

Flood Risk Management and Local Land Use Planning

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“Transforming the Water Management Culture”
Integrated Regional Water Management Conference

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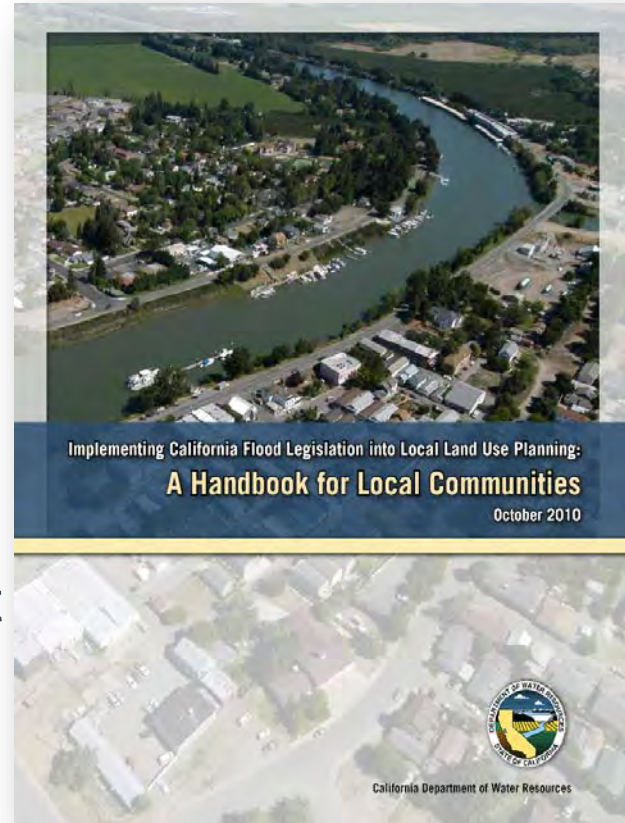
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Plan Design Enable



CA DWR Handbook Guidance for Locals

- 2007 package of water bills
- Amending State flood and land use management laws
- Addresses primarily local government responsibilities
- Links local and regional land use planning with flood risk management
- New focus of 200-year protection in urban and urbanizing areas of the Central Valley
- Various geographical regions with different legislative deadlines



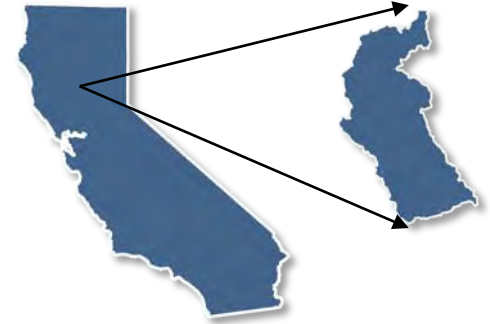
www.water.ca.gov/localfloodriskplanning

Geographical Regions

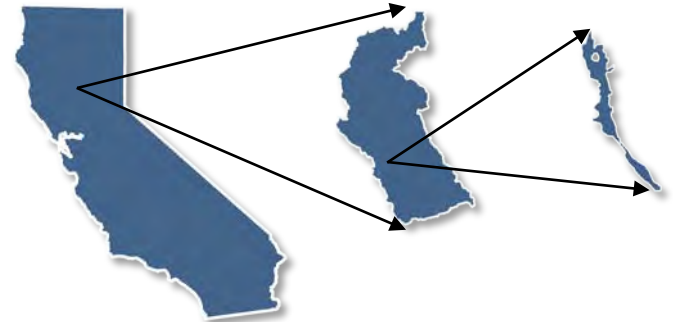
- Statewide



- Sacramento-San Joaquin Valley



- Sacramento-San Joaquin Drainage District



Additive...

Statewide Implementation

- Assembly Bill 162
- Land Use Element
- Conservation Element
- Safety Element



Implementation

What communities should be doing now to update the general plan.

- Land Use Element
 - Identify areas subject to flooding via FEMA and DWR floodplain mapping
- Conservation Element
 - Identify areas that may accommodate floodwater for groundwater recharge and stormwater management
- Safety Element
 - Identify and revise flood hazard information
 - Establish policies to protect communities from flooding risks

Land Use Element *(effective NOW)*

- Required to annually review and identify areas subject to flooding via FEMA or DWR floodplain mapping:
 - FEMA Flood Insurance Rate Maps (FIRM)
 - FEMA Digital Flood Insurance Rate Maps (DFIRM)
 - FEMA Digital Q3 Flood Data
 - DWR Awareness Floodplain Maps
 - DWR Best Available Mapping (BAM)
 - DWR Levee Flood Protection Zone (LFPZ) Maps
 - *DWR Central Valley Floodplain Evaluation and Delineation (CVFED) Maps*
 - *DWR 200-year Floodplain Maps*

How to Decide Which Maps to Use?

- The 2007 legislation specifically identifies DWR and FEMA floodplain mapping as the data sources for areas subject to flooding
- Each DWR and FEMA database has a specific purpose
- Jurisdictions must take into consideration the intent of the databases and perform some analysis as to which database(s) is most relevant to the specific city or county
- If a city or county has conflicting flood information than what is provided in one of the data sources, contact DWR and/or FEMA

DWR's Division of Flood Management can provide locals the most current floodplain map information and for consultation on which database would be most applicable, by jurisdiction, at: <http://www.water.ca.gov/floodmgmt/>

Types of Mapping Available



FEMA Flood Insurance Rate Maps (FIRM) and FEMA Digital Flood Insurance Rate Maps (DFIRM)

- Represents 100-year and 500-year floodplains

DWR Awareness Floodplain Maps (AFM)

- Approximate 100-year flood hazard areas/no specific depths
- Covers areas not mapped under FEMA's NFIP
- Intended to be used for planning purposes

DWR Best Available Maps (BAM)

- Represents 100- 200- and 500-year composite floodplains statewide
- Based on the best available information (i.e., FEMA FIRM, DFIRM, and DWR Awareness Floodplain Maps)
- Intent to identify potential flood hazards that may warrant further study and consideration in land use decision making

Levee Flood Protection Zone (LFPZ) Maps

- Represents areas that are protected by levees that are part of the facilities of the State Plan of Flood Control

DWR Central Valley Floodplain Evaluation and Delineation (CVFED) Maps

- Represents 100-year and 200-year floodplains for Central Valley State-Federal Project Levees
- Based on detailed hydrologic and hydraulic information, topographic data, levee evaluations, and depths

<http://www.water.ca.gov/floodmgmt/lrafmo/fmb/maptypes.cfm>

DWR 200-year Informational Floodplain Maps

- Urban areas protected by the facilities of the State Plan of Flood Control
 - City of Chico
 - Yuba City and City of Marysville
 - Sacramento Metropolitan Area (cities of Sacramento and West Sacramento)
 - Cities of Woodland and Davis
 - City of Merced
 - Stockton Metropolitan Area (cities of Stockton and Lathrop)
- Anticipated to be available July 2, 2013 (SB 1278)

200-year flood protection is required no later than 2025 for urban and urbanizing areas

Sutter County 2030 General Plan

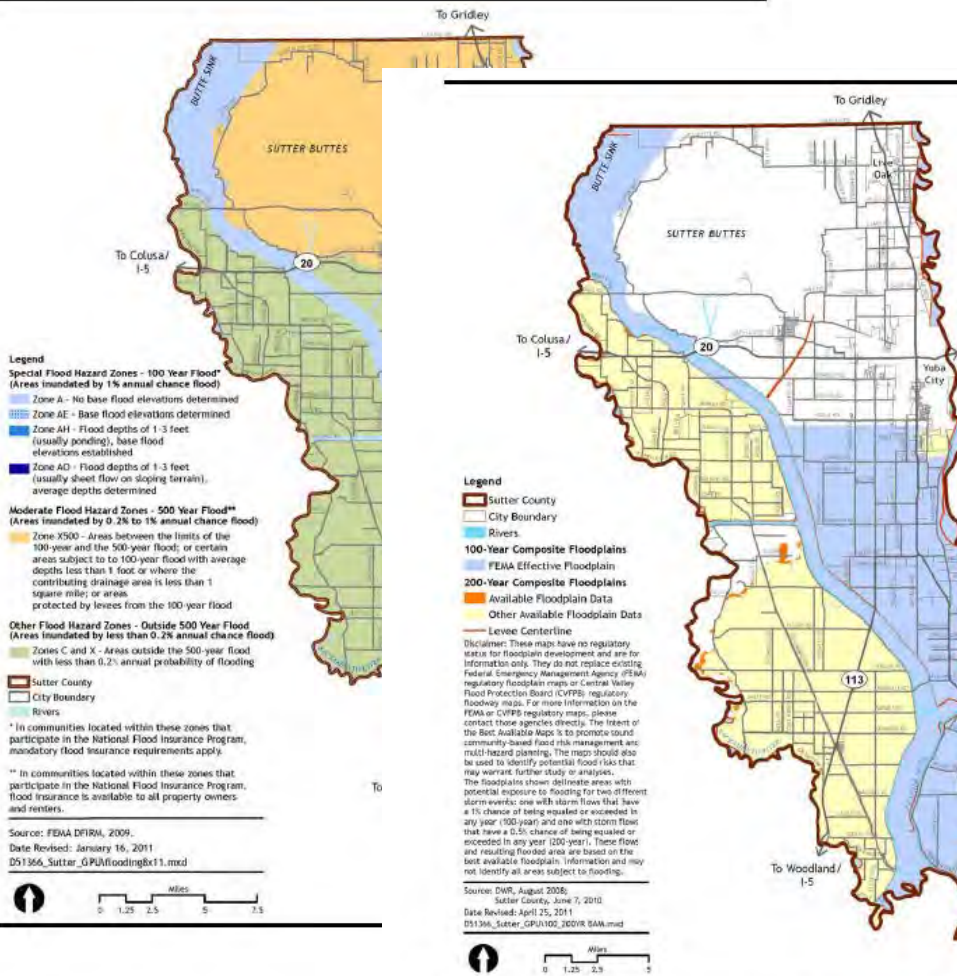


FIGURE 10-2 100- and 200-Year Floodplains Base

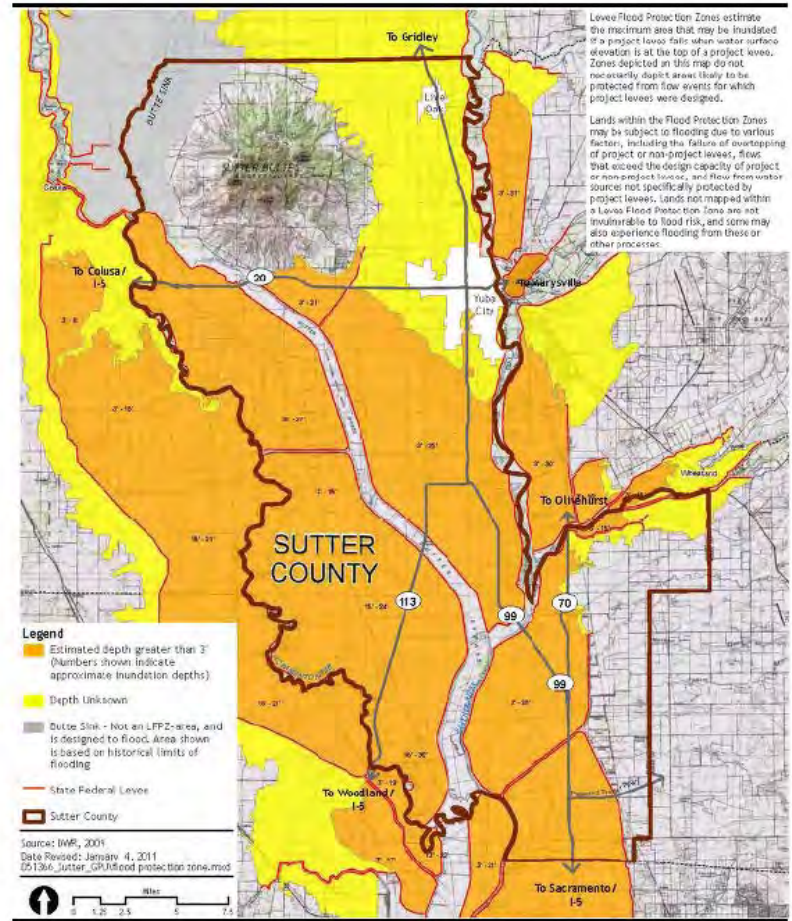


FIGURE 10-3 Levee Flood Protection Zones

What if part of your jurisdiction is located within a FEMA or DWR mapped floodplain?

– The Handbook suggests...

- Consider designating potential flood areas for lower intensity use
- Use appropriate flood risk management strategies
- Consider avoiding development for areas within 'deep' floodplains (>3 feet)

Safety Element

(effective NOW)

- Required to identify information regarding flood hazards:
 - Flood hazard zones
 - NFIP maps
 - Historical data
 - Existing and planned development in flood hazard zones
 - Databases maintained by USACE, DWR, Cal EMA for flood hazard information

Safety Element

(effective NOW)

- Must establish goals, policies, objectives, and feasible implementation to protect communities from 'unreasonable risks of flooding'
 - Avoiding or minimizing the risks of flooding to new development
 - Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones
 - Maintaining the structural and operational integrity of essential public facilities during flooding
 - Locating, when feasible, new essential public facilities outside of flood hazard zones
 - Establishing cooperative working relationships among public agencies with responsibility for flood protection

DWR's interpretation of 'unreasonable risks' associated with flooding include the FEMA 100-year and 200-year ULOP floodplains.

That is, if development were allowed to occur within the these areas, there may be an "unreasonable risk" associated with potential flooding.

Conservation Element *(effective NOW)*

- Required to identify rivers, creeks, streams, flood corridors, riparian habitat and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management

The intent is to conserve areas used for groundwater recharge and stormwater management and to minimize urban development in these areas

- Specifically clarifies coordinating agencies to include flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city

Existing law currently requires that the portion of the conservation element that includes water resources must be developed in coordination with any countywide water agency and with all district and city agencies

City of La Habra General Plan Update

Protection of Water Resources. Work with the Orange County Flood Control District (OCFCD), private property owners, neighboring jurisdictions, and others as necessary to conserve undeveloped open space areas and natural drainage channels for the purpose of protecting water quality, groundwater recharges, and stormwater management in the City's watershed and waterbodies including Coyote Creek and La Mirada Creek.

Flood Control Channels. Work with the Orange County Flood Control District (OCFCD) to explore day-lighting opportunities and the removal of the concrete-lining along flood control channels where safe to do so and flood protection is not compromised allowing for greater groundwater recharge and wildlife habitat.

Under Senate Bill 5

Post Central Valley Flood Protection Plan Adoption, or after June 29, 2012

General Plan *(within 24 months)*

- include data and analysis contained within the CVFPP
- goals, policies, objectives, and feasible implementation

Zoning Ordinance *(within 36 months)*

- amend for consistency with general plan amendments

Senate Bill 1278 was signed by Governor on September 25, 2012 with companion Assembly Bill 1965 -- effective January 1, 2013

- #1 DWR to release floodplain maps by July 2, 2013
- #2 Amend general plan within 24 months of July 2, 2013 and zoning code within 12 months thereafter
- #3 Establishes definition of an 'undetermined risk area' and includes term within the ULOP findings for development agreements

"Undetermined risk area" means an urban or urbanizing area within a FEMA 500-year which has not been determined to have an urban level of protection.

AB 1965 strikes out a clause related to the definition of ULOP

"Urban level of flood protection" means the level of protection that is necessary to withstand flooding from a ~~leveed riverine system~~ that has a 1-in-200 chance of occurring in any given year...

"Urban level of flood protection" does not mean shallow flooding or flooding from local drainage that meets the criteria of the FEMA standard of flood protection.

General Plan (*within 24 months of July 2, 2013*)

- Amend to include data and analysis contained within the CVFPP
 - locations of facilities of the State Plan of Flood Control and real property projected by those facilities (*i.e., DWR LFPZ maps*)
 - locations of flood hazard zones
 - *FEMA 100- and 500-year mapping*
 - *NFIP areas*
 - *undetermined risk areas (SB 1278)*
 - *areas mapped by local food agencies or districts*
 - goals, policies, and objectives for the “protection of lives and property that will reduce the risk of flood damage”
 - feasible mitigation measures

Zoning Ordinance (*within 12 months post General Plan Amendments*)

- Amend for consistency with general plan

CVFPP (page 4-22)

To assist local agencies in complying with the law, DWR will prepare the following information :

- General information gathered and used in the CVFPP
- Maps and GIS data used to generate maps in the CVFPP and related documents
- Levee inspection data and completed geotechnical assessment results of SPFC facilities and related non-SPFC facilities, where data are available
- Water surface elevations for 100-year and 200-year flood events
- 100-year and 200-year inundation maps of the areas protected by the facilities of the SPFC
- Criteria for demonstrating an urban level of flood protection, including urban levee design criteria

The information listed above will be made available, subject to availability of funds, to local agencies upon request. DWR has prioritized its work so that information needed for urban areas is developed first and shared with local agencies.

Participation in the State's Regional Flood Management Planning efforts will help local communities more comprehensively, and with the best information available, update general plan information.



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