

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

**By**

**Keith E. Swanson, Chief,  
Division of Flood Management  
Department of Water Resources  
California Natural Resources Agency  
State of California\***

(BLANK PAGE)

**Table of Contents**

FLOOD EMERGENCY RESPONSE (FER) .....	7
RESERVOIR OPERATIONS & RIVER FORECASTING .....	9
<b>FLOOD MANAGEMENT PLANNING (FMP) .....</b>	<b>10</b>
<b>CENTRAL VALLEY FLOOD MANAGEMENT PLANNING (CVFMP) .....</b>	<b>10</b>
<b>FLOODPLAIN RISK MANAGEMENT (FRM) .....</b>	<b>12</b>
<b>CALIFORNIA FLOODPLAIN RISK MANAGEMENT (CFRM) .....</b>	<b>12</b>
<b>FLOODPLAIN MANAGEMENT ASSISTANCE .....</b>	<b>12</b>
<b>Flood Risk Notification (FRN).....</b>	<b>12</b>
<b>CONSERVATION STRATEGY.....</b>	<b>13</b>
<b>Conservation Strategy Document: .....</b>	<b>13</b>
STATEWIDE INTEGRATED FLOOD MANAGEMENT PLANNING (SIFMP).....	13
<b>FLOOD RISK REDUCTION PROJECTS (FRRP) .....</b>	<b>14</b>
DELTA LEVEE SYSTEM INTEGRITY (DLSI) .....	14
Delta Stewardship Council (DSC) Interagency Agreement (IA) .....	14
USACE/CVFPB PROJECTS.....	14
American River Common Features (ARCF) Project.....	15
American River Watershed – Natomas Basin Project .....	15
Folsom Dam Modifications Joint Federal Project (JFP) .....	15
Folsom Dam Raise Project .....	16
Lake Kaweah Enlargement Project (Terminus Dam, Kaweah River Project).....	16
Marysville Ring Levee Improvement Project.....	16
South Sacramento County Streams Project.....	16
USACE/CVFPB STUDIES .....	17
Central Valley Integrated Flood Management Study .....	17
Cache Creek Settling Basin Project GRR .....	17
Lower San Joaquin River Feasibility Study (LSJRFS).....	17
Merced County Streams Project – Bear Creek GRR.....	17
Sutter Basin Feasibility Study.....	18
West Sacramento Project GRR .....	18
Woodland/Lower Cache Creek Feasibility Study.....	18
Yuba River Basin Project GRR .....	18

URBAN FLOOD RISK REDUCTION PROGRAM (UFRR).....	18
Knights Landing Levee Repair Project (EIP) .....	19
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) .....	20
SAFCA – Sacramento River East Levee Project (EIP).....	20
Three Rivers Levee Improvement Authority (TRLIA) – Feather River Levee Improvement Project (EIP).....	21
TRLIA – Upper Yuba River Levee Improvement Project (EIP).....	21
West Sacramento Area Flood Control Agency (WSAFCA) – North Area Improvement Project (EIP) .....	21
West Sacramento Area Flood Control Agency (WSAFCA) – Southport Improvement Project (EIP & UFRR).....	21
Woodland Study and Preliminary Design (UFRR) .....	21
SMALL COMMUNITIES FLOOD RISK REDUCTION (SCFRR) PROGRAM.....	22
<b>FLOOD CORRIDOR PROGRAM (FCP) .....</b>	<b>22</b>
<b>LOCAL LEEVE ASSISTANCE PROGRAM (LLAP).....</b>	<b>23</b>
<b>YUBA-FEATHER FLOOD PROTECTION PROGRAM .....</b>	<b>23</b>
<b>SAN JOAQUIN RIVER RESTORATION PROJECT (SJRRP) .....</b>	<b>23</b>
<b>FLOOD SYSTEM OPERATIONS AND MAINTENANCE (FSO&amp;M) .....</b>	<b>24</b>
<b>CHANNEL EVALUATION AND REHABILITATION .....</b>	<b>24</b>
<b>INSPECTION AND EVALUATION: .....</b>	<b>25</b>
<b>Bear River Hydraulic Model .....</b>	<b>25</b>
<b>Cherokee Canal Hydraulic Model .....</b>	<b>25</b>
<b>Chico Area Streams Hydraulic Model .....</b>	<b>25</b>
<b>East Side Canal (aka Coon Creek Interceptor, Sacramento County) .....</b>	<b>25</b>
<b>Knights Landing Ridge Cut/Colusa Drain Hydraulic Model.....</b>	<b>26</b>
<b>Middle Creek Hydraulic Model (Lake County) .....</b>	<b>26</b>
<b>Natomas East Main Drainage Canal (NEMDC) .....</b>	<b>26</b>
<b>Putah Creek Hydraulic Model .....</b>	<b>26</b>
<b>ROUTINE OPERATIONS AND MAINTENANCE: .....</b>	<b>26</b>
<b>NON-ROUTINE ACTIVITIES: .....</b>	<b>27</b>
<b>FLOOD CONTROL FACILITIES EVALUATION AND REHABILITATION (FCFER) .....</b>	<b>27</b>

<b><i>INSPECTION AND EVALUATION:</i></b> .....	27
Butte Slough Outfall Gates (BSOG).....	27
<b><i>ROUTINE OPERATIONS AND MAINTENANCE:</i></b> .....	28
Butte Slough Outfall Gates (BSOG) - Completion Contract .....	28
<b>LEVEE OPERATIONS AND MAINTENANCE COMPONENTS</b> .....	29
<b><i>ROUTINE OPERATIONS AND MAINTENANCE:</i></b> .....	29
<b>NON-ROUTINE PROJECTS:</b> .....	30
<b><i>FLOOD SYSTEM EVALUATION AND REHABILITATION (FSER)</i></b> .....	30
Lower Feather River Corridor Management Plan .....	30
<b><i>LEVEE REPAIRS</i></b> .....	30
Flood System Repair Project (FSRP) .....	31
Sacramento River Bank Protection Project (SRBPP) .....	31
Federal Public Law 84-99 Emergency Repair Project (PL 84-99) .....	31

(BLANK PAGE)

### **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 Rivers 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.*

#### **Inspections**

Staff has completed spring levee inspections and has published the reports to CDEC. Summer channel and structure inspections have begun. Staff continues to work with Central Valley Flood Protection Board staff inspecting and coordinating encroachment permits. The Encroachment Permit database continues to be updated. A program to field-verify the levee log data continues with staff from the Division of Integrated Regional Water Management. Staff continues to coordinate with DWR, USACE, CVFPB, and LMA staff on a number of projects and activities.

Staff continued to improve the Levee Vulnerabilities web-application within the Flood Emergency Response Information Exchange (FERIX) interface.

### **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 April 30, statewide hydrologic conditions were as follows: precipitation, 70 percent of average to date; runoff, 55 percent of average to date; snow water content, 2 percent of average to date (1 percent of the April 1 average); and reservoir storage, 65 percent of average for the date. Sacramento River Region unimpaired runoff, for Water Year 2015, observed through April 30, 2015 was about 7.5 million acre-feet (MAF), which is about 56 percent of

average. In comparison to Water Year 2014, the observed Sacramento River Region unimpaired runoff through April 30, 2014 was about 5.5 MAF, or about 41 percent of average.

On April 30, the Northern Sierra 8-Station Precipitation Index Water Year total was 34.0 inches, which is about 75 percent of the seasonal average to date and 68 percent of an average water year (50.0 inches). During April, the total precipitation for the 8-Stations was 2.3 inches, or about 59 percent of average for the month. Last year on April 30, the Water Year 2014 seasonal total for the 8-Stations was 28.1 inches, or about 62 percent of average.

On April 30, the San Joaquin 5-Station Precipitation Index Water Year total was 16.0 inches, which is about 43 percent of the seasonal average to date and 39 percent of an average water year (40.8 inches). During April, the total precipitation for the 5-Stations was 2.3 inches, or about 64 percent of average for the month. Last year on April 30, the Water Year 2014 seasonal total for the 5-Stations was 18.2 inches, or about 49 percent of average.

Daily Precipitation (in inches) for Selected Stations as of 05/01/2015					
Station	October 1 to Date 2014-2015	% Average	Season to Date 2013-2014	% Average	% Average Oct 1 – Sep 30
Mount Shasta	31.95	82	11.69	30	73
Eureka	29.85	81	16.30	44	74
Redding	22.17	71	15.97	51	64
South Lake Tahoe	9.64	56	11.85	69	47
Sacramento Executive Airport	15.30	88	8.92	52	83
Santa Rosa (Sonoma Co AP)	22.24	65	13.68	40	61
San Francisco	17.34	77	11.92	53	73
Stockton	10.57	80	6.99	53	75
Yosemite	14.29	41	15.87	46	38
Monterey	14.21	93	8.21	54	88
Paso Robles	8.13	67	4.91	40	64
Fresno	5.85	55	4.87	46	51
Bakersfield	4.61	76	2.37	39	71
Death Valley	1.05	56	1.00	53	44
Los Angeles	7.46	52	5.74	40	50
Riverside	4.23	36	1.87	16	34
Palm Springs	2.07	45	0.92	20	36
San Diego	6.53	66	4.90	49	63

Key Reservoir Storage (1,000 AF) as of 04/30/2015								
Reservoir	River	Storage	Average Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	1,184	2,020	59	2,448	48	---	1,264
Shasta Lake	Sacramento	2,662	3,924	68	4,552	58	-1,890	1,890
Lake Oroville	Feather	1,782	2,877	62	3,538	50	-1,677	1,756



New Bullards Bar Res	Yuba	586	767	76	970	60	-310	380
Folsom Lake	American	576	729	79	977	59	-227	401
New Melones Res	Stanislaus	491	1,505	33	2,400	20	-1,735	1,929
Don Pedro Res	Tuolumne	843	1,487	57	2,030	42	-875	1,187
Lake McClure	Merced	104	607	17	1,032	10	-746	921
Millerton Lake	San Joaquin	192	366	53	520	37	-328	328
Pine Flat Res	Kings	211	613	34	1,000	21	-789	789
Isabella	Kern	45	231	19	568	8	-316	523
San Luis Res	(Offstream)	1,273	1,822	70	2,041	62	---	766

The latest National Weather Service Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for May 2015, issued April 30, 2015, suggests equal chances of wet or dry conditions for all of California.

**RESERVOIR OPERATIONS & RIVER FORECASTING**

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

**FLOOD EMERGENCY PREPAREDNESS & OPERATIONS**

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

**Delta Emergency Planning**

The comment period on the first draft of the DWR-USACE Delta Emergency Operations Integration Plan is complete. Comments are being reviewed and will be applied to a second draft of the plan.

**Delta Emergency Response Grants**

Staff continued to manage executed contracts with local agencies. A Director’s Decision Memo was approved to award additional funds to Contra Costa County so that local maintaining agencies can be reimbursed for their participation in the project. The Agreement for this project is with Contra Costa County for signature.

**Delta Flood Emergency Facility Improvement Projects**

Staff is working closely with the USACE on the 404 permitting for the Rio Vista site. The Rio Vista site is a potential location for storage of the False River Emergency Drought Barrier rock

when it is planned for removal in October. Applications have been submitted for the Webber Avenue sites, which include a 404 Nationwide Permit, 401 Water Quality Certification, and a 1600 Streambed Alteration. The 95% Design review of the plans for Rio Vista and the southern Webber Avenue parcels has been completed. Staff continues to address supplemental requests from regulatory agencies related to permit applications.

### **Delta Agency Coordination**

The quarterly Delta Working Group Meeting was held on May 27, 2015. The next meeting is tentatively scheduled for August 19.

### **Delta Flood Emergency Preparedness, Response, and Recovery Program**

Staff is improving the Delta Emergency Response Tool which estimates the cost and time of repairs and potential water export reductions caused by levee damage or levee failure in the Delta. Improvements include the ability to simulate real-time operations and current hydrologic forecasts.

### **FLOOD EMERGENCY RESPONSE GRANTS**

#### **Statewide Flood Emergency Response Grants**

Staff continues to manage the 14 executed grant contracts with local agencies to improve their flood emergency response capabilities. Staff has provided initial funding recommendations to the Director for approval for the second round of the Statewide Flood Emergency Response Grant Program. Following the Director's approval, there will be a 30-day public comment period.

#### **Delta Emergency Response Tabletop Exercise**

Staff is preparing the After Action Report for the exercise that will include recommendations for improving the Department's emergency preparedness and response in the Delta.

### **FLOOD MANAGEMENT PLANNING (FMP)**

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

### **CENTRAL VALLEY FLOOD MANAGEMENT PLANNING (CVFMP)**

*The CVFMP focuses on working with stakeholders to formulate plans for reducing flood risk and increasing the resiliency of the State Plan of Flood Control (SPFC). As recommended in the CVFPP, this program is currently implementing major planning efforts: locally led 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).*

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

No new information this month.

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

No new information this month.

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

The six directed funding agreements between DWR and our regional partners have been amended for time, budget, and scope, allowing for the continuation of the RFMP effort into a “Phase 2”. RFMP Phase 2 is intended to extend the constructive collaboration, coordination, and meaningful engagement developed in Phase 1 through adoption of the 2017 CVFPP update. RFMP Phase 2 activities through June 2017 include Project Management, Coordination, Communications and Engagement, Regional Governance, and developing strategies to deal with Institutional Barriers. SPFC coordinators are currently working with each region to develop their yearly work plan which will describe the budget and activities for this first year of RFMP Phase 2 funding.

### **Public Engagement**

Technical briefings were conducted for technical representatives of each of the 6 RFMP’s to provide transparency in BWFS technical approach, methodology, tools, and assumptions. Sacramento BWFS technical team met on May 5 and May 12 with technical representatives of the three Sacramento Basin RFMPs to brief them on climate change, hydrology, and hydraulic analyses activities. A similar technical briefing will be provided to technical representatives of all three San Joaquin RFMP’s on May 28.

A public workshop supporting development of the 2017 CVFPP will be held on June 24 at the Howe Avenue Park Community Center in Sacramento.

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

### **FLOODPLAIN RISK MANAGEMENT (FRM)**

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

### **CALIFORNIA FLOODPLAIN RISK MANAGEMENT (CFRM)**

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

### **FLOODPLAIN MANAGEMENT ASSISTANCE**

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

No new information this month.

### **Flood Risk Notification (FRN)**

No new information this month.

### **Coastal Floodplain Evaluation and Planning**

The final Coastal Floodplain Management Focus Group meeting took place on June 18 in Oakland. The Focus Group meeting supported work being carried out by DWR, the Scripps Institute of Oceanography and the Ocean Science Trust in support of the NOAA funded Sea Level Rise research grant awarded to DWR. SLR grant work products are being developed by DWR, the Scripps Institute of Oceanography and the Ocean Science Trust.

## **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 (CS) describes DWR's approach for achieving these objectives. It outlines actions to improve programmatic environmental permitting, provide advance mitigation for flood projects, improve systemwide vegetation management, integrate environmental stewardship into multi-benefit flood improvement projects, promote agricultural stewardship, and improve the quality of scientific and planning information needed for wise decision making.*

### **Conservation Strategy Document:**

The draft Conservation Strategy, Executive Summary and eleven Appendices are posted on FESSRO's public website. DWR expects to release the final appendix and announce a 60-day public review period for the draft Conservation Strategy and all related documents in June.

### **Regional Permitting:**

DWR selected a consultant to develop the EIS/EIR for the Feather River Habitat Conservation Plan.

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

*Statewide Integrated Flood Management Planning (SIFMP) has identified flood risks facing Californians and proposed mitigation measures to manage the risks. SIFMP presented recommendations to improve flood management in a comprehensive report titled **California's Flood Future: Recommendations for Managing the State's Flood Risk**. The report identified that more than 7 million Californians, or one in five, live within a 500-year level of flood risk floodplain, and approximately \$580 billion in assets (crops, structures, and public infrastructure) are exposed to flooding. It was produced working jointly with the USACE and more than 140 public agencies and presented comprehensive information about exposure to flood risk in each of California's counties, and about specific projects and associated costs that local agencies are planning to implement to reduce flood risks to their communities. Information developed for "California's Flood Future" was used to create flood management content and recommended flood related risk reduction management actions presented in the "California Water Plan Update", published in October 2013.*

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

and reduce residual flood risk using an outcome-based approach. The report will support *Action 8* of the *California Water Action Plan*.

### **FLOOD RISK REDUCTION PROJECTS (FRRP)**

***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 work closely with 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 Stewardship Council (DSC) Interagency Agreement (IA)**

The DSC IA funds the Delta Levees Investment Prioritization Study. The DSC has been collecting information and developing the framework for its investment strategy tool. The first draft Technical Memorandums (TMs) have been received by the DSC for review. The TMs support the analyses and reports that are IA deliverables. The TMs and Delta Levees Issue Paper are available on the DSC website. The DSC held a two-day Peer Review workshop for a midcourse check-in May 19-20. The external Peer Review members received the draft TMs, viewed presentations from the DSC and their contractor (Arcadis), and asked questions. The Peer Review panel will be drafting findings and recommendations in a report due near the end of June. The DSC has also issued a CEQA Notice of Preparation (NOP) for the Delta Levee Investment Strategy (DLIS). The Council plans to hold two scoping meetings for the documents; the first is scheduled for June 30 at 10:00 a.m. in West Sacramento and the second will be June 30 at 6:30 p.m. in Stockton. Comments on the NOP are due July 1.

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

The DPC IA funds the study to investigate the feasibility of a statewide benefit assessment district for the Delta.

### **USACE/CVFPB PROJECTS**

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

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

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

- Construction of Site L10, R7, L7 and NEMDC Extension continues.
- NEMDC Extension mobilization started in early May 2015.

**American River Watershed – Natomas Basin Project**

*The Natomas Basin Project was approved by President Obama as part of the Water Resources Reform and Development Act in June 2014. It includes significant improvements to the Natomas Basin levees resulting in a minimum of 100-year level of flood protection for the basin. This project, in combination with Folsom Dam improvements, will provide the Natomas Basin with 200-year level of flood protection consistent with the SB5 Urban Level of Flood Protection requirements.*

- Project Partnership Agreement (PPA) for construction of the Natomas Basin project is pending USACE HQ release of the Water Resources Reform and Development Act (WRRDA) implementation guidance. Earliest expected date for the implementation guidance is in June 2015 leading to an executed PPA by September 2015.
- Phase 1, Reach I, 90% design is complete. Final design, including incorporating comments, is due by June 30, 2015. Phase 2, Reach I, design project award is scheduled in June 2015 and is expected to be completed by spring 2016. Phase 1 and 2 design projects include cut-off walls; cut-off wall construction project award is scheduled for October 2016.
- Design Agreement Number 2 will be presented to the CVFPB during the June 26, 2015 board meeting. Design Agreement Number 2 increases the total design cost to \$3,846,150.

**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 May 1, 2015, is as follows:

Phases	Planning & Design	Construction
Preconstruction Engineering and Design	100%	N/A
Phase III – Control Structure	100%	97%
Phase IV – Approach Channel, Chute, and Stilling Basin	100%	46%
Phase V – Site Restoration	45%	8%
Project Overall	94%	68%

- The USACE awarded the Phase V, Right Bank Stabilization construction work, to Newland Entities, Inc. in the amount of \$1.78 million. Right Bank Stabilization work comprises of rock bolting to address potential destabilization of the existing slope along the right bank at the confluence of the new auxiliary spillway and the American River. Construction is anticipated to start in June 2015.
- The USACE hosted a public stakeholder meeting for the Water Control Manual Update on May 28, 2015. The purpose of the meeting was to inform the stakeholders about the

drawdown operation, the spring refill storage boundary, the forecast-based alternatives, and the future schedule milestones.

### **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 design for the gate improvement went through 65% design and sponsors comment back check in May 2015. The 100% design is planned for mid-January of 2016.
- USACE and USBR's risk analysis meeting is planned between September 21 and 25, 2015 at the USBR's Technical Service Center in Denver.
- The contract award of the first contract for the Dam Raise project is planned for September 2016.

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

*The Lake Kaweah Enlargement Project was completed in 2006, and the remaining administrative, financial, and turnover work is underway and should be completed by the end of 2015.*

No new information this month.

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

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

Permanent easement and maintenance agreement, between the Union Pacific Railroad and the Marysville Levee District, for construction of Phase 4A berm on the Union Pacific Railroad property is going through final edits between parties. The agreement is needed to begin berm construction this fall.

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

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

The USACE started soliciting bids for the Florin Creek construction project on May 15, 2015. Construction includes channel widening, invert channel lining and paving, parapet walls and retaining walls; project limits are from Franklin Blvd. to Highway 99. Estimated Cost Range is between \$5 and \$10 million. Construction is planned to start in mid-July 2015.



### **USACE/CVFPB Studies**

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

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

*The GRR will plan for 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.*

USACE and SAFCA are awaiting public comments for revision to the draft GRR. Final GRR release is scheduled for June 2015.

#### **Central Valley Integrated Flood Management Study**

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

On May 11, 2015, USACE held a Vision Milestone with USACE HQ (Vertical Team). It was agreed by the Vertical Team that the milestone was met and that the team would move on to the Recommendations Milestone. The purpose of the Recommendations Milestone is to develop a list of recommendations from the initial array of measures for the USACE and other agencies to implement the list of recommendations scheduled for October 2015.

#### **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 most recent improvements completed in 1993, the project authorization specified additional improvements to be considered at year 25, or when the sediment trapping efficiency fell below 30%.*

No new information this month.

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

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

### **Sutter Basin Feasibility Study**

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

No new information this month.

### **Sacramento River Bank Protection Plan Phase 3 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 USACE Chief's Report.*

The USACE submitted the GRR Project Management Plan (PMP) to the CVFPB for signature; DWR legal received the PMP on June 8, 2015 and is reviewing it for the CVFPB. The USACE requires the PMP be signed by the CVFPB before signing the Feasibility Cost Share Agreement (FCSA). The CVFPB signed the FCSA on June 8, 2015.

### **West Sacramento Project GRR**

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

No new information this month.

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

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

- The USACE conducted a Value Engineering (VE) workshop on May 25-29, 2015. The purpose of the workshop was to narrow down the final array of alternatives.
- The current preferred alternative includes a flood wall, a degrade of a portion of the Cache Creek Settling Basin west levee, and a weir to allow flood water to drain into the Basin.

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

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

No new information this month.

### **URBAN FLOOD RISK REDUCTION PROGRAM (UFRR)**

*This program was created to address state investment priorities as a result of the adoption of the Central Valley Flood Protection Plan (CVFPP). UFRR supports implementation of regional flood damage reduction projects for urban and urbanizing areas protected by SPFC facilities in the Sacramento-San Joaquin Valley to achieve at least a 200-year level of flood protection.*

*UFRR provides cost-share funding to local agencies to repair and improve levees and facilities of the SPFC. UFRR is based on competitively awarded grants and directed funding. Projects must be multi-benefit flood projects consistent with the CVFPP and State Systemwide Investment Approach. The program evolved from the **Early Implementation Program (EIP)** developed in 2007 in response to the passage of Propositions 1E and 84. The following are EIP and UFRR projects:*

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

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

Construction contract bids opened and closed on May 5, 2015. The winning bid was Magnus Pacific at \$4.6 million. The Knights Landing Ridge Drainage District (KLRDD) anticipates construction to start during June 2015, after the USACE issues the Section 404 permit for the project.

**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 for future projects and meet the Urban Flood Risk Reduction Program requirements to address floodplain development and multi-benefit projects consistent with the 2012 Central Valley Flood Protection Plan State Systemwide Investment Approach.*

- DWR sent a letter to city of Lathrop on May 15, 2015, committing up to \$5 million to the project.
- The city of Lathrop has until June 30, 2015 to submit the full project application; DWR is working with the city of Lathrop to obtain all required documents.
- FPO staff will work closely with the city of Lathrop to support developing a preferred plan.

**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. This project is still under review for State funding from DWR.*

- DWR sent a letter to SAFCA on May 15, 2015 committing up to \$112 million to the project.
- SAFCA has until June 30, 2015 to submit the full project application; DWR is working with SAFCA to obtain all required documents.

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

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

No new information this month.

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

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

Construction of Pritchard Pumping Plant is complete. DWR and Department of Fish and Wildlife staff attended a dedication event held on May 29, 2015.

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

*The Smith Canal Closure Project will construct a miter gate at the mouth of the Smith Canal on the San Joaquin River/Stockton Deep Water Ship Channel to provide a 100-year level of flood protection to a portion of the city of Stockton.*

- DWR sent a letter to SJAFC on May 15, 2015 committing up to \$22.31 million to the project.
- SJAFC has until June 30, 2015 to submit the full project application; DWR is working with SJAFC to obtain all required documents.

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

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

- SBFCA is continues to negotiate with the USACE and the Native American Heritage Commission for permission to start this year's scheduled construction work. Permission is pending the cultural monitoring plan finalization.
- DWR sent a letter to SBFCA on May 15, 2015 committing up to \$40.829 million to the project.
- SBFCA has until June 30, 2015 to submit the full project application; DWR is working with SBFCA to obtain all required documents.

**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.*

- DWR sent a letter to TRLIA on May 15, 2015 committing up to \$32.6 million to the project.

- TRLIA has until June 30, 2015 to submit the full project application; DWR is working with TRLIA to obtain all required documents.

### **Three Rivers Levee Improvement Authority (TRLIA) – Feather River Levee Improvement Project (EIP)**

*This project will result in a 200-year flood protection level for Highway 65 and 70, and will also improve flood protection for Olivehurst, Linda, Plumas Lake, Marysville, and Yuba City. This project includes one of the largest setback levees west of the Mississippi River, and creates 1,600 acres for on-site mitigation, agricultural use, and habitat.*

No new information this month.

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

*This project will result in a 200-year level of flood protection for Highway 65 and 70, and will also improve flood protection for Olivehurst, Linda, Plumas Lake, Marysville, and Yuba City. This project includes a portion of the Yuba River's south levee.*

No new information this month.

### **West Sacramento Area Flood Control Agency (WSAFCA) – North Area Improvement Project (EIP)**

*The California Highway Patrol Academy, Rivers, and I-Street Bridge projects are part of the North Area Plan. All construction is complete for these sites. These projects correct through-seepage and foundation under-seepage that have excessive hydraulic gradients, embankment instability, and erosion problems. All three projects are designed to provide a 200-year flood protection level for about 47,000 residents.*

No new information this month.

### **West Sacramento Area Flood Control Agency (WSAFCA) – Southport Improvement Project (EIP & UFRR)**

*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.*

- DWR sent a letter to WSAFCA on May 15, 2015 committing up to \$28.73 million to the project.
- WSAFCA has until June 30, 2015 to submit the full project application; DWR is working with WSAFCA to obtain all required documents.
- DWR is also providing \$103 million that the Legislature previously allocated to the Southport project under EIP.

### **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 the 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 floodplain development, existing maintenance issues, and residual risk measures.*

- DWR sent a letter to the city of Woodland on May 15, 2015 committing up to \$5 million to the project.
- The city of Woodland has until June 30, 2015 to submit a full project application; DWR is working with the city of Woodland to obtain all required documents.
- FPO staff will work closely with the city of Woodland to support developing a preferred plan.

### **SMALL COMMUNITIES FLOOD RISK REDUCTION (SCFRR) PROGRAM**

*This program provides local assistance to small communities in the Central Valley located in “high” or “moderate to high” flood risk areas. SCFRR program assists small communities by cost sharing feasibility studies, design, and construction of projects to improve flood protection to 100-year level of flood protection.*

#### **Butte County**

No new information this month.

#### **Colusa County**

No new information this month.

#### **Merced County**

No new information this month.

#### **Lake County**

No new information this month.

#### **City of Rio Vista**

No new information this month.

### **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 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 Flood Risk Reduction Projects (FRRP) that improve floodwater conveyance and transitory floodwater storage, using primarily non-structural methods while preserving or enhancing agricultural production and/or wildlife habitat.*

**Magpie Creek Floodplain Conservation Project** – The California Department of Finance’s (DOF) audit of the Magpie Creek project concluded during the week of May 11, 2015. DOF was satisfied with DWR’s response to their inquiries.

#### **LOCAL LEEVE 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 LLAP include minimizing flood risk; identifying deficiencies in flood control structures and levees; and 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, or relocation of flood control levees, weirs, or bypasses, including repair of critical bank and levee erosion.*

**Statewide Flood Grants / Local Levee Assistance Program** – DWR staff have completed initial review of grant applications for flood risk reduction projects submitted during the Proposal Solicitation that closed on March 17, 2015. A draft list of proposed grantees is expected during summer 2015. The final list of approved projects to receive grant is expected during fall 2015.

#### **YUBA-FEATHER FLOOD PROTECTION PROGRAM**

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

Of the \$70 million allocated in Proposition 13 (2000) for the YFFPP, the program currently has less than \$500,000 in unallocated funds. Of the ten active contracts, five are due to close out within 6 months, two in 2016, and the remaining three in 2017.

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

*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 fish into the San Joaquin River as required by the Stipulation of Settlement (Settlement). DWR has offered technical and funding assistance to the program in recognition of the 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 and identifying potential remedies to address increased flood risks under Restoration flows in coordination with the CVFPP.*

The work plan for further studies to understand the flood risk with respect to seepage and stability on priority 2 and 3 levees is in progress and is due in mid-June, 2015.

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

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

### **CHANNEL EVALUATION AND REHABILITATION**

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

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

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

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

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



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

### **INSPECTION AND EVALUATION:**

#### **Bear River Hydraulic Model**

No new information this month.

#### **Butte Creek Hydraulic Model**

No new information this month.

#### **Cache Creek Hydraulic Model**

Although the modeled Water Surface Elevation (WSE) is well below design, several areas of Cache Creek have been identified as lacking adequate freeboard. This area has undergone significant subsidence since its design and construction (two to seven feet), and given the current drought, as well as several gravel placements on the levee crowns, concerns have been raised that surveys done approximately seven years ago may not represent current conditions. A request for a field survey of levee crown elevations upstream of County Road 102 plus known benchmarks including HWY 113 and CR102 bridge pier foundations has been submitted to DWR's Engineering Division. Once these surveys are completed, freeboard will be re-evaluated.

#### **Cache Creek Settling Basin**

This month, staff will be receiving draft reports summarizing the control studies performed by the United States Geological Survey and the University of California, Davis, in response to the Central Valley Regional Water Quality Control Board's Total Maximum Daily Load (TMDL) requirements for the basin and adjacent Yolo Bypass. The draft reports will provide calculated estimates on the sediment trapping efficiency of the basin and form the baseline conditions for subsequent feasibility study evaluations to improve the trapping efficiency of the basin.

#### **Cherokee Canal Hydraulic Model**

No new information this month.

#### **Chico Area Streams Hydraulic Model**

Staff is continuing to refine the channel management plan.

#### **East Side Canal (aka Coon Creek Interceptor, Sacramento County)**

Staff completed field surveys that include documenting wetland delineation and field biological surveys to provide data needed for the environmental evaluation to eventually incorporate the East Side Canal into the Routine Maintenance Agreement (RMA) between DWR and California Department of Fish and Wildlife (CDFW).

### **Knights Landing Ridge Cut/Colusa Drain Hydraulic Model**

Staff is working on a draft report for the Knights Landing Ridge Cut hydraulic model. Staff is initiating work on the Colusa Drain hydraulic model.

### **Middle Creek Hydraulic Model (Lake County)**

The Northern Region Office (NRO) is investigating levee elevation discrepancies between as-built profiles and existing survey elevations of various levees and structures that are being modeled. There is also a discrepancy between the as-built design profile and the 1957 profile for the Poge Creek reach. We are assuming the flow corresponding to the as-builts should be used in the evaluation.

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

Staff is modifying the model to reflect current south levee heights. The original model was based on a USACE model that pre-dated the south levee raise.

### **Putah Creek Hydraulic Model**

The latest aerial photographs indicate significant changes in canopy cover for the orchard areas. Channel roughness was updated to reflect these changes in current condition.

### **Sutter Bypass Pumping Plant Fish Screen Investigation**

Staff completed review of the final report submitted by NRO evaluating velocity data for water leaving the Sutter Bypass East Borrow Canal through the gravity flow culverts associated with the old Sutter Bypass pumping plants. NRO concluded that the velocity of flow through the culverts is low enough so that fish are not likely to be diverted through the culverts and that the culverts do not need to be screened.

### **Tisdale Bypass Hydraulic Model**

No new information this month.

### **Wadsworth Canal Hydraulic Model**

No new information this month.

### **Willow Slough Bypass**

In conjunction with the survey requested for Cache Creek, we are also requesting DWR's Division of Engineering (DOE) to use recently completed aerial surveys to update Willow Slough topographic data. Once this data is received from DOE, the Willow Slough model will be updated.

### **Yuba River Hydraulic Model**

Final model development should be complete 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 starts on November 1, 2014 and ends on October 31, 2015. Additional work that is completed as needed includes removing debris, removing trees, removing sediment, and removing beaver dens. These activities are reported as they are completed.*

The following activities were completed in the month of May:

- Two trees were removed at Little Chico Creek.

**NON-ROUTINE ACTIVITIES:**

No projects to report on.

**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 on 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.*

The following activities were completed in the month of May:

- Planning activities were completed for upcoming spring inspections to take place the month of June. After the inspections are complete, a list of recommended maintenance activities will be submitted to the Maintenance Yards for repair this year.

**Butte Slough Outfall Gates (BSOG)**

Plans are 95% complete and construction is planned to start in the summer of 2016.

**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, sediment, and emergency repairs. These activities are reported as they are completed.*

The following activities were completed in the month of May:

- A slide gate was repaired on Cherokee Canal.

**NON-ROUTINE PROJECTS:**

**Bridge CC-2 Repair**

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

**Bryte Yard Groundwater Investigation**

Staff has received approval from the Central Valley Regional Water Quality Control Board to destroy seven groundwater monitoring wells and seven temporary observation points installed during characterization activities performed in association with former leaking underground storage tanks at the site. The well destructions are scheduled to commence during the week of June 15<sup>th</sup> and are anticipated to take two weeks to complete.

**Butte Slough Outfall Gates (BSOG) - Completion Contract**

This is a project to address issues with the latest projects including all three Sutter pumping plants, Weir 2, Willow Slough Weir, and Knights Landing outfall gates. The project should go out for public bidding late this summer.

**Hughes Road Culvert Replacement Project**

The culvert replacement was completed by the Sutter Maintenance Yard on June 2, 2015. This project entailed removing a deteriorated and undersized 36" corrugated metal pipe from under Sutter County's Hughes Road. The culvert was replaced with 65' of 7' x 4' precast concrete culvert and two headwalls. The culvert conveys water traveling through the collecting canal system to the Sutter Bypass Pumping Plants.

## **LEEVE OPERATIONS AND MAINTENANCE COMPONENTS**

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

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

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

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

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

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

The following activities were completed in the month of May:

- At Cache Creek, the following activities were completed:
  - 11.41 miles of slope mowing
  - 8 miles of tree trimming
  - 10 miles of spot spraying vegetation
  - 23.22 miles of land side and water side toe road maintenance
- At Maintenance Area (MA) 9, the following activities were completed:
  - 19.61 miles of slope mowing
  - 6 miles of tree trimming
- At Putah Creek, 2 miles of tree trimming was completed.

- At Sacramento Bypass, the following activities were completed:
  - 0.1 miles of slope mowing
  - 0.5 miles of tree trimming
- At the west Yolo Bypass levees, Units 1-4, the following activities were completed:
  - 12.5 miles of slope mowing
  - 6 miles of slope burning
  - 0.5 miles of tree trimming
  - 5.72 miles of spot spraying vegetation
  - 5.76 miles of waterside toe road maintenance
  - 4.04 miles of landside toe road maintenance
- At the East Levee of the Sacramento River, the following activities were completed:
  - 2 miles of slope were mowed
  - 10 miles of waterside toe road maintenance
- At MA 1, 0.5 miles of slope were mowed.
- At MA 3, 1.5 miles of slope were mowed.
- At Wadsworth Canal, 4.5 miles of waterside toe road maintenance was completed.

**NON-ROUTINE PROJECTS:**

No new information to report.

***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 occurred in May to repair four erosion sites along the Willow Slough Bypass levee. Three other sites along this bypass are being permitted this year and may also be repaired. Additionally, DWR is planning to repair five sites along the Wadsworth Canal levee starting in June 2015.

**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.*

**Flood System Repair Project (FSRP)**

No new information this month.

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

No new information this month.

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

At the end of May 2015, DWR received \$56,279.95 from the USACE. This project closeout refund is related to the PL 84-99 in San Joaquin Basin #4 which Reclamation District 17 initiated in 1997, and was deposited into DWR's General Fund.