



Levee Vegetation Management Strategy

of the

Central Valley Flood Protection Plan

Cassandra Nguyen Musto, PLA
Division of Flood Management
October 17, 2012

PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

August 22, 2012. Corps announces ineligibility of 17 levee systems for PL 84-99, levee rehabilitation assistance



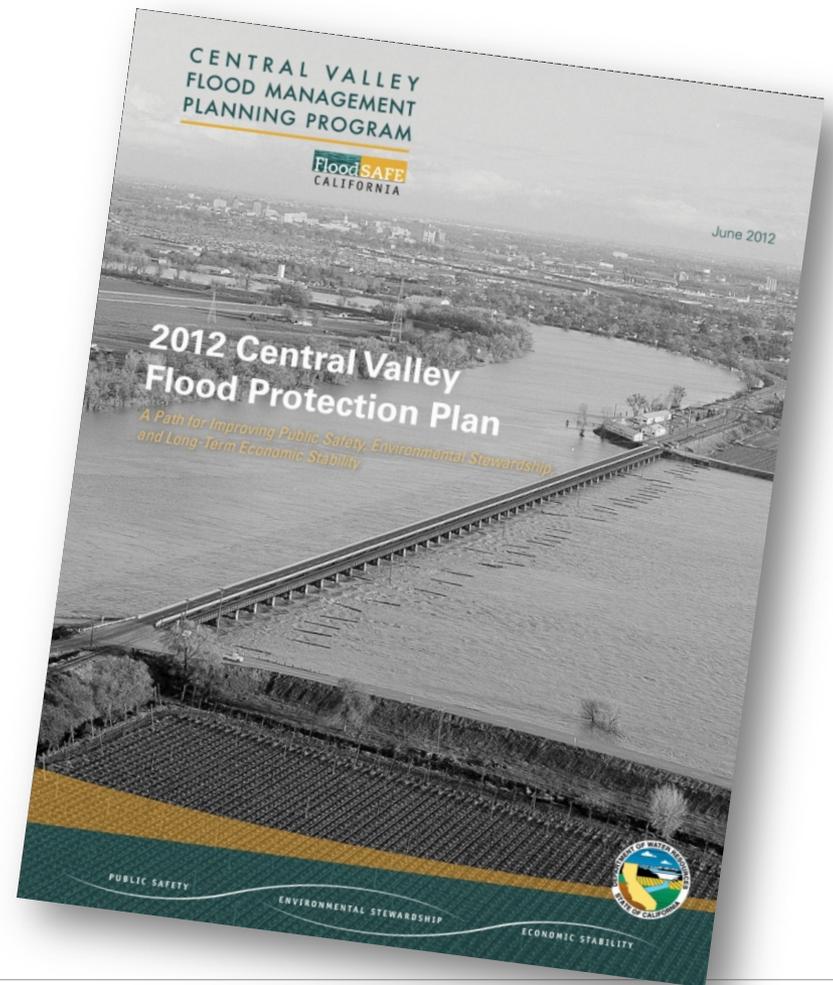
Timeline of Events

2007	2008	2009	2010	2011	2012
<p>USACE releases "Draft Final White Paper - Treatment of Vegetation within Local Flood-Damage-Reduction Systems"</p> <p>2007 Levee Vegetation Symposium held</p> <p>California Levee Roundtable established</p>		<p><i>California's Central Valley Flood System Improvement Framework</i> (Framework) released</p> <p>ETL 1110-2-571 issued</p> <p>California Levee Vegetation Research Program (CLVRP) begins</p>	<p>Draft policy guidance letter (PGL) released: "Process for Requesting a Variance from Vegetation Standards for Levees and Floodwalls"</p>	<p>System-Wide Improvement Framework Policy (SWIF) proposed</p> <p>Draft Central Valley Flood Protection Plan (CVFPP) released</p>	<p>Updated PGL released</p> <p>DWR comments on PGL</p> <p><i>Central Valley Flood Protection Plan</i> adopted</p> <p>Levee Vegetation Research Symposium 2012 held</p>

2005: Hurricane Katrina

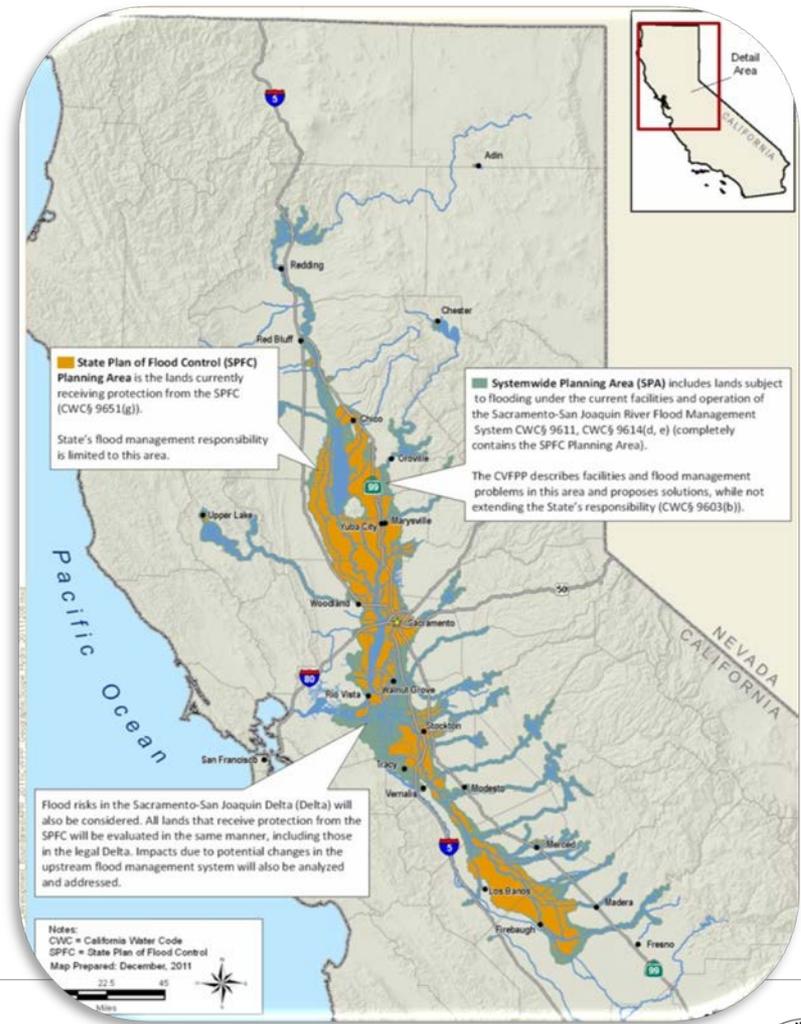
Central Valley Flood Protection Plan

The 2012 Central Valley Flood Protection Plan (CVFPP) reflects the State's systemwide investment approach for flood management improvements in the Central Valley

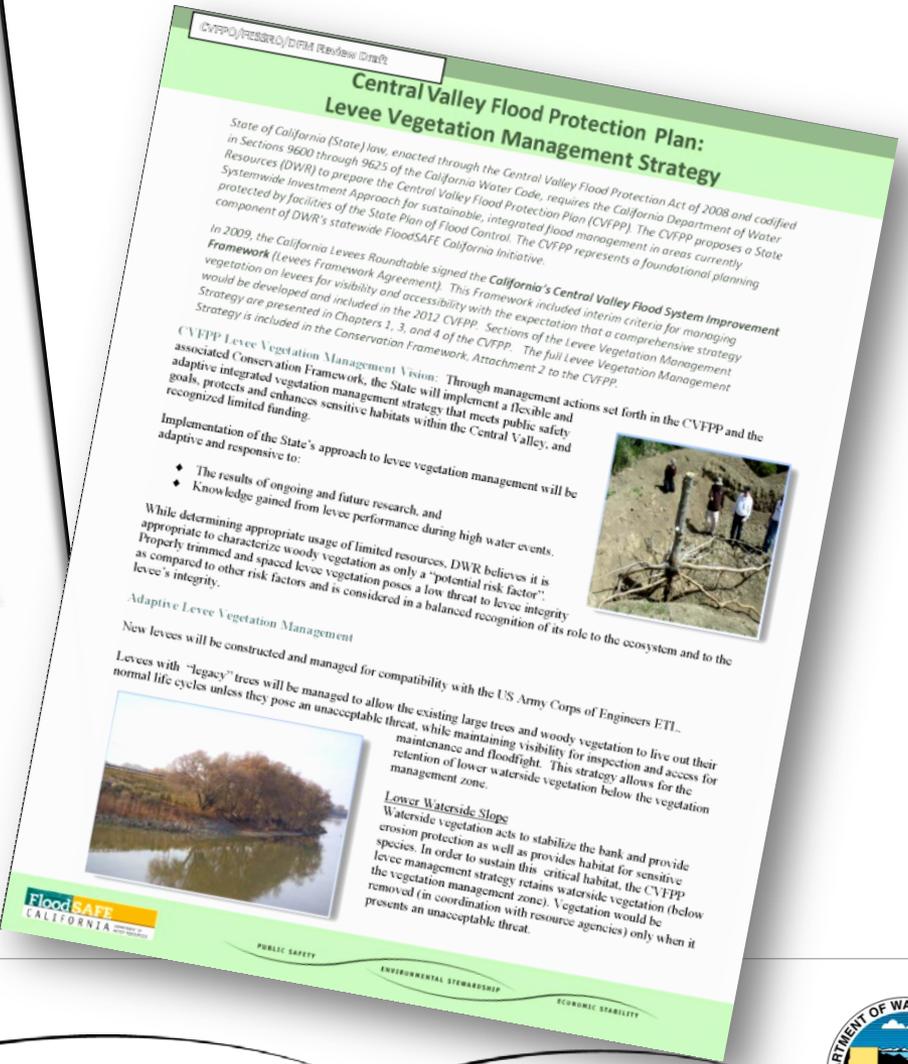
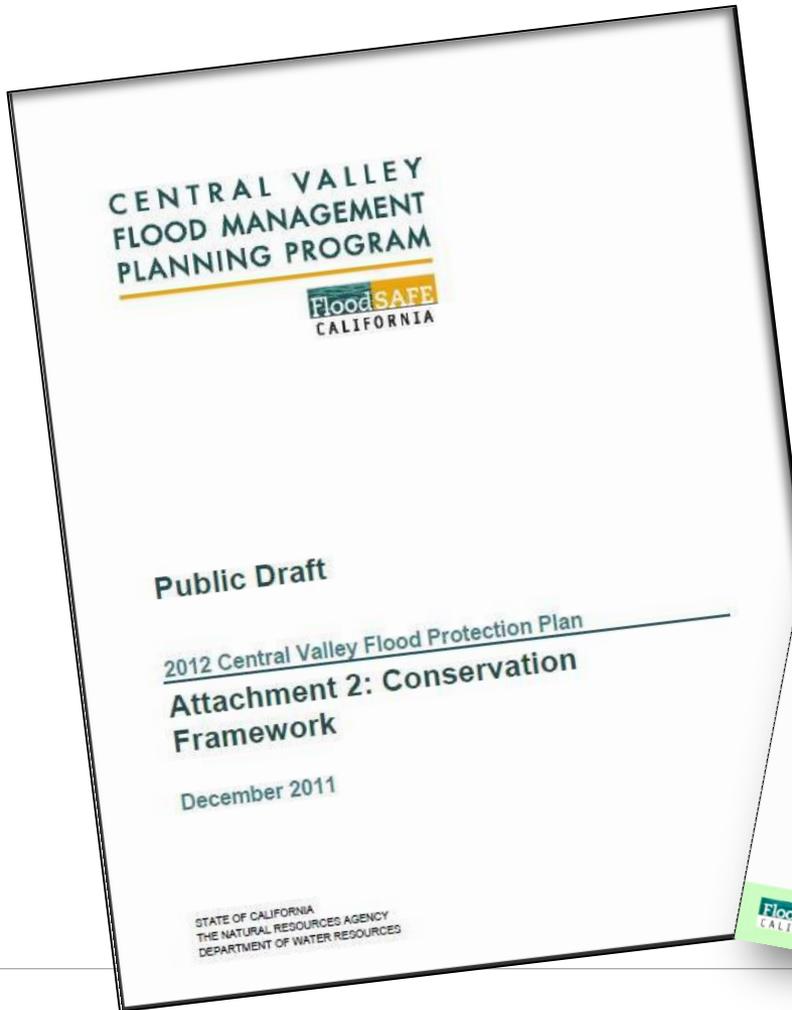


Central Valley Flood Protection Plan

- Focus on lands protected by facilities of the State Plan of Flood Control
- Prepared in coordination with other integrated water management efforts
- Systemwide perspective
- Recognizes State's 3 fundamental interests



CVFPP Conservation Framework



Levee Vegetation Research Symposium

August 28-30, 2012
Sacramento, CA



U.S. & International Speakers



Brig. Gen. John McMahon
(Retired), Moderator



Uwe Kleber-Lerchbaumer,
Bavaria Environment Agency



Michelle Shiro,
UC Berkeley PhD Candidate



Dr. Juliana Birkhoff,
RESOLVE



Panel Discussions



Jonathon Simm, HR Wallingford,
International Levee Handbook



Dr. Gerald Bawden, USGS

Research Discussions



Tree root architecture



Tree root interactions with cutoff walls



Seepage and stability related to roots



Tree windthrow



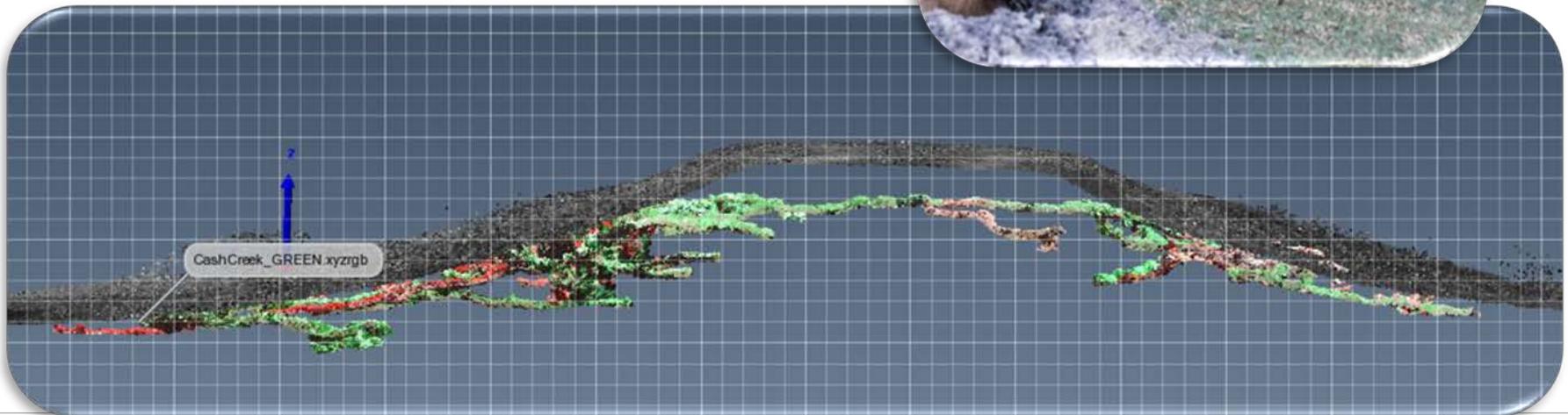
Burrowing mammal habitat associations/grouting efficacy



Levee failure forensics

Symposium take away points

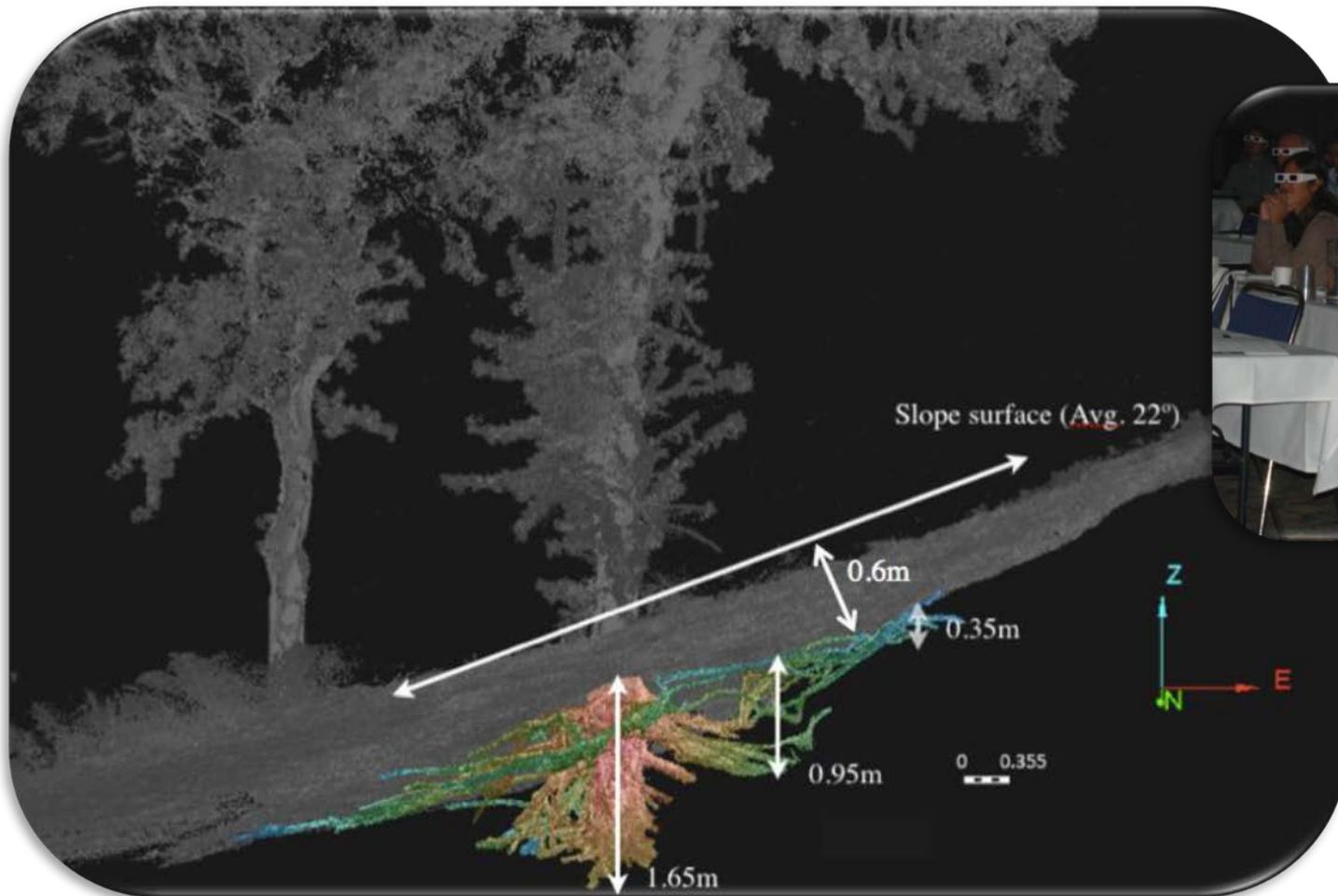
- Vegetation poses a relatively low risk to levee stability.
- Develop regionally and locally relevant science and expertise.
- Presence of trees tended to reduce number of burrows



Waterside

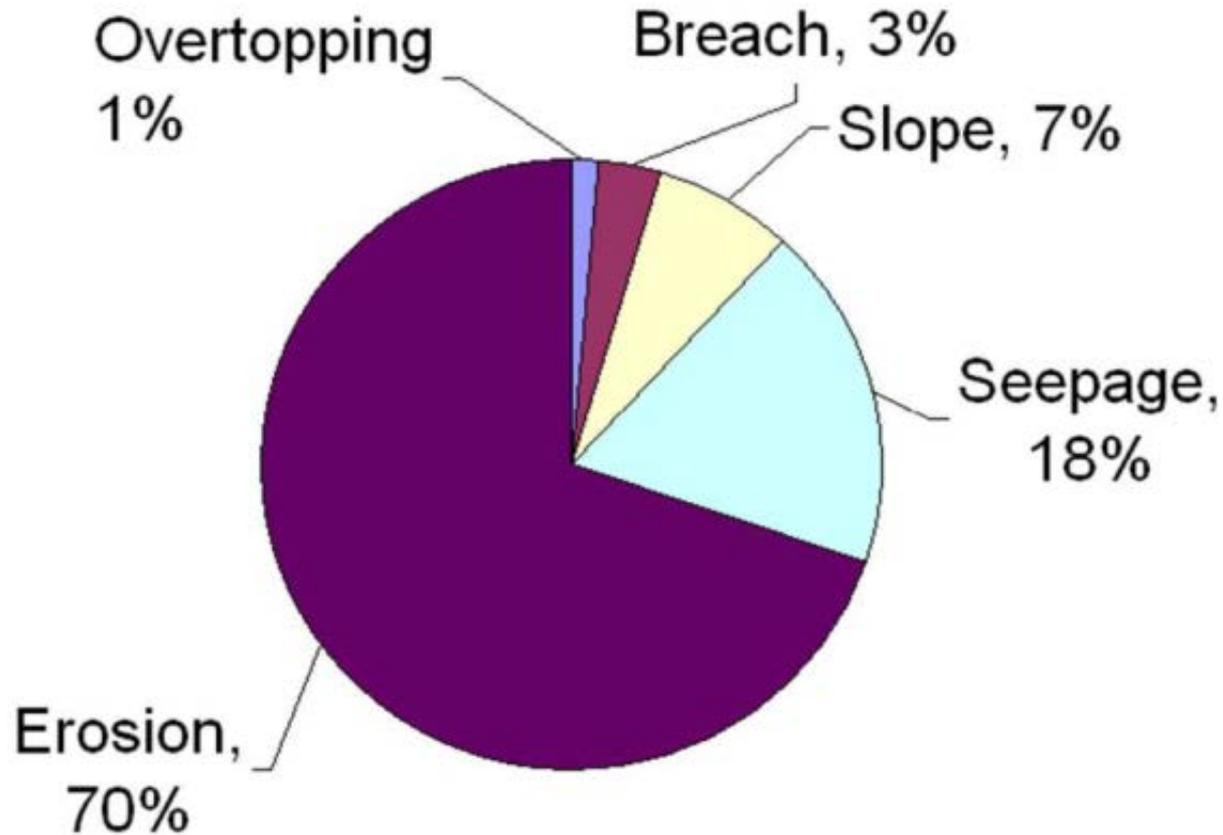
Landside

Symposium take away points



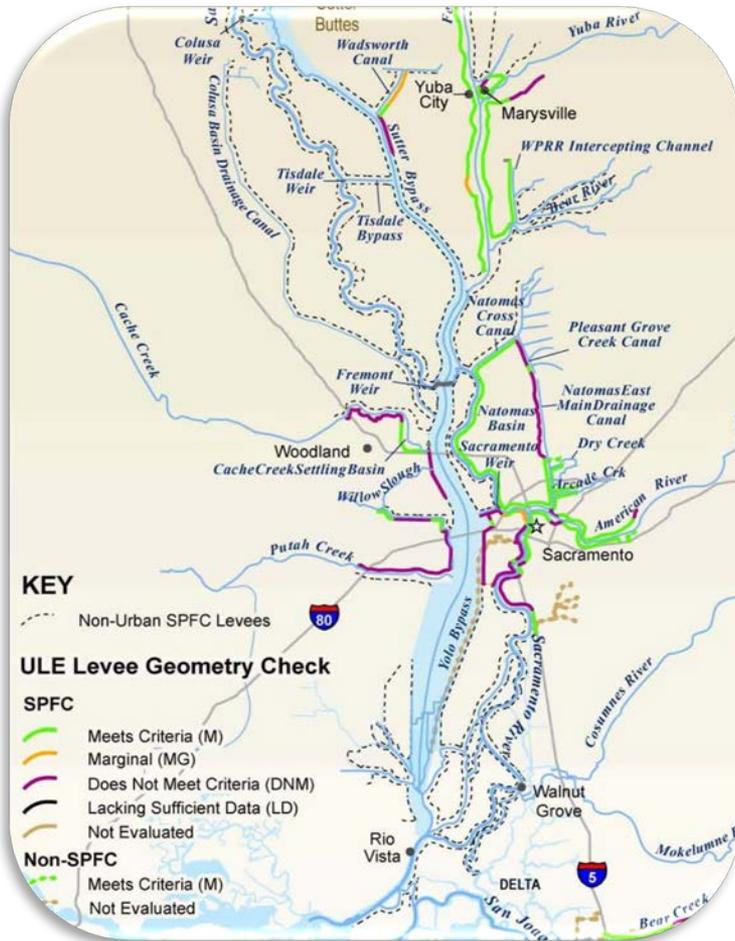
- California research effort is transformational and unique

Symposium take away points



Note: No failures attributed to levee vegetation

Roles & Responsibilities



Systemwide stewards



Maintaining agency/First responder

DWR's Roles & Responsibilities



Routine maintenance



Scientific research



Evaluations and inspections

PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

Path Forward

The CVFPP will guide the discussion for improving maintenance and operations activities by addressing high risk issues first.

“The most important first.”

