

An Approach to Developing a Central Valley Salt and Nutrient Management Plan

Erler & Kalinowski, Inc.

Michael Steiger Andy Safford





Outline

- Regionally Distributed Management
- Adaptive Management
- Constraints
- Steps to Developing a Conceptual Model
- Benefits of Approach



Regionally-Distributed Management

Study Area 3 Study Area 4

Study Area 5

Study Area 2

Study Area 6

Study Area 1 CV-SALTS

Study Area 7

How to Implement Regionally- CKI Distributed Management

Central Valley SNMP

Basin Plan Amendment

Regional SNMPs

- Study Areas / Stakeholders
- Existing Beneficial Uses and WQOs
- Prioritize Study Areas
- Sources and Estimated Loads
- Assimilative Capacity
- Load Reduction Goals
- Implementation Measures

- Enforces Central Valley SNMP
- Requires Regional SNMPs

- Detailed Analysis
- Revise WQOs and Beneficial Uses
- Load Reduction Plan
- Monitoring
- Specific Management Strategies



Adaptive Management

Cent all

Basin Plan Amendment

Regional SNMPs

- Study Areas / Stakeholders
- Existing Beneficial Uses and WQOs
- Prioritize Study Areas
- Sources and Estimated Loads
- Assimilative Capacity
- Load Reduction Goals
- Implementation Measures

- Enforces Central Valley SNMP
- Requires Regional SNMPs

- Detailed Analysis
- Revise WQOs and Beneficial Uses
- Load Reduction Plan
- Monitoring
- Specific Management Strategies

Constraints to Developing Central Valley SNMP

- Limiting Funding: \$750,000 for models
- Deadline: May 2014
- Data Availability and Quality





Salt /Nutrient **Balances**

 Spreadsheet **Analysis**

Water Balances

Start with CVHM

model results

(U.S.G.S)

Augment with

other model

results and data

- Load = Q x C
- Augment with other information (e.g., mineral dissolution, fertilizer, nitrification/ denitrification, soil amendments)

Evaluate Results

- Average Rate of Accumulation
- Prioritize/Rank Study Areas
- Compare Projections to **WQOs**
- Basin-Wide Capacity

Recommend

- Preliminary Load Reduction Goals
- Implementation Measures

Define Study **Areas**

- Boundaries
- Stakeholders

Assimilative



Conclusions

- Approach Provides the Following Benefits:
 - Local Control
 - Flexibility
 - Meets funding, time and data constraints
 - Transparent
 - Consistent
 - Meets Recycled Water Policy requirements



Discussion