Central Valley-wide Salt and Nitrate Control Program

Proposed Basin Plan Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin

Agenda Item 8
31 May – 1 June 2018
PUBLIC HEARING PURPOSE

Consider Adoption Central Valley-wide Salt and Nitrate Control Program

• Environmentally and Economically Sustainable Future

• Based on CV-SALTS Salt and Nitrate Management Plan (SNMP)

• Modifies Basin Plans
  – Management Strategies
  – Supporting Policies

• Does not modify Bay-Delta Plan
PUBLIC HEARING FORMAT

• Overview

• Proposed Amendments
  – Changes since January 2018 Workshop
  – Revisions to March 2018 Staff Report

• Written Comments Received

• Panel Discussions

• Public Discussion

• Consider Adoption of Proposed Amendments
  – With any approved late revisions

Central Valley Water Board Hearing  Item #8
31 May 2018
PROGRAM OVERVIEW
• Stakeholder-driven
• Initiated in 2006
  – 154 Executive Committee Meetings
• Agency Oversight/Public Input
• Materials at:
  – www.cvsalinity.org
Basin Plan Amendments will:

- Ensure replacement drinking water
- Provide alternatives to how the Board regulates nitrates and salts
- Limit and manage degradation
- Restore groundwater where feasible and practicable
- Recognize diverse conditions

Ensure Safe Drinking Water and Sustain the Agricultural Economy
CONTROL PROGRAM DEVELOPMENT PROCESS

2017
12 January: CV-SALTS Salt and Nitrate Management Plan (SNMP) Submitted
9 March: Public Hearing on Salt and Nitrate Control Program

2018
19 January: Board Workshop on Salt and Nitrate Control Program
22 March: Draft Staff Report and Amendments Posted for Public Review
21 May: Revised Staff Report/Response to Comments Posted
Today: Hearing to Consider Adoption of Amendments
PROPOSED BASIN PLAN AMENDMENTS
Chapter 3 Water Quality Objectives
- Variance/Exception
- Secondary Maximum Contaminant Levels (Revisions)

Chapter 4 Implementation
- Salt and Nitrate Control Program, including Conditional Prohibition and Monitoring Program
- Supporting Policies
  - Variance Policy (revised)
  - Exceptions Policy (revised)
  - Drought and Conservation Policy (new)
  - Offsets Policy (new)
- Implementation of Secondary MCLs (new)
- Costs to Agriculture (new)
- Prioritized Basins (new)

See Handout
ESTABLISH SALT & NITRATE CONTROL PROGRAM BASED ON THREE MANAGEMENT GOALS

- **Management Goal 1**
  - Safe Drinking Water Supply
    - Short & Long Term Solutions

- **Management Goal 2**
  - Balanced Salt & Nitrate Loadings
    - Ongoing and Expanding Efforts

- **Management Goal 3**
  - Implement Long-term Managed Aquifer Restoration
    - Where Reasonable, Feasible & Practicable
SALT & NITRATE MANAGEMENT STRATEGY THAT IS PRIORITIZED AND PHASED

Salt and Nitrate Control Program

Prioritized Program

Nitrate Compliance Pathways

Path A
Individual Permitting Approach

Path B
Management Zone Permitting Approach

Phased Program

Salt Compliance Pathways

Conservative Permitting Approach

Alternative Permitting Approach
SALT CONTROL PROGRAM
SALINITY CONTROL PROGRAM OVERVIEW

- Basin-Wide
- Long-term Sustainability
  - Maintain good water quality while improving poor water quality
SALINITY PERMITTING STRATEGY

- Two Compliance Pathways
  - Conservative Permitting
  - Alternative Compliance
- Discharger “elects” their compliance pathway at beginning of each phase
- Phased Approach
  - 10-15 years for each phase

(See Handout)
Phase 1: Prioritization/Optimization Study
- Expanded Evaluations
- Physical/Non-Physical Projects
- Governance/Funding

Phase 2: Project Development
- Funding/Permits/Non-Physical Projects

Phase 3: Project Implementation
- Construction
**PHASE 1**

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<thead>
<tr>
<th>Conservative</th>
<th>Alternative</th>
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<tr>
<td><strong>All Permittees</strong></td>
<td><strong>All Permittees</strong></td>
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<td>• Apply conservative assumptions for interpretation of the narrative objectives and application of numeric water quality objectives to protect AGR and MUN beneficial uses</td>
<td>• Participate in the Phase I Prioritization and Optimization Study throughout its duration</td>
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<td>• Limited availability of a compliance or time schedule to meet a salinity-related effluent limit or waste discharge requirement</td>
<td>• Continue implementing reasonable, feasible and practicable efforts to control salinity through performance-based limits, including:</td>
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<td>– Salinity management practices</td>
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<td>– Pollution prevention, watershed, and/or salt reduction plans</td>
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<td>– Monitoring</td>
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<td>– Maintenance of existing discharge concentration or loading levels of salinity</td>
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<td><strong>Groundwater Discharge and Non-NPDES Discharge</strong></td>
<td><strong>Groundwater and Non-NPDES Discharges</strong></td>
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<tr>
<td>• Limited new or expanded allocation of assimilative capacity in groundwater</td>
<td>• Salinity limits not used as compliance metric except to ensure implementation of performance-based measures;</td>
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<td>• Receiving water compliance determined using shallow groundwater</td>
<td>• Deemed in compliance with salinity limits/eligible for a salinity exception</td>
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<td>• Does not meet eligibility requirements for an exception</td>
<td><strong>NPDES Surface Water Discharges</strong></td>
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<td><strong>NPDES Surface Water Discharge</strong></td>
<td>• Eligible for a salinity variance</td>
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<td>• A new or expanded allocation of assimilative capacity may be authorized only where a discharger can show that the impact of the discharge is temporary or de minimus</td>
<td><strong>NPDES Surface Water Discharges</strong></td>
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<tr>
<td>• Does not meet eligibility requirements for a variance</td>
<td>• Eligible for a salinity variance</td>
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</table>
# PHASE I P&O STUDY - KEY MILESTONES

<table>
<thead>
<tr>
<th>Category</th>
<th>Year of Implementation (From Notice to Comply)</th>
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<tbody>
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<tr>
<td><strong>Stakeholder Coordination</strong></td>
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<td>Phase I Workplan</td>
<td>Phase I Workplan</td>
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<tr>
<td><strong>Governance</strong></td>
<td>Phase I Governance Plan</td>
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<tr>
<td><strong>Funding</strong></td>
<td>Phase I Funding Plan</td>
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<tr>
<td><strong>Preferred Physical/Non-Physical Salt Management Projects</strong></td>
<td>Development of Recommended Preferred Physical and Non-Physical Projects</td>
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<td></td>
<td>Conceptual Design and Assessment of Environmental Permitting Requirements for Preferred Physical Projects</td>
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<tr>
<td><strong>Special Studies</strong></td>
<td>Groundwater Quality Trace Constituent Study</td>
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<td>Stormwater Recharge Master Plan Study</td>
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<td><strong>Basin Planning</strong></td>
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<td><strong>Reports</strong></td>
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<td></td>
<td>Progress Reports at Key Milestones (Years 1, 5, and 10 with documentation (electronic or otherwise) of participation)</td>
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</tbody>
</table>
## PHASE I PRIORITIZATION & OPTIMIZATION STUDY IMPLEMENTATION

<table>
<thead>
<tr>
<th>Issue</th>
<th>Expectations</th>
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<tbody>
<tr>
<td>Participation</td>
<td>• Permitted dischargers of salt (surface water or groundwater)</td>
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<tr>
<td></td>
<td>• Entities that benefit from import/export Central Valley water</td>
</tr>
<tr>
<td>Management</td>
<td>• 3\textsuperscript{rd} Party Entity (also decides required level of commitment)</td>
</tr>
<tr>
<td>Implementation</td>
<td>• Open stakeholder process</td>
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<td></td>
<td>• Milestones established in Phase I</td>
</tr>
</tbody>
</table>
Added Clarifying Language

• Ability to use historic/representative data for assessments
• Satisfying Alternative Permitting requirements = compliance salinity limits

Specific Revisions to Tulare Lake Basin Plan for Consistency
Chapter 4 (Implementation):

- Modify sections applicable to:
  - Discharges to Navigable Waters (pg. IV-10)
  - Discharges to Land (pg. IV-11)
  - Industrial Wastewater (pgs. IV-13, IV-14)
  - Oil Field Wastewater (IV-15)

- Removed language specific to Electrical Conductivity and Chloride limits

- Revise language specifying boron “limits” to “applicable water quality objective for boron”
NITRATE CONTROL PROGRAM
RECOMMENDED PRIORITY AREAS

Groundwater Basins/Sub-basins
- Priority 1 Area (Red)
  - Notice to Comply within one year of Effective Date
- Priority 2 Area (Orange)
  - Notice to Comply within 2-4 years of Effective Date
- Remaining Basins
  - As Necessary

Areas Not Part of a Groundwater Basin
- As Necessary
Two Compliance Pathways

- **Path A – Individual Discharger**
- **Path B – Management Zone**

Permittees “elect” compliance pathway after receiving a Notice to Comply

(See Handout)
# NITRATE PERMITTING STRATEGY

## Path A: Individual Permitting Approach
- Permittee elects individual or third party compliance
- Defines receiving water as **Shallow Zone**
- Establishes five discharge categories with associated permit compliance requirements
- Early Action Plan where required to address elevated nitrate in public water supply and/or domestic wells
- Alternative Compliance Project for assimilative capacity above trigger/exception
  - (75% nitrate objective)

## Path B: Participation in a Management Zone
- Permittee opts to work collectively with other permittees/entities through a Management Zone
- Receiving water defined as **Upper Zone**
- Early Action Plan where required
- Other deliverables:
  - Preliminary Management Zone Proposal
  - Final Management Zone Proposal
  - Management Zone Implementation Plan
Schematic of Aquifer System Within Corcoran Clay Extent

- Regulated Facility Monitoring Well
- Domestic Well
- Vadose Zone
  - Shallow Zone (e.g., depth of the 10% shallowest domestic wells in an area)
- Production Zone
- Lower Aquifer System

Corcoran Clay
EARLY ACTION PLAN COMPONENTS (PATH A & B)

- **Identification & Outreach**: Affected residents help develop solutions
- **Coordination**: Coordinate w/non-permittees, including affected communities, domestic well users, local agencies (inc. GSAs)
- **Funding**: Permittees and/or local, state and federal entities fund actions under EAP
- **Schedule**: Implementation schedule as short as practicable
FOCUSED HIGHLIGHTS OF MANAGEMENT ZONE

<table>
<thead>
<tr>
<th>Preliminary Management Zone Proposal</th>
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<td>(270 days to 1 year after Notice to Comply)</td>
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</table>

- ✔ Identification of others that may join Management Zone
- ✔ Summary of current control efforts and management practices
- ✔ Process used to identify affected residents and provide opportunities to participate in development of Early Action Plan
- ✔ Early Action Plan
  - ▪ Initiate w/in 60 days
FOCUSED HIGHLIGHTS OF MANAGEMENT ZONE

Final Management Zone Proposal
(180 days after Preliminary MZ Plan)

- Identification of proposed compliance approach
  - Assimilative Capacity
  - Exception
- Interaction/coordination with Groundwater Sustainability Agencies and other entities
- Documentation of actions taken to implement Early Action Plan
Management Zone Implementation Plan
(<6 months after Final Management Zone Plan)

- Document collaboration with communities
- Information necessary to request
  - Allocation of assimilative capacity
  - Exception for meeting nitrate objective
- Equivalent of Alternative Compliance Project
- Must be adopted by Regional Board as part of Waste Discharge Requirements
Alternative Compliance Project Needed for:

- Allocation of Assimilative Capacity Above a Trigger
- Use of an Exception to Meeting Water Quality Objective

Provides:

- Ability to continue discharging while working toward long-term water quality improvements
Minimum Requirements

• Identification Impacted Wells

• Timeline and Milestones for:
  – *Short/long term safe drinking water supply*
  – *Balanced nitrate loading*
  – *Managed aquifer restoration*

• Documented Collaboration

• Funding

• Ongoing Water Quality Characterization

• Participant Responsibilities

Additional Guidelines in Appendix H
Both Path A (Individual ACP) & Path B (MZ Implementation Plan)

• Meets Minimum Requirements and Follows Guidelines
  – Milestones to meet three overarching management goals
  – Vetted with local communities and stakeholders

Path A
  – Provided with Notice of Intent
  – Incorporated into WDR (Public Process)
    • Public Review; Comment; Hearing
Path B—Three Vetting Stages

• Preliminary Management Zone Proposal
  – Board staff collaboration on outreach
  – 30 day public comment

• Final Management Zone Plan
  – 30 day public comment
  – Equivalent to Report of Waste Discharge

• Management Zone Implementation Plan
  – Public hearing to revise Waste Discharge Requirements

Staff Review
Community Engaged
Board Review
(Public Process)
Incorporated into Orders
MODIFICATIONS TO NITRATE CONTROL PROGRAM

Three Major Clarifications since January 2018 Workshop

1. Complete Management Zone Implementation Plan meets requirements for an Exception

2. Path A (Individual) Compliance in “Shallow” Groundwater Zone

   Three Options to Calculate Average Nitrate in Shallow Zone
   1. CV-SALTS information on shallowest 10% domestic wells
   2. Site/Area specific evaluation (new data)
   3. Central Valley Water Board-approved equivalent alternative

3. Reprioritization of Basins/Sub-basins/Areas
RE-PRIORITIZATION OF PRIORITY BASINS/SUB-AREAS

Board Discretion to Consider

• Community Request to Prioritize

• Permittee(s) Request to Defer Notice to Comply
  – *Six months prior to scheduled issuance of Notice to Comply*

Based in part on:

  – *New local data*
  – *Drinking water contamination*
  – *Primary source drinking water*
  – *Efficient use of resources*
SUMMARY ACTIVITIES/SCHEDULE
## Nitrate/Salt Management Strategy: General Timeline/Milestones for Existing Dischargers

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<td>Salinity Management</td>
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<td>Phase II – Permitting, Engineering Design</td>
<td>Phase III – Project Construction</td>
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<td>Phase I Prioritization and Optimization Study (further define short and long-term projects to manage salt in the Central Valley)</td>
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### Milestones

1. **Notice to Comply (NTC)** (within 1 year of BPA effective date)
2. **NTC** (within 2-4 years of BPA effective date)
3. **Initial planning** (w/in ~15 months of NTC), including develop/implement Early Action Plan to address drinking water concerns
4. ~180 days to complete Management Zone Implementation Plan; per Board review, process to revise existing WDRs/Waivers with discharger-specific nitrate management requirements initiated
5. For remaining areas, the time to a NTC to be determined
## SALT MANAGEMENT STRATEGY: GENERAL TIMELINE FOR PHASED PROGRAM IMPLEMENTATION

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<td>Phase I Funding &amp; Governance Plans</td>
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<td>Interim Project Report (ID Preferred Projects)</td>
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<td>Phase II Recommendations</td>
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1. Groundwater Dischargers
2. Surface Water Dischargers
CONDITIONAL PROHIBITION
CONDITIONAL PROHIBITION OF SALT AND NITRATE DISCHARGES

Permittees that discharge salt and/or nitrate and are not regulated under the Irrigated Lands Regulatory Program (ILRP):

– Applies upon receiving a Notice to Comply

– Salt and/or nitrate discharges prohibited unless permittee implements Salt and Nitrate Control Program requirements

– Prohibition applies until WDR/Waiver updated or amended

– Irrigated Lands Regulatory Program (ILRP)
  – Amend ILRP General Orders within 18-months effective date

No substantive change have been made to this policy since the January Workshop
SURVEILLANCE & MONITORING PROGRAM
Program Goals (Salt and Nitrate)

– Assess progress

– Statistically-representative ambient/trends Surface Water and Groundwater (Upper, Lower, and Production Zones)

– Maximize the use of existing monitoring programs

General Requirements:

– Lead Entity: Gather, consolidate and evaluate data

– Work Plan and a Quality Assurance Project Plan (within 2 years)

– Assessment Report every 5 years (unless alternative schedule EO approved)

– Permittees must provide confirmation of program support through Lead Entity
Utilize Chapter 5 CV-SALTS SNMP as Guidance

- Responsible entities
- Groundwater monitoring wells
- Governance and funding
- Review and revision process
- QAPP
  - Well/Surface water site characteristics
  - Collection requirements
  - Data reporting and management
  - Assessment approach
  - Approach to evaluate progress
RECOMMENDATIONS TO OTHER AGENCIES
RECOMMENDATIONS TO OTHER AGENCIES

• All users of Central Valley waters are considered stakeholders
  – *Within and outside of the Board’s jurisdictional area*

• Success will require significant participation and actions by all entities that use or transport Central Valley’s waters
RECOMMENDATIONS TO OTHER AGENCIES

• Establish a Central Valley Salinity Control Act
• Budget line item or other funding mechanisms for P&O Study and implementation
• Conditioning water right permits
• Actively participate by providing financial, technical and policy support to the P&O Study
• Land use and planning coordination
SUPPORTING POLICIES AND GUIDANCE

- Variance
- Exceptions
- Drought and Conservation
- Offsets
- Secondary Maximum Contaminant Levels (SMCLs)
VARIANCE AND EXCEPTION POLICIES

Variance Policy
• Salt only
• 15-year Extension
• Participation in P&O Study

Exceptions Policy
• Adds Nitrate and Boron
• Separate Application for Salt Exception NOT required for Phase 1 P&O participants
• Status Reports
• Renewable Term
<table>
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<tr>
<th>Topic</th>
<th>January Workshop Discussion</th>
<th>Current Proposal</th>
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<tr>
<td>Length of an Exception</td>
<td>Maximum Length – 50 years</td>
<td>Maximum length &gt; 50 years if “... the management practices under the exception are resulting in significant, measurable and continuing improvements in water quality.”</td>
</tr>
</tbody>
</table>
DROUGHT AND CONSERVATION POLICY

Criteria
• Drought and/or local emergency
• Conservation and/or Recycling

No substantive changes have been made to this policy since the January Workshop

Provisions
• Interim Limits
  – Concentration
  – Loading
• No downstream/downgradient impacts
• Consistent with historic load
OFFSET POLICY - KEY PROJECT ELEMENTS

• Groundwater
• Located in same Basin or Management Zone as discharge
• Substantially Same Pollutant
• Net effect = equivalent or better
• No assimilative capacity = offset ratio must be > 1:1
• Offsets can not:
  – Result in unmitigated localized impairments to sensitive areas with drinking water wells
  – Have a disproportionate impact on disadvantaged communities

No substantive change have been made to this policy since the January Workshop
### Table A

<table>
<thead>
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<th>Constituents</th>
<th>Maximum Contaminant Levels/Units</th>
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<tbody>
<tr>
<td>Aluminum</td>
<td>0.2 mg/L</td>
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<td>Color</td>
<td>15 Units</td>
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<td>Copper</td>
<td>1.0 mg/L</td>
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<td>Foaming Agents (MBAS)</td>
<td>0.5 mg/L</td>
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<td>Iron</td>
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<td>Manganese</td>
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<td>Methyl-tert-butyl ether (MTBE)</td>
<td>0.005 mg/L</td>
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<td>Odor – Threshold</td>
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<td>Silver</td>
<td>0.1 mg/L</td>
</tr>
<tr>
<td>Thiobencarb</td>
<td>0.001 mg/L</td>
</tr>
<tr>
<td>Turbidity</td>
<td>5 Units</td>
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<tr>
<td>Zinc</td>
<td>5.0 mg/L</td>
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### Table B

<table>
<thead>
<tr>
<th>Constituents, Units</th>
<th>Recommended</th>
<th>Upper</th>
<th>Short Term</th>
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<tbody>
<tr>
<td>Total Dissolved Solids, mg/L, or Specific Conductance, μS/cm</td>
<td>500</td>
<td>1,000</td>
<td>1,500</td>
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<tr>
<td>Chloride, mg/L</td>
<td>250</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>Sulfate, mg/L</td>
<td>250</td>
<td>500</td>
<td>600</td>
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</tbody>
</table>

Tables included in Chapter 3 Under Chemical Constituents as Water Quality Objectives to Protect MUN
Chapter 3 - Water Quality Objectives

• Incorporate Title 22 Contextual Language
  – “Upper” level
  – “Short-term” level
  – “Recommended” level

• Compliance with Table A & B parameters:
  – Surface Water: Annual Averages
  – Groundwater:
    ▪ Discharge Limits: Annual Average
    ▪ Ambient Groundwater: Long-term average
<table>
<thead>
<tr>
<th>Topic</th>
<th>January Workshop Discussion</th>
<th>Current Proposal</th>
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<tr>
<td>Basin Plan - Chapter 3</td>
<td>Discussion:</td>
<td>(a) Clarify use of MCLs as WQOs</td>
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<td></td>
<td>• Title 22 Contextual Language</td>
<td>(b) Compliance Period</td>
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<td></td>
<td>• Secondary MCLs vs. Primary MCLs</td>
<td>(c) Natural Background</td>
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<tr>
<td></td>
<td></td>
<td>(d) Drought &amp; Conservation Policy.</td>
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</table>
Chapter 4 – Implementation *(Revised)*

- Sample and Analysis
  - Filter Sample Using 1.5-micron filter
    - Alternate filter size may be considered
  - Analyze sample for total levels

- Factors to Consider - Staff Report Appendix G
# MODIFICATIONS TO SMCL PROPOSAL

## Topic

### January Workshop Discussion

- Factors to consider – include in Basin Plan
- March 2018: Use of Dissolved fractions with 10 years to develop translators

## Current Proposal

(a) Factors to consider – include in Appendix
(b) Filter sample with 1.5-micron filter before analyzing for total fraction
(c) Alternative filter requirements – consult with Division of Drinking Water and public notice

<table>
<thead>
<tr>
<th>Topic</th>
<th>January Workshop Discussion</th>
<th>Current Proposal</th>
</tr>
</thead>
</table>
| Basin Plan - Chapter 4 | • Factors to consider – include in Basin Plan  
  • March 2018: Use of Dissolved fractions with 10 years to develop translators | (a) Factors to consider – include in Appendix  
  (b) Filter sample with 1.5-micron filter before analyzing for total fraction  
  (c) Alternative filter requirements – consult with Division of Drinking Water and public notice |
AGRICULTURAL COSTS
COSTS TO AGRICULTURE (2016 DOLLARS)

• Salt Control Program
  – Phase I (P&O Study): $357,000 to $696,000 per year
  – Phases II and III – Costs speculative

• Nitrate Control Program
  – Short-term safe drinking /Management Zones (Priority 1 and 2) – $24.1 million to $35.9 million per year
  – Long-term restoration – Costs speculative

• Surveillance and Monitoring Program
  – $70,000 to $130,000 per year
COSTS TO AGRICULTURE

Basis

- Economic Analysis (Larry Walker Associates, 2016)
- SSALTS (Strategic Salt Accumulation Land and Transport Study)
- NIMS (Nitrate Implementation Measures Study)
- Aggressive Restoration Study (Nitrate)
- Surveillance and Monitoring Program
Assumptions

- First 10 years (Phase I)
  - Later more speculative

- Salt Control Program
  - P&O Study
  - Percent Land Area Valley Floor (53%)

- Nitrate Control Program
  - Priority 1 and 2 Basins
  - ILRP Coalitions leads for Management Zones (10-ILRP Coalitions)
  - Short and initiation of long-term drinking water supply
  - 90% Ag based on UCD Study (Tomich, 2016)
FINDINGS

- Scientific Peer Review
- CEQA/Environmental Analysis
- Antidegradation Analysis
Scientific Conclusions

1) Annual Salt Accumulation must be addressed with an out-of-valley solution
   a) Modeling Tools (WARMF and CVHM)
   b) Management Options
   c) Regulated Brine Line
Scientific Conclusions

2) Nitrate contamination may not reasonably be treated to drinking water quality in some locations
   • Dependent on Geological Conditions
   • Restoration possible – 40 to 70+ years
Reviewers

1) Dr. Vijay Singh, Distinguished Professor, Department of Biological and Agricultural Engineering, Texas A&M University

2) Dr. Thomas Harmon, Professor, School of Engineering, University of California Merced
“This conclusion is very reasonable and is based on sound geological considerations and can be accepted without dispute.”
ENVIRONMENTAL ANALYSIS

Will Indirectly Result In Significant and Unavoidable Impacts

- **Aesthetics** may be impacted because of construction of capital projects
- **Agricultural and Forestry Resources** potentially impacted because lands taken out of production to facilitate construction of capital projects
- **Hydrology and Water Quality** time-limited impacts during project implementation

Overriding Considerations

- Allow limited resources to focus on health risks in the short-term
- Long implementation timelines essential to achieve goals of Salt and Nitrate Management Plan
- Impacts reasonable considering long-term viability of Central Valley
Proposed Amendments Consistent with the State Antidegradation Policy

• Although limited degradation allowed, uses ultimately protected
• Permits will still require best practicable treatment and control to limit degradation of high-quality waters
• Board can make “maximum benefit” finding because of User Protections, Nitrogen load balancing and Phased Salt Control Program, & Aquifer Restoration (where reasonable, feasible, practicable)
ANTIDEGRADATION ANALYSIS – FEDERAL

Proposed Amendments Consistent with federal Antidegradation Policy

- Existing instream water uses protected
- Limited short-term degradation necessary to accommodate important economic or social development
- Sources required to implement all cost-effective and reasonable best management practices
WRITTEN PUBLIC COMMENTS
PUBLIC COMMENTS ON DRAFT STAFF REPORT
27 COMMENT LETTERS RECEIVED

- California Stormwater Quality Association
- Environmental Compliance Management Services
- California Independent Petroleum Association
- United States Environmental Protection Agency
- Alameda County Flood Control & Water Conservation District, Zone 7 and Contra Costa Water District
- Tulare Lake Drainage District and Tulare Lake Basin Water Storage District
- Residents of North Davis Meadows and Estates at North Davis Meadows (4 letters)
- San Joaquin Valley Drainage Authority
- California Association of Sanitation Agencies
- Natural Resources Defense Council and Defenders of Wildlife
- California League of Food Producers
- Central Valley Salinity Coalition
- Sacramento River Source Water Protection Program
- Contra Costa County
• Arvin-Edison Water Storage District
• The Wonderful Company
• Valley Water Management Company
• Northern California Water Association and Sacramento Valley Water Quality Coalition
• Buena Vista Coalition, Cawelo Water District Coalition, Kaweah Basin Water Quality Association, Kern River Watershed Coalition Authority, Kings River Watershed Coalition Authority, Tule Basin Water Quality Coalition, and Westside Water Quality Coalition
• Sacramento Regional County Sanitation District
• California Farm Bureau Federation
• South Delta Water Agency
• Central Valley Clean Water Association
• Joe DiGiorgio, Nexgenum
• Leadership Counsel for Justice & Accountability, Clean Water Fund, Community Water Center, and Environmental Law Foundation
• Kern County Water Agency
• Almond Alliance of California
Changes made in response to comments:

- **Nitrate Control Program**
  - Will be reviewed with Salt Control Program
  - Process for requesting different priority treatment

- **Salt Control Program**
  - In Phase I, still applies where AGR and MUN have been de-designated
  - Stormwater under Salt Control Program

- **Boron**
  - Limits in Tulare Lake Basin Plan removed; replaced with reference to beneficial use protections
PUBLIC COMMENTS – REMAINING CONTROVERSIES

Water Purveyors (primarily Salt)
- Potential Degradation of Source Waters including Delta
- Secondary MCL Provisions inadequate, despite clarifications

Environmental Justice Advocates (primarily Nitrate)
- Inadequate process, too little outreach
- Board “abandoning restoration of contaminated groundwater”
- Doesn’t comply with various laws and policies
- Amendments simply allow degradation in exchange for provision of replacement water.
- CEQA analysis inadequate
Comment: Concerns about potential negative impacts on Delta water quality. The Board should not allow continued use of assimilative capacity, nor consider salinity in source water or potential for growth.

Response: Staff disagrees. Proposed amendments do not alter, revise or supersede Bay-Delta requirements. Requirements for anti-degradation analyses, evaluation of downstream impacts, and protection of water quality remain. Board retains discretion to determine allocation of assimilative capacity and consider factors such as salinity in source water and growth.
Comment: The Board is allowing degradation to continue for decades. Recommend setting one salinity objective (between recommended and upper) for both pathways. Meet recommended level by end of Salt Control Program. The short-term value is not protective of MUN.

Response: This is a long-term effort that will take decades. Amendments prevent degradation in conservative pathway and manage degradation in alternative pathway. Separate goals, so same process and/or limit would be inappropriate. Title 22 provides flexibility between recommended and upper salinity limits, and authorizes use of the short-term limit on a temporary basis.
Comment: The Amendments are not consistent with Porter-Cologne. Dischargers alone are responsible for any impacts from their discharges. Remove recommendations to other agencies.

Response: Staff disagree. Proposed amendments make no changes to existing water quality objectives nor remove requirements for the Board to conduct anti-degradation analysis, evaluate downstream impacts and protect water quality. Permittees continue to be responsible for impacts from their discharge.

However, many entities within and outside of the Central Valley benefit from imports and exports of Central Valley water and should be part of a long-term solution.
Comment: Amendments should be consistent with drainage agreements. Regulated brine-line is a loophole around existing/pending agreements (i.e. Grassland Bypass Project).

Response: The Board does not regulate/approve the transfer/diversion of water, and any solution involving diversion of surface water would need coordination with multiple agencies and a permit.

Current drainage agreement with Grassland prevents drainage from impacting surface water bodies but does not require that the salt remain in the Central Valley indefinitely.
PUBLIC COMMENTS – WATER PURVEYORS

Comment: Seek to maintain high quality of drinking water supply. Proposal may result in unintended consequences.

Response: The Amendments are designed to protect water quality, and the vetting process has worked hard to avoid unintended consequences. The Amendments will implement more stringent permitting practices while maintaining compliance with anti-degradations policy and applicable laws and regulations.
Comment: Strongly opposes use of dissolved analysis for secondary MCLs. Use of dissolved analysis does not represent treated drinking water.

Response: Revisions were made to the Amendments to remove “dissolved” references, switching to “filtered” samples to remove suspended sediment. Approved EPA methodology using 1.5-micron filter, and filtered sample analyzed for total fraction. This better represents treated drinking water.
Comment: Revise proposal to require secondary MCLs to address public health beneficial uses.

Response: No revisions made. Secondary MCLs protect public welfare uses – Primary MCLs and other objectives protect public health uses. The Amendments would not alter Board practice to protect all uses.
Comment: Turbidity and color concerns were summarily dismissed.

*Response:* No revisions made. The Amendments address compliance evaluations for turbidity and color as *Secondary MCLs*. Specific turbidity and color objectives remain intact and enforceable, but not linked to Secondary MCLs.
Comment: Proposal revises existing water quality objectives for secondary MCLs. This has not been justified with either adequate scientific and environmental review or peer review.

Response: Revisions made to clarify that Amendments would not revise water quality objectives. Secondary MCLs are still expressed as “total recoverable.” The Amendments simply clarify how compliance with secondary MCLs will be determined.

Peer review not required, as no new science being relied upon. Environmental review adequately covers potential impacts of Amendments.
Comment: Proposed SAMP inadequate. It is focused only on nitrate and salt, fails to address non-salinity constituents, does not have a strategy for cumulative and long-term surveillance, and does not fully evaluate impacts.

Response: Salt and nitrate not the exclusive focus of the SAMP. The monitoring workplan references evaluation of secondary MCLs, and the SAMP is still under development.
Comment: Process was inadequate, too little outreach

Response: The Board has been committed, for over a decade, to a protracted stakeholder process. Numerous discussion forums were attended by affected persons and their representatives.
Comment: “Reasonable, feasible, and practicable” should not be terms associated with aquifer restoration. The Board is abandoning restoration of contaminated groundwater basins.

Response: The Water Code gives the Board with the authority to consider reasonableness, feasibility, and practicability when adopting Basin Plan Amendments.

De-designation of the MUN beneficial use is a last resort, and would be considered in a separate action and would be subject to additional public process.
Comment: The Nitrate Control Program is simply, “a regulatory program that allows degradation of Central Valley groundwater basins in exchange for provision of replacement water.”

Response: The Nitrate Control Program places many conditions on discharges to ensure that nitrate loading will be reduced in a significant and meaningful manner. Replacement drinking water is only one facet of the program.
Comment: Communities who have been paying for replacement water should be made whole, not just communities that still face nitrate problems.

Response: Under the proposed Amendments, communities that have been paying for replacement water will participate in the development of drinking water solutions. Those with currently-impacted supplies are a priority, however.
Comment: Timelines are too long. Ten years should be the maximum timeline for compliance.

Response: Provisions that authorize lengthy timelines are reasonable, given the extent of the nitrate impacts in the region. Even under aggressive restoration scenarios, restoration can take 70+ years.

The Board has broad legal discretion to set long timelines, provided that such timelines are as short as practicable. These requirements are met by the Amendments.
Comment: Amendments violate the Nonpoint Source Policy because nitrate discharges will continue indefinitely at illegal levels. The Nonpoint Source Policy requires a high likelihood of success.

Response: The Amendments will result in significant and meaningful reductions in nitrate loading to groundwater. Monitoring programs will be imposed to ensure that progress will be made.
Comment: There should be no “de minimis” category of nitrate dischargers.

Response: “De minimis” refers to a degradation threshold – permittees that fall under this threshold will not be required to conduct a detailed hydrogeologic analysis. However, they will still be regulated under waste discharge requirements that will require the protection of beneficial uses.
Comment: Any averaging is improper, whether in shallow groundwater or in a Management Zone. Averaging does not comply with the Water Code.

Response: The Board has a lot of discretion in developing Basin Plans to ensure the reasonable protection of beneficial uses. Averaging, as proposed in the Amendments, will ensure the reasonable protection of beneficial uses.
Comment: Concerns related to drawing Management Zone boundaries and how dischargers will seek out impacted wells.

Response: Drawing of Management Zone boundaries will be a challenge. However, such boundaries will be subject to a public process that will allow communities to participate and will be subject to Board oversight.

Under the Amendments, permittees will have an obligation to identify, “public water supply and domestic wells that exceed nitrate water quality objectives” and that are affected by their discharges. Replacement drinking water will be provided to those affected.
Comment: Exceptions are illegal.

Response: The Porter-Cologne Water Quality Control Act, the State Antidegradation Policy, and the Nonpoint Source Policy all allow compliance timelines as authorized under the proposed Exceptions Policy, provided that those timelines are “as short as practicable.”
Comment: Offsets must ensure that water quality objectives are met at the point of discharge.

Response: This definition of “offset” would not allow the Board to authorize actions to reduce overall nitrate loading, if such actions were not employed at the precise place where a discharge was occurring. These actions are beneficial and should be encouraged, especially because local impacts will still be addressed under the Amendments.
Comment: The Nitrate Control Program does not comply with the State Antidegradation Policy.

Response: The Amendments are consistent with the State Antidegradation Policy because although limited degradation is allowed, uses will be protected, permits will still require best practicable treatment and control to limit degradation of high-quality waters, and the Board can make a “maximum benefit” finding based on the discussions in the Staff Report.
Comment: The Nitrate Control Program does not comply with the federal Antidegradation Policy because there is a connection between groundwater and surface waters that is not addressed.

Response: The Amendments are consistent with the federal Antidegradation Policy because existing instream water uses protected, any limited short-term degradation is necessary to accommodate important economic or social development, and sources will be required to implement all cost-effective and reasonable best management practices.
Comment: The Nitrate Control Program violates the public trust doctrine because nitrate degradation will impair surface water users.

Response: No surface waters within the scope of the Amendments are currently impacted due to nitrates. Analysis performed under CV-SALTS did not find any additional impacts due to nitrates in surface waters. The Nitrate Control Program does not violate the public trust doctrine.
Comment: The Substitute Environmental Document does not contain a reasonable range of alternatives.

Response: The alternatives discussion is sufficient to satisfy applicable regulatory requirements for this certified regulatory program. The Staff Report provides a discussion about numerous alternatives considered throughout the 12 year development of the proposed Amendments.
Comment: The Environmental Analysis engages in speculation and conjecture.

Response: The SED is more akin to a “Program EIR” and does not engage in speculation or conjecture about the details of subsequent projects that may require environmental review.

As with a Programmatic EIR, “[s]ubsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.”
Comment: The Environmental Analysis does not adequately discuss enforceable and feasible mitigation measures.

Response: Much of the discussions during the development of the Amendments concerned defining and mitigating potentially adverse impacts. Mitigation measures, as discussed during 12 years of meetings, are incorporated into the project proposal itself.
**Comment:** The Amendments will have a disparate negative impact on protected classes, in violation of equal protection laws.

**Response:** The Amendments will apply equally throughout the Central Valley, and were crafted with specific provisions, including terms in the Nitrate Control Program, to find and address nitrate-impacted wells, including domestic wells and unregulated small systems.

*The Amendments will not have a disparate negative impact on any protected class of persons.*
Comment: “[T]he failure to adequately protect groundwater violates California's Fair Employment and Housing Act ... which guarantees all Californians the right to hold and enjoy housing without discrimination based on race, color or national origin.”

Response: The adoption of the proposed Amendments does not fall within any category of unlawful practices defined by the California Fair Employment and Housing Act.
STAKEHOLDER PANELS

WATER PURVEYORS
ENVIRONMENTAL JUSTICE REPRESENTATIVES
CENTRAL VALLEY SALINITY COALITION
QUESTIONS
Late Revisions Provided in Handouts

- Provide editorial clarifications
- Update Appendices I (Salt) and J (Nitrate) with additional examples
- Update Resolution to accept late revisions
## NEXT STEPS & TIMELINE

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<th>Anticipated Date</th>
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<tr>
<td>May 31 – June 1, 2018</td>
<td>Today’s Hearing</td>
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<tr>
<td>June 2019</td>
<td>State Water Board Consideration</td>
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<tr>
<td>September 2019</td>
<td>Office Administrative Law Consideration - Groundwater Components Effective Upon Approval</td>
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<tr>
<td>December 2019</td>
<td>USEPA Consideration - Surface Water Components Effective Upon Approval</td>
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<tr>
<td>September 2020</td>
<td>Initiate Notice to Comply Mailings</td>
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STAFF RECOMMENDATION

• Adopt Resolution to:
  – Approve the Staff Report and its supporting environmental documentation
  – Adopt the Basin Plan Amendments into the Central Valley Basin Plans with approved late revisions
  – Direct the Executive Officer to forward the amendments to State Water Board, Office of Administrative Law and USEPA (as appropriate) for approval.
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

Thank You