

CV-SALTS Annual Report



Presentation Outline

- Introduction
- Overview of SNMP Implementation Strategy
- Challenges and Concerns
- Regional Board's Regulatory Priorities
- Next Steps

Introduction

- Written Staff Report provides
 - Required Annual Report information
 - Detailed reporting on financial and deliverable progress
 - Status update on all efforts as background
- Presentation will focus on broader policy issues and implementation

Introduction

- Development of a comprehensive Salt and Nitrate Management Plan (SNMP) began in 2006
 - SNMP, in part, satisfies the requirements of the Recycled Water Policy but..
 - SNMP goes further to address legacy and ongoing salt and nitrate management concerns

Introduction

- CV-SALTS is in the home stretch of a 10-year stakeholder effort involving
 - Expenditure of tens of thousands of hours and tens of millions of dollars
 - Development of the most comprehensive and complex Salt and Nitrate Management Plan and Basin Plan update ever attempted



SNMP Implementation Strategy

SNMP Implementation Strategy

Two Primary Goals

- Goal 1 - Assure safe drinking water for all
 - We all agree that there is a Human Right to Water
 - The key question is not what to do, but how do we most effectively make sure that we achieve this goal?

SNMP Implementation Strategy

Two Primary Goals

- **Goal 2** - Sustain the agricultural economy of the Central Valley
 - Farming depends on nitrate fertilizer
 - Challenge to permit agriculture given groundwater impacts in some areas
 - Sustaining agriculture requires long term salt management to achieve balance

SNMP Implementation Strategy

Two Primary Goals

Assure Safe Drinking Water
and
Sustain the Agricultural
Economy



*Either we achieve both or get
neither: our focus needs to
be on solving each other's
problems*

SNMP Implementation Strategy

Two Primary Goals

- Given these goals, the SNMP must provide a...
 - Mechanism to implement alternative water supplies
 - Means to legally authorize discharges from modern farming practices
 - Strategy to prevent further water quality degradation
 - Implementable plan to restore degraded groundwater where it is reasonably feasible and practicable to do so



SNMP Implementation Strategy

How the SNMP Will Work

- Strongly encourage formation of local management zones - facilitate accelerated implementation and increase permitting options
 - Participating dischargers within management zones become responsible for safe drinking water
 - Dischargers outside management zones or who do not need management zones have alternative compliance options and streamlined demonstrations

Conceptual Relationship of Water Use Areas to a Management Zone



SNMP Implementation Strategy

How the SNMP Will Work

- Phased Implementation Strategy:
 - Rank and prioritize implementation efforts based on health risks
 - Within Management Zones: participating dischargers combine resources

SNMP Implementation Strategy

How the SNMP Will Work

- Phased implementation strategy includes three phases:
 - Initial Phase: Emphasis is on providing alternative water supplies
 - Bottled water may be used as a temporary, stop-gap solution, which...
 - Allows time to develop and implement a permanent long-term solution

SNMP Implementation Strategy

How the SNMP Will Work

- Phased implementation strategy for each management zone includes three phases:
 - Second Phase: Dedicated to achieving salt and nitrate balance
 - Timeframe and costs to simply achieve balance varies across the Central Valley
 - Activities occurring now and will continue

SNMP Implementation Strategy

How the SNMP Will Work

- Phased implementation strategy includes three phases:
 - Final Phase: Restore Groundwater Quality
 - Wherever it is feasible and practicable to do so
 - Will require huge infrastructure investments (estimated at \$36 to \$178 billion dollars)
 - Will require 100-200 years (with or without continued discharges)

SNMP Implementation Strategy

How the SNMP Will Work

- Increase Regional Board authority to permit salt and nitrate discharges
 - Authorize use of offsets and alternative compliance programs to implement
 - Alternative drinking water supplies
 - Desalting projects similar to those that are being implemented in the Santa Ana Water Board Region
 - Stormwater harvesting and groundwater recharge projects

SNMP Implementation Strategy

How the SNMP Will Work

- Increase Regional Board authority to permit salt and nitrate discharges
 - Extend and expand the use of conditional variances/exceptions
 - More direct and faster than relying on assimilative capacity
 - Less costly and less controversial than proving assimilative capacity exists
 - Require participation in the long-term restoration plan

SNMP Implementation Strategy

How the SNMP Will Work

- Use specific archetypes and prototypes to prove the SNMP will work
- Enforce obligations and commitments through WDRs and Conditional Waivers



SNMP Implementation Strategy

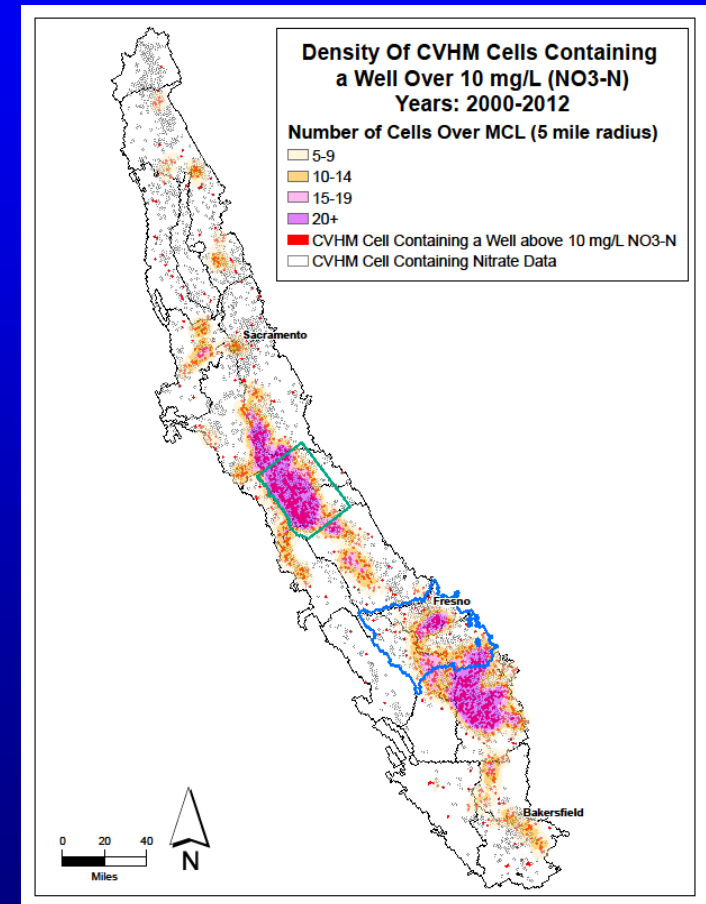
SNMP Development Process

- Prepared draft implementation approaches to manage nitrates and salts (NIMS & SSALTS)
- Held numerous outreach meetings to brief stakeholders in the region
- More than doubled the number of meeting hours to stay on schedule
- Increased funding to technical support staff to prepare critical documents

SNMP Implementation Strategy

SNMP Development Process

- Worked more closely with NGOs to better address EJ/EDC concerns
 - Half of all hours (40+ hours) of meeting time focused on resolving the nitrate problem
 - Document the conditions and commitments in writing



SNMP Implementation Strategy

SNMP Development Process

- The CV-SALTS process has been incredibly hard because it is complex and our goals are so ambitious
 - We are dealing with salt and nitrate, surface water and groundwater, point and non-point sources and existing and legacy loads
- Everyone understands that meeting our goals to ensure a drinking water supply while sustaining our agricultural economy depends on us getting this done



Challenges and Concerns

Challenges and Concerns

Human Right to Water

The need for safe drinking water remains urgent and immediate, and we must address long-term restoration of our groundwater sources.

Pleased to see CV-SALTS grappling with both, and continuing to affirm commitment to ensuring safe drinking water for all, but success at either still unclear.

Challenges and Concerns

Mechanism & Complexity

WDR Permit process may not be the best primary tool to implement.

- Efforts to provide regulatory flexibility can increase complexity and cause delays in implementation.
- Dischargers alone should not be driver of local plans and implementation.
 - Projects for safe drinking water must be developed by and with drinking water providers directly, yet they do not have a direct role within the process.
 - Groundwater restoration means groundwater management and must be integrated with SGMA.

Challenges and Concerns

Lack of specificity and concrete action

- SNMP cannot be infinite layers of flexible planning processes – it needs to focus on real fixes to people's drinking water, controlling on-going degradation and pollution, and to restoring aquifer.
- SNMP needs to have clear frameworks of standards, timelines and milestones that achieve safe drinking in the near term, as well as protection and restoration of water quality.

Challenges and Concerns

Details are Important

- Outcomes need to be clear and substantive; not just the planning processes
- We are interested in the details of who, what, where and when of implementation
- We want more clarity than: “We will develop the details of that later...”

Challenges and Concerns

Success Depends on Trust

- Trust must be earned, it can be demonstrated by
 - Having an Implementation Plan with clear milestones for accountability, and being reasonably doable
 - Having drinking water problems actually fixed in the quickest reasonable time frames
 - Making sure there is a back-up plan if the promises contained in the Implementation Plan do not materialize

Challenges and Concerns

Progress is being made, more work to do

- While we are still concerned,
 - We understand that what we are doing is not easy and requires continued effort
 - We know a serious effort is being made to address our concerns and significant progress has been made since a year ago
 - We continue to work collaboratively to try to find a realistic pathway to achieving these shared goals, although we are not there yet

Regional Board Regulatory Priorities

Regional Board Regulatory Priorities

New Tools and Options

- Existing regulatory toolbox is not adequate; we only have two options
 - Insist on strict compliance with water quality standards that cannot be met, OR
 - Prohibit the discharge
- Neither option does much to provide safe drinking water immediately



Regional Board Regulatory Priorities

New Tools and Options

- Existing enforcement authority allows us to force dischargers to provide replacement water supplies, but...
 - Cleanup and Abatement Orders do not authorize the discharge to continue
 - Without a permit that can be complied with, commercial agriculture, as we know it, cannot continue to provide its historic benefits in the Central Valley

Regional Board Regulatory Priorities

New Tools and Options

- We have the policy and legal sticks if we want to use our enforcement authority, but...
 - The outcome may not be the optimal result we seek
 - We need alternatives and incentives to provide other ways to move as quickly as possible, where alternatives make sense
 - We are not going to stop using our existing authority or programs where they are appropriate



Regional Board Regulatory Priorities

New Tools and Options

- All existing regulatory options remain (WDRs, NOVs, TSOs, CAOs, Prohibitions), but...
- We need additional tools and options to help solve problems
 - New tools designed to incentivize local solutions and encourage early implementation
 - Regional Board with State Board oversight will decide when and where to apply options

Regional Board Regulatory Priorities

Defining Success

- We have acknowledged significant implementation realities, the phased and prioritized implementation strategy needed will have a long timeline associated with success
 - First, focus resources on providing safe drinking water
 - Second, continue BPTC and Best Effort to limit further degradation and assure long-term sustainability
 - Third, implement large-scale projects to restore groundwater quality to the to best of our ability.

Regional Board Regulatory Priorities

Defining Success

- We acknowledge that implementation will be difficult and expensive
 - State and federal investment is going to be required for success
 - Everyone will have to pay: Dischargers, governments, end users of water
 - Investments will have to have the same priority:
 - Safe drinking water first
 - Long-term sustainability second
 - Restoration after we succeed with the above

Regional Board Regulatory Priorities

Defining Success

- We embrace the State Board's philosophy of "Right Water"; incorporating approach into our plan and management, e.g.,
 - Avoid use of drinking water where recycled water will work
 - Recognize we cannot expect to grow salt-sensitive crops anywhere and everywhere
 - Everyone is either above or below someone else – No one should expect to be un-impacted

Regional Board Regulatory Priorities

Defining Success

- Want to begin establishing a willingness to trust...
 - Many are struggling to do the right thing – some dischargers deserve a chance to show what they can do
 - For those dischargers that reject the opportunity to do the right thing, we are still committed to use existing regulatory and enforcement tools



Regional Board Regulatory Priorities

Defining Success

- Establishing a willingness to trust means work...
 - Some claim that the Regional Board will not hold dischargers accountable; that the SNMP does nothing but provide “regulatory relief”
 - On behalf of the Central Valley Board and our dedicated staff, we categorically reject that claim, but...
 - We agree that we must work to develop trust through establishment of a record of success in implementing this SNMP

Regional Board Regulatory Priorities

Next Steps

- In June, the Central Valley Water Board will consider a big package of policy ideas and recommendations
- If we receive the Board's endorsement, we will formalize those ideas through formal Basin Plan amendments
- Not simple, but we are working to be sure it is implementable



Summary Schedule

Figure 2 - Summarized CV-SALTS Workplan Schedule

Revised 1/15/16

Draft SNMP To Regional Board → → Final SNMP → BPA →

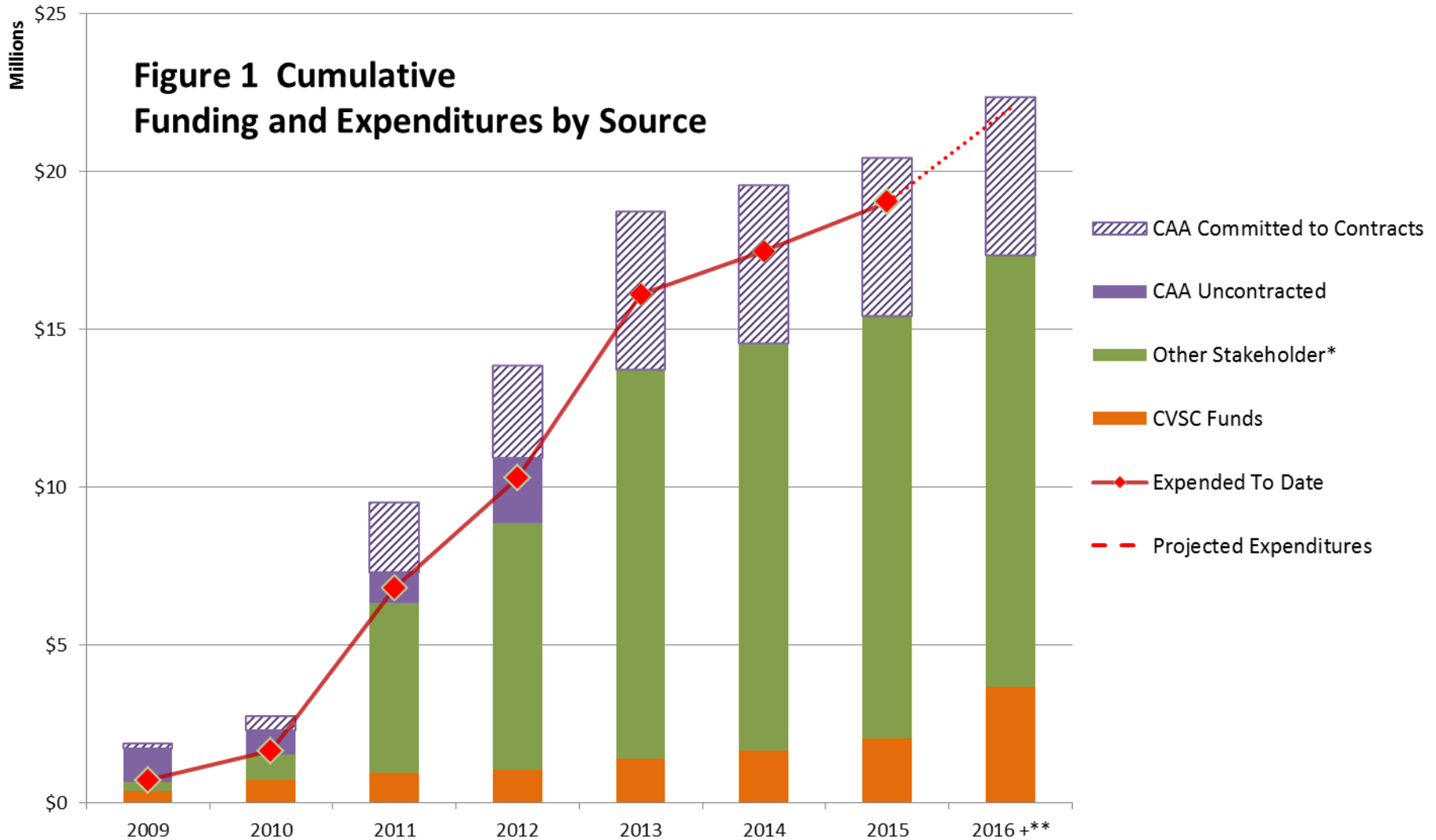
CV-SALTS Program Element	2011	2012	2013	2014	2015	2016	2017	2018	+
Program Management									
Technical Studies									
Archetypes/Case Studies									
Groundwater MUN (Tulare)									
Surface Water MUN (Sac Valley POTWs)									
Management Practice Development									
Lower San Joaquin River Salt and Boron Objectives									
Implementation Planning									
Documentation for Approval									
CEQA Equivalent Documentation									
BPA Documentation Process Support									
Initial Implementation									
Monitoring and Reporting									
Phase II SNMP									



Questions?

Cumulative Funding and Costs

Figure 1 Cumulative Funding and Expenditures by Source

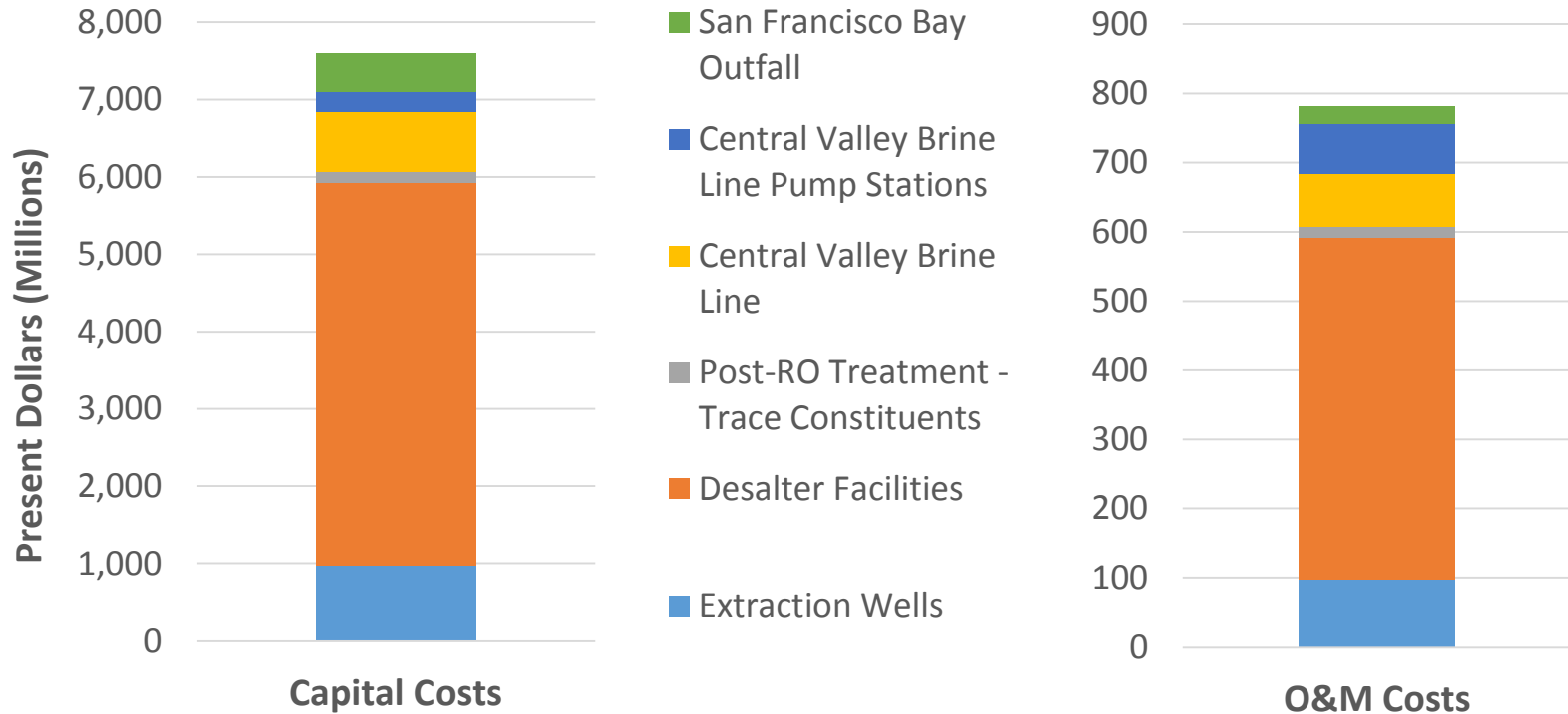


Salt Management Alternatives (SSALTS)

- Central to all evaluated salt management alternatives is a regulated Central Valley brine line
- Concept level analysis completed
 - Alternative Central Valley routes
 - Preliminary Brine Discharge Alternatives
 - Via existing East Bay Municipal Utility District outfall
 - Via an alternative outfall to San Francisco Bay
 - Concept-level cost estimate – Capital and O&M



Conceptual Level Costs for Regulated Brine Line Alternative – Outfall to San Francisco Bay

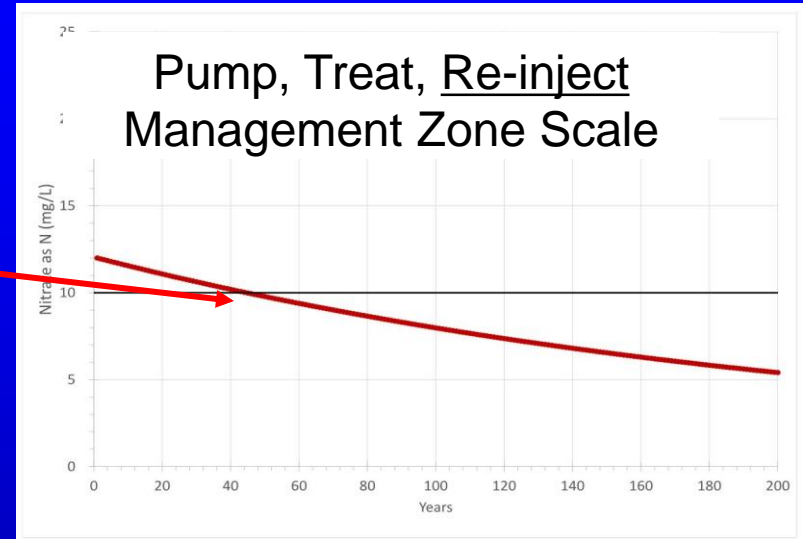


Implementation of this alternative would yield product water with an estimated value of \$909M/year

Nitrate Management Alternatives Nitrate Implementation Measures Study (NIMS)

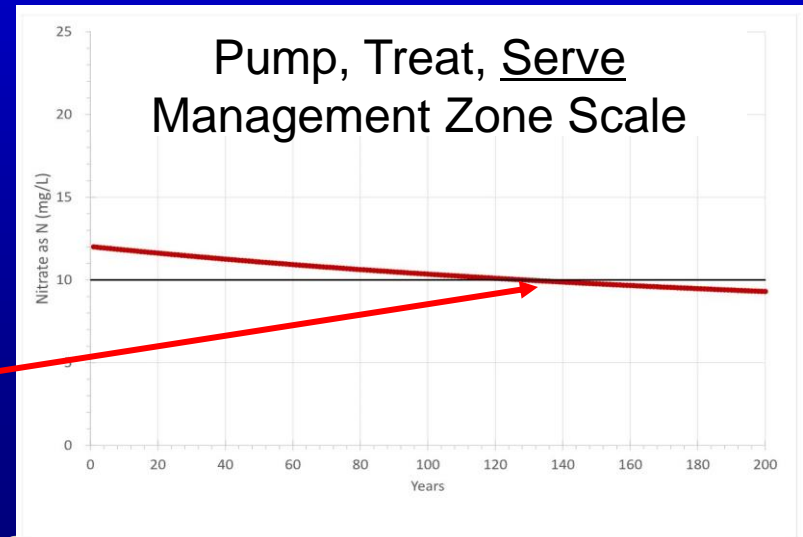
Management Zone Scale: Pump, Treat & Reinject. Ambient nitrate at 12 mg/L; Treat to 1 mg/L

< 10 mg/L	40 years
< 8 mg/L	90 years
< 5 mg/L	210 years
< 4 mg/L	220 years



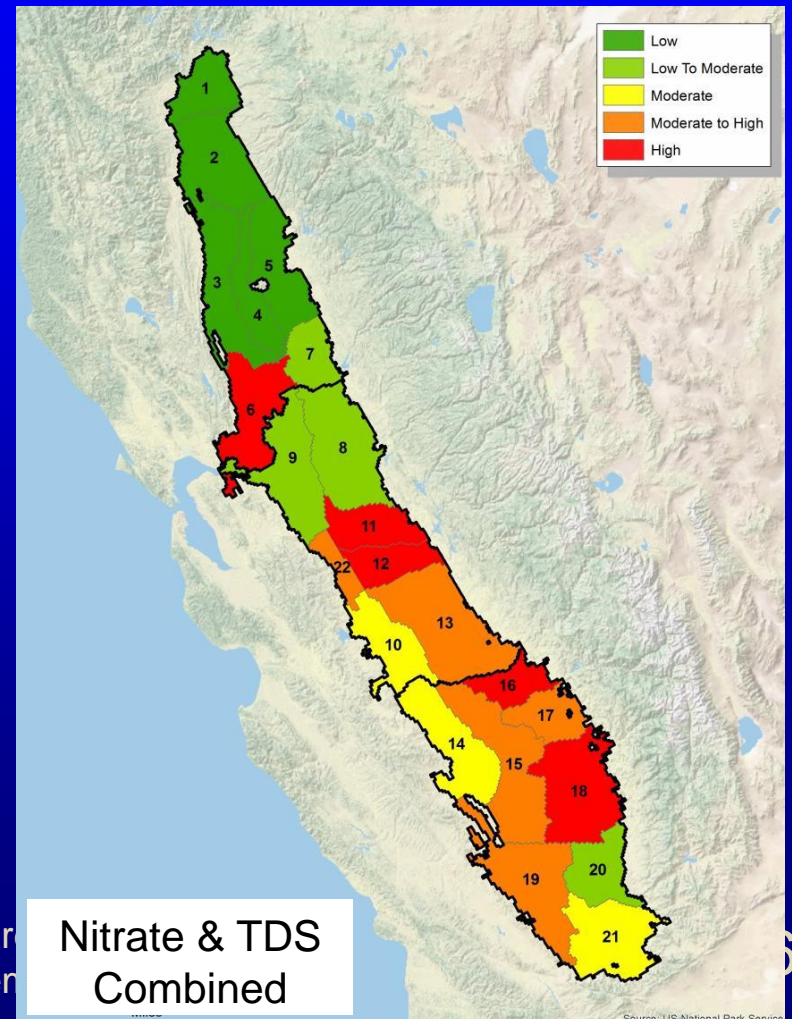
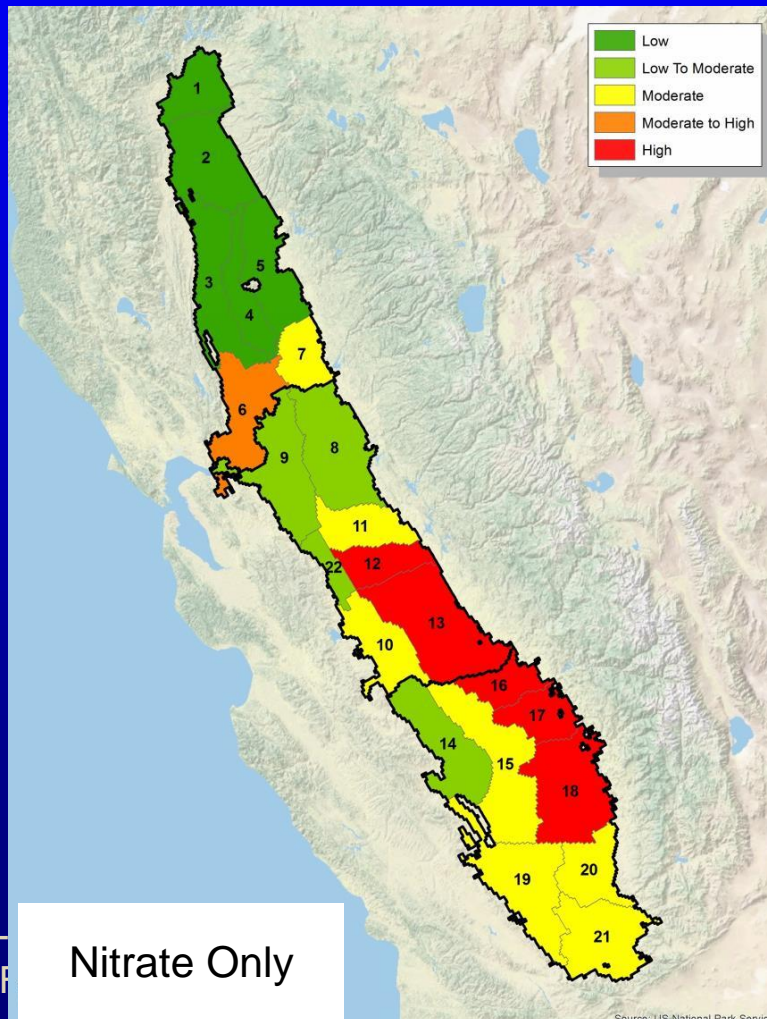
Management Zone Scale: Pump, Treat & Serve. Ambient nitrate at 12 mg/L; Treat to meet potable water requirements

< 10 mg/L	130 years
-----------	-----------



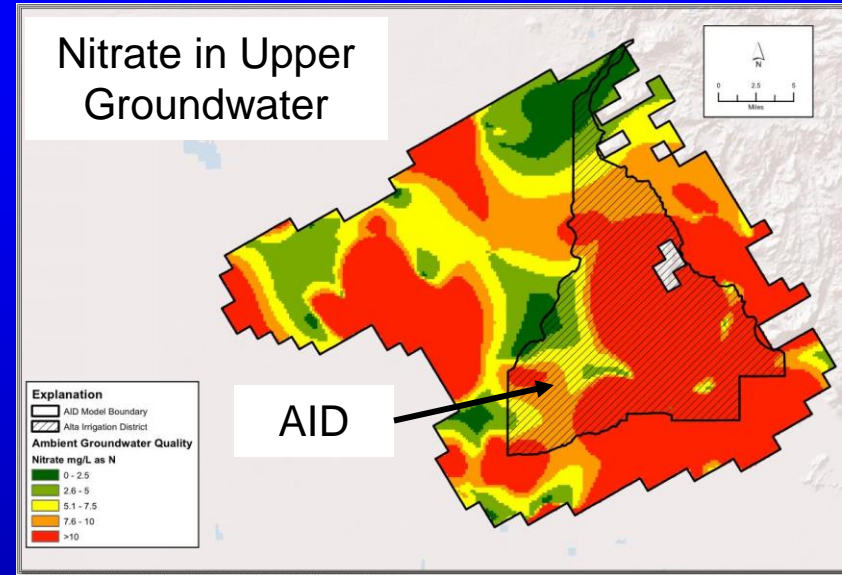
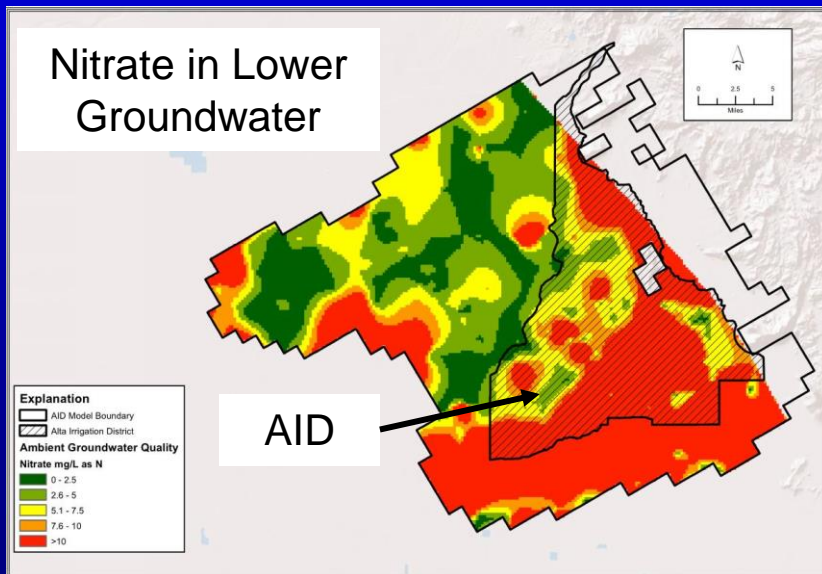
Setting Implementation Priorities (NIMS)

- Technical team evaluating best approach to establish implementation priorities for salt and nitrate



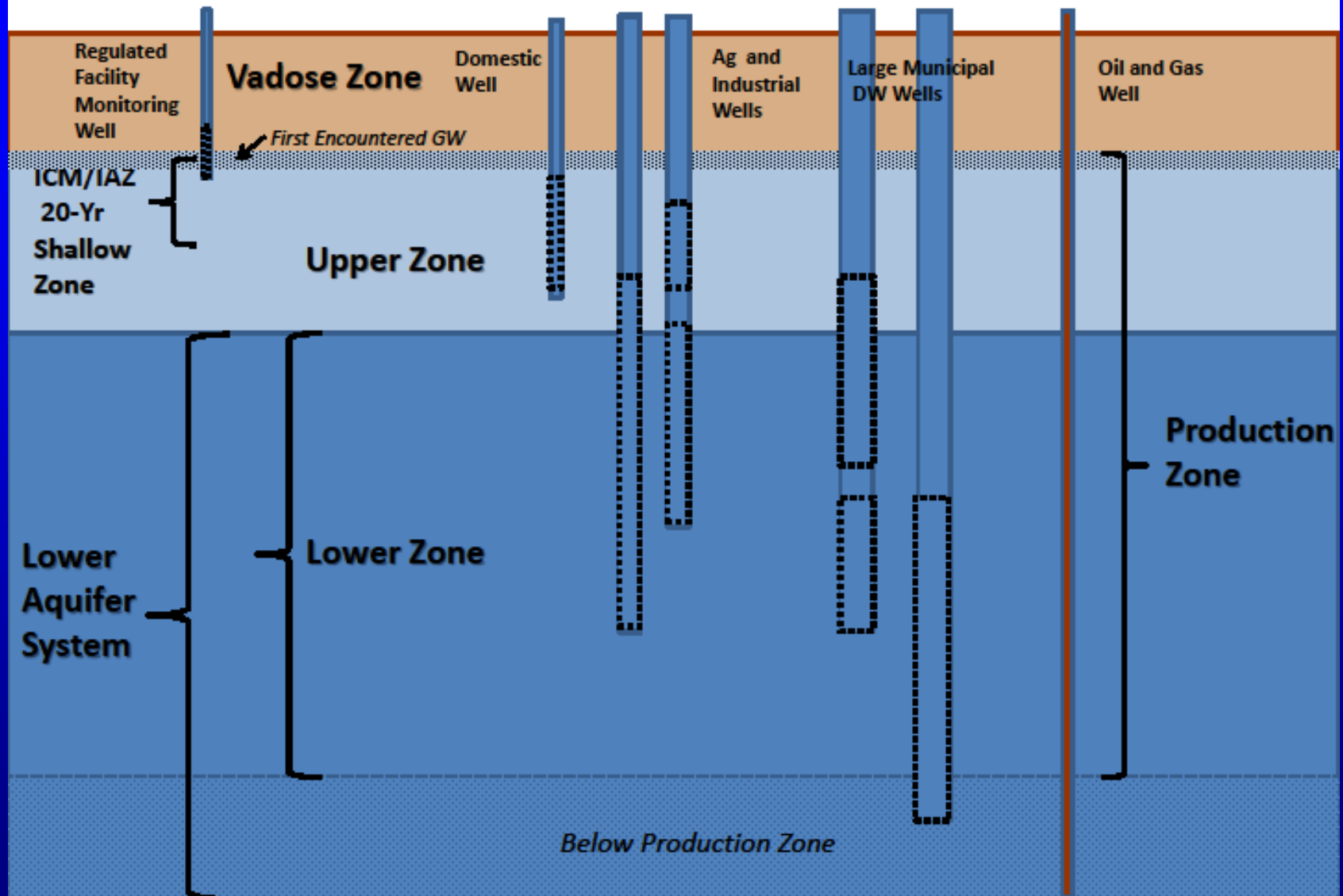
Management Zone Archetype Alta Irrigation District (AID)

- Archetype for evaluating how salt and nitrate can be managed within a Management Zone framework



- Management scenarios include alternative approaches to water management (recharge, conservation, irrigation efficiency) and reduced nitrogen loading

Figure 1 — Schematic of Aquifer System



SNMP Implementation Strategy

Key SNMP Provisions

- Establish appropriate salinity objectives to:
 - Appropriately protect existing AGR uses including salt sensitive crops
 - Encourage greater use of efficient irrigation techniques
 - Legalize greater use of recycled water
- Clarify proper application of Title 22 salinity-related secondary maximum contaminant levels

