

Floods and Funding: Working with the State

CEAC Flood Control & Water Resources
Policy Committee
127th CSAC Annual Meeting
December 1, 2021



Image: Imperial Beach CA (2019).



CALIFORNIA DEPARTMENT OF
WATER RESOURCES

Michael Mierzwa, P.E., State Floodplain Manager
CA Dept. of Water Resources, Division of Flood Management

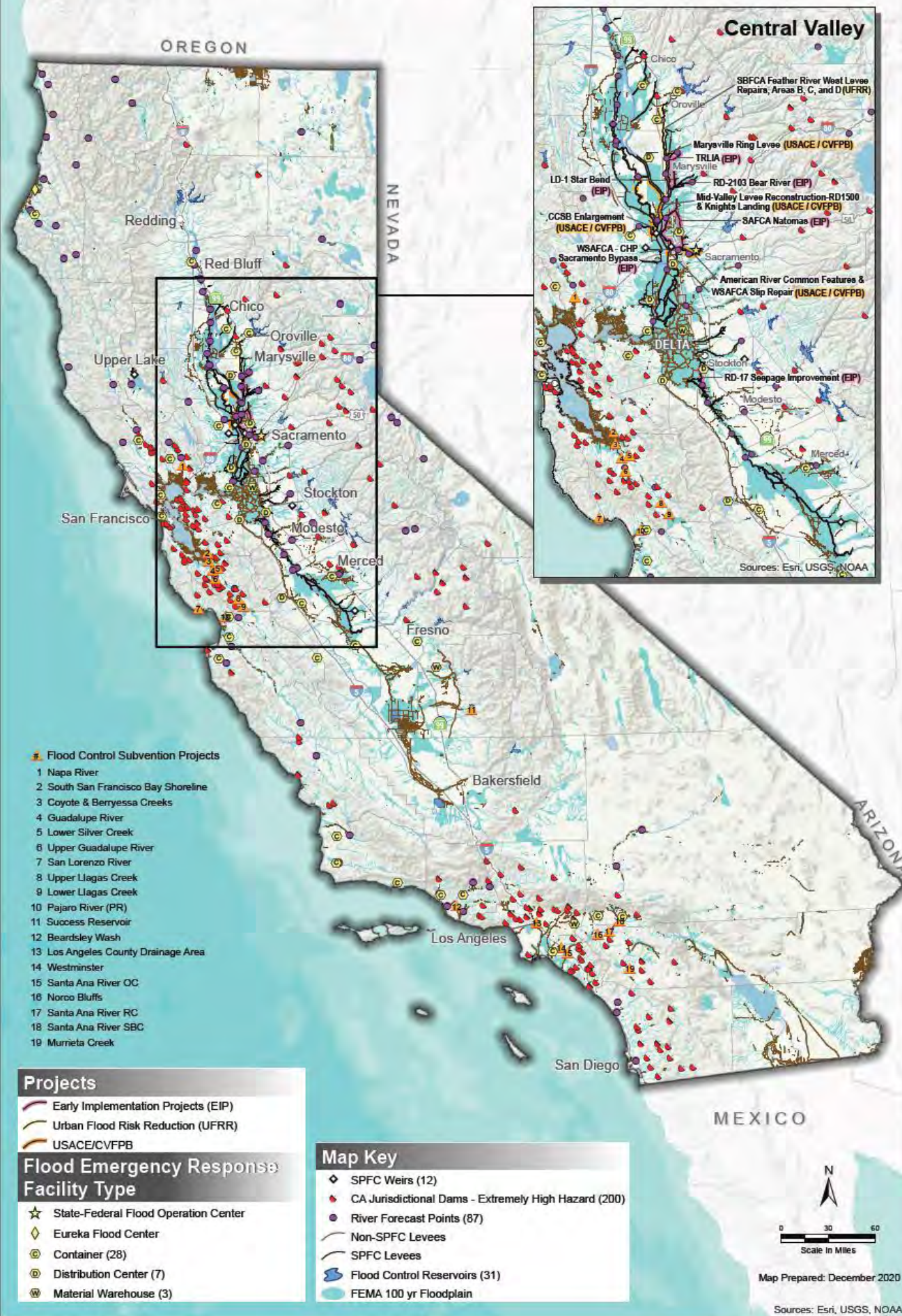
Outline of Today's Topics

- Portfolio of Flood Risk Management Programs
- Flood Emergency Coordination
- DWR's Floodplain Management Financial Assistance Programs
- FEMA Financial Assistance Programs
- Flood After Fire Toolkit
- National Flood Insurance Program Updates





STATE OF CALIFORNIA Flood Management Facilities and Projects



- Central Valley Flood Protection Planning
- Regional Flood Management Planning
- Delta Planning
- Systemwide Environment Support
- Statewide Flood Management Planning
- FloodMAR
- Hazard Mitigation Planning

- Reservoir Operations and River Forecasting
- Flood Emergency Preparedness and Operations
- Hydro-Climate Data Collection and Precipitation/Runoff Forecasting
- Real-Time Flood Conditions, Status, and Warnings

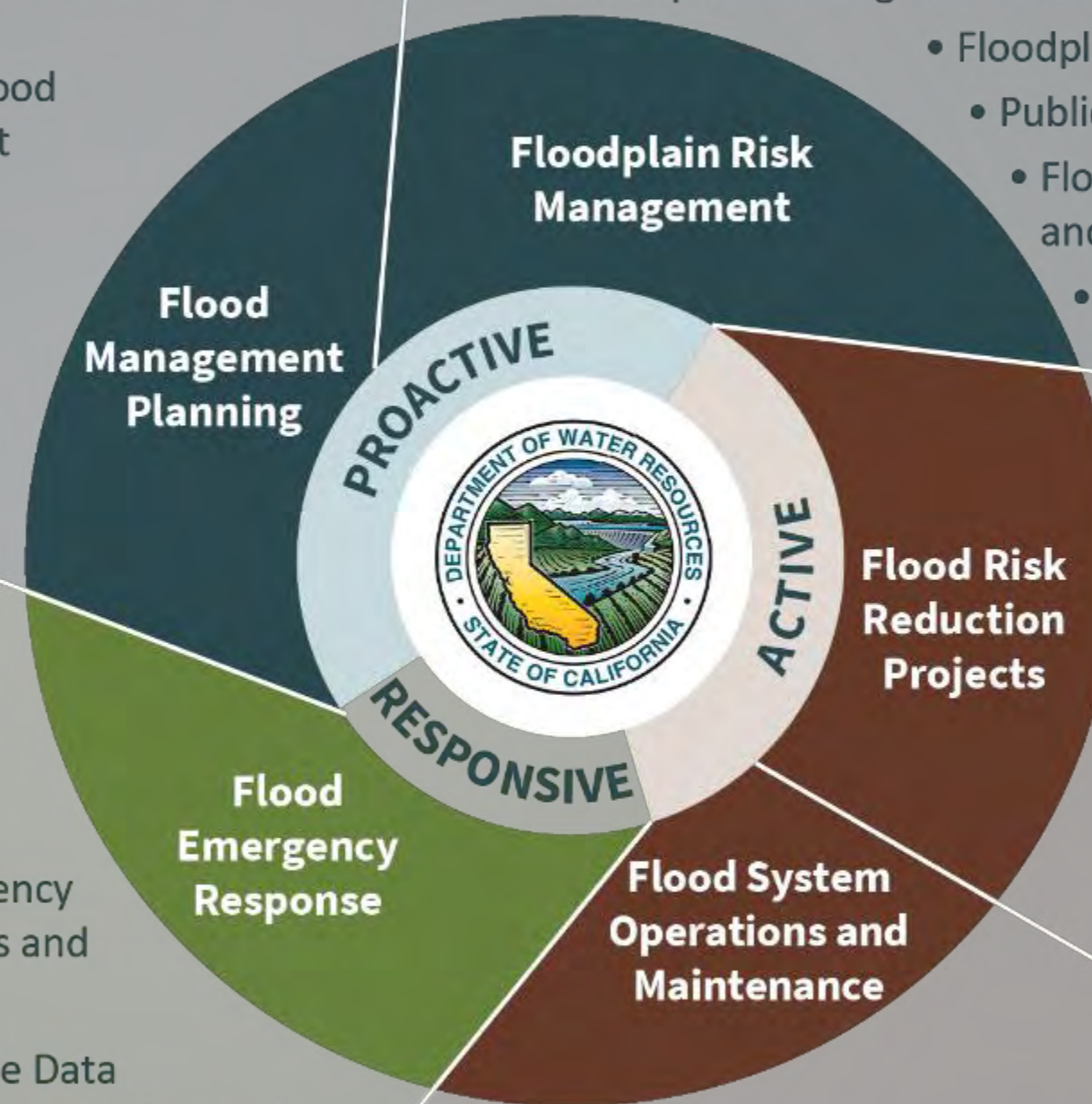
- Flood Insurance
- Flood Easements and Land Acquisitions
- Floodplain Mitigation Planning
- City and County Local Assistance
- Community Assistance and Policy Advisement
- Floodplain Management Policies

- Floodplain Risk Assessment and Risk Maps
- Public Education and Awareness
- Floodplain Management Protection and Risk Awareness
- Headwaters to Floodplains

- Integrated Regional Watershed Management Program*
- Small Community Risk Reduction
- Central Valley Tributaries Program*
- Urban Flood Risk Reduction*
- Urban Streams Restoration*
- Statewide Flood Control Subventions*
- Systemwide Flood Risk Reduction*

- Yolo Programmatic Permitting Joint DWR/CVFPB Program

- Flood System Repair Project*
- Rural Levee Repair*
- Small Erosion Repair Program*
- Channel Operations and Maintenance
- Emergency Repair Program*
- Environmental Permitting for O&M
- Levee Tree Assessment
- Delta Levee Subventions*
- Flood Maintenance Assistance Program*





DIVISION OF FLOOD MANAGEMENT (DFM)

AREAS OF RESPONSIBILITY

Statewide Flood Risk Reduction Capital Improvements

\$2.6B

State funding committed in support of \$16.9 billion of ongoing flood risk reduction projects since 2007

232

Capital improvement projects completed or in progress

6.9M

People protected, including \$165 Billion of assets

Central Valley Flood Protection

1.65M

Acres protected by SPFC Facilities

\$80B

Property protected in Central Valley

1.3M

People protected in Central Valley

Central Valley SPFC Flood System

1,548

Miles of SPFC Levees

57

Channels and Floodways

68

Structures and pumping plants

Flood System Operations and Maintenance

287

Miles of levees maintained

1,260

Miles of channels and canals maintained

40

Flood control and related structures maintained

Flood Operations, Emergency Preparedness and Response

275

Rostered flood emergency experts

200+

Emergency managers and partners in 12 pre-season/flood fight coordination meetings annually

\$45M

Emergency preparedness grants awarded to 400+ Participating agencies since 2012

Reservoir Operations and River Forecasting

20+

Annual weather and hydrology briefings, and hundreds of high water mark notifications

338

Total 5-day deterministic river forecast points

11

Reservoir operators participating in either forecast-coordinated, or forecast-informed reservoir operations

Real-time Flood Conditions, System Status, and Warnings

2,301

Active gaging stations reporting on CDEC

500K

CDEC views per day

150

Hydromet stations owned and/or operated by DFM

Hydroclimate Data Collection and Precipitation/Runoff Forecasting

\$40M

Invested in improved precipitation/runoff forecasting technology

50

Cooperators participating in annual CA Cooperative Snow Surveys

6

Watersheds utilizing aerial remote sensing

Flood Risk Awareness

215K

National Flood Insurance Program policies in place in over 527 NFIP Communities

146

Dam inundation maps reviewed in FY 19/20

300K

Received flood risk notifications mailers from DWR

Floodplain Management Assistance

2,248

Water management agencies to interact with

100+

Support updating of flood element of Local Hazard Mitigation Plans per year

\$7.8M

Research and studies committed and planned for FY 19/20, and 20/21

Our Mission

To prevent loss of life and reduce property damage caused by floods, and assist in response and recovery efforts following other emergencies.

BY-THE-NUMBERS

290

Personnel

236

Number of Contract Actions under DFM Management

\$745M

Grants awarded since 2006

\$2.6B

State investment in Flood Projects since 2007

DFM OFFICES

- Flood Projects
- Floodplain Management
- Hydrology-Flood Operations
- Flood Maintenance

AREAS OF EXPERTISE

- Flood Preparedness and Emergency Response
- Hydrology and Climatology
- Floodplain Risk Management
- Mapping
- Urban Flood Risk Reduction
- Environmental Sustainability
- Modeling
- Risk Assessment
- Flood System O&M
- Financial Assistance
- Evaluation and Engineering
- Levee Safety
- Flood System Repair



CONTACTS

3310 El Camino Ave,
Sacramento, CA 95821

916-574-0601

flood@water.ca.gov

<https://water.ca.gov/Programs/Flood-Management>

<https://www.facebook.com/CADWR>

https://twitter.com/CA_DWR

<https://www.instagram.com/cadepartmentofwaterresources>

<https://www.youtube.com/user/calwater>



Flood Emergency Coordination

State-Federal Flood Operations Center (FOC) provides:

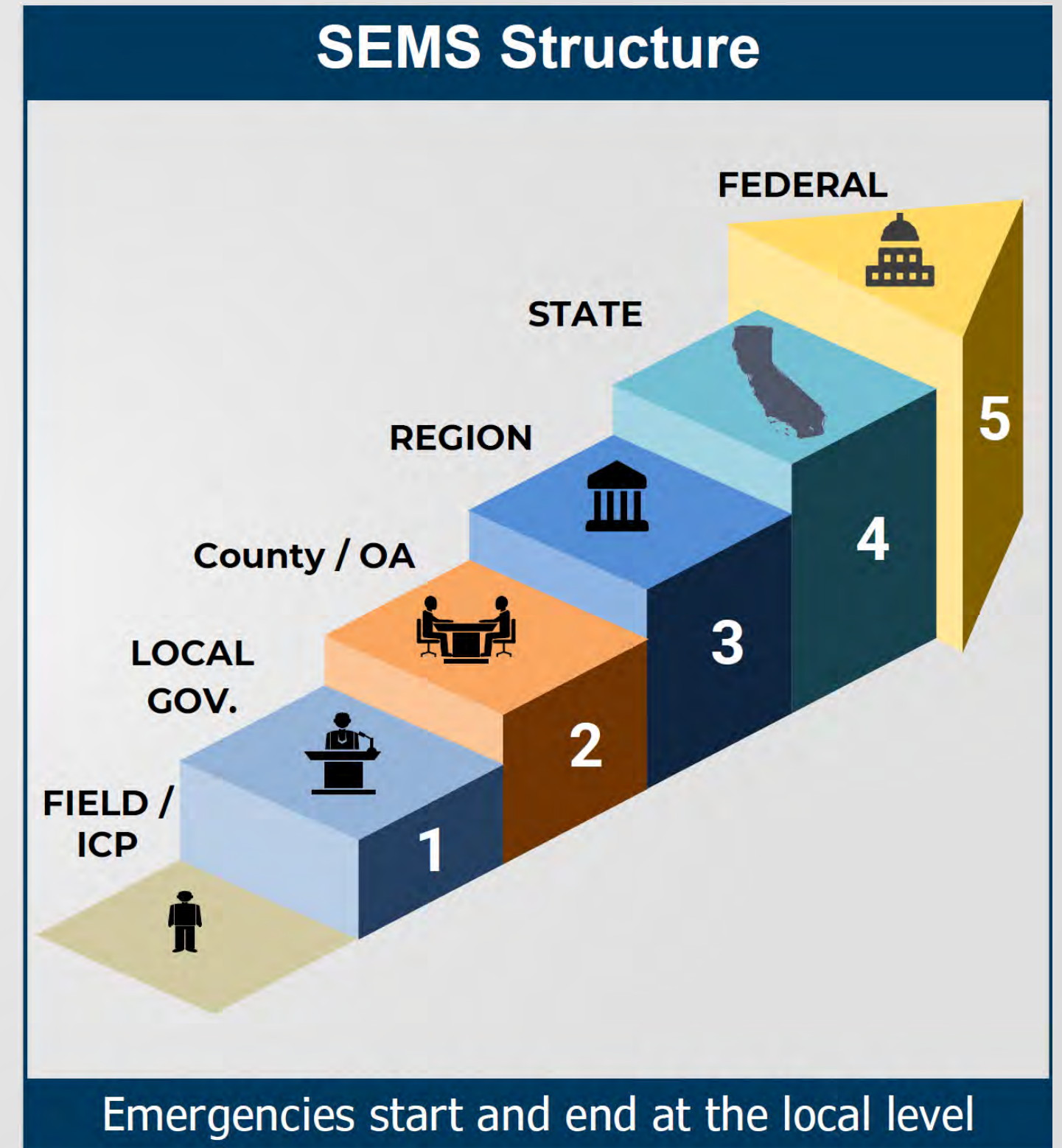
- Situational awareness
- Technical & direct assistance
- Conduit for federal assistance via PL 84-99

FOC does NOT:

- Declare emergencies
- Order evacuations
- Repair levees



CALIFORNIA DEPARTMENT OF
WATER RESOURCES



Data Collection and Emergency Coordination

- Data sharing programs examples
 - California Data Exchange Center
 - Flood Emergency Information Exchange
 - Forecast-Informed Reservoir Operations
- Coordination examples
 - Preseason meetings
 - Directory of flood officials
 - Providing stockpiled supplies
 - Emergency response training



DWR's Floodplain Management Financial Assistance Programs

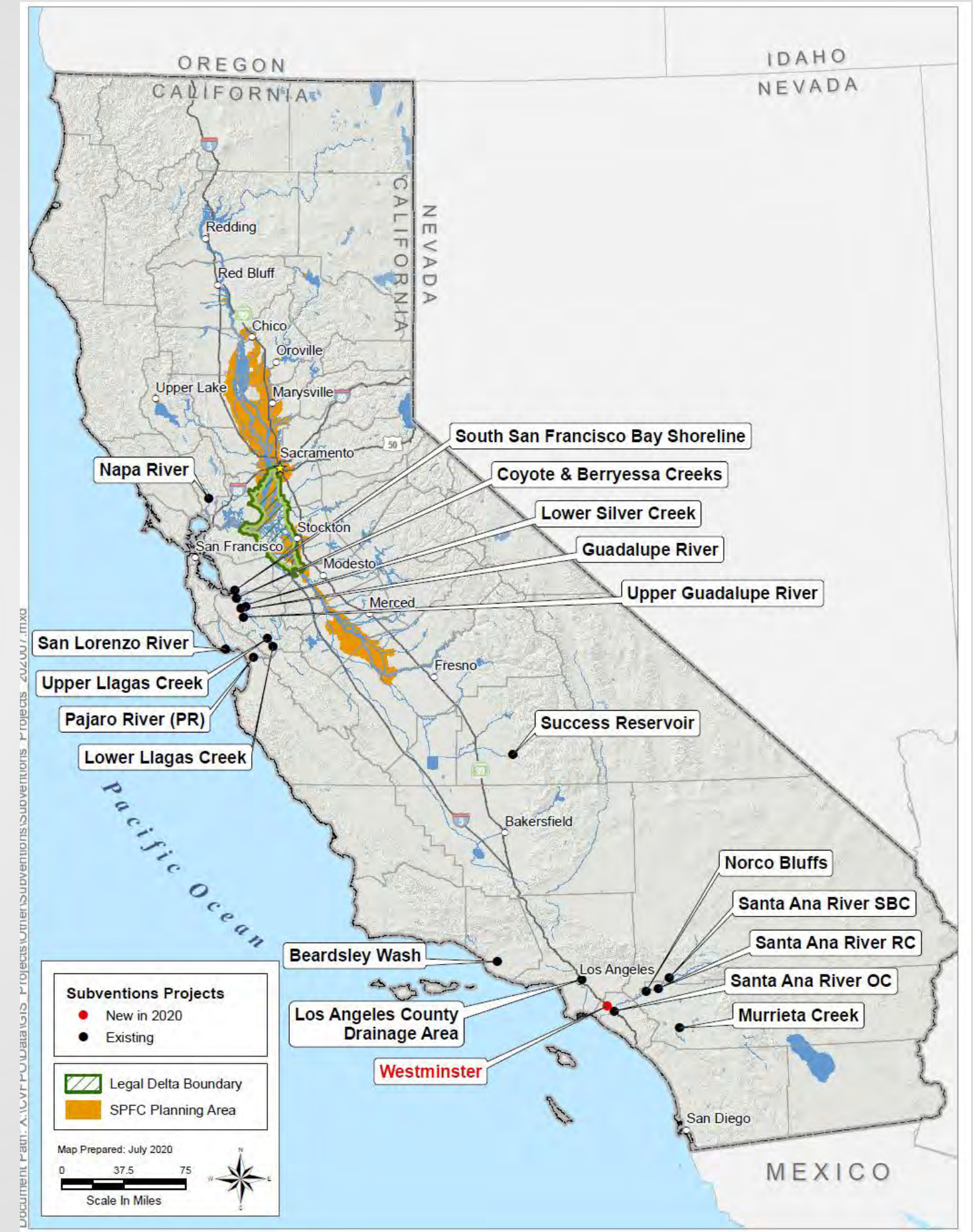
DWR Flood Risk Reduction Grant Program	Status	State Plan of Flood Control	Central Valley	Statewide	Current Fund Source
Statewide Flood Control Subventions Program	Ongoing			✓	Proposition 1E
Local Levee Assistance Program	Legacy / Closed			✓	Proposition 1E
Small Community Flood Risk Reduction Program	Funding Committed	✓			Proposition 1E
Regional Flood Management Planning	Ongoing	✓			Propositions 1E & 68
Central Valley Tributaries Program	Ongoing		✓		Proposition 1
Coastal Flood Protection Program	Funding Committed			✓	Propositions 1 & 68
Floodplain Management Protection and Risk Awareness Program	Pending	✓	✓	✓	Proposition 68
Conveyance Subsidence Program	Funding Committed		✓		General Fund

Statewide Flood Control Subventions Program

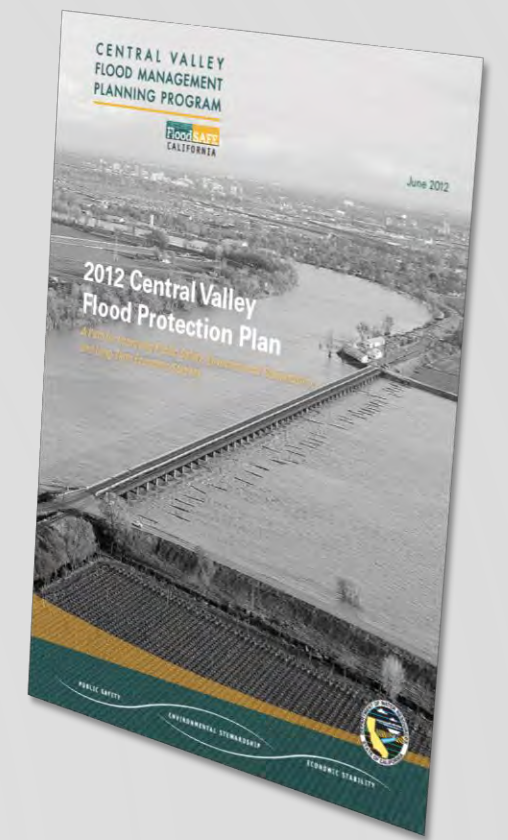
- State's authority to cost share in locally-led USACE flood risk reduction projects est. 1945 in CA Water Code
- Projects must be specifically named in the CA Water Code
- The legislature has named 46 projects outside the Central Valley
- 19 of these projects have moved into design or construction (shown in map)
- DWR's role is to reimburse (to subvent) local project sponsors after costs are incurred
- DWR also prepares summary reports to the CA legislature (based on the USACE Chiefs Reports)
- DWR has paid over \$500M in claims since 2020 for non-Central Valley projects



CALIFORNIA DEPARTMENT OF
WATER RESOURCES



Small Community Flood Risk Reduction Program Background



- Program created within DWR following the adoption of the 2012 Central Valley Flood Protection Plan
- Described approaches for protecting small communities in Section 3.3 (page 3-9) via:
 - System improvements
 - Adjacent urban improvements
 - New state funded small community program
- \$50M of Proposition 1E funds set aside to initiate the program in 2015; completely committed

Other Uses for SCFRR Feasibility Studies

The SCFRR feasibility studies (Phase 1) were also intended to be living documents and used for more than informing the SCFRR program. Other uses may help communities:

- Incorporate study recommendations into Local Hazard Mitigation Plans (which need to be updated every 5 years)
- Initiate small non-structural actions that can result in National Flood Insurance Program (NFIP) premium reductions via the Community Rating System (CRS)¹
- Inform general plan updates
- Use the plans to update both the RFMPs and CVFPP
- Link small community projects with Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Plan (GSP) mitigation actions



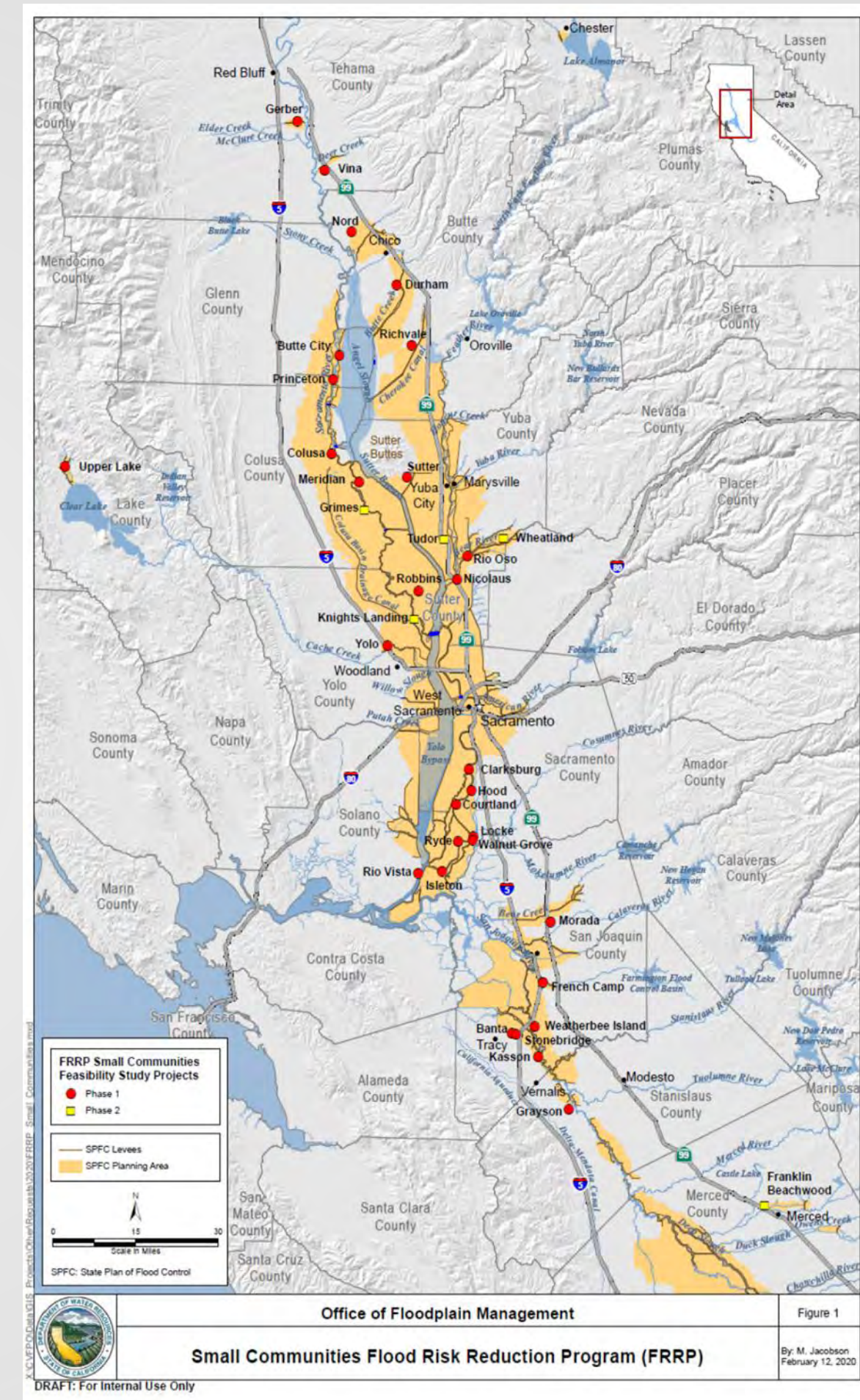
Image: Artist rendition of new Yolo County Branch Library in community of Yolo, Yolo County, CA. Building elevated above Base Flood Elevation (BFE).

1. There are examples in CA of FEMA providing enough CRS Activity 420 credit for counties to improve 2 CRS classes, resulting in a 10% reduction in NFIP premiums for all NFIP policy holders within Special Flood Hazard Areas within the county “community”.



Current Implementation Status

- No Current Funding for Future Solicitation
- Phase 1 Projects:
 - 13 studies completed, 9 scheduled for completion in 2021 and remaining to complete by January 2023
- Phase 2 Projects:
 - Scheduled for completion before March 2023

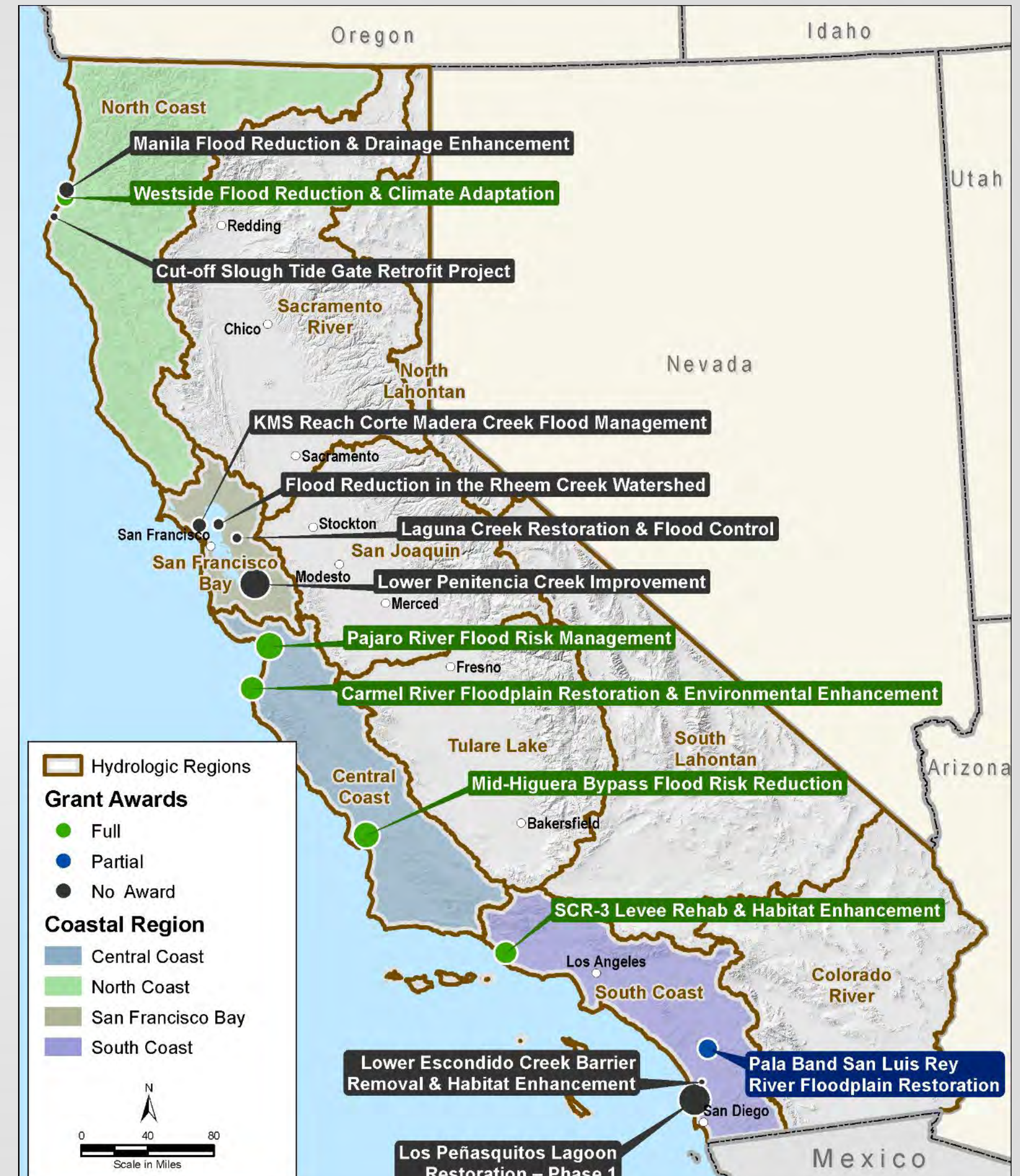


Coastal Flood Risk Reduction Program

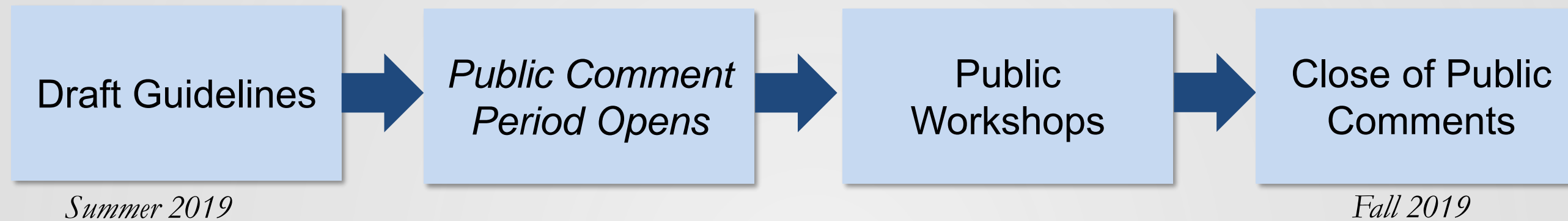
- AB97 (2017) authorized \$25.65M Prop 1
- For Coastal Watersheds
- Included a concept proposal process
- Bond Requirements:
 - Flood risk reduction
 - Ecosystem enhancement
 - Construction or capital asset acquisition
- Priority FEMA Coastal SFHAs



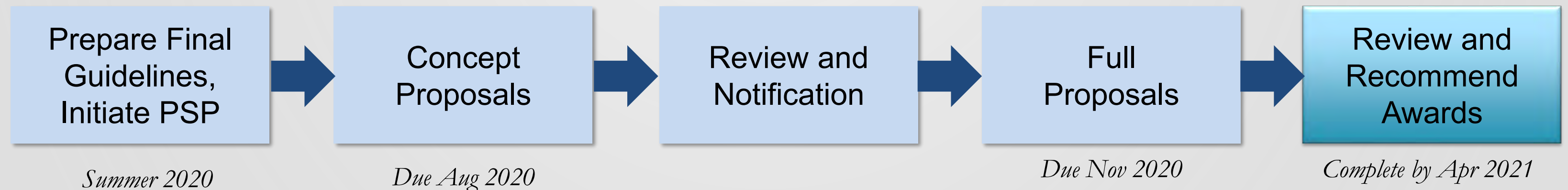
CALIFORNIA DEPARTMENT OF
WATER RESOURCES



Engagement & Solicitation Process

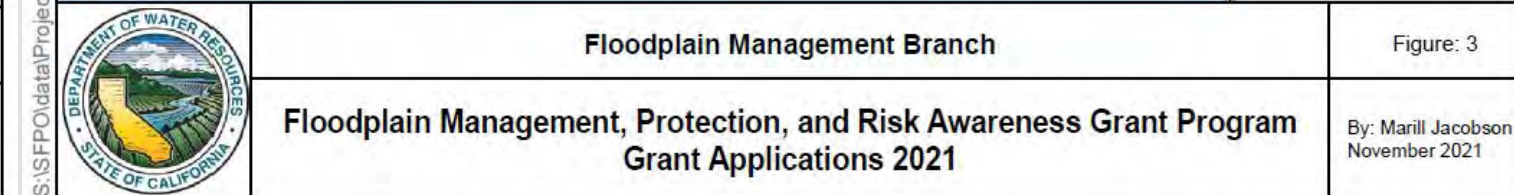


Engagement Process



Project Solicitation Process (PSP)

Projects vs. Planning and Monitoring



CALIFORNIA DEPARTMENT
WATER RESC



FEMA Hazard Mitigation Assistance: The Big Three

HMA Program	Pre-Disaster	Post-Disaster	Authorities & Requirements
Building Resilient Infrastructure and Communities (BRIC)	✓		Stafford Act (1988) / Hazard Mitigation Plan Activity
Flood Mitigation Assistance (FMA) Grant Program	✓		National Flood Insurance Program (1968) / Must be NFIP Community / Must be HMP Flood Activity
Hazard Mitigation Grant Program (HMGP)		✓	Stafford Act (1988) / Hazard Mitigation Plan Activity



FEMA / Cal OES Funding Opportunities

Hazard Mitigation Grant Program (HMGP)

- 75% Federal Cost Share
- Must have approved / current Hazard Mitigation Plan (HMP)
- Divided into Large (>\$10M) and Small (<\$10M) Projects
- Priority for disadvantaged communities
- Community level risk reduction
- 3 years to complete

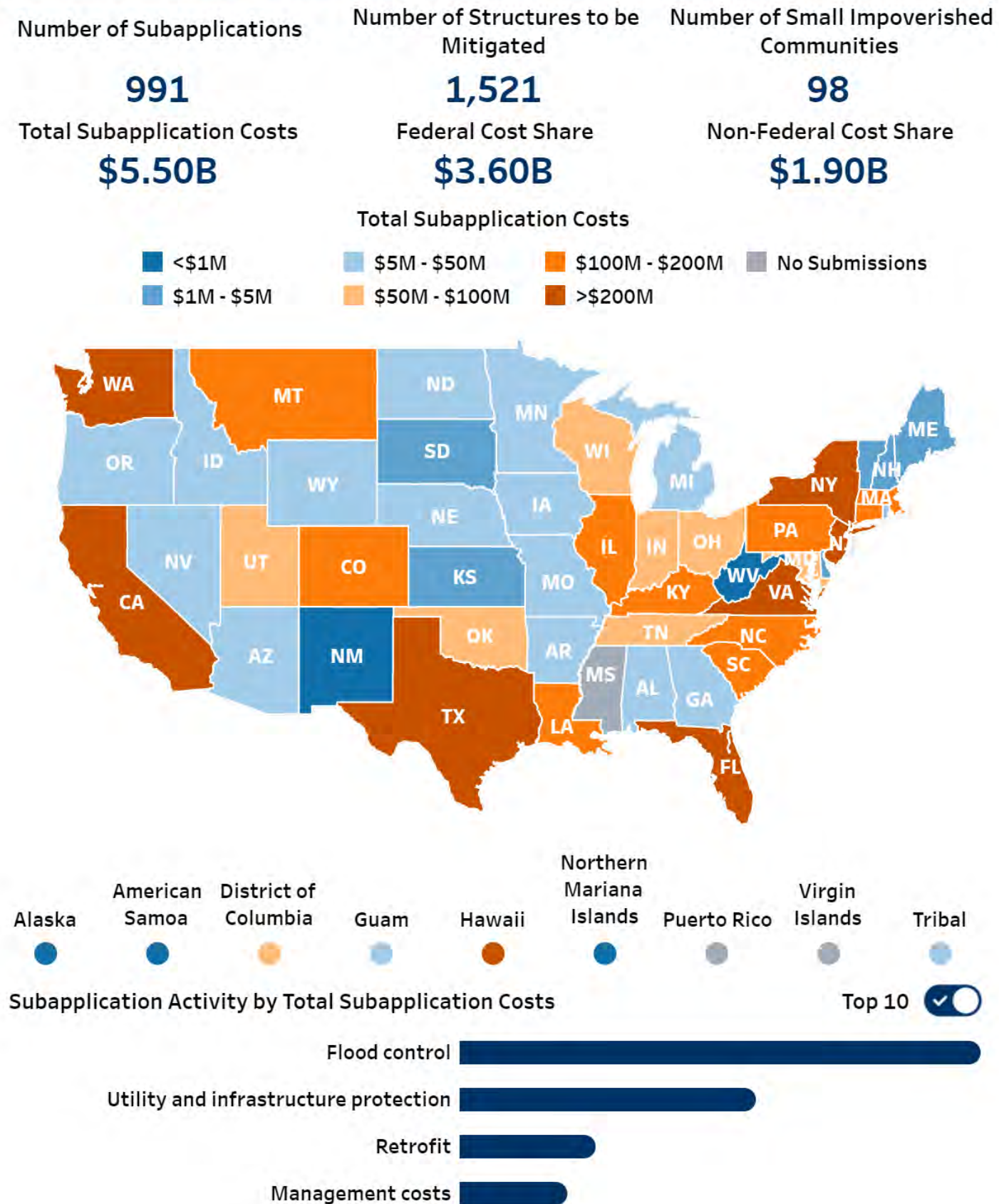
Timeline

- **Dec. 31, 2021** Notice of Intent Due
- **Mar. 10, 2022** Subapplications Due
- **Late Summer / Early Fall 2022**
Cal OES announces project selections for FEMA review
- **2023** FEMA awards projects



Building Resilient Infrastructure Communities

Fiscal Year 2020 Application Period Submissions



- FY20 was the first year for the new hazard mitigation financial assistance program
- Replaces the old Pre-Disaster Mitigation (PDM) Program, w/ greater emphasis on natural infrastructure and climate change resilience
- Graphic is just a summary of applications from States to FEMA (not a full list of applications to States)
- Large backlog of projects
- FY21 funding expected to increase
- DWR's FPM works w/ local entities prepare projects; and assists Cal-OES and FEMA address technical and policy issues as needed



FEMA / Cal OES Funding Opportunities

Building Resilient Infrastructure and Communities (BRIC)

- 75% Federal Cost Share
- 90% for Disadvantaged Communities
- Must have approved / current HMP
- \$1B available nationwide
- Mitigation projects (\$919M) or capacity building (\$56M)
- 3 years to complete

Timeline

- **Sep, 2021** Notice of Intent Due
- **Jan. 28, 2022** Subapplications Due
- **Late Summer / Early Fall 2022**
Cal OES announces project selections for FEMA review
- **2023** FEMA awards projects



FEMA / Cal OES Funding Opportunities

High Hazard Potential Dam (HHPD) Program

- 65% Federal Cost Share
- Must be classified as a “high hazard” dam and be regulated by State
- Must have Emergency Action Plan (EAP)
- Must have approved “Floodplain Management Plan” (i.e. dam emergency included in HMP or General Plan)
- Dam safety risk assessment or mitigation (construction) measure

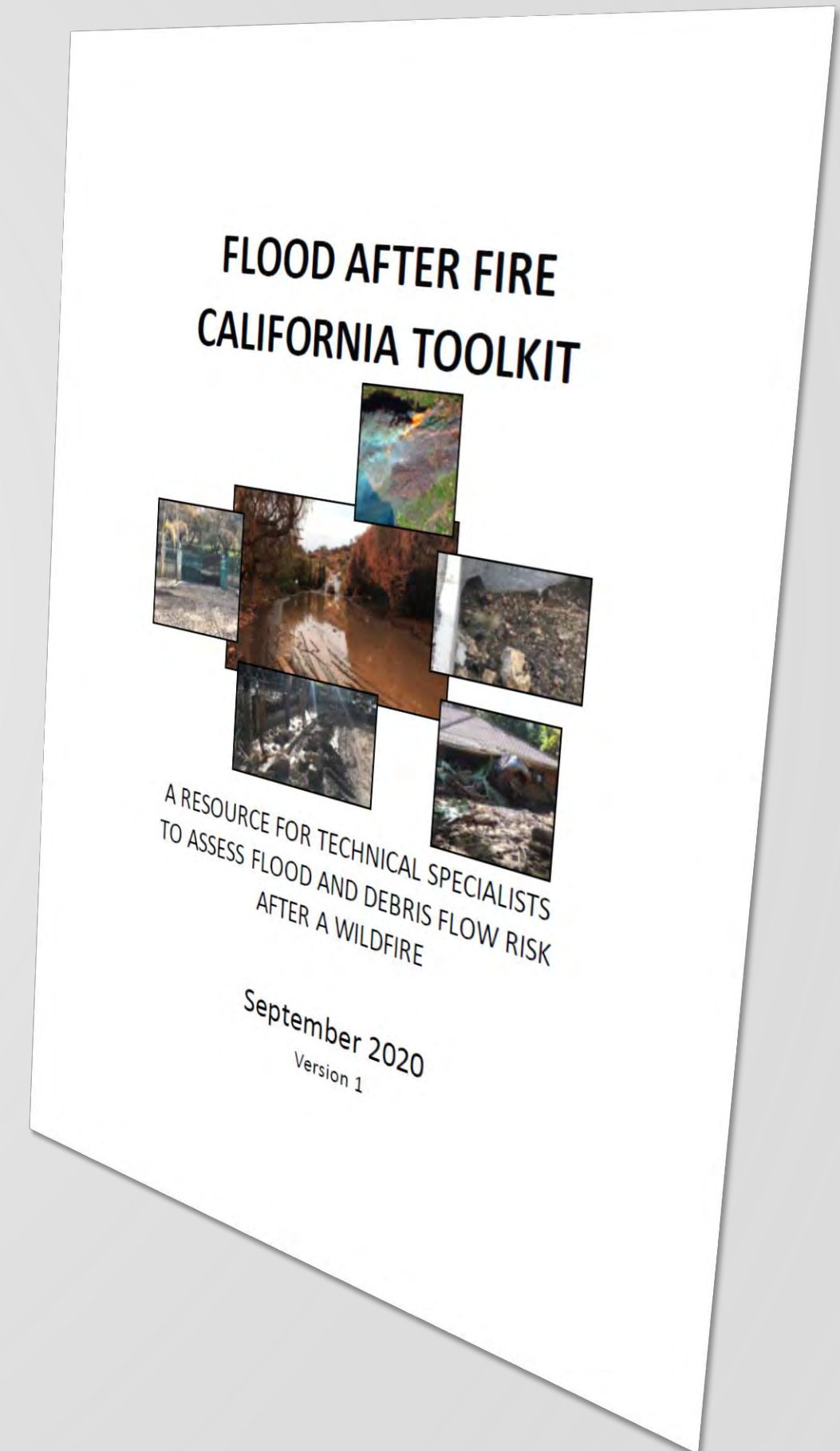
Timeline

- **May 2022** Notice of Intent Due
- **Fall 2022** DWR recommends priorities for California to FEMA
- **Winter 2022/2023** FEMA awards projects



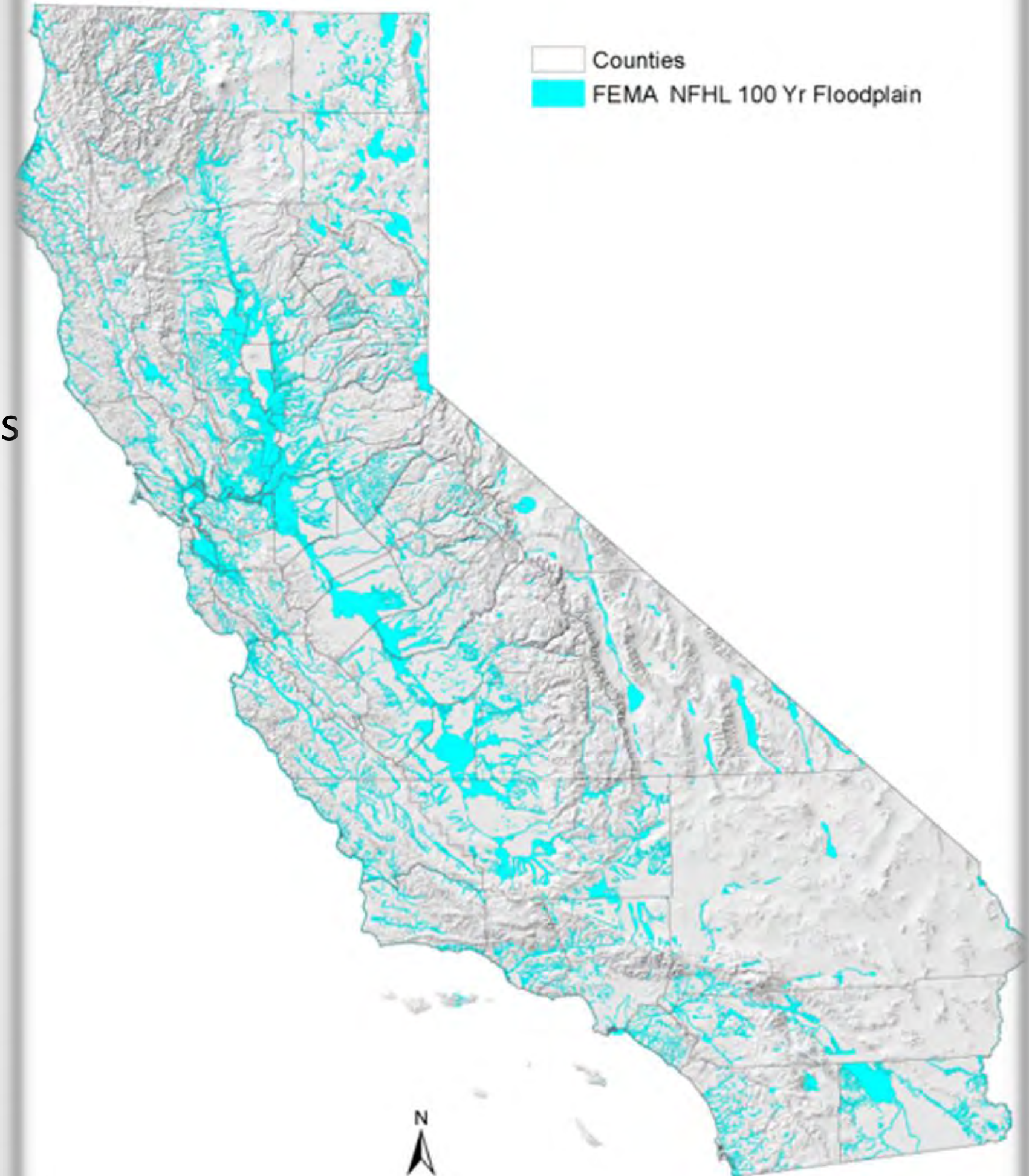
California Flood After Fire Tool Kit

- Gauging and data is needed for the altered watershed
- Tool Kit Audience – Technical “modelers” for assessing watershed flood risk following a fire
 - Geomorphologists, soil scientists, emergency managers, GIS specialists, hydrologic and hydraulic engineers
- Can be used by Watershed Emergency Response Team (WERT) and Burned Area Emergency Response (BAER)



California Floodplains Mapped by FEMA

- Majority of CA's FEMA maps are 10+ years old
- FEMA's mapping efforts have focused on urban areas
- FEMA's process for updating maps takes 5 – 10 yrs due to extensive public engagement and with community-based floodplain managers
- 60% of CA's population is in coastal areas
- 40% of land in 10 So-Cal counties is alluvial fans
- Alluvial fans are difficult to map using riverine or coastal approaches, and are largely unmapped
- Alluvial flood plains are larger than riverine/coastal floodplains



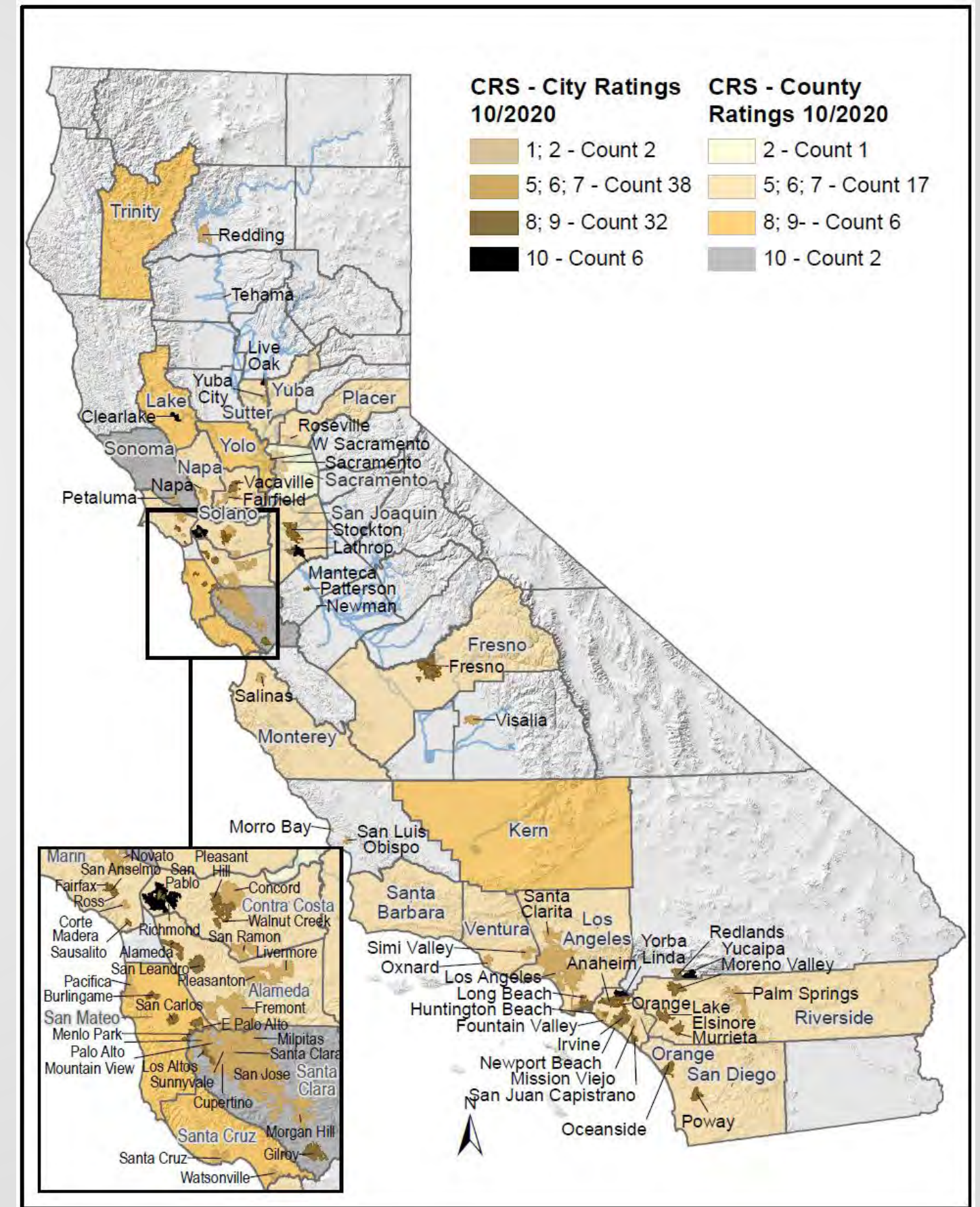
National Flood Insurance Program (NFIP)

Four Key Activities:

1. **Mapping** – FEMA major map updates for Fresno, Madera, Orange counties
2. **Insurance** – FEMA has several major administrative initiatives, including Risk Rating 2.0
3. **Mitigation** – 104 of 528 communities participating in Community Rating System
4. **Regulation** – FEMA & DWR perform annual Community Assistance Visits



CALIFORNIA DEPARTMENT OF
WATER RESOURCES



DWR Floodplain Management Specialists

Northern Region Office

Michael Ward
(530) 529-7378
email: Michael.Ward@water.ca.gov

North Central Region Office

Ray Lee
(916) 376-9638
email: Ray.Lee@water.ca.gov

South Central Region Office

Robert Lampa
(559) 230-3370
email: Robert.Lampa@water.ca.gov

Daniel Burgett
(559) 230-3352
email: Daniel.Burgett@water.ca.gov

Southern Region Office

Garret Tam Sing
(818) 549-2317
email: Garret.TamSing@water.ca.gov

Salomon Miranda
(818) 549-2347
email: Salomon.Miranda@water.ca.gov

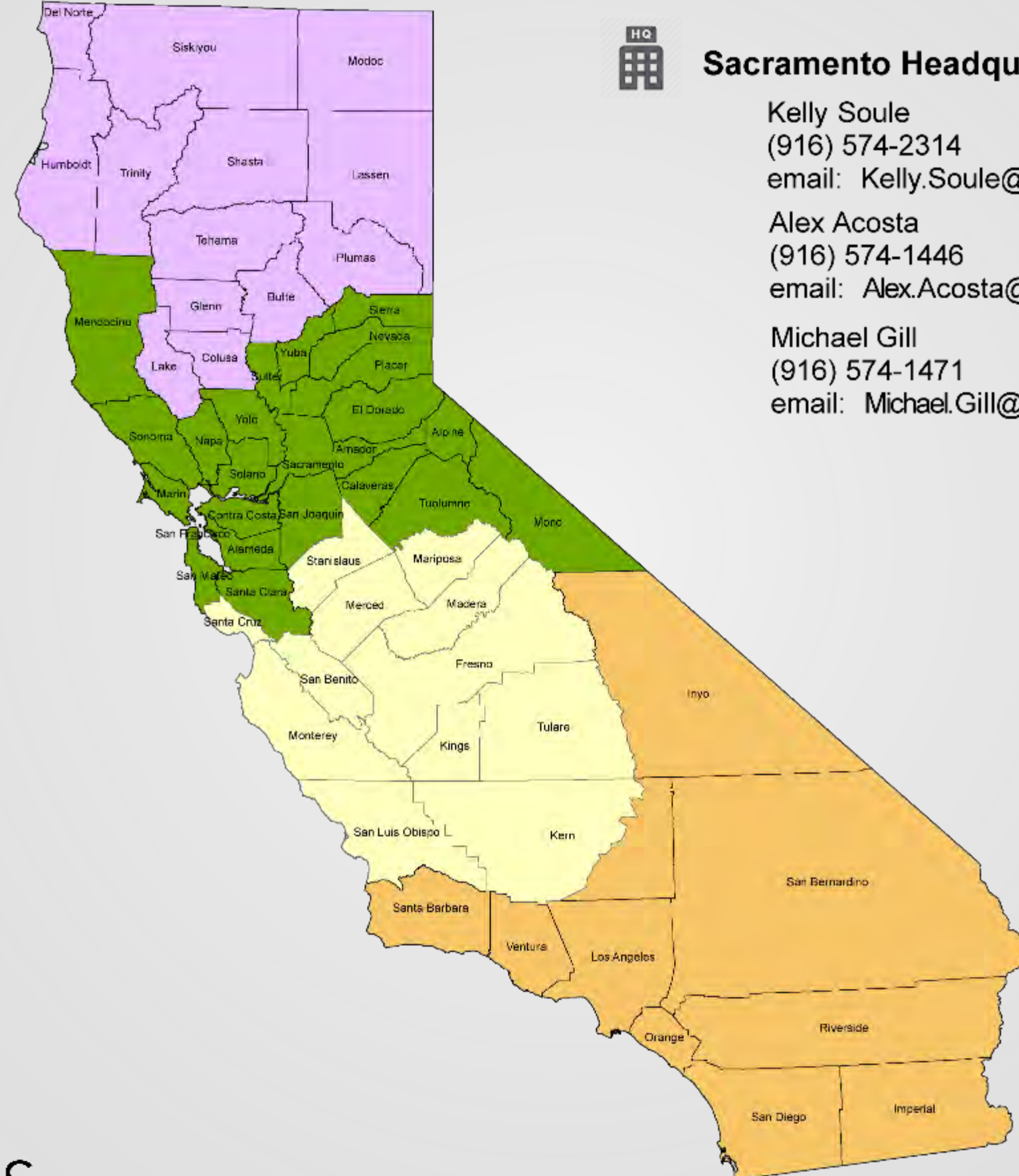


Sacramento Headquarters Office

Kelly Soule
(916) 574-2314
email: Kelly.Soule@water.ca.gov

Alex Acosta
(916) 574-1446
email: Alex.Acosta@water.ca.gov

Michael Gill
(916) 574-1471
email: Michael.Gill@water.ca.gov



CALIFORNIA DEPARTMENT OF
WATER RESOURCES

Updated: February 25, 2020

Major NFIP Reform Efforts

Reform	Description	Approx. Next Deadline
NFIP Congressional Reauthorization	NFIP was last authorized in 2012, and was set to expire in 2017; since that time Congress has quickly passed 17 continuing resolutions	Continuing resolution until Dec. 3, 2021; no State letter being prepared at this time
NFIP Community Rating System	FEMA administrative effort to collect feedback on changes to the Community Rating System (CRS)	California submitted a letter on Sept. 27, 2021 ; informal communication started with FEMA
Risk Rating 2.0	FEMA administrative effort that will increase national premiums to address growing NFIP deficit	New rates start Oct. 1, 2021 – Apr. 1, 2022
State Assessment of State Owned Property	FEMA has been auditing existing state-level legal and administrative policies and procedures to ensure states comply with the NFIP	CA workplan for updating authorities moved to Dec. 2021 ; Direct briefed Nov. 29, 2021
NFIP Mapping Budget Approval	Funding for national floodplain mapping is partially covered as a separate Congressional line item; President Trump under funded the program	No State letter being prepared at this time
Tiered State Framework (TSF)	FEMA has been auditing the effectiveness of state-led Community Assistance Programs and ranking states; future FEMA reimbursable funding will be based on FEMA's 3-tiered ranks	FEMA will update California's TSF rating in 2023 for FY2324 (July 2023) based on ongoing NFIP-CAP State Support Element performance
NFIP Climate Change and Equity Challenges	Prior to President Biden releasing the Justice40 initiative, FEMA proactively requested public comment on how FEMA could better address climate change and equity within the NFIP and hazard mitigation	California submitted a letter on June 22, 2021 ; anticipate continued direct communication with FEMA Region IX
NFIP Endangered Species Impacts	NRDC successfully sued FEMA over its administration of changes to FEMA mapped floodplains; plaintiffs claimed FEMA was ignoring ESA, therefore FEMA: 1) initiated multi-year NEPA EIS to support LOMA/LOMR processes, and 2) FEMA is requesting input on approaches to minimize mapping related environmental impacts	California has draft letter to submit by Jan. 27, 2022 .