

CALIFORNIA DEPARTMENT OF WATER RESOURCES

REPORT OF ACTIVITIES

SEPTEMBER 2019

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

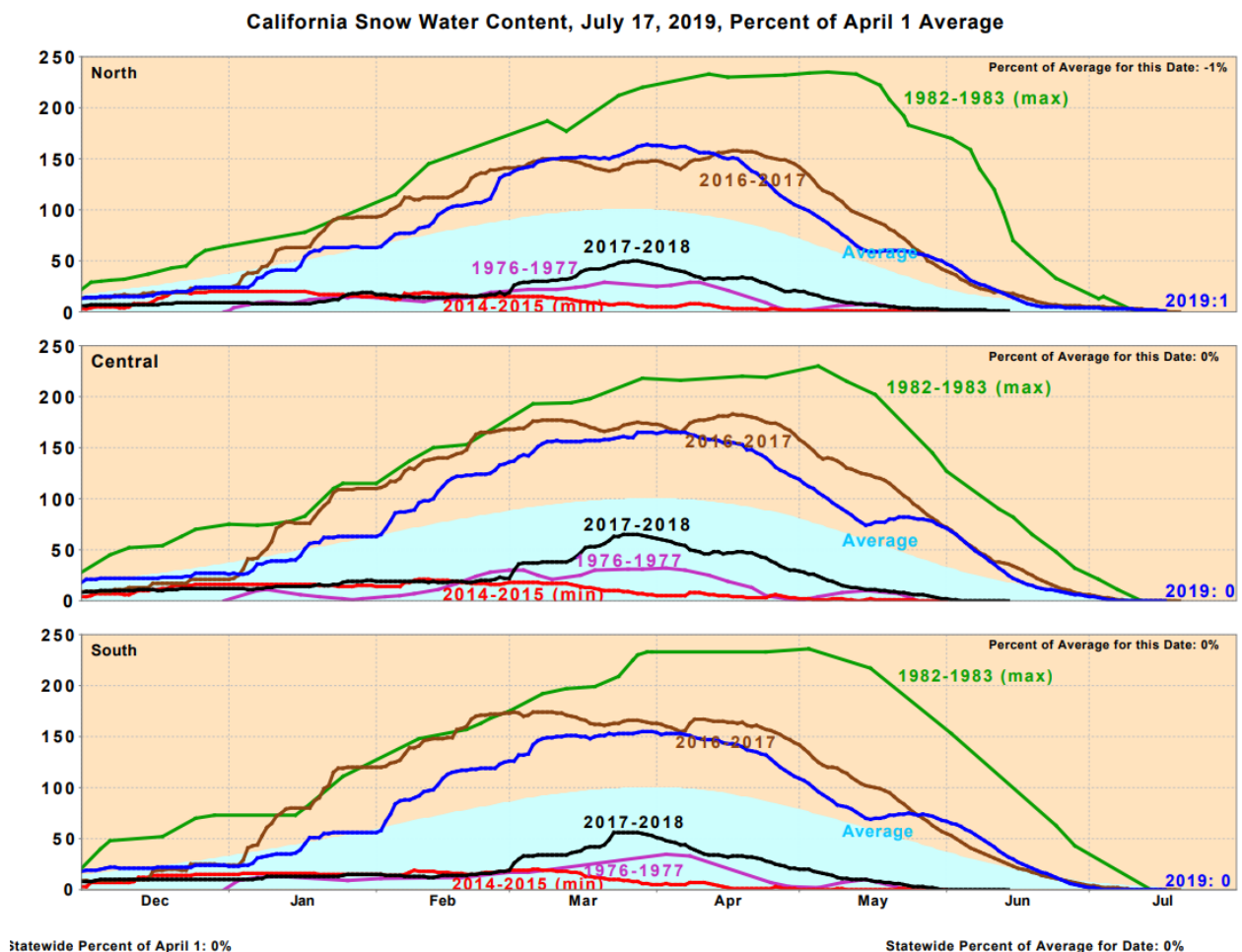
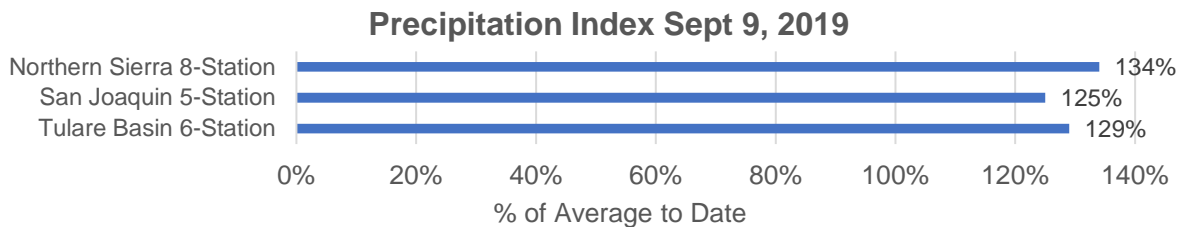
Only programs with updates for this month have been included in this report. Programs not listed in this month's report may be included in future reports if updates are provided.

A full list of programs and program descriptions are available upon request. If you have any questions or concerns regarding this report, please call Ricardo Pineda at (916) 574-0632 or email Ricardo.Pineda@water.ca.gov.

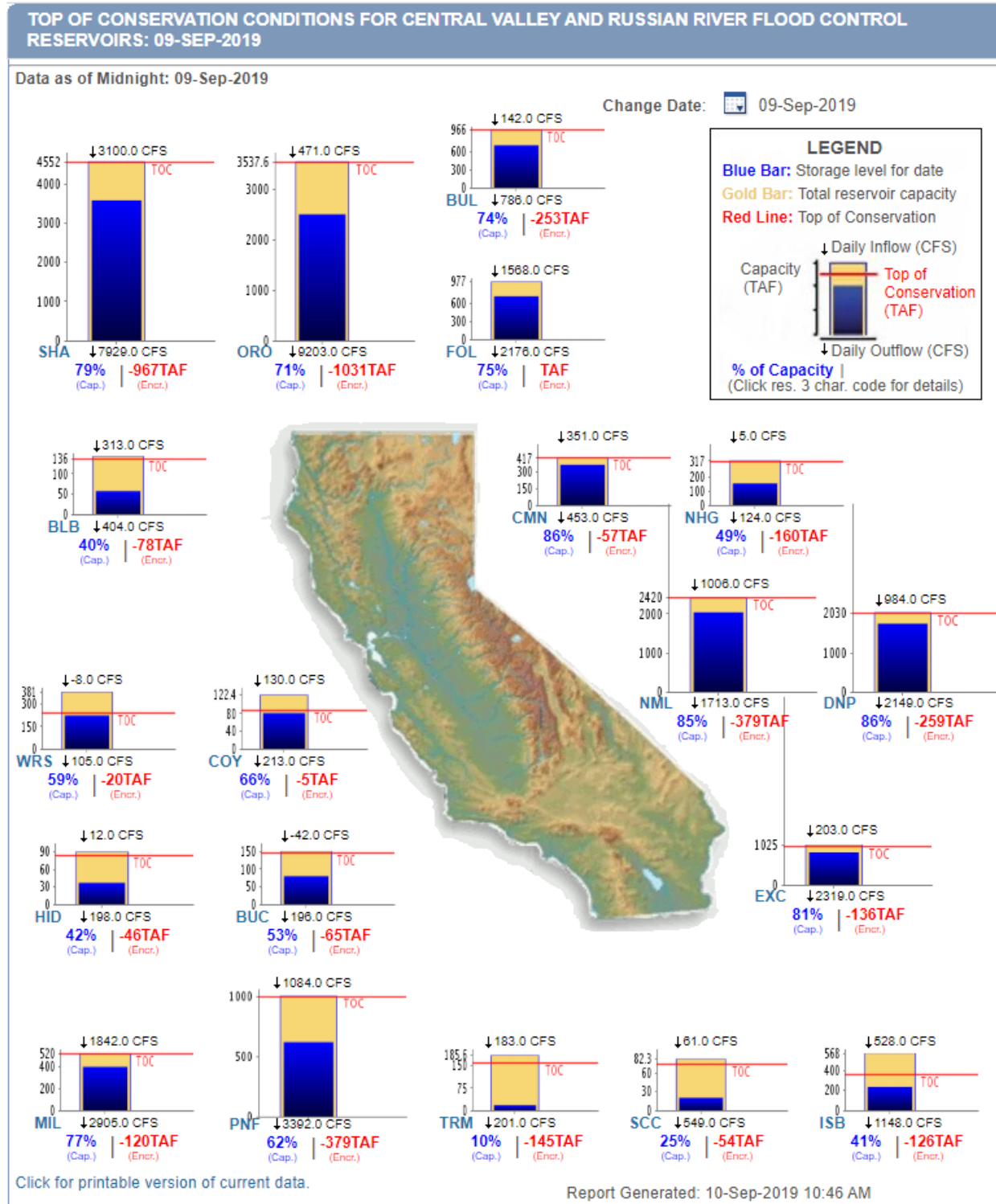
FLOOD EMERGENCY RESPONSE (FER)

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

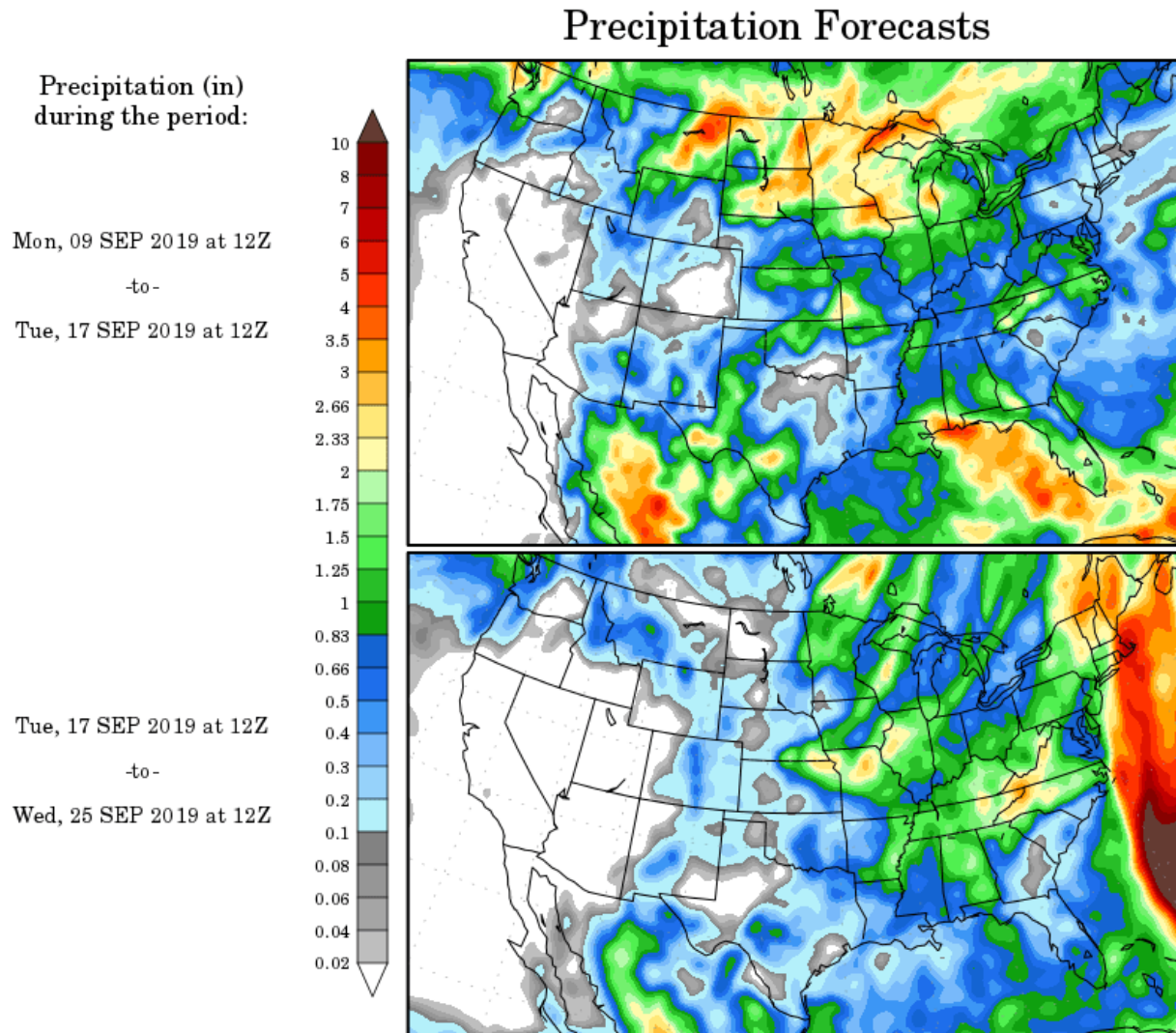
For the month of August, statewide precipitation was less than 0.25 inches (below normal), maximum temperatures across California were average (90.8 deg. F versus mean of 89.8 deg. F), and minimum temperatures were above average (61.8 deg. F versus mean of 59.2 deg. F).



Note: Snow Surveys discontinued this product on July 17 for the year.



Mid-September is expected to remain warm and dry across California.



- For August 2019, Snow Surveys and Water Supply Forecasting staff continued planning the 65th annual California Cooperative Snow Surveys (CCSS) Meeting which will celebrate the program's 90th anniversary, performed cabin maintenance at Bishop Pass, Horseshoe, and Piute Pass, generated reports on CDEC on precipitation, full natural flow, and storage, collaborated with the Natural Resources Conservation Service on soil saturation states under snow, met with cooperators of CCSS, and prepared renewal applications for special use permits on several national forests.
- For August 2019, staff assessed, maintained, or upgraded the following stations: Meadow Lake (MDW), Bowman Lake (BOL), Robinson Cow Camp (RCC) in the Yuba River Basin, Lower Relief Valley (REL) and Deadman Creek (DDM) in the Stanislaus River Basin, Devils Postpile (DPO) in the San Joaquin River Basin, USBR's Red Rock Mountain (RRM), Shimmy Lake (SHM), and Bonanza King (BNK), Big Flat (BFL),

Highland Lakes (HIG) in the Trinity River Basin, USBR's Middle Boulder 3 (MB3) and Scott Mountain (SCT) in the Scott River Basin, USBR's Slate Creek (SLT) and Snow Mountain (SNM) in the Sacramento River Basin, USBR's Green Mountain (GRM), Graveyard Meadow (GRV), and Poison Ridge (PSR) in the San Joaquin River Basin.

FER // RESERVOIR OPERATIONS & RIVER FORECASTING

- On August 14, staff hosted the Yuba-Feather Forecast-Coordinated Operations (F-CO) Quarterly Management Team Meeting. Meeting topics included functional exercise planning, Yuba Water Agency's F-CO grant application, updates on New Bullards Bar Secondary Spillway Project, Oroville Winter Operations Plan, and a briefing on the Forecast-Informed Reservoir Operations (FIRO) Workshop.
- On September 3, staff presented on the San Joaquin River Flood Control System and Reservoir Operations at the State Water Contractors' Delta Emergency Operations Planning Meeting.
- On September 6, Kings River Conservation District's F-CO grant contract was executed. The contract awards \$1.5 million for the installation and improvement of weather and stream gages in the Upper Kings River Basin.

FER // FLOOD EMERGENCY PREPAREDNESS & OPERATIONS

- On August 7, Hydrology and Flood Operations Office staff participated in the Oroville Facilities Emergency Action Plan Functional Exercise.
- On August 14, Flood Operations Branch staff hosted the quarterly USACE/DWR Coordination Meeting to discuss pre-season activities and share updates.
- On August 21, Statewide Flood Response Section staff conducted a SEMS/NIMS/ICS Refresher class.

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

- The Levee Log update is temporarily on hold while a review of the QA/QC process is being conducted. Once reviewed, a reassessment of the status of QA final work will be provided.
- In August, Local Maintaining Agency Assessment Section (LMAAS) staffs completed 336 pipe inspections for the Utility Crossing Inspection Program (UCIP) with a total of 746 inspection completed so far in 2019.
- On August 21, LMAAS staff met with DWR Sutter and Sacramento Maintenance Yard staff to provide training on the LMA Reporting Program and the new reporting system (LMARS). DWR Yards encompass 24 out of 106 reporting areas.
- Flood Project Inspection Section (FPIS) staff closed 288 CVFPB permits in the month of July, closing a total of 870 permits so far for 2019.
- FPIS inspectors completed 27 structure inspections; all 69 structure inspections have been completed.
- FPIS inspectors completed 21 channel inspections; all 26 channel inspections have

been completed.

- On September 4, staff presented on the Real-Time Inundation Modeling Tool (RTIM) at the 2019 Flood Management Association (FMA) Annual Conference in San Diego. The tool has the capability to simulate the impacts of levee failures along the Sacramento River system using forecasted hydrologic conditions.

FLOODPLAIN RISK MANAGEMENT (FRM)

FRM // FLOODPLAIN MANAGEMENT ASSISTANCE

- DFM staff participated in the annual Floodplain Managers Association conference (September 3 - 6) in San Diego, California.
- DFM gave a presentation titled "Updating and Maintaining the CVFED Hydraulic Models." The hydraulic model highlighted in the presentation may become the base model being used for the Programmatic Hydraulic Baseline effort for the Sacramento River system. This effort is being supported by state, federal, and local agencies.
- As required by California Water Code Section 9121, the annual Flood Risk Notification Flyers were mailed out prior to September 1, 2019.
- August 2, staff conducted flood risk education and outreach in partnership with USACE at the Sacramento Children's Museum.
- August 6, staff conducted flood risk education and outreach at the Stanford Mansion as a part of DWR's Bring Your Kids to Work Day.
- August 19 – 22, staff attended NAFSMA conference in Rancho Palos Verdes and presented on CA Silver Jackets.
- August 23, staff hosted a CA Flood Preparedness Week Statewide Agency Coordination Call with 50+ agency partners participating.
- August 26, staff participated in an event planning meeting hosted by the City of Sacramento for the Highwater Jamboree, which will take place on October 19, 2019.
- August 27, staff hosted a Watershed University webinar on the Water Resilience Portfolio featuring Nancy Vogel of the CA Natural Resources Agency.

FLOOD RISK REDUCTION PROJECTS (FRRP)

FRRP // DELTA LEVEE SYSTEM INTEGRITY (DLSI)

Delta Levees Maintenance Subventions Program

- **Subventions Program FY 2016-17**
 - 67 final claims received.
 - 62 final claims for \$7.7 million have been processed for reimbursement.
- **Subventions Program FY 2017-18**
 - 71 applications were received and reviewed.
 - CVFPB approved \$14.5 million for the FY 2017-18 Funding Plan.
 - 71 final claims received.

- 57 final claims for \$10 million are being processed for reimbursement.
- **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.
 - 72 work agreements executed.
- **Subventions Program FY 2019-20**
 - 72 applications for \$54 million were received and reviewed.
 - The CVFPB approved \$10 million for the FY 2018-19 Funding Plan.

FRRP // USACE/CVFPB PROJECTS

American River Watershed Project – WRDA 2016

- Seepage, Stability and Overtopping:
 - Reach D, Contract 1 - Contract awarded, contractor mobilizing.
 - SREL (Sacramento River East Levee) Contract 1 - 95% design.
Draft Supplemental Environmental Assessment/Environmental Impact Report available for public review and comment August 23 – October 7, 2019. Public workshop: September 12, 2019, 5:00pm to 7:00pm at the Elk's Lodge, 6446 Riverside Boulevard, Sacramento, CA 95831.
 - SREL Contract 2 - Design RFP awarded to GEI.
 - SREL Contract 3 - Design package to be awarded August 2019.
- Erosion:
 - American River - Contract 1 - Design at 65%.
 - American River - Contract 2 - Erosion assessment is complete; 10% concept designs are being produced.
 - Sacramento River - Site rankings occurring now.
- Sacramento Weir & Bypass:
 - 65% design underway; to be completed in November 2019.
 - Fish Passage separated into small working group; technical lead by HDR.
 - DWR is continuing work on the Sacramento Bypass widening effort (LEBLS); scheduled for contract award in March 2020.
- Mitigation:
 - Beach-Stone Lakes Mitigation Site Project construction is anticipated to begin in late summer 2019. This will be the first mitigation site established to compensate for tree impacts resulting from the ARCF 2016 Project.

Folsom Dam Modifications Joint Federal Project (JFP)

- USACE has distributed the findings from the tainter gate hydraulic rod coating testing for partner review.

Folsom Dam Raise Project

- The first construction package (Dike 8) was awarded.
- USACE has issued take letter for relocation of SMUD utilities at Dike 7.
- USACE PED on spillway mechanical and piers, has released the 35% design for partner review.

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

- USACE final accounting close out:
 - USACE on August 14, 2019 sent a letter to DWR, stating they have completed their financial review for the final accounting.
 - A refund in the amount of \$18,770.92 will be issued to the state. Once this \$18,770.92 has been received, the project will be closed out.

San Joaquin River Basin, Lower San Joaquin River California Project (PED)

- The USACE payment requests 1 and 2.
 - The two payment requests total \$1,554,807.70. The requests have been sent to Contract Services for payment.

FRRP // URBAN FLOOD RISK REDUCTION PROGRAM (UFRR)**Reclamation District 17 (RD-17) – 100-Year Levee Seepage Area Project (EIP)**

- Encroachment permit approved by the CVFPB on August 30, 2019. The USACE approved the 408 categorical permission for this project.

FLOOD SYSTEM OPERATIONS & MAINTENANCE (FSO&M)

Flood Maintenance Office (FMO) is responsible for two areas of State Plan of Flood Control (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, 03, 04, 05, 07, 09, 12, 13, 16, and 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 located in West 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*
- *Minor sediment removal*
- *Pumping plant, weir, outfall gates, and bridge operation, maintenance, and repair*
- *Pipe/Culvert repair*

FMO has implemented the Flood Maintenance Assistance Program (FMAP) with annual funding to increase the level of maintenance in SMAs and support Local Maintaining Agencies (LMAs) and MAs.

State Maintained Areas (SMA) Activities

Sacramento Yard

- Cache Creek Levees: .5 mile of vegetation masticating (in progress).
- Cache Creek Levees: 22 miles of vegetation spot spraying (in progress).
- Cache Creek Levees: Rodent grouting (in progress).
- Cache Creek Settling Basin – Channel: 30 acres of vegetation mowing (in progress).
- East Levee Sacramento Bypass: 2 miles of vegetation spot spraying (in progress).
- Natomas East Main Drain: 1 rodent den removal (complete).
- Magpie Creek Diversion: Rodent depredating (complete).
- Putah Creek: Vegetation spot spraying (in progress).
- Putah Creek: Vegetation mowing (complete).
- Putah Creek: Vegetation burning (complete).
- Sacramento Bypass Levee: Vegetation mowing (complete).
- Sacramento Bypass Levee: 24 acres of vegetation burning (complete).
- Sacramento River (Collinsville to Knights Landing): 150 cy scour repair at Ponds 10 and 12 (complete).
- West Yolo Bypass levees, Units 1-4: 5.7 miles of vegetation mowing (complete).
- West Yolo Bypass levees, Units 1-4: 5.7 miles of vegetation burning (complete).
- Willow Slough Bypass levee: Vegetation mowing (complete).
- Willow Slough Bypass levee: Vegetation burning (complete).

Sutter Yard

- Cherokee Canal: Vegetation mowing (in progress).
- Cherokee Canal: 15.5 acres scour repair (complete).

- East Levee Sacramento River: Vegetation burning (in progress).
- East Levee Sacramento River: Rodent baiting (in progress).
- Sutter Pumping Plant 1: 17.64 acres of vegetation broadcast spraying (complete).
- Sutter Pumping Plant 2: 26.4 acres of vegetation broadcast spraying (in progress).

Maintenance Area (MA) Activities

MA01

- 16 miles of vegetation dragging (complete).
- 17 miles of vegetation spot spraying (in progress).
- Encroachment removal (complete).

MA03

- Rodent depredating (in progress).

MA05

- 25 miles of vegetation burning (complete).

MA09

- 21.3 acres vegetation cutting and limbing (in progress).
- 19.6 miles of vegetation mowing (in progress).

MA12

- 11.22 miles of vegetation dragging (in progress).

MA13

- 3.5 miles of vegetation mowing (in progress).
- 35 miles of vegetation burning (complete).
- 22.7 miles of road grading (complete).

Flood Maintenance Assistance Program (FMAP) (provided by FPO/FSSB)

- 49 FMAP applications have been submitted for FY 18/19.
- Advances for FY 18/19 FMAP participants to be distributed in July 2019.
- MA FMAP is state operations. The funding was committed by June 30, 2019.
- Total commitment for FY 19/20 is approximately \$10M.
- Requested submittals for FY 19/20 due by July 31, 2019.
- To date, 41 LMAs have submitted packages for FY 19/20.
- DWR is processing fund allocations and anticipates completion by mid-September, 2019.

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*

Channel Evaluation

Cache Creek Channel Evaluation

- A preliminary evaluation comparing bench mark and levee crown elevations using the latest survey data, previous survey data, and as-built data is completed.

Levee Evaluation

Pipe/Culvert Evaluation

- Phase 1 video inspections:
 - 161 of 253 pipes passing through SMA levees have been video inspected by FMO.

Levee Tree Assessment (LTA)

- MA09 tree assessment is on-going.

Encroachments

- FMO continues to coordinate with Hydrology and Flood Operations Office, California Data Exchange Center, Flood Projects Office, and CVFPB to prepare a comprehensive list of encroachments in the SMAs and MAs.

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 (provided by FPO/FSSB)

- All 39 critical sites identified for state-led repair resulting from the 2017 Storm Events have been completed. Finalization of real estate and mitigation work is anticipated to be complete by 2020.

Levee Rehab (provided by FPO/FSSB)***Flood System Repair Program (FSRP)***

- At this time, DWR has committed all available bond funding for FSRP use. LMA outreach and field reconnaissance will continue to identify and prioritize eligible repairs for future consideration if additional funding becomes available. DWR will continue to manage the existing FSRP executed contracts to ensure Prop 1E liquidation is complete.

Storm Damage DWR Rehabilitation (SDDR), Phases 4 and 5

- This effort continues the site repair work that started with the 2017 Emergency Rehabilitation work. Now that all the identified critical sites have been completed (Phases I, II and III), work continues on the identified serious sites. Phase IV and V construction of approximately 27 sites is scheduled for fall 2020 construction. Staff continues to work on environmental compliance and permitting documents for these sites.

Pipe Rehab

- A total of 62 pipes have been rehabilitated using the Cured In Place Pipe (CIPP) method in State Maintained Areas (SMAs).
- Rehabilitation of 37 pipes has been completed using the CIPP lining method in Willow Slough, Putah Creek, and West Levee Yolo Bypass. New flood control gates have been installed. Five pipes have irrigation/water impacts and will be lined later this year. Four pipes need remedial work before CIPP lining is performed.
- The crew continued the CIPP rehabilitation work on Butte Creek. Thirteen pipes have been lined along Butte Creek.
- The crew mobilized on July 16, 2019 to start the CIPP rehabilitation on Cherokee Canal. Twelve pipes have been lined along Cherokee Canal.
- FMO is coordinating with DOE on contracting options for the removal and replacement of a pipe with holes in it, located on Willow Slough. County Road 28H runs along the levee crown at this location, and there are voids located below the road due to the failed pipe. This road is used to access the Yolo County Landfill which has frequent heavy truck traffic. FMO has been coordinating the repair options with DOE and has informed CVFPB of this project. Depending on the contracting method used, construction can start anytime between September 2019 to October 2019 and last approximately one to two weeks.

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

DMP-Pipes Program		Status Update: 8/31/19	
	MAs/SMAs	Non-Participating LMAs	Participating LMAs¹
Phase 1			

Total pipes for C&I (Cleaning & Inspection):	253	161	995
Total pipes completed:	161	134	220
Irrigation Impacted Pipes:	44	7	TBD
Continuous water Pipes:	31	10	TBD
Vault access required:	17	--	TBD
No Access	--	10	TBD
Geophysical Evaluation*			
"Not-Found" Pipe Location:			
Total Pipes for Geophysics (GP)	116	172	221
Total Pipes GP Complete	116	168	221
Phase 2 - R/R/R			
CIPP Slip-Lining Rehabilitation Completed**	62	TBD	TBD
Removal and Replacement***	1 planned	TBD	(See footnote 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 Cured In Place Pipe (CIPP) Slip-Lining Rehabilitation.

*** RD784 has one pipe in Phase 2 agreement with DWR for removal/replacement that is scheduled for construction in summer 2019; design/permitting work is completed.

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

Channel Rehab

Elder Creek Channel Rehab

- Water in the channel continues to delay this year's project. The channel is being monitored for when the channel dries out.

Tisdale Bypass Sediment Removal 2020

- Division of Engineering (DOE) expects to start a LiDAR survey in the Bypass and the spoils site by mid-September 2019. The survey data will be used to estimate accurate sediment volume and create civil design plans.

Structural Rehab

Butte Slough Outfall Gate Rehabilitation

- Project design plans for the rehabilitation work are being updated. Staff has been working on CEQA, NEPA, and Biological Assessment documents while conducting updated surveys and preparing various environmental permit applications for the work. DWR's goal is to contract the rehabilitation work in Summer 2020.

- The design team has been reorganized and a kickoff meeting was held with DOE, Division of Operations and Maintenance, and FMO staff.
- The project's goal is a 2021 construction start date.

Tisdale Weir Rehabilitation and Fish Passage Project

- DWR is preparing a CEQA Environmental Impact Report (EIR). Public review of the CEQA document is anticipated in November 2019.
- Environmental analysis document preparation is continuing with the main focus on Technical Memos consolidating analysis of sediment deposition, Hydrologic and Hydraulic Flood Impacts, Agricultural Impacts, and a Long-Term Management Plan (LTMP) for Operations and Maintenance for the updated facility. These documents will support the EIR as well as further engineering design.
- A permitting plan set has been completed to further the progress of the environmental permitting and will be used in the process for obtaining a CVFPB encroachment permit and a USC Section 408 permit.

Knights Landing Outfall Gates Fish Barrier

- A Reclamation District 108 consultant sent an updated Statement of Work to DWR which will help finalize the agreement.
- Construction is expected in Summer 2020.

Yard Rehab

Sacramento Yard Improvements

- All underground work is complete, and 90 percent of the paving is complete.
- Substantial completion is expected to be finished in September 2019.
- Phase 2 planning work has started. DOE is reviewing the electrical and safety studies already completed and will provide a priority based approach to the electrical upgrades.

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)

No significant activity for this month.

O&M Habitat Conservation Plan (HCP)

DWR is reviewing permitting pathways on a landscape scale for coverage of DWR flood maintenance activities.

SWIF - Endangered Species Act, Section 7 Nexus

No updates for this month.

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) (provided by FPO/FSSB)

- 51 sites were submitted by LMAs after the 2019 Public Notice & that the U.S. Army Corps of Engineers determined 6 of those to be eligible for PL 84-99 rehabilitation assistance.