

Floodplain Risk Management Program

**Presentation to the Climate Change, Extreme Weather
and Central Valley Floods Workshop**

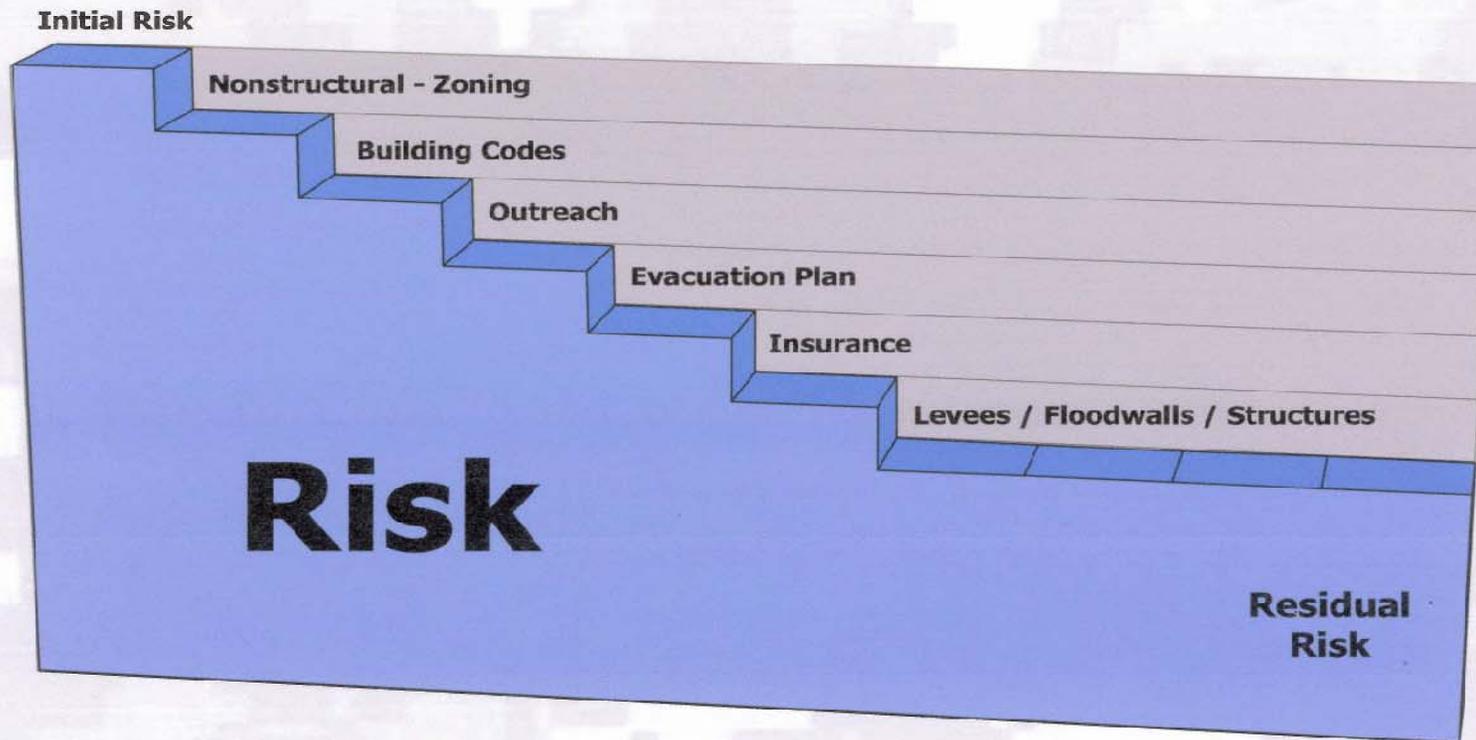
by

**Ricardo Pineda, Chief
Floodplain Risk Management Branch**



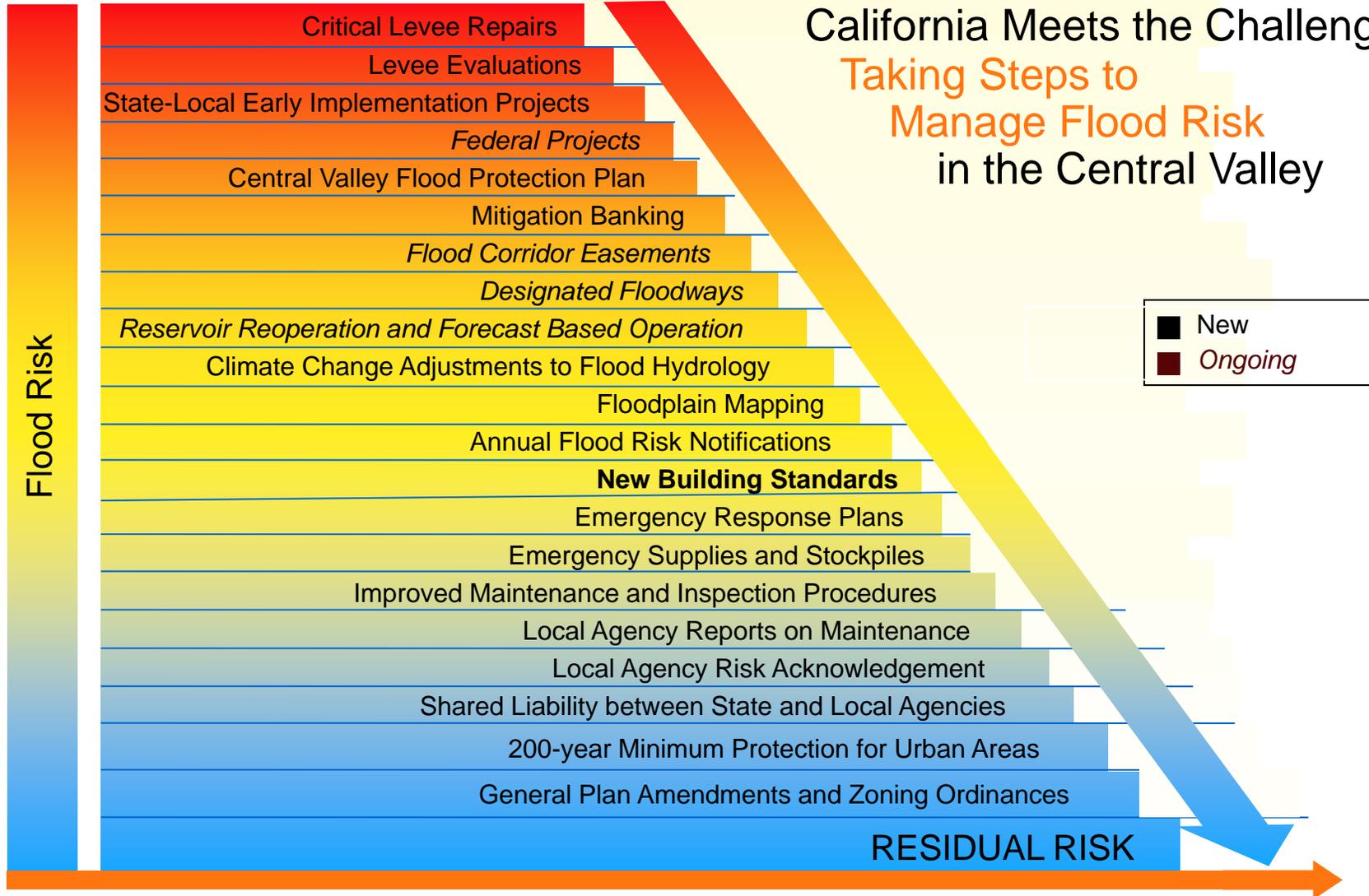
February 14, 2012

Buying Down Risk



INITIAL RISK

California Meets the Challenge:
Taking Steps to
Manage Flood Risk
in the Central Valley



Recent Legislative Bills



- **Senate Bill 5**
- **Senate Bill 17**
- **Assembly Bill 5**
- **Assembly Bill 70**
- **Assembly Bill 156**
- **Assembly Bill 162**
- **Assembly Bill 2140**

Floodplain Risk Management Program

Floodplain Risk Management Program Goal



- **Empower local communities through Floodplain Risk Management (FPM) program support and technical assistance to make wise land use decisions in flood prone areas that result in reduced flood risk and preservation of the beneficial uses of floodplains.**

Floodplain Risk Management Program Functional Area 3 Chart



Floodplain Risk Management



Floodplain Risk Management Program Authority



Program Authorities

- **Cobey-Alquist WC 8400-8401**
- **State FPM Executive Order B-39-77**
 - Recent Legislation: SB 5, AB 156, AB 162, AB 2141, AB 466
 - 22 additional water code citations

Additional Project Authorities

- **Flood Risk Notification WC 9121, 9130**
- **Building Code, Health and Safety Code 50465**
- **Federal FPM Executive Order EO 11988**

Floodplain Risk Management Program

Functional Area Elements



Element 1: Floodplain Management Technical Support

- **Highlighted Activities: NFIP Community Assistance Program, California Levee Database, Community Rating System Program, Best Available Maps**
- **Coordination with Other Groups
(FEMA, USACE, Local Communities)**
- **Looking Forward:**
 - **Obtain additional FEMA Community Rating System Uniform Minimum Credit points for DWR activities to help communities lower their flood insurance premiums.**

CAP 2011 Accomplishments



- 31 CAV's
- 14 NFIP Workshops
- 1 L273 Class
- 12 Flood Insurance Workshops
- 810 hours Technical Assistance

CRS Program



2011 Accomplishments

- Community Participation
- Credit Points
- Insurance Premium Savings
- Resources – Guidance And Tools
- User Groups

www.water.ca.gov/nfipcrs

Mapping Activities



- **Best Available Maps**
- **California Levee Database**
- **Levee Flood Protection Zone**

Best Available Maps



- In accordance with SB5
- 52 California counties completed

Includes:

1. 100-year floodplain
2. 200-year floodplain
3. 500-year floodplain

<http://gis.bam.water.ca.gov/bam/>

California Levee Database



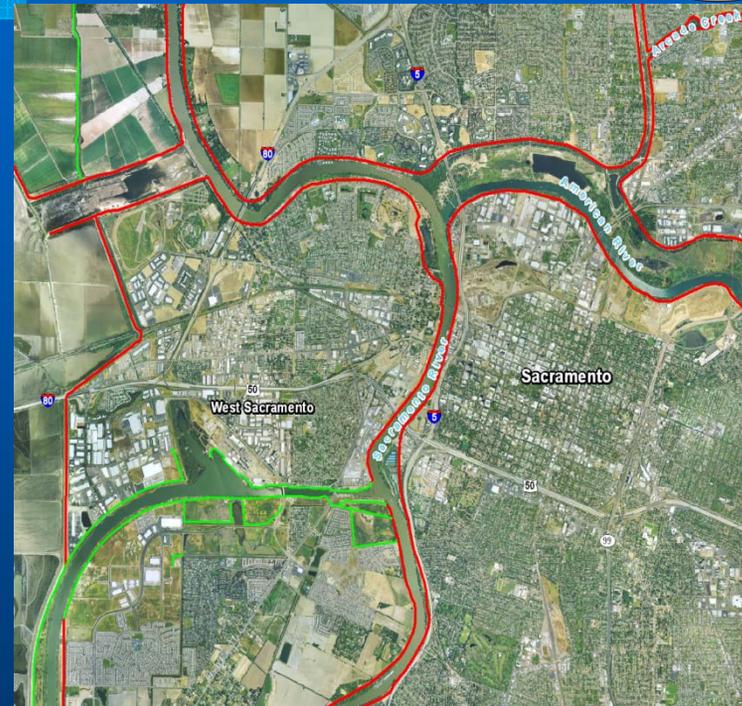
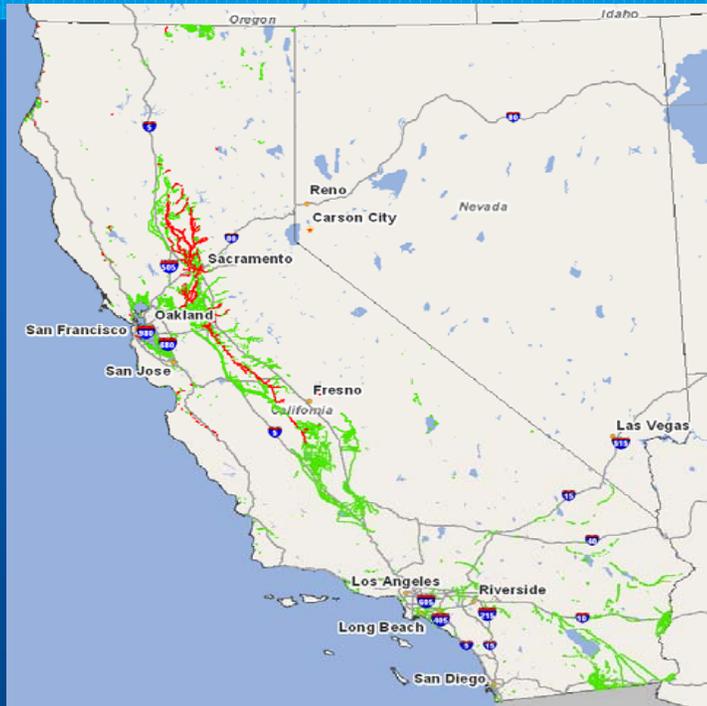
- **13,000 Miles Of Data Collected For Levee And Levee Like Structures**
- **92% Completed For Levees In The SPFC**
- **85% Completed For Other Federally Sponsored Levees**
- **71% Completed For Local Levees**

California Levee Database



- **CLD Is Compatible With USACE National Levee Database**
- **Development Of Levee Attribute Tables**
- **Web-viewer For GIS Products Under Development**
- **Field Verification Of 14,000 Miles Of Levees Being Conducted**

Levee Centerlines



- Document sources of spatial data
- Document relative accuracy of data
- Develop basic data standards

- Develop data in one projection
- Enterprise data model developed
- Data compiled in an Oracle RDBMS

7,871 Borehole Locations Collected & Digitized



Legend

- Federal Levee
- Non-Federal Levee
- Proposed Borings
- Borings with Media
- Borings without Media
- NLD Borings
- River Mile
- NLD Flood Fight
- NLD Levee Failure
- NLD Sand Boil



USACE National Levee Database Features



Levee Flood Protection Zone



- Area Protected By A Project Levee
- Estimating Area That Could Be Flooded If A SPFC Levee Fails

www.water.ca.gov/myfloodrisk

Floodplain Risk Management Program

Functional Area Elements



Element 4: Floodplain Risk Notification

- **Highlighted Activities: Levee Flood Protection Zones and Parcel Database, Annual Flood Risk Notification**
- **Budget Allocations:**
- **Coordination with Other Groups (FEMA, USACE, Cal EMA, CVFPB, Local Communities)**
- **Looking Forward:**
 - **Develop And Incorporate Area Specific Flood Risk Information In Annual Flood Risk Notification**

Risk Notification



- California Water Code §9121:
Annual Written Notice
- California Water Code §9130:
Levee Flood Protection Zones

www.water.ca.gov/myfloodrisk

Risk Notification



- For The Past Two Years (2010~2011), DWR Mailed Over 277,000 Notices To Over 350,000 Parcels.
- Flood Risk Notice Readership Survey.
- Future Action
 - Update Levee Flood Protection Zone Maps When Appropriate
 - Pursue Partnerships With Local Agencies
 - Provide Risk Notification Statewide
 - Expand Flood Risk Communication Via Multi-media

FLOOD RISK NOTICE 2011

Living With Levees: Know Your Flood Risk

Be Aware. Be Prepared.
www.water.ca.gov/myfloodrisk



Dear Property Owner:

Your property is located behind a State-Federal project levee. According to our records, your property located at _____ may be exposed to potential flood risk from the _____. Your property may also be at risk for flooding from other sources not identified in this notice, such as creeks and local storm drains.

Visit www.water.ca.gov/myfloodrisk and enter your property address to find the areas subject to flooding if State-Federal project levees should fail, and to get information on the condition of the levees.

Be aware of your flood risk and be prepared. Read this notice for important information about purchasing flood insurance, emergency planning, and protecting your property.

Consider these facts:

- Local, state, and federal agencies are continuing to improve the State-Federal project levee system. But there will always be some flood risk.
- Levees may reduce, but do not eliminate, the risk of flooding.
- When levees break or overtop, the flooding can be catastrophic.
- One foot of flooding could cause more than \$54,000 in damages to a \$150,000 single family home and its contents; three feet of flooding could cause more than \$93,000 in damages, (Source: CA Department of Water Resources).
- Flood damage is not covered by most standard home and business owners insurance policies.

Please share this important notice with your tenants. If necessary, have it translated.

Esta notificación contiene información importante. Por favor compártala con sus inquilinos, o tradúzcala si es necesario.

Para preguntas llame al: 1.877.769.7475

O visite: www.water.ca.gov/myfloodrisk

Click Here
To Enter Your
Property Address



PRESORTED
STANDARD
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SACRAMENTO, CA
PERMIT NO. 690

Flood Risk Notification Program
California Department of Water Resources
P.O. Box 942836
Sacramento, California 94236-0001



Partners with:



FEMA



US Army Corps
of Engineers



Under State law, DWR is notifying you each year that
your property is at risk for flooding.



TAKE ACTION - REDUCE YOUR FLOOD RISK



BE PREPARED

- Prepare an emergency kit that includes a flashlight, battery-operated radio, extra batteries, candles, matches, first-aid kit, medication, blankets, water, and food.
- Keep important documents and priceless possessions on an upper level of the structure or as high as possible.
- Ask your local officials if they have a flood warning system, evacuation routes, and designated shelters. Many local agency links are available at www.water.ca.gov/myfloodrisk.
- Make a list of items to take with you and have a plan for your pets.
- Know how to shut off your gas and electricity if instructed to do so. Contact your local utility company for detailed instructions.
- Be sure to take your emergency kit and copies of your important documents with you when you evacuate.
- Always listen to authorities for emergency instructions.
- Pick a safe place on high ground where your family can meet and have a telephone call-in number in case you are separated.
- Never try to escape rising floodwater by going into the attic unless you have roof access.
- Never drive through flooded streets or roads; more people die in their vehicles during a flood than anywhere else.¹
- Stay away from power and electrical lines; electrocution is the second most frequent cause of death during flooding.

13

The number of people who died in the 1986 floods.¹

BUY FLOOD INSURANCE

- Contact your insurance agent or call the National Flood Insurance Program at 1-888-435-6637; you can also visit www.water.ca.gov/myfloodrisk
- Flood insurance is a wise investment. Ask your insurance agent if you qualify for a low cost Preferred Risk Policy (PRP) or a Community Rating System (CRS) discount.
- Review your insurance policies annually to be certain that you have the right type and amount of coverage you need.
- Renters can purchase coverage for contents.
- Don't delay! There is usually a 30-day waiting period before flood insurance becomes effective.

PREVENT PROBLEMS

- Never fill, excavate, landscape, plant, irrigate, modify, or place any improvement on any levee or flood control easement without permits from the appropriate local, state, and federal agencies.
- Always check with your local building, zoning, or permit department to see if a permit is required before you build on, fill, alter, or re-grade your property.
- Keep trash, branches, and grass clippings away from levees, channels, basins, ditches, gutters, and storm drain inlets. A blockage can back up water onto your property.
- Contact your local officials if you see unauthorized dumping, filling, construction, or debris in your ditches or basins.

PROTECT YOUR PROPERTY

- Order FEMA's free Homeowner Guide to Retrofitting: *Six Ways to Protect your House from Flooding (FEMA P-312)* by calling 1-800-480-2520 or visiting www.water.ca.gov/myfloodrisk.
- If your building has a crawlspace or is built on foundation piers or pilings, elevate the building so the first floor is above potential flood levels.
- If your existing building is on a slab foundation and subject to less than three feet of flooding, consider a low floodwall, berm or "dry floodproofing" (example: make the walls water tight and close all openings when a flood comes).
- For a garage or crawlspace, consider "wet floodproofing" (example: move all items out of harm's way, so water can flow in without causing damage).
- If you cannot protect the building, protect valuable contents. Relocate your furnace, water heater, and electric panel above the potential flood level.
- Financial assistance may be available for retrofitting. To get more information on sources of financial assistance for which you may be eligible go to www.water.ca.gov/myfloodrisk.

For More Information/Questions

www.water.ca.gov/myfloodrisk
myfloodrisk@water.ca.gov

1-877-7MY-RISK (1-877-769-7475)
TTY: 711 (Contact 1-877-769-7475)

70+

The number of times Central Valley State-Federal project levees have been breached or overtopped since 1983.¹

\$2.6

Billion in damages caused by the 1997 floods.¹

¹ Sources – Office of Emergency Services (OES), Origins and Development – A Chronology 1917 – 2010 and OES After Action Reports; FEMA: California Disaster History, State of California Multi-Hazard Mitigation Plan, October 2010; USGS Earthquake Hazards Program, Deaths from US Earthquakes; National Oceanic and Atmospheric Administration (NOAA), National Climatic Data Center (NCDC) Storm Data Annual Summaries; Geotechnical Assessment Report, North Non-Urban Levee Evaluations (NULE) Project, Final Report of the Flood Emergency Action Team (FEAT), Post-Flood Assessment for 1983, 1986, 1996, and 1997; CA DWR



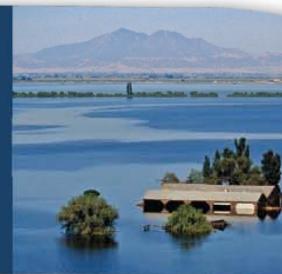
1. True or False?

Even if a levee is designed for the FEMA standard of a 1% annual chance flood, there is a 1-in-4 chance of a larger flood occurring within any 30-year period.¹



2. True or False?

From 1960 to 2005, more Californians died during flood disasters than during earthquakes.¹



3. True or False?

For many Central Valley homes, the risk of flood damage is greater than the risk of fire damage over the life of a 30-year mortgage.¹



Floodplain Risk Management Program

Functional Area Elements



Element 5: Floodplain Risk Planning

- **Highlighted Activities:**

- **Building Codes**
- **Integrated Flood Planning**
 - CWP, SFMP, CVFPP, ULOP, FMA, and ASFPM
- **Legislation and Policy Support**
 - State and Federal Executive Order, White Papers, Federal Working Groups and Committees
- **Alluvial Fan Flood Planning**
- **Hazard Mitigation Grants**

Floodplain Risk Management Program

Functional Area Elements



Element #5- Floodplain Risk Planning (continued)

- **Coordination with Other Groups (Broad array of state and federal agencies)**
- **Looking Forward:**
 - Apply for additional competitive FEMA Hazard Mitigation grants for FloodSAFE supported mitigation projects.
 - Assist with the implementation of recommendations from the Statewide Flood Futures Report.
 - Work with FloodSAFE to propose an update of State Floodplain Management EO B-39-77.
 - Develop new voluntary building codes for additional occupancy groups.



Building Standard Codes Update Project

- Mandated to develop and submit Building Standards Code update to improve public safety and reduce flood damage potential for buildings in areas receiving protection from the CVFPP facilities
- Multi-year / multi-Code cycle effort
- First Code cycle, DWR proposes:
 - Flood Evacuation Location above the 200-year water surface elevation
 - Flood vents to reduce structural collapse (by reducing hydrostatic differential on walls)

Flood Risk
Planning



Example of home meeting proposed Code where multi-purpose sun deck is Flood Evacuation Location

Building Codes Website



www.water.ca.gov/BuildingCode

Hazard Mitigation Assistance Program



- **Technical Assistance**
- **Submitted Preliminary And Final Grant Applications To Raise 5 Homes**
- **Awarded Hazard Mitigation Grants**
 - **Santa Barbara County Flood Hazard Analysis**
 - **Southern California Debris Basin**

Floodplain Risk Management Program Accomplishments



- In federal FY 2010/2011 completed 35 NFIP community audits and conducted 29 FPM workshops.
- Since 1990 California FPM Program has received four awards from the Association of State Floodplain Managers.
- In 2010 the California Building Standards Commission adopted FPM-developed voluntary flood risk reduction building codes for occupancy groups R-3 and R-3.1.
- Obtained FEMA competitive hazard mitigation grants for the Alluvial Fan Task Force, Santa Barbara County HAZUS study and Southern California Debris Basin Study.
- FEMA grant application submitted for the raising of five flood damaged homes in Placer and Sutter Counties.
- FPM staff have served and continue to serve on federal working groups and committees including the Federal Interagency Floodplain Management Task Force PAC and the FEMA/ASTM Flood Damage Resistant Materials Task Force

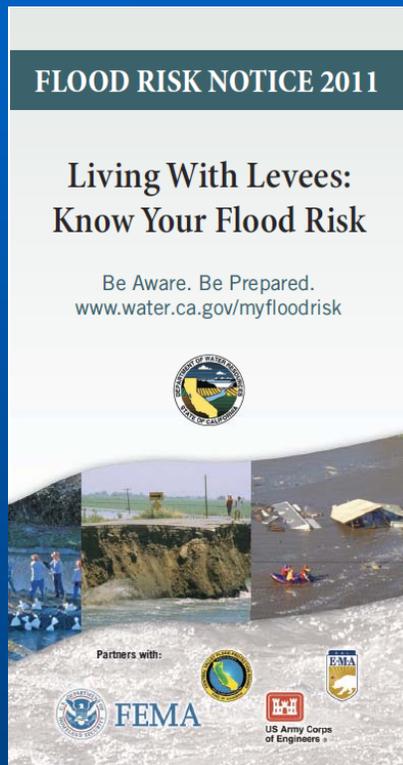
Floodplain Risk Management Program Accomplishments



Integrating Flood Management into the CWP Update 2009

- **Developed New Flood Risk Management Strategy**
- **Expanded Regional Reports to Reflect Flood Management**
- **Enhanced CWP Advisory Committee and Broader Participation of Flood Interest**
- **Supported Growth Of California-Hawaii-Nevada Floodplain Management Association**
- **Support Development of State Multi-Hazard Mitigation Plan and Updates**

Floodplain Risk Management Program Accomplishments



In 2010 and 2011 mailed approximately 272,000 Flood Risk Notices to property owners protected by the SPFC.



In 2011 and 2012 the American Planning Association awarded the DWR handbook entitled "Implementing California Flood legislation into Local Land Use Planning" regional and statewide awards for excellence.



Questions?