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

Presentation to:

TRIBAL ADVISORY COMMITTEE

December 9, 2011

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DWR Integrated Water Planning

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

**Focus Groups**

**Flood Future Report**

**Flood in CWP 2013**

**STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM**

**PUBLIC SAFETY**

**ENVIRONMENTAL STEWARDSHIP**

**ECONOMIC STABILITY**

**DEPARTMENT OF WATER RESOURCES**

**STATE OF CALIFORNIA**
Flood Future Report

Report on Flood Future: Recommendations for Managing California’s Flood Risk
### What Are the Types of Flood Threats?

<table>
<thead>
<tr>
<th>Slow Rise Flooding</th>
<th>Flash Flooding</th>
<th>Debris Flow Flooding</th>
<th>Engineering Structure Failure Flooding</th>
<th>Alluvial Fan Flooding</th>
<th>Coastal Flooding</th>
<th>Tsunami Flooding</th>
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</table>

- **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?**
Who is Exposed?

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

Identify Flood Risks in California

Explore Options to Address Risk

Develop Recommendations

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
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

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Statewide Flood Management Planning Program
Public Safety
Environmental Stewardship
Economic Stability
Department of Water Resources
State of California
Identify Flood Risks in California

- Gather Information
- Define Flood Hazard and Risks

Describe Challenges / Opportunities

 Identify Regional IFM Opportunities

Explore Options to Address Risk

- Develop Finance Strategies
- SFMP Project Timeline

Develop Recommendations

Continuous Communication and Engagement
Flood Future Report Key Milestones

February 2012

Working Draft

March 2012

Admin Draft

May 2012

Public Review Draft

Final Released

October 2012
Statewide Integrated Flood Management Program

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