

Department of Water Resources

Levee Vegetation Management Strategy

A Path to Compatibility



PUBLIC SAFETY

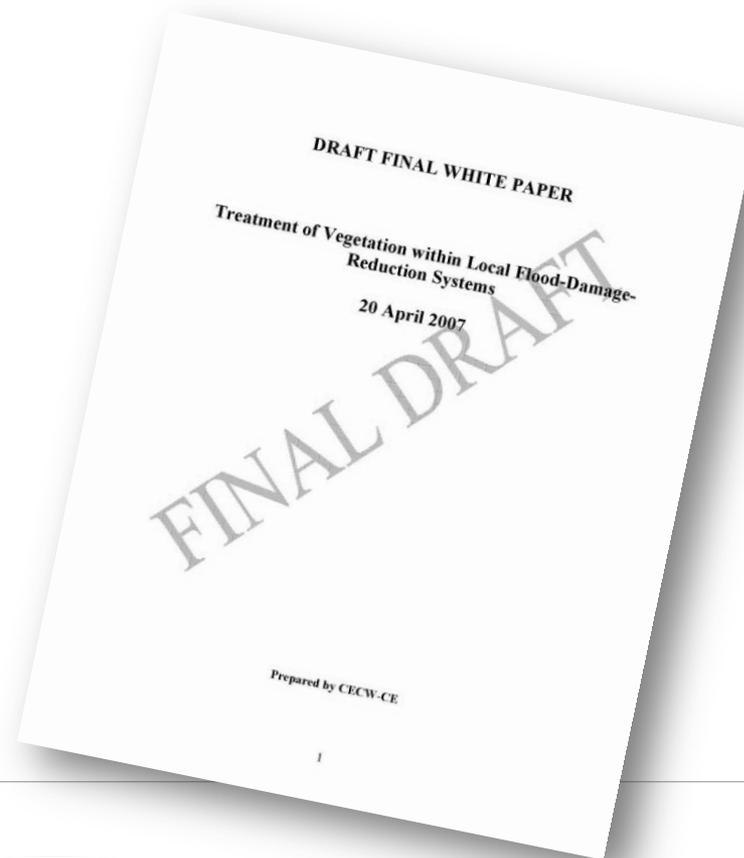
ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

DWR Levee Vegetation Mgmt Strategy

Corps Levee Vegetation Policies

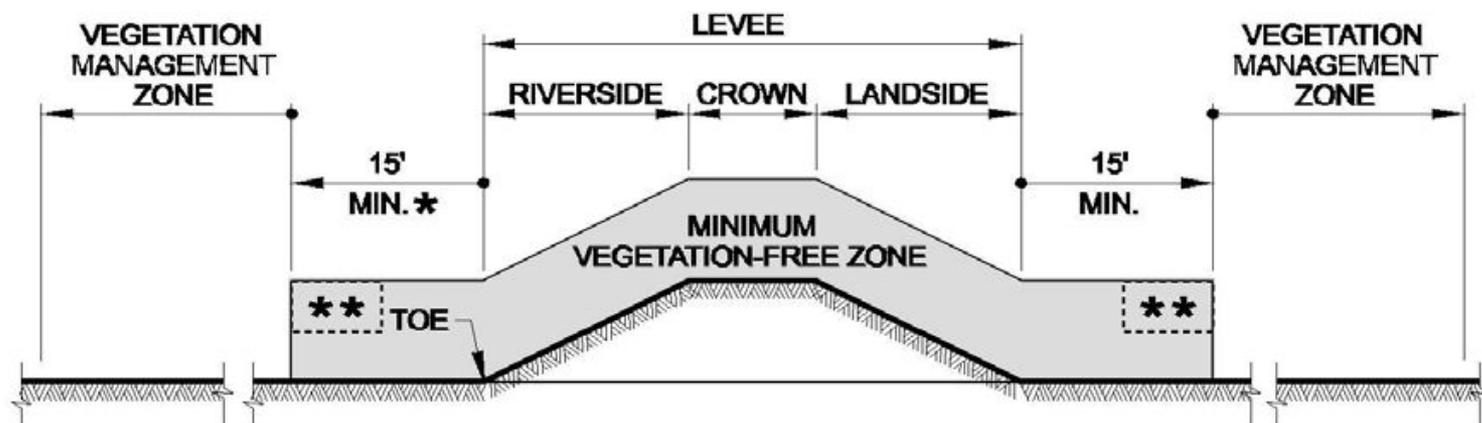
2007 – Corps issues
White Paper



Corps Levee Vegetation Policies - ETL

April 2009 - Engineering Technical Letter 1110-2-571 (ETL) issued

- National one-size-fits-all policy
- Requires stringent vegetation removal
- Impacts to endangered species are high



Corps Levee Vegetation Policies - ETL

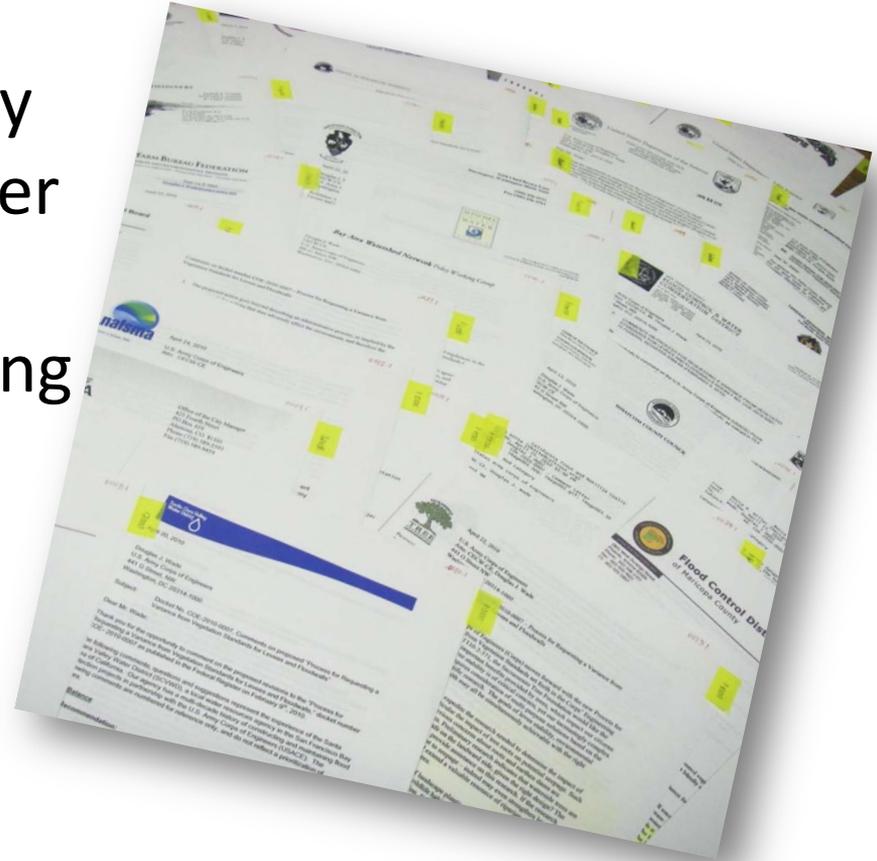
- Extremely high cost with minimal improvement to public safety
- Does not recognize challenges of legacy levee vegetation



Corps Levee Vegetation Policies - PGL

February 2010 - Draft Vegetation Variance Policy (*aka* Policy Guidance Letter - PGL) proposed. PGL allows retention or planting of vegetation

- Increases regulatory burdens and analytical requirements for maintaining agencies
- Hundreds of opposing comments are generated



Corps Levee Vegetation Policies - SWIF

November 2011 - System-Wide Improvement Framework (SWIF) issued

- Intended to address PGL restrictions and allow “worst-first” approach to levee improvements
- Requires upfront commitment that eventually all trees will be removed unless variance in place



Corps Levee Vegetation Policies - SWIF



2001



2011

- Levee vegetation treated as maintenance issue regardless of why it is there

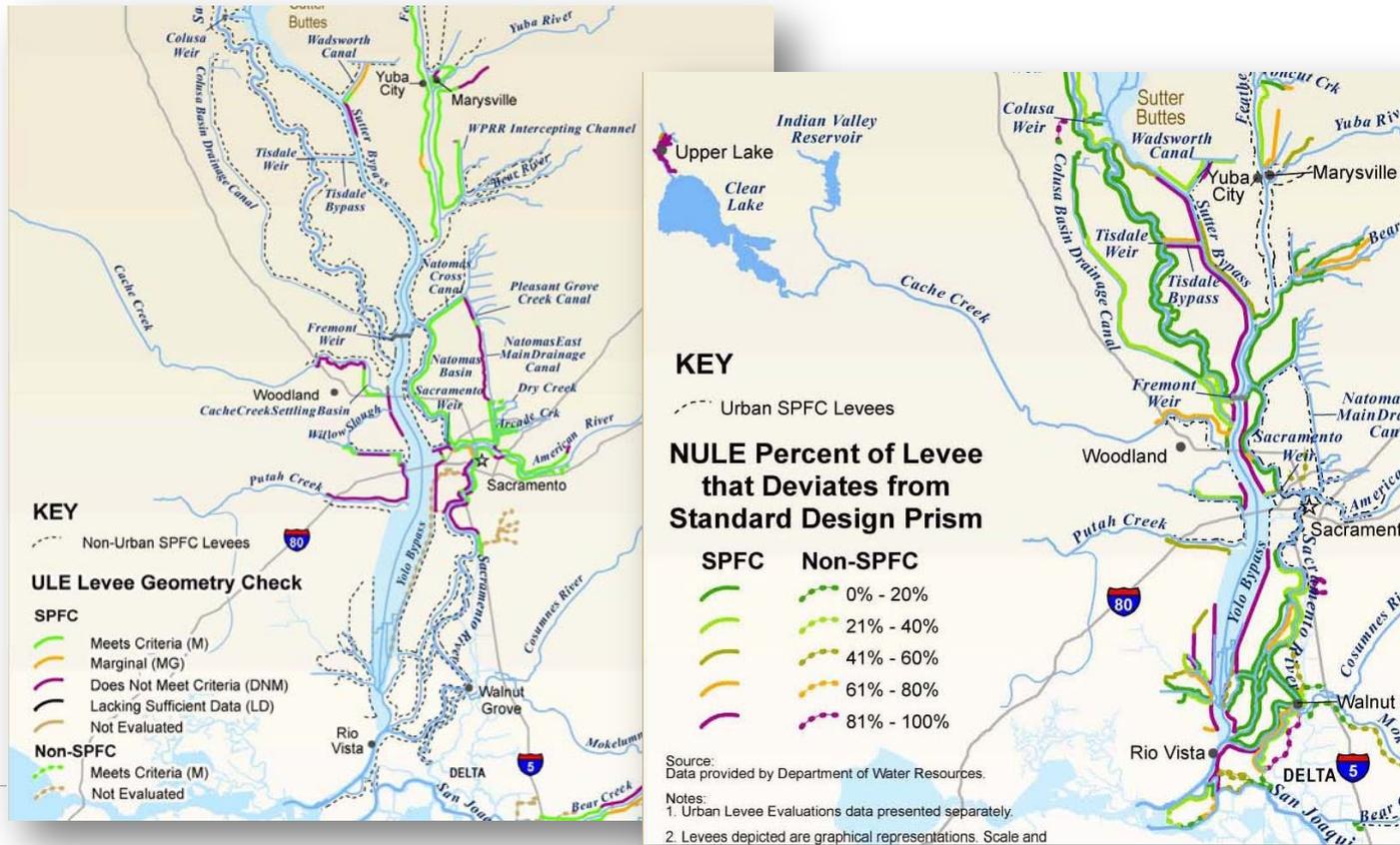
Corps Levee Vegetation Policies - PGL

February 2012 - 2nd draft PGL issued. Key concerns from 2010 PGL remain:

- Extensive application requirements remain
- Regional variances still not allowed; still need to analyze every levee reach
- No variances allowed except where levee meets design criteria

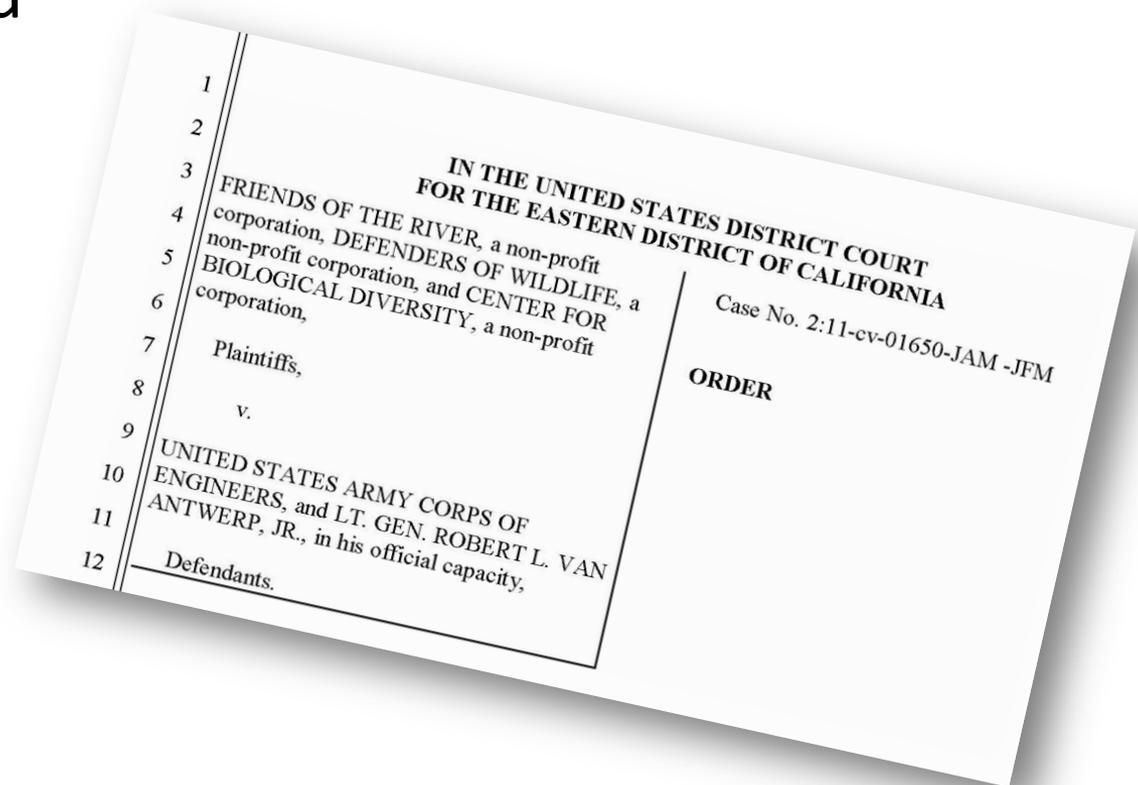
Corps Levee Vegetation Policies - PGL

- Significant portions of system in Central Valley do not meet levee design criteria



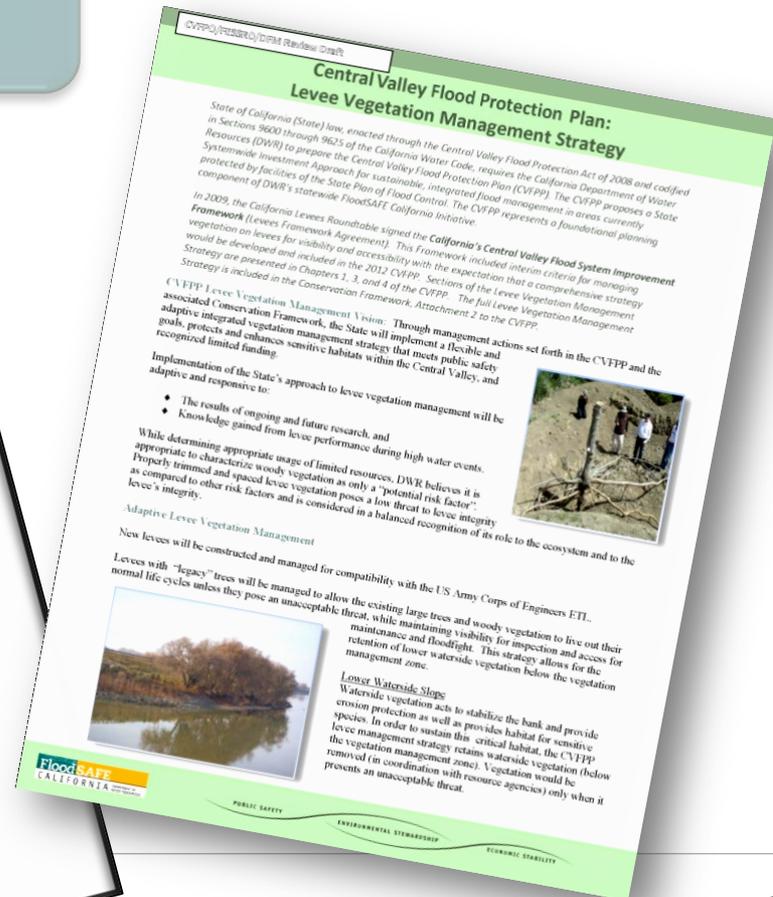
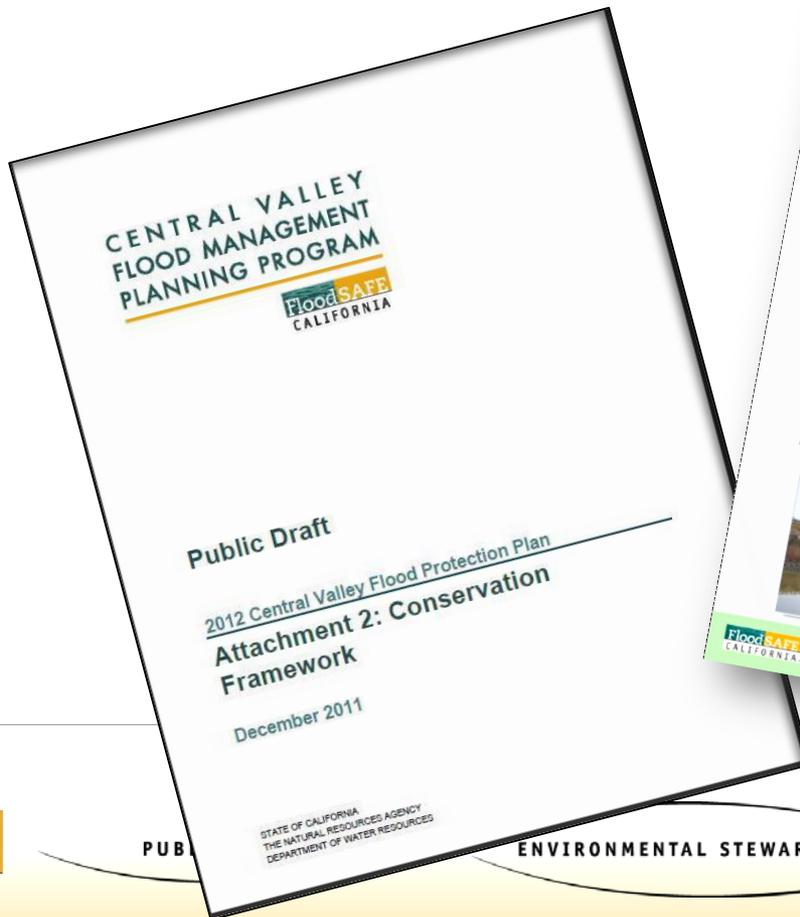
Corps Levee Vegetation Policies - PGL

- Vegetation allowed only on lower 2/3 of slope on waterside of levee
- NEPA and Endangered Species Act not addressed by PGL



DWR Levee Vegetation Management Strategy

DWR's Levee Vegetation Management Strategy



DWR Levee Vegetation Management Strategy

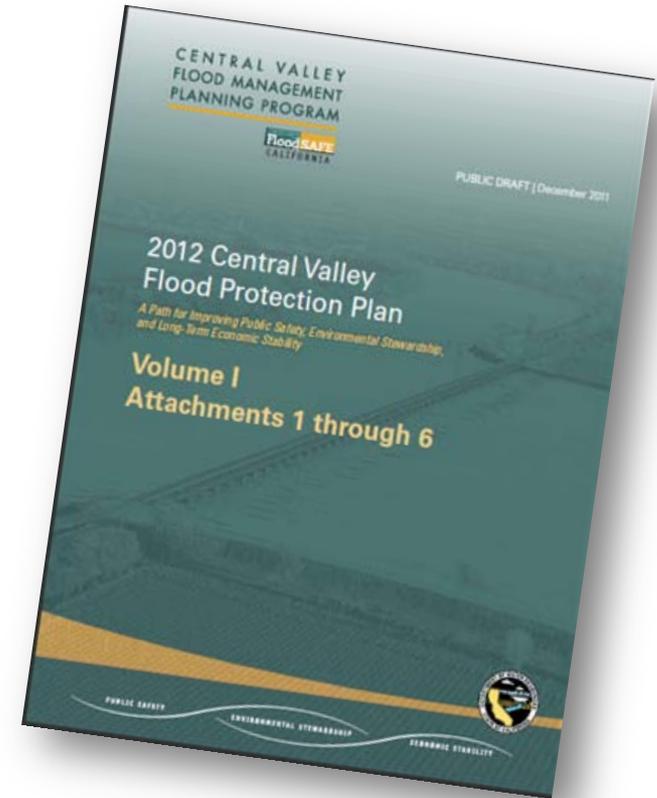
2007 - California Levees Roundtable formed in response to Corps' White Paper

- 2009 - *California Central Valley Flood System Improvement Framework* issued
 - Corps agreed to continue PL 84-99 eligibility until Central Valley Flood Protection Plan completion
 - Maintaining agencies agreed to improve vegetation management practices



Central Valley Flood Protection Plan

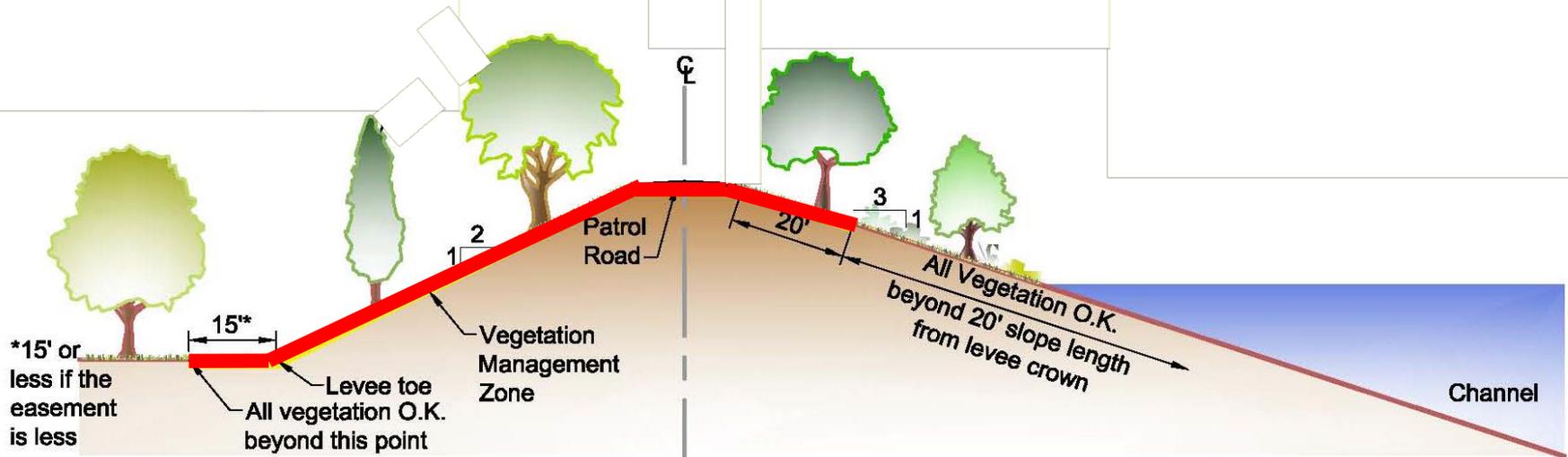
- Includes risk assessment and adaptive levee vegetation management
- Protects public safety
- Enhances sensitive habitat
- Recognizes limited public funding
- Includes Conservation Framework that supports the Levee Vegetation Management Strategy



Levee Vegetation Management Strategy

Levee Vegetation Management Zone

- Maintain visibility and accessibility for inspection and flood fighting
- Utilizes Life Cycle Management



Levee Vegetation Management Strategy

Life Cycle Management

- Existing trees on levee slope live out normal life cycle
- Trees and brush smaller than 4" in diameter are removed



Levee Vegetation Management Strategy

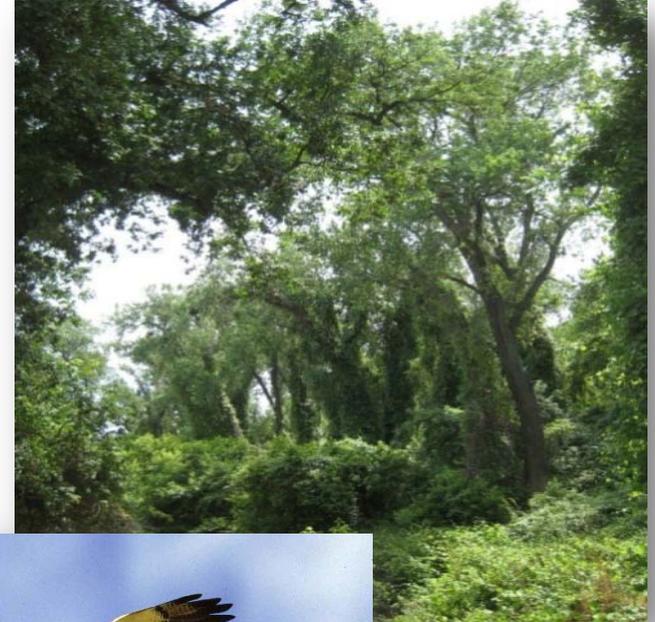
Lower Waterside Levee Slope

- Retains lower water-side levee slope vegetation
- Provides bank stabilization and erosion protection
- Protects habitat for sensitive species



Levee Vegetation Management Strategy

- Includes establishment of riparian forest corridors to compensate for potential loss of habitat
- Continues to expand scientific research on effects of vegetation on levees

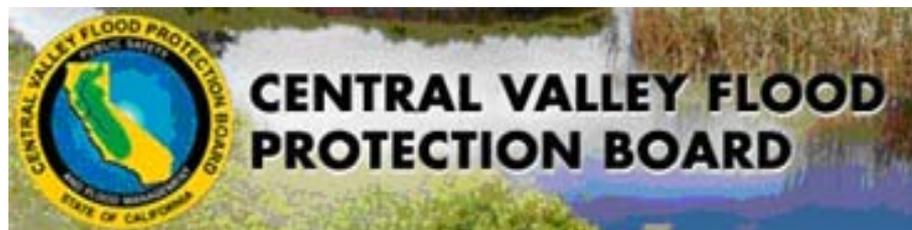


Levee Vegetation Research

2009 - the CA Levee Vegetation Research Program (CLVRP) was developed by a group of public agencies and stakeholders



Sacramento
Area Flood
Control
Agency



Levee Vegetation Research



Tree Root Architecture



Tree Root Interactions with Cutoff Walls



Seepage and Stability



Tree Windthrow



Burrowing Mammal Habitat Associations



Levee Failure Forensics

Levee Vegetation Research



August 28-30, 2012
Sacramento, CA

Path to Compatibility

DWR's Levee Vegetation Management Strategy

- Works toward compatibility with the Corps' vegetation policy
- Applies adaptive management based on research and performance
- Prioritizes resources to ensure public safety and preserve sensitive habitats

Path to Compatibility

Compatibility between Corps and State policies is dependent upon a practical and workable variance process that provides flexibility.

