Central Valley-wide Salt and Nitrate Control Programs

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

January 19, 2018
PUBLIC WORKSHOP PURPOSE

We are here for:
• Open Discussion of Salt & Nitrate Control Programs and Supporting Components
• Public Input
• Summarize Next Steps

We are NOT here to:
• Take Action on Proposed Programs or Policies

PUBLIC WORKSHOP SCHEDULE

Morning
• Introduction
• Control Program Overview
• Nitrate Control Program
• Salt Control Program
• Public Comment Period 1
• Lunch

Afternoon
• Secondary Maximum Contaminant Level Policy
• Drought and Conservation Policy
• Offsets Policy
• Exceptions Policy
• Variance Policy
• Definitions and Terminology
• Public Comment Period 2
• Next Steps
CONTROL PROGRAM DEVELOPMENT PROCESS

• Salt and Nitrate Management Plan (SNMP) – Final Submittal January 12, 2017
• Public Hearing – March 9, 2017
  – Central Valley Water Board Resolution R5-2017-0031 – Accepted the SNMP and Directed Staff to Initiate Basin Plan Amendments As Appropriate to Implement the Plan
• Public Workshop – January 19, 2018
  – Discuss proposed Basin Plan Amendments to establish a Central Valley-wide Salt and Nitrate Control Program
• Materials posted at: www.waterboards.ca.gov/centralvalley/water_issues/salinity/
CENTRAL VALLEY SALT & NITRATE ISSUES

**Nitrate Issues**
- Legacy and existing conditions
- Direct impacts to drinking water supplies
- Significant economic costs
  - Treatment
  - Alternate supply
- Diverse sources of nitrate to managed

**Salt Issues**
- More salt enters the Central Valley Region than leaves
  - Impacts (current/legacy)
    - Agricultural Production
    - Drinking Water Supplies
  - Economic Cost
    - Direct Annual: $1.5 Billion
    - Statewide annual income impact: $3.0 Billion
  - Diverse Sources

CONTROL PROGRAMS FOCUS ON ADDRESSING TWO PRIMARY GOALS

SNMP focused on addressing two primary goals:

**Assure Safe Drinking Water**

**Sustain the Agricultural Economy**

Basin Plan Amendments will establish:
- Mechanism to provide 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
- An approach that recognizes diversity of conditions across the Central Valley
CONTROL PROGRAMS FRAMED AROUND THREE PRIORITIZED MANAGEMENT GOALS

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

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

Management Goal 3
- Implement Managed Aquifer Restoration
  - Where Reasonable, Feasible & Practicable

NITRATE CONTROL PROGRAM
NEW OR REVISED REGIONAL BOARD AUTHORITIES FOR NITRATE

- Revised Exceptions Policy
- Management Zones
  - Alternative for calculating and allocating assimilative capacity
  - Exception for area
- Authorize Use of Offset Projects

NITRATE CONTROL PROGRAM SCHEDULE

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<tbody>
<tr>
<td>Central Valley Board Approval (6/18)</td>
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<td>OAL Approval (12/18)</td>
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Priority No. 1
- Receive Notice to Comply (NTC)  
  - w/in 1-year of OAL approval
- Notice of Intent – Select Path A or Path B  
  - w/in 330 days of NTC

Priority No. 2
- Notice to Comply  
  - w/in 2-4 years of OAL approval
- Notice of Intent – Select Path A or Path B  
  - w/in ~15 months of NTC
RECOMMENDED PRIORITY AREAS

• Priority 1 Area (Red) – Notice to Comply *within one year of Basin Plan amendments* becoming effective
• Priority 2 Area (Orange) – Notice to Comply *within 2-4 years of Basin Plan amendments* becoming effective
• Remaining Areas (Green) – Implementation to be phased in at a later date

PRIORITY GROUNDWATER BASINS/SUBBASINS

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<thead>
<tr>
<th>No.</th>
<th>Name</th>
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<th>Name</th>
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<tbody>
<tr>
<td>5-22.11</td>
<td>Kaweah</td>
<td>5-21.67</td>
<td>Yolo</td>
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<td>5-22.03</td>
<td>Turlock</td>
<td>5-22.04</td>
<td>Merced</td>
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<td>5-22.05</td>
<td>Chowchilla</td>
<td>5-22.14</td>
<td>Kern County (Westside South)</td>
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<td>5-22.13</td>
<td>Tule</td>
<td>5-22.12</td>
<td>Tulare Lake</td>
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<td>5-22.02</td>
<td>Modesto</td>
<td>5-22.14</td>
<td>Kern County (Poso)</td>
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<td>5-22.08</td>
<td>Kings</td>
<td>5-22.07</td>
<td>Delta-Mendota</td>
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<td>5-22.01</td>
<td>Eastern San Joaquin</td>
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<td>5-22.06</td>
<td>Madera</td>
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### CONDITIONAL PROHIBITION OF NITRATE DISCHARGES TO GROUNDWATER

- Permittees that discharge nitrate pursuant to a WDR or Conditional Waiver and are not regulated under the Irrigated Lands Regulatory Program (ILRP):
  - Upon receiving a Notice to Comply, discharges of nitrate are prohibited unless a discharger implements the requirements of the Nitrate Control Program
  - Prohibition applies until such time that the permittees’ existing WDR or Waiver is updated or amended
- Permittees regulated under the ILRP will be required to comply with the Nitrate Control Program through an amendment to the ILRP General Orders

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### NITRATE PERMITTING STRATEGY

<table>
<thead>
<tr>
<th>Path A: Individual Permitting Pathway</th>
<th>Path B: Management Zone Pathway</th>
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<tbody>
<tr>
<td>• Discharger opts to comply as an individual, or third party maintains current approach</td>
<td>• Discharger opts to work collectively with other dischargers through a Management Zone</td>
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<tr>
<td>• Defines receiving water as shallow groundwater</td>
<td>• Management zone is a defined area, e.g., a portion of a larger groundwater basin/subbasin</td>
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<tr>
<td>• Establishes five discharge categories and associated compliance requirements</td>
<td>• Serves as a discrete regulatory compliance unit for compliance</td>
</tr>
</tbody>
</table>
| • Establishes trigger levels for consideration with regard to Board allocation of available assimilative capacity | }
Management Zone = “Discrete Regulatory Compliance Unit within a Groundwater Basin/Subbasin”

Outcome = Collaborative Nitrate Management in an Area within a Groundwater Basin/Subbasin

MANAGEMENT ZONE CHARACTERISTICS

Discrete Regulatory Compliance Unit within a Groundwater Basin/Subbasin

- Proposed by Stakeholders
- Promotes Coordinated Water Resource Management
- Assure Safe Drinking Water for Adversely Affected Residents
- Promotes Prioritization of Resources Allocation
- Facilitate Stakeholder Cooperation
MANAGEMENT ZONE DELIVERABLES: PRIORITY 1 AREAS

Receive Notice to Comply (w/in 1-year after OAL Approval)

Implement EAP unless Board deems incomplete

Submit Management Zone Implementation Plan (MZIP) w/in 6 months after Board accepts FMZP

Submit Preliminary Management Zone Proposal (PMZP) with Early Action Plan (EAP)

Submit Final Management Zone Proposal (FMZP) w/in 180 Days of Receipt of Board Comments on PMZP

Implement MZIP

PRELIMINARY MANAGEMENT ZONE PROPOSAL

• Proposed boundaries
• Participants
• Stakeholders
• Assessment
• Summary of practices
• Wells

• Outreach efforts
• Timeline
  — Additional Participants
  — Boundary Area
  — Governance
  — Funding
  — Preparation of Final
**EARLY ACTION PLAN**

- Identification & outreach to users
- Coordination with others (e.g., Counties, Division of Drinking Water, GSAs)
- Actions & Implementation
- Funding mechanism

**FINAL MANAGEMENT ZONE PROPOSAL**

- Participants
- Governance
- Groundwater Assessment Update
- Regulatory compliance approach
  - Volume-weighted assimilative capacity
  - Exception for meeting nitrate objective
- Coordination with GSAs
- Implementation of Early Action Plan
- Timeline for development of Management Zone Implementation Plan
Plan Must Address Management Goals

1. Drinking Water
2. Balance
3. Managed Restoration
SALINITY MANAGEMENT STRATEGY

• Salt Control Program Implements the Following Strategy:
  – Control the rate of degradation (“managed degradation”);
  – Implement salinity management activities to achieve long-term sustainability (salt balance) and prevent continued impacts to salt sensitive areas;
  – Where reasonable, feasible and practicable, protect beneficial uses by maintaining water quality that meets applicable water quality objectives and pursuing long-term managed restoration; and
  – Protect beneficial uses by applying appropriate antidegradation requirements for high quality water

PHASED PROGRAM ALLOWS ADDITIONAL STUDY AND PRIORITIZATION OF REGIONAL RESOURCES

• Need more information to develop a long-term management strategy that considers:
  – Differences across hydrologic regions
  – Potential local or sub-regional solutions vs. a broad region-wide solution
  – Other relevant programs such as GSAs
  – Impacts of existing policies/programs that impact salt management

• Resource allocation must be prioritized to focus first and foremost on addressing nitrate drinking water issues

• Stepwise, adaptive process allows time to determine how best to manage salt
### Phased Program Activities

<table>
<thead>
<tr>
<th>Phase</th>
<th>Purpose/Activities</th>
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</table>
| **Phase I – Prioritization & Optimization (P&O) Study (10-15 years)** | • Develop data/information for sensitive/non-sensitive areas for Central Valley hydrologic regions, including guidelines to protect salt sensitive crops;  
• Identify sources of salinity and actions that impact salinity concentrations;  
• Evaluate impacts of state policies and programs;  
• Identify/prioritize preferred physical projects for long-term salt management (e.g. regulated brine line(s), salt sinks, regional/subregional de-salters, recharge areas, deep well injection)  
• Develop preferred physical project conceptual designs/assess environmental permitting requirements/costs associated with projects;  
• Identify non-physical projects and plan for implementation; and  
• Develop a governance structure and funding plan. |
| **Phase II – Project Development & Fund Acquisition (10-15 years)** | • Obtain long-term funding;  
• Complete environmental permitting and engineering/design for physical projects identified in Phase I;  
• Implement non-physical projects |
| **Phase III – Implementation (10+ years)** | • Construct salt management projects as designed in previous phases |

### Planned Implementation Process - Phasing

- **Phase I**
  - Re-evaluate program
  - Modify program (as needed)
  - Permittee may change compliance pathway (if desired)

- **Phase II**
  - Re-evaluate program
  - Modify program (as needed)
  - Permittee may change compliance pathway (if desired)

- **Phase III**
  - Re-evaluate program
  - Modify program (as needed)
  - Permittee may change compliance pathway (if desired)

* Under certain circumstances may change pathway during phase
Permittees Have the Opportunity to Select a Compliance Pathway at the Beginning of Phase I

**Phase I - Conservative Salinity Permitting Approach**
- Source control
- Conservative effluent limits
- Limited use of assimilative capacity or time schedules
- Eligibility requirements for exception/variance not met

**Phase I - Alternative Salinity Permitting Approach**
- Support funding of P&O Study
- Participate in P&O Study activities, as appropriate
- Continue/maintain existing salt management program
- Eligible for exception/variance

**CONDITIONAL PROHIBITION OF SALT DISCHARGES TO GROUNDWATER DURING PHASE I**

- Permittees that discharge nitrate pursuant to a WDR or Conditional Waiver and are not regulated under the Irrigated Lands Regulatory Program (ILRP):
  - Upon receiving a Notice to Comply, discharges of salt that exceed salinity numeric criteria identified in the Phase I Conservative Permitting Approach are prohibited unless a discharger implements the Phase I Salinity Control Program requirements
  - Prohibition applies until such time that the permittees’ existing WDR or Waiver is updated or amended to reflect the Phase I requirements
- Permittees regulated under the ILRP will be required to comply with the Nitrate Control Program through an amendment to the ILRP General Orders
COMPLIANCE PATHWAY SELECTION PROCESS

Within 6 months of Receiving a Notice to Comply (NTC), the Permittee submits a Notice of Intent (NOI)

**Phase I - Conservative Salinity Permitting Approach**
- Submit an assessment to the Board of how the discharge will comply with permitting requirements
- If the Board does not concur with the assessment findings, the Board will request a Report of Waste Discharge with a submittal deadline

**Phase I - Alternative Salinity Permitting Approach**
- Participate in the Phase I P&O Study by providing the minimum required level of financial support throughout Phase I
- Document to the Board that the required support has been provided
- Continue implementing reasonable, feasible, practicable efforts to control salt

SALINITY CONTROL PROGRAM SCHEDULE

<table>
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<tr>
<th>Regulatory Actions (Current Estimate)</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021 &amp; following</th>
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<tr>
<td>Central Valley Board Approval (6/18)</td>
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<td>State Board Approval (9/18)</td>
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<td>Office Administrative Law (OAL) Approval (12/18)</td>
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<td>Trigger to Initiate GW implementation</td>
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<tr>
<td>EPA Approval (Surface Water only: 6/19)</td>
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<td>Trigger to Initiate SW implementation</td>
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<td>Notice to Comply (NTC) Groundwater</td>
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<td>w/in 1-yr of OAL approval</td>
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<td>Notice of Intent (NOI) - Groundwater</td>
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<td>w/in 6-mo of NTC</td>
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<tr>
<td>Notice to Comply - Surface Water</td>
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<td>w/in 1-yr of EPA approval</td>
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<td>Notice of Intent – Surface Water</td>
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<td>w/in 6-mo of NTC</td>
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<tr>
<td>Phase I Implementation (10-15 years)</td>
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### PHASE I PRIORITIZATION & OPTIMIZATION STUDY IMPLEMENTATION

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<tr>
<th>Issue</th>
<th>Expectations</th>
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</table>
| Who could potentially participate? | • All (or almost all) permitted dischargers of salt (surface water or groundwater)  
• Non-discharging entities that would benefit from Central Valley salinity management and control activities |
| Who will manage the Study? | • Anticipated lead - Central Valley Salinity Coalition |
| How will the Study be implemented? | • Activities to occur in an open stakeholder process  
• Workplan (scope, budget, schedule) to be developed prior to implementation  
• Meet milestones established in Phase I Salinity Control Program |
| How will required level of commitment be determined? | • Anticipated to be determined based on a variety of factors, e.g., facility size/type; discharge volume, salt loading, others |

### PHASE I P&O STUDY - KEY MILESTONES

<table>
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<tr>
<th>Time From Notice to Comply</th>
<th>Milestone</th>
<th>Deliverables</th>
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<tbody>
<tr>
<td>6 months</td>
<td>Phase I Workplan</td>
<td>Task descriptions, costs, schedule</td>
</tr>
<tr>
<td>12 months</td>
<td>Phase I Funding &amp; Governance Plan</td>
<td>Process/procedures for P&amp;O Study governance; secure funding</td>
</tr>
<tr>
<td>Annually</td>
<td>Annual Progress Report</td>
<td>Workplan progress; funding/costs; participation</td>
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<tr>
<td>5 years</td>
<td>Interim Project Report (by hydrologic region)</td>
<td>Preferred physical/non-physical projects; next steps/schedule for development</td>
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<tr>
<td>9 years</td>
<td>Long-term Governance Plan</td>
<td>Implementation approach for Phases II &amp; III; stakeholder roles and responsibilities</td>
</tr>
<tr>
<td>9 years</td>
<td>Long-term Funding Plan for next phases</td>
<td>Long-term funding, equitable management approach for long-term, large-scale projects</td>
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<tr>
<td>9 years</td>
<td>Basin Plan Amendment Recommendations</td>
<td>Facilitate implementation of Phase II; modify permitting approaches, if appropriate</td>
</tr>
<tr>
<td>10 years</td>
<td>Final Project Report</td>
<td>Physical project conceptual designs, permitting requirements; non-physical project updates</td>
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SECONDARY MAXIMUM CONTAMINANT LEVEL POLICY

TBD

- TBD
- TBD
DROUGHT AND CONSERVATION POLICY

TBD

- TBD
- TBD
OFFSETS POLICY

TBD

• TBD:
  – TBD
  – TBD
## EXCEPTIONS POLICY

### MODIFICATIONS TO EXISTING EXCEPTIONS POLICY

- Replaces references to SNMP development with description of Salt and Nitrate Control Program management goals
- Adds nitrate and boron to constituents for which an exception may be granted
- Revises general requirements for granting an exception:
  - Exception duration
  - Reporting
  - Participation in Salt and Nitrate Control Programs
  - Reauthorization/Renewal requirements
  - Relevance to modification of a water quality standard
  - Safe drinking water provision
- Establishes application-specific requirements for salinity, nitrate and boron
MODIFICATIONS TO EXISTING EXCEPTIONS POLICY

- Slides specific to salinity, nitrate, boron-specific requirements?

VARIANCE POLICY
MODIFICATIONS TO EXISTING VARIANCE POLICY

• Key changes are to Section III – Variance Program for Salinity Water Quality Standards:
  – Replaces reference to SNMP development with description of Phased Salinity Control Program
  – Establishes that only permittees participating in the Phase I Prioritization & Optimization Study may apply for a variance
  – Modifies sunset provision from “30 June 2019” to “15 years from the effective date” of the Basin Plan amendments
  – Allows for multiple dischargers within a watershed or groundwater basin to apply for a variance if the dischargers are participating in the P& Study

DEFINITIONS AND TERMINOLOGY
SUBDIVISIONS OF A GROUNDWATER BASIN OR SUB-BASIN

- **Key Definitions:**
  - **Shallow Zone:** 10% uppermost portion of the Upper Zone
  - **Upper Zone:** Portion from which most domestic wells draw water; generally extends from top of the Saturated Zone to bottom of the lowest screened domestic wells
  - **Lower Zone:** Remaining portion of a groundwater basin/sub-basin's Production Zone; generally used for crop irrigation and some municipal supply
  - **Production Zone:** Portion from which ≈90% of groundwater pumped and utilized; generally extends from top of Saturated Zone to bottom of lowest screened production well

OTHER DEFINITIONS TO HIGHLIGHT?

- TBD