

**CALIFORNIA DEPARTMENT OF WATER RESOURCES**

# **REPORT OF ACTIVITIES**

**NOVEMBER 2018**

## THE PURPOSE OF THIS REPORT...

is to provide a brief update to Central Valley Flood Protection Board (CVFPB) members on California Department of Water Resources (DWR) activities that occurred in the previous month. This report is organized by the five DWR mega-programs:

- Flood Emergency Response
- Flood Management Planning
- Floodplain Risk Management
- Flood Risk Reduction Projects
- Flood System Operations and Maintenance

Only programs with updates for this month have been included in this report. Programs not listed in this month's report may be included in future reports if updates are provided.

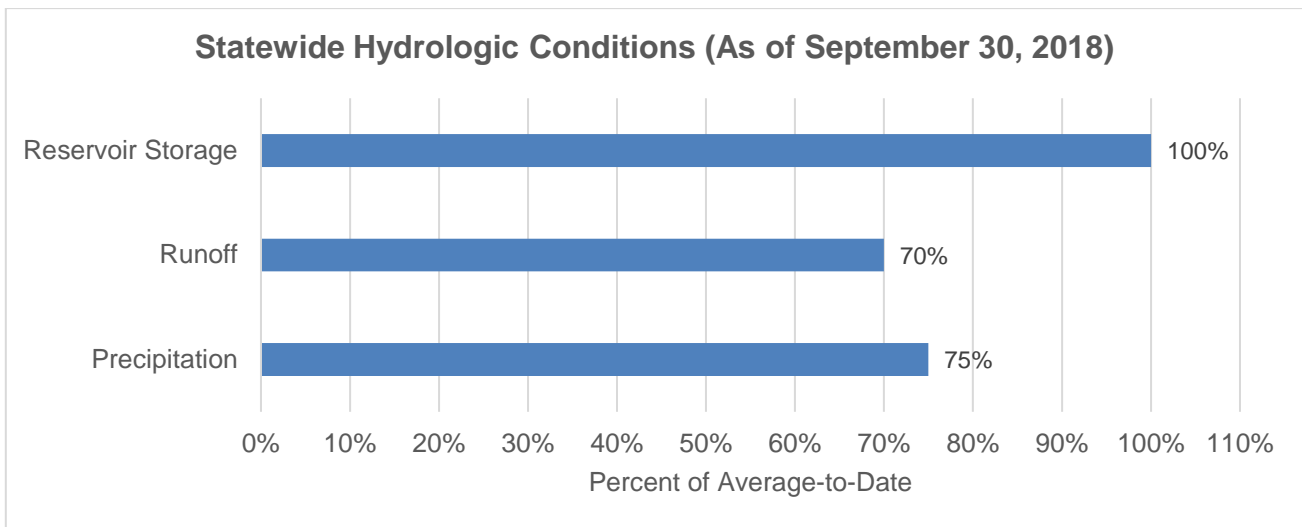
A full list of programs and program descriptions are available upon request. Please email [Ricardo.Pineda@water.ca.gov](mailto:Ricardo.Pineda@water.ca.gov) with questions or concerns.

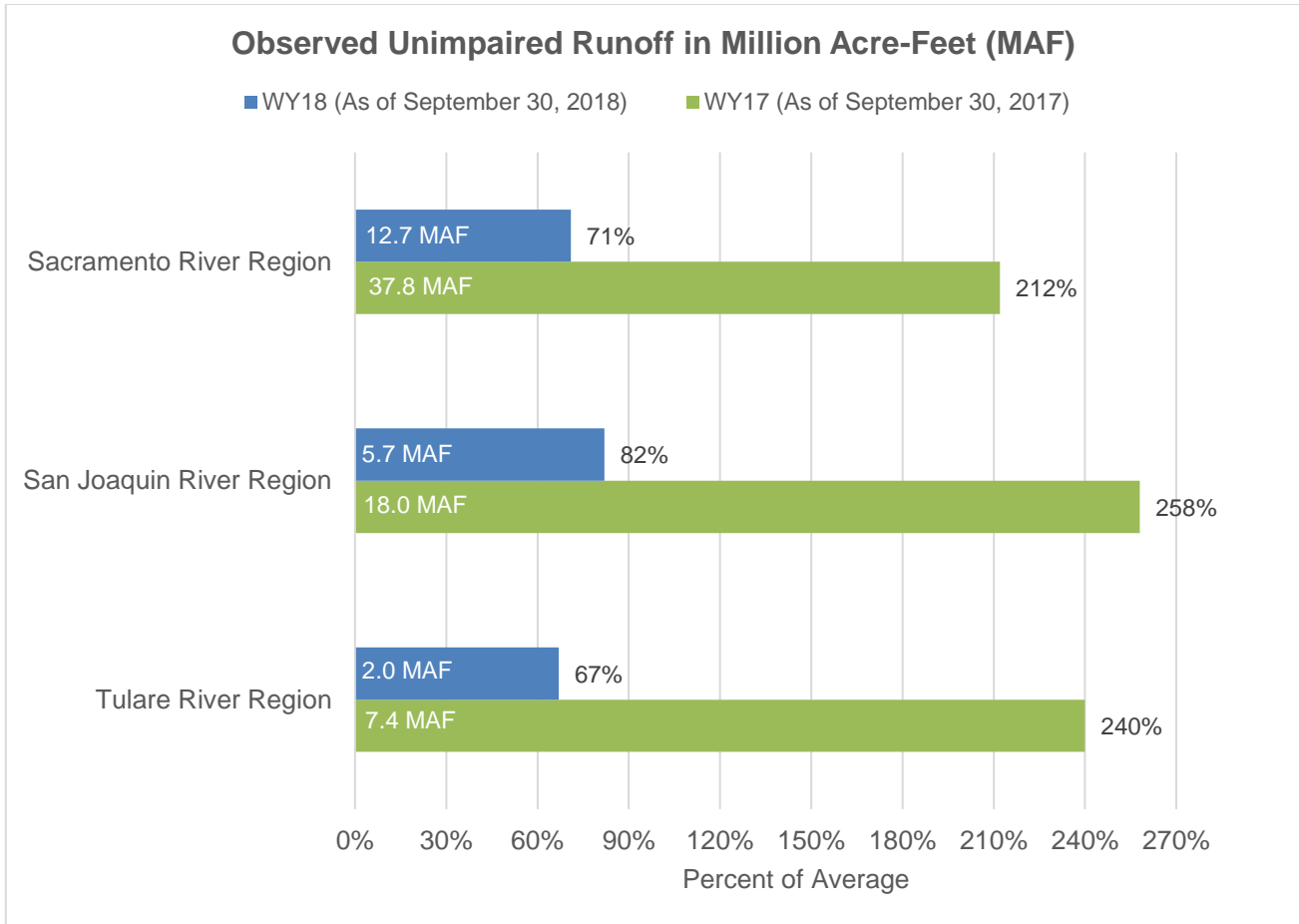
## FLOOD EMERGENCY RESPONSE (FER)

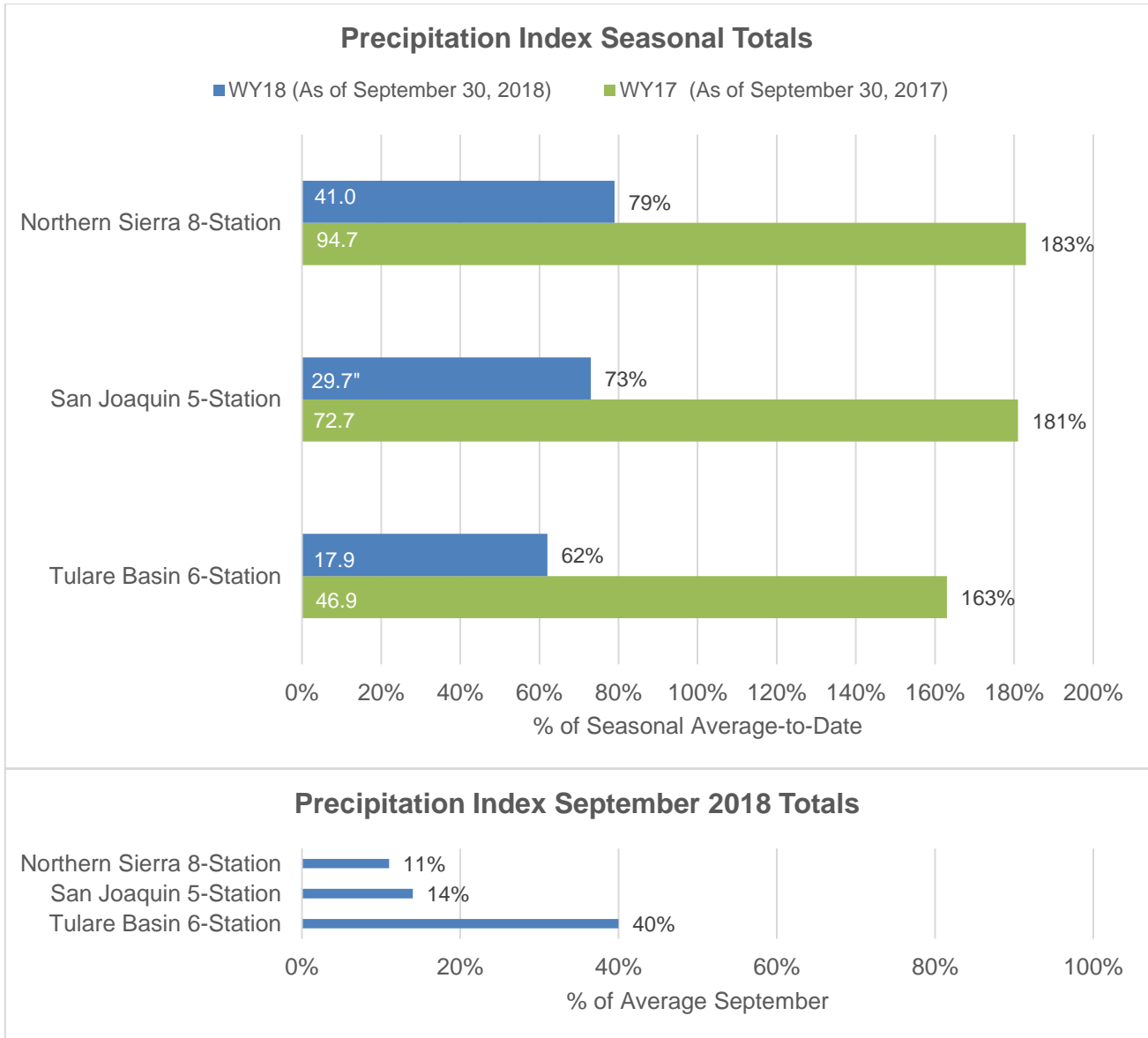
### **FER // REAL-TIME FLOOD CONDITIONS, STATUS, & WARNING**

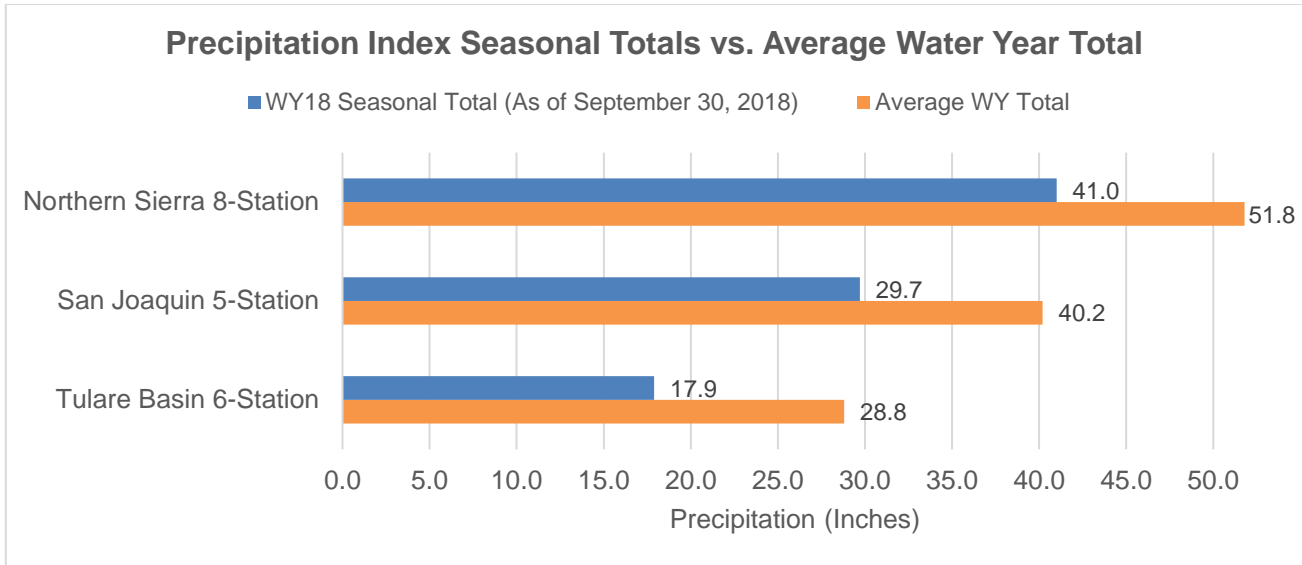
The Flood Project Inspection Section staff have completed 704 miles of the fall levee inspections. As of October 31, 2018, inspectors closed a total of 380 CVFPB permits.

### **FER // HYDRO-CLIMATE DATA COLLECTION & PRECIPITATION / RUNOFF FORECASTING**









Daily Precipitation (inches) for Selected Stations as of 09/30/2018					
Station	Water Year 2018 to Sept 30, 2018	% Average	Water Year 2017 to Sept 30, 2017	% Average	WY 2018% of Avg Water Year (Oct 1 – Sep 30)
Mount Shasta	19.69	45	59.77	137	45
Eureka	36.04	89	52.45	130	89
Redding	19.71	57	46.25	134	57
South Lake Tahoe	20.84	102	48.37	237	102
Sacramento Executive Airport	15.06	81	32.97	178	81
Santa Rosa (Sonoma Co AP)	24.31	67	58.24	161	67
San Francisco	17.42	74	32.17	136	74
Stockton	9.22	66	21.63	154	66
Yosemite	27.53	73	75.64	199	73
Monterey	13.26	82	24.23	150	82
Paso Robles	9.35	73	14.22	111	73
Fresno	6.73	59	17.36	151	59
Bakersfield	3.95	61	8.32	129	61
Death Valley	0.67	28	1.60	68	28
Los Angeles	4.58	31	17.76	119	31
Riverside	3.76	30	12.25	99	30
Palm Springs	2.80	49	8.95	156	49
San Diego	3.34	32	12.34	119	32

Key Reservoir Storage (1,000 AF) as of 09/30/2018								
Reservoir	River	Storage	Avg Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	1,499	1,666	90	2,448	61	---	949
Shasta Lake	Sacramento	2,405	2,725	88	4,552	53	-2,147	2,147
Lake Oroville	Feather	1,365	2,188	62	3,538	39	-1,986	2,173
New Bullards Bar Res	Yuba	620	593	105	966	64	-288	346
Folsom Lake	American	467	554	84	977	48	-510	510
New Melones Res	Stanislaus	1,785	1,343	133	2,400	74	-488	635
Don Pedro Res	Tuolumne	1,506	1,371	110	2,030	74	-266	524
Lake McClure	Merced	616	464	133	1,025	60	-236	409
Millerton Lake	San Joaquin	280	210	133	520	54	-240	240
Pine Flat Res	Kings	222	338	66	1,000	22	-778	778
Isabella	Kern	71	187	38	568	13	-233	497
San Luis Res	(Offstream)	1,115	955	117	2,041	55	---	924

**National Weather Service Climate Prediction Center (CPC)** long-range, 1-month precipitation outlook for November 2018 (issued October 18, 2018) suggests:

- Below-average precipitation for Northern California.
- Above-average precipitation for extreme Southeastern California.
- Normal precipitation for the remainder of the state.

## FER // FLOOD EMERGENCY PREPAREDNESS & OPERATIONS

- Staff continued to make 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. The FEMS system was tested and exercised during the Flood Coordinated Operations (F-CO) exercise on October 9.

### Delta Emergency Response Tool (Delta ERT)

- Staff have begun development of additional enhancements to the Delta ERT.
- The Delta ERT simulates the impacts of levee failures in the Sacramento-San Joaquin Delta. Impacts include the time and cost for repairing and dewatering islands, as well as the associated water quality impacts.
- Planned enhancements to the model include the ability to simulate new barrier locations, additional default recovery strategies, and other general interface improvements.
- The enhancements are scheduled to be completed by the end of the year.

### Real-Time Inundation Modeling (RTIM) Tool

- Staff continued to test and refine the modeling tool.
- The tool has the capability to simulate the impacts of levee failures along the

Sacramento River system using forecasted hydrologic conditions. Simulated impacts include area of inundation, arrival time and depth of inundation, and duration of inundation.

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

- Staff continued to manage one remaining grant contract (final contract out of 14) with local agencies to improve their flood emergency response capabilities.
- The grantees are currently working on final invoices and closeout reports.
- The deliverables from the completed grant projects include emergency operations plans, flood contingency maps, decision support tools, communications equipment, flood fight supplies, and enhanced early warning systems.

### **Lookout Slough Restoration Project (LSRP)**

- Staff has begun review of the hydrology and hydraulic analyses for the LSRP.
- This multi-benefit levee setback project will create approximately 3,000 acres of tidal marsh habitat and increase the regional flood conveyance capacity of the Yolo Bypass.

### **Flood Emergency Response Information Exchange (FERIX)**

- Staff continued to update the FERIX website to include the Emergency Operations Plans and Contingency Maps developed from the Flood Emergency Response Grant projects.
- Staff is coordinating with the Flood Maintenance Office to obtain their annual levee report. This information will be used to update the serious and critical levee vulnerabilities on the FERIX website.

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

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

#### **Delta Levees Maintenance Subvention Program**

The Delta Levees Maintenance Subventions Program is authorized by CA Water Code § 12980-12995. Recent changes to § 12986 of the CA Water Code affected the Subventions Program. These changes became effective July 1, 2018 and include definitions, application reporting requirements and a change to the per levee mile deductible.

The Delta Levees Subventions Maintenance Program 2016 Guidelines, Draft Addendum #1 has been prepared to reflect the recent changes to the CA Water Code § 12986 and will be presented to the Board in November.

- **Subventions Program FY 2016-17**
  - 67 final claims received.
  - 56 final claims for \$6.1 million are being processed for reimbursement.



- **Subventions Program FY 2017-18**
  - 72 applications were received and reviewed.
  - CVFPB approved \$12 million for the FY 2017-18 Funding Plan on June 23, 2017.
  - 72 work agreements have been executed.
  - Final Claims were due November 1, 2018.
- **Subventions Program FY 2018-19**
  - 72 applications for \$54 million were received and reviewed.
  - The CVFPB approved \$12 million for the FY 2018-19 Funding Plan on May 18, 2018.
  - Urban Levees (10% or more of the land area considered residential land use) Bethel Island MID, Bishop Tract, Boggs Tract, Byron Tract, Lincoln Village West, Sargent-Barnhart Tract, Smith Tract, Weber Tract.

## **FRRP // USACE/CVFPB PROJECTS**

### **American River Watershed Project – Natomas Basin**

- Congresswoman Doris Matsui has requested a Reach I groundbreaking ceremony for early November.

### **American River Watershed Project – WRDA 2016**

- A Non-Model Project Partnership Agreement (PPA) is being drafted by USACE HQ to incorporate supplemental funding language.
- USACE is developing an Integrated Master Schedule before reporting to USACE Headquarters on November 16.
- USACE has updated the overall project Cost Schedule Risk Analysis, incorporating the impacts from the Emergency Supplemental Funding as well as from the accelerated schedule to meet the 2024 Target Completion Date.

### **Folsom Dam Modifications Joint Federal Project (JFP)**

- USACE has awarded a contract to complete many of the project punch-list items. USACE has changed Project Manager's on the project.

### **Folsom Dam Raise Project**

- USACE Preliminary Engineering Design (PED) of dikes #1-6 is underway. The 35% design plan set will be submitted for review by the Non-Federal Sponsor (NFS) on October 30, 2018.
- USACE Preliminary Engineering Design (PED) of dikes #7 & 8, Mormon Island Auxiliary Dam (MIAD) is underway. An In-Progress Review Conference of the 35% design for Dike 8 was held on October 10, 2018.
- USACE Preliminary Engineering Design (PED) of Folsom Dam Gates and Piers has restarted. A kick-off meeting was held October 23-24, 2018.

- The Non-Model Project Partnership Agreement (PPA) with USACE and local sponsor (SAFCA) is being revised by USACE HQ to include language incorporating the supplemental funding.

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

- The Local Project Partnership Agreement (LPPA) was approved by the Central Valley Flood Protection Board on September 28, 2018. The agreement is being processed at the Department of General Services to finalize the LPPA.
- Sutter County Board of Supervisors sent a letter to the Trump Administration requesting Federal permission under Section 1043 of the 2014 Water Resources Development Act (as amended in 2018), which allows locally led construction of federally authorized projects using federal funds. Federal funds have already been appropriated for the Sutter Basin Project in the FY 2018 Workplan and were specifically designated for construction under Section 1043 by the Corps and the Office of Management and Budget.

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

- The construction contract for Phase 2A-South was awarded by USACE on September 28, 2018. The value of the contract is \$7.8 million. This work is scheduled to be completed in the summer of 2019.

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

- The LSJRFS is included in the 2018 Water Resources Development Act (WRDA 2018) language. WRDA 2018 has been approved and authorizes over \$1 Billion in improvements to the flood control facilities in the basin.

### **FRRP // USACE/CVFPB STUDIES**

- On October 23, 2018, President Trump signed Senate Bill 3021, America's Water Infrastructure Act of 2018 (AWIA 2018) into law. The bill authorizes an estimated \$3.8 billion in new Army Corps of Engineers civil works projects, fiscal year 2019 appropriations of \$7 billion, and emergency supplemental funds of \$17.4 billion. The legislation includes the Water Resources Development Act of 2018 (WRDA). The bill authorized that the Secretary shall expedite the completion of several feasibility studies, including two Central Valley projects, and if the Secretary determines that the project is justified in a completed report, may proceed directly to preconstruction planning, engineering, and design of the projects:
  - Lower Cache Creek Project
  - Lower San Joaquin River Project

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

#### **TRLIA – 200-year Goldfields Levee Project**

- Language is included in the 2018 Water Resources Development Act (WRDA 2018) that allows federal authorization of the levee extension through amendment

to the Memorandum of Understanding in respect to the Sacramento River Flood Control Project with the State of California at no cost to the Federal Government.

### **Sacramento Area Flood Control Agency (SAFCA) - Levee Accreditation Project (LAP)**

- Major construction along the North Area Streams is complete. Utilities and site restoration work continues. Major construction includes approximately four miles of cut-off wall and relief wells to address seepage/stability deficiencies.

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

- Embankment construction for the Southport levees is on schedule to be completed by November 1. All of the levees will have been raised to their full design height.

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

*Flood Maintenance Office (FMO) is responsible for two areas of SPFC facilities, State Maintained Areas (SMAs), which are authorized by CWC Section 8361, and ten Maintenance Areas (MAs), which are described in CWC Section 12878. SMAs are funded by State general fund, while MAs are on reimbursable accounts funded by property owners protected by the MA levees and facilities.*

### *State Maintained Areas (SMAs)*

- *Levees: ~145 miles*
- *Channels: ~1,200 miles*
- *Flood Structures: ~30 (11 weirs, 5 gate structures, 4 pumping plants, crossing bridges, etc.)*
- *Collecting Canals: ~60 miles*

### *Maintenance Areas (MAs)*

*Currently, FMO maintains ten MAs: MA01, 02, 04, 05, 07, 09, 12, 13, 16, & 17.*

- *Levees: ~150 miles*
- *Structures: 1 pumping plant and 1 diversion weir*

## **OPERATIONS & MAINTENANCE (O&M)**

*Listed activities are mandated by O&M manuals for facilities in SMAs or MAs. This work is performed by two maintenance yards in Sacramento and Sutter with technical and environmental support from JOC.*

- *Levee and channel vegetation management*
- *Access road and levee crown maintenance*
- *Debris and obstruction removal*
- *Rodent abatement*

- *Rodent Damage Repair*
- *Levee erosion repair*
- *Channel scour repair*
- *Small sediment removal*
- *Pumping plant, weir, outfall gates, and bridge operation, maintenance, and repair*
- *Pipe/Culvert repair*

*FMO is in the process of developing a new program, Flood Maintenance Assistance Program (FMAP), with annual funding to increase the level of maintenance in SMAs and support Local Maintaining Agencies (LMAs), including MAs, to do the same.*

### **SMA Activities**

#### *Sacramento Yard*

- Cache Creek Levees: 23 miles of vegetation burning (in progress).
- Cache Creek Levees: Vegetation spot spraying (in progress).
- Fremont Weir Channel: 160 acres of vegetation mowing (completed).
- Putah Creek: 13 miles of vegetation spot spraying (completed).
- Putah Creek: Vegetation burning (in progress).
- Sacramento Bypass Levees: Vegetation dragging (in progress).
- Sacramento Weir: Structure maintenance (in progress).
- West Yolo Bypass Units 1-4: Vegetation cutting and limbing (in progress).
- West Yolo Bypass Units 1-4: Vegetation burning (in progress).
- Willow Slough Bypass: Road grading (in progress).
- Willow Slough Bypass: Vegetation burning (in progress).

#### *Sutter Yard*

- Big Chico Creek Channel: 30 CY of debris removal (complete).
- Big Chico Creek Channel: Debris removal (in progress).
- Cherokee Canal Channel: 158 acres of vegetation mowing (in progress).
- Colusa Bypass Levees: 4 miles of vegetation burning (complete).
- Comanche Creek Channel: 5 CY of debris removal (complete).
- East Levee Sacramento River: 20.39 miles of vegetation burning (in progress).
- East Levee Sutter Bypass: Rodent depredating (in progress).
- East Levee Sutter Bypass: pipe replacement (completed).
- East Levee Sutter Bypass: 18 miles of vegetation burning (complete).
- East Levee Sutter Bypass: 13 miles of vegetation dragging (complete).
- Elder Creek Channel: 4.6 miles vegetation spot spraying (complete).
- Elder Creek Channel: 10 CY dry sediment removal (complete).
- Lindo Creek Channel: 20 CY debris removal (complete).
- Little Chico & Butte Creek Diversion Weirs: 40 CY debris removal (complete).
- O'Connor Lakes Channel: 6 acres of vegetation mowing (in progress).
- Sutter Collecting Canals: Wet sediment removal (in progress)
- Tisdale Bypass Channel: 50 acres vegetation mowing (in progress).
- Tisdale Bypass Levees: Vegetation spot spraying (in progress).
- Tisdale Bypass Levees: Rodent depredating (in progress).

- High Priority Canal and Culvert Deferred Maintenance (collecting canal emergency): This work started October 1, 2018 and has been ongoing. Sediment removal has occurred along about 12 miles of canals, and two culverts have been replaced. The sediment removal should be completed by Tuesday, October 30. The final culvert (3<sup>rd</sup>) replacement may be delayed due to landowner access.
- Small Erosion Repair Program (SERP) - Wadsworth Canal: All SERP erosion repairs have been completed on October 19, 2018.
- Wadsworth Canal: SERP erosion repair (one complete and one in progress).
- Wadsworth Canal: Rodent depredated (in progress).

### **MA Activities**

#### *MA03*

- Rodent depredated (in progress).

#### *MA09*

- 19.6 miles of vegetation cutting and limbing (complete).
- 4.5 miles of road grading (complete).
- Vegetation mowing (in progress).

#### *MA12*

- 11.22 miles of vegetation dragging (complete).
- 2 acres of rodent depredated (in progress).

#### *MA17*

- 4.5 miles of vegetation mowing (completed).

### **Technical Support to SMAs and Mas**

- See Studies and Evaluations/Channel Evaluations.

### **Environmental Support to SMAs and MAs**

- See Environmental Initiatives Section for additional efforts and actions.

### **Flood Maintenance Assistance Program (FMAP)**

- *FMO is working with CVFPB and LMAs to develop a program that will meet the intent of the Legislature and the needs of LMAs. At a minimum, the program will require execution of a new OMRR&R agreement with CVFPB and compliance with various flood reporting, such as AB 156.*
- *Briefing on progress of program development was given at the Board meeting. CVFPB Coordination Committee and key stakeholders to assist with program development and outreach.*

## **STUDIES & EVALUATIONS**

*Activities related to evaluating all SPFC facilities to identify any deficiencies, and*

*prioritizing (emergency, critical, serious, monitor) them for repair, rehabilitation, or replacement. These evaluations include:*

- *Levee stability*
- *Levee penetrations, such as pipes and culverts*
- *Channel capacity*
- *Structure functionality*
- *Levee Tree Assessment*
- *Encroachments*
- *O&M right-of-way (ROW)*

### **Channel Evaluation**

#### *Cherokee Canal Evaluation*

- Continue to estimate earth volume (cut/fill) calculations for the current conditions.

### **Levee Evaluation**

#### *Pipe/Culvert Evaluation*

- Phase 1 video inspections:
  - 148 of 258 pipes passing through State Maintenance Area (SMA) levees have been video inspected by FMO.
  - 32 DWR directed funding agreements have been executed. The LMAs are in the process of implementing the DMP Phase-1 pipe evaluations work.
- Hydro vacuum/flushing followed by video inspection scheduled to continue in MA01, MA12, MA13, ST03, ST10, and ST20 through November 2018.
- AECOM has completed the electro-magnetic studies for missing pipes including all MAs and STs, and each participating and subsequently added non-participating LMAs, with two exceptions: RD2095 who denied access, and ARFCD who is providing additional information on the number of pipes requiring assessment.

#### *Levee Tree Assessment*

- Training of DFM staff for LTA implementation has begun. Training of staff in the North Region Office, Sutter Yard Maintenance Areas and Sacramento Yard Maintenance Areas will occur this month. The internal Review Team (QA/QC) met in September to review the assessed trees in MA-4. After this review, trees that were initially categorized as an unacceptable threat were downgraded to "Monitor". Tree screeners will go out and take another look at these trees after significant highwater events to see if conditions changed.

### **Structural Evaluation**

#### *Tisdale Weir*

- November 6, 2018 is the first multi-agency work group meeting.

**DEFERRED MAINTENANCE**

*Maintenance that has not been completed to keep the facilities in an acceptable and operable condition will result in deferred maintenance. If the work is not completed as part of O&M activities, it will lead to a larger maintenance issue and cost significantly more.*

**2017 Emergency Rehab**

- Construction began on August 1, 2018 on the final nine critical repair sites identified for state rehabilitation. These repairs are anticipated to be completed early November 2018. All in-water work to be completed by November 1, 2018.
- Construction is planned for Fall 2019 on previously identified serious sites, 38 of which are in design and permitting stages.

**Levee Rehab**

*Flood System Repair Program (FSRP)*

- DWR is completing LMA outreach and field reconnaissance to prioritize eligible repairs and continue to enter into project agreements with the remaining program funding. Reclamation Districts are asked to report their high priority sites as part of this reconnaissance.

**Pipe Rehab**

- FMO is currently working on the logistics to schedule the Cured In Place Pipe (CIPP) rehabilitation work in Putah Creek and Willow Slough in the Davis area. These are system pipes that have Automatic Board Orders (ABOs). ABOs were “permits” issued by the Central Valley Flood Protection Board, where the Board assigned “responsibility” for features to the adjacent land owner, without the landowner taking any action. FMO believes these pipes/culverts are SPFC facilities, owned by the state, not encroachments.

*The following table provides an overall status update of the pipe inspection/ rehabilitation work:*

<b>DMP-Pipes Program</b>			
<b>Status Update: 10/19/2018</b>			
	<b>MAs/SMAs</b>	<b>Non-Participating LMAs</b>	<b>Participating LMAs<sup>1</sup></b>
<b>Phase 1</b>			
Total pipes for C&I (Cleaning & Inspection):	258	161	995
Total pipes completed:	147	134	TBD
Irrigation Impacted Pipes:	50	7	TBD
Continuous water Pipes:	28	10	TBD
Vault access required:	23	--	TBD

<b>Geophysical Evaluation*</b>			
"Not-Found" Pipe Location:			
Total Pipes for Geophysics (GP)	137	174	221
Total Pipes GP Complete	137	172	210
<b>Phase 2 - R/R/R</b>			
CIPP Slip-Lining Rehabilitation**	40	TBD	TBD
Removal and Replacement***	TBD	TBD	1
Removal	TBD	TBD	TBD
Abandonment in Place	TBD	TBD	TBD

\* DWR Contractor completing geophysical evaluation in MAs/STs, Non-Participating LMAs, and where requested by Participating LMAs

\*\* DWR has a contract for CIPP Slip-Lining Rehabilitation; 40 pipes are ready for rehab, pending scheduling and logistics

\*\*\* RD784 has 1 pipe in Phase 2 agreement with DWR for removal/replacement; Design/permitting work in progress

1 - Many Participating LMAs are reporting difficulty in contracting geophysics, pipe cleaning, and video inspection work.

**Channel Rehab**

*Elder Creek Channel Rehab*

- Year 2 of sediment removal has been completed.

**Structural Rehab**

*Butte Slough Outfall Gate (BSOG) Rehabilitation*

- DWR/CDFW/NMFS management, environmental, engineering, and maintenance yard staff met again on October 30, 2018, to discuss potential fish passage and operational modifications that may be incorporated into the BSOG rehabilitation project.

*Tisdale Weir*

- After the conceptual design is complete, design activities will be initiated. The conceptual design is being completed with both technical and environmental input from FMO, Sutter Yard, and all resource agencies.

*Knights Landing Outfall Gates (KLOG) Fish Barrier*

- Previous fish exclusion barrier became inoperable and was removed in Fall 2016.
- FMO is moving forward to identify the appropriate design and operational needs for replacing the fish exclusion barrier.

**Yard Rehab**

*Sacramento Yard Improvements*

- As of October 30, 2018, the contractor has completed Phase 1 storm drain system, sewer system, water system, and 95 percent of the electrical conduits duct banks.
- There was an approximate two-week delay due to a late change in electrical and communication plans. The plans did not include details such as conduit stub up



locations. That was provided to the contractor after all the duct bank work was completed but prior to the Phase 1 area paving. Phase 1 work should be wrapped up in the middle of November 2018. Phase 2 work can start as soon as Phase 1 is complete. Phase 2 includes all work on the north side of the site. The contractor is scheduled to complete the rehabilitation work at the end of November 2018 but will likely run over. Contractor will continue if weather permits. The roof replacement is complete; however, there are low areas that collect water that are being discussed with the contractor.

## **ENVIRONMENTAL INITIATIVES**

*Environment coordination, advance mitigation, and other holistic measures to expedite our project delivery. FMO is looking to find long-term solutions that will allow more effective and efficient O&M by identifying and implementing environmental measures as part of the system.*

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

*EPOM EIR was completed in January 2018. FMO is working on the implementation of the mitigation monitoring and reporting program. FMO is also considering other permits needed to keep state operations and maintenance activities in environmental compliance (e.g., California Endangered Species Act, Endangered Species Act, Clean Water Act, Porter- Cologne Act, etc.)*

### **Routine Maintenance Agreement (RMA) under FCG 1600**

*The RMA with California Department of Fish and Wildlife Region 2 was executed on September 27, 2018. This agreement is for 12 years and broadens the ability of DWR's maintenance yards' ability to impact sensitive environmental resources while performing maintenance activities on the Sacramento River Flood Control Project. FMO staff received a second draft RMA from CDFW Region 3 on October 12, 2018 and provided comments back to CDFW on October 22, 2018. FMO staff expects to have an executed RMA with CDFW Region 3 sometime in November 2018.*

### **O&M Habitat Conservation Plan (HCP)**

*FMO has begun development of an HCP for state O&M activities covering the giant garter snake and valley elderberry longhorn beetle. FMO will coordinate with U.S. Fish and Wildlife Service and CDFW.*

### **Advance Mitigation**

*Environmental Uplift Projects – An October 5, 2018, initial meeting with USFWS, NMFS, CDFW, and CVFPB will focus on environmental uplift projects and opportunities in the flood system that FMO and the agencies can work on together.*

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

*FMO is investigating how much effort is needed to reauthorize the SERP permits. FMO is also investigating the interest of the permitting agencies to reauthorize the SERP permits.*

**Systemwide Improvement Framework (SWIF) - Endangered Species Act Section 7****Nexus**

*The U.S. Army Corps of Engineers (USACE), Sacramento District Operations, and FMO met on October 15, 2018, on how the USACE will handle the environmental compliance for implementation of SWIF actions. A workplan of the activities to be implemented that are already described in the LOI/SWIF will be reviewed and approved by the USACE, which results in a federal action. A federal action triggers the USACE to conduct environmental review of the workplan, which includes Endangered Species Act, National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act, and other environmental reviews.*

**FEDERAL PROGRAM**

*FMO's interaction with federal agencies, mainly USACE, in rehabilitation of deferred maintenance projects.*

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

- USACE has begun construction on seven PL 84-99 Emergency Rehabilitation sites identified from the 2017 flood events. Up to 22 additional sites are targeted for repair in 2019. USACE completed repairs to 15 damaged sites in 2017. DWR and CVFPB are working closely with USACE to manage the state's interest in these projects.

**Sacramento River Bank Protection (Sac Bank)**

- FMO followed up with USACE on the submittal for \$200 million federal credit request for work performed under the 2006 emergency critical repair program performed under the Sacramento River Bank Protection Authority.