

**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\***

(INTENTIONALLY LEFT BLANK)

## **Table of Contents**

<b><u>FLOOD EMERGENCY RESPONSE (FER)</u></b> .....	7
<b>REAL-TIME FLOOD CONDITIONS, STATUS, &amp; WARNING</b> .....	7
<b>HYDRO-CLIMATE DATA COLLECTION &amp; PRECIPITATION/RUNOFF FORECASTING</b> .....	7
<b>RESERVOIR OPERATIONS &amp; RIVER FORECASTING</b> .....	9
<b>FLOOD EMERGENCY PREPAREDNESS &amp; OPERATIONS</b> .....	10
<b>Flood Emergency Response Grants</b> .....	10
<b><u>FLOOD MANAGEMENT PLANNING (FMP)</u></b> .....	10
<b>STATEWIDE INTEGRATED FLOOD MANAGEMENT PLANNING</b> .....	11
<b>CENTRAL VALLEY FLOOD MANAGEMENT PLANNING (CVFMP)</b> .....	11
<b>2017 Update to 2012 Central Valley Flood Protection Plan</b> .....	11
<b>Supplemental Program EIR for 2017 Update to 2012 Central Valley Flood Protection</b> <b>Plan</b> .....	11
<b>2017 State Plan of Flood Control Descriptive Document Update</b> .....	12
<b>2017 Flood System Status Report Update</b> .....	12
<b>Basin-wide Feasibility Studies</b> .....	12
<b>Regional Flood Management Planning (RFMP) Phase 2</b> .....	12
<b>Technical Services</b> .....	12
<b>Public Engagement</b> .....	12
<b>CONSERVATION STRATEGY</b> .....	12
<b><u>FLOODPLAIN RISK MANAGEMENT (FRM)</u></b> .....	12
<b>Floodplain Management Assistance</b> .....	13
<b>Watershed University Educational Webinar Series</b> .....	13
<b><u>FLOOD RISK REDUCTION PROJECTS (FRRP)</u></b> .....	13
<b>DELTA LEVEE SYSTEM INTEGRITY (DLSI)</b> .....	14
<b>Delta Levees Maintenance Subvention Program</b> .....	14
<b>URBAN FLOOD RISK REDUCTION</b> .....	14
<b>USACE/CVFPB PROJECTS</b> .....	15
<b>American River Common Features (ARCF) Project</b> .....	15
<b>American River Watershed – Natomas Basin Project</b> .....	15
<b>Folsom Dam Modifications Joint Federal Project (JFP)</b> .....	15
<b>Folsom Dam Raise Project</b> .....	15
<b>Lake Kaweah Enlargement Project (Terminus Dam, Kaweah River Project)</b> .....	16
<b>Marysville Ring Levee Improvement Project</b> .....	16
<b>South Sacramento County Streams Project</b> .....	16
<b>Sutter Basin Preconstruction Engineering and Design (PED)</b> .....	16
<b>USACE/CVFPB Studies</b> .....	16
<b>American River Common Features (ARCF) General Reevaluation Report (GRR)</b> .....	16

Cache Creek Settling Basin Project GRR .....	17
Central Valley Integrated Flood Management Study (CVIFMS) .....	17
Lower San Joaquin River Feasibility Study (LSJRFs) .....	17
Merced County Streams Project – Bear Creek GRR.....	17
Sacramento River GRR .....	17
Success Reservoir Enlargement Project (SREP) GRR.....	17
Woodland/Lower Cache Creek Feasibility Study.....	18
Yuba River Basin Project GRR .....	18
<b>URBAN FLOOD RISK REDUCTION PROGRAM (UFRR) .....</b>	<b>18</b>
Knights Landing Levee Repair Project (EIP) .....	18
Lathrop Study and Preliminary Design (UFRR) .....	18
Reclamation District 17 (RD-17) – 100-Year Levee Seepage Area Project (EIP) .....	19
Sacramento Area Flood Control Agency (SAFCA) – Levee Accreditation Project (UFRR) .....	19
SAFCA – Natomas Cross Canal Project (EIP) .....	19
SAFCA – Sacramento River East Levee Project (EIP) .....	19
San Joaquin Area Flood Control Agency (SJAFCa) – Smith Canal Closure Structure Project (EIP & UFRR) .....	19
Sutter Butte Flood Control Agency (SBFCA) – Feather River West Levee Project (FRWLP) (EIP & UFRR) .....	19
Three Rivers Levee Improvement Authority (TRLIA) – 200-year Goldfields Levee Project (UFRR) .....	20
TRLIA – Feather River Levee Improvement Project (EIP) .....	20
TRLIA – Upper Yuba River Levee Improvement Project (EIP) .....	20
West Sacramento Area Flood Control Agency (WSAFCA) – Design (EIP) .....	20
West Sacramento Area Flood Control Agency (WSAFCA) – Construction (EIP & UFRR) .....	20
Woodland Study and Preliminary Design (UFRR) .....	21
<b>SMALL COMMUNITIES FLOOD RISK REDUCTION PROGRAM .....</b>	<b>21</b>
<b>SYSTEMWIDE FLOOD RISK REDUCTION PROGRAM (SFRR) .....</b>	<b>21</b>
Lower Elkhorn Basin Levee Setback (LEBLS) Project .....	21
Other Systemwide Projects.....	21
<b>FLOOD CORRIDOR PROGRAM (FCP) .....</b>	<b>21</b>
<b>LOCAL LEVEE ASSISTANCE PROGRAM (LLAP) .....</b>	<b>22</b>
<b>YUBA-FEATHER PROTECTION PROGRAM.....</b>	<b>22</b>
<b>SAN JOAQUIN RIVER RESTORATION PROJECT (SJRRP) .....</b>	<b>22</b>
<b><u>FLOOD SYSTEM OPERATIONS AND MAINTENANCE (FSO&amp;M) .....</u></b>	<b><u>22</u></b>
<b>CHANNEL EVALUATION AND REHABILITATION .....</b>	<b>23</b>
<b>INSPECTION AND EVALUATION .....</b>	<b>23</b>
Cache Creek and Cache Creek Settling Basin Hydraulic Model.....	23
Chico Area Streams Project .....	23

Feather River Hydraulic Model .....	24
Llano Seco Riparian Sanctuary (Butte Basin 2-D Model) .....	24
Mercury Characterization Studies .....	24
Middle Creek Project (MCP) .....	24
Natomas East Main Drainage Canal (NEMDC) .....	24
<b>ROUTINE OPERATIONS AND MAINTENANCE</b> .....	<b>24</b>
<b>NON-ROUTINE ACTIVITIES</b> .....	<b>24</b>
<b>FLOOD CONTROL FACILITIES EVALUATION AND REHABILITATION (FCFER)</b> .....	<b>24</b>
<b>INSPECTION AND EVALUATION</b> .....	<b>25</b>
<b>ROUTINE OPERATIONS AND MAINTENANCE</b> .....	<b>25</b>
<b>NON-ROUTINE PROJECTS</b> .....	<b>25</b>
Bryte Yard Groundwater Investigation .....	25
Butte Slough Outfall Gates (BSPG) .....	25
Collecting Canal Bridge CC-2 and CC-4 Repair .....	26
Knights Landing Outfall Gates Fish Barrier .....	26
Sacramento Maintenance Yard (SMY) Paving Project .....	26
West Borrow Canal Bridge WL-1 Evaluation .....	26
<b>LEEVE OPERATIONS AND MAINTENANCE COMPONENTS</b> .....	<b>26</b>
<b>ROUTINE OPERATIONS AND MAINTENANCE</b> .....	<b>26</b>
<b>NON-ROUTINE PROJECTS</b> .....	<b>27</b>
<b>FLOOD SYSTEM EVALUATION AND REHABILITATION (FSER)</b> .....	<b>27</b>
Lower Feather River Corridor Management Plan .....	28
Small Erosion Repair Program (SERP) .....	28
Deferred Maintenance Project (DMP) .....	28
<b>LEEVE REPAIRS</b> .....	<b>28</b>
Flood System Repair Project (FSRP) .....	29
Sacramento River Bank Protection Project (SRBPP) .....	29
2017 Storm Damage DWR Emergency Rehabilitation (SDDER) Program .....	29
Federal Public Law 84-99 Emergency Repair project (PL 84-99) .....	30
Environmental Permitting for Operations and Maintenance Project .....	30

(INTENTIONALLY LEFT BLANK)

### **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 for the Sacramento and San Joaquin systems. Sub-model development for the Sacramento system is complete and the sub-models are currently being combined into regional 2D models. Once combined, the regional 2D models will be thoroughly tested, optimized for runtime efficiency, and integrated with a graphical user interface. The San Joaquin model development is largely on hold and will leverage the use of recently-developed models.

Staff continued working on the Feather River Conveyance Reevaluation project. The project will reevaluate the Feather River conveyance capacity downstream of Oroville Dam. Staff is coordinating with the Oroville Emergency Recovery team and North Central Region Office to collect and process bathymetric and topographic data that will be used to update hydraulic models for the river system.

### **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 June 30, 2017, statewide hydrologic conditions were as follows: precipitation, 160 percent of average to date; runoff, 220 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 June 30, 2017, was about 36.2 million acre-feet (MAF), which is about 220 percent of average. In comparison to Water Year 2016, the observed Sacramento River Region unimpaired runoff through June 30, 2016, was about 16.4 MAF, or about 100 percent of average. San Joaquin River Region unimpaired runoff, for Water Year 2017, observed through June 30, 2017, was about 16.4 MAF, which is about 261 percent of average. In comparison to Water Year 2016, the observed San Joaquin River Region unimpaired runoff through June 30, 2016, was about 5.9 MAF, or about 93 percent of average. Tulare Lake Region unimpaired runoff, for Water Year 2017, observed through June 30, 2017, was about 6.4 MAF, which is about 244 percent of average. In comparison to Water Year 2016, the observed Tulare Lake Region unimpaired runoff through June 30, 2016, was about 1.8 MAF, or about 71 percent of average.

On June 30, 2017, the Northern Sierra 8-Station Precipitation Index Water Year total was 94.2 inches, which is about 193 percent of the seasonal average to date and 188 percent of an average water year (50.0 inches). During June, the total precipitation for the 8-Stations was 0.8 inches, or about 80 percent of average for the month. Last year on June 30, 2016, the Water Year 2016 seasonal total for the 8-Stations was 57.8 inches, or about 119 percent of average.

On June 30, 2017, the San Joaquin 5-Station Precipitation Index Water Year total was 71.5 inches, which is about 181 percent of the seasonal average to date and 175 percent of an average water year (40.7 inches). During June, the total precipitation for the 5-Stations was 0.1 inches, or about 16 percent of average for the month. Last year on June 30, 2016, the Water Year 2016 seasonal total for the 5-Stations was 40.0 inches, or about 101 percent of average.

On June 30, 2017, the Tulare Basin 6-Station Precipitation Index Water Year total was 46.1 inches, which is about 162 percent of the seasonal average to date and 157 percent of an average water year (29.2 inches). During June, the total precipitation for the 6-Stations was 0.1 inches, or about 25 percent of average for the month. Last year on June 30, 2016, the Water Year 2016 seasonal total for the 6-Stations was 25.7 inches, or about 91 percent of average.

<b>Daily Precipitation (in inches) for Selected Stations as of 06/30/2017</b>					
Station	Water Year 2017 to June 30, 2017	% Average	Water Year 2016 to June 30, 2016	% Average	WY 2017 % of Avg Water Year (Oct 1 – Sep 30)
Mount Shasta	59.40	141	40.93	97	136
Eureka	51.41	131	43.61	111	127
Redding	45.54	135	37.30	111	132
South Lake Tahoe	47.06	250	22.06	117	231
Sacramento Executive Airport	32.97	181	16.14	89	178
Santa Rosa (Sonoma Co AP)	58.21	162	30.43	85	160



San Francisco	32.06	137	22.12	95	136
Stockton	21.62	157	16.60	121	154
Yosemite	74.44	203	36.07	98	196
Monterey	24.20	152	21.54	136	150
Paso Robles	14.19	114	7.37	59	111
Fresno	17.20	152	14.33	127	150
Bakersfield	7.80	123	5.44	86	121
Death Valley	1.28	66	1.61	83	54
Los Angeles	17.69	121	6.35	43	118
Riverside	11.89	99	5.17	43	96
Palm Springs	6.96	145	2.50	52	121
San Diego	12.27	121	7.73	76	119

Key Reservoir Storage (1,000 AF) as of 06/30/2017								
Reservoir	River	Storage	Avg Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	2,167	2,086	104	2,448	89	---	281
Shasta Lake	Sacramento	4,211	3,650	115	4,552	93	-341	341
Lake Oroville	Feather	2,331	2,887	81	3,538	66	-1,207	1,207
New Bullards Bar Res	Yuba	960	830	116	966	99	-6	6
Folsom Lake	American	953	810	118	977	98	-24	24
New Melones Res	Stanislaus	2,181	1,532	142	2,400	91	-10	239
Don Pedro Res	Tuolumne	1,985	1,618	123	2,030	98	23	45
Lake McClure	Merced	1,011	732	138	1,025	99	-14	14
Millerton Lake	San Joaquin	493	416	119	520	95	-27	27
Pine Flat Res	Kings	992	691	144	1,000	99	-8	8
Isabella	Kern	353	313	113	568	62	-9	215
San Luis Res	(Offstream)	1,997	1,293	154	2,041	98	---	42

The latest National Weather Service, Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for August 2017, issued July 20, 2017, suggests average precipitation for all of California, except for the southeastern region, where above average rainfall is indicated.

### 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 was activated and operated under the Incident Command System (ICS). In coordination with the California-Nevada River Forecast Center, the Intelligence Section produced real-time river and reservoir inflow forecasts. The Planning and Intelligence Sections collaborated with reservoir operators to ensure that releases were coordinated to maintain river and bypass flows at safe levels. The Flood Operations Center was deactivated on June 30, 2017.

### **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 draft *Water Project Export Disruptions for Multiple-Island Breach Scenarios using the Delta Emergency Response Tool* report. The report will be included as a supplement to the *Delta Flood Emergency Management Plan*. The report documents the expected SWP and CVP export disruption times for various breach scenarios and response strategies. The latest additions include an analysis of the optimal reservoir release timing to help expedite restarting exports. The report will be provided to other Divisions within DWR for their review and comment.

Staff identified needed improvements to the Delta Emergency Response Tool which estimates the cost and time of repairs and export reductions caused by levee damage or failures in the Delta. The improvements include allowing more control over the prioritization of levee breach repairs. Staff will work with consultants to develop a task order and execute the improvements.

Staff identified needed improvements to the Flood Emergency Management System (FEMS) which is used by the Flood Operations Center staff to manage incidents, track resources and requests, and develop status reports and action plans. Staff will work with consultants to develop a task order and execute the improvements.

### **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 \$4.6 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.*

*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**

- Division of Flood Management staff is assisting the Central Valley Flood Protection Board to support 2017 CVFPP Update public workshops as part of the Board adoption process. Workshops were held on July 28 and August 11, 2017.
- The "track changes" version of the 2017 CVFPP Update was released to the public on August 1, 2017.
- The CVFPB will propose to adopt the Final 2017 CVFPP Update on August 25, 2017.

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

- DWR is continuing consultation with UAIC. The Supplemental PEIR was certified on August 4, 2017.
- The Notice of Determination was filed with the State Clearinghouse on August 4, 2017.

### **2017 State Plan of Flood Control Descriptive Document Update**

- Publication title and date will be adjusted to August 2017 as proposed to be adopted by the CVFPB on August 25, 2017.

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

- Publication title and date will be adjusted to August 2017 as proposed to be adopted by the CVFPB on August 25, 2017.

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

- 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**

Flood Planning Office (FPO) staff make 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.*

- The 2016 Conservation Strategy is proposed to be adopted by the CVFPB on August 25, 2017.

### **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 field inspection visit of the County of Los Angeles Special Flood Hazard Area the week of July 9, 2017.
- Staff assisted with a Substantial Damage/Substantial Improvement Workshop in Los Angeles, California on July 12, 2017.
- Staff assisted with an Elevation Certificate Workshop in Los Angeles, California on July 13, 2017.
- Flood Planning Staff assisted in conducting a National Flood Insurance Program Awareness presentation for the Northeast Regional MLS Realtors meeting on July 25, 2017. The purpose of this training was to make Realtors, Insurance Agents, and Loan Processors aware of how the FEMA Special Flood Hazard Areas affect homeowners when buying and selling homes.

### **Watershed University Educational Webinar Series**

The California Silver Jackets Team continues to coordinate Watershed University, a monthly educational webinar series for professionals in flood management, water management, and emergency response. The July 18 webinar provided an overview of hydrologic warning systems, which had 74 participants. During the August 15 webinar, Michael Anderson, State Climatologist, will discuss California's epic winter of water year 2017. The first three webinars focused on Hazard Mitigation Assistance grants, Advanced Quantitative Precipitation Information, and Floodplain Management Plans. Each webinar qualifies for 1 CEC for Certified Floodplain Managers through the Association of State Floodplain Managers (ASFPM). The Watershed University website ([water.ca.gov/floodmgmt/watershed-university/](http://water.ca.gov/floodmgmt/watershed-university/)) has information about past and future webinars.

### **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-nine final claims for \$6.0 million have been processed for reimbursement. Three 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, 54 final claims for \$5.4 million \$2.8 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 58 work agreements. Final claims are due November 1, 2017.
  - 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.
- Subventions Program FY 2017-18 – Seventy-two applications were received and reviewed. The CVFPB approved \$12M for the FY 2017-2018 Funding Plan on June 23, 2017.

## **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.*

- Reach I Contract 1 (construction contract) was awarded to Great Lakes - Inquip JV on July 24, 2017.
- Reach H solicitation was issued on FedBizOps on July 31, 2017. Proposals are due on September 1, 2017.
- USACE provided non-federal sponsors with 100% Reach D plans, specifications, Design Documentation Report, and Engineering Considerations and Instructions for Field Personnel for backcheck review on July 18, 2017. Comments for 100% review and backcheck for 90% and 60% submittal were provided on July 31, 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 June 1, 2017, is as follows:

- No new information this month.

### **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.*

- The public review of the Environmental Impact Statement/Environmental Impact Report started on June 16, 2017 and ended on July 31, 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 this month.

### **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.*

- With the completion of construction of Florin Creek, a project closing ceremony is scheduled to take place on August 9, 2017. Congresswoman Matsui and DWR, CVFPB, Sacramento Area Flood Control Agency managers will participate in the ceremony. The ceremony will take place at the Florin Creek Park in South Sacramento.

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

*The Preconstruction Engineering and Design (PED) phase is for the design of the remaining portions 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 have 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.*

- No new information this month.

### **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.*

- No new information this month.

### **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. The enlargement project will add additional storage for water supply, increased flood protection, and improve dam safety.*

- The Lower Tule Irrigation District sent a signed two party Federal Cost Share Agreement (FCSA) to USACE on July 5, 2017, to fund the updated economic analysis required before reinitiating construction of the project. The USACE is in the process of reviewing and executing the agreement. Since State Plan of Flood Control facilities are not affected or being altered, the State cost share for this FCSA is projected to be provided by DWR's Subventions Program

managed by the Flood Projects Office. The updated economic analysis completion is planned for approximately March 2018.

### **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.*

- On July 17, 2017, USACE Sacramento District forwarded a reclassification package request to USACE Headquarters. The request is to reactivate the study and to allocate additional federal funds to complete the Study.

### **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 has initiated construction of relief wells in the North area streams project.
- SAFCA expects to complete the 100% design for the pocket area by end of November 2017.

**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 for 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 for this month.

**San Joaquin Area Flood Control Agency (SJAFA) – 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.*

- SBFCA began work on their emergency slurry cutoff wall repairs on August 2, 2017. They will be repairing 2.9 miles of levee which exhibited distress in the 2016-2017 flood season.

Construction planned completion is before the 2017-2018 flood season. DWR has allocated up to \$25 million for this project. USACE 404 permit, USACE 408 approval, and CVFPB 408 permit were issued on August 1, 2017. On August 3, 2017, a press conference was held atop the 2.9 mile stretch of damaged levee in Yuba City to mark the start of the emergency repairs. DWR, SBFCA, USACE, and State, federal and local elected officials were in attendance.

**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.*

- Amendment 5 to the Funding Agreement was executed on July 17, 2017. This Amendment extends the agreement expiration by one year, to June 30, 2018. The additional time is needed for project close out activities.

**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.*

- No new information this month.

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

*Consistent with the Central Valley Flood Protection Plan, SFRR works 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.*

- 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.

##### **Chico Area Streams Project**

- A Form 1498a partnering agreement was drafted for the Northern Region Office (NRO) to complete the draft Channel Management Plan. NRO will present recommendations to FMO and Sutter Maintenance Yard in August 2017.

#### **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**

- Staff is preparing the 2<sup>nd</sup> *Report of Findings: Mercury Control Studies for the Cache Creek Settling Basin*. The report, due to the CVRWQCB in October 2017, will update the first report submitted in November 2015 by providing two additional water years of data used in the calculation of its trapping efficiency and sediment and mercury loads into and out of the Basin. Load and trapping efficiency reporting is necessary for departmental compliance with mercury TMDLs established for the Basin as well as for meeting USACE O&M requirements.

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

- A Form 1498a partnering agreement was drafted for NRO to implement revisions to the draft Channel Management Plan. NRO will present recommendations to FMO and Sutter Maintenance Yard in August 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 July:

- At the Sacramento River between Collinsville and Knights Landing, a scour repair 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 July:

- 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.*

For the month of July:

- No new information for this month.

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

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

- All site related groundwater monitoring, remediation wells, and other associated monitoring points have been permanently and properly abandoned. A report of this work was provided to the CVRWQCB. Documentation of the well abandonment met the final requirement for a "no further regulatory action" closure of the site. Receipt of the formal closure notice from the CVRWQCB is anticipated in August 2017.

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

- No new information this month.

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

- Sections 1600, 404, and 401 permit applications have been submitted to their respective agencies and reviews are on-going. Material procurement will commence upon receipt of each approved permit.

### **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.

### **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.

## **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 July:

- At Colusa Bypass the following activity occurred:
  - 4 miles of vegetation were burned.
- At the East Levee of the Sacramento River, the following activity occurred:
  - 12.5 miles of vegetation dragging was completed.
- At the East Levee of the Sutter Bypass, the following activities occurred:
  - Vegetation dragging is complete,
  - Vegetation burning is ongoing, and
  - Vegetation spot spraying is ongoing.
- At MA 1, the following activities occurred:
  - 3 signs were replaced,
  - Vegetation burning is ongoing, and
  - Rodent baiting is ongoing.
- At MA 5, the following activities occurred:
  - Vegetation burning is complete, and
  - Vegetation spot spraying is ongoing.
- At MA 7, the following activities occurred:
  - 12.07 miles were mowed,
  - Gates were repaired, and
  - Vegetation broadcast spraying is ongoing.
- At MA 12, the following activities occurred:
  - 11.22 miles of vegetation were burned, and
  - Rodent baiting is in progress.
- At MA 13, the following activities occurred:
  - 41.97 miles of vegetation burning were completed, and
  - 41.97 miles of road grading were completed.
- At MA 16, the following activities occurred:
  - 4.09 miles of vegetation mowing was completed,
  - 4.09 miles of vegetation broadcast spraying was completed, and
  - Gates were repaired.
- At the West Yolo Bypass Units 1-4, the following activity occurred:
  - 2.7 miles of road grading is complete.

#### **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)**

This is a maintenance program to obtain all permits necessary to repair small levee erosion along DWR-maintained waterside areas. Up to 15 sites can be repaired annually. SERP permits are active as of May 2014 and expire May 2019.

- Levee erosion was identified in Maintenance Area 9 in May 2017. The site fits the criteria to be repaired under the SERP program. The permit notification process was started.
- Part of the notification package includes notifying tribes under DWR's tribal policies. Two tribes have requested consultation: Lone Band of Miwoks and Wilton Rancheria. DWR met with the Lone Band of Miwoks on July 21, 2017. This tribe wishes DWR to consider using their plants when replanting disturbed areas and they have requested a pedestrian survey. They also requested to be at the site during any grading of the levee slope.

#### **Deferred Maintenance Project (DMP)**

- DFM has developed the DMP to evaluate and repair levee penetrations, help implement systemwide 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.

Staff met with LMAs to deliver Notice of Eligibility (NOE) documents for the video inspection portion of the project and explained the required paperwork and general project process. Staff expects to complete NOE meetings at the end of July.

#### **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)**

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.

### **2017 Storm Damage DWR Emergency Rehabilitation (SDDER) Program**

SDDER is assessing over 300 reported damage sites on the Sacramento River and San Joaquin River State Plan of Flood Control (SPFC) levee systems. DWR plans to repair as many sites as possible before the 2017-18 winter storm season. All planning, design and construction activities are being coordinated with the Central Valley Flood Protection Board. A tribal coordination meeting for the Sacramento River system sites is scheduled for August 8. DWR is planning to repair 17 sites via two contracts which have been advertised. The two contracts will be awarded in early September.

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

As a result of the storm events of January, 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 2016/2017 flood season. The USACE is planning to repair 18 sites before the 2017-18 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 continues to review and prepare responses to comments received on the DEIR.
- On June 20, 2017, FMO staff met with CDFW staff from Region 2 and 3 to discuss comments that CDFW had on the Section 1600 Lake or Streambed Alteration Agreement (LSAA) Notification packages that DWR submitted on May 30, 2017.