



Report on Flood Future: Recommendations for Managing California's Flood Risk

Presentation to:

TRIBAL ADVISORY COMMITTEE

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PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

DWR Integrated Water Planning

- Plan for a Specific Project
- Regional
 - Central Valley Flood Mgmt Plan
 - IRWM
- Statewide
 - SFMP Flood Future Report
 - California Water Plan



Statewide Flood Management Planning

PROGRAM PURPOSE

- Understand California's Flood Risks
- Work with local, state, tribal and federal entities
 - Working with the US Army Corps of Engineers
- Support Integrated Flood Management Strategies
- Coordinate within DWR with other planning efforts

SFMP Process

SFMP PROCESS



- **Foundation documents for CWP 2013**

- Flood in CWP 2009
- Flood Future Report

- **Communication and engagement**

- Build baseline information for Flood Future Report
- Utilize focus groups for both Flood Future Report and Flood in CWP 2013
 - Flood Caucus
 - Regional workshops
 - Other

Flood Future Report



STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM

FloodSAFE
CALIFORNIA

PUBLIC SAFETY

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ECONOMIC STABILITY



What Are the Types of Flood Threats?

- What are the types of Flood Hazards?
 - Alluvial Fan, Coastal, etc.
- How significant is the hazard?
- What are the Exposure Types?
- Where Are the Flood Hazards?

Slow Rise Flooding



Flash Flooding



Debris Flow Flooding



Engineering Structure Failure Flooding



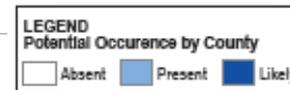
Alluvial Fan Flooding



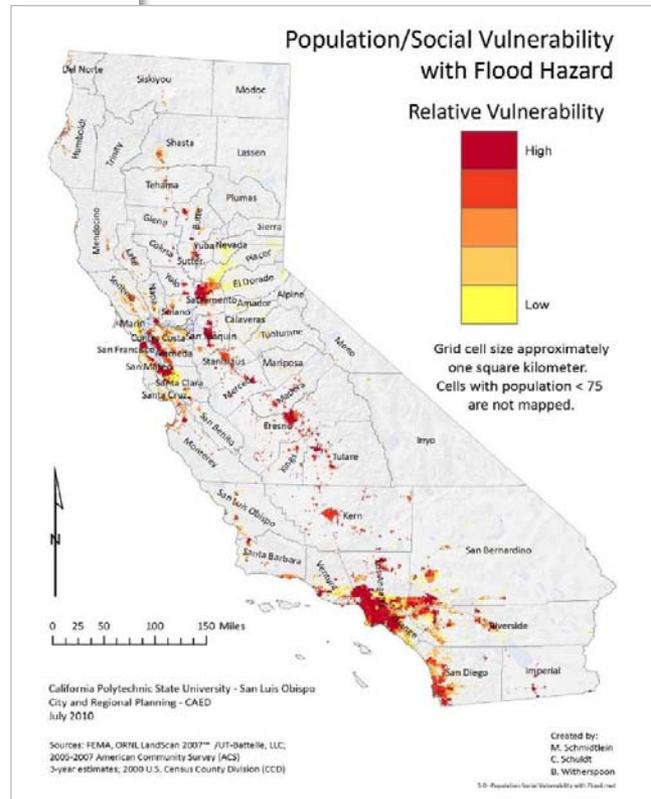
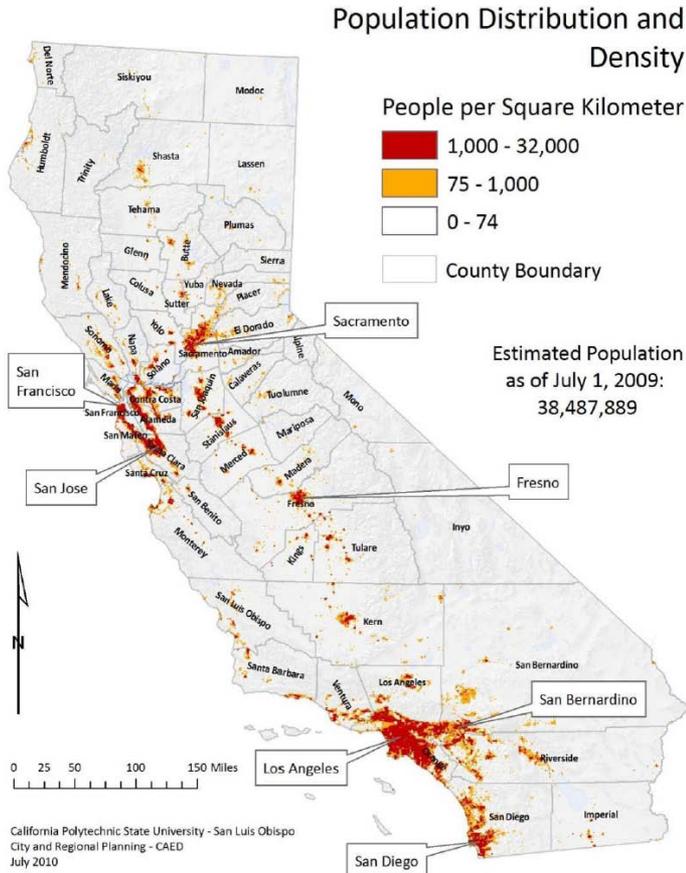
Coastal Flooding



Tsunami Flooding



Who is Exposed?



- People - Life Safety
- Property and Assets - Economic
- Natural Resources
- Cultural Resources

Flood Future Report Components

1. Inventory Flood Management Infrastructure
2. Characterize Current and Future Flood Risks
3. Opportunities for Integrated Flood Management
4. Challenges and Opportunities for Improving Flood Management
5. Finance Strategy
6. Recommendations



Flood Future Report Approach



Identify Flood Risks in California

- Gather Flood Management Information and Inventory Data
- Define/Characterize Existing and Future Hazard and Risks (Exposure)



Explore Options to Address Risk

- Identify Regional IFM Opportunities
- Identify Challenges and Opportunities for Improving Flood Management
- Develop Financing Strategies



Develop Recommendations

- Make Recommendations
 - *Institutional*
 - *Policy*
 - *Financing*
 - *Legislative*
 - *Other*

Gather Information and Inventory Data

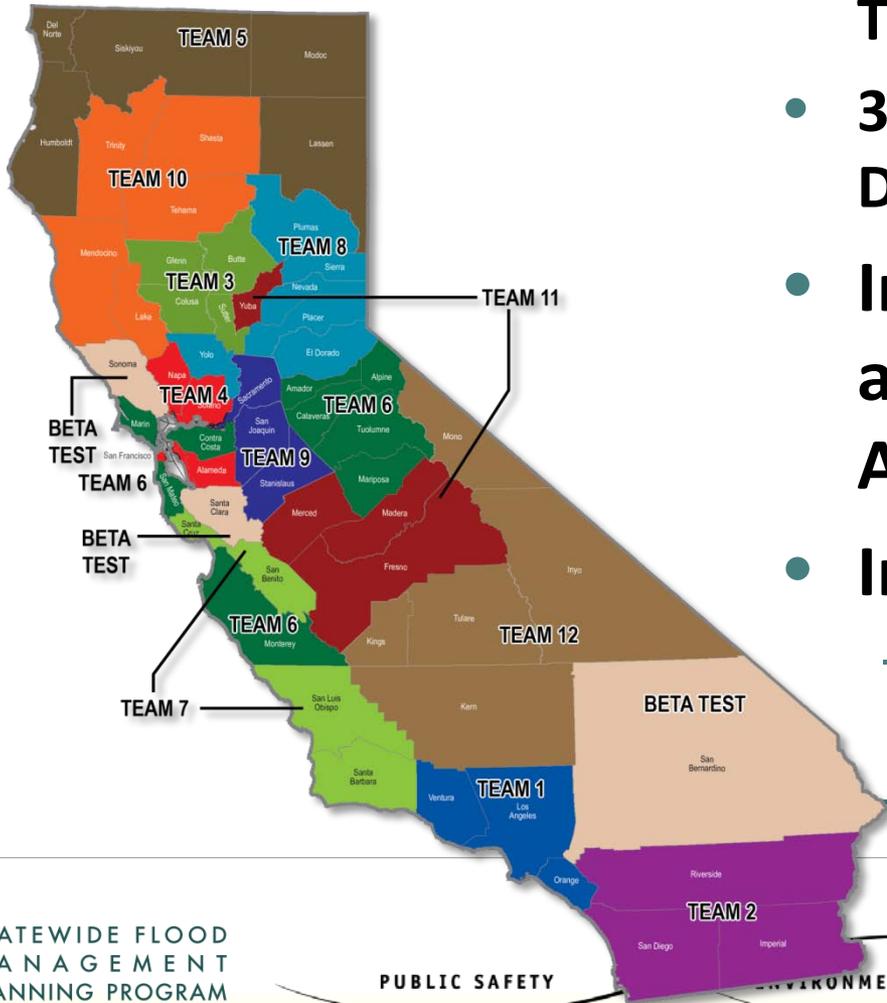
Identify Flood Risks in California

Explore Options to Address Risk

Develop Recommendations

129 Agencies Contacted including Tribes

- 3,800 documents collected from DWR and Local Agencies
- Information Gaps Identified and State of Information Accessed
- Intermediate Work Products:
 - Inventory of Existing Flood Management Infrastructure
 - Planned Local Flood Management Projects



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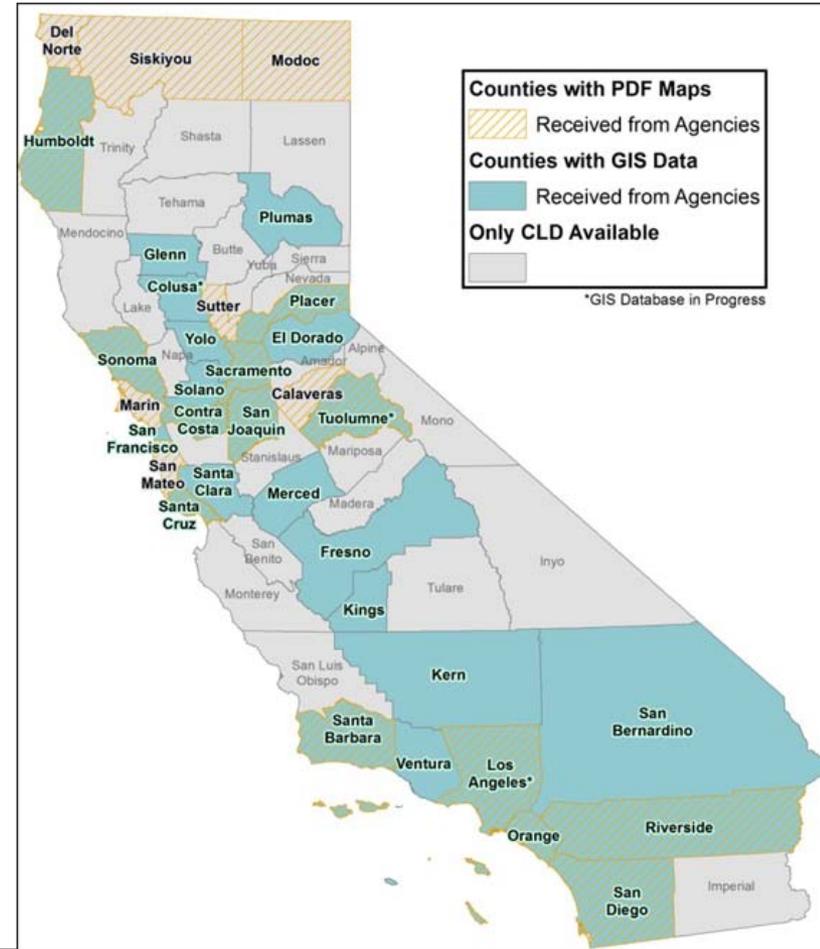
STATEWIDE FLOOD
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Statewide Infrastructure

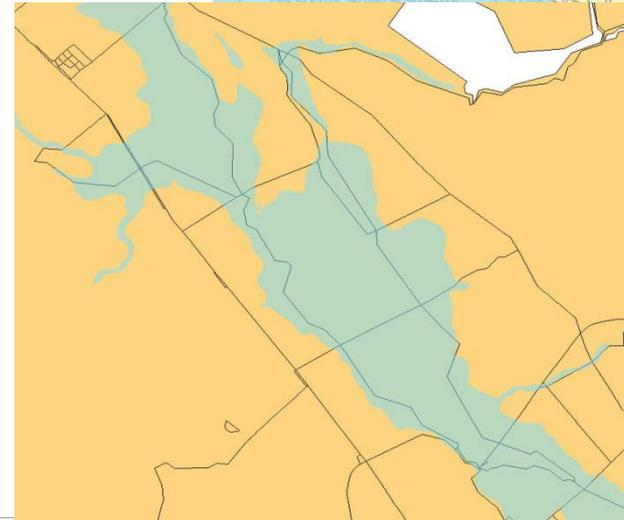
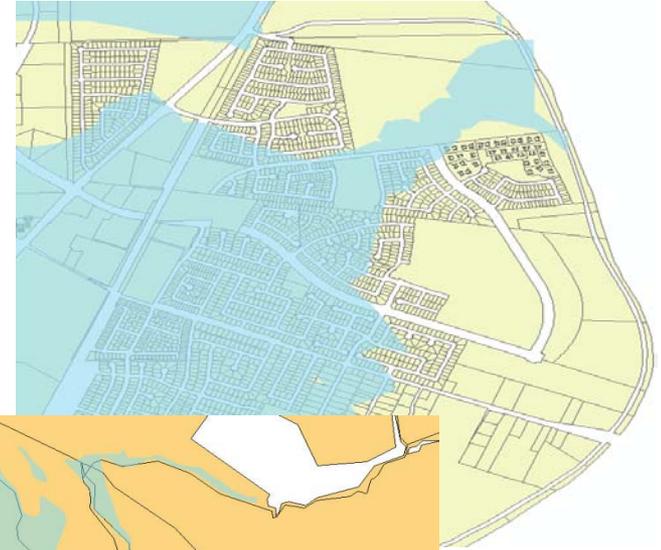
- California Levee Database Information
 - 11,392 miles of levees
 - 169 Closure Structures
 - 1,469 Flood Structures
 - 1,103 Flood Walls
 - 2,698 Gravity Drains
 - 30 Toe Drains
 - 810 Water Structures
 - 91 Pump Stations
 - 509 Miscellaneous Structures
- 201 hard copy maps received from agencies in 16 counties
- 28 counties have infrastructure in GIS format



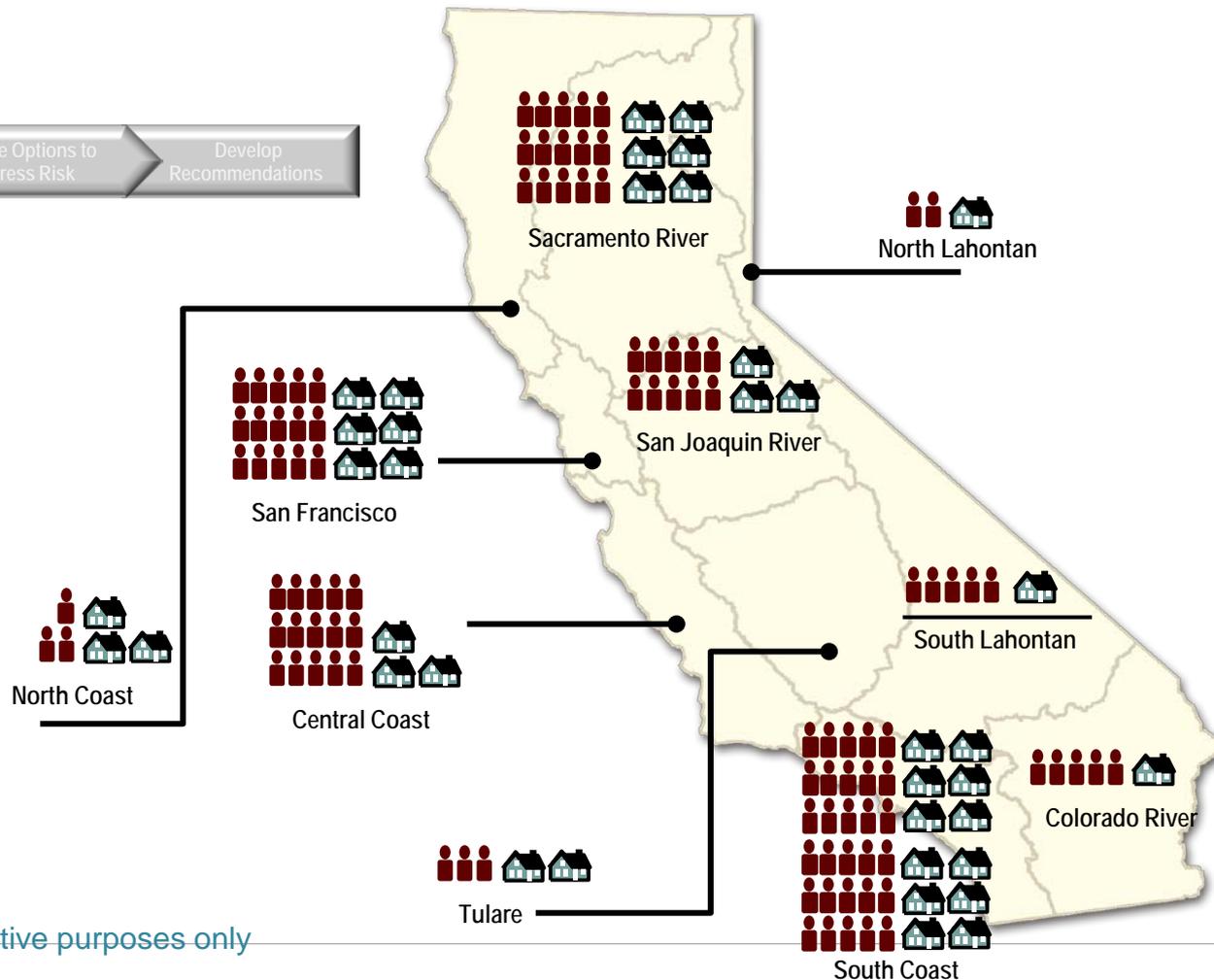
Counties with GIS Map Data

Flood Hazard Exposure Analysis

- Exposure to 100-year and 500-year floodplain
 - Population
 - Value of Structures & Contents
 - Crops Value
 - # of Critical Facilities
 - Dept. of Defense Facilities
 - Native American Tribal lands (acres)



Flood Exposure Summary



NOTE: Graphics are for illustrative purposes only

Explore Options to Address Risk

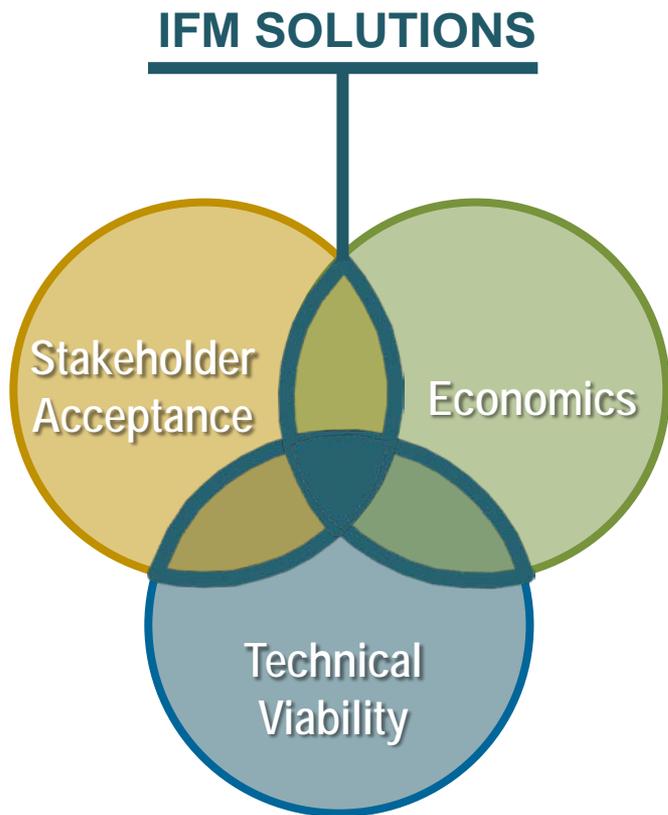


- Identify Opportunities for Improved FM
 - Project Implementation
 - O&M
 - Other Challenges and Opportunities



Definition of IFM

INTEGRATED FLOOD MANAGEMENT



- Recognizes the connection of flood management actions to
 - Water resources management
 - Land use planning
 - Environmental stewardship
 - Sustainability
- Uses a multi-faceted approach
 - Structural
 - Nonstructural
 - Natural watershed functions using other resource management strategies

Explore Options to Address Risk



- Develop Financing Strategy
 - Review Past Funding Sources/Expenditures
 - Compare Needs vs. Existing Funding Patterns
 - Innovative Financing Approaches
 - Financing Strategies for IFM



Develop Recommendations



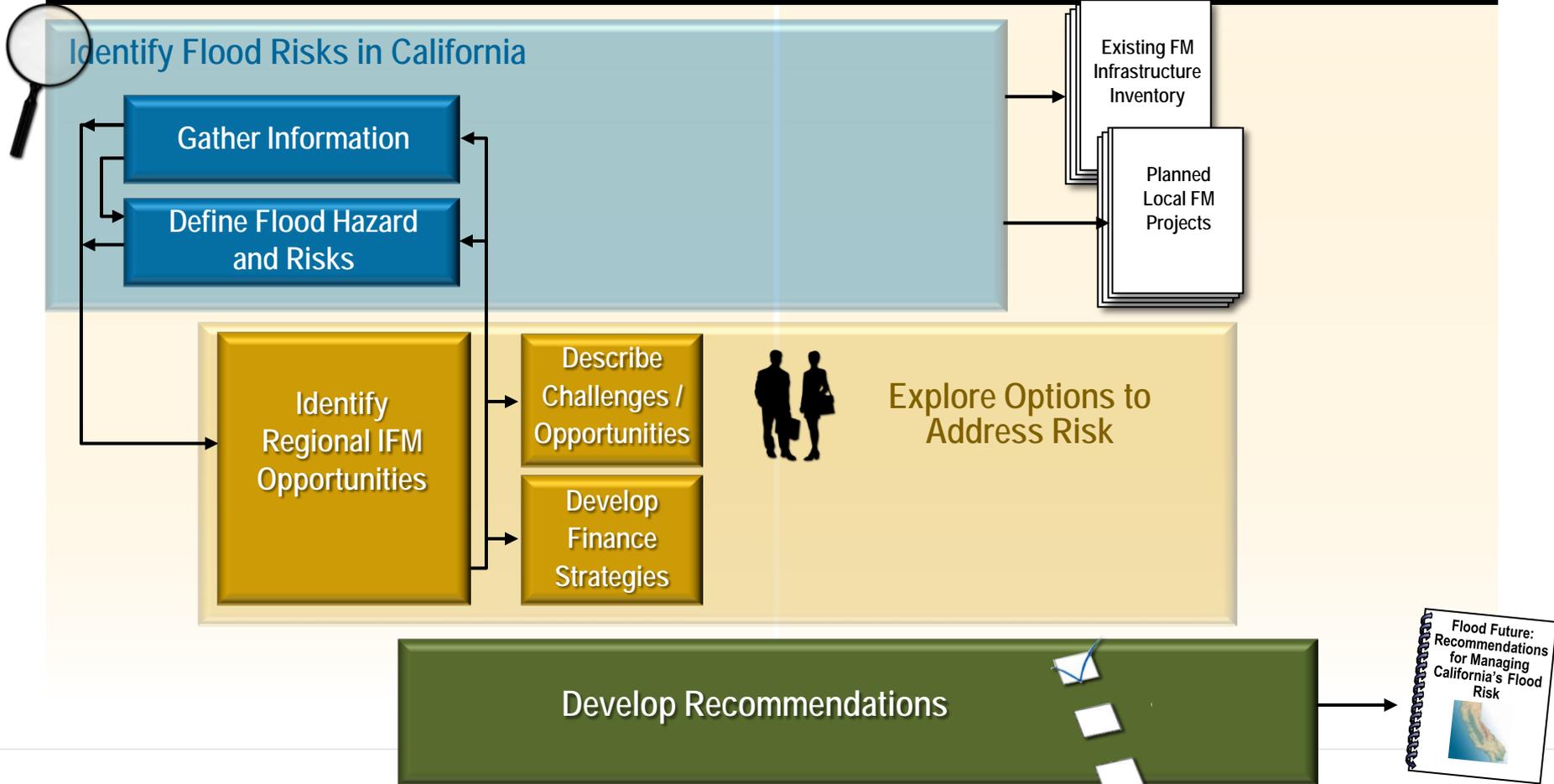
- “Big Picture” (high level) recommendations
- Policy: federal, tribal, state, local
- Legislative
- Financial
- Institutional
- Other



SFMP Project Timeline

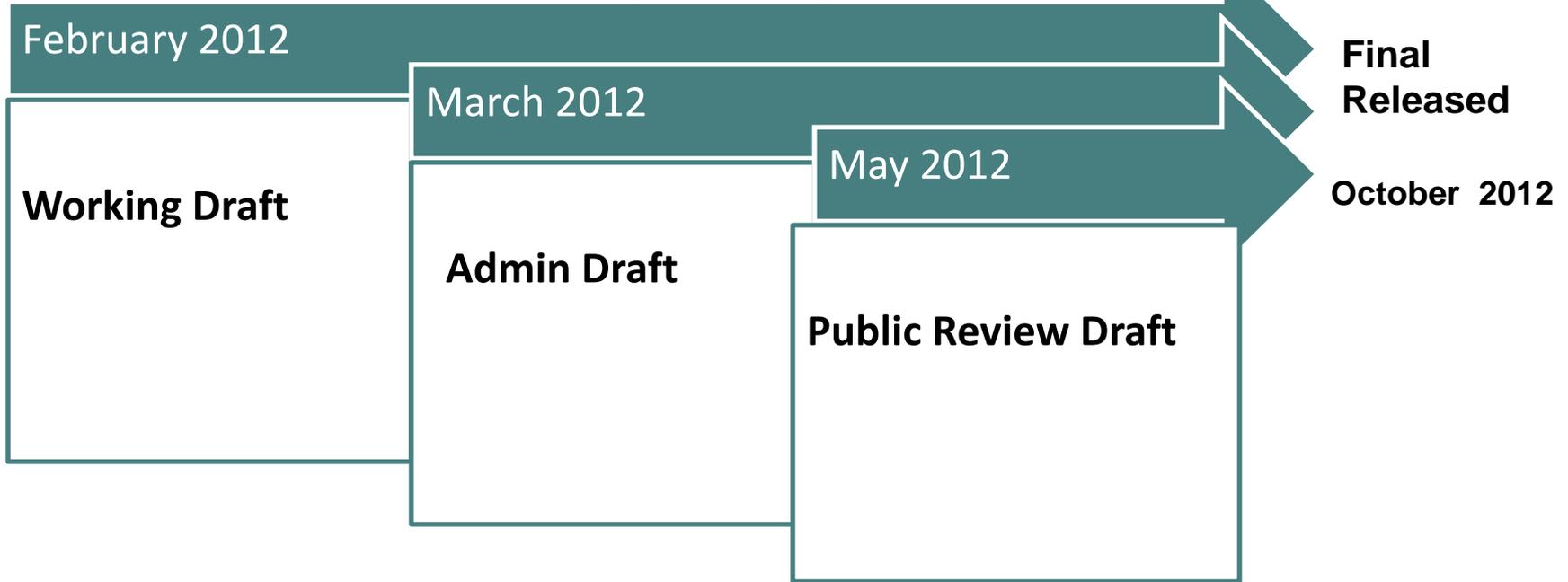
2011

2012



Continuous Communication and Engagement

Flood Future Report Key Milestones



Statewide Integrated Flood Management Program

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