional FSRP funds with 18 LMAs for various types of rural levee repair projects.

Sacramento River Bank Protection Project (SRBPP)

- In November 2016, USACE completed construction on an 800 foot long SRBPP rock revetment erosion repair project on the left bank of the Sacramento River at river mile 16.8 (Sacramento County). Final site walkthrough was conducted in late November. Currently, the USACE is working on finalizing the project closeout process. At this point, we have not been provided a date in which the project will be officially turned over to the CVFPB.

- In November 2016, DWR completed construction on a 1,000 foot long setback levee on the left bank of Cache Creek at levee mile 3.4. This DWR-led project will construct a new 1,000 foot long setback levee to accommodate the presently eroding bank and original levee alignment. The Levee Repairs Project Headquarters is currently working on the Final Project Closeout Report with an estimated completion of January 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 right bank of the Sacramento River at river mile 71.3 (Yolo County). If all the approvals are finalized by February 2017, the USACE hopes to complete this repair by the end of 2017.

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

- 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, USACE, and environmental resource agencies to ensure that operations and maintenance activities meet statutory requirements that promote public safety, environmental stewardship, and economic stability.

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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.

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- *Inspection and Evaluation*
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INSPECTION AND EVALUATION:

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FLOOD CONTROL FACILITIES EVALUATION AND REHABILITATION (FCFER)

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LEVEE OPERATIONS AND MAINTENANCE COMPONENTS

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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 December:

- At Cache Creek, the following activities occurred:
  - Signs were repaired or replaced, and
  - 4 cubic yards of vegetation debris piles were burned.
- At the East Levee of the Sutter Bypass, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- At the East Levee of the Yolo Bypass, the following activity occurred:
  - 3 cubic yards of vegetation debris piles were burned.
- At MA 5, the following activities occurred:
  - Vegetation spot spraying for fire guarding is complete,
  - Vegetation masticating is in progress, and
  - Levee gates are being repaired or replaced.
- At MA 9, the following activity occurred:
  - Rodent baiting is in progress.
- At MA 13, the following activities occurred:
  - High water patrolling, and
  - 41.97 miles of vegetation broadcast spraying is complete.
- At Moulton Bypass Levees, the following activity occurred:
  - 2 miles of vegetation cutting and limbing was completed.

- At Putah Creek, the following activity occurred:
  - Rodent baiting is in progress.
- At Wadsworth Canal, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- At West Yolo Bypass, Units 1-3, the following activities occurred:
  - 3 cubic yards of vegetation debris piles were burned, and
  - Vegetation broadcast spraying is in progress.
- At West Yolo Bypass, Unit 4, the following activity occurred:
  - Vegetation broadcast spraying is in progress.
- 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)

- Construction to repair erosion at levee mile 4.6, along the Sacramento River just northeast of the city of Colusa, started October 10, 2016. The construction and final hydro-seeding of the site was completed on October 27, 2016. Vegetation installation at the site, riverward of the levee, is planned to start in the next two weeks.

Deferred Maintenance Project (DMP)

- The State Legislature has authorized $100 million of General Funds to address flood risks associated with the deferred maintenance of the aging State Plan of Flood Control (SPFC) levees and appurtenant structures in the Sacramento and San Joaquin River basins. Funds became available with the passage of the Fiscal Year 2016/2017 budget and must be expended or committed by June 30, 2018 and liquidated by June 30, 2019. 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 November 2016, FSRP has completed a total of six construction projects consisting of one proactive erosion repair in State Maintained Area ST008, and five all-weather access road repairs in RD 1500, RD 1600, RD 2063, RD 2085, and the Lower San Joaquin Levee District (75 miles total). The total project costs for these repairs included a state-share of approximately $4.7 million and a local-share of approximately $700,000. Currently FSRP has executed Project Agreements with 20 LMAs, committing approximately $45.4 million for all-weather access road improvements and critical levee repair projects to rural portions of the SPFC. These commitments include approximately $5.3 million in local-share contributions. These projects are in various stages of permitting, design, and construction and include 10 all-weather levee access road repair projects (86 miles total), 10 critical erosion/seepage/ stability repair projects (total length of 8,500 lf), and one control structure repair project. FMO staff continues to develop additional Project Agreements to commit FSRP funding for these types of rural levee repair projects. FMO staff is currently developing Project Agreements to commit additional FSRP funds with 18 LMAs for various types of rural levee repair projects.

Sacramento River Bank Protection Project (SRBPP)

- In November 2016, USACE completed construction on an 800 foot long SRBPP rock revetment erosion repair project on the left bank of the Sacramento River at river mile 16.8. Final site walkthrough was conducted in late November. Currently, the USACE is working on finalizing the project closeout process. At this point, we have not been provided a date in which the project will be officially turned over to the CVFPB.

- In November 2016, DWR completed construction on a 1,000 foot long setback levee on the left bank of Cache Creek at levee mile 3.4. This DWR-led project will construct a new 1,000 foot long setback levee to accommodate the presently eroding bank and original levee alignment. The Levee Repairs Project Headquarters is currently working on the Final Project Closeout Report with an estimated completion of January 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 right bank of the Sacramento River at river mile 71.3 (Yolo County). If all the approvals are finalized by February of 2017, the USACE hopes to complete this repair by the end of 2017.

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

- No new information this month.

Environmental Permitting for Operations and Maintenance Project

A Draft Environmental Impact Report (DEIR), prepared pursuant to the California Environmental Quality Act (CEQA), is now available for public review. 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 begins January 18, 2017, and ends March 3, 2017, at 5:00 p.m.

Copies of the DEIR can be reviewed at the following web link: http://water.ca.gov/floodmgmt/fmo/msb/env-permit.cfm or during normal business hours at the Department of Water Resources, Division of Flood Management, 3310 El Camino Avenue, Suite 100, Sacramento, California, 95821.

A public meeting will be held on February 22, 2017 from 2:00 p.m. to 4:00 p.m. at the Joint Operations Center, Department of Water Resources, Division of Flood Management, 3310 El Camino Avenue, Room 130, Sacramento, California, 95821.

Comments regarding the DEIR should be submitted in writing to: Mr. Scott Kranhold, Senior Environmental Scientist (Supervisor), Maintenance Environmental Support Branch, at the Department of Water Resources, Division of Flood Management, Flood Maintenance Office,

3310 El Camino Avenue, Suite 140, Sacramento, California, 95821, via fax at (916) 574-0331 or via email at epom.dwrfmo@water.ca.gov .