Agenda Item 11

REPORT OF ACTIVITIES
OF THE
DEPARTMENT OF WATER RESOURCES

By

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FUNCTIONAL AREA 1 FLOOD EMERGENCY RESPONSE

This functional area includes work to better prepare for, respond to, and recover from flood emergencies. A program for flood emergency response is a necessary part of flood management because California will always experience flood emergencies, even when system improvements reduce the frequency of flooding. Program activities include inspection and assessment of flood projects' integrity; reservoir operations and river forecasting; flood data collection, management, and dissemination; precipitation and runoff forecasting; Delta flood preparedness, response, and recovery; and statewide flood emergency response functions.

REAL-TIME FLOOD CONDITIONS, STATUS, & WARNING

The purpose of the Real Time Flood Conditions, Status, and Warning element is to provide information needed to manage floods as they are occurring. This element supports flood operations by 1) inspecting, documenting, and assessing the integrity of the Sacramento and San Joaquin Flood Control Project levees, 2) storing and managing information so that it is accessible to flood managers and the general public, 3) providing emergency flood information and warnings based upon existing and forecasted conditions and field reports, and 4) developing information management tools to support emergency operations.

Inspections

- Nothing new to report.

Flood Project Integrity/Vulnerability Assessment Activities

Utility Crossing Inventory Program (UCIP) has completed desk studies for about 1,600 miles of the SPFC levees. These desk studies entailed extensive review of historical information such as CVFPB encroachment permits, DWR Levee Logs, Local Maintaining Agency's (LMA) records, and USACE Operation and Maintenance Manuals to identify location and characteristics of pipes. About 7,500 penetrations through the SPFC levees were identified during these desk studies. UCIP is currently performing field surveys to verify locations and document the existing condition of these pipes based on external visual inspection. Field surveys have been completed for about 1,500 miles of levees and approximately 7,200 penetrations.

Local Maintaining Agency Annual Reporting Program (CWC 9140-9141)

- Nothing new to report.

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.

Water Conditions

As of May 31, statewide hydrologic conditions were as follows: precipitation, 55 percent of average to date; runoff, 35 percent of average to date; snow water equivalent, 3 percent of average for the 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 2014, observed through May 31, 2014 was about 6.2 million acre-feet (MAF), which is about 40 percent of average. In comparison to Water Year 2014, the observed Sacramento River Region unimpaired runoff through May 31, 2013 was about 10.6 MAF, or about 68 percent of average.

On May 31, the Northern Sierra 8-Station Precipitation Index Water Year total was 28.8 inches, which is about 61 percent of the seasonal average to date and 58 percent of an average water year (50.0 inches). During May, the total precipitation for the 8-Stations was 0.7 inches, or about 33 percent of average for the month. Last year on May 31, the Water Year 2013 seasonal total for the 8-Stations was 42.4 inches, or about 89 percent of average.

On May 31, the San Joaquin 5-Station Precipitation Index Water Year total was 19.2 inches, which is about 49 percent of the seasonal average to date and 47 percent of an average water year (40.8 inches). During May, the total precipitation for the 5-Stations was 1.0 inches, or about 56 percent of average for the month. Last year on May 31, the Water Year 2013 seasonal total for the 5-Stations was 25.9 inches, or about 67 percent of average.

Selected Cities Precipitation Accumulation as of 05/31/2014 (National Weather					
City	July 1 to Date 2013 – 2014 (in inches)	% Average	July 1 to Date 2012 – 2013 (in inches)	% Average	% Avg. "Water Year" July 1 to June 30 2013 - 2014
Eureka	20.76	52	31.88	81	51
Redding	17.77	52	26.88	79	51
Sacramento	9.79	53	14.98	82	53
San Francisco	12.53	53	16.46	70	53
Fresno	4.81	43	5.67	50	42
Bakersfield	2.41	38	3.15	49	37
Los Angeles	4.45	35	6.89	54	35
San Diego	5.06	49	6.50	63	49

Key Reservoir Storage (1,000) AF) as of 05/31/2014								
Reservoir	River	Storage	Average Storag	% Average	Capacity	% Capacity	Flood Control Encroac	Total Space
Trinity Lake	Trinity	1,196	2,114	57	2,448	49	---	1,252
Shasta Lake	Sacrame	2,177	3,901	56	4,552	48	-2,375	2,375
Lake Oroville	Feather	1,734	2,990	58	3,538	49	-1,804	1,804
New Bullards	Yuba	645	837	77	970	67	-321	321
Folsom Lake	American	548	821	67	977	56	-429	429

New Melones	Stanislau	799	1,519	53	2,400	33	-1,621	1,621
Don Pedro	Tuolumn	1,077	1,553	69	2,030	53	-925	953
Lake McClure	Merced	311	701	44	1,032	30	-656	714
Millerton Lake	San	321	403	80	520	62	-200	199
Pine Flat Res	Kings	430	722	60	1,000	43	-570	570
Isabella	Kern	80	299	27	568	14	-281	488
San Luis Res	(Offstrea	848	1,617	52	2,041	42	---	1,191

The latest National Weather Service Climate Prediction Center (CPC) long-range, 1-month precipitation outlook for June 2014, issued May 31, 2014, suggests no tendency for above or below average rainfall for all of California, except for the extreme northern portion of the State where below average rainfall is suggested.

Hydro-Climate Analyses
- Nothing new to report.

Real-Time Data Collection Network
- Nothing new to report.

Hydrologic Data Management
- Nothing new to report.

Bulletin 120 and Water Supply Index Forecasts
- Nothing new to report.

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.

Reservoir Coordinated Operations
- Nothing new to report.

River Forecasting
- Nothing new to report.

FLOOD OPERATIONS EMERGENCY RESPONSE
This element includes all preparation and planning to execute flood fights, deploy teams, provide training, and coordinate local response needs and federal assistance in the event of a flood. This includes maintaining the readiness of the Flood Operations Center and all the staff that may have to staff it in the event of an emergency and assuring local response efforts can be integrated into the State response system.

Flood Operations, Training and Exercises
- Nothing new to report.

Outreach
- Nothing new to report.

Flood System Analysis Section (FSAS)
- Nothing new to report.

EMERGENCY RESPONSE SUPPORT
This element includes various efforts that will further the Departments understanding of the flood system interactions with water supply systems and conjunctive use programs. It also includes the update of the Central Valley hydrology for use in risk assessment and project development. Another component includes developing a comprehensive plan to response to flood events in the Delta.

Central Valley Hydrology Study (CVHS)
- Nothing new to report.

Hydraulic Analysis and Evaluation
In June 2014, the Hydraulic Analysis Section (HAS) continued to manage the hydraulic model development work under the CVFED program. The combined riverine and overland flow hydraulic models for the Upper and Lower San Joaquin River Systems are complete. In parallel, the section has also been working on activities related to the development of applications and tools using CVFED models and data to support FloodSAFE programs. The CVFED combined channel model enhancement and expansion for the Sacramento and San Joaquin River systems are underway and 35% and 31% complete, respectively. These models are expected to support enhanced Flood Warning systems and general FloodER programs. In addition, HAS continued to plan, scope, design and implement geospatial tools and applications for hydrology, hydraulics and topographic data management related to CVFED program including inventory, update, visualization and dissemination of data and tools for FloodER and FloodSAFE programs and DWR partner agencies.

Following the deliveries of the ULOP 200-year Informational Floodplain Maps (SB 1278 and AB 1965) for SPFC urban communities in June 2013, we responded to many public comments. HAS continues to provide support to communities and individuals regarding the 200-year informational inundation maps.

HAS continues to populate the Library of Models (LOM) with CVFED models as they are completed and approved. Approximately 80% percent of the comprehensive riverine and over land flow hydraulic models corresponding to the CVFED program are populated in LOM.

In June, HAS processed seven requests for data, and transferred a total of 11,859 LIDAR tiles and 44,423 tiles of Aerial Imagery. One of these requests also included bathymetric and field survey data. Four of the requests were from DWR and the other three were from outside public

agencies. Approximately 3,540 GB of data were transferred covering a land area of approximately 10,635 square miles.

FUNCTIONAL AREA 2 - OPERATION AND MAINTENANCE

Operation and Maintenance is a functional area under FloodSAFE established to ensure project facilities are operated and maintained in good working condition. DFM's Flood Maintenance Office (FMO) has responsibility for operation and maintenance of the Sacramento River Flood Control Project as outlined in California Water Code sections 8361 and 12878. Routine operation and maintenance is performed by the Sacramento and Sutter Maintenance Yards (Yards). Outside contractors are sometimes given responsibility for non-routine operation and maintenance. Funding from FloodSAFE has expanded the program by providing additional funding for deferred maintenance and for new projects identified through a number of inspection programs. FMO also provides funds to cost share with the federal government and with local maintaining agencies for repair projects.

DWR is responsible for planning projects in a way that avoids or minimizes environmental impacts, and for obtaining State and federal environmental permits and clearances for projects within Functional Area 2. DWR works to conduct operation and maintenance in a manner that supports public safety while protecting, and where possible, enhancing the environment. As such, environmental stewardship is integrated into each of the major elements rather than a stand-alone element. Also, with DWR's established open collaborative process, various local, State, and federal agencies examine issues together and develop integrated solutions to complex environmental compliance requirements and resource opportunities as flood control maintenance activities are undertaken.

FLOOD SYSTEM PREPAREDNESS

Routine maintenance of project facilities is an essential component of Flood System Preparedness and is conducted by the Yards. Routine annual maintenance of project levees, channels, and flood control facilities begins in March and continues until the beginning of the flood season in October. The Sacramento River Flood Control Project's operation and maintenance manuals and the criteria for evaluating maintenance practices developed by the United States Army Corps of Engineers (USACE) serve as a guide for establishing maintenance practices. The Yards focus on completing all routine maintenance activities (including repair of damage caused by previous flood season's high water events) and having adequate flood fighting supplies on hand before the onset of the next flood season.

Levee Maintenance

Maintenance of levees includes: mowing levees and managing vegetation to maintain visibility and accessibility for flood fighting, filling rodent holes, inspecting and repairing pipe penetrations, keeping levee crown roads in good condition, repairing damaged gates, and repairing slumping or eroded levee sections. Levees are inspected four times per year.

- The maintenance area formation for a portion of the Cache Creek levee system is underway. DWR is finalizing the Flood Benefit Map and will be working with the CVFPB for a formal hearing to establish the MA.

- The Sacramento and Sutter Maintenance Yards have primarily been mowing levee slopes, conducting toe road maintenance, and removing vegetation and debris from channels. Some burning of levee slopes has occurred as well.

- Rodent hole grouting is being planned for the year. Areas outside of Giant Garter Snake Habitat on the chart below are in the permitting process for grouting.

- The following figure shows the status of routine maintenance activities from April 1, 2014 to March 31, 2015.

Maintenance Activities completed from April 1 2014 to March 31 2015

	Veg control	Rodent grouting	Encroachment removal	Levee Restoration	Levee road	Minor Structures
MA 1		N/A	0%	0%		0%
MA 3		N/A	0%	0%	0%	0%
MA 4		0%	0%	0%	0%	0%
MA 5		0%	0%	0%		0%
MA 7	0%	0%	0%	0%	0%	0%
MA 9		0%	0%	0%	0%	0%
MA 12		N/A	0%	0%	0%	0%
MA 13		0%	0%	0%	0%	0%
MA 16	0%	0%	0%	0%	0%	0%
MA 17	0%	N/A	0%	0%	0%	0%

WC 8361 State maintained		0%	0%			

N/A = not applicable

Channel Maintenance

Channels are maintained to convey the design flood flow by removing and thinning vegetation, and by removing accumulated debris and sediment as necessary. Hydraulic models are developed and applied to analyze channel flow capacity and identify critical areas within channels where vegetation or sediment needs to be removed to maintain channel capacity. As the models are completed, channel-specific management plans are developed to support on-going maintenance activities in the channel. Approximately 20 percent of the project channels will be modeled every year with priority given to channels with suspected deficiencies and every channel will be modeled no less than every 5 years.

- Channel maintenance is about 30% complete with respect to mowing, vegetation removal, and spraying.

- American River Channel Management - FMO staff conducted a site visit to determine if we have any maintenance or flood capacity concerns with the Urrutia Pit surface mine located in the American River floodway at River Mile 1.3. Current conditions in this area are similar to conditions assumed in the US Army Corps of Engineers' model evaluation used in their 2004 American River Erosion Study. Based on model output from that study and our field observations, it does not appear that the Urrutia Pit surface mine causes any flood conveyance concerns for the American River Channel. However, if future surface mining operations or reclamation activities alter the site, DWR will need to be consulted to ensure there are no impacts to our ability to maintain carrying capacity of the channel and floodway. A letter summarizing our findings was submitted to the Department of Conservation, Office of Mine Reclamation, on May 9.

- Butte Creek Hydraulic Model - No new information this month.

- Cache Creek – A meeting was held with FMO, IRWM Regional Planning, and DOE, Geodetic Branch, to discuss recent subsidence measurements from the Conaway Extensometer. Subsidence in this area appears to have increased significantly in the last year. FMO shared its findings from the 2010 benchmark survey investigation along Cache Creek and the comparison of as-built levee elevations to the 2006 surveyed cross sections used in the hydraulic modeling effort. Concerns were raised that increasing groundwater pumping in the area due to the drought and increasing subsidence could adversely impact levees in the area. Through discussions with Yolo County, we became aware that Yolo County is pursuing a grant through DWR to fund a yearlong subsidence study in Yolo County. The Geodetic Branch Chief contacted one of the participants in the proposed subsidence study to coordinate efforts on evaluating subsidence in the Yolo area.

- Cache Creek Settling Basin – Tree and vegetation removal has started.

- Cherokee Canal Hydraulic Model - No new information this month.

- Chico Area Streams Hydraulic Model – Based on the model results, Northern Region Office (NRO) has identified several sites where channel maintenance is required to restore capacity. NRO is working with FMO and Sutter Maintenance Yard to prioritize maintenance in the Chico area.

- Linda and Arcade Creek Hydraulic Model – No new information this month.

- Natomas Cross Channel (NCC) Hydraulic Model – No new information this month.

- East Side Canal (aka Coon Creek Interceptor) – Received initial confirmation from DWR, Office of Chief Counsel, that we are responsible for channel maintenance. DWR has not routinely performed channel maintenance in the East Side Canal. We are initiating the permitting process to allow maintenance to be performed in the channel and to eventually add it into the routine maintenance agreement between DWR and CDFW.

- Natomas East Main Drainage Canal (NEMDC) - Completed updated version of a Channel Management Plan, currently undergoing review by FMO senior staff.

- Putah Creek Hydraulic Model – An initial version of HEC-RAS model for Putah Creek and a draft report have been provided to NRO for model QA/QC.

- Sacramento River - No new information this month.

- Sutter Pumping Plants Fish Screen Investigation - Received draft Fish Screen Investigation Report from NRO. The report is a summary of over three years' collection of real time velocity data of flow (primarily irrigation water supply) through the old pumping plant culverts. The intent is to use data to determine if fish screens may be needed at these locations. FMO and NRO will meet in July to finalize report and recommendations.

- Tisdale Bypass Hydraulic Model – Finalized model and report based on QA/QC comments received from NRO. Modeled water surface elevation exceeds the design profile throughout the bypass and freeboard requirements are not met in approximately 75% of the bypass. Evaluating alternatives to improve capacity.

- Wadsworth Canal Hydraulic Model – The hydraulic model was developed using LIDAR data collected by CVFED, and levee elevation and freeboard deficiencies were identified between Franklin Road and the Sutter Bypass confluence during the modeling process. Following LIDAR data collection, USACE constructed a slurry wall on the East (Left) levee from the Sutter Bypass confluence to 3,000 feet upstream. We obtained copies of the As-Builts for the slurry wall construction and also had NRO do a levee crown survey for both levees at 30 cross-section locations in the area below Franklin Road. Based on the As-Builts and the recent survey, the slurry wall construction appears to have eliminated most of the identified freeboard deficiencies. Velocity information for the existing channel condition at design flow derived from our Wadsworth Canal HEC-RAS modeling results was used to support SERP designs.

- Willow Slough Bypass - As part of the SERP project, finished evaluating flood flow scour velocities at five out of six Willow Slough Bypass erosion sites. Evaluated impact to flood WSEL based on assumed post-construction condition and summarized results for inclusion in SERP documentation.

Flood Control Facilities Maintenance
DWR operates and maintains flood control structures such as weirs, pumping plants, fish ladders, and bridges. Routine activities, such as maintaining electrical and mechanical systems, removing debris from intakes, and inspecting facilities for deterioration, are performed so the facilities are ready for operation.

- No new information this month.

Maintenance Yard Flood Season Preparedness
The Yards serve as first responders for State-operated Maintenance Areas (MA) and those areas where the State Legislature has given DWR levee maintenance responsibilities. By October, the Yards prepare for the next flood season by: restocking flood fighting supplies, conducting flood fight training that is needed for new staff, preparing schedules for high water patrolling or staking that may be conducted during the forthcoming flood season, inspecting and repairing communication equipment, and coordinating flood fighting activities with DWR's Flood Operations Center.

Sacramento Maintenance Yard: Groundwater beneath the Sacramento Maintenance Yard has been impacted as a result of former leaking underground storage tanks associated with past fueling operations at the facility. On April 28, 2014, the Maintenance Support Branch of FMO, in agreement with the Project Geology Section of DOE, implemented groundwater treatment pilot testing at the site. The pilot testing is being completed through a task order with Lettis Consultants, Inc., and included the procurement and installation of an ozone injection pilot testing system designed to evaluate the feasibility of utilizing ozone injection to mitigate the dissolved petroleum hydrocarbon impacts in the groundwater beneath the site. The pilot testing system is scheduled to operate continuously for the next 12 months.

- No new information this month.

Emergency Response: The Yards, when requested, respond to flood events as first responders in areas where they have maintenance responsibilities. They also provide support to other locally maintained areas for flood fighting when requested.

- No new information this month.

CENTRAL VALLEY FLOOD PROTECTION PLAN (CVFPP) – IMPLEMENTATION
In addition to the routine maintenance described above, FMO is using FloodSAFE bond funds to complete deferred non-routine maintenance projects (such as rehabilitation of pumping plants), and rehabilitation and repair of system facilities (such as removing accumulated channel sediment and repairing major levee and bank erosions sites). The CVFPP identified several near-term priority actions that are being implemented including: development of rural levee repair criteria, proactive erosion repair and stabilization, risk-prioritized repair of critical system problems, rehabilitation and maintenance of all-weather levee access roads, and participation in federal levee repair programs. Implementation of the rural levee projects will be consistent with the State System-wide Investment Approach (SSIA).

Levee Rehabilitation and Repair
FMO is supporting the rehabilitation and repair of levees through a variety of cost-share programs with the federal government and local maintaining agencies. A key program for providing local cost-share assistance in rural/agricultural areas is the Flood System Repair Project (FSRP) that repairs critical damage to flood control facilities. The State, in collaboration with the Central Valley Flood Protection Board (CVFPB) and members of the flood control community, has developed the Rural Levee Repair Guidelines (RLRG) to provide guidance for repairs of smaller-scale levee deficiencies in rural/agricultural areas.

Small Erosion Repair Program (SERP): FMO has obtained all the required permits and authorizations (except the State Lands Commission Lease) and is implementing the first year of the SERP, a five-year pilot program developed to repair up to 15 small erosion sites annually. On July 1, FMO submitted notification packages for 11 SERP sites to all regulatory agencies. The plan is for them to conduct a review of the packages in 30 days. Five of the repair sites are located in Yolo County along the Willow Slough Bypass, five repair sites are located in Sutter County along Wadsworth Canal, and one repair site is in Colusa County along the northern portion of the Colusa Main Drain.

Flood System Repair Project (FSRP)
- No new information this month.

Rural Levee Repair Guidelines (RLRG)
- No new information this month.

Sacramento River Bank Protection Project
- No new information this month.

PL 84-99
- No new information this month.

Channels – Corridor Management Strategy (CMS)
CMS is a concept for planning, designing, and implementing projects for flood control features that DWR has responsibility for maintaining and repairing. It incorporates DWR's environmental stewardship and sustainability policies, and involves developing a vision, strategy, and Corridor Management Plan (CMP) for managing corridors that integrate public safety, environmental stewardship, and economic stability over a long-term (greater than 30 years) planning horizon. CMPs are a foundation for securing programmatic regulatory agency approvals for on-going maintenance activities and habitat restoration. CMPs effectively support the objectives of the CVFPP and Conservation Framework in establishing an integrated management plan to reduce flood risk, improve ecosystem function, and create a more sustainable flood management system that allows for on-going operation and maintenance of flood management facilities.

Lower Feather River Corridor Management Plan (LFRCMP): Informational briefings on the LFRCMP were presented at Coordinating Committee on June 25th and the June 27th CVFPB meeting by Kelly Briggs, DWR Environmental Program Manager; Steve Chainey and Susan Sanders, AECOM (the primary support services contractor). The LFRCMP was finalized on June 30. A fact sheet, final LFRCMP, and associated appendices are now available at http://www.water.ca.gov/floodmgmt/fmo/msb/lfrcmp/.

Willow Slough Bypass: There are five erosion sites planned under SERP this year. SERP packets are with permitting agencies for review. Construction is expected to start in August.

FLOOD CONTROL FACILITIES – REHABILITATION AND REPAIR
DWR repairs or replaces flood control structures that are part of DWR responsibilities within the Sacramento River Flood Control Project. These facilities include weirs, pumping plants, fish ladders, outfall gates, and bridges.

Butte Slough Outfall Gates (BSOG)
- No new information this month.

Sutter Bypass East Borrow Canal – Weir No. 2
- No new information this month.

Pumping Plants
- Pumping Plant testing is on-going.

FUNCTIONAL AREA 3 FLOODPLAIN RISK MANAGEMENT
The primary purpose of Floodplain Risk Management is to empower local communities through floodplain management program support and technical assistance to make wise land use decisions in flood prone areas that result in reduced flood risk and preservation of the beneficial uses of floodplains. FPM projects and programs work towards development of a statewide integrated approach for flood risk reduction and long term floodplain sustainability that reduces loss of life and property damage and minimizes the economic impacts associated with flooding.

FLOODPLAIN MANAGEMENT ASSISTANCE
Floodplain Management Assistance provides statewide technical support to federal, state and local agencies, and 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 with communities participating in the NFIP, provides technical assistance to the public, and trains community officials.*

- Community Assistance Visit (CAV) meetings were held with the Cities of Woodland and Citrus Heights respectively. CAV meetings are held with communities to report the findings of their CAV inspection, discuss any possible violations or issues that were discovered during the inspection, and the community's responsibility in NFIP.

- In anticipation of receiving the funds for the new CAP Grant, the Floodplain Management Assistance Section is scheduling CAV's with 31 communities for their inspections and to insure that they are in compliance with NFIP requirements.

STATEWIDE FLOODPLAIN EVALUATION AND DELINEATION
Floodplain Evaluation and Delineation works to estimate the frequency, depth, and limits of potential flooding throughout the state providing building blocks in terms of floodplain assessments, standards, methodologies, tools, and analyses supporting multiple applications including FloodSAFE programs and projects and FEMA's National Flood Insurance Program.

Coastal Floodplain Evaluation and Delineation (CFED)
The Coastal Data Merge Project is being carried out in collaboration with the Ocean Protection Council (OPC) with the purpose of merging coastal California's topographic/bathymetric data into one formatted data set to provide a consistent application for the entire coast of California.

- No new information this month.

Alluvial Fan Floodplain Evaluation and Delineation (AFFED)
The AFFED project team convenes when requested to develop flood models and preliminary flood hazard delineation maps for California communities. Currently, there is no new information or active AFFED projects.

FLOOD RISK NOTIFICATION
Flood Risk Notification (FRN) focuses on communicating flood risk and risk mitigation strategies to the public and to local, state and federal agencies for areas protected by the facilities of the State Plan of Flood Control (SFPC).

The parcel data manipulation is complete and its QA/QC is ongoing. The new design for the 2014 FRN flyer and revised cover letters are ready for upper management's approval. The 2014 LFPZ web viewer test run is scheduled to be completed by mid-August. The mailing of approximately 270,000 FRN flyers will begin in September.

FLOOD RISK PLANNING
Flood Risk Planning is focused on incorporating flood risk management into statewide and local land use decision- making to identify potential flood hazards and mitigation strategies to reduce flood risks through creation of integrated planning approaches and datasets that help agencies, communities, and individuals make well informed decisions.

DWR has completed an administrative draft "Guidance on General Plan Amendments for Addressing Flood Risks". The purpose of this report is to provide technical assistance to cities and counties related to their compliance requirements to amend their General Plans and Ordinances. DWR has worked with CVFPB staff in the process, and invited agencies and organizations (including those identified in the legislation) to provide early review and comments on the document to ensure the guidance is accessible and useful for the intended audience. Staff is completing the final revision and anticipates a public release date in late August/early September.

FUNCTIONAL AREA 4 FLOOD PROJECTS AND GRANTS

Flood Protection Projects and Project Grants has been a long-standing base program and is expected to continue indefinitely because of the ongoing need for system improvements and the long-lead time to implement federal flood control projects. The Program is responsible for the majority of physical improvements to the flood management system and provides grant money in the Delta and Statewide. The State acknowledges the Program need by continuing to be a significant partner in viable flood management projects in the Central Valley, Delta, and Statewide.

CENTRAL VALLEY FLOOD PROJECTS

This element is responsible for flood project review and federal feasibility studies cost-sharing. It contains three components: Feasibility Studies, Early Implementation Program (EIP) Projects, and Flood Control Projects.

USACE/CVFPB Studies Section

The State, represented by the CVFPB, participates and provides cost-sharing for feasibility studies with the USACE and local partners. Several studies are underway.

American River Common Features (ARCF) General Reevaluation Report (GRR) and West Sacramento GRR: ARCF GRR will provide a 200-year level of flood protection for the Lower American River downstream of the Folsom Dam, the Sacramento River downstream of the Natomas Cross Canal, and the Natomas Cross Canal. The West Sacramento GRR evaluates future work necessary to increase flood protection for the city of West Sacramento to 200-year.

There was a combined West Sacramento GRR and ARCF GRR tour and informational briefing with the Board during the July 11, 2014, Board meeting. The informational briefing updated the Board on the status of GRRs, the connection with the State's regional planning effort, the upcoming public release of the West Sacramento GRR Draft Report, and the corresponding Environmental Impact Report and Environmental Impact Statement.

Lower San Joaquin River Feasibility Study: This study is a coordinated effort by the State, USACE, and the San Joaquin Area Flood Control Agency (SJAFCA) to investigate feasible 200-year level flood protection and risk reduction alternatives and opportunities for floodplain restoration, recreational enhancements, and ecosystem restoration and enhancement for the City of Stockton and surrounding areas.

- 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.

Rock Creek/Keefer Slough Feasibility Study: This study will generate an EIS/EIR and feasibility study to evaluate federal, State, and local interests in planning, designing, mitigating, and improving the Rock Creek and Keefer Slough levee systems in Butte County.

- No new information this month.

Sacramento River Bank Protection Plan Phase 3 GRR: This study will investigate multiple-purpose bank protection and potential ecosystem restoration to improve the long-term

reliability and functionality of the Sacramento River Flood Control Project.

- The USACE sent a request to the CVFPB to enter into a Feasibility Cost Share Agreement for the Sac Bank GRR. USACE Sacramento District received $200,000 in the fiscal year (FY) 2014 Work Plan Budget to initiate the Sac Bank GRR.

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 Sutter/Butter basin, as well as environmental restoration and recreation opportunities.

- No new information this month.

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 features.

- No new information this month.

West Stanislaus County - Orestimba Creek Feasibility Study: This study evaluates feasible flood protection alternatives for the City of Newman and the surrounding agricultural areas to achieve a 200-year level of flood protection.

- No new information this month.

White River/Deer Creek Feasibility Study: This study will generate an EIS/EIR and feasibility study to evaluate federal, State, and local interests in planning, designing, mitigating, and improving existing levee system of White River and Deer Creek in Tulare County.

- 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 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 initiated during the original study which was suspended in 2004 due to significant local resistance to the USACE-selected flood barrier alternative.

- The USACE announced with non-federal sponsors' concurrence, that the study would soon become "inactive" until the beginning of federal FY 2015, or until additional funding is received through accelerated non-federal sponsor funds. Federal funding is currently provided in the President's budget for FY 2015.

Cache Creek Settling Basin Project GRR: The CCSB settling basin was initially constructed in 1937 and capacity expansion was completed in 1993. As a 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 (2018), or when the sediment trapping efficiency fell below 30 percent.

- No new information this month.

Yuba River Basin Project GRR: The Yuba River Basin Project GRR consists of increasing the level of flood protection for the City of Marysville and the communities of Linda, Olivehurst, and Arboga.

- No new information this month.

USACE/CVFPB Flood Control Projects
The CVFPB continues to partner with the USACE on projects to upgrade the Central Valley's State-federal flood control system.

American River Common Features (ARCF) Project: The ARCF project improves levee systems along the American and Sacramento Rivers.

- Site L7/R7 construction contract was awarded. The construction start date is July 2014.
- USACE has requested a payment of $1.1 million from non-federal sponsors for federal FY 2014 fourth quarter design and construction activities on various segments of this project.
- Site L5A Initial Study, Natomas East Main Drainage Canal (NEMDC) Extension EA/IS, and PCA Amendment No. 5 total project cost increase to $320,000,000 was approved by the CVFPB on May 23, 2014.
- Contractor began mobilization for sites L5A, L10 and NEMDC North construction.

ARCF – Natomas Basin: The Natomas Basin Project was authorized by the President in the Water Resources Restoration and Development Act (WRRDA) on June 10, 2014. It includes significant improvements to the Natomas Basin levees, and will improve the basin's flood protection level to 200-year protection.

- SAFCA and the CVFPB have submitted a framework document to USACE that sets the stage to eventually recuperate approximately $260 million in Section 104 credit. This credit will originate from expenditures made on the Natomas Levee Improvement Program, and will be used toward the non-federal cost share of the overall Natomas Common Features work (the remaining work in the basin).
- DWR and CVFPB are reviewing a draft Project Cooperation Agreement to partner with USACE as non-federal sponsors on the Natomas Basin project authorized in WRRDA 2014.

Folsom Dam Raise: The Folsom Dam Raise Project will improve flood protection by increasing reservoir storage capacity by elevating dam elevation by 3.5 feet, and strengthening the existing tainter gates for operational safety. In addition, improvements to the temperature shutters and ecosystem restoration along the lower American River are planned.

- 65 percent design submittal is due for sponsor review in July 2014.
- A Project Partnership Agreement (PPA) for the dam raise is part of a project between USACE, CVFPB, SAFCA, and a local PPA between CVFPB and SAFCA which are expected to be presented for the Board's approval in early spring 2015.
- The ecosystem restoration part of the project will begin under a future agreement.

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 flood protection level. The estimated construction completion date for the JFP is October 2017.

- Construction and Design – The project status as of May 15, 2014 is as follows:

Phases	**Planning & Design**	**Construction**
Pre-construction Engineering and Design	100%	N/A
Phase III – Control Structure	100%	73%

Phase IV – Approach Channel, Chute, and Stilling Basin	100%	20%
Phase V – Site Restoration	31%	0%
Water Control Manual Update	30%	N/A
Interim O&M Manual	30%	N/A
Project Overall	91%	43%

- The gate components for the control structure gates are being installed onto the control structure as they arrive. The last shipment is expected by end of August 2014.
- Ms. Jo-Ellen Darcy, Assistant Secretary of the Army, Civil Works, visited the site on June 3, 2014, along with DWR Deputy Director, Gary Bardini, and Division of Flood Management Chief, Keith Swanson.

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 scheduled for completion by September 2014.

- No new information this month.

Marysville Ring Levee Improvement Project: The Marysville Ring Levee Project will provide a 200-year or greater level of flood protection for the City of Marysville by constructing slurry cut-off walls, levee strengthening, and reshaping of the existing levee system surrounding Marysville.

- Phase 2A design is 90 percent complete and construction award is planned for summer 2015.
- Phase 2B design will begin in 2015.
- Phase 2C and 3 designs are 30 percent complete.
- Phase 4A construction contract award that was planned for federal FY 2014 is delayed. The delay is due to challenges with acquiring permanent easement from the Union Pacific Railroad (UPRR). DWR continues to negotiate terms with UPRR to obtain permanent easement.
- PPA Amendment Number 1 is to allow $26M in Section 221 credit and is under review by USACE.

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

- The $8 million Florin Creek flood control improvements project is on schedule for construction contract award by September 2014. Construction is planned for May 2015.

Early Implementation Program

Early Implementation Program includes projects ready to proceed in advance of the CVFPP. An approval element for these projects ensures they do not eliminate opportunities or prejudice the flood risk reduction alternatives that would provide regional or system-wide benefits.

Knights Landing Levee Repair Project (Yolo County): This project will repair 3.4 miles of levee along the left (east) bank of the Knights Landing Ridge Cut to ensure safe passage of flood flows at the USACE 1957 Design Profile.

- No new information this month.

Levee District 1 (LD-1 Sutter County) – Setback Levee at Star Bend Feather River Project: LD-1 constructed a 3,400-foot-long setback levee at Star Bend near river mile (RM) 18.0 on the right bank of the Feather River to provide increased flood protection for Yuba City.

- No new information this month.

Reclamation District 17 (RD-17 San Joaquin County) – 100-Year Levee Seepage Area Project: RD-17 levees have unacceptably 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 level of flood protection for south Stockton, Lathrop, and Manteca.

- No new information this month.

Three Rivers Levee Improvement Authority (TRLIA- Yuba County) – Feather River Levee Improvement Project: This project will provide a 200-year level of flood protection for Highway 65 and 70, and will 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 1600 acres of on-site mitigation, agricultural use, and habitat.

- Funding Agreement Amendment 3 was executed. This amendment extended the Funding Agreement's expiration date from June 30, 2014 to June 30, 2016.

TRLIA – Upper Yuba River Levee Improvement Project: 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.

SAFCA – Natomas Cross Canal Project (Sutter County): 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.

- In order to respond to cash needs identified by SAFCA, a retention reduction of $2 million was processed in advance of project closeout based on documents and invoices provided to date. Also, Funding Agreement Amendment 3 was executed, extending the expiration date from June 30, 2014 to June 30, 2015.

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

- In order to respond to cash needs identified by SAFCA, a retention reduction of $2 million was processed in advance of project closeout based on documents and invoices provided to date.

SJAFCA – Smith Canal Closure Structure Project (San Joaquin County): The Smith Canal project will construct an Obermeyer gate at the mouth of the Smith Canal on the San Joaquin River/Stockton Deep Water Ship Channel. The cost to design the structure is $2,412,500.

- No new information this month.

West Sacramento Area Flood Control Agency (WSAFCA) – North Area and Southport Improvement Project: 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.
The Southport area project is being designed and may include a large setback levee.

- No new information this month.

Sutter Butte Flood Control Agency (SBFCA) – Feather River West Levee Project (FRWLP)
FRWLP is designed to repair approximately 35 miles of levee along the west bank of the Feather River from the Thermalito Afterbay to the north end of Star Bend. The design will include 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 was identified as Project Area C. DWR has decided to pursue this project area as the first construction contract.

- Design Funding Agreement Amendment 2 was executed on June 4, 2014 adding $14,869,280 in funding to the agreement. A payment for $8.7 million is being processed under this agreement.

STATEWIDE FLOOD PROGRAMS

The Statewide Flood Programs provide local entities financial support for State-wide flood and ecosystem restoration related projects. These programs include the Flood Control Subventions Program (FCSP), the Flood Corridor Program (FCP), the Local Levee Assistance Program (LLAP), and the Yuba-Feather Flood Protection Program (YFFPP).

Yuba Feather Flood Protection Program (YFFPP)

YFFPP provides Proposition 13 financial assistance to local entities that can demonstrate non-structural flood management projects that show a peak flood flow reduction, flood stage, and flood risk in the Yuba and Feather River (including wildlife habitat enhancement and/or agricultural land preservation).

- YFFPP completed their final solicitation and awarded grants to four projects in April 2014. $3.4 million in project funds were encumbered for four new projects.

Flood Corridor Program (FCP)

FCP provides local assistance grants to local governments, special districts, and non-profit organizations for flood risk reduction projects using non-structural methods. Each project must also include an ecosystem restoration or agricultural land conservation component.

- A funding agreement for $5 million was executed on June 18, 2014 with Monterey County for Carmel River Flood Risk Reduction and Ecosystem Restoration Project.

DELTA FLOOD PROJECTS

This is a grant program that works with more than 60 reclamation districts in the Delta and Suisun Marsh to maintain and improve the flood control system and provide protection to public and private investments in the Delta, including water supply, habitat, and wildlife. The program, through its two major components; Delta Levees Maintenance

Subventions Program and Delta Levees Special Flood Control Projects, works with the local agencies to maintain, plan, and complete levee rehabilitation projects. One of the requirements to qualify for available funds is for the project to result in no Delta habitat net loss. Additional Bay-Delta Levees Branch responsibilities are to support the levee system and habitat development; improve Delta flood fight capability through planning, cooperative efforts, encouraging the emergency response plan development for each Delta island; and conducting necessary program studies and contract efforts.

Delta Levees Maintenance Subvention Program
DWR, on behalf of CVFPB, initiates and manages work agreements to fund levee maintenance and rehabilitation. The current status of work agreements are as follows:

Work Agreements for FY 2012-2013:
- The CVFPB's executive officer executed 65 work agreements.
- Staff received 60 final claims by the November 1, 2013 deadline totaling approximately $12 million worth of work.
- DWR staff has conducted 60 joint levee inspections with the California Department of Fish and Wildlife and the local agencies.
- Claims are currently being reviewed for eligibility and completeness. The eligible amounts will be reimbursed to the local agencies after the review.
- Staff has initiated the reimbursement process for 49 final claims totaling $3.9 million in reimbursements.

Work Agreements for FY 2013-2014:
- On September 13, 2013, the Board approved the FY 2013-14 funding plan for $12 million dollars. Work Agreements have been mailed to the 67 local agencies for signature.
- 67 signed work agreements have been received which will be routed to the CVFPB's executive officer for execution. Signed work agreements must be received by June 30, 2014.

Work Agreements for FY 2014-2015:
- DWR staff has received applications from 67 local agencies to participate in the FY14-15 Subventions Program.

- DWR staff will review the applications and prepare a funding allocation plan for CVFPB approval.

Delta Levees Special Flood Control Projects
DWR initiates and manages project funding agreements in support of local agency levee rehabilitation, habitat, or other projects. DWR executes agreements under project solicitation packages to authorize the proposed work.

Current information can be found at: http://www.water.ca.gov/floodmgmt/dsmo/bdlb/spp/.

FUNCTIONAL AREA 5 EVALUATION AND ENGINEERING

Evaluation and Engineering is a FloodSAFE Functional Area established to address assessments of existing flood management facilities to identify deficiencies and needed improvements. Functional Area 5 activities are performed in partnership with the USACE, which prior to FloodSAFE, conducted most evaluations and engineering for existing facilities. Functional Area 5 is based on the acknowledgement that changing conditions, new knowledge about system performance, and eventual facility deterioration will demand continued evaluation and engineering services.

URBAN LEVEE EVALUATION PROJECT (ULE)

DWR is required to evaluate the current level of performance of the State-Federal flood protection system in the Central Valley. Urban levees are levees that provide protection to developed areas with a population of at least 10,000 people. The evaluation of current urban levee performance is to include an estimate of the risk of levee failure, a discussion of the inspection and reviews performed, and recommendations regarding the levees and future work activities. The geotechnical engineering being performed will help flood managers understand the overall flood risks to populated areas in the Central Valley and consider alternative changes to the flood management system to better manage the risks.

ULE is evaluating 470 miles of urban levees that include State-Federal project levees, as well as appurtenant non-project levees that provide protection to urban areas receiving some protection from the State-Federal flood system. Urban levees are being evaluated to determine whether they meet defined geotechnical criteria for landside and waterside slope stability, under and through seepage, erosion, freeboard, seismic, and where needed, to identify remedial measures and cost estimates to achieve the defined geotechnical criteria. Information developed to date has been used in support of the Central Valley Flood Management Planning Program to inform development of two required 2012 documents: the Flood Control System Status Report and the CVFPP. Information currently shown in the table below is in process or pending, and will be used to support the 2017 updates to these documents.

The final analyses and Geotechnical Evaluation Report (GER) is the end result of a five-step process that includes the following steps: historical data collection, initial field investigation, preliminary analysis, supplemental field investigation, and final analyses and reporting. Each of these five steps results in the below listed deliverables.

The overall status of the ULE program intermediate and final deliverables for the 27 urban levee study areas are shown in the table below.

No.	Urban Study Area	Historic Data Collection (TRM)	Initial Field Investigations (P1GDR)	Preliminary Analyses	Supplemental Field Investigations (SGDR)	Final Analyses & Report (GER)
1	Chico	Done	Done	Done	Done	Draft volume 1 and 2 in preparation

No.	Urban Study Area	Historic Data Collection (TRM)	Initial Field Investigations (P1GDR)	Preliminary Analyses	Supplemental Field Investigations (SGDR)	Final Analyses & Report (GER)
2	Marysville	Done	Done	Done	Done	Print Check of volume 1 under review by DWR; draft volume 2 in preparation
3	RD 784	Done	Done	Done	Done	**Volume 1 Done**; print check of volume 2 in preparation
4	Feather River West Levee	Done	Done	Done	Done	Draft volume 1 under review by DWR
5	Sutter Bypass Wadsworth	Done	Done	Done	Done	**Volume 1 Done**
6	American River	Done	Done	Done	Done	Draft volume 1 and 2 in preparation
7	Sacramento River	Done	Done	Done	Done	Print Check of volume 1 under review by DWR
8	Davis	Done	Done	Done	Done	Draft volume 1 in preparation
9	Woodland	Done	Done	Done	Done	Draft 2 volume 1 in preparation
10	NEMDC East	Done	Done	Done	Done	Draft volume 1 in preparation
11	NEMDC West	Done	Done	Done	Done	Draft 2 volume 1 in preparation
12	Natomas North	Done	Done	Done	Done	Draft volume 1 and 2 in preparation
13	Natomas South	Done	Done	Done	Done	Final volume 1 in preparation
14	West Sacramento	Done	Done	Done	Done	**Volume 1 Done; Volume 2 Done**
15	DWSC	Done	N/A	N/A	Done	Draft 2 volume 1 in preparation
16	South Sac Streams	Done	N/A	Done	Done	In Progress
17	RD 404	Done	Done	Done	Done	**Volume 1 Done**; volume 2 in preparation
18	RD 17	Done	Done	Done	Done	Draft volume 1 in preparation
19	Bear Creek	Done	Done	Done	Done	Draft 2 volume 1 in preparation
20	Calaveras River	Done	Done	Done	Done	Draft volume 1 in preparation
21	Lincoln Village	Done	N/A	N/A	Draft GDR Complete	In Progress

No.	Urban Study Area	Historic Data Collection (TRM)	Initial Field Investigations (P1GDR)	Preliminary Analyses	Supplemental Field Investigations (SGDR)	Final Analyses & Report (GER)
22	Brookside	Done	N/A	N/A	Draft GDR Complete	In Progress
23	Rough and Ready	Done	N/A	N/A	In Progress	In Progress
24	Boggs Tract	Done	N/A	N/A	Draft GDR Complete	In Progress
25	Shima Tract	Done	N/A	N/A	Draft GDR Complete	In Progress
26	Smith Canal	Done	N/A	N/A	Draft GDR Complete	In Progress
27	Walthall Slough	Done	N/A	N/A	Draft GDR Complete	In Progress

ULE Summary

- Overall, ULE is 91% complete.
- The completion date of all GERs is planned for the end of 2014.
- An ICB meeting/teleconference was held on June 19, 2014 presenting GER updates, fragility curves, and burrowing animal topics.
- Conducted an expert elicitation session to solicit input about probability of failure of levees during seismic events.
- RD 784 GER Volume 1 was finalized.
- Sutter Bypass Wadsworth GER Volume 1 was finalized.
- RD 404 GER Volume 1 was finalized.
- Feather River West Levee GER Volume 1 is under review by DWR.
- Sacramento River GER Volume 1 print check is under review by DWR.

NON-URBAN LEVEE EVALUATION PROJECT (NULE)

DWR is required to evaluate the current level of performance of the State-Federal flood protection system in the Central Valley. Non-urban levees are levees that provide protection to agricultural areas and developed areas with a population of fewer than 10,000 people. The evaluation of current system performance includes an estimate of the risk of levee failure, a discussion of the inspection and reviews performed, and recommendations regarding the levees and future work activities. The geotechnical engineering being performed will help flood managers understand the overall flood risks to populated areas in the Central Valley and consider alternative changes to the flood management system to better manage the risks.

NULE is evaluating approximately 1,500 miles of non-urban levees that include State-Federal project levees and appurtenant non-project levees that also provide protection to non-urban areas receiving some protection from the State-Federal flood protection system. Non-urban levees are being evaluated to determine whether they meet defined geotechnical design criteria at the 55/57 design water surface for slope stability, under and through seepage, erosion, and where needed, identify remedial measures and cost estimates to achieve the defined geotechnical design criteria. The information being developed will be used in support of the Central Valley Flood Management Planning Program to inform development of the six regional plans.

The overall status of the NULE program intermediate and final deliverables for 22 non-urban levee study areas are shown in the table below.

No.	Non-Urban Study Area	Geotechnical Assessment Report (GAR)	Remedial Alternatives and Cost Estimate Report (RACER)	Geotechnical Data Report (GDR)	Geotechnical Overview Report (GOR)
1	Chico/North/South	Done	Done	Done	Draft volume 1 revision in preparation for ICB review
2	Clarksburg	Done	Done	Done	**Volume 1 Done**, Draft volume 2 revision in preparation for ICB review
3	Colusa Drain	Done	Done	Done	**Volume 1 Done**; Draft volume 2 revision in preparation
4	Colusa North	Done	Done	Done	Final volume 1 in preparation
5	Colusa South	Done	Done	Done	Draft volume 1 under review by ICB
6	Gerber	Done	Done	Done	**Volume 1 Done**, Final volume 2 in preparation
7	Knights Landing	Done	Done	Done	**Volume 1 Done**, Draft volume 2 under review by DWR
8	Sutter	Done	Done	Done	**Volume 1 Done**, Draft volume 2 under review by DWR
9	Wheatland	Done	Done	Done	**Volume 1 Done**, Draft volume 2 in Progress
10	Woodland South	Done	Done	Done	**Volume 1 Done, Volume 2 Done**
11	Ash Slough	Done	Done	Done	Draft volume 1 under review by DWR
12	Berenda Slough	Done	Done	Done	Analyses Completed
13	Black Rascal/Fairfield	Done	Done	Done	Final GOR Volume 1 in preparation
14	Diverting Canal/Mormon	Done	Done	Done	Draft volume 1 under review by DWR
15	ESB/Chowchilla	Done	Done	Done	Analyses complete
16	Fresno River	Done	Done	Done	Analyses Completed
17	Gravelly Ford	Done	Done	Done	**Volume 1 Done**
18	RD 2064	Done	Done	Done	Analyses Completed
19	RD 2075	Done	Done	Done	Analyses Completed
20	RD 2095	Done	Done	Done	Analyses Completed

No.	Non-Urban Study Area	Geotechnical Assessment Report (GAR)	Remedial Alternatives and Cost Estimate Report (RACER)	Geotechnical Data Report (GDR)	Geotechnical Overview Report (GOR)
21	SJRRP/CCID	Done	Done	Done	Draft volume 1 revision in preparation for ICB review
22	SJAFCA upland levees	Final GAR in progress	NA	NA	NA

NULE Summary

- Overall, Non-Urban Levee Evaluations are 92% complete.
- Preparation of GORs is continuing, with the current delivery dates scheduled between July and mid-late 2014.
- GORs will support FMO, regional plans, and SJRRP studies.
- Clarksburg GOR Volume 1 was finalized.
- Colusa Drain GOR Volume 1 was finalized.
- Gerber GOR Volume 1 was finalized.
- Knights Landing GOR Volume 1 was finalized.
- Sutter GOR Volume 1 was finalized.
- Wheatland GOR Volume 1 was finalized.
- Woodland South GOR Volume 1 was finalized.
- Woodland South GOR Volume 2 was finalized.
- Gravelly Ford GOR Volume 1 was finalized.
- A geotechnical assessment of non-urban levees in upper Bear Creek is underway. The final Geotechnical Assessment Report is in preparation.
- An effort is currently underway to transfer ULE/NULE data to the California Data Exchange Center. The goal of this effort is to make ULE/NULE data available to other potential users at DWR (e.g., maintenance and inspections personnel). Data exchange requirements are being developed. This effort will be completed in parallel with the completion of the ULE/NULE projects.
- An additional effort is currently underway to add an interface to the DWR web site to make final ULE and NULE data and documents available to the public.
- An ICB meeting/teleconference was held on June 19, 2014 (presenting GER updates, fragility curves, and burrowing animal topics).
- Clearances are being obtained for an additional field investigation in the Knights Landing area. The additional field and lab data will support the LMA's geotechnical evaluation of potential remediation alternatives.

SAN JOAQUIN LEVEE EVALUATION PROJECT (SJLE)

DWR has created the SJLE Project to assist the Bureau of Reclamation (Reclamation) in assessing flood risks associated with the San Joaquin River Restoration Program (SJRRP). The SJRRP 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. The United States Bureau of Reclamation (USBR) as the 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 Department's role in habitat restoration and flood management.

The purpose of the SJLE is to assist the SJRRP in assessing the flood risk impacts of Restoration flows under the SJRRP due to seepage and stability and identifying potential remedies to address increased flood risks under restoration flows in coordination with the CVFPP*.*

The ULE/NULE team is supporting the San Joaquin River Restoration Program's efforts to meet the requirement of the settlement to increase the flow in the upper San Joaquin River. This support consists of providing to the USBR and local maintaining agencies analyses of the geotechnical conditions of levees so that they can manage increases in flow with an understanding of the potential increased flood risk. Standard geotechnical criteria (factor of safety, exit gradient) are being used. The first phase of field explorations has been completed. Laboratory testing is complete for soil samples from these explorations. Additional geomorphic mapping is complete.

Analyses for areas with significant channel fill have been completed and a summary technical memorandum was prepared. A geophysical resistivity study, including a summary data report, was completed. Data from the geophysical surveys was used to identify potential anomalous levee embankment and foundation conditions between existing exploration locations, and were used to aid in the planning for supplemental field explorations in Phase 2. This field work will be completed during the summer of 2014. A meeting was held with DWR and DWR's consultants to review reach and analysis cross selection.

FUNCTIONAL AREA 6 FLOOD MANAGEMENT PLANNING AND CONSERVATION STRATEGY

The Flood Management Planning and Conservation Strategy Functional Area refer to the planning and analysis necessary to evaluate flood systems as *complete* systems *consistent with the intent of the FloodSAFE Implementation Plan rather than a set of individual, isolated projects. This functional area consists of three elements: Central Valley Flood Management Planning (CVFMP) Program, Statewide Integrated Flood Management Planning, and Conservation Strategies.*

CENTRAL VALLEY FLOOD MANAGEMENT PLANNING (CVFMP)

The CVFMP Program is one of several programs being managed within FloodSAFE California. The CVFMP Program addresses most of the flood-related planning activities that were authorized by the Legislature during the 2007/2008 session within much of the Central Valley. The CVFMP Program consists of two primary projects - State Plan of Flood Control (SPFC) and the CVFPP.

State Plan of Flood Control (SPFC)

The SPFC primarily includes: (1) SPFC Descriptive Document and (2) Flood Control Systems Status Report (FCSSR), which were completed and provided to the CVFPB in November 2010 and December 2011, respectively. The SPFC Descriptive Document is to be updated as the SPFC is modified. The FCSSR is to be updated in 2016, and in subsequent years ending in 1 and 6.

Central Valley Flood Protection Plan (CVFPP)
The CVFPP reflects a system-wide approach to protecting lands currently protected from flooding by the SPFC. The Board adopted the 2012 CVFPP on June 29, 2012. The CVFPP is to be updated in 2017, and in subsequent years ending in 2 and 7. The 2012 CVFPP presents the SSIA for making improvements to the SPFC over time through five flood management programs: (1) Flood Emergency Response Program; (2) Flood System Operations and Maintenance Program; (3) Floodplain Risk Management Program; (4) Flood System Assessment, Engineering, Feasibility, and Permitting Program; and (5) Flood Risk Reduction Program. Two important components in further refining flood system improvements include developing Regional Flood Management Plans (RFMP) and two State-led Basin-wide Feasibility Studies (BWFS).

Regional Flood Management Planning (RFMP)
RFMP is a DWR sponsored and locally led planning process to develop a long-term vision of flood management in six regions in the Central Valley. Initial elements of the RFMPs include a Regional Flood Atlas, information on Regional Flood Management Priorities, and a Regional Financial Plan. RFMPs are being coordinated with the two BWFS led by DWR. DWR staff continues to support RFMP efforts. DWR staff and SPFC Coordinators have participated in locally led workgroups and meetings to help with identifying regional problems, financial planning, flood emergency response, and small community protection strategies. Monthly progress reports and RFMP activities are provided directly to the Board by Kim Floyd of Kim Floyd Communications.

Basin-Wide Feasibility Studies (BWFS)
The two BWFS (Sacramento River Basin and San Joaquin River Basin) are being conducted to describe the State's flood management objectives in each river basin, refine the scale and location of system elements in connection with regional improvements in the SSIA, inform development of the CVFPP financing plan, and integrate a system-wide environmental conservation strategy. To support development efforts of the BWFS, major work efforts are divided into Plan Formulation, Technical Evaluations, and Communication & Engagement & Coordination.

Plan Formulation: CVFPO continues to make progress in developing refined system configurations consistent with the SSIA. When complete, these configurations will be iteratively evaluated, compared by conducting a trade-off analysis, and further refined leading to a tentatively selected configuration as part of the BWFS.

Technical Evaluations: The Central Valley Flood Planning Office (CVFPO) continues to work on a number of tasks to support the Sacramento River and San Joaquin River Basin-wide Feasibility Studies. Some of these tasks include assessing potential bypass system modifications to the SPFC to improve flood conveyance, and developing economic analysis procedures for flood management studies. The technical evaluation being undertaken for the feasibility studies utilizes the following tools:

- CVFPO staff are developing a benefit (and cost) analysis framework, within the BWFS system configuration analysis, to include many additional benefit categories. This work is being conducted consistent with the *Handbook for Assessing Value of State Flood Management Investments*, an internal guidance document recently completed by DWR.

- CVFPO continues to develop hydrology that links atmospheric processes, precipitation, temperature, and watershed conditions to inform changes in flood risk due to climate change. This hydrology will be applied to the BWFS analysis in late summer.

Communication, Engagement, and Coordination:

- CVFPO met with representatives from the Lower and Mid San Joaquin RFMPs during June, more meetings in the SJ basin are anticipated in July. The gatherings are in a series of informal meetings that will be conducted to collaborate on formulation and refinement of a range of system configurations for the BWFS, and identify areas of alignment between the BWFS and RFMP.
- CVFPO staff, made a presentation on climate change in the CVFPP at the June Coordinating Committee meeting.

CONSERVATION STRATEGIES

The Conservation Strategies Element is designed to provide support and integrate environmental stewardship into the CVFMP Program. Therefore, major progress, such as the status of key documents, progress on major milestones, and upcoming events, is described under the Central Valley Flood Management Planning section above.

Conservation Strategy Document: The release of the Administrative Draft Conservation Strategy to IAC members and other targeted stakeholders, scheduled for June 20, has been delayed pending additional internal DWR review. DWR expects to release the draft in mid-July. The Interagency Advisory Committee meeting, scheduled for July 24th, has been postponed until mid- August to allow IAC members time to review the document before meeting.

Vegetation Management: Staff gave a May 9 presentation to the CVFPB on the proposed vegetation management strategy, including an update on the tree threat assessment as well as exploring new concepts for levee vegetation management, including a transition from life cycle management to managed recruitment. On May 15, staff also participated in a panel on levee vegetation during a Watershed Education Foundation Tour of the lower San Joaquin- South Delta.

Advance Mitigation Projects

Staff has been working on project crediting and other issues related to implementing advance mitigation projects. Updates on specific projects follows:

Salmonid Advanced Mitigation Bank: The contract for this bank has been approved by the State and the contractor has begun work tasks. DWR has contracted with Westervelt Ecological Services to establish salmonid habitat in advance of future SPFC mitigation needs as a result of CVFPP implementation and potential impacts to salmonids. DWR will ultimately receive credits that can be used for DWR impacts and/or impacts potentially caused by local maintaining agencies. In June, DWR staff toured the Bullock Bend site with Westervelt staff, who presented their proposal and expected timeline for permitting and construction of the mitigation bank.

1000 Acre Ranch: DWR is currently working through land title, easement and other issues to complete the land acquisition for this project. The initial phase of the project will enhance

riparian vegetation on the mid-Sacramento River. DWR staff has revised the Long term Management Plan to incorporate comments received from CVFPB staff.

Three Rivers Levee Improvement Authority (TRLIA) Feather River Floodway Corridor Restoration Project: The contract is currently with DWR Contract Services Office for QA/QC. When completed, the agreement will be routed for final signature and forwarded to DGS/OLS for final approval. This project will enhance riparian vegetation and benefit salmonids on a parcel of land within the Feather River setback area that would provide mitigation credits for flood management projects consistent with the SSIA.

Kopta Slough: DWR is currently engaged in geological studies, environmental surveys, and preliminary engineering design and modeling for restoration, rock removal, and protection of a bridge abutment. Staff is meeting with California State Parks and USFWS Sacramento River Refuge staff to explore potential long term ownership for the property. Staff has also initiated discussions with ACE representatives regarding the 408 permit process. This multi-benefit project will provide flood damage reduction, restoration of ecological/river processes and mitigation for SPFC Improvements.

Conservation Strategy Regional Planning and Related Efforts

Mid and Upper Sacramento RFMP: The RFMP planning team released a working draft of this RFMP on April 2 for a 90-day public review. FESSRO staff reviewed the draft and provided comments to DWR's SPFC Coordinator for this region.

Feather River RFMP: Staff comments were compiled on the Revised Final Draft Feather River Regional Flood Management Plan. Informal suggestions on the document contents were provided to the consultants. The Feather River RFMP was expected to be finalized July 3, but has not been released yet.

Lower SJ/S. Delta RFMP**:** Staff has been in close coordination with the local flood agency and consultant staff. The RFMP is currently meeting with local stakeholders in a series of 15 small group meetings.

Mid San Joaquin RFMP**:** Staff exchanged information with RFMP leads regarding Dos Rios Restoration including modeling scope, RFMP future funding and current status, and analyses regarding the San Joaquin Valley.

Feather River Regional Permitting Program (FRRPP)

DWR provided an update on the FRRPP to the Flood Board Coordinating Committee on Wednesday June 25 and to the CVFPB on June 27.

DWR is developing the Feather River Regional Permitting Program (FRRPP) within the Feather River region to support implementation of CVFPP and Conservation Strategy activities, including flood system operations and maintenance; structural repairs; improvements to levees; and conservation actions such as levee setbacks, riparian habitat restoration and removal of fish passage barriers. The Conservation Strategy Interagency Committee Permitting Subcommittee transitioned into the FRRPP Development Committee to aid in the development and review of the associated Habitat Conservation Plan and related permits,

review stakeholder assessments, integrate with other plans, and determine a structure for additional stakeholder coordination.

This group is exploring how to integrate with the Lower Feather River Corridor Management Plan (LFRCMP) and Feather River Regional Flood Management Plan (RFMP). Two technical advisory committees (TACs) have been formed that focus on proposed covered fish and terrestrial species within the region. Three subcommittees for the Terrestrial TAC have been formed: The Riparian/Forest TAC, the Grasslands TAC and Wetlands TAC. Subcommittees are looking at stressors for the FRRPP proposed covered species with at least one life stage occurrence within the focused habitat that may be impacted within the FRRP Planning Area. Next steps in the process include the development of an Impacts Assessment, defining funding options and determining additional permit holders and permitted structure.

STATEWIDE INTEGRATED FLOOD MANAGEMENT PLANNING

The Statewide Integrated Flood Management Planning (SFMP) program is intended to address flood risk to life and property statewide, and develop recommendations to guide the State's flood risk management strategic policies and investment decisions. The program inventories existing and future flood management needs in the State's regions, identifies opportunities for incorporating flood management as a component of Integrated Water Management, and formulates potential flood management solutions. The program published the report titled Flood Future: Recommendations for Managing California's Flood Risk (Flood Future Report) and is currently developing a Water Management Investment Strategy for the State. In addition, SFMP includes integration of flood management as a component of Integrated Water Management in the California Water Plan.

Flood Future Report

- Work continues on the development of a Phase 2 effort which includes development of a Water Management Investment Strategy. A draft will be complete in January 2015.
- An effort to gather information from agencies responsible for water management throughout the State is ongoing. To date, approximately sixty meetings have been set up to gather information that will include capital and O&M needs; permitting and alignment opportunities and challenges; and financing options.
- Staff has begun development of the several technical appendices on subjects including regional need and management actions; agency alignment and permitting; risk awareness; cost reduction and revenue options; and finance mechanisms.

Flood Management as a component of Integrated Water Management in the California Water Plan

Work is wrapping up on the finalization of flood content for the Water Plan Update 2013 volumes.