CALIFORNIA DEPARTMENT OF WATER RESOURCES

Headwaters to Floodplains (H2F)

Flood Safety Partnership

County Engineers Association of California: Flood Control & Water Resources Policy Committee December 4, 2019





Michael Mierzwa, P.E., State Floodplain Manager Floodplain Management Office **Division of Flood Management**

State & Federal Declared Flood Disasters

- Flood disasters have been the #1 hazard across 57 of California's 58 counties
- At least one significant flood event in CA has occurred annually since 1961 (yes, even in drought years)



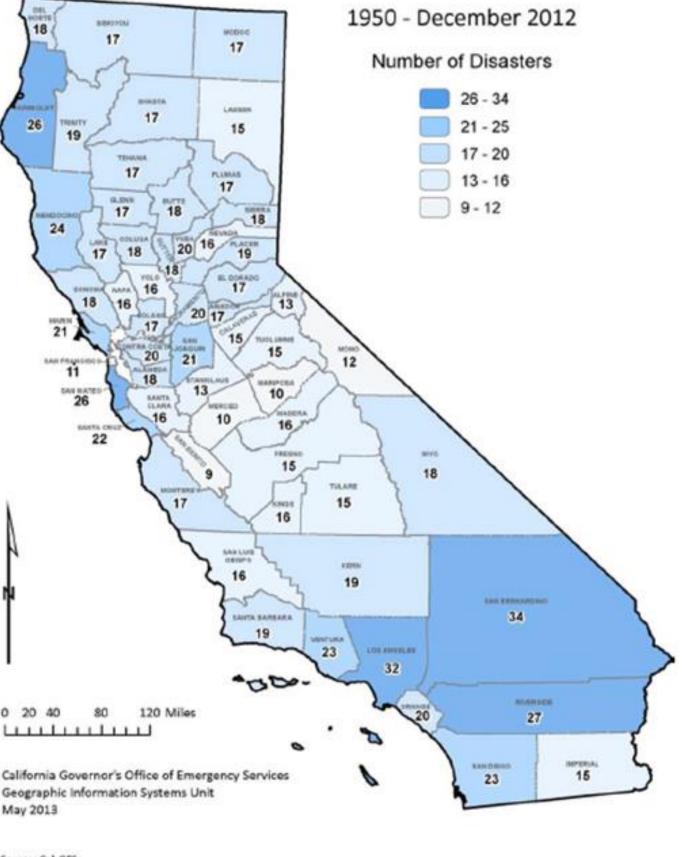
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May 2013

Source: Cal-OES



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Floodplain Management Office

Floodplain Management Office

Mike Mierzwa Headwaters to Floodplains: Flood Safety Partnership Program¹

Risk Assessment and Mapping Branch MD Haque

Alluvial Fan

Coastal Floodplain Studies

Dam Inundation Mapping (Support)

FEMA Cooperating Technical Partnerships

Floodplain Mapping

Flood Model Development

Flood Risk R&D

Library of Flood Models

NFIP Flood Insurance Study Coordination

Statewide Flood Hazard Assessments

Watershed Flood Risk Studies

Community Assistance and Risk Awareness Branch Kelly Soule

	National Flood Insurance Program (NFIP) Administration	Central Progra
pport) Partnerships	 NFIP Community Assistance (CAVs, CACs, CRS) FEMA Hazard Mitigation Assistance Building Codes 	Coasta Prograi Floodpl Financi
	Flood Management Communications and Outreach	Local L Prograi
	Flood Risk Awareness	Small C Reduct
Coordination	Local Floodplain Mitigation & Regulatory Support	Statewi Subver
essments	State Plan of Flood Control Flood Risk Notifications	
S	Watershed University	

¹ H2F: Flood Safety Partnership is a multi-agency effort that is coordinated through DWR's Floodplain Management Office. This effort is focused on increasing the coordination and engagement between Federal, State and local flood management agencies and communities to reduce the exposure and consequences related to flooding.

Statewide Grant Program Branch Robert Crane

al Valley Tributaries am

al Flood Risk Reduction

plain Management cial Assistance Program

Levee Assistance am

Community Flood Risk ction Program

wide Flood Control entions Program

Flood Planning Branch Chris Williams

CA Silver Jackets Coordination

Central Valley Flood Protection Plan – Project Tracking

Flood System Investment Planning

Plan Integration

Regional Flood Management Planning Support

H2F: Flood Safety Partnership HEADWATERS TO FLOODPLAINS

Collaborative partnership among public agencies

 Reduce California's exposure to flood risk and reduce the consequences of flooding

Examples of Typical Flood Hazard Types Varied Across the State

- Most of California's hydrologic regions are exposed to multiple types of flood hazards
- Mitigation measures are often designed to address specific flood hazard types
- Lessons learned in one part of the State can benefit communities in other parts of the State

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Engineered Structure Failure Flooding



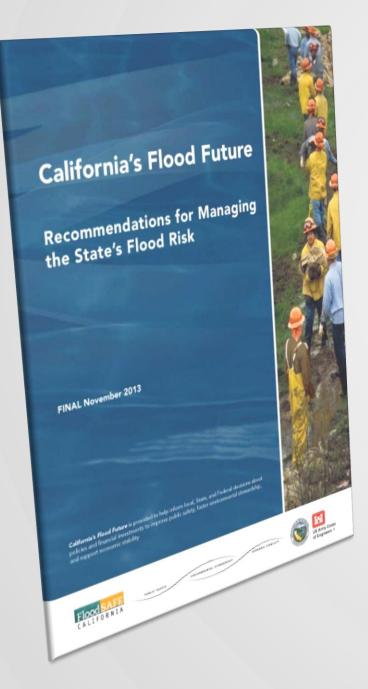
Coastal Flooding





Stormwater Flooding

Previous Effort (2010 – 2013) Focused on Assessing Statewide Flood Risk





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San Francisco

Eureka



Flood Management in a Watershed

Challenges and opportunities exist when moving beyond protecting a single asset and considering an entire watershed ...

Thus giving rise to a headwaters to floodplains approach to reducing flood exposure and consequences





Recharge Area

Levee Channels & **Structures**

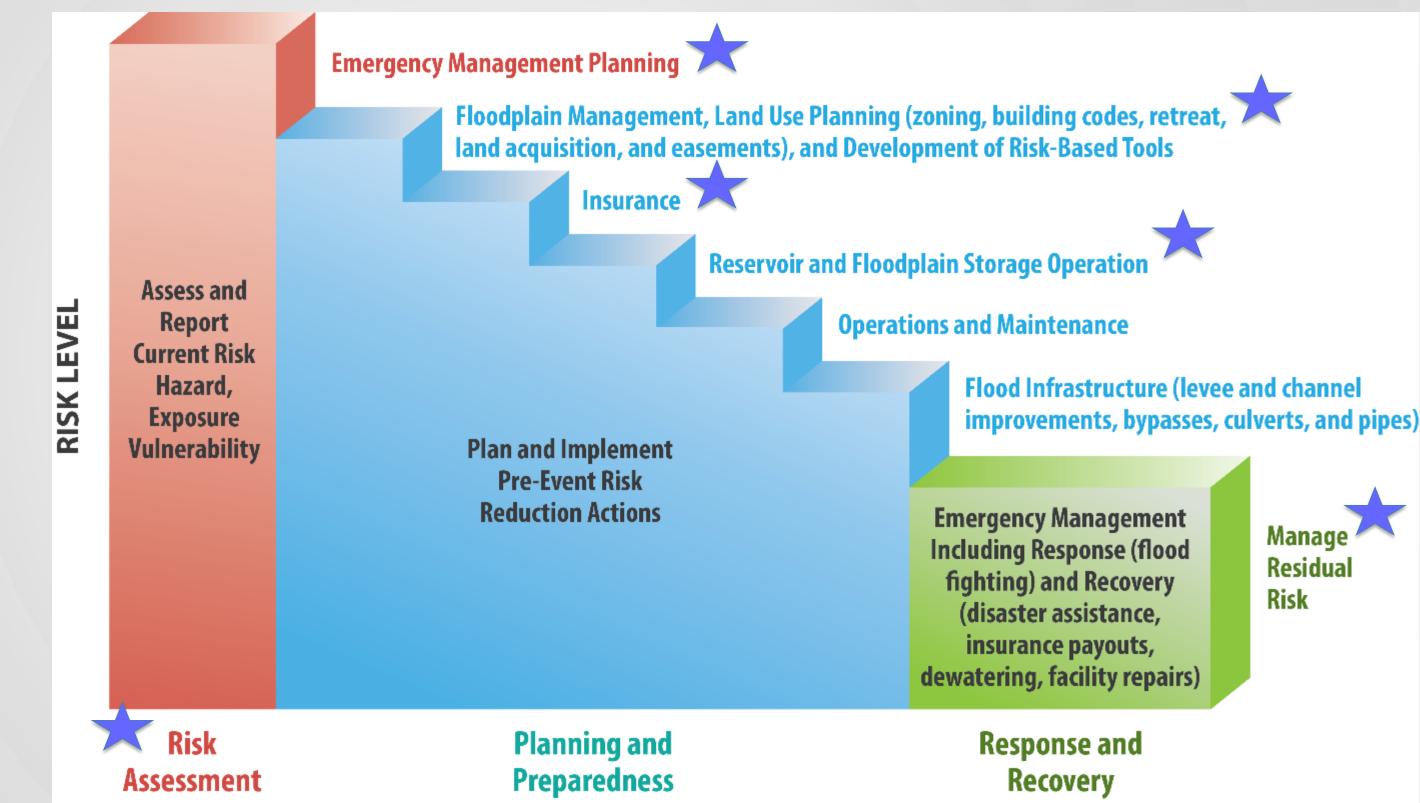
Bypass

Agriculture

Community Floodplain Management

Flood Risk Reduction Stairstep & H2F

Activities benefiting from informal partnerships through a headwaters to floodplains (watershed) approach





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RISK REDUCTION TOOLS

Core Principles of the H2F Partnership

What H2F is Not Replacing	Value of Participation
Direct engagement w/ public	Venue for frequent, informa
Disagreements between agencies	A "safe" place to have cond successes and failures
Existing policies or administrative procedures	An opportunity to explore r policies and discuss possib
Funding decision processes	Informing funding decision funding assistance program
Agency roles and responsibilities (regulators, implementers, operators, & maintainers)	Facilitating capacity growth through <i>shared innovatio collaboration</i>



- al coordination
- ceptual discussions & learn from
- new ways to implement existing ible policy changes
- ns & promoting shared interest in Ims
- th for other participating agencies ons, shared experiences, and

Technical Assistance

- Create/share technical tools to improve flood risk awareness
- Make technical tools readily assessible to stakeholders
- Enhance local agency staff capacity, capabilities
- Expand weather monitoring, gauging, notifications



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"Sharing Innovations"

- Example Projects:
- Gages
- Models
- Projects
- Data
- Forecasts
- Exercise Facilitation
- Exposure Assessment
- Mapping

Funding Opportunities

- Maintain & update inventory of flood mitigation projects
 - Review of HMPs
 - Coordination with IRMPs and SGMPs
- Report on statewide investment need & implementation of mitigation measures
- Promoting cost-effective floodplain management mitigation measures



"Sharing Experiences"

Example Projects:

- Develop Financial Assistance Clearing House
- Create Guides
 Illustrating Successful
 Grant Applicants

Updating and review of exposure information (including mapping) to support loss avoidance studies

Engagement

- Build or improve collaboration within and between public agencies
- Facilitate consistent messaging about flood risk and emergency preparedness
- Highlight success stories (projects, research, and recovery efforts)
- Strengthen collaboration between dam owners and downstream communities

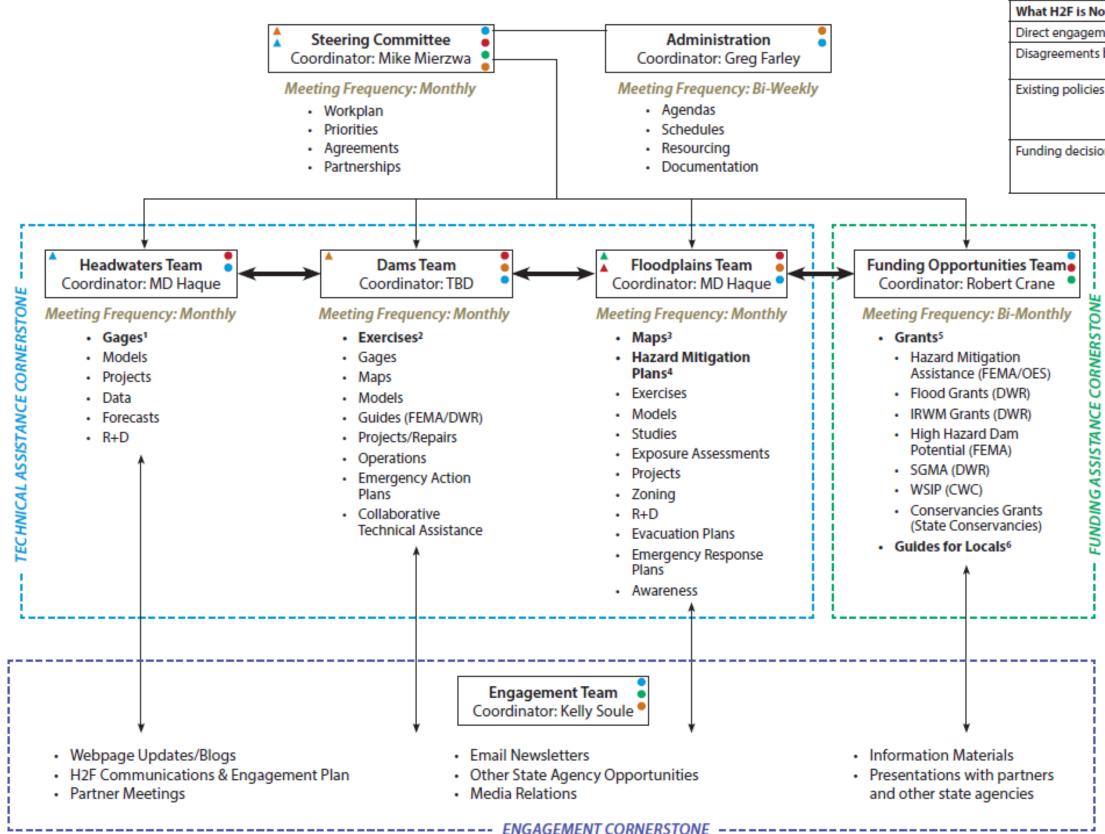


"Collaboration"

Example Projects:

- Webpage
 Development
- Partner Meetings
- Email Newsletters
- Presentations
- Information Materials

H2F Governance - DWR Internal Resourcing





What H2F is Not Replacing	Value of Participation
Direct engagement with the public	Venue for frequent, informal coordination
Disagreements betweeen agencies	A "safe" place to have conceptual discussions and learn from successes and failures
Existing policies or administrative procedures	An opportunity to explore new ways to implement existing policies and discuss possible policy changes
Funding decision processes	Informing funding decisions and promoting shared interest in funding assistance programs

Goals

- ^{1.} Increase the number of gages 10 fold in 10 years.
- ² Increase the number of exercises 10 fold in 10 years.
- ³ Promote awareness that flood maps typically have a useful life of 5 years.
- ⁴ Increase the number of specified projects within mitigation planning documents.
- 5. Double the amount of awards received.
- ⁶ Reduce the time and effort required to complete proposals by half.

FPMO Branches

- Community Assistance & Risk
- Risk Assessment & Mapping
- Statewide Grant Program
- Flood Planning

HFO Branches

- Hydrology
- Flood Operations
- Flood Project Inspection & Assessment
- Operations Support

DRAFT

DWR's Flood Risk Reduction Grant Programs

DWR Flood Risk Reduction Grant Program	State Plan of Flood Control	Central Valley	Statewide	Current Fund Source
Statewide Flood Control Subventions Program			\checkmark	Proposition 1E
Local Levee Assistance Program			\checkmark	Proposition 1E
Small Community Flood Risk Reduction Program	\checkmark			Proposition 1E
Central Valley Tributaries Program		\checkmark		Proposition 1
Coastal Flood Protection Program			\checkmark	Propositions 1 & 68
Floodplain Management Financial Assistance Program	?	?	?	Proposition 68



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NOTE: DWR has other financial assistance programs. This is a list of programs managed through the Floodplain Management Office as of 12/2019.

FEMA Hazard Mitigation Assistance: The Big Three

HMA Program	Pre- Disaster	Post- Disaster
Pre-Disaster Mitigation (PDM) Grant Program	\checkmark	
Flood Mitigation Assistance (FMA) Grant Program	\checkmark	
Hazard Mitigation Program Grants (HMPG)		\checkmark



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Authorities & Requirements

Stafford Act (1988) / Hazard Mitigation Plan Activity

National Flood Insurance Program (1968) / Must be NFIP Community / Must be HMP Flood Activity

Stafford Act (1988) / Hazard Mitigation Plan Activity

For More Information on H2F

Headwaters to Floodplains Email List H2F@water.ca.gov





CA Silver Jackets

https://water.ca.gov/Programs/Flood-Management/Community-Resources/Silver-Jackets

National Web Page: http://silverjackets.nfrmp.us/

Common Participants, Agencies focusing on flood and natural disaster ...

- Hazard Mitigation
- **Emergency Management**
- Floodplain Management
- Natural Resource Management & Conservation

Federal Partners include ...

- USACE
- **FEMA**
- NWS
- USGS



