



The Backbone of Sustainable Communities: Infrastructure and Healthy Ecosystems

Regional Advance Mitigation Planning

Adopting a Better Mitigation Paradigm

- Status quo:
 - Postage stamp protection on-site
 - Lost regional opportunities due to conversion of lands
 - Infrastructure project delays
 - More expensive mitigation
- A solution: regional advance mitigation planning



RAMP Benefits

- **Protection of landscape scale ecosystems and ecosystem function**
- **Support of regional conservation priorities**
- **Advanced timeframe**
- **Faster and more efficient project delivery**



Agency and Stakeholder Coordination



**US Army Corps
of Engineers**®
Sacramento District

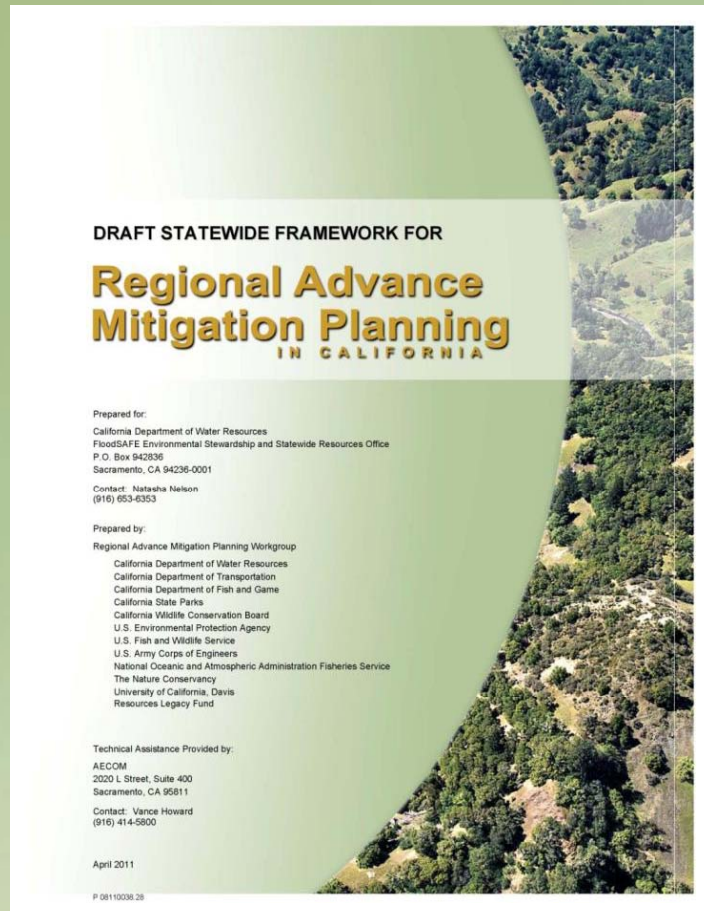


**The Nature
Conservancy** 
Protecting nature. Preserving life.™



RESOURCES LEGACY FUND

RAMP Documents

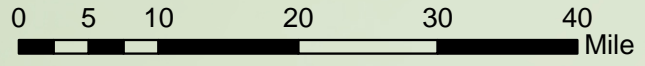
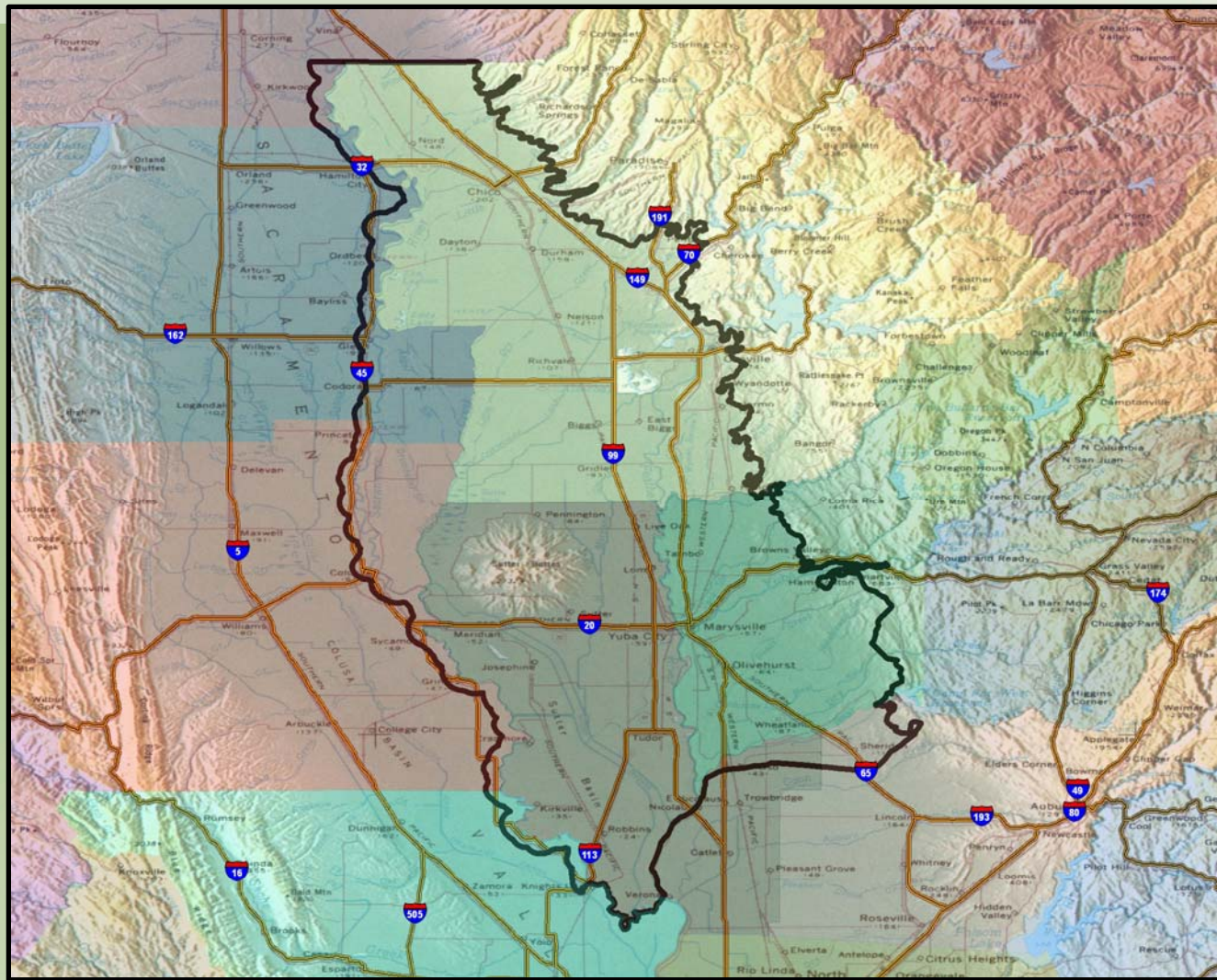


Models and Method

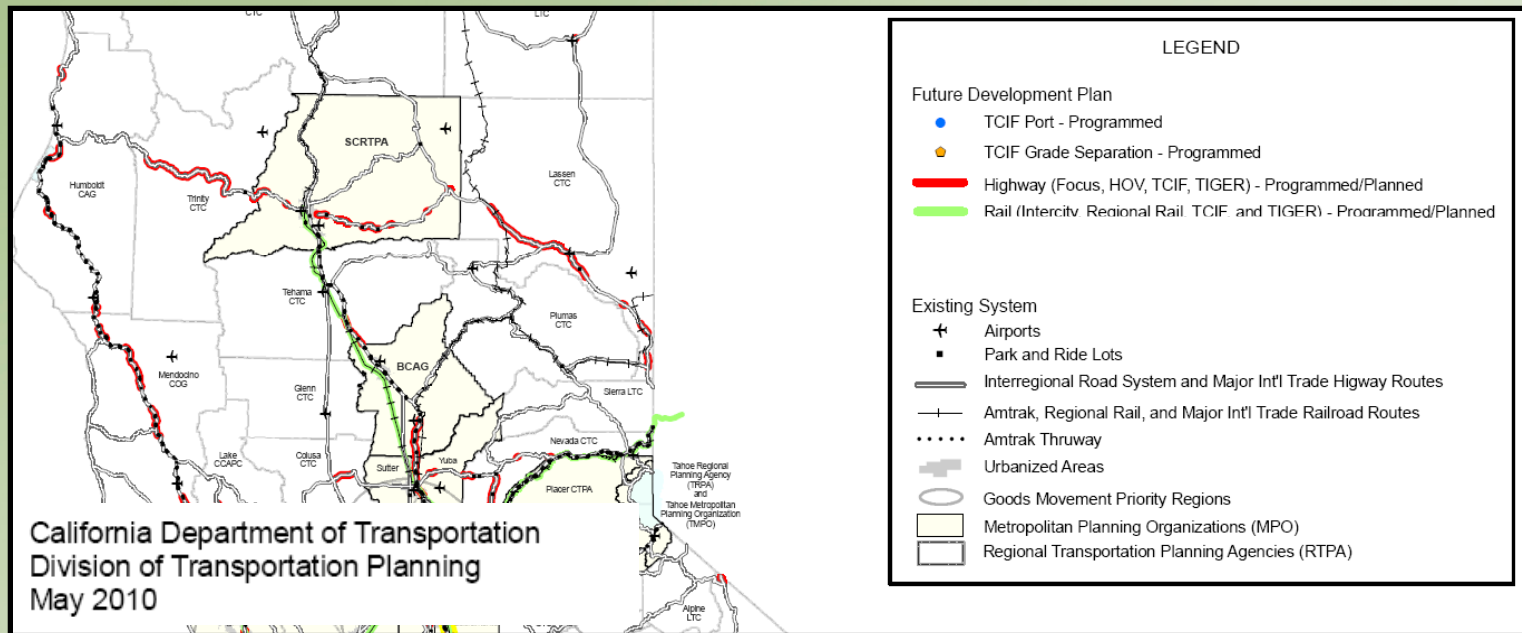
- Other models
- Pilot project
- Policy solutions



RAMP Pilot Area



Possible Infrastructure Projects in Pilot Area



Mitigation Needs for Pilot Area

- Federal Wetlands
- Species (up to 20) with examples of:
 - VELB
 - GGS
 - Bank Swallow
- Bank and bed of streams
- Sensitive Habitat Types
 - Riparian Forest
 - Valley Oak



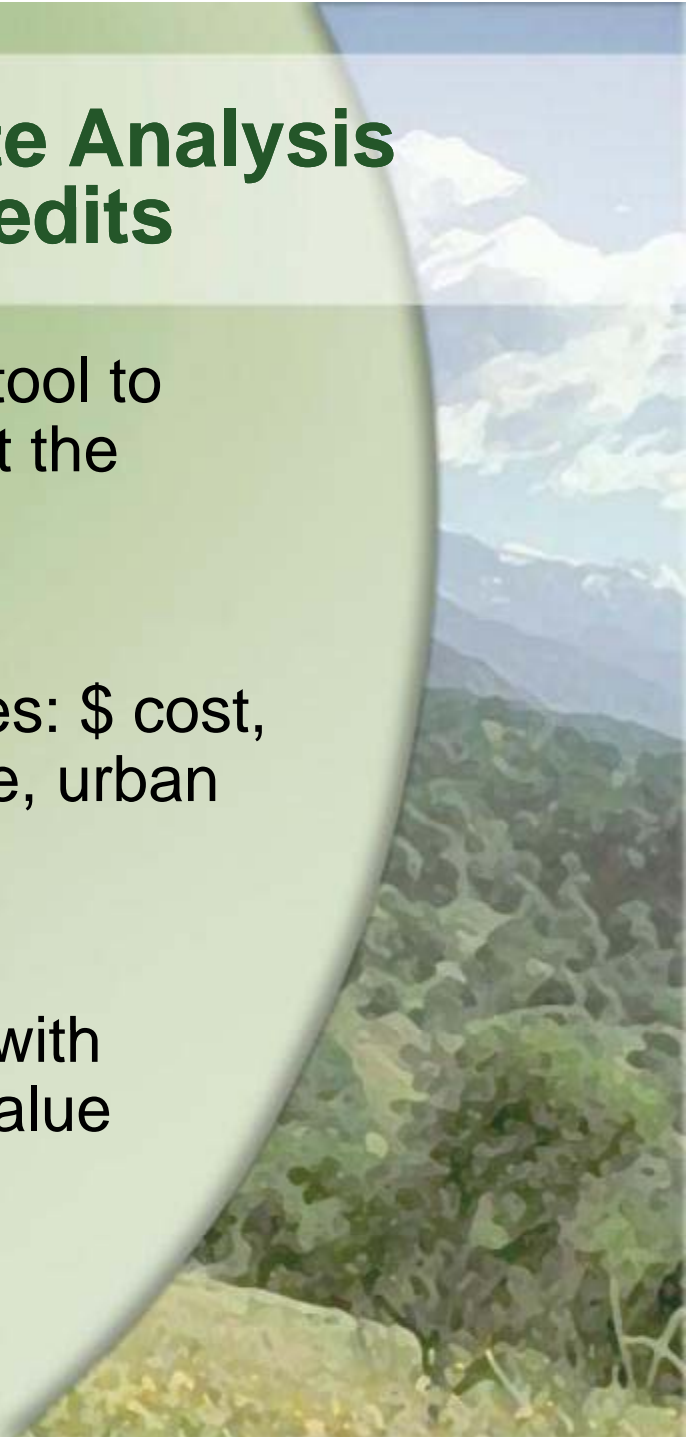
Considering all Mitigation Approaches

- **Joining current HCP/NCCP efforts**
- **Bulk purchases from private commercial bankers**
- **Partnerships with private commercial bankers to develop new banks**
- **Agency-sponsored banks**

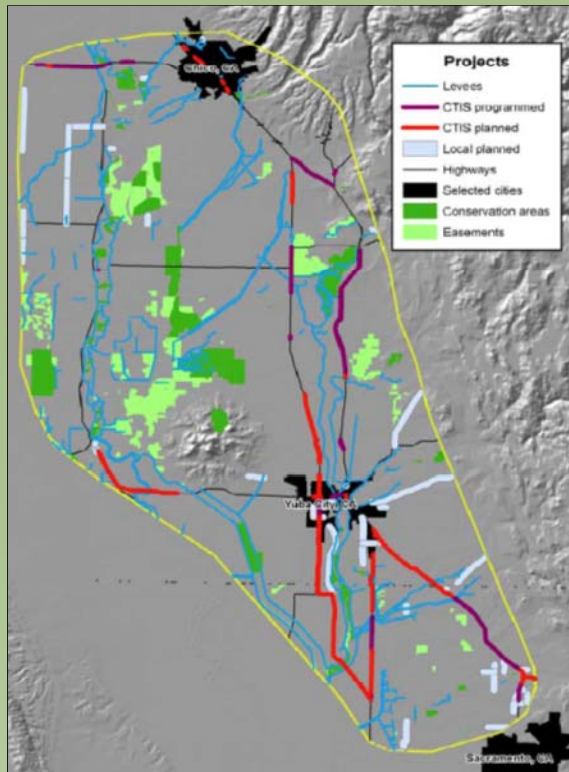


One Approach - Mitigation Site Analysis to Create a New “Bank” of Credits

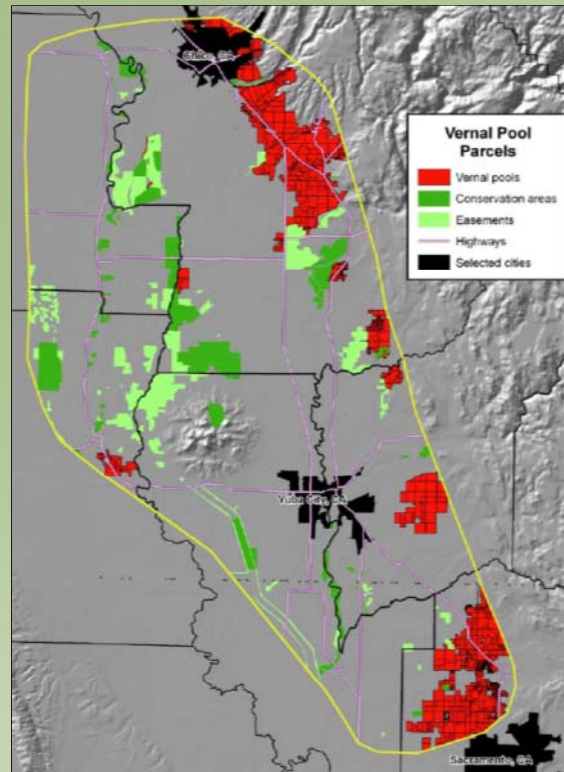
- Used Marxan, conservation planning tool to identify potential suitable sites to meet the targets
- Factors to minimize in selection of sites: \$ cost, road density, urban density, crop value, urban growth
- Combined conservation priority layer with mitigation options to assess relative value



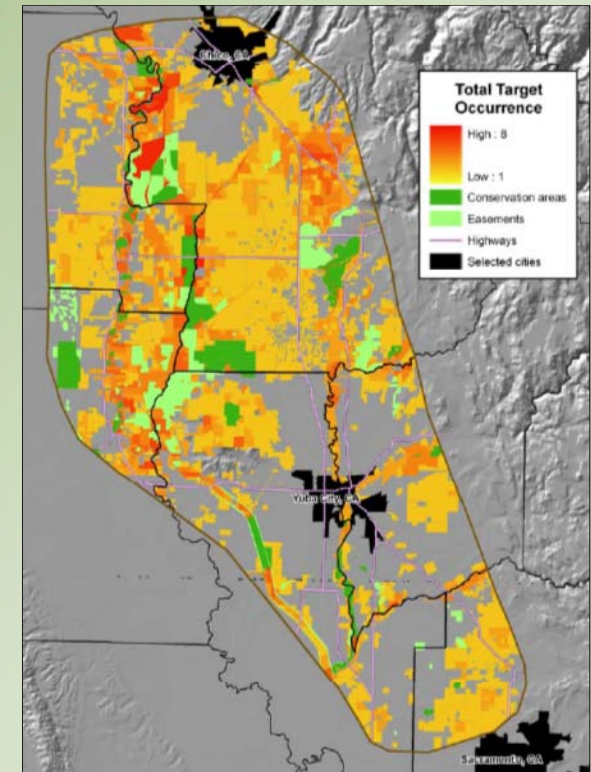
Conservation-Based Analysis* for Selection of Sites is under Development



Map existing conservation land and planned infrastructure projects



Map resources that may need mitigation due to potential impacts

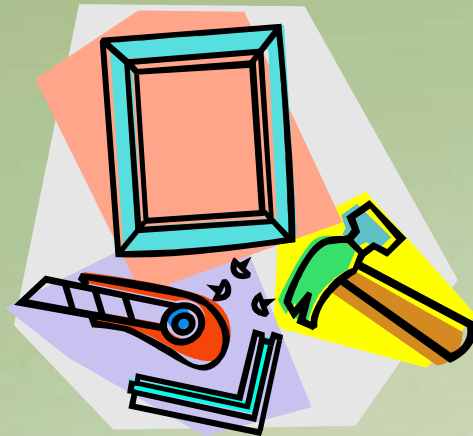


Assess suitability of properties to meet potential mitigation needs

*2008 analysis presented at ICOET by Dr. J. Thorne and Dr. P. Huber

Implementation: Caltrans' SAMI

- Program Elements
- Roles relating to RAMP



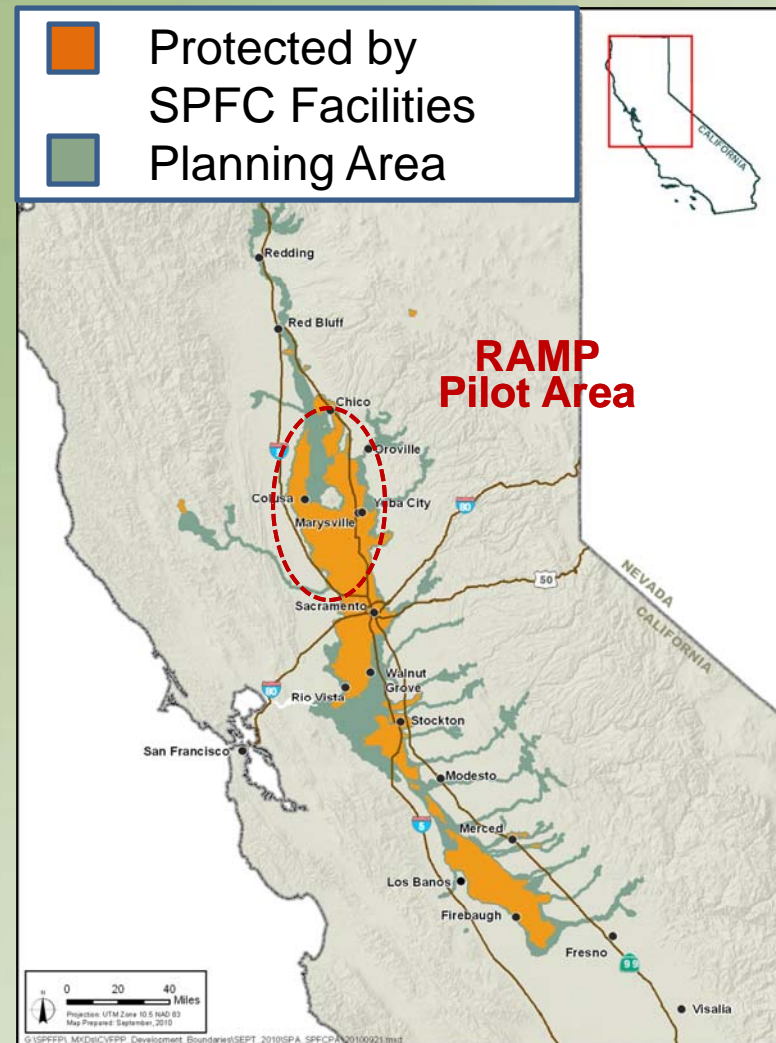
RAMP



RAMP under SAMI banner

Implementation: DWR Central Valley Flood Protection Plan

- CVFPP is intended to be a sustainable, integrated flood management plan
- First plan by 2012, and update plan every 5 years
- Potential integration with RAMP
 - “Conservation opportunity analysis”
 - One method to mitigate CVFPP-related impacts



RAMP Challenges and Take Aways



More Information

- <https://rampcalifornia.water.ca.gov>
- Thorne, J. H., P. R. Huber, E. H. Girvetz, J. Quinn, and M. C. McCoy. 2009. Integration of regional mitigation assessment and conservation planning. *Ecology and Society* **14(1): 47.**

www.ecologyandsociety.org/vol14/iss1/art47/

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