

FloodSAFE Mega Programs

FloodSAFE California

FloodSAFE California, established in 2006, is a long-term strategic initiative to reduce the risk and consequences of flooding in California. It includes statewide programs supported by the State's general fund and bond expenditures.

FloodSAFE is an important component of the Department of Water Resources' Integrated Water Management (IWM) strategy, which is designed to achieve a sustainable, robust, and resilient flood and water management system to benefit all Californians.

FloodSAFE activities are grouped in the following areas:

Flood Management Planning

- Formulates strategies, plans, and investment priorities for implementation of flood management projects.

Floodplain Risk Management

- Works closely with local governments and federal agencies in promoting prudent management of floodplains to reduce flood risk.

Flood Risk Reduction Projects

- Works in coordination with local and federal agencies to implement new flood projects.

Flood System Operations & Maintenance

- Reduces risk through maintaining levees, hydraulic control structures, pumping plants, bridges, and channels as the responsible agency.

Flood Emergency Response

- Prepares for and responds to flood threats in close coordination with local, State and federal entities.



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2013 FloodSAFE Annual Report Summary

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About 55 accomplishments were included in the 2013 *FloodSAFE Annual Report*. They highlight projects that best represent what was completed last year and are organized by the five major FloodSAFE mega programs shown in the graphic below.



FLOOD MANAGEMENT PLANNING

Statewide Flood Management Planning

- Released *California's Flood Future: Recommendations for Managing the State's Flood Risk*.
- Created maps for every county in the state to describe exposure to flood risk.
- Catalogued the history of flooding for reference by local and regional planning agencies and land use officials.

Central Valley Flood Management Planning

- Completed Milestone 1 of the Basin-wide Feasibility Studies, which identified problems, developed objectives, and completed preliminary technical analysis.
- Provided technical support to regional agencies by sharing data, tools and analyses to inform systemwide and regional flood management planning.
- Improved alignment with federal, State, and local flood management agencies through public workshops and robust communication and engagement efforts.

- Developed comprehensive vegetation data for the Central Valley, identified opportunity areas for floodplain restoration, assessed and updated sensitive species information along floodways, and assessed fish passage solutions in the Sacramento Valley.
- Initiated a regional permitting strategy that includes a pilot habitat conservation plan for the Feather River.

FLOODPLAIN RISK MANAGEMENT

Central Valley Flood Evaluation and Delineation (CVFED)

- Developed informational floodplain maps as required by SB 1278 for Chico, Yuba City, Marysville, Woodland, Davis, Merced, Sacramento Metropolitan Area (Sacramento and West Sacramento) and the Stockton Metropolitan Area (Stockton and Lathrop).

Central Valley Flood Management Planning

- Developed *Urban Level of Flood Protection Criteria* in a manner that satisfies legislative requirements without interfering with local land use authority. The criteria are designed to provide details and flexibility, and to promote prudent floodplain management with smart growth and climate change adaptation strategies.

Flood Risk Notification

- Mailed more than 273,000 notifications and developed a second flood risk video, with interviews of local flood survivors, in cooperation with the U.S. Army Corps of Engineers.

FLOOD RISK REDUCTION PROJECTS

Folsom Joint Federal Project (JFP)

A series of significant milestones for the JFP auxiliary project were met in 2013, including:

- The control structure construction is approximately 70% complete.
- The temporary dam embankment construction for the approach channel is 50% complete.

- A half-mile long “curtain” was temporarily placed on the waterside of the construction site to protect the reservoir during construction.

American River Common Features

- Completed two of the eight remaining sites of American River Common Features project, with the remaining six sites expected to be completed by the end of 2016.

Flood Control Subventions

- Completed State cost-share reimbursement requests to release \$36 million in funding to seven local Flood Control Subventions project sponsors for 10 projects. These projects are scheduled for completion between December 2014 and December 2021.

Delta Levees System Integrity

- Completed 19 projects in 2013, with a State cost-share of about \$47 million. The 19 completed projects include a total of 48 levee miles and potential enhancement of 6,400 linear feet of shaded riverine aquatic and tidal marsh habitat.
- Implemented the Delta Levees Bulk Credit Mitigation Program, expediting permitting and project delivery for levee rehabilitation and improvement.

Urban Flood Risk Reduction

- Thirteen miles of SPFC urban levees were improved in 2013, which provided increased flood protection to 60,000 residents near Yuba City and 80,000 residents in Sacramento. Financed jointly by the Department of Water Resources (DWR) and local agencies, 12 miles were completed along the Sacramento River and 1 mile was completed along the Feather River.

Flood Corridor

- Santa Clara River Flood Protection Project: Acquired one of three targeted floodplain properties, which helps create a continuous corridor of protected floodplain for future restoration.
- River Ranch Conservation Easement Acquisition Project: Acquired a 2,962-acre agricultural easement, which precludes development and preserves the ability for the Elkhorn Basin to flood.
- Hidden Valley Ranch Project: Acquired 497-acre parcel adjacent to Dos Rios Ranch to provide transitory floodwater storage, improved river-floodplain

connectivity, and ultimately advance mitigation for the SPFC.

- Middle Creek Project: Acquired three parcels, relocated former property owners, and demolished structures in flood-prone parcels.
- Hamilton City Project: Acquired three properties for future construction of a 6.8-mile setback levee and reconnection of 1,450 acres of floodplain.
- San Joaquin River Ecosystem Restoration and Floodplain Restoration Project: Installed irrigation for 511 acres of habitat.

Local Levee Assistance

- Executed agreements with 11 agencies to fund 30 Local Levee Assistance projects.
- Completed Las Gallinas Creek Local Levee Evaluation, which is necessary to replace levee and wooden floodwall currently protecting the small community of Santa Venetia.
- Secured surveys and permits to allow the Wildcat-San Pablo Creek Project to move forward with levee repairs in 2014.

South Sacramento County Streams Project

- Completed the Morrison Creek floodwall project, including a 2,800-foot-long, 15-foot-high reinforced concrete wall, which closed the gap between two existing levees along the east side of Morrison Creek.
- With completion of floodwalls on Morrison Creek and its tributaries and the widening of Unionhouse Creek, the City and County of Sacramento have submitted a request to re-map approximately 3,500 homes out of the flood area (FEMA Zone-A99), reducing the requirement and cost of flood insurance for the community. This will become effective in May 2014.

Yuba Feather Flood Protection

- Completed preliminary designs for an additional outlet on the New Bullards Bar Dam. When completed, the outlet will enable releases in advance of a storm event, resulting in more storage capacity remaining in the reservoir to hold back the peak inflow when it arrives later. Smaller, earlier releases will also help reduce pressure on levees downstream for communities on the Yuba River during high water events.

Urban Streams Restoration

- Grants awarded in 2013 will provide nearly 14,000 feet of stream channel restoration covering 141 acres of

habitat restoration and 28 acres of land conservation while improving urban runoff and helping resolve local flooding or channel stability issues.

Fish Passage Improvement

- Improved anadromous salmonid passage and flood conveyance in the Calaveras River system by replacing Caprini Low-flow Crossing in Mormon Slough, upstream of the City of Stockton. Program provided preliminary and final design, hydraulic modeling, and construction oversight for the project.

FLOOD SYSTEM OPERATIONS AND MAINTENANCE

Small Erosion Repair Program

- Finalized manual documenting a streamlined permitting process to repair multiple erosion sites in a single construction season. The process is estimated to increase annual repairs from one or two per year to as many as fifteen per year.

Sutter Bypass Water Control Structure

- Removed and replaced Weir No. 2 to improve water management and fish passage in the Sutter Bypass.

Flood System Repair Efforts

- Finalized the Flood System Repair Project Guidelines that establish the process and criteria for repairs to rural levees on SPFC facilities to prevent problems from becoming critical, reduce repair costs, and make the operations and maintenance programs sustainable.

Cache Creek North Levee Setback Project

- Construction of the Cache Creek North Levee Setback project was completed in late 2013. With the completion of this project, the last of the 146 sites identified under the Governor's 2006 Emergency Declaration has been repaired.

Flood System Repair Project

- Developed list of critical problems and proposed rural non-routine levee repairs for 150 problem areas on SPFC levees in concurrence with the Levee Maintaining Agencies.

Flood Project Integrity

- Identified locations and characteristics of 7,500 pipes penetrating SPFC levees by reviewing historical information such as CVFPB encroachment permits,

DWR levee logs, Local Maintaining Agency's records, and USACE operation and maintenance manuals.

- Assessed more than 4,500 SPFC levee crossings based on visual evidence of deterioration of pipe, inlet or outlet structures, and identified maintenance needs. This will allow local agencies to rectify utility crossing issues that pose a threat to the integrity of the flood control system.
- Performed field surveys to verify the location and document the existing condition of the pipes and levee embankment for 1,000 miles of SPFC levees.

FLOOD EMERGENCY RESPONSE

- Conducted the Twitchell Island functional exercise to support DWR's emergency preparedness efforts during California Flood Preparedness Week.
- Participated in the Golden Guardian 2013 exercise in May, which focused on a Bay Area earthquake scenario.

Delta Flood Emergency Preparedness and Response Project

- Conducted Delta Emergency Response Project workshop to discuss how to anticipate an emergency in the Delta and review plans and protocols for such an event.
- Completed multiple improvements to State's flood emergency material storage and transfer facilities, including construction of a ramp at Rio Vista to provide easy access to the material.
- Developed the Delta Flood Emergency Facilities Improvement Project document to address California Environmental Quality Act requirements for the project.
- In 2013, DWR acquired the Stockton West Weber Avenue site to create a Delta Flood emergency transfer facility and potential Incident Command Post for use during flood emergencies. DWR closed escrow on the southern portion of the same Stockton facility and anticipates closing escrow on the northern balance of the 22.6-acre Stockton facility during the first quarter of 2014. DWR developed site plans and utility site assessments in 2013 for the Stockton West Weber site, as well as for the transfer facility in Rio Vista that is owned by the Central Valley Flood Protection Board (CVFPB).

Flood Forecast and Warning/Improving Observations

- Developed a local assistance program to help reservoir operators implement Forecast-Coordinated Operations (F-CO).

- Prepared a detailed work plan for implementation of F-CO in the Merced River Watershed.
- Installed an atmospheric river observatory at Bodega Bay Marine Laboratory. It is the first of four planned coastal observatories, with construction of the rest to be completed in 2014.
- Developed a web-based dashboard with input from the F-CO program participants to help reservoir operators visualize and discuss potential coordinated releases and their effects downstream during major floods.
- Developed unique hydraulic models for 10 urban areas in the Sacramento-San Joaquin Valley that are protected by SPFC levees.
- Populated the Library of Models with more than 100 hydrologic and hydraulic engineering models to preserve the FloodSAFE investment in model development. The models are used in planning and study efforts.

Local Flood Emergency Response Grants

- Awarded \$5 million for 14 projects across the state to improve flood emergency response capability by updating emergency plans and other critical emergency prediction information. Solicited for and received six applications for further Flood Emergency Response projects in the Delta focused on flood emergency plan updates.

FloodSAFE Financing

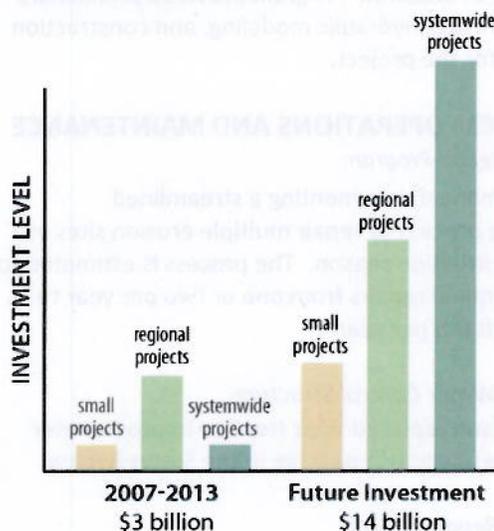
Propositions 1E and 84 provided much-needed funding to improve flood management and reduce flood risk throughout the state. Funding from these bond laws, combined with additional Proposition 13 and General Funds have been instrumental in initiating major programs to reduce flood risk in our communities.

The next phase of FloodSAFE implementation will emphasize investing in:

- State Systemwide Investment Approach (SSIA) to improve flood system resiliency
- Expansion of the flood management system, enabling the system to carry larger floods
- Incorporation of important fish and wildlife habitat

- Management of larger runoff resulting from future climate change
- Reduction of flood risk in areas with highest flood risk and associated losses

State Systemwide Investment Approach STRATEGY



FloodSAFE Investment BY LOCATION

