CV-SALTS Executive Committee Meeting
Thursday, May 12, 2016 - 8:30 AM to 4:00 PM
Sacramento Regional Sanitation District Offices – Valley Oak Room
10060 Goethe Rd, Sacramento 95827
Teleconference (641) 715-3580 Code: 279295#
Go-To-Meeting Link: https://global.gotomeeting.com/join/150730149

Posted 05-02-16 – Revised 5-10-16

AGENDA

1) **Welcome and Introductions** - Chair
   a) Committee Roll Call and Membership Roster - 5 min.
   b) Review/Approve Executive Committee Meeting Notes for March 30, 2016

2) **Draft SNMP Executive Summary** – Richard Meyerhoff, Jeanne Chilcott, Tess Dunham (3.0 hrs.)
   - Regional Board CV-SALTS Safe Drinking Water Approach

   11:30 am to 1:00 pm - Lunch on Your Own

3) **SNMP Policies** – Identify Key Policy Issues for CV-SALTS Regional Board Workshop - Richard Meyerhoff, Jeanne Chilcott, Tess Dunham (3.0 hrs.)
   - Draft Management Zone Policy
   - Draft Salinity AGR Groundwater Policy
   - Draft SMCL Policy
   - Draft Exceptions Policy
   - Draft Nitrate Permitting Strategy

4) **Set next meeting dates:** 2016
   - June 10th Admin Meeting 1:00 PM - 2:30 PM
   - June 15th Executive Committee Meeting, Half-Day
   - June 16th Executive Committee Policy Session
   - June 22nd CV-SALTS Regional Board Workshop

*CV-SALTS meetings are held in compliance with the Bagley-Keene Open Meeting Act set forth in Government Code sections 11120-11132 (§ 11121(d). The public is entitled to have access to the records of the body which are posted at [http://www.cvsalinity.org](http://www.cvsalinity.org)*

*One or more Central Valley Regional Water Quality Board members may attend.*
## CV-SALTS Committee Rosters

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley Water Board</td>
<td>Pamela Creedon</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt Central Valley Water Board</td>
<td>Jeannie Chilcott</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>State Water Resources Control Bd.</td>
<td>Darrin Polhemus</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Department of Water Resources</td>
<td>Jose Faria</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>US Bureau of Reclamation</td>
<td>Michael Mosley</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Environmental Justice</td>
<td>Laurel Firestone</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Environmental Water Quality</td>
<td>TBD</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>CV Salinity Coalition</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt So. San Joaquin WQC</td>
<td>Casey Creamer</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Stockton</td>
<td>Robert Granberg</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>California Cotton Growers</td>
<td>Chris McGlothlin</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Fresno</td>
<td>Steve Hogg</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>CA Leaque of Food Processors</td>
<td>Trudi Hughes</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt CA Leaque of Food Processors</td>
<td>Rob Neenan</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Wine Institute</td>
<td>Tim Schmelzer</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt Wine Institute</td>
<td>Chris Savage</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Tracy</td>
<td>Dale Klever</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt City of Tracy</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Sacramento Regional CSD</td>
<td>Lysa Voight</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt Sacramento Regional CSD</td>
<td>Carolyn Balazs</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>San Joaquin Tributaries Authority</td>
<td>Dennis Westcott</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Modesto</td>
<td>Gary DeJesus</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>California Rice Commission</td>
<td>Tim Johnson</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Manteca</td>
<td>Heather Grove</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Tulare Lake Drainage/Storage District</td>
<td>Mike Nordstrom</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Western Plant Health Assoc.</td>
<td>Renee Pinel</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>City of Vacaville</td>
<td>Royce Cunningham</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Dairy Cares</td>
<td>J.P. Cativiela</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Alt Dairy Cares</td>
<td>Paul Sousa</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Westlands Water District</td>
<td>Jose Guiterrez</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Comm. Chairs/Co-chairs

<table>
<thead>
<tr>
<th>Chair/Co-chairs</th>
<th>Name</th>
<th>6-Nov</th>
<th>18-Nov</th>
<th>19-Nov</th>
<th>4-Dec</th>
<th>14-Jan</th>
<th>15-Jan</th>
<th>12-Feb</th>
<th>24-Feb</th>
<th>25-Feb</th>
<th>11-Mar</th>
<th>29-Mar</th>
<th>30-Mar</th>
<th>6-May</th>
<th>11-May</th>
<th>12-May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair Executive Committee</td>
<td>Parry Klassen, ESJWQC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vice Chair Executive Committee</td>
<td>Debbie Webster CVCWA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Technical Advisory Committee</td>
<td>Roger Reynolds, S Engr.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Technical Advisory Committee</td>
<td>Nigel Quinn, LBL</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Public Education and Outreach</td>
<td>Joe DiGiorgio</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Economic and Social Cost Committee</td>
<td>David Cory, SJVDA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Lower San Joaquin River Committee</td>
<td>Karna Harrigfeld, SEWD</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
### CV-SALTS Committee Rosters

#### Participant Names

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Archibald</td>
<td>Elaine</td>
<td>CUWA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Ashby</td>
<td>Karen</td>
<td>LWA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Barclay</td>
<td>Diane</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Bell</td>
<td>Nicole</td>
<td>KRWCA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Buford</td>
<td>Pam</td>
<td>CVRWQCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Cady</td>
<td>Mark</td>
<td>CDFA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Cehrs</td>
<td>David</td>
<td>KRCDA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Clary</td>
<td>Jennifer</td>
<td>CWA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>D’Adamo</td>
<td>Dee Dee</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Deeringer</td>
<td>Andrew</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Delehant</td>
<td>Gail</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Dickey</td>
<td>John</td>
<td>Planterra</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Doduc</td>
<td>Tam</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Dunham</td>
<td>Tess</td>
<td>Somach Simmons</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Escobar</td>
<td>Juan</td>
<td>DWR</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Shahla</td>
<td>Farahnah</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Fuentes</td>
<td>Robert</td>
<td>Leadership Counsel</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Gallock</td>
<td>Charlotte</td>
<td>WWD</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Garcia</td>
<td>Rick</td>
<td>CRC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Gonzalez</td>
<td>Armando</td>
<td>Occidental Oil &amp; Gas</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Gosling</td>
<td>Doug</td>
<td></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Grovhoug</td>
<td>Tom</td>
<td>LWA</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Houdesheldt</td>
<td>Bruce</td>
<td>NCWA/Sac Valley WQC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Jensen</td>
<td>Ryan</td>
<td>CWC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Johnson</td>
<td>Alex</td>
<td>Freshwater Trust</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Johnson</td>
<td>Michael</td>
<td>LSJRC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kihara</td>
<td>Annalisa</td>
<td>SWRCB</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kimmelshue</td>
<td>Joel</td>
<td>LANDIQ</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kretzinger Grabert</td>
<td>Vicki</td>
<td>LSCE</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kubiak</td>
<td>Rachel</td>
<td>Western Plant Health Assoc.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Kuzeka</td>
<td>Timothy</td>
<td>CWC</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

### ADDITIONAL PARTICIPANTS:
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Laputz</td>
<td>Adam</td>
<td>CVRWQCB</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larson</td>
<td>Bobbi</td>
<td>CASA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LeClaire</td>
<td>Joe</td>
<td>CDM Smith</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lillen</td>
<td>Jonathan</td>
<td>Chevron</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Link</td>
<td>Adam</td>
<td>CASA</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Longley</td>
<td>Karl</td>
<td>CVRWQCB</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McGahan</td>
<td>Joe</td>
<td>SJVDA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeks</td>
<td>Glenn</td>
<td>CVRWQCB</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meyerhoff</td>
<td>Richard</td>
<td>CDM Smith</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moore</td>
<td>Tim</td>
<td>Risk-Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O’Brien</td>
<td>Conor</td>
<td>CDFA</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okita</td>
<td>David</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pirondini</td>
<td>Tony</td>
<td>City of Vacaville</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pritchett</td>
<td>Gregory</td>
<td>Chevron</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulupa</td>
<td>Patrick</td>
<td>CVRWQCB</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pitcher</td>
<td>Jennifer</td>
<td>West. States Petroleum</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rempel</td>
<td>Jenny</td>
<td>CWC</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rodgers</td>
<td>Clay</td>
<td>CVRWQCB</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safi</td>
<td>Sam</td>
<td>SacRegional CSD</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schmid</td>
<td>Andrea</td>
<td>Plantieri</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schultz</td>
<td>Paul</td>
<td>CDM Smith</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seaton</td>
<td>Phoebe</td>
<td>CRLA</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Segal</td>
<td>Daniel</td>
<td>Chevron</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stamps</td>
<td>Alicia</td>
<td>Kennedy/Jenks</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tellers</td>
<td>Josie</td>
<td>City of Davis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas</td>
<td>Bill</td>
<td>KRCD</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thorme</td>
<td>Melissa</td>
<td>Downey Brand</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fillman</td>
<td>Stephanie</td>
<td>LANDIQ</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tristao</td>
<td>Dennis</td>
<td>J.G. Boswell</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wackman</td>
<td>Mike</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zimmerman</td>
<td>Christie</td>
<td>Valley Water Mgmt.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ADDITIONAL PARTICIPANTS:**
CV-SALTS Executive Committee Meeting - Summary Action Notes
For March 30, 2016 – 9:00 AM to 3:00 PM
Attendees are listed on the Membership Roster

AGENDA

1) Welcome and Introductions
   a) Executive Committee Chair Parry Klassen brought the meeting to order, and roll call was completed.
   b) J.P. Cativiela moved, and Casey Creamer seconded, and by general acclamation the February meeting action notes were approved.
   c) Richard Meyerhoff presented the updated Technical Project Schedule.

2) AID Management Zone Archetype
   - The morning session consisted of two presentations on the AID Management Zone Archetype.
     o Chris Kapheim, General Manager, Alta Irrigation District, presented a Collaborative Approach to Regional Water Issues.
     o Karen Ashby, Tom Grovhoug and Vicki Kretsinger presented results from the Management Zone Archetype Study: Alta Irrigation District (AID).
   - Some of the feedback from the committee on the presentations:
     o How much are those asking for relief putting forward to make sure they are not burdened with added costs, and that those causing or contributing are paying a fair share?
     o The importance of linking the NIMS long-term restoration scenarios to the drinking water solutions in the project implementation. Any long term solution is going to have to take into account the need for treatment.

3) AID Management Zone Archetype – Continued Review and Discussion
   - In the afternoon session Richard Meyerhoff asked the committee for feedback on the following policy questions:
     1) Allocation of AC – What guidance can be provided to the Regional Board to demonstrate an appropriate approach?
        • Within MZ boundary
        • Within larger groundwater subbasin boundary
     2) Compliance with SNMP Management Goals – AID Example
        • Goal 1 (safe drinking water) – AID has a path forward
        • Goal 2 & 3 (balance and restoration) – Path to restoration for nitrate is incredibly long even under a comprehensive management scenario
          • Can an SNMP be approved if safe drinking water is available and reasonable efforts are made to reduce nitrate loading to achieve balance, but these cannot achieve restoration for many generations?
     3) Is there a threshold where compliance with Management Goal 3 is deemed unattainable similar to designation/dedesignation for a salt sink area?
        o Some of the feedback offered by the committee:
          • The larger groundwater subbasin boundary will be used will be used in the calculation of the 41 DWR basins/subbasins as required by policy. Management zones seeking allocation of assimilative capacity would incur the responsibility to do the sub calculation for their GSA to demonstrate available assimilative capacity. This calculation
is not a mandatory minimum requirement but a discretionary requirement based on the proposed project.

– There has been no comprehensive assessment in the AID Management Zone project area of how many households are at risk for unsafe drinking water.

1. Bill Thomas will contact Chris Kapheim at AID to find out what their estimate is for the number of households in the 7 target communities of the drinking water project, and how they obtained that data.

2. Tim Moore and Daniel Cozad will work on developing a scope of work for determining the number of households in the AID Management Zone area that need drinking area (both those served by the proposed drinking water project, and those outside of the planned project area). Laurel Firestone asked to be included in the development of that scope of work.

– To better respond to the long-term restoration question, the committee decided to use the NIMS project committee to develop a straw proposal linking the new data and modelling tools generated by the AID project with the validation of some of the scenarios proposed by NIMS.

– There was general agreement that a 10-year exception was acceptable as long as it was coupled with an update every 3-5 years, and the full review at 10 years. Tim Moore recommended development of an Exceptions Guidance document over the next year along with the basin plan where these types of things are discussed.

– In response to Jeanne Chilcott’s question regarding allocation of assimilative capacity and use of a buffer, Tim Moore indicated he would be drafting guidelines for the allocation of assimilative capacity to be included in the SNMP.

– Tim Moore asked the committee to consider accelerating an element of the basin plan amendment, (specifically to get an exception in a permit for nitrate in the East Kings Basin MZ/AID archetype), and put it on a one-year development schedule. Jeanne Chilcott and Patrick Pulupa will look into whether there is the authority to do this for nitrate and advise the committee. Laurel Firestone noted that EJ was not going to be ok with an exception to groundwater for nitrate if you are just going to give bottled water.

4) Set next meeting dates: 2016

   - June 22nd will be the CV-SALTS workshop at the Regional Board office in Rancho Cordova. The announcement will be out May 6th, all materials for review must be out no later than May 23rd.
   - The next Admin Meeting will be April 8th. April Policy Meetings will take place on 4/27 and 4/28 and will be held at the Regional Board Office.
Section 1

Executive Summary

California’s Central Valley is one of the most productive agricultural regions in the world and is home to almost 20% of California’s population (estimated at over 38 million in 2015). By 2030 the state population is expected to increase by more than 13% to over about 44 million people and by 2050 the population is expected to be close to 50 million people. This steady growth will put significant, increased demands on state and regional water resources. Communities in the Central Valley rely on surface and groundwater to support many beneficial uses, including agriculture and drinking water supplies. However, elevated salt and nitrate concentrations in portions of the Central Valley impair, or threaten to impair, the region’s water and soil quality. Such impairment, in turn, threatens agricultural productivity and/or the region’s drinking water supplies. For example, a 2009 economic study, projected that if salt management did not change, direct economic costs could exceed $1.5 billion a year within the Central Valley by 2030.

While the threats to the region’s water supplies with respect to salts and nitrates is fairly well understood, the solutions for addressing such threats are complex and multi-faceted. As a result, to address these complex issues, a broad coalition of representatives from agriculture, cities, industry, state and federal regulatory agencies and the public (including Environmental Justice advocates on behalf of Disadvantaged Communities and populations) banded together, starting in 2006, to develop an environmentally and economically sustainable plan for the management of salts and nitrates in the Central Valley. This effort became known as the Central Valley Salinity Alternatives for Long-Term Sustainability initiative, or otherwise CV-SALTS. The overarching goals adopted by CV-SALTS include:

- Sustain the Valley’s lifestyle;
- Support regional economic growth;
- Retain a world-class agricultural economy;
- Maintain a reliable, high-quality urban water supply; and
- Protect and enhance the environment.

CV-SALTS was tasked with developing a Salt and Nitrate Management Plan (SNMP) for the entirety of the Central Valley Regional Water Quality Control Board’s (Central Valley Water

---

1 *Groundwater Quality Protection Strategy: A “Roadmap” for the Central Valley Region*, Central Valley Water Board, August 2010
2 [http://www.dof.ca.gov/research/demographic/reports/projections/P-1/](http://www.dof.ca.gov/research/demographic/reports/projections/P-1/)
3 *The Economic Impacts of Central Valley Salinity*. Final Report to the State Water Resources Control Board; prepared by Howitt et al., University of California Davis, March 20, 2009
5 Since salt and nitrate are of critical concern in Central Valley groundwater, the SNMP does not address constituents of emerging concern (CECs) or nutrients other than nitrate. ***CEC’S a requirement***
Board’s) jurisdictional area (also referred to as “Central Valley” or “Region 5”) (Figure ES-1). The Central Valley SNMP builds on a range of water quality management policies and mechanisms already in existence, proposes additional policies and tools needed to provide the Central Valley Water Board with flexibility in addressing legacy and ongoing loading of salt and nitrate in the diverse region, and presents a comprehensive regulatory and programmatic approach for the sustainable management of salt and nitrate.

Although broader in overall scope, the SNMP was also developed to meet requirements set forth in the State Recycled Water Policy (RWP), adopted in 2009 by the State Water Resources Control Board (State Board). The RWP provides statewide direction regarding the appropriate criteria to be used when issuing permits for recycled water projects. In addition, the RWP articulates the State Board’s policy that every groundwater basin/sub-basin in California needs to have a consistent salt/nutrient management plan (i.e., SNMP). To ensure that such plans were developed in a timely manner, the RWP establishes criteria and timelines for their development. One of the overarching goals of the RWP is to develop salt and nutrient management plans (for groundwater basins or sub-basins) that are sustainable on a long-term basis and to provide the state with clean, abundant water. It is the intent of the RWP that local stakeholders work collaboratively to fund and develop locally driven SNMPs. Specific goals identified by the RWP include:

- Facilitate the development of local SNMPs that are consistent and/or integrated with the Central Valley SNMP;
- Support increased recycled water use in the region;
- Support the use of stormwater recharge as a water management measure;
- Maintain a reliable, high-quality water supply by protecting the beneficial uses of groundwater;
- Balance the use of assimilative capacity and the implementation of management measures within the region; and
- Monitor the implementation of SNMPs to determine if desired outcomes are being achieved.

Addressing the goals and requirements of the SNMP components of the RWP through the CV-SALTS initiative was a logical progression, and to that end, the State Board allocated $5-million of Clean-up and Abatement Account funds to facilitate the effort. Stakeholders have matched the $5-million with over $2-million directly related to the SNMP development, and several million directed to funding ongoing control and monitoring activities.

---

6 The Central Valley Regional Water Quality Control Board is a state agency, organized under the Porter Cologne Water Quality Control Act at Water Code section 13200(g). The water code defines the Central Valley’s jurisdictional area as “all basins, including Goose Lake Basin draining into the Sacramento River and San Joaquin Rivers to the easterly boundary of the San Francisco Bay region near Collinsville.”

1.1 Management Goals & Priorities

Overall, to achieve desired outcomes for the management of salt and nitrate within the Central Valley, this Central Valley SNMP addresses the requirements of the RWP, and also addresses legacy and ongoing salt and nitrate accumulation issues. Further, the Central Valley SNMP looks to address both surface and groundwater issues with respect to salts and nitrates. However, the primary focus for early actions is on the need to address salt and nitrate issues in groundwater in a manner that leads to environmental and economic sustainability. The Central Valley SNMP is built on the following management goals:

**Goal 1: Ensure a Safe Drinking Water Supply**

The most important salt and nitrate management goal for the Central Valley Region is to ensure that a safe drinking water supply is available to all residents of the region. The need to ensure a safe drinking water supply is the highest priority for this SNMP and shall be addressed as quickly as possible in areas in the Central Valley Region where residents do not have drinking water that meets applicable drinking water standards.

**Goal 2: Achieve Balanced Salt and Nitrate Loadings**

Goal 2 seeks to establish a balance of the mass of salt and nitrate in groundwater underlying each permitted or managed area, meaning that achievement of this goal results in no additional degradation of the receiving water.

**Goal 3: Implement Managed Aquifer Restoration Program**

This goal seeks to restore salt and nitrate levels within groundwater basins/sub-basins, or locally managed areas, to concentrations that are at or below the applicable water quality objectives established for each constituent. Studies commissioned by CV-SALTS, as well as studies conducted by others in the Central Valley,\(^8\) demonstrate that achieving applicable salt and nitrate objectives in already impaired waters represents a significant challenge. Given this challenge, this SNMP not only focuses on restoring water quality to meet the applicable objectives where possible, but it also seeks to minimize or prevent further degradation so that additional impairments do not occur.

In general, these goals recognize the need to focus limited resources first on health risks, and then focus on balancing salt and nitrate loading followed by restoring impacted water. Notably, however, activities (both regulated and unregulated) leading to salt and nitrate balance are ongoing now (e.g., preparation and implementation of nutrient management plans, improved irrigation practices, real-time management of discharges, pilot studies, etc.) and are anticipated to continue and improve moving forward. With respect to the ultimate goal of restoring the region’s groundwater basins, the SNMP recognizes that it will be a time and resource intensive effort. The SNMP provides a framework with milestones and timelines for undertaking such restoration efforts. The Central Valley SNMP also identifies a number of proposed policy changes that will

---

support this effort, and recommends that the Central Valley Water Board take action to adopt these policy recommendations.

1.2 Central Valley SNMP

The Central Valley SNMP provides the over-arching framework, including default identification of current ambient water quality and available assimilative capacity in the Central Valley's groundwater basins, for the Central Valley. However, due to the diversity of the region, the SNMP also provides for local flexibility and encourages local-scale management plans to be developed and implemented by local and/or regional entities as local stakeholders deem appropriate. For the purposes of this SNMP, these locally developed management areas are referred to as Management Zones, which are discussed in detail in Section XXX of the SNMP.

The SNMP includes the required elements from the RWP and recommends new policies to be considered for adoption by the Central Valley Water Board. The Regional Board’s water quality control policies/regulations are adopted into water quality control plans, as is required by law. For the Central Valley, there are two such plans: Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (SRSJR Basin Plan), and the Water Quality Control Plan for the Tulare Lake Basin (TLB Basin Plan) (collectively referred to as “Basin Plans”). Thus, to the extent that the SNMP includes recommended policies, or proposed changes/clarifications to existing Regional Board policies, such revisions would need to be adopted by the Central Valley Water Board as part of a process for amending the Basin Plans. Thus, the SNMP includes recommended policy/clarification changes to facilitate implementation of the SNMP; however, the Central Valley Water Board reserves the right and authority to adopt or reject the recommended changes. If adopted, the outcome would be a revised regulatory framework with the flexibility necessary to make salt and nitrate management decisions at the appropriate temporal, geographic and/or management scales.

To better explain some of the proposed policy changes (and how they might work in reality), the SNMP is supported by archetype/prototype studies (“proofs of concept”) that provide examples and/or guidelines for consideration when implementing various elements of this SNMP. Further, findings from technical studies provide the basis for SNMP recommendations for the short and long term management of salt and nitrate throughout the Central Valley.

1.2.1 Implementation Framework

The Central Valley SNMP establishes the minimum or default expectations for the management of salt and nitrate in discharges to surface and groundwater in the Central Valley Region. Generally, and after the relevant recommendations are adopted into Basin Plans, the SNMP recommends that management measures identified in the SNMP be implemented through the Central Valley Water Board’s issuance of Waste Discharge Requirements (WDRs) (individual or General Order) or Conditional Waivers (Waivers). The SNMP recommends that incorporation of the

\[\text{California Water Code, §13240.}\]
\[\text{All persons discharging wastes, or threatening to discharge wastes, to waters of the state are required to obtain authorization for such discharges from the Central Valley Water Board. The Central Valley Water Board’s authorization is}\]
management measures from the plan be phased-in across the Region to allow focus on the most significant water quality priorities first, and to allow for a reasonable allocation of resources. For some dischargers, current WDR and/or Conditional Waiver requirements may already be set at a level necessary to implement or meet the management measures recommended in the SNMP. For others, additional requirements may be necessary.

Where a group of dischargers desire to work collaboratively to comply with and implement this SNMP within a delineated area, these dischargers are encouraged to establish a Management Zone in accordance with the recommended Management Zone Policy, which is provided in section Attachment A-X of the SNMP. Once a Management Zone is established, WDRs and/or Conditional Waivers for multiple dischargers participating in the zone will likely need to be amended (individually or collectively) to incorporate the salt and nitrate management measures that are established specifically for that Management Zone.

1.2.2 Protection of Beneficial Uses

Groundwater basins in the Central Valley are considered suitable or potentially suitable for the following beneficial uses: Municipal and domestic water supply (MUN), agricultural water supply (AGR), industrial service supply (IND), and industrial process supply (PRO). Water quality objectives have not been established for IND or PRO. For MUN and AGR, the following nitrate or salinity water quality objectives provide the basis for the protection of these uses:

1.2.2.1 MUN Beneficial Use

*Nitrate*

The existing nitrate water quality objective for the protection of drinking water supplies in the Central Valley is 10 mg/L (nitrate measured as nitrogen). This SNMP reaffirms that objective for the protection of a waterbody used as a drinking water supply.

*Salinity*

Implementation of this SNMP is based on the protection of a range of total dissolved solids (TDS) or electrical conductivity (EC) concentrations established in 22 California Code of Regulations (CCR) Table 64449-B (“Secondary Maximum Contaminant Levels [SMCL] Ranges”) and incorporated by reference into the Basin Plans (Chapter 3, Water Quality Objectives, Chemical Constituents). The salinity water quality objective to protect the MUN beneficial use shall be 1,000 mg/L TDS or 1,600 μS/cm EC, consistent with the “Upper” level provided in 22 CCR Table 64449-B.

---

The Basin Plans define MUN as “Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.”

The SRSJR Basin Plan defines AGR as: “Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing”; the TLB Basin Plan defines AGR as: “Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing”.

provided through the adoption of waste discharge requirements or adoption of a conditional waiver from waste discharge requirements, which are essentially permits that allow the discharge. See Wat. Code § 13260 et seq.
1.2.2.2 AGR Beneficial Use

Nitrate

No water quality objective has been established for nitrate to protect the AGR beneficial use.

Salinity

The Central Valley Basin Plans do not establish explicit numeric water quality objectives for salinity in groundwater for the protection of the AGR beneficial use. Instead, the Basin Plan relies on a narrative water quality objective to protect AGR. To support translation of the narrative water quality objective, this SNMP recommends the establishment of four AGR classes based on levels of protection required for crop irrigation and stock watering (see Policy: “Salinity Management to Provide Reasonable Protection of AGR Beneficial Uses in Groundwater”, Attachment A-X):

- **AGR Class 1**: TDS < 1,000 mg/L (EC < 1,500 μS/cm).
- **AGR Class 2**: 1,000 mg/L < TDS < 2,000 mg/L (1,500 μS/cm < EC < 3,000 μS/cm).
- **AGR Class 3**: 2,000 mg/L < TDS < 5,000 mg/L (3,000 μS/cm < EC < 7,500 μS/cm).
- **AGR Class 4**: TDS > 5,000 mg/L (EC > 7,500 μS/cm).

These classes are assigned to groundwater basins/subbasins based on existing ambient TDS water quality conditions determined for the production zone (see Section 4.2).

1.2.3 Existing Water Quality Conditions & Assimilative Capacity

The SNMP uses the groundwater basins/sub-basins established by the Department of Water Resources (DWR)\(^\text{14}\) as the basic or default unit for the management of salt and nitrate in the Central Valley. The SNMP establishes existing water quality conditions and water quality trends within each of these basins and sub-basins for upper, lower, and production zones.\(^\text{15}\) In addition, the SNMP establishes the default amount of assimilative capacity that may be available on a sub-basin basis that would allow for the assimilation of salt and nitrate discharges up to a certain level, and that would still be protective of beneficial uses. Absent further information, the SNMP intends for the Central Valley Water Board to rely on these water quality findings as the basis for making relevant permit decisions.

Notably, the default values established in the SNMP for existing water quality conditions and assimilative capacity are applied broadly to an entire groundwater basin/sub-basin and do not consider variability in salt and nitrate concentrations at the local or sub-regional scale. For example, the broad default values presented in the SNMP do not evaluate existing water quality conditions or available assimilative capacity for Management Zone areas or for the zone of influence for a single discharge. To address concerns related to the creation of broad default values, the SNMP provides the necessary flexibility that allows discharger(s) the opportunity (individually or collectively) to provide supplemental information that may supersede or replace


\(^\text{15}\) See Section 4 of this SNMP for definitions of the upper, lower and production zones.
default water quality characteristics established in the SNMP. For permitting purposes, should dischargers propose different existing conditions and/or available assimilative capacity, such changes must be acceptable to the Central Valley Water Board.

1.2.4 Process for Implementing the SNMP in WDRs & Conditional Waivers

As indicated, the SNMP includes a recommended management measures that will need to be addressed and/or incorporated into WDRs or Conditional Waivers. Thus, the SNMP anticipates that all existing dischargers covered by a WDR or Conditional Waiver will need to seek a revised WDR/Waiver so that the management measures established in the SNMP can be formally incorporated into their permit requirements. Or, at the very least, existing dischargers will need to provide the Central Valley Water Board with an appropriate level of information to demonstrate that their existing WDRs or Conditional Waiver sufficiently complies with the SNMP.

The SNMP recognizes that there are hundreds of existing dischargers in the Central Valley covered by individual WDRs, and thousands of individuals subject to General Orders. Accordingly, it is not feasible or possible for the Central Valley Water Board to amend all WDRs and General Orders at once to incorporate provisions from the SNMP. To address this simple reality, the SNMP establishes an orderly and priority process for reviewing existing WDRs and Conditional Waivers for the incorporation of applicable measures specified in the SNMP. In short, dischargers will be notified by the Central Valley Water Board when their WDRs/Waivers must be evaluated to determine if their applicable permit needs to be updated to incorporate elements from the SNMP. Notification by the Central Valley Water Board will be provided based on a priority scheme as described below.

Newly proposed dischargers, or existing dischargers looking to substantially modify current discharges, will need to propose how they expect to comply with the SNMP when they submit their application for WDRs to the Central Valley Water Board (otherwise referred to as a “Report of Waste Discharge”). For these dischargers, the submittal schedule as well as steps (1) and (2) of the implementation process described below in Section 1.2.4.2 do not apply. The remaining steps provide information regarding the requirements to comply with the SNMP.

1.2.4.1 Priority for Implementation

The basis for prioritizing implementation of the SNMP is provided in technical work conducted by CV-SALTS.\textsuperscript{16} Prioritizing implementation is necessary so that Central Valley Water Board and discharger resources are focused on the most significant areas of water quality concern first. Central Valley Initial Analysis Zones (IAZ, a unit of analysis similar to groundwater basins/sub-basins) were ranked using criteria that included (a) nitrate/TDS existing conditions and estimated loading and trends; (b) percentage of public water supply wells impacted; (c) total number of wells; (d) overlying irrigated acreage; and (e) population. These factors were weighted to produce a score for each IAZ; higher scores indicate an increased water quality concern and therefore a higher priority for implementation. Table ES-1 summarizes the priority for SNMP implementation based on the findings in Figure ES-1.

Section 1 • Executive Summary

Table ES-1. Central Valley SNMP Implementation Priority

<table>
<thead>
<tr>
<th>Priority</th>
<th>Dischargers Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dischargers located in red IAZ: 6, 11, 12, 16</td>
</tr>
<tr>
<td>2</td>
<td>Dischargers with an existing WDR in orange IAZs: 13, 15, 17, 18, 19</td>
</tr>
<tr>
<td>3</td>
<td>Dischargers with an existing WDR in yellow IAZs: 9, 10, 14, 21, 22</td>
</tr>
<tr>
<td>4</td>
<td>Dischargers with an existing WDR in green IAZs: 1, 2, 3, 4, 5, 7, 8, 20 and areas within the Central Valley Region that are outside of an IAZ</td>
</tr>
</tbody>
</table>

Figure ES-1. Priority for SNMP implementation based on both TDS and nitrate (Nitrate Implementation Measures Study Final Report. 2016)
1.2.4.2 Compliance with the Central Valley SNMP\(^\text{17}\)

Figure ES-2 illustrates the overall Central Valley SNMP implementation process and Table ES-2 summarizes the SNMP’s proposed compliance deadlines associated with this process (including identification of priority areas for implementation). Below is an overview of the key requirements in the implementation process (numbers in parentheses refer to Figure ES-2). For dischargers that decide to establish a Management Zone, a different process and time schedule is established in the Management Zone Policy.

![Diagram of SNMP implementation process](image)

\(^{17}\) For new dischargers or an existing discharger that has applied for permit renewal through the submittal of a Report of Waste Discharge, steps (1) and (2) in Table ES-2 and Figure ES-(2) do not apply.
Section 1 • Executive Summary

(1) The Central Valley Water Board notifies existing dischargers of their responsibility to comply with the SNMP. The first notification shall occur in the Priority 1 areas upon submittal of the SNMP to the Central Valley Water Board and no later than 90 days after the Basin Plan amendments to incorporate the SNMP become effective. Table ES-2 summarizes notification dates for other priority areas.

(2) Within 90 days of receipt of the letter of notification, dischargers (or collective groups of dischargers) shall submit a Notice of Intent (NOI) to the Central Valley Water Board to provide their planned approach for addressing SNMP provisions. In the NOI, the responding party shall indicate how the discharger (or dischargers) intends to meet the SNMP provisions. Specifically, the NOI shall specify if the discharger intends to comply: (a) as an individual discharger through an existing or revised WDR/Waiver; (b) under an existing General Order; or (c) as part of a Management Zone. If the discharger(s) intends to participate in a Management Zone, then the procedures established in the Management Zone Policy shall guide implementation and the following steps do not apply.

With respect to existing dischargers, once an existing discharger (or group of dischargers if covered by a General Order) receives notification from the Central Valley Water Board as summarized in Table ES-1, the discharger (or collective dischargers) will need to conduct an initial analysis of water quality to evaluate the discharge for consistency with and/or compliance with this SNMP. Specifically, the initial analysis should evaluate receiving water quality and/or the quality of their discharge with respect to salts and nitrates. Findings from this initial analysis are intended for the dischargers purpose only to inform their

---

18 The SNMP will become effective after approvals are obtained from the Central Valley Water Board, State Board and the Office of Administrative Law.

19 Where there is a General Order for a group of dischargers that are members of a Third Party Group, the Third Party Group may prepare the NOI on behalf of all its members.

20 There may be other constituents in the discharge that are of also of concern that are outside the scope of the SNMP and are not addressed here.
response to the notification and is not an evaluation that is required to be submitted to the Central Valley Water Board.

Based on the initial analysis, the discharger (or collective group of dischargers) must then determine how it intends to meet the management goals established in the SNMP, and provide notice to the Central Valley Water Board in the form of an NOI of the dischargers proposed path forward. For some dischargers, the proposed path forward may consist of a simple demonstration relevant to existing WDR requirements, existing discharge quality and/or de minimus impacts to groundwater quality to illustrate compliance with the SNMP. For others, the demonstration may require additional evaluations and/or development of proposed implementation plan(s) that outlines how the Central Valley management goals will be met on an individual basis or collectively through a proposed Management Zone.

- Within 180 days of submittal of the NOI, the discharger(s) shall determine the approach to comply with applicable salinity and nitrate water quality objectives based on known discharge quality and its potential impact on receiving water quality in the area under the influence of the discharge. Or, if discharge quality is not known, the discharger(s) shall determine the approach to comply with applicable salinity and nitrate water quality objectives based on other information that the Central Valley Water Board determines is reasonable and appropriate for evaluating impacts to receiving water quality (e.g., historical monitoring data for areas with consistent land uses, modeling, etc.). When determining the approach to comply, the discharger(s) shall evaluate the area under the influence of the discharge to determine if it exceeds one or both of the following trigger criteria (applicable to both salt and nitrate):
  - Upper zone ambient water quality is > 50% of the applicable water quality objective and the water quality in the upper zone of the groundwater basin/sub-basin is trending upwards and will continue to trend upwards over the 20-year planning horizon; OR
  - Upper zone ambient water quality is > 75% of the applicable water quality objective.

These trigger criteria shall be assessed for the area under the influence of the discharge using the default ambient water quality and trend data provided in the SNMP (Section 4), unless the discharger(s) provides more up to date, localized data. The assessment of these trigger criteria shall also include an assessment of potential contributions from the vadose zone.

Based on the water quality evaluation described above, IF:

- Water quality of the sub-basin is better than the defined triggers for salt and nitrate AND the discharge will not degrade water quality (i.e., discharge water quality is better than that of the sub-basin), or if the impact to the receiving water from the discharge is de minimus (4), then the discharger(s) is considered to be in compliance with the SNMP (7) and findings to that effect will be formalized through revisions to applicable WDRs.

- OR, if the water quality of the sub-basin or water quality in the area of influence of the discharge is better than the defined triggers for salt and nitrate and the discharge will
degrade water quality at a level that is considered above *de minimus* but the discharger is able to demonstrate to the Central Valley Water Board compliance with State Board Resolution 68-16 in first encountered groundwater, then the discharger(s) is considered to be in compliance with the SNMP (7) and findings to that effect will be formalized through revisions to applicable WDRs.

- OR, if the water quality of the sub-basin is worse than the defined triggers for salinity or nitrate constituents, the water quality of the sub-basin exceeds the applicable objectives, or if degradation is more than *de minimus* and the discharger cannot demonstrate compliance (including using assimilative capacity) at first encountered groundwater, then the discharger must seek an allocation of assimilative capacity (5) (based on default ambient water quality or on a scale that is more reflective of the area affected by the discharge) or an exception from a water quality objective (6). In either of these cases the discharger must propose an alternative compliance strategy for Central Valley Water Board consideration. In the event that a discharger(s) seeks to propose an alternative compliance strategy, the discharger(s) proposed compliance strategy must address the goals/priorities of the SNMP, including providing safe drinking water to those in the proposed area of influence; bringing salt/nitrate loading into balance; and establishing a plan for management restoration, where feasible. An alternative compliance strategy may propose any combination of management practices/strategies appropriate to the area and issue(s) of concern (e.g., mitigation banks, offsets, stormwater harvesting, pump/treat, participation in as salt reduction program, e.g., through a regulated brine line).

Where it is determined that an alternative compliance strategy is necessary, the SNMP provides that the discharger(s) shall take the following steps to meet the SNMP’s management goals:

- (8) Determine within 180 days of submittal of the NOI the need for an Assured Water Supply Plan to comply with Management Goal 1 to ensure a safe drinking water supply within the area under the influence of the discharge. This Plan, which must be submitted to the Central Valley Water Board for approval within one year of submittal of the NOI, shall include both an interim and permanent solution to the identified safe drinking water concerns for the area of influence. To the extent practicable, the identified permanent solution should be fully implemented within five years of approval of the Plan.

- (9) Submit a Salt/Nitrate Compliance Plan within two years of submittal of the NOI. This Plan shall provide the short and long-term approach to comply with Management Goals 2 and 3 within the area under the influence of the discharge. The specific content of the Plan depends on the significance of water quality concerns within the area of influence and that is covered by the WDRs/Waivers in question. In general, the Plan, which will be phased at ten-year intervals and implemented as part of an adaptive iterative process, shall include both short-term (≤ 20 years) projects and a long-term (> 20 years) strategy to meet the SNMP Management Goals. The Compliance Plan may rely
on the use of alternative compliance strategies, such as the use of offsets, mitigation banks or other approaches.

Short-term compliance focuses on (a) specific projects to be implemented during Phase 1 or within the first ten years of implementation; and (b) potential or conceptual projects that are planned for implementation in Phase 2, i.e., the second ten years of implementation. For the long-term, the Plan will provide an overall strategy to achieve the management goals applicable to the permitted area, including commitment to long-term regional solutions. For salt management this could include commitments to direct participation in the development of a Central Valley regulated brine line, participation in a mitigation bank to support development of a regulated brine line or participation in the development of a Central Valley Water Board approved salt management site.

1.2.4 Recommended New Policies, Regulatory Tools and Clarifications

Through the CV-SALTS process, stakeholders developed recommendations for clarifications to the Basin Plans, adoption of new or modified policies, and regulatory tools for incorporation into the Central Valley Basin Plans. These recommended clarifications, policies and tools are designed to facilitate implementation of the SNMP and efforts to achieve the Central Valley salt and nitrate management goals. Recommendations include:

- **Establish Default Management Areas** - Incorporate the DWR Bulletin 118 groundwater basin/sub-basin boundaries for use as default salt and nitrate management areas unless a group of dischargers elects to establish a Management Zone, which is a delineated area within groundwater basin/sub-basin (see below). The SNMP documents the existing salt and nitrate conditions in the upper, lower and production zones within each of these groundwater basins/sub-basins.

- **Provide Secondary Maximum Contaminant Level (SMCL) Guidance** - Incorporate guidance on appropriate use of 22 CCR §64449 SMCLs for the protection of the MUN beneficial use in surface waters and groundwater. In particular, provide guidance on the appropriate use of the “Recommended”, “Upper”, and “Short Term” consumer acceptance levels established for total dissolved solids and electrical conductivity in 22 CCR Table 64449-B.

- **Clarify Protection of the AGR Beneficial Use** - Incorporate guidance on interpretation of the existing narrative objective for chemical constituents for setting numeric salinity objectives for the protection of the AGR beneficial use. AGR covers both crop irrigation and stock watering protection. Salinity requirements to protect these uses vary widely depending on the crop or type of stock. This guidance will provide the basis for tailoring the protection of the AGR beneficial use to reflect local and regional differences in water use for agriculture and also identify triggers that will determine if additional action is needed to improve existing/trending water quality.

- **Authorize Implementation of Alternative Compliance Strategies** - Develop a framework for alternative compliance strategies that focuses on ensuring safe drinking water, minimizing degradation, and implementing long-term restoration when discharges cause salt and nitrate degradation in a receiving water. Strategies may include use of offsets, which provide an indirect approach to compliance with a WDR/Waiver requirement for a given
pollutant by managing other sources and loads so that the net effect on receiving water quality from all known sources is functionally-equivalent to or better than that which would have occurred through direct compliance with the WDR at the point-of-discharge.

- **Clarify Factors to Support a Maximum Benefit Finding** – To authorize a discharge that is expected to lower water quality, the Central Valley Water Board must make a finding that authorizing the discharge is "consistent with maximum benefit to the people of the state". It is recommended that guidance be incorporated into the Basin Plan regarding factors to be considered when making a maximum benefit finding.

- **Support Establishment of Management Zones** - Amend the Basin Plans to allow and encourage management of salt and/or nitrate through the establishment of management zones. In general, a Management Zone consists of multiple dischargers working collectively to manage salt and/or nitrate to first insure safe drinking water supplies, then create a balance within the defined Management Zone area, and then ultimately to develop a long-term plan for restoration of groundwater (where feasible) to meet applicable water quality objectives. The Basin Plans do not currently prevent the creation of a Management Zone to manage salt/nitrate; however, it is recommended that the Basin Plans be amended to clearly define requirements for establishment of a Management Zone and ensure that criteria for approval of a Management Zone by the Central Valley Water Board are properly established in regulation.

- **Clarify Allocation of Assimilative Capacity** – Establish guidance on the requirements for allocation of assimilative capacity in groundwater basins/sub-basins or Management Zones. Guidance will include the basis for calculating assimilative capacity within a managed area.

- **Revise the Exceptions Policy** – Revise requirements for granting exceptions in the Central Valley Region to facilitate efforts to achieve water quality objectives in impaired groundwater or to provide the time needed to revise an inappropriate water quality objective. Specifically, it is recommended that the following revisions be made to the current exceptions policy: (a) amend the existing policy to add nitrate to the list of chemical constituents for which the Central Valley Water Board may authorize an exception; (b) remove the existing sunset provision that prohibits the granting of exceptions beyond June 30, 2019; and (c) retain the existing provision that limits the term of an exception to no more than 10 years, but add a new provision stating that exceptions may be reauthorized for one or more additional 10-year periods and that a status report (summarizing compliance with the terms and conditions of the exception) must be presented to the Central Valley Water Board every 5 years.

- **Establish Drought and Water Conservation Policy** – Incorporate into the Basin Plan automatic triggers that may be used to implement a drought-based exception to salinity water quality objectives. Incorporation of such a trigger prevents the need for individual requests for an exception and ensures timely application when the specified conditions exist.
The recommendations are based on technical reviews, case studies, and extensive review and discussion by CV-SALTS stakeholders. Details on each are either included in this document or summarized here with the details referenced in supporting documents.

### 1.3 CEQA and Economics Analysis

To be developed:

- CEQA Scoping for the SNMP was completed in 2013
- Findings from the CEQA/Economic Analysis of the SNMP

### 1.4 SNMP Technical Support

To be developed:

- Executive Summary level discussion of technical findings that support this SNMP.
This page intentionally left blank.
CV-SALTS Approach to Safe Drinking Water
Responsibilities of Dischargers Including Growers

The stakeholder led CV-SALTS initiative will be proposing a Central Valley Salt and Nitrate Management Plan (SNMP) that prioritizes three goals:

- Ensuring a safe drinking water supply for all residents in the valley;
- Managing salt and nitrate loading to eliminate further degradation of receiving water; and
- Implementing managed restoration, where feasible, to rectify historic groundwater impairments.

Dischargers that discharge salts and nitrates will focus their short-term efforts on providing replacement drinking water to affected communities. Longer-term efforts will focus on managing salt and nitrate loading to eliminate further degradation and to ultimately restore impacted aquifers. The SNMP will be a salt and nitrate management blueprint that the Board will implement through waste discharge requirements and other regulatory measures.

**Figure 1** is a draft implementation process under consideration by the CV-SALTS Executive Committee. A summary of the draft process follows:

1. The process is triggered either by a routine permit renewal or, where the Board identifies a “Priority Subbasin”, notice to all dischargers that discharge salt or nitrates within that subbasin.
   - Priority Subbasins were determined through technical studies based on water quality conditions in the upper groundwater zone (typically serving domestic supply), trends, population, land use, and other considerations. Highest priority is for elevated nitrate. Phased reviews by priority will be complete within 5-years.

2. Dischargers will have 90 days to submit a Notice of Intent (NOI) to the Board. The NOI will inform the Board of the Discharger’s intent either to obtain permit coverage under an individual permit or an existing General Order, or the Discharger’s intent become part of a Management Zone, where a series of dischargers will implement a regional strategy to reduce salt and nutrient loading consistent with the SNMP.

3. Within 180 days of submitting the NOI, the Discharger(s) will submit either a report of waste discharge (ROWD) to obtain an individual permit, a notice of intent to enroll under a general permit, or will collaborate with other dischargers participating in a Management Zone to submit a collective report of waste discharge to obtain waste discharge requirements that will implement the load reduction strategy chosen by the Management Zone.

4. The Board’s permitting approach will be dependent on whether ambient water quality in the basin exceeds or falls below water quality “triggers” and whether the discharge will further degrade existing groundwater quality.
   - Triggers will be based on a percentage of the applicable water quality objective and water quality trends in the subbasin.
   - If trigger values are not exceeded and if degradation will not occur, the reissued WDRs will not need specific implementation language.

If triggers are exceeded or if degradation will occur as a result of the discharge, the discharger(s) may propose an alternative compliance strategy for the Board’s consideration. The alternative compliance strategy may be based on:
(5) Requesting allocation of available assimilative capacity, or

(6) Requesting a conditional variance or exception.

The proposed compliance plan must address the goals/priorities of the SNMP, but may utilize any combination of management practices appropriate to the area and issue(s) (e.g. mitigation banks; offsets; stormwater harvesting; pump/treat; other).

(8) Under the State Water Board’s Anti-Degradation Policy, when existing water quality is sufficient to support all beneficial uses, the Board cannot authorize water quality degradation unless the Board finds that the degradation is of maximum benefit of the people of the State. Where existing water quality does not support beneficial uses, discharges above applicable water quality objectives cannot be authorized. However, the SNMP currently under consideration would alter the way beneficial uses are defined by focusing not on first encountered groundwater, but on the average concentration in the aquifer. Discharges authorized by the Board may therefore result in localized pockets of groundwater that does not meet applicable water quality objectives over the short-term. However, in order to authorize these discharges, the Board would require Dischargers to protect beneficial uses by preparing and financing an Assured Water Supply Plan that will ensure that residents within the influence of the dischargers are provided with an interim source of drinking water while long-term efforts to restore the groundwater aquifer are being implemented. The Plan must also specify a permanent solution to the identified safe drinking water concerns that should be implemented within five years of the Board’s approval of the Plan.

(9) Dischargers must also submit a Salt/Nitrate Compliance Plan, as needed, within two years of submittal of the NOI. This Plan shall provide the short and long-term approach to comply with Management Goals 2 and 3 within the area under the influence of the discharge. The specific content of the Plan depends on the significance of water quality concerns within the permitted area. In general, the Plan, which will be phased at ten-year intervals and implemented as part of an adaptive iterative process, shall include both short-term (≤ 20 years) projects and a long-term (> 20 years) strategy to achieve compliance. For salt management, this could include commitments to participate in the development/financing of a Central Valley brine line, participation in a mitigation bank to support the development of a brine line, or participation in the development of a Central Valley Water Board-approved salt management site.

The proposed Assured Water Supply Plan and/or Salt and Nitrate Compliance Plan will be considered for approval by the Central Valley Water Board as part of issuing WDRs. If the plan(s) do not provide adequate findings under the guidelines of the SNMP, the discharge will be prohibited.
### Table 1. SNMP Implementation Schedule (Numbers in Process Step refer to Figure 1)

<table>
<thead>
<tr>
<th>Process Step</th>
<th>Compliance Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Valley Water Board Notification (1)</td>
<td>Priority 1 - Within 90 days of adoption of BPA</td>
</tr>
<tr>
<td></td>
<td>Priority 2 – Within 1.5 years of adoption of BPA</td>
</tr>
<tr>
<td></td>
<td>Priority 3 – Within 3 years of adoption of BPA</td>
</tr>
<tr>
<td>Discharger Notification of Intent (2)</td>
<td>Within 90 days of receipt of notification</td>
</tr>
<tr>
<td>Compliance Approach (Water Quality Evaluation) (3)</td>
<td>Within 180 days of submittal of the NOI</td>
</tr>
<tr>
<td>Determine Need for Assured Water Supply Plan (8)</td>
<td>Within 180 days of submittal of the NOI</td>
</tr>
<tr>
<td>Submit Assured Water Supply Plan (8)</td>
<td>Within 1 year of submittal of NOI</td>
</tr>
<tr>
<td>Submit Salt/Nitrate Compliance Plan (9)</td>
<td>Within 2 years of submittal of NOI</td>
</tr>
</tbody>
</table>

---

**Figure 1. Summarized CV-SALTS Implementation Process**

- **(1) Renewal of Permit and/or Central Valley Water Board Notification of Priority**
- **(2) Dischargers File NOI to Establish Permitting Approach**
- **(3) Discharger Determines Compliance Approach Based on Water Quality and Maximum Benefit Evaluation**
- **(4) No or de minimus Degradation**
- **(5) Degradation; Request Allocation of Assimilative Capacity**
- **(6) Degradation; Request Exception**
- **(7) In Compliance with SNMP**
- **(8) Determine need for and, if necessary, prepare Assured Water Supply Plan**
- **(9) Prepare Salt and/or Nitrate Compliance Plan, as needed**

---

Page 3 of 3
Policy No. X: Management Zone Policy

1.0 Regulatory Basis for Establishment of a Management Zone

The Central Valley Salt and Nitrate Management Plan (SNMP) looks to establish a programmatic approach to salt and nitrate management in the Central Valley Region. As part of the programmatic approach, the SNMP recommends that the Basin Plans be amended to allow and encourage management of salt and/or nitrate through the establishment of Management Zones. In general, a Management Zone would consist of multiple dischargers working collectively to manage salt and/or nitrates to first create a balance within the defined management area, and then ultimately to develop and implement a long-term plan for restoration of groundwater (where feasible) to meet applicable water quality objectives. Although the Basin Plans do not currently prevent the management of salts and nitrates through the creation of Management Zones, the SNMP recommends the inclusion of a Management Zone policy within the Basin Plans so that what constitutes a proper Management Zone is clearly defined and to ensure that criteria for approval of a Management Zone by the Central Valley Water Board are properly established in regulation. The justification for authorizing the establishment of Management Zones is expressed in various statewide and Central Valley Water Board policies, which are summarized below.

1.1 Recycled Water Policy SNMP Requirements

The Recycled Water Policy (RWP) makes key findings with regard to SNMPs and management of salt and nitrate within geographically defined areas. These findings encourage the management of salts and nitrates on a groundwater basin/sub-basin level, which logically leads to the need for Management Zones:

- Salts and nutrients from all sources should be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses (Section 6.a.(2)).
- The appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects (Section 6.a.(2)).
- It is the intent of the RWP for every groundwater basin/sub-basin in California to have a consistent salt and nutrient management plan (Section 6.b.(1)(a)).
- It is recognized that the local water and wastewater entities, together with local salt and nutrient contributing stakeholders, will fund locally driven and controlled, collaborative

---

1 The Central Valley Region has two Basin Plans: Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Sacramento-San Joaquin Basin Plan), and the Water Quality Control Plan for the Tulare Lake Basin (Tulare Lake Basin), (collectively referred to as Basin Plans).
3 In the list below the use of the word “nutrient” is used to be consistent with the text of the RWP; however, for the Central Valley Region it has been determined that the Central Valley SNMP as well as local SNMPs will focus on nitrate rather than nutrients in general.
processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California (Section 6.b.(1)).

- The degree of specificity within these plans and the length of these plans will be dependent on a variety of site-specific factors, including but not limited to size and complexity of a basin, source water quality, stormwater recharge, hydrogeology, and aquifer water quality (Section 6.b.(1)(a)).

- Plans shall be tailored to address the water quality concerns in each basin/sub-basin and may include constituents other than salt and nutrients that impact water quality in the basin/sub-basin. Such plans shall address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects (Section 6.b.(1)(b)).

- SNMPs should include local implementation plans for those groundwater basins where water quality objectives for salts or nutrients are being, or are threatening to be, exceeded (Section 6.b.(2)).

In general, the RWP promotes the management of salt and nitrate at the appropriate scale through the adoption of local SNMPs that are tailored to the water quality concerns of specific areas. While the Central Valley SNMP is intended to guide salt and nitrate management at the programmatic level throughout the entire Central Valley Region, this policy establishes the basis for the establishment of Management Zones to guide salt and nitrate management at the local or subregional level, consistent with the RWP.

1.2 Protection of Groundwater Quality in Groundwater Basins/Sub-basins in the Central Valley Region

California law has long recognized that groundwater is a valuable natural resource in California, and should be managed to ensure both its safe production and its quality. Over the years, the California Legislature has encouraged local agencies to work cooperatively to manage groundwater resources within their jurisdiction. Recently, and effective January 1, 2015, the California Legislature enacted the Sustainable Groundwater Management Act, which is intended to enhance local management of groundwater, and provide local groundwater agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater.

Moreover, the regional water quality control boards are required to formulate and adopt water quality control plans that consist of designating or establishing, for all waters within the region including groundwaters, beneficial uses to be protected, water quality objectives, and a program of implementation for achieving water quality objectives. For the Central Valley Water Board, the delineated basins/sub-basins in Department of Water Resources (DWR) Bulletin 118 can provide a basis for identifying beneficial uses of groundwater within the Central Valley. For example, the Tulare Lake Basin (TLB) Basin Plan identifies groundwater basins and sub-basins in Table II-2 that for the most part

---

4 California Water Code §10750.
5 Id.
6 California Water Code §10750, et seq.
match those shown in DWR Bulletin 118. However, when DWR Bulletin 118 was last updated in October 2003, DWR deleted several of the sub-basins. TLB Basin Plan Table II-2 has not been similarly revised to reflect DWR's changes. The Sacramento River and San Joaquin Basin (SRSJB) Plan does not currently identify or enumerate specific groundwater basins or sub-basins.

1.3 Management Zone Facilitates Management of Groundwater Quality

The primary concerns regarding salinity and nitrate in the Central Valley Region are associated with the Central Valley floor. Accordingly, and consistent with the RWP, Central Valley SNMP development has been tailored to focus on the areas of the Central Valley with the most significant water quality concerns. To identify these areas of concern, preparation of the Central Valley SNMP included development of the Initial Conceptual Model (ICM), which relied on Initial Analysis Zones (IAZ) to characterize water balance and water quality for salt and nitrate in groundwaters in the Central Valley floor. The ICM analysis was supplemented by additional groundwater quality analyses to update existing salt and nitrate conditions throughout the Central Valley Region.

The findings from these studies, which are summarized in Section 4 of the SNMP, demonstrate that there are significant areas of water quality concern on the valley floor and that some of these areas of concern are large in geographic area. The SNMP finds that to effectively manage salt and nitrate in these areas, an approach is needed that considers the scale of the water quality problem so that salt and nitrate management activities can be tied as closely as possible to local management efforts.

The DWR-designated groundwater basins and CV-SALTS IAZs are very large - often encompassing more than 1,000 square miles. Activities at the surface and groundwater quality may vary dramatically within such large areas. This reality makes it more difficult to:

- Develop appropriate WDRs for individual facilities, or WDRs in general orders for certain types of discharges like irrigated agriculture and dairies.
- Tailor salt and nitrate management programs to mitigate non-compliance with water quality objectives to protect drinking water supplies.
- Determine where and how to allocate resources to address the most critical water quality problems first, while at the same time ensuring that salt and nitrate management occurs at a sufficient level to achieve balanced salt and nitrate loadings and begin the process of restoring salt and nitrate levels to concentrations that are below the applicable water quality objectives.

---

9 The following “Satellite Basins” listed in the TLB Basin Plan were removed as groundwater sub-basins in the DWR 2013 update: Squaw Valley, Cedar Grove Area, Three Rivers Area, Springville Area, Templeton Mountain Area, Monache Meadows Area, Secator Canyon Valley, Rockhouse Meadow Valley, Inns Valley (Linsns Valley in TLB Basin Plan), Bear Valley
• Calculate and allocate assimilative capacity equitably. The distribution and allocation of assimilative capacity is particularly important when pollutant concentrations at some water supply wells violate water quality objectives even though average water quality in the broader groundwater basin (or IAZ) indicates there is assimilative capacity available.

Given these findings, it is appropriate in some areas to manage groundwater quality on a scale commensurate with the regulatory and resource management decisions that must be made to manage salt and nitrate in a practical manner. A large basin could be partitioned into smaller sub-basins or zones where the relationship between existing land use activities, water sources and uses, and pollutant levels can be more accurately described and managed. Where basins or IAZs are partitioned into smaller areas to facilitate salt and nitrate management at a more appropriate scale, this partitioned area shall be referred to as a Management Zone.

2.0 Establishment of a Management Zone

The Central Valley SNMP recommends the establishment of Management Zones as an option for groundwater quality management at the local or subregional level, especially within the Central Valley floor. The establishment of a Management Zone, as a discrete regulatory compliance unit for the purposes of complying with the Central Valley Region’s SNMP, is most appropriate in areas where the interactions among land use, water quality and water users are complex and significant concerns exist with meeting the water quality objectives established to protect the MUN and AGR beneficial uses in groundwater. In areas where these complexities or water quality concerns do not exist, establishment of a Management Zone may not be the best approach for managing discharges to groundwater. This may be particularly true for dischargers located in areas where existing salinity and nitrate water quality is good and long term water quality trends are not a concern. Similarly, establishment of a Management Zone may not be appropriate outside of the Central Valley floor in the surrounding foothills and valleys. In either of these situations (areas with good water quality or outside the valley floor), compliance with the salt and nitrate management requirements of the Central Valley SNMP may be best accomplished through existing water quality management programs implemented through individual WDRs.

In general, a Management Zone is:

• A portion of a larger groundwater basin/sub-basin or IAZ that serves as a discrete regulatory compliance unit;

• Intended to include all of the groundwater and all of the regulated dischargers that wish to participate in the Management Zone within the land area encompassed by the Management Zone boundary.

• Intended, where nitrates in groundwater are impacting groundwater supplies, to facilitate the assurance of safe drinking water for all residents in the zone adversely affected by dischargers

---

A key finding in a recent study conducted in the Kings and Tulare Lake groundwater sub-basins within Fresno, Kings and Tulare Counties was that given sub-basin interdependencies it is unlikely for groundwater management to be successful when done in isolation or on too small a scale. *Transitioning to Sustainability: Modeling Groundwater Sustainability in the Kings-Tulare Lake Region*, Report prepared on behalf of the California Water Foundation. November 2015.
participating in the management zone and that are within the zone boundary\(^{14}\), encourages more stakeholder coordination and cooperation, promotes better water resource management through appropriate allocation of resources, and provides greater regulatory flexibility where needed to prioritize salt and nitrate management activities and allow time to achieve compliance with the Central Valley SNMP’s management goals.

- The basis for the establishment of local management plans to manage salt and nitrate within the Management Zone’s boundary in accordance with the Central Valley Region’s overall salt and nitrate management goals established in the Central Valley SNMP.

- Voluntarily proposed by those regulated dischargers located within the proposed Management Zone boundary that have decided to work collectively to comply with the salt and nitrate management requirements of the Central Valley SNMP

### 2.1 Proposed Requirements for Approval of a Management Zone

The Central Valley SNMP allows dischargers to determine the most effective approach for complying with the SNMP’s salt and nitrate management requirements. For dischargers within a geographic area that decide to manage salt and nitrate collectively with other dischargers through the establishment of a Management Zone, a proposed Management Zone Policy, to be adopted into the Basin Plans, would (a) set forth the general criteria and process for establishing a Management Zone; and (b) establish the minimum requirements necessary for a proposed Management Zone to be approved by the Central Valley Water Board.

The proposed process for applying for a Management Zone would be as follows:

**Step 1** - An initiating group of dischargers shall submit an Initial Notice of Intent (NOI) to develop a Management Zone to the Central Valley Water Board. The NOI would need to include the following preliminary information:

- Proposed preliminary boundary areas;

- Draft list of other dischargers and stakeholders in the preliminary Management Zone area that the initiating group intends to contact to determine if they are interested and willing to participate in the Management Zone;

- Initial assessment of groundwater conditions based on existing data and information;

- Identified constituents of concern the group intends to address with the Management Zone (i.e., salt and/or nitrates);

- Proposed timeline for:
  - Identifying additional participants;
  - Further defining boundary areas;

\(^{14}\) Where there are dischargers within a Management Zone boundary that choose not to participate in the Management Zone, they must be able to provide assurance to the Central Valley Water Board that they are addressing any adverse affects directly or indirectly associated with their discharge.
Developing proposed governance and funding structure;
Additional evaluation of groundwater conditions across the Management Zone boundary area;
Identification of need for assimilative capacity on a Management Zone basis, or need for obtaining an approved exception from meeting a salinity or nitrate water quality objective; and
Preparing and submitting a Workplan for development of a Management Zone implementation plan.

**Step 2** - Within 180 days of submittal of the Initial NOI (see Step 1), submit a Revised NOI that identifies confirmed participants, defined boundary areas, proposed governance and funding structure, additional evaluation of groundwater conditions (if necessary), the need for assimilative capacity and/or exception from a meeting water quality objective(s), and a Workplan for development of an implementation plan.

**Step 3** – After approval of the Revised NOI by the Central Valley Water Board for the specified Management Zone, the governing entity shall submit the proposed Implementation Plan within one year of receiving the Notice of Approval for the Management Zone from the Central Valley Water Board.

**Step 4** – Upon approval of the Implementation Plan for the Management Zone by the Central Valley Water Board, the Management Zone shall begin implementing the approved Implementation Plan.

Upon submittal of the Initial NOI, dischargers identified as being participants of the Management Zone shall be deemed to be in compliance with salt and nitrate requirements in individual or general waste discharge requirements or in Conditional Waivers as long as the discharger continues to be an active participant in development of the Management Zone. As additional dischargers join the Management Zone, the Initial NOI can be revised and/or updated to identify additional participants receiving coverage under the NOI. Such coverage should continue as long as the Management Zone submits its Revised NOI, Workplan and Implementation Plan in a timely manner, as determined by the Central Valley Water Board.

### 2.2 Minimum Requirements for Management Zone Implementation Plan

An Implementation Plan prepared for a Management Zone shall meet the following minimum requirements:

- It must be consistent with the management goals of the Central Valley SNMP, including, addressing short-term and long-term drinking water needs affected by nitrates, plan for achieving balanced salt and nitrate loadings within the Management Zone, and plan for establishing a managed aquifer restoration program to restore salt and nitrate levels to concentrations at or below the water quality objectives to the maximum extent practicable.

- The highest water quality priority within any Management Zone where there are nitrate in groundwater issues is the assurance that drinking water that meets drinking water standards is available to all drinking water users within the Management Zone boundary.

- It shall include a governance framework that, at a minimum, establishes the following: (a) roles and responsibilities of all participants; (b) funding or cost-share agreements to implement short and
long-term salt and nitrate management projects/activities; and (c) a mechanism to resolve disputes among participating dischargers.

- Implementation of salt and nitrate management activities within a Management Zone may be prioritized based on factors identified in the Central Valley SNMP and the results of the characterization of salt and nitrate conditions. Prioritization provides the basis for allocating resources with resources directed to the highest water quality priorities first.

- It shall include a water quality characterization and salt and nitrate management measures consistent with the requirements established in the Central Valley SNMP, including:
  
  o Characterization of salt and nitrate conditions within the proposed Management Zone which will be used as the basis for demonstrating how salt and nitrate will be managed within the Management Zone over short and long-term periods to meet the management goals established in the Central Valley Region SNMP.
  
  o Short (≤ 20 years) and long-term (> 20 years) projects and/or planning activities that will be implemented within the Management Zone as whole and in particular within prioritized areas (if such areas are identified in the Implementation Plan) to make progress towards attaining each of the management goals established by the Central Valley SNMP. Over time as water quality improves in prioritized areas, updates to the plan may shift the priorities in the Management Zone.
  
  o Mechanism(s) to support achievement of the overall Central Valley SNMP’s long-term strategy to achieve balanced nitrate and salt loadings and managed aquifer restoration. Mechanisms may include, but not be limited to, direct participation in the development of a Central Valley regulated brine line, participation in a mitigation bank to support development of a regulated brine line, or participation in the development of a Central Valley Water Board approved salt disposal site.
  
  o A short and long-term schedule for implementation of salt and/or nitrate management activities with interim milestones.
  
  o Identification of triggers for the implementation of alternative procedures or measures to be implemented if the interim milestones are not met.
  
  o A water quality surveillance and monitoring program that is adequate to assure that plan when implemented is achieving the expected progress towards attainment of management goals.

- The plan may be modified periodically to incorporate changes that will benefit water quality in the Management Zone. Any modifications to the plan that impact or change timelines, milestones or deliverables identified in the Implementation Plan must be approved by the Central Valley Water Board.

- Identify the responsibilities of each regulated discharger, or groups of regulated dischargers participating in the Management Zone to manage salt and/or nitrate within the Zone. The Central Valley Water Board shall incorporate the responsibilities of each discharger, or groups for salt and/or nitrate within the Management Zone into their respective Individual or General WDRs.
Before the Central Valley Water Board may modify any WDRs to incorporate the use of assimilative capacity on a Management Zone basis or to adopt an exception to meeting a water quality objective in a WDR for a discharger participating in the Management Zone, the Central Valley Water Board’s Executive Officer must approve the establishment of the Management Zone and its Implementation Plan after providing public notice and opportunity to comment. Executive Officer approval of the Management Zone in no way changes the requirement that any modifications to WDRs must be approved by the Central Valley Water Board after public notice and hearing.

2.3 Requirements for Allocating Assimilative Capacity on a Management Zone Basis

Within a Management Zone, available assimilative capacity will be determined based solely on the volume-weighted average of groundwater quality within the production zone within the delineated boundary of the Management Zone.

Assimilative capacity, calculated using a volume-weighted average approach within the production zone of the delineated Management Zone, can only be allocated to participating stakeholders within the Management Zone. Otherwise, assimilative capacity for non-participating stakeholders within the Management Zone may only be granted under the Central Valley Water Board’s traditional approach of determining if there is assimilative capacity in the shallow groundwater table within the zone of influence of an individual discharger or a group of dischargers.

Before the Central Valley Water Board can authorize any allocation of assimilative capacity, a Management Zone proposal shall include a comprehensive antidegradation analysis, consistent with statewide Antidegradation Policy. Dischargers seeking an allocation of assimilative capacity within a Management Zone, shall as part of the development of the Implementation Plan:

- Demonstrate there is sufficient assimilative capacity to ensure that the proposed discharge, together with all other discharges to the same Management Zone, including discharges to recharge projects, will not cause the volume-weighted average water quality in the production zone underlying the Management Zone to exceed the applicable Basin Plan objective(s);
- Demonstrate that the proposed discharges covered by the Management Zone will not unreasonably affect present and anticipated beneficial uses in or down-gradient to the Management Zone;
- Demonstrate that the allocation of assimilative capacity, and the resulting net effect on receiving water quality, is consistent with maximum benefit to the people of the State; and
- Demonstrate that Best Efforts will be implemented to assure that a pollution or nuisance will not occur and will be consistent with maximum benefit.

Where water quality for drinking water wells within the Management Zone does not meet drinking water standards for salt or nitrate, and dischargers propose to rely on the calculated assimilative capacity of the production zone to demonstrate compliance for salt or nitrate, then the dischargers

---

15 See Section X of the Central Valley SNMP for acceptable method to calculate a volume-weighted average for the production zone.
within the Management Zone must accept responsibility to mitigate localized impacts of discharges within the Management Zone, and provide "maximum benefit" by implementing and maintaining an alternate drinking water source for impacted areas (e.g., alternate water supply, well-head treatment, point-of-entry treatment, etc.). Providing an alternate drinking water source may rely on temporary methods in the short-term (< 5 years), but the Implementation Plan for the Management Zone shall establish a permanent solution for providing safe drinking water along with a schedule for implementation within a reasonable time frame.

- Where water quality for agricultural supply wells within the Management Zone does not meet standards for salt to protect the AGR beneficial use, and dischargers propose to rely on the calculated assimilative capacity of the production zone to demonstrate compliance for salt, then the dischargers within the Management Zone must accept responsibility to mitigate localized impacts of the discharge, and provide "maximum benefit" by implementing appropriate activities that provide an alternative means of meeting the agricultural water supply standards.

- Where assimilative capacity is not available for allocation, the proposed Management Zone may propose that an exception to meeting salinity water quality objectives may be granted in the Management Zone, subject to the requirements for granting an exception established in the Central Valley region Basin Plans.

3.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

Existing and Potential Beneficial Uses

This policy recommends updating the Basin Plans to incorporate the current list of groundwater basins and sub-basins in DWR Bulletin. This recommendation is made so that the Basin Plans are consistent with regards to the designated groundwater basins and sub-basins in the Central Valley Region but does not affect implementation of this policy or the Central Valley SNMP.

Water Quality Objectives

No modifications anticipated.

Implementation

Incorporate the relevant elements of this Policy into the Basin Plans to encourage the use of Management Zones for the management of salt and/or nitrate, especially in areas with significant water quality concerns.
Policy No. X: Salinity Management to Provide Reasonable Protection of AGR Beneficial Uses in Groundwater

1.0 Problem Statement

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (SRSJR Basin Plan) and the Water Quality Control Plan for the Tulare Lake Basin (TLB Basin Plan) (“Basin Plans”) establish regulations for the management of salinity to protect the Agricultural Supply (AGR) beneficial use in groundwater. The AGR beneficial use was designed to protect both crop irrigation and livestock watering and has been designated in the majority of surface and groundwater throughout the Central Valley. Although the objectives to protect the beneficial use are narrative, there is currently no guidance on how to interpret the narrative objective in a manner that accounts for local and regional differences. As a default, a conservative approach is typically applied that ensures protection of the most sensitive crop in all locations at all times, even though individual crop and livestock sensitivity to salinity varies widely and potential impacts can be mitigated through management activities. The purpose of this policy is to recommend modifications to the Basin Plans to clarify how salinity will be managed within each groundwater basin and sub-basin to provide the appropriate level of protection of the AGR beneficial use and establish procedures to minimize degradation and where needed reduce salt loading to achieve balance and ensure long-term protection of the AGR use.

1.1 Existing Regulatory Requirements

AGR Beneficial Use

The Central Valley Water Quality Control Board (Central Valley Water Board) defines the AGR beneficial use in its Basin Plans as follows:

- SRSJR Basin Plan:1 “Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.”
- TLB Basin Plan:2 “Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.”

One difference exists between the definitions – the inclusion of the phrase “(including leaching of salts)” in the SRSJR Basin Plan.

The SRSJR and TLB Basin Plans consider AGR to be a presumptive beneficial use applicable to all waters. Specifically, “Unless otherwise designated by the Regional Water Board, all ground waters of the Region are considered suitable or potentially suitable, at a minimum, for agricultural supply (AGR)...”

The Basin Plans establish criteria for making exceptions to the presumptive application of the AGR beneficial use. Of relevance to salt management is the potential application of the following exception: “there is pollution, either by natural processes or by human activity (unrelated to a specific pollution

---

3 SRSJR Basin Plan, Pg. II-3.00; TLB Basin Plan, Pg. II-2.
incident), that cannot reasonably be treated for agricultural use using either BMPs [Best Management Practices] or best economically achievable treatment practices.⁴

**Water Quality Objectives**

The SRSJR Basin Plan does not establish explicit numeric water quality objectives for salinity in groundwater for the protection of the AGR beneficial use. Instead, this Basin Plan relies on the following narrative water quality objective to protect AGR:⁵ "Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses."

The TLB Basin Plan includes the same narrative water quality objective as the SRSJR Basin Plan, as described in the previous paragraph.⁶ In addition, the TLB Basin Plan establishes a policy that allows for controlling the rate of increase of salinity ("managed degradation") by regulating both the maximum increase in salinity concentrations attributable to consumptive use ("maximum EC shall not exceed the quality of the source water plus 500 umhos/cm")⁷ and the maximum average annual increase in groundwater salinity on a basin-specific basis.⁸

“All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources.

No proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin. Accordingly, the water quality objectives for ground water salinity control the rate of increase.

The maximum average annual increase in salinity measured as electrical conductivity shall not exceed the values specified in Table III-4 for each hydrographic unit shown on Figure III-1.

The average annual increase in electrical conductivity will be determined from monitoring data by calculation of a cumulative average annual increase over a 5-year period.”

The maximum average increase in electrical conductivity (EC) allowed varies by hydrographic unit, ranging from 1 μS/cm to 6 μS/cm in the Westside (North and South) and Tule River and Poso hydrographic units, respectively.⁹

As noted above, the TLB Basin Plan allowed for managed degradation by regulating the maximum average annual increase in groundwater salinity on a basin-specific basis. The Basin Plan assumed that average annual increase would be determined from monitoring data using the prescribed method. However, data monitoring network was never developed as planned and the allowable rate of increase of salt incorporated into the regulation has not been implemented as intended.

---

⁴ SRSJR Basin Plan, Pg. II-3.00; TLB Basin Plan, Pg. II-3.
⁵ SRSJR Basin Plan, Pg. III-10.00
⁶ TLB Basin Plan, Pg. III-7.
⁷ TLB Basin Plan, Pg. IV-11
⁸ TLB Basin Plan, Pg. III-8 (see TLB Basin Plan for referenced table and figure)
⁹ TLB Basin Plan, Pg. III-8, Table III-4
Basin Plan Implementation

In accordance with Basin Plan policies, Central Valley Water Board staffs typically follow the Policy for Application of Water Quality Objectives to evaluate compliance with narrative water quality objectives, which means interpreting the narrative objective with relevant numerical criteria and guidelines. Thus, given the lack of explicit groundwater numeric water quality objectives for salinity to protect the AGR beneficial use in either the SRSJR or TLB Basin Plans, Central Valley Water Board staffs generally rely on the assumption that Total Dissolved Solids (TDS) concentrations < 450 mg/L and EC concentrations < 700 μS/cm would protect both salt sensitive crops and livestock and not adversely affect the AGR beneficial use. These values, which are based on guidelines originally published by Ayers and Westcot (1985), have been used to translate the narrative objective into numeric criteria for use in establishing numeric effluent limits in Waste Discharge Requirements (WDRs), and/or for determining compliance with receiving water limitations, and/or Conditional Waiver (Waiver) conditions issued by the Central Valley Water Board. The Board has also allowed the development of site-specific water quality objectives, where appropriate.

Central Valley Water Board staffs have historically evaluated compliance with water quality objectives at First Encountered Groundwater, defined as the top of the saturated zone or the shallowest groundwater as a conservative means of protecting the remaining saturated zone. More specifically, when developing WDRs/Waivers (and determining compliance therewith), current Central Valley Water Board practice is to base an evaluation of the potential near and long-term impacts from a discharge on the First Encountered Groundwater, regardless of whether that shallow groundwater layer is or has the potential to be utilized for the specific beneficial use (i.e. for irrigation or stock watering). For selected areas, the TLB Basin Plan has established specific salinity management requirements for protection of groundwater used as an agricultural supply from land application of wastewater effluent. For example, three classes of irrigation water have been defined for the underlying groundwater in the White Wolf Subarea. Class I irrigation water (or groundwater) has EC < 1,000 μS/cm; Class II irrigation water has EC of 1,000 μS/cm up to 3,000 μS/cm, and Class III irrigation water has EC > 3,000 μS/cm.

In addition, the TLB Basin Plan includes the following policy statement regarding regional management of salt:

Degradation of ground water in the Tulare Lake Basin by salts is unavoidable without a plan for removing salts from the Basin. A valleywide drain to carry salts out of the valley remains the best technical solution to the water quality problems of the Tulare Lake

---

11 The original purpose for Ayers and Westcot (1985), which was published for the United Nations FAO, was to provide support to agricultural areas with limited irrigation technology and salt management capabilities. The guidelines state (Section 1.4): “The guidelines are practical and have been used successfully in general irrigated agriculture for evaluation of the common constituents in surface water, groundwater, drainage water, sewage effluent and wastewater. They are based on certain assumptions which are given immediately following the table: “These assumptions must be clearly understood but should not become rigid prerequisites. A modified set of alternative guidelines can be prepared if actual conditions of use differ greatly from those assumed.” (Emphasis added).
12 TLB Basin Plan, Pg. IV-11.
13 White Wolf Subarea consists of 64,000 acres within the Central Valley floor at the southern tip of the Tulare Lake Basin, about 20 miles south of Bakersfield, CA.
14 TLB Basin Plan, Pg. IV-5-6
The drain would carry wastewater generated by municipal, industrial, and agricultural activities, high in salt and unfit for reuse. The only other solution is to manage the rate of degradation by minimizing the salt loads to the ground water body. The Regional Water Board supports construction of a valleywide drain to remove salt-laden wastewater from the Basin under the following conditions:

- All toxicants would be reduced to a level which would not harm beneficial uses of receiving water.
- The discharge would be governed by specific discharge and receiving water limits in an NPDES permit.
- Long-term continuous biological monitoring would be required.

The SRSJR Basin Plan includes similar language regarding the management of salts within the region, and while both Basin Plans advocate for the construction of a valleywide drain to move salt out of the Central Valley, a drain that fully serves that purpose has not been constructed.

### 1.2 Challenges with Application of Existing Basin Plan Language

The regional economy depends on efficient use and reuse of water (including, e.g., treated domestic wastewater effluent, agricultural tailwater, harvested stormwater) to maximize agricultural production and minimize waste of water. Reliance on conservative salinity thresholds as is current practice to protect the AGR beneficial use actually undermines this principle and jeopardizes the agricultural industry's ability to grow a variety of different crops with widely varying salt tolerances by reusing water many times. In addition, focusing only on salinity concentration as the primary metric for evaluating beneficial use protection and potential for water quality degradation may impede statewide efforts designed to promote increased use of recycled water and to encourage greater water conservation thru more efficient irrigation. Accordingly, sound resource management should consider both concentration and mass when evaluating and regulating salinity effects on groundwater.

To achieve the goals of the Recycled Water Policy and establish a sound approach to water resource management, including during periods of water shortage in California, and to develop a regulatory program that maintains the Central Valley's agricultural economy, while appropriately protecting beneficial uses, the following concerns regarding the current regulatory approach require consideration:

- The fact that all ground waters in the Central Valley are considered "suitable or potentially suitable" for AGR, as is current practice, does not mean that subsurface water quality is, or should be, capable of sustaining maximum yield for every conceivable agricultural crop or for providing a stock watering source. It is well-established that the sensitivity of crops to salt varies widely. Moreover, the source of water for crop irrigation may or may not be local. In fact imported surface water is often...
used to produce crops that would not be commercially viable if forced to rely on native or local groundwater as the sole source of irrigation supply.

- As noted above, Ayers and Westcot (1985) is currently the primary source used as the basis for translating the narrative objective into numeric values to be used for compliance. However, its recommended salinity guideline for "Unrestricted Use" (< 700 μS/cm EC) has been misinterpreted and applied in a manner inconsistent with the author's conclusions.19 Some salinity impacts can be mitigated by modern irrigation strategies without unreasonably affecting the AGR beneficial use.

- Evaluating compliance with salinity standards at First Encountered Groundwater does not adequately consider the availability of assimilative capacity in the groundwater to mitigate the potential for adverse effects on AGR groundwater uses downgradient of the discharge. Similarly, the characteristics of First Encountered Groundwater do not reflect the actual water that is being used for agricultural purposes.

- It is often impossible to comply with the 700 μS/cm EC threshold even after implementing BMPs. For example, if an agricultural operator irrigates with high quality imported water (EC = 150 μS/cm) and the leaching fraction is assumed to be 15%, then salinity in the leachate will concentrate more than six-fold (EC = 1,000 μS/cm). Given the average salinity of available water supplies, there is no feasible or practicable means of meeting the 700 μS/cm EC threshold at First Encountered Groundwater.

- Irrigation practices designed to move salts past the root zone are considered an integral part of the protection of the AGR beneficial use (e.g., as noted in the SRSJR Basin Plan definition for AGR). Efficient irrigation naturally increases the concentration of salts in the leachate. Therefore, some water quality degradation will be the inevitable and unavoidable result of crop irrigation even when using BMPs. Regardless, irrigation water is the largest single source of new salt loads to ground waters in the Central Valley. Therefore, it is appropriate to require irrigators to implement BMPs to minimize salt loading (e.g., mass) to the vadose zone when and where reasonably possible.

- The “Controllable Water Quality Factors” policy limits the Central Valley Water Board’s ability to allow further degradation where uncontrollable factors have already resulted in water quality objectives being exceeded.20

- The necessity to comply with state water use goals established during times of water shortage caused by drought may limit the feasibility to implement BMPs that reduce the concentration of salt in discharges to a waterbody.21

Given the existing regulatory requirements and the challenges identified above with regard to protection of the AGR beneficial use in groundwater, CV-SALTS seeks to establish a salinity control strategy through the SNMP that:

---

19 Dennis Westcot, CV-SALTS Executive Policy Committee meeting discussions.
20 SJSRB Basin Plan, p. III-2.00.
21 For example, January 17, 2014 State of Emergency issued by Governor Brown, and subsequent actions to address water shortages caused by extended drought conditions [April 25, 2014 [proclamation of continued state of emergency]; December 22, 2014 [Executive Order B-28-14]; April 1, 2015 [Executive Order B-29-15]; and November 13, 2015 [Executive Order B-36-15]].
- Provides "reasonable protection" for all existing and probable future AGR uses in the Central Valley in a manner consistent with the criteria described in §13000 and §13241 of the California Water Code.

- Preserves the economic viability of the broader agricultural industry in the Central Valley while minimizing and/or mitigating the potential for significant adverse effects on salt-sensitive crops when and where such crops are grown, and such salt-sensitive crops are commercially viable.

- Recognizes the unique characteristics of the AGR beneficial use. It is distinguished from other beneficial uses in that it is an “off-stream use” of water and users of the water have the ability to adapt to changing environmental conditions through crop selection and/or irrigation practices.

- Is consistent with statewide policies designed to encourage increased water conservation, reuse of water from agricultural return flows, use of reclaimed/treated municipal wastewater, and stormwater harvesting.

- Is implemented through an objective, transparent and consistent process to evaluate the real-world probability for the occurrence of adverse effects resulting from increasing salinity loads in groundwater.

- Is consistent with the Central Valley SNMP management goals to assure safe drinking water supply, achieve balanced salt loading within managed areas and implement a managed aquifer restoration program where needed to reduce salinity concentrations in groundwater.

### 2.0 Proposed Regulatory Approach to Manage Salinity to Protect the AGR Beneficial Use

CV-SALTS has developed a proposed regulatory approach that is consistent with the salinity control strategy described above and addresses the existing regulatory challenges, also described above. The approach, which is described in Section 2.2, is based on the findings and governing principles described below.

#### 2.1 Findings and Governing Principles

The proposed regulatory approach to manage salinity to protect the AGR beneficial use is based on the following findings and governing principles:

- This approach applies exclusively to managing salinity in groundwater. In this regard, the policy determinations made in the course of protecting groundwater for the AGR use may influence similar decisions related to protecting surface water quality for AGR uses but do not override numeric water quality objectives or other plans or policies intended to address salt and water supply, such as the Bay-Delta Plan, nor does this proposed policy prohibit changes to be made in the future.

---

• The proposed approach for managing salinity in groundwater must be implemented in a manner consistent with the State Antidegradation Policy (i.e., Resolution No. 68-16), as applicable, and/or any other applicable state groundwater policy.

• Establishing more flexible salinity standards for the AGR use in groundwater does not waive the legal obligation to comply with more stringent salinity standards, where such standards apply to protect other beneficial uses as designated in the Basin Plans (e.g., municipal and domestic supply [MUN], industrial service supply [IND], industrial process supply [PRO]).

• The applicability of AGR as an existing use in a groundwater basin or sub-basin is a site-specific or water body specific determination based on water quality or physical characteristics. Where existing characteristics severely limit a use, e.g., the salinity exceeds safe thresholds for use of the water for crop irrigation or stock watering, the rare, exceptional, or very temporary use of that water as an agricultural water supply, e.g., during a water shortage when the normal water supply is temporarily interrupted, does not require a finding that AGR is an existing use in the groundwater. This conclusion is based on the very limited actual “use” of the water body as agricultural water supply.

• The Central Valley Water Board retains the authority and the discretion to establish appropriate WDRs/Waivers, effluent limits, or receiving water limitations.

• No proven means exist at present that will allow ongoing human activity in the Central Valley Region and maintain salinity levels throughout every groundwater basin. Therefore, in lieu of using a numeric water quality objective for salinity in ground waters designated AGR, the primary focus shall be on minimizing water quality degradation in a manner consistent with the statewide Antidegradation Policy. Specifically,
  
  o Lowering water quality cannot unreasonably affect present and anticipated beneficial uses;
  
  o Lowering water quality must be consistent with "maximum benefit" to the people of California. Consideration of “maximum benefit” as part of the antidegradation review process incorporates a more holistic assessment of both the costs and benefits of increasing salinity in groundwater.

  o The Antidegradation Policy requires those who discharge or propose to discharge a waste to a high quality water to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

• A long-standing regulatory presumption associated with water quality standards exists in that adopting or applying water quality objectives to protect the most sensitive species or sub-population will also protect other less sensitive species and the general population. This presumptive approach is fundamental to the adoption of numeric objectives to protect aquatic life, wildlife or human health. However, the applicability of this approach to the protection of the AGR use is impractical. While aquatic life or wildlife, may not be able to adapt to changing water quality

---

24 TLB Basin Plan, Pg. III-8.
in the short term, agriculture can adapt to stressors that impact the use, including climate change and economic condition. Moreover, agriculture can quickly make use of new technologies and practices designed to benefit agriculture.

- Salinity varies from one location to another in the Central Valley; as such, there should not be an expectation that any crop may be grown in any place at any time. Furthermore, while it is true that conservative salinity water quality objectives will protect the theoretical yields of both salt-sensitive and salt-tolerant crops, the cost of managing salinity to protect the most salt-sensitive crops, irrespective of where such crops are actually or are likely to be grown, may alter the production costs and economic viability of many other crops currently being cultivated. If the result is a net loss of commercial production in the area of concern, then the AGR use has been adversely affected despite the original regulatory intent to provide increased use protection.

- It is difficult to establish a single (or basin specific) numeric water quality objective for salinity in ground waters designated AGR to protect crop irrigation, given the enormous number of relevant factors that may affect crop production and the complex interrelationships among these factors. Therefore, it is appropriate to continue relying on a narrative water quality objective to protect the AGR use from excessive salinity. This approach provides greater flexibility and allows for consideration of a wide range of site-specific conditions when translating the narrative objective into reasonable limitations (e.g., effluent limits, receiving water limits) for salinity. This approach also allows for consideration of crop management techniques that maximize the reuse of water by using the water on a range of crops with varying salt tolerances. Accordingly, translating the narrative objective into reasonable limitations for salinity for inclusion in a WDR/Waiver should consider the following:

  o The salinity guidelines recommended by Ayers & Westcot (1985) are best employed as thresholds to trigger more detailed water quality analysis rather than as direct translators of the current narrative objective for chemical constituents. While salinity concentrations < 700 μS/cm EC (450 mg/L TDS) are presumed to protect nearly all crops and livestock, salinity concentrations > 700 μS/cm EC do not render water quality “unsuitable” for the AGR use.

  o Groundwater salinity in the range between 700 - 1,500 μS/cm EC (450 - 1,000 mg/L TDS) remains suitable for all but the most salt-sensitive crops but may result in agricultural operators needing to increase the leaching fraction to maintain maximum yields, depending on the crop and the level of salinity in the irrigation water. This is not an unusual management practice amongst agricultural operators, in order to assure the most efficient use and reuse of available water supplies. However, the ability to increase leaching rates depends on an adequate supply of acceptable-quality water at a reasonable cost.

  o Groundwater salinity in the range between 1,500 - 3,000 μS/cm EC (1,000 - 2,000 mg/L TDS), while generally not suitable for irrigating some salt-sensitive crops, remains suitable for

---

irrigating many salt tolerant crops. Where existing groundwater quality is in this range, it may be appropriate to consider sub-categorizing the AGR use to reflect this existing limitation.

- At groundwater salinities > 3,000 μS/cm EC (2,000 mg/L TDS), existing groundwater quality is generally not suitable for irrigating all but the most salt-tolerant crops.

- The AGR beneficial use also provides for the protection of ground waters used as a stock watering source. While sensitivity to salt varies considerably among types of stock animals (e.g., poultry, cattle, or swine), animal life stage (young vs. adult), or whether an animal is pregnant or lactating, at groundwater salinities < 7,500 μS/cm EC (5,000 mg/L TDS), existing groundwater quality is generally suitable to support some level of stock watering.

- The volume and quality of water available for irrigation varies greatly from year to year and even from month to month. Consequently, it is appropriate for the Central Valley Water Board to take these factors into account when developing limitations and/or permit provisions related to salinity to protect the AGR use in ground waters. In particular, additional flexibility may be allowed during drought conditions when reduced availability of high quality surface waters may necessitate temporary reliance on alternate water supplies with higher salinity to meet irrigation requirements.

- It is reasonable to employ long-term averaging periods, e.g., use of annual averages rather than monthly or quarterly averages, when developing limitations and/or provisions related to salinity in groundwater. For example, the salt load currently existing in the vadose zone is typically unknown, but this load can impact the quality of the underlying groundwater over many years. In addition, the time required for recharge water to transit the vadose zone and return to use as groundwater at a nearby agriculture water supply well can be significant. Therefore, the need for shorter averaging periods is considered generally unnecessary for managing salinity in groundwater.

- Preserving and protecting the AGR use for commercial agriculture will necessitate a large-scale coordinated effort to implement a sustainable salt management program. For example, findings from the CV-SALTS Strategic Salinity Alternatives Land and Transportation Study (SSALTS) confirm existing statements in the Basin Plans that a “valleywide drain to carry salts out of the valley remains the best technical solution to the water quality problems” in the Central Valley. Specifically, SSALTS recommends the construction of a regulated brine line to transport salts out of the Central Valley (in particular the lower Central Valley) to an ocean discharge. In addition, future WDRs will need to be consistent with the short-term (≤ 20 years) and long-term (> 20 years) salt management requirements established by the Central Valley SNMP, including compliance with scheduled milestones to evaluate progress towards achieving the SNMP’s goals for the management of salt.

---

27 See for example Figure 4c in: Task 5.1 and 5.2 – Develop Map Layers and Identify Crop Sensitivity Zone, Final Report, prepared for CV-SALTS by Larry Walker Associates, Inc., April 2014.


• Where significant salinity water quality concerns exist, future WDRs/Waivers will require a genuine long-term (> 20 years) commitment to execute a regional salt management program either as an individual discharger or collectively through a Management Zone as a prerequisite condition for allowing greater regulatory flexibility. An approved long-term salinity management program will include salinity treatment/control type projects and a schedule of milestones that support efforts to achieve salt balance within the managed area and, where appropriate, actual reductions in salt concentrations to protect the beneficial use.

2.2 Proposed Framework for Protection of AGR

Given the findings and governing principles described above, CV-SALTS proposes to interpret the narrative salinity water quality objective for the protection of the AGR beneficial use based on the following key elements:

• Classify groundwater basins and sub-basins into an appropriate AGR Class based on existing ambient water quality in the production zone of the basin or sub-basin. Assignment of groundwater basins and sub-basins into an AGR Class does not establish numeric water quality objectives. Instead, the establishment of AGR classes is intended to provide a basis for translating the existing narrative water quality objective at the local level to support management of salt through WDRs/Waivers.

• Manage existing ambient water quality in a manner that is consistent with the State Antidegradation Policy to limit further degradation and/or trigger increased management consistent with SSALTS. Specifically, where water quality in the upper zone of the receiving water exceeds one or both of the following criteria, the discharger shall implement salinity treatment/control measures to achieve balanced salt loadings, and a plan for establishing a managed aquifer restoration program to restore salt levels to concentrations at or below the upper salinity threshold for the groundwater basin/sub-basin to the maximum extent practicable:
  – Upper zone ambient water quality is > 50% of the upper threshold for the TDS or EC range assigned to the groundwater basin/sub-basin and TDS or EC is trending upwards and will continue to trend upwards over a 20-year planning horizon; OR
  – Upper zone ambient water quality is > 75% of the upper threshold for TDS or EC range assigned to the groundwater basin/sub-basin.

• If the trigger criteria are exceeded, the discharger shall submit a Salt Compliance Plan for the area under the influence of the discharge consistent with the requirements of the Central Valley SNMP. The Plan shall include short-term (≤ 20 years) and long-term (>20 years) implementation measures consistent with SSALTS. A long-term implementation program may include, but not be limited to:
  – Commitments to direct participation in the development of a Central Valley regulated brine line;
  – Participation in a mitigation bank to support development of a Central Valley regulated brine line;
  – Participation in the development of a Central Valley Water Board approved salt management site that serves as a local or regional salt sink; or
Other options that will support efforts to achieve balanced salt loading in the affected area and aquifer restoration, where required.

If the trigger criteria are not exceeded, the Central Valley Water Board has the discretion to determine the degree to which salinity control measures are needed to limit further degradation in the short and long-term.

**AGR Class Assignments**

To recognize the significant variability in salinity concentrations in groundwater across the Central Valley, groundwater basins or sub-basins will be classified into one of four AGR Classes based on the existing volume-weighted average salinity concentration in the production zone of that basin or sub-basin using TDS as the measure of salinity.\(^\text{30}\) SNMP Section 4 provides the most recent calculation of existing ambient TDS water quality in the Central Valley.\(^\text{31}\) Figure XX in Section XX shows the class designations by groundwater basin/sub-basin.

When establishing an AGR Class for each groundwater basin/sub-basin, if there are any situations where the ambient TDS water quality in the basin/sub-basin is within 5% of the upper threshold of the range for the AGR Class, the Central Valley Water Board has the discretion to assign the basin/sub-basin to the next higher AGR Class. Once a groundwater basin or sub-basin is given an AGR classification, salinity shall be managed within that class such that the upper threshold for that class cannot be exceeded.

The four AGR Classes, the range of TDS values (with comparable EC values) applicable to each class for interpreting the narrative salinity objective, and information regarding the use of the water as an agricultural supply within each AGR Class is described as follows:\(^\text{32, 33}\)

- **AGR Class 1**: TDS < 1,000 mg/L (EC < 1,500 μS/cm). Groundwater quality in the production zone that may be used as an agricultural water supply is generally suitable for irrigating all crops and all stock watering. This presumption is rebuttable on a case-by-case basis with the burden of proof falling on those claiming that TDS levels at or below 1,000 μS/cm do not provide reasonable protection of existing AGR uses and that a site-specific TDS value should be established. *(NOTE: Two other EC thresholds were discussed at the March 19, 2015 Executive Committee Policy meeting: 1,200 EC and 1,000 EC; text in this and the next paragraph may be revised based on final TDS/EC thresholds selected by CV-SALTS).*

- **AGR Class 2**: 1,000 mg/L < TDS < 2,000 mg/L (1,500 μS/cm < EC < 3,000 μS/cm). Groundwater quality in the production zone that may be used as an agricultural water supply is generally acceptable for stock watering and for irrigating most salt-tolerant crops; it is not generally suitable for irrigating

---

\(^\text{30}\) The volume-weighted average existing ambient quality of the production zone is determined using the procedures described in Section XXX of the SNMP.

\(^\text{31}\) The basis for these findings is the CV-SALTS study: *Updated Groundwater Quality Analysis for the Central Valley* (2016).


many salt-sensitive crops, except as a temporary, short-term alternative when higher quality water supplies are not readily available.

- **AGR Class 3**: 2,000 mg/L < TDS < 5,000 mg/L (3,000 μS/cm < EC < 7,500 μS/cm). Groundwater quality in the production zone that may be used as an agricultural water supply is generally acceptable for stock watering but is not generally suitable for irrigating all but the most salt-tolerant crops, except as a temporary, short-term alternative when higher quality water supplies are not readily available.

- **AGR Class 4**: TDS > 5,000 mg/L (EC > 7,500 μS/cm). Groundwater quality in the production zone that is not suitable for either stock watering or crop irrigation AGR uses unless blended with lower salinity water. Areas within this classification should be considered for AGR de-designation.

As noted above, the assignment of a groundwater basin or sub-basin to an AGR Class is based on a volume-weighted average of salinity concentrations in the production zone. Accordingly, there likely will be exceptions where localized water quality data from within a classified basin or sub-basin may indicate higher or lower TDS concentrations than the thresholds of the class assigned to the waterbody. When issuing WDRs/Waivers this potential for localized variability in existing quality will be managed through application of the State Antidegradation Policy, the requirements of the Central Valley SNMP, and the requirements of this policy that prohibit salinity from exceeding the upper TDS or EC threshold of an AGR Class.

### 3.0 Management of Salinity within AGR Classes

**Manage Existing Water Quality within the Assigned AGR Class**

The TDS/EC thresholds established for each AGR Class provide the basis for managing salinity levels in groundwater in a manner consistent with the State Antidegradation Policy and Central Valley SNMP. The TDS/EC thresholds assigned to each AGR Class shall not be used as default numeric translators of the narrative objective. Instead, the Central Valley Water Board shall translate the narrative objective in a manner that seeks to manage TDS/EC concentrations within the broad ranges established for the applicable AGR Class while at the same time preventing salinity from exceeding the trigger criteria summarized above. Where existing ambient water quality (as documented in the SNMP; unless more recent, acceptable data are provided by a discharger) exceeds the trigger criteria the discharger shall submit a Salt Compliance Plan for the area under the influence of the discharge consistent with the requirements of the Central Valley SNMP.

Within a groundwater basin or sub-basin, salinity may be managed by an individual discharger through an individual WDR or collectively by a group of dischargers that have formed a Management Zone. Where salinity implementation measures are incorporated into the Salt and Nitrate Compliance Plan established for the Management Zone, the Central Valley Water Board will incorporate the implementation measures into individual WDRs/Waivers issued within the Management Zone, as appropriate.

Translation of the narrative objective into a numeric value to set an effluent limit, set WDR conditions, or determine compliance with receiving water limits to provide a basis for the management of existing

---

34 See CV-SALTS Management Zone Policy
TDS or EC levels shall be developed based on (a) the existing water quality (calculated as the average EC or TDS concentration in the upper zone) within the zone of influence of the proposed discharge; and (b) whether the trigger criteria summarized in Section 2.2 have been exceeded. Given this approach, groundwater quality in a given basin or sub-basin shall be managed within its assigned AGR Class through WDRs/Waivers as follows:

- If the existing ambient TDS/EC water quality in the area affected by the discharge does not exceed the trigger criteria, salinity implementation measures shall be incorporated into the WDR/Waiver to the extent deemed necessary by the Central Valley Water Board to comply with the State Antidegradation Policy and limit further degradation consistent with the Central Valley SNMP.

- If the existing ambient TDS/EC water quality in the area affected by the discharge exceeds the trigger criteria, the discharger shall be required to submit a Salt Compliance Plan for the area under the influence of the discharge consistent with the requirements of the Central Valley SNMP to achieve salt balance and, if necessary, restore water quality in the receiving water. The Plan shall include short-term and long-term implementation measures consistent with the findings of SSALTS. A long-term implementation program, which may be necessary to achieve balance or implement a managed restoration program, may include commitments to direct participation in the development of a Central Valley regulated brine line, participation in a mitigation bank to support development of a regulated brine line or participation in the development of a Central Valley Water Board approved salt management site.

**Develop BMP-based WDRs/Waivers to Implement the Salinity Narrative Objective**

The Central Valley Water Board will establish appropriate provisions in WDRs/Waivers to implement the translated AGR narrative objective to assure compliance with permit conditions and meet the salinity management requirements of the Central Valley SNMP and this policy. A wide range of relevant factors must be considered in order to develop reasonable and appropriate salt management provisions. Accordingly, to establish appropriate regulatory requirements for salinity management, the Central Valley Water Board may consider a number of factors including, but not limited to:

- Existing and probable beneficial uses consistent with the AGR Class assigned to the groundwater basin or sub-basin where the discharge will occur. This includes the crops that are actually grown or are likely to be grown in the permitted area overlying each basin or sub-basin and the degree to which crop production or stock watering relies on local groundwater to maintain economically viable production levels (taking into account the degree to which other water sources are available for temporary use or blending).

- Existing ambient TDS or EC concentrations in the affected groundwater basin or sub-basin relevant to the trigger criteria established by this policy.

- The amount of assimilative capacity available and any spatial or temporal variability in salinity concentrations.

--

35 Upper 95% of crops can be determined by acreage or by gross economic value as determined by California Department of Food and Agriculture (CDFA) production data.
• Where the trigger criteria are exceeded in the area affected by the discharge, the required salinity treatment/controls to bring the salt load in the area covered by the WDR/Waiver into balance and as appropriate to restore ambient TDS/EC concentrations to a level that is below the upper TDS/EC threshold established for the area.\textsuperscript{36,37}

• The degree to which incremental increases in salinity, within the defined range for each AGR Class, may adversely affect existing crop yields and stock production using an acceptable dynamic model (e.g., Hoffman model or equivalent) to demonstrate that the resulting receiving water is adequate to assure a 95% yield for 95% of the crops\textsuperscript{38} dependent on groundwater in 95% of the years.

• The availability and cost of alternate surface water supplies of higher quality that can used for irrigation instead of local groundwater.

• The availability of practicable and cost-effective salinity-related BMPs to minimize or mitigate adverse effects on groundwater quality in the basin or sub-basin.

• The need for additional recharge to improve or maintain current groundwater levels.

• The need to encourage greater water conservation, water reuse, stormwater harvesting, or increased use of recycled water in the region.

• The potential impact of implementation of a proposed salt management strategy on other constituents of concern, in particular nitrate.

• A monitoring program adequate to assess trends in water quality (for salt and any related constituents of concern) and appropriate trigger thresholds to control the rate at which assimilative capacity is consumed.

In conjunction with the evaluation of the above factors and consideration of BMPs proposed by the discharger to manage salinity under a WDR/Waiver, the Central Valley Water Board must be able make the following findings, as relevant to the discharge, to conclude that existing and probable AGR uses are considered “reasonably protected” and “are not unreasonably affected” by the discharge. If this finding is made, then the Central Valley Water Board may use its discretion to determine the degree to which salinity control measures are needed to limit further degradation in the short and long-term:

• The average TDS or EC concentration in the upper zone of the groundwater in the area affected by the discharge is already well below the trigger criteria and the TDS or EC concentration is expected to remain well below the trigger criteria even with the discharge, consistent with the State Antidegradation Policy.

• Taking into account local conditions, e.g., rainfall, any net increase in groundwater salinity resulting from authorized discharges over a 20-year period, is not expected to have more than a 5% probability (1 in 20 years) of reducing existing average crop yields by more than 5% based on current common irrigation practices, where existing average crop yield is based on the most salt sensitive of

\textsuperscript{36} Consistent with the SNMP, balance is defined as achieving a state where inputs of salt (salt flux in) into a managed area are equal to outputs (salt flux out) from the same area.

\textsuperscript{37} CV-SALTS SSALTS Phase 2 Report provides examples of the current state of knowledge of effective salinity treatment/controls.

\textsuperscript{38} Upper 95% of crops can be determined by acreage or by gross economic value as determined by CDFA production data.
the top 95% of the crops grown (by acreage) within the zone of influence addressed by the WDR/Waiver. The burden-of-proof is on the discharger(s) to make this demonstration using models acceptable to the Central Valley Water Board.

- Where relevant, the discharger has mitigated any significant adverse localized effects on downgradient crop yields by an arrangement satisfactory to the affected agricultural operators and the Central Valley Water Board. This may include, but is not limited to: (a) providing additional water supplies for irrigation in order to increase the leaching fraction; (b) providing an alternate water supply of equal or better quality; or (c) providing economic assistance to change crop selections or offset yield reductions.

- Where the average TDS or EC concentration in the upper zone of the groundwater in the zone of influence below a discharge already exceeds the trigger criteria established by this policy:
  - The permittee has established a Salt Compliance Plan consistent with the Central Valley SNMP that incorporates a long-term salinity management program that includes salinity treatment/control measures and a schedule with milestones that will, at a minimum and over the long-term, result in a balanced salt load in the area affected by the discharge and support local or regional efforts to reduce ambient TDS/EC water quality concentrations back to a level that is below the upper TDS/EC threshold where the permitted activity occurs; or
  - The permittee has implemented Best Practicable Treatment or Control (BPTC) and there is no reasonable or practicable means of further reducing TDS/EC concentrations in the agricultural return flows and the discharger participates in an Alternate Compliance Program (ACP) designed to provide more significant water quality improvement in the same groundwater basin or sub-basin (e.g., participation in salt export or salt sequestration projects or a mitigation bank) that is acceptable to the Central Valley Water Board. The ACP may propose to rely on salt “offsets” or propose to implement more cost-effective controls for other pollutants (e.g., nitrates, arsenic, or selenium) that pose a greater and more urgent risk to public health or the environment.

In addition to the required findings listed above, the Central Valley Water Board may also rely on any one of the following findings to conclude that existing and probable AGR uses are considered “reasonably protected” and “are not unreasonably affected” by the discharge:

- The average TDS/EC concentration in the discharge is less than the trigger values established for TDS/EC concentration in the upper zone of the groundwater basin/sub-basin to which it percolates; or

- High quality water supplies (< 450 mg/L TDS or 700 μS/cm EC) are used to irrigate crops and the leaching fraction is greater than or equal to 10%; or

- Recycled municipal wastewater (< 1,000 mg/L TDS or < 1,500 μS/cm EC) is used to irrigate crops presently being grown with imported surface water or local groundwater; or

- Emergency drought conditions or other exceptional circumstances exist, as determined by the Central Valley Water Board, State Water Board, Governor or other proper authority; or
• Other findings consistent with the goals of the Central Valley SNMP to manage salinity on a sustainable basis.

4.0 Proposed Modifications to the Basin Plans to Support SNMP Implementation

To implement the SNMP management framework described in Section 3.0, the Central Valley Water Board will adopt changes to the SRSJR and TLB Basin Plans as required. The following subsections summarize the key changes that will be required for each Basin Plan (Note that the changes noted below do not include textual changes that may be required throughout each Basin Plan to establish the role of the SNMP in salt and nitrate management in the Central Valley).

**Existing and Potential Beneficial Uses**

• TLB Basin Plan - Establish consistency in the definition between the SRSJR and TLB Basin Plans by incorporating the text, “(including leaching of salts)” into the TLB Basin Plan AGR definition.

**Water Quality Objectives**

• SRSJR and TLB Basin Plans – to be determined if any changes necessary.

**Implementation**

CV-SALTS needs to consider how the SNMP implementation section will be incorporated into the Basin Plan Implementation chapter. One option is to establish a specific SNMP section within the Implementation Chapter and then go through each Basin Plan’s existing Implementation Chapter and edit as needed to direct salt and nitrate management requirements to the SNMP section. Regardless of the approach, minimum changes required to incorporate this AGR Policy include:

• SRSJR and TLB Basin Plans - Incorporate the specific procedures/requirements for developing WDRs/Waivers to protect the AGR beneficial use, including use of triggers to determine when more substantive salinity treatment/control is required.
• Extend or adopt new salinity variance and exception policies.
• Identify AGR classes for each of the 41 sub-basins
Policy No. X: Secondary Maximum Contaminant Levels

1.0 Problem Statement

Secondary Maximum Contaminant Levels (SMCL) established by Title 22 of the California Code of Regulations (22 CCR)¹ are incorporated by reference in the Chemical Constituent sections in the Water Quality Objectives Chapter of the Water Quality Control Plan for the Sacramento and San Joaquin River Basins (SRSJR Basin Plan) and the Water Quality Control Plan for the Tulare Lake Basin (TLB Basin Plan) (collectively referred to hereafter as “Central Valley Basin Plans” or “Basin Plans”). The only portions of 22 CCR related to SMCLs and incorporated into the Basin Plans are Tables 64449-A and 64449-B, which includes “Recommended”, “Upper”, and “Short Term” concentrations for Total Dissolved Solids (TDS), Specific Conductance (or Electrical Conductivity [EC]), chloride and sulfate. Neither the text providing context for the tables nor guidance for utilizing the “Recommended”, “Upper”, or “Short Term” concentrations were included during the incorporation of the 22 CCR tables, which has led to confusion and inconsistencies between intent and application of the values provided.

Unlike primary MCLs that are set at levels to protect public health, SMCLs are drinking water standards based on consumer acceptance contaminant levels, or in other words, based on consumer acceptance with respect to taste and odor. When determining attainment with SMCLs in drinking water, as it is served to consumers, attainment is measured in the groundwater source or at distribution system entry points. This essentially means that the drinking water standard applies after the water has been treated, which in many cases means that water has been filtered. Comparatively, when SMCLs are currently used as water quality objectives they apply directly to the water body, which means that the water has not been treated or filtered. As a practical matter, this means that a water body such as a river must meet the SMCL in its raw water state even though the water itself would not be served to consumers without some form of treatment or filtration. Further, and as indicated above, SMCLs are based on consumer acceptance and are not set at levels for the protection of public health.

The purpose of this recommended SNMP Policy is to clarify in the Basin Plans how SMCLs would be interpreted and used as water quality objectives in Central Valley Regional Water Quality Control Board (Central Valley Water Board) actions that implement the objectives, such as when the Board is developing Waste Discharge Requirements (WDRs)² or Conditional Waivers³ (“Waivers”) that authorize discharges to surface water or groundwater. In general, there are two types of SMCLs that are addressed in this recommended policy. There are those associated with salinity (e.g., TDS or EC), and those associated with other types of constituents, e.g., metals. The salinity based SMCLs are expressed in ranges and there has been some confusion with respect to how the values in the various ranges should be applied to waters of the state when used as water quality objectives. With respect to the SMCLs associated with metals, there has been significant discussion with respect to apply the SMCLs to water samples that measure the amount of total metals in the water, or against dissolved water samples that would measure that amount of metals that would essentially exist if the water sample was served to consumers as filtered water.

¹ California Code of Regulations Title 22 – Social Security; Division 4 – Environmental Health; Chapter 15 – Domestic Water Quality and Monitoring Regulations, Article 16 Secondary Drinking Water Standards.
² Water Code, section 13263.
³ Water Code, section 13269.
1.1 Existing Regulatory Requirements

Chemical Constituents Water Quality Objective

The Central Valley Basin Plans state the following with regards to chemical constituents and the protection of surface and ground waters designated with a Municipal and Domestic Supply (MUN) beneficial use:\(^4\)\(^5\)

> At a minimum, water designated...MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect...The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances.\(^6\)

The above referenced SMCL tables, Tables 64449-A and 64449-B from 22 CCR are provided below. These tables list the chemical constituents along with their respective maximum contaminant levels for Table 64449-A or “Recommended”, “Upper”, and “Short Term” levels for Table 64449-B.

While the 22 CCR §64449 tables are referenced in the Central Valley Basin Plans, the associated text contained in 22 CCR §64449 (d) and (e) that provides context for the listed values, is not currently included or referenced in the Basin Plans. Attachment A to this policy provides the full text of §64449. Additionally, for surface waters, text in the Basin Plans as provided above references the applicability of state and federal drinking water regulations to water served for human consumption, but provides no guidance on its implementation.

Related Water Quality Objectives

In addition to the TDS and EC values included in Table 64449-B, the SRSJR Basin Plan also establishes water body-specific objectives for EC and TDS in Table III-3. Per the SRSJR Basin Plan, where there is any conflict between the Table III-3 objectives and chemical constituents water quality objectives, as referenced in 22 CCR Table 64449-B, the more stringent objectives shall apply.\(^7\) Similarly, the TLB Basin Plan establishes water body-specific objectives for EC and TDS in Tables III-2 and III-3.\(^8\) All of these water


\(^6\) The last sentence regarding consumption of surface waters is found only in the Chemical Constituent water quality objectives section for inland waters.

\(^7\) SRSJR Basin Plan. See p. III-6.02 and Table III-3 on p. III-7.00.

body-specific objectives are lower than the SMCLs referenced in Table 64449-B. Accordingly, the proposed recommendations in this policy would not affect the applicability of these water body-specific objectives, and the SNMP does not propose to make any recommendations otherwise that would affect the water body-specific objectives for TDS and EC as established in the Basin Plans.

### Table 64449-A
**Secondary Maximum Contaminant Levels**

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Maximum Contaminant Levels/Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Color</td>
<td>15 Units</td>
</tr>
<tr>
<td>Copper</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Foaming Agents (MBAS)</td>
<td>0.5 mg/L</td>
</tr>
<tr>
<td>Iron</td>
<td>0.3 mg/L</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.05 mg/L</td>
</tr>
<tr>
<td>Methyl-tert-butyl ether (MTBE)</td>
<td>0.005 mg/L</td>
</tr>
<tr>
<td>Odor – Threshold</td>
<td>3 Units</td>
</tr>
<tr>
<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>
</tr>
<tr>
<td>Zinc</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

### Table 64449-B
**Secondary Maximum Contaminant Levels**

<table>
<thead>
<tr>
<th>Constituents, Units</th>
<th>Recommended</th>
<th>Upper</th>
<th>Short Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dissolved Solids (TDS), mg/L, or Specific Conductance, μS/cm&lt;sup&gt;10&lt;/sup&gt;</td>
<td>500</td>
<td>1,000</td>
<td>1,500</td>
</tr>
<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>
</tr>
</tbody>
</table>

**Other Relevant Regulatory Requirements**

**Natural Background Concentrations**
Consideration of the natural background concentration of a constituent relative to a water quality objective is addressed in each Basin Plan as follows:

---

<sup>9</sup> Table III-3 in the SRSJR Basin Plan and Tables III-2 and III-3 in the TLB Basin Plan include explanatory text or table notes that provide additional information regarding application of water body-specific objectives. These notations are critical for making a determination of compliance with a water body-specific objective.

<sup>10</sup> For the purposes of this policy Specific Conductance is expressed as Electrical Conductivity.
• The TLB Basin Plan states that, “The objectives of this plan do not require improvement over naturally occurring background concentrations”.\textsuperscript{11} This finding applies to both inland surface water and groundwater quality objectives.

• The SRSJR Basin Plan states that, “These objectives do not require improvement over naturally occurring background concentrations”\textsuperscript{12} This statement only applies to water quality objectives for ground waters.

• Both the SRSJR and TLB Basin Plans include the following text within Chapter 4 of the Basin Plans (Policy for Application of Water Quality Objectives): However, the water quality objectives do not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.\textsuperscript{13}

Per the above Basin Plan statements, natural background may be considered when establishing WDRs. Consideration of natural background concentrations of TDS or EC is important in many areas of the Central Valley. The TLB Basin Plan also includes specific salinity implementation provisions in Chapter 4 governing consumptive use and controlled degradation. In particular:

- Discharges to Navigable Waters “…shall not exceed the quality of the source water plus 500 micromhos per centimeter or 1,000 micromhos per centimeter, whichever is more stringent…”.\textsuperscript{14}

- For Discharges to Land “…maximum EC shall not exceed the EC of the source water plus 500 micromhos/cm”.\textsuperscript{15}

- Water quality objectives for groundwater salinity are based on a maximum average annual increase measured as electrical conductivity, to recognize that, “no proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels in the Basin”.\textsuperscript{16}

\textbf{State Water Quality Control Board Policies}

\textit{Statement of Policy with Respect to Maintaining High Quality of Waters in California (State Antidegradation Policy, Resolution 68-16)}

The State Water Resources Control Board’s (State Water Board) Antidegradation Policy applies to both surface waters and groundwaters.\textsuperscript{17} This policy generally prohibits the Central Valley Water Board from authorizing discharges that will degrade “high quality waters,” unless the Central Valley Water Board first finds that the degradation is consistent with the maximum benefit to people of the state, that the discharge will be controlled through the use of “best practicable treatment or control” methodologies, and that the discharge will not unreasonably affect present and potential beneficial uses. High quality

\textsuperscript{11} TLB Basin Plan, p. III-2.
\textsuperscript{12} SRSJR Basin Plan, p. III-9.00.
\textsuperscript{13} SRSJR Basin Plan, p. IV-17.00; TLB Basin Plan, p. IV-21.
\textsuperscript{14} TLB Basin Plan, p. IV-10.
\textsuperscript{15} TLB Basin Plan, p. IV-11.
\textsuperscript{16} TLB Basin Plan, p. IV-20.
waters are those waters that are generally better than applicable water quality objectives. A determination of high quality is on a constituent-by-constituent basis.

Sources of Drinking Water Policy (Resolution 88-63)
The Sources of Drinking Water Policy establishes a policy whereby all waters are considered suitable or potentially suitable to support the MUN beneficial use, with certain exceptions. The Central Valley Basin Plans implement this policy by generally assigning the MUN beneficial use to all surface waters and groundwaters in the Central Valley unless those waters have already been identified as not supporting the MUN use in the Basin Plans. Under existing regulations, exceptions to the MUN beneficial use can only be made in the Basin Plans themselves based on criteria in the policy. One of the exception criteria is that TDS exceeds 3,000 mg/L (5,000 µS/cm, EC) in the water body and it is not reasonably expected by a Regional Board that the water body would be used as a public water supply. These TDS or EC exception criteria are much higher than the range of acceptable SMCLs for TDS or EC in Table 64449-B (“Short Term” acceptable contaminant level of 1,500 mg/L TDS or 2,200 µS/cm EC).

1.2 Challenges with Application of Existing Basin Plan Language

Total Dissolved Solids or Electrical Conductivity
In the mid-1990's, the Central Valley Water Board modified its Chemical Constituents objective language in the Basin Plan which incorporates water quality objectives for salinity, either as TDS or EC (Specific Conductance in Table 64449-B), to protect the MUN beneficial use. This new salinity objective, which is an SMCL, was established by reference to state drinking water standards identified in 22 CCR Table 64449-B. None of the other associated text from §64449, i.e., §64449(d) or (e), explaining how the SMCLs were supposed to be implemented, was incorporated with the table values. For example, 22 CCR Table 64449-B indicates three “Consumer Acceptance Contaminant Level Ranges”. For TDS, the “Recommended” value is 500 mg/L but per the associated text found in 22 CCR §64449(d)(2), concentrations ranging up to an “Upper” value of 1,000 mg/L are also “acceptable”, if it is neither reasonable nor feasible to provide more suitable waters.

In September 2007, the Central Valley Water Board issued a WDR and a Master Reclamation Permit to the City of Lodi. Subsequently, in October 2007, the California Sportfishing Protection Alliance (CALSPA) filed a petition with the State Water Board seeking review of the aforementioned permit.

In June 2009, the Central Valley Water Board submitted written comments to the State Water Board opposing CALSPA’s claim that only the “Recommended” values at the lower end of the range of SMCLs for drinking water can be used as water quality objectives when developing WDRs or effluent limits. The Central Valley Water Board noted that such an approach would be more stringent than and inconsistent with the manner in which the California Department of Health Services (now the Division of Drinking Water [DDW]) implements these same standards on drinking water systems.

---

18 State Water Board Resolution No. 88-63. Sources of Drinking Water Policy, May 19, 1988, as revised by Resolution No. 2006-0008.
19 22 CCR §64449(d)(2).
20 Central Valley Water Board Order No. R5-2007-0113; NPDES No. CA0079243.
21 See “Recommended” column in Table 64449-B from 22 CCR.
Water Board also stated that there should be some exception made when the natural background concentration of one or more constituents in the receiving water exceeds the SMCL.

In July 2009, the State Water Board adopted Order WQ 2009-0005, which remanded in part the Lodi permit, and directed the Central Valley Water Board to consider further if releases of wastewater from the unlined storage ponds have caused groundwater to exceed applicable Basin plan objectives for nitrate and electrical conductivity. In the adopted order, the State Water Board noted that the Chemical Constituents narrative water quality objective in the SRSJR Basin Plan incorporates only the SMCLs specified in tables from 22 CCR §64449 with their numeric values and does not specifically reference the monitoring, reporting, waiver or other provisions that provide context for application of the values in those tables (e.g., see Attachment A to this policy, in particular the provisions contained in §64449(d) and (e)). The State Water Board also found that the “Short Term” value of 2,200 μS/cm EC (1,500 mg/L TDS) is not appropriate (as an applicable water quality objective) because it is “intended to apply only on a temporary basis pending construction of water treatment facilities or the development of new water sources.”

While the focus of the State Water Board decision was on the SRSJR Basin Plan, the TLB Basin Plan also provides limited additional context for application of the relevant 22 CCR §64449 tables. Consequently, neither of the Central Valley Basin Plans allows much discretion when the Central Valley Water Board is developing WDRs to implement these particular objectives. Without this discretion, implementation of the water quality objectives for chemical constituents in Table 64449-B as related to SMCLs creates significant challenges for the following reasons:

- In the State Water Board’s Rancho Caballero decision, the State Water Board declared that when receiving water quality already exceeds a particular water quality objective, and there is no assimilative capacity available, discharge limits must be set to a concentration at or below the objective contained in the Water Quality Control Plan. Therefore, where TDS in the receiving water exceeds 500 mg/L TDS (900 μS/cm EC) or 1,000 mg/L TDS (1,600 μS/cm EC), the Central Valley Water Board may not allow discharges to those receiving waters to exceed 500 mg/L or 1,000 mg/L (or equivalent EC values) even if the TDS concentration in the discharge is actually less than the TDS concentration in the receiving water and would improve receiving water quality.

- The CV-SALTS Initial Conceptual Model project developed an estimate of the median TDS concentration in the upper (shallower) portion of the 22 Central Valley Initial Analysis Zones (IAZs)

---

22 Order WQ 2009-0005 was later amended by Order WQ 2012-0001. The amendments adopted to Order WQ 2009-00005 were unrelated to the salinity provisions discussed herein. However, to ensure proper citations to the relevant order, we have provided citations to Order WQ 2009-0005, as amended by Order WQ 2012-0001.

23 Note that nitrate has a primary maximum contaminant level (22 CCR §64431, Table 64431-A) and is not affected by this policy.

24 State Water Board Order WQ 2012-0001, p. 23.

25 SRSJR Basin Plan, See Pg. III-3.00 for inland surface waters and Pg. III-10.00 for groundwater.

26 State Water Board Order WQ 2012-0001, p. 15.

27 State Water Board Order 73-4, p. 7.

28 Note that in groundwater the objective applies at the groundwater table; changes to water quality may occur between the surface and first encountered groundwater, e.g., as a result of soil interactions.
based on water quality data recorded for the period 2003 to 2012 (see Section X.Y of the SNMP). This study found that in the shallow portion of 17 of the 22 IAZs, the median TDS concentration already exceeds 500 mg/L TDS (900 µS/cm EC). Therefore, if 500 mg/L TDS (900 µS/cm EC) was used as the water quality objective, then only five of the IAZs are likely to have any significant assimilative capacity available for additional TDS loads if the shallow portion is used to determine total available assimilative capacity. Discharges to the other 17 IAZs would likely have to comply with WDRs prohibiting TDS discharges in excess of 500 mg/L TDS (900 µS/cm EC). In contrast, if 1,000 mg/L TDS (1,600 µS/cm EC) was used as the water quality objective (“Upper” level in Table 64449-B), then 17 of the 22 IAZs would likely have at least some assimilative capacity available for additional TDS loads.

- The current regulatory approach that relies primarily on the “Recommended” concentration of 500 mg/L TDS (900 µS/cm EC) (Table 64449-B) for the purpose of establishing WDRs makes it nearly impossible to recharge groundwater basins with recycled water unless there is significant assimilative capacity available in the aquifer (TDS < 500 mg/L or < 900 µS/cm EC). This outcome complicates and inhibits statewide efforts to promote the use of recycled water for landscape irrigation and to recharge groundwater storage – water management strategies particularly important during times of regional or statewide drought.

- The current regulatory approach that relies primarily on the “Recommended” TDS concentration of 500 mg/L (900 µS/cm EC) (22 CCR Table 64449-B) for the purpose of establishing WDRs also poses significant challenges for agricultural discharges. Assuming a relatively common leaching fraction of 15%, agricultural operators must start with a TDS concentration no greater than 75 mg/L in the irrigation supply water in order to ensure percolation below the root zone does not exceed 500 mg/L (900 µS/cm EC) at the point of compliance at the groundwater table. Similarly, to avoid discharging TDS at concentrations greater than 1,000 mg/L (1,600 µS/cm EC) at the groundwater table, TDS in the irrigation supply water must be less than 150 mg/L.

- Similarly, applying the “Recommended” TDS value of 500 mg/L as a maximum “not-to-exceed” value immediately below the root zone at the groundwater table discourages the use of high efficiency drip irrigation systems with very low leaching fractions. This outcome conflicts with statewide efforts to promote greater water conservation through more efficient irrigation practices.

Finally, it is important to consider that the State Water Board has established a policy that all surface and ground waters of the state should be presumed to support an MUN use unless the water body meets one of the exception criteria established in the Sources of Drinking Water Policy. The exception criterion relevant to this policy is criterion 1(a) which states that a basis for removing the MUN use from

---

31 See previous footnote reference; Table 7-7 also shows how the estimate of available assimilative capacity would likely change if the water quality objective is set to 700 mg/L or 1,000 mg/L.
32 These are provided as examples only as the actual concentration of TDS or EC at the point of compliance at the groundwater table is influenced many factors, e.g., the type of irrigation system used and precipitation.
33 State Water Board Resolution No. 88-63. Sources of Drinking Water Policy, May 19, 1988, as revised by Resolution No. 2006-0008.
a surface water or groundwater is the TDS exceeds 3,000 mg/L (or 5,000 µS/cm, EC) and the water body is not reasonably expected by a Regional Board to supply a public water system. These TDS and EC values exceed even the “Short Term” “Consumer Acceptance Contaminant Level Ranges” (1,500 mg/L TDS or 2,200 µS/cm EC) established in Table 64449-B, yet it is State policy that waters with TDS or EC concentrations up to these high values still be considered suitable to supply public water system and be protected as such.

Other Regulatory Challenges
In addition to the need to provide context for application of the Table 64449-B values, this recommended policy is also intended to provide clarity to the application of the chemical constituent water quality objectives in the following areas:

• **Measuring Compliance with SMCLs** - Neither 22 CCR nor the Basin Plans provide guidelines with regards to the appropriate sampling method for evaluating compliance through WDRs with the SMCLs in Tables 64449-A and 64449-B. Historically, for wastewater dischargers compliance with the SMCLs has been determined using the total recoverable metals fraction. This approach is inconsistent with federal law that requires most community water systems to filter surface water prior to delivery. moreover, per 22 CCR and federal regulations, SMCLs are intended to apply to finished water delivered to a community water system. Many of the SMCLs are primarily intended to address aesthetic qualities, such as taste and odor, or minimize risk of corrosion of pipes; they are not intended to address human health concerns. Continuing to rely on total recoverable metals to assess compliance with SMCLs in the receiving water may overestimate the potential aesthetic impact on the actual quality of downstream drinking water delivered to consumers after treatment. In addition for groundwater, filtration through natural soils or man-made systems significantly reduces the concentration of total suspended solids, including aesthetically objectionable minerals such as iron, manganese, and aluminum.

• **Consideration of Natural Background** - It is known that some areas in the Central Valley have natural background TDS or EC concentrations that exceed the “Recommended” values in Table 64449-B. While both the SRSJB and TLB Basin Plans contain provisions for considering natural background concentrations when applying water quality objectives in general, the means for implementing these provisions in WDRs with regards to SMCLs has not always been clear.

• **“Specific Treatment Requirements” - Language for Inland Surface Waters** - As noted above, the existing Chemical Constituents water quality objective for inland surface waters includes the following statement: “The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances.” While the Basin Plans acknowledge that specific treatment...
requirements are imposed by state and federal drinking water regulations, the Basin Plans provide no implementation provisions for this text.

- **Compliance Assessment Time Period** – Per 22 CCR §64449, compliance with SMCLs is based on a long-term average rather than the results of an individual grab sample. Specifically, 22 CCR §64449 (c)(1) states that compliance with Table 64449-A constituents shall be determined based on a running annual average of four quarterly samples. 22 CCR §64449 does not provide a compliance assessment time period for Table 64449-B constituents. The Basins Plans currently do not provide guidelines for an appropriate compliance assessment time period for the SMCLs incorporated by reference from 22 CCR.

### 2.0 New Regulatory Approach to Implement SMCLs as Chemical Constituents

#### 2.1 Total Dissolved Solids or Electrical Conductivity

When the SMCLs were incorporated by reference as water quality objectives, only Tables 64449-A and 64449-B were explicitly referenced in the Basin Plan. Other relevant text for Table 64449-B from 22 CCR §64449 (d) and (e) was not specifically referenced or included as text in the Basin Plan. The omission of contextual information interferes with the Central Valley Water Board's ability to develop appropriate WDRs based on the values enumerated in Tables 64449-A and 64449-B. For example, the “Recommended” levels specified in Table 64449-B have been construed as “not-to-exceed” values in WDRs and NPDES permit limits. Such an approach is not consistent with the full text of §64449(d), which states:

“(d) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

(1) Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.

(2) Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.

(3) Constituent concentrations ranging to the Short Term contaminant level are acceptable only for existing community water systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources.”

Given the importance of the contextual information in 22 CCR §64449(d), the Central Valley Water Board should be authorized to consider the full range of “Consumer Acceptance Contaminant Levels” described in Table 64449-B when establishing reasonable and appropriate WDRs to protect water supplies that may be affected by the discharge. This would include use of the “Short Term” level on a temporary basis in those situations where construction of new facilities or connection to new water sources is pending as specified in 22 CCR §64449(d)(3). Accordingly, it is recommended that the Central Valley Region Basin Plans be amended to incorporate the contextual information in 22 CCR §64449 et seq., as appropriate to support this policy. Additional findings that support these potential Basin Plan amendments include:

---

38 It should be noted that reference to “full range” includes potential use of “Short Term” levels, but per §64449(d)(3), these levels are acceptable only on a temporary basis pending other actions to establish an acceptable new water source.
• 22 CCR §64449(a) specifies that: “The secondary MCLs shown in Tables 64449-A and 64449-B shall not be exceeded in the water supplied to the public by community water systems”. Compliance is evaluated by requiring such systems to monitor their “groundwater sources or distribution system entry points representative of the effluent of source treatment every three years and its approved surface water sources or distribution system entry points representative of the effluent of source treatment annually...”. 39 Revising the Basin Plans to incorporate a more complete reference to the full text of 22 CCR §64449 will allow the Central Valley Water Board, when developing appropriate WDRs for the SMCLs, to take into consideration any dilution or other attenuation that may occur between the point of discharge and any intake to a downstream (surface water) or down-gradient (groundwater) water supply system. The Board is not necessarily obligated to authorize the full waste assimilation capacities of the receiving waters. 40 However, the recommended Basin Plan amendments will preserve the Board’s discretion to regulate SMCL constituents based on what is necessary, reasonable and feasible to protect public water supplies.

• Federal and state regulations do not require adoption of the SMCLs as formal water quality objectives. Several other California Regional Water Quality Control Boards have not adopted SMCLs as water quality objectives in their respective Basin Plans. 41 Instead, these other Boards rely on narrative water quality objectives to regulate mineral concentrations where necessary to protect water supply systems that may be adversely affected by a given discharge. The values shown in 22 CCR Tables 64449-A and 64449-B, along with the associated text in §64449, are both used to inform the process of translating narrative objectives into appropriate WDRs.

• The SMCLs are primarily intended to address aesthetic qualities, such as taste and odor, or minimize risk of corrosion of pipes; they are not intended to address human health concerns. 42 Consumer acceptance is highly subjective and complicated by factors such as the form and combination of specific constituents (e.g., sodium-sulfate vs. calcium-sulfate) and the presence or absence of other major anions and cations. 43 The current numeric water quality objectives for SMCLs do not adequately account for the influence of these other variables. 44 Revising the Basin Plans will afford the Central Valley Water Board more flexibility to consider all relevant factors that may affect consumer acceptance of these constituents.

• The SRSJR and TLB Basin Plans establish site-specific water quality objectives for selected water bodies (see Section 1.1 of this policy). Incorporation of the full range of “Consumer Acceptance Contaminant Levels”, as described in 22 CCR Table 64449-B, into the Basin Plans does not supersede or replace these site-specific water quality objectives.

39 22 CCR §64449(b).
40 See §13263(b) of the California Water Code.
41 See Basin Plans for the Regional Water Quality Control Boards in Region 3 (Central Coast Water Board); Region 6 (Lahontan Water Board); Region 7 (Colorado River Water Board); Region 8 (Santa Ana Water Board); and Region 9 (San Diego Water Board).
44 See Federal Register 44:42195, July 19, 1979 for establishment of SMCLs; page 42201 for discussion of sulfate.
• Water recycling and groundwater recharge may increase the concentration of mineral salts. Using the lowest value from the range of consumer acceptance levels to establish numeric water quality objectives for TDS or EC (see 22 CCR Table 64449-B) discourages dischargers from increasing the use of recycled water or implementing groundwater recharge projects. Moreover, such disincentives can occur even where the discharges may actually improve overall quality in the receiving water. The Central Valley Water Board should have the legal flexibility to develop WDRs that balance the public benefits of water recycling and groundwater recharge against any potential impact on receiving water quality.

• The Central Valley Water Board’s on-going obligation to issue WDRs that are consistent with State Water Board Resolution No. 68-16\(^45\) and §13370 of the California Water Code provides adequate protection against water quality degradation for the constituents identified in 22 CCR Tables 64449-A and 64449-B. Lowering water quality for high quality waters is only permissible where the Board has issued, through the prescribed public process, waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained. Amending the Basin Plans does not create a license to discharge the SMCL constituents at will or authorize public nuisance. It does, however, clarify the Board’s full range of authority to regulate these constituents in a manner that is consistent with the original purpose and intent of 22 CCR §64449.

2.2 Other Regulatory Issues

Section 1.2 above identified four areas where clarification is recommended with regards to implementation of the chemical constituents water quality objectives for surface waters and groundwater:

• Measuring Compliance with SMCLs – It is recommended that the Basin Plans implementation section be amended to include language that describes how compliance SMCLs in Table 64449-A and 64449-B be determined. Specifically, compliance would be determined from a filtered sample (water passed through a 0.45 micron filter) for all constituents in Table 64449-B and all the following selected constituents in Table 64449-A: Aluminum, Color, Copper, Iron, Manganese, Silver Turbidity and Zinc. All of these constituents can be natural elements in the environment or are a characteristic of water influenced by the presence of these elements, i.e., color or turbidity. Compliance with the remaining SMCLs in Table 64449-A would be determined from a non-filtered sample: foaming agents (MBAs; surfactants), Methyl-tert-butyl ether (MTBE) (gasoline additive), Odor Threshold and Thiobencarb (pesticide). None of these constituents is an element or quality found in the natural environment.

• Consideration of Natural Background - It is recommended that the Basin Plans be amended to include language with the Chemical Constituents water quality objective section that indicates that that in cases where the natural background concentration of a particular chemical constituent exceeds the highest level specified in 22 CCR Table 64449-A or “Upper” level specified in Table 64449-B, the water body shall not exceed that natural background concentration due to controllable

---

anthropogenic sources. In addition, it is recommended that language also be included that states that constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of 22 CCR §64449(d)(3). It may be appropriate to develop guidelines regarding how this determination would be made.

- **“Specific Treatment Requirements” Language for Inland Surface Waters** - It is recommended that guidelines be developed to support the Basin Plans implementation section that describes how the following existing Basin Plan language would be considered when developing WDRs for discharges to inland surface waters: “The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances”.

- **Compliance Assessment Time Period** – It is recommended that language be added to the implementation section of the Basin Plans to state that an evaluation of compliance with SMCLs in Tables 64449-A and 64449-B shall be determined from an annual average of collected samples. This approach is similar to 22 CCR §64449(c)(1) as it applies to Table 64449-A. 22 CCR §64449 does not provide a compliance determination approach for Table 64449-B constituents; regardless, it is recommended that the same approach be used for both Table 64449-A and 64449-B constituents.

### 3.0 Implementation of SMCLs in Discharge Permits

As noted in the previous section, to implement this SMCL policy, it is recommended that the supporting regulatory language at 22 CCR §64449(d) and (e) be incorporated into the SRSJR and TLB Basin Plans. This outcome will allow the Central Valley Water Board to consider the full range of “Consumer Acceptance Contaminant Levels” described in Table 64449-B when establishing reasonable and appropriate WDRs to protect MUN water supplies that may be affected by a proposed discharge. In addition, when developing discharge permit language:

- The Central Valley Water Board shall consider a number of site-specific factors when developing appropriate WDRs that are consistent with the intent of 22 CCR §64449. These factors should include, but are not limited to:
  - The availability of assimilative capacity in the receiving water based on compliance with the antidegradation policies;
  - Naturally occurring background concentrations;
  - Background concentrations due to prior anthropogenic activities where it is not feasible or practicable to remediate the effect of these past discharges;
  - The net effect of discharges that improve receiving water quality;
  - The chemical form/species of TDS or EC;
  - The presence or absence of other minerals (e.g., anion-cation balance) that may mitigate or aggravate aesthetic acceptability;
  - The application of appropriate long-term averaging periods to evaluate compliance with WDR monitoring requirements;
  - The potential impact on downstream beneficial uses (surface water and groundwater), including potential to impact water quality at the nearest downstream intakes for a drinking water facility or drinking water wells;
- Economic factors including the practicality and feasibility of achieving compliance with the SMCLs at the point-of-discharge (including consideration of cost for achieving compliance, ability to pay, and cost of non-compliance);
- Demonstration that direct users of a water supply within the area of influence of the WDR are adequately protected. This may include ensuring a safe temporary water supply is provided while long-term improvements to drinking water facilities are completed.
- Other environmental considerations.

- The Central Valley Water Board shall consider the State Water Board’s Recycled Water Policy and the Central Valley SNMP’s goals to increase the use of recycled water, increase stormwater use, and increase water conservation as mechanisms to increase drought protection when determining how to implement the range of TDS or EC values provided in 22 CCR Table 64449-B.

- CCR Title-22 §64449(d)(2) states that TDS concentrations up to 1,000 mg/L TDS (1600 µS/cm EC) are “acceptable if it is neither reasonable nor feasible to provide more suitable waters”. Accordingly, the Central Valley Water Board should be able to implement the range of TDS or EC values provided in 22 CCR Table 64449-B in the same manner that it is currently implemented for water supply agencies by referencing the full text and tables of 22 CCR §64449. However, if granted the authority to allow TDS concentrations up to 1,000 mg/L in a discharge (1600 µS/cm EC) or higher is not an automatic authorization for such discharges to occur. All of the normal antidegradation requirements (Resolution No. 68-16), as they apply to high quality waters, should continue to apply when developing WDRs and effluent limitations for TDS or EC. If a discharge is likely to lower downstream water quality, it will still be necessary to demonstrate that any change in water quality:
  - Will be consistent with maximum benefit to the people of the State;
  - Will not unreasonably affect present and anticipated beneficial uses of such water; and
  - Will not result in water quality less than that prescribed by state policies, e.g., water quality objectives established in the Basin Plans.

- Where waste discharges have the potential to affect source water quality in water supply intakes/wells located downstream/downgradient, the Central Valley Water Board may require a discharger, or dischargers collectively if in an approved management zone or as part of general order, to develop a more detailed fate and transport analysis prior to authorizing a permit. The purpose of this analysis is to determine how the permitted discharge affects the concentration of constituents identified in 22 CCR Tables 64449-A and 64449-B at water supply intakes or water supply wells to ensure a safe drinking water supply for users.

---

46 22 CCR §64449(e) allows for application of “short term” “Consumer Acceptance Contaminant Levels” where specific criteria have been met (see Attachment A to this policy).
47 Note that any authorized upper limit would be based on an averaging period as appropriate and determined by the Central Valley Water Board staff considering site-specific factors.
48 Questions and Answers, State Water Resources Control Board Resolution No. 68-16; February 16, 1995.
49 See Management Zone Policy and or Section X in the Central Valley SNMP for more information regarding Management Zones.
50 A request for additional information prior to authorizing a permit shall be consistent with CWC §13627.
If being allocated assimilative capacity, dischargers individually, or collectively within a management zone, will still be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a condition of pollution or nuisance will not occur; and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained. To the extent practicable given the facts known at the time that the WDR is developed, the Central Valley Water Board also should consider the long-term cumulative impact of all discharges to the same receiving water (and any other significant influences and/or trends) before authorizing a discharge that may further lower water quality. In addition, even if TDS or EC in the upper SMCL range is acceptable, it remains desirable to manage water resources toward attaining the recommended SMCL range where feasible, practicable, and reasonable to do so.

Since the TDS and EC values shown in 22 CCR Table 64449-B are drinking water standards, for groundwater it is appropriate to track the net effect of permitted discharges at downgradient well locations upgradient of where groundwater is extracted for domestic and municipal drinking water use. The potential to impact groundwater that is extracted for domestic and municipal drinking water use may trigger additional management activities.

4.0 Proposed Modifications to the Basin Plans to Support SNMP Implementation

To implement this SMCL Policy, it is recommended that the Central Valley Water Board adopt changes to the SRSJR and TLB Basin Plans as summarized in the subsections below.

4.1 Chapter II - Existing and Potential Beneficial Uses

No changes to this section of the SRSJR and TLB Basin Plans are anticipated.

4.2 Chapter III - Water Quality Objectives

Following is a summary of proposed changes to the Water Quality Objective Chapter of each Central Valley Water Board Basin Plan.

Water Quality Control Plan for the Sacramento River and San Joaquin River Basins

To implement this SMCL Policy, the following changes to Chapter III. Water Quality Objectives will be made to the SRSJR Basin Plan:

- Page III-3.00, Chemical Constituents section will be modified as follows (Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout):

  Chemical Constituents

  Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses...

  At a minimum, surface water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A...
(Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, and Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect...

In addition, for surface waters designated MUN the concentration of chemical constituents shall not exceed the “maximum contaminant level” specified in 22 CCR Table 64449-A or the “Upper” level specified in 22 CCR Table 64449-B, unless otherwise authorized by the Regional Water Board in accordance with the provisions of 22 CCR Section 64449 et seq. Constituent concentrations ranging to the “Upper” level in Table 64449-B are acceptable if it is neither reasonable nor feasible to provide more suitable waters; in addition, constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of §64449(d)(3). In cases where the surface water natural background concentration of a particular chemical constituent exceeds the highest level specified in 22 CCR Table 64449-A or “Upper” level specified in Table 64449-B, the surface water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Regional Board authorizes it consistent with State Antidegradation Policy”.

- Page III-10.00, Chemical Constituents section will be modified as follows (Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout):

**Chemical Constituents**

Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.

At a minimum, ground waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, and Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect...

In addition, for ground waters designated MUN, concentration of chemical constituents shall not exceed the “maximum contaminant level” specified in 22 CCR Table 64449-A or the “Upper” level specified in 22 CCR Table 64449-B unless otherwise authorized by the Regional Water Board in accordance with the provisions of 22 CCR Section 64449 et seq. Constituent concentrations ranging to the “Upper” level in Table 64449-B are acceptable if it is neither reasonable nor feasible to provide more suitable waters; in addition, constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of §64449(d)(3). In cases where the natural background concentration of a particular chemical constituent exceeds the highest level specified in 22
CCR Table 64449-A or “Upper” level specified in Table 64449-B, the ground water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Regional Board authorizes it consistent with State Antidegradation Policy.

**Water Quality Control Plan for the Tulare Lake Basin**

To implement this SMCL Policy, the following changes to Chapter III. Water Quality Objectives will be made to the TLB Basin Plan:

- Page III-3, Chemical Constituents section will be modified as follows (*Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout*):

  **Chemical Constituents**
  
  Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses...

  At a minimum, surface water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, and Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect...

  In addition, for surface waters designated MUN, concentration of chemical constituents shall not exceed the “maximum contaminant level” specified in 22 CCR Table 64449-A or the “Upper” level specified in 22 CCR Table 64449-B unless otherwise authorized by the Regional Water Board in accordance with the provisions of 22 CCR Section 64449 et seq. Constituent concentrations ranging to the “Upper” level in Table 64449-B are acceptable if it is neither reasonable nor feasible to provide more suitable waters; in addition, constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of §64449(d)(3). In cases where the surface water natural background concentration of a particular chemical constituent exceeds the highest level specified in 22 CCR Table 64449-A or “Upper” level specified in Table 64449-B, the surface water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Regional Board authorizes it consistent with State Antidegradation Policy.

- Page III-7, Chemical Constituents section will be modified as follows (*Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout*):

  **Chemical Constituents**
  
  Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses...
At a minimum, ground waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, and Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant levels - Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels - Ranges) of Section 64449. This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect...

In addition, for ground waters designated MUN, concentration of chemical constituents shall not exceed the “maximum contaminant level” specified in 22 CCR Table 64449-A or the “Upper” level specified in 22 CCR Table 64449-B unless otherwise authorized by the Regional Water Board in accordance with the provisions of 22 CCR Section 64449 et seq. Constituent concentrations ranging to the “Upper” level in Table 64449-B are acceptable if it is neither reasonable nor feasible to provide more suitable waters; in addition, constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of §64449(d)(3). In cases where the natural background concentration of a particular chemical constituent exceeds the highest level specified in 22 CCR Table 64449-A or “Upper” level specified in Table 64449-B, the ground water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Regional Board authorizes it consistent with State Antidegradation Policy.

### 4.3 Chapter IV - Implementation

Following is a summary of planned changes to the Implementation Chapter of each Central Valley Water Board Basin Plan.

[Note: The proposed implementation language makes reference to “…additional guidelines designed to achieve “Recommended” values…“. It is assumed that these guidelines would be developed in parallel with the Basin Plan amendment process, after SNMP submittal. The purpose of these guidelines is to guide permit writers in development of WDRs, e.g., evaluation of natural background, presence or absence of other minerals that may mitigate/aggravate aesthetic acceptability; development of an appropriate averaging periods, etc.]

**Water Quality Control Plan for the Sacramento River and San Joaquin River Basins**

To implement this SMCL Policy, the following changes to Chapter IV. Implementation of the SRSJR Basin Plan are proposed:

- To support implementation of SMCLs, the following paragraphs are proposed for addition to the SRSJR Basin Plan's Chapter IV. Implementation at a location in the Chapter to be determined. *(Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout)*:

  For the chemical constituents identified in 22 CCR §64449 (Table B) the water quality objectives shall be set as described in Chapter III-3.0 of this water quality control plan. Because lower concentrations of these chemical constituents are desirable for promoting...
greater consumer confidence and acceptance of public water supplies, the Regional Water Board has established additional guidelines designed to achieve the “Recommended” values in 22 CCR §64449 (Table B) where it is reasonable and feasible to do so. These “Recommended” concentrations are not water quality objectives per se but should be considered water resource management goals similar to other public policy goals established by the Regional Water Board and State Water Board to encourage greater water conservation, increased use of recycled water, more stormwater harvesting, additional groundwater recharge and storage, and better drought protection.

To implement the chemical constituents water quality objectives for surface water or groundwater, the Regional Water Board shall consider, as appropriate, a number of site-specific factors when developing WDRs. These factors shall include, but are not limited to:

- The availability of assimilative capacity in the receiving water based on compliance with the antidegradation policies.
- Naturally occurring background concentrations.
- Background concentrations due to prior anthropogenic activities where it is not feasible or practicable to remediate the effect of these past discharges.
- The net effect of discharges that improve receiving water quality.
- The chemical form/species of TDS or EC.
- The presence or absence of other minerals (e.g., anion-cation balance) that may mitigate or aggravate aesthetic acceptability.
- The application of appropriate long-term averaging periods to evaluate compliance with WDR monitoring requirements.
- The potential impact on downstream beneficial uses, including potential to impact water quality at the nearest downstream intakes for a drinking water facility.
- Economic factors including the practicality and feasibility of achieving compliance with the SMCLs at the point-of-discharge (including consideration of cost for achieving compliance, ability to pay, and cost of non-compliance).
- Demonstration that direct users of a water supply within the area of influence of the WDR are adequately protected. This may include ensuring a safe temporary water supply is provided while long-term improvements to drinking water facilities are completed;
- Potential for the permitted discharge to affect the concentration of constituents identified in 22 CCR Tables 64449-A and 64449-B at downgradient water supply intakes or water supply wells to ensure a safe drinking water supply for users.
- Need for additional monitoring to track the net effect of permitted discharges at locations upgradient of downgradient well locations where groundwater is extracted for water supply and to determine the need for additional management requirements to protect the supply.
- The State Water Board’s Recycled Water Policy and the Central Valley SNMP’s goals to increase the use of recycled water, increase stormwater use, and increase water conservation as mechanisms to increase drought protection.
- The long-term cumulative impact of all discharges to the same receiving water.
- Other environmental considerations.
Compliance with the chemical constituent water quality objective shall be determined from a filtered water sample (0.45 micron filter) for the following constituents identified in 22 CCR §64449 (Table A): Aluminum, Color, Copper, Iron, Manganese, Silver Turbidity and Zinc.

Compliance with the chemical constituent water quality objective shall be determined from an unfiltered water sample for the following constituents identified in 22 CCR §64449 (Table A): Foaming Agents (MBAs), Methyl-tert-Butyl Ether (MTBE), Odor-Threshold and Thiobencarb.

Compliance with any chemical constituent in Tables 64449-A of 64449-B shall be determined from the annual average of sample results.

**Water Quality Control Plan for the Tulare Lake Basin**

To implement this SMCL Policy, the following change to *Chapter IV. Implementation Plan* will be made to the TLB Basin Plan:

- To support implementation of SMCLs, the following text will be added to the TLB Basin Plan's *Chapter IV. Implementation Plan* at a location to be determined, but potentially in association with “Policy for Application of Water Quality Objectives (Pg. IV-21 ff.) (Note: Additions to the existing text are indicated by underline and deletions of existing text are indicated by strikeout):

  For the chemical constituents identified in 22 CCR §64449 (Table B) the water quality objectives shall be set as described in Chapter III-10.0 of this water quality control plan. Because lower concentrations of these chemical constituents are desirable for promoting greater consumer confidence and acceptance of public water supplies, the Regional Water Board has established additional guidelines designed to achieve the “Recommended” values in 22 CCR §64449 (Table B) where it is reasonable and feasible to do so. These “Recommended” concentrations are not water quality objectives per se but, rather, should be considered water resource management goals similar to other public policy goals established by the Regional Water Board and State Water Board to encourage greater water conservation, increased use of recycled water, more stormwater harvesting, additional groundwater recharge and storage, and better drought protection, etc.

To implement the chemical constituents objective for surface water or groundwater, the Regional Water Board shall consider, as appropriate, a number of site-specific factors when developing WDRs. These factors shall include, but are not limited to:

- The availability of assimilative capacity in the receiving water based on compliance with the antidegradation policies.
- Naturally occurring background concentrations.
- Background concentrations due to prior anthropogenic activities where it is not feasible or practicable to remediate the effect of these past discharges.
- The net effect of discharges that improve receiving water quality.
- The chemical form/species of TDS or EC.
- The presence or absence of other minerals (e.g., anion-cation balance) that may mitigate or aggravate aesthetic acceptability.
• The application of appropriate long-term averaging periods to evaluate compliance with WDR monitoring requirements.
• The potential impact on downstream beneficial uses, including potential to impact water quality at the nearest downstream intakes for a drinking water facility.
• Economic factors including the practicality and feasibility of achieving compliance with the SMCLs at the point-of-discharge (including consideration of cost for achieving compliance, ability to pay, and cost of non-compliance).
• Demonstration that direct users of a water supply within the area of influence of the WDR are adequately protected. This may include ensuring a safe temporary water supply is provided while long-term improvements to drinking water facilities are completed;
• Potential for the permitted discharge to affect the concentration of constituents identified in 22 CCR Tables 64449-A and 64449-B at downgradient water supply intakes or water supply wells to ensure a safe drinking water supply for users.
• Need for additional monitoring to track the net effect of permitted discharges at locations upgradient of downgradient well locations where groundwater is extracted for water supply and to determine the need for additional management requirements to protect the supply.
• The State Water Board’s Recycled Water Policy and the Central Valley SNMP’s goals to increase the use of recycled water, increase stormwater use, and increase water conservation as mechanisms to increase drought protection.
• The long-term cumulative impact of all discharges to the same receiving water.
• Other environmental considerations.

Compliance with the chemical constituent water quality objective shall be determined from a filtered water sample (0.45 micron filter) for the following constituents identified in 22 CCR §64449 (Table A): Aluminum, Color, Copper, Iron, Manganese, Silver, Turbidity and Zinc.

Compliance with the chemical constituent water quality objective shall be determined from an unfiltered water sample for the following constituents identified in 22 CCR §64449 (Table A): Foaming Agents (MBAs), Methyl-tert-Butyl Ether (MTBE), Odor-Threshold and Thiobencarb.

Compliance with any constituent in Tables 64449-A of 64449-B shall be determined from the annual average of sample results.
Policy No. X: Secondary Maximum Contaminant Levels
Attachment A

Title 22. Social Security
Division 4. Environmental Health
Chapter 15. Domestic Water Quality and Monitoring Regulations

Article 16. Secondary Drinking Water Standards

§64449. Secondary Maximum Contaminant Levels and Compliance.

(a) The secondary MCLs shown in Tables 64449-A and 64449-B shall not be exceeded in the water supplied to the public by community water systems.

Table 64449-A
Secondary Maximum Contaminant Levels
"Consumer Acceptance Contaminant Levels"

<table>
<thead>
<tr>
<th>Constituents</th>
<th>Maximum Contaminant Levels/Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>0.2 mg/L</td>
</tr>
<tr>
<td>Color</td>
<td>15 Units</td>
</tr>
<tr>
<td>Copper</td>
<td>1.0 mg/L</td>
</tr>
<tr>
<td>Foaming Agents (MBAS)</td>
<td>0.5 mg/L</td>
</tr>
<tr>
<td>Iron</td>
<td>0.3 mg/L</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.05 mg/L</td>
</tr>
<tr>
<td>Methyl-tert-butyl ether (MTBE)</td>
<td>0.005 mg/L</td>
</tr>
<tr>
<td>Odor – Threshold</td>
<td>3 Units</td>
</tr>
<tr>
<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>
</tr>
<tr>
<td>Zinc</td>
<td>5.0 mg/L</td>
</tr>
</tbody>
</table>

Table 64449-B
Secondary Maximum Contaminant Levels
"Consumer Acceptance Contaminant Level Ranges"

<table>
<thead>
<tr>
<th>Constituents, Units</th>
<th>Recommended</th>
<th>Upper</th>
<th>Short Term</th>
</tr>
</thead>
<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>
</tr>
<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>
</tr>
</tbody>
</table>
(b) Each community water system shall monitor its groundwater sources or distribution system entry points representative of the effluent of source treatment every three years and its approved surface water sources or distribution system entry points representative of the effluent of source treatment annually for the following:

1. Secondary MCLs listed in Tables 64449-A and 64449-B; and
2. Bicarbonate, carbonate, and hydroxide alkalinity, calcium, magnesium, sodium, pH, and total hardness.

(c) If the level of any constituent in Table 64449-A exceeds an MCL, the community water system shall proceed as follows:

1. If monitoring quarterly, determine compliance by a running annual average of four quarterly samples;
2. If monitoring less than quarterly, initiate quarterly monitoring and determine compliance on the basis of an average of the initial sample and the next three consecutive quarterly samples collected;
3. If a violation has occurred (average of four consecutive quarterly samples exceeds an MCL), inform the Department when reporting pursuant to Section 64469;
4. After one year of quarterly monitoring during which all the results are below the MCL and the results do not indicate any trend toward exceeding the MCL, the system may request the Department to allow a reduced monitoring frequency.

(d) For the constituents shown on Table 64449-B, no fixed consumer acceptance contaminant level has been established.

1. Constituent concentrations lower than the Recommended contaminant level are desirable for a higher degree of consumer acceptance.
2. Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters.
3. Constituent concentrations ranging to the Short Term contaminant level are acceptable only for existing community water systems on a temporary basis pending construction of treatment facilities or development of acceptable new water sources.

(e) New services from community water systems serving water which carries constituent concentrations between the Upper and Short Term contaminant levels shall be approved only:

1. If adequate progress is being demonstrated toward providing water of improved mineral quality.
2. For other compelling reasons approved by the Department.

(f) A community water system may apply to the Department for a waiver from the monitoring frequencies specified in subsection (b), if the system has conducted at least three rounds of monitoring (three periods for groundwater sources or three years for approved surface water sources) and these analytical results are less than the MCLs. The water system shall specify the basis for its request. A
system with a waiver shall collect a minimum of one sample per source while the waiver is in effect and the term of the waiver shall not exceed one compliance cycle (i.e., nine years).

(g) Nontransient-noncommunity and transient-noncommunity water systems shall monitor their sources or distribution system entry points representative of the effluent of source treatment for bicarbonate, carbonate, and hydroxide alkalinity, calcium, iron, magnesium, manganese, pH, specific conductance, sodium, and total hardness at least once. In addition, nontransient-noncommunity water systems shall monitor for the constituents in Tables 64449-A and B at least once.
Policy No. X: Revision of the Exceptions Policy for Waste Discharges to Groundwater

1.0 Regulatory Basis for Revision of the Exceptions Policy for Waste Discharges to Groundwater

1.1 Background

As described in the Nitrate Permitting Strategy in the SNMP,\(^1\) the Central Valley Regional Board is required to implement the Basin Plans when it authorizes discharges through the adoption of WDRs and Conditional Waivers. This includes incorporating into the WDRs/Conditional Waivers provisions that ensure beneficial uses are protected, and that receiving waters meet or are better than water quality objectives that are adopted to protect beneficial uses. When permitting discharges, the Central Valley Water Board traditionally looks to see if the discharge itself meets (or is better than) the applicable water quality objective, and if not, if assimilative capacity is available in the receiving water. In cases where there is assimilative capacity, the Central Valley Water Board then determines if it can make the necessary findings as required by Resolution No. 68-16\(^2\) to authorize use of assimilative capacity.

In the Central Valley, there may be circumstances where the discharge is not better than the applicable water quality objective and no assimilative capacity is available, or the Central Valley Water Board is unable to make the necessary findings to authorize use of assimilative capacity even if it is available. Traditionally, in such circumstances, the State Water Board has directed that the Central Valley Water Board either prohibit the discharge, adopt a time schedule in the order that allows the discharger to come into compliance with needed WDR provisions, or revise the applicable water quality standard.

The Central Valley Water Board has recognized that with respect to salts, it may not be reasonable, feasible or practical to prohibit the discharge or issue a time schedule with the expectation that the discharge can meet applicable water quality objectives in a reasonable time period. Further, the Central Valley Water Board is hesitant to revise water quality standards, which would permanently remove the beneficial use. Accordingly, the Central Valley Water Board adopted a Policy for Exceptions from Implementing Water Quality Objectives for Salinity (Exceptions Policy) in Resolution No. R5-2014-0074, on June 6, 2014. The State Water Board approved that policy in Resolution No. 2015-0010, on March 17, 2015. The Policy amended the Basin Plans and established “procedures for dischargers that are subject to WDRs and conditional waivers to obtain a short-term exception from meeting effluent or groundwater limitations for salinity constituents.”\(^3\)

With the Exceptions Policy, the Central Valley Water Board established a Salinity Exception Program that is “in effect during the development and initial implementation of the Salt and Nitrate Management

---

\(^1\) See SNMP Section XX
\(^3\) Central Valley Water Board Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin To add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity; Final Staff Report, June 2014, Final Staff Report (“Variance & Exceptions Policy”); page ES-3.
Plans at the time were being prepared through the CV-SALTS process. The Salinity Exception Program (aka “Streamlined Policy”) applies only to electrical conductivity, total dissolved solids, chloride, sulfate and sodium. The current Exceptions Policy prohibits the Central Valley Water Board from authorizing new exceptions or reauthorizing previously approved exceptions after June 30, 2019. The sunset date was included because the Central Valley Water Board intended that any permanent, long-term exceptions policy should be developed through the CV-SALTS process and that stakeholders needed to make appropriate recommendations for such a policy in the SNMP.

In accordance with the Central Valley Water Board’s direction in developing the current Salinity Exceptions Program, this SNMP recommends that the current Exceptions Policy be revised.

1.2 Justification for Extending/Expanding the Current Exceptions Policy

The Central Valley Water Board’s original rationale for adopting the current Exceptions Policy was to provide temporary permitting flexibility while CV-SALTS was developing the SNMP, and to encourage dischargers throughout the region to actively participate in that process. If CV-SALTS stakeholders determined that a permanent Exceptions Policy is necessary to assure successful implementation, the Central Valley Water Board instructed the stakeholders to describe and justify their recommendations in the SNMP itself. This policy is intended to implement that recommendation.

The SNMP finds that there may be instances where it is infeasible, impracticable or unreasonable for dischargers to comply with certain WDRs even with a compliance schedule. Under such circumstances, and when there is little or no assimilative capacity available, then the Regional Board presently has only two regulatory options available: (a) where appropriate, revise the applicable water quality standards and related WDRs, or (b) disallow the discharge.

Revising water quality standards (uses and or objectives) is a complex, timely process requiring considerable documentation and numerous opportunities for public comment. Consequently, an exception to meeting the objective may be needed to provide time to complete the full regulatory review and approval process for revising the water quality standard. Or, in many cases, the Central Valley Water Board will be hesitant to revise the water quality standard and would prefer to adopt an exception that is time-limited rather than permanently revise a water quality standard.

Prohibiting the discharge may also be infeasible, impracticable or unreasonable. If the Central Valley Water Board determines that a non-compliant discharge cannot or should not be prohibited, then some form of exception is required. Examples of conditions where the Central Valley Water Board may conclude that it is infeasible, impracticable or unreasonable to prohibit the non-compliant discharge include, but are not limited to:

1) Situations where compelling the discharge to comply with the applicable WDR (and assuming it was possible to do so) would not significantly improve water quality or assure attainment of the related standards in the foreseeable future (=20 years).

2) Situations where allowing the discharge is likely to result in nominal but insignificant changes in receiving water quality with no meaningful increase in public health risk.

---

4 Variance & Exceptions Policy; page ES-3.
5 Variance & Exceptions Policy; page 51.
3) Situations where disallowing the discharge would likely result in widespread and substantial adverse social and economic impacts in the region.

4) Situations where allowing the discharge is projected to improve existing or expected quality in the receiving water; or, where disallowing the discharge would be more harmful to water quality and/or the environmental than allowing it to continue despite the failure to comply with the WDR for which the exception is sought.

5) Situations where allowing the discharge to continue is necessary to preserve or sustain other beneficial uses or to implement other important water resource management policies established by state authorities (e.g., increased water conservation, increased use of recycled water, increased groundwater recharge/storage, increased drought protection, etc.).

6) Situations where allowing the discharge to continue facilitates the Central Valley Water Board's larger and more comprehensive long-term program to achieve salt sustainability and, where feasible, attain water quality standards in the groundwater (aka “restoration”).

2.0 Proposed Revisions to Exceptions Policy

2.1 Summary of Current Exception Policy

The current Exceptions Policy (adopted in June of 2014) restricts the Central Valley Water Board’s authority solely to exceptions for salinity-related constituents. Presently, the definition of “salinity” includes only: electrical conductivity, total dissolved solids, chloride, sulfate and sodium. The current Policy does not provide the Central Valley Water Board with legal authority to approve exceptions for any other pollutants including nitrate.

Notably, the authority to approve an exception does not automatically grant an exception in any given instance. Exceptions must be authorized through a separate Board action. Also, under the current policy, exceptions must “…be set for a term not to exceed ten years. For exception terms greater than five years, the Regional Board will review the exception five years after approval to confirm that the exception should proceed for the full term.” That review must be conducted in a public hearing.

In general, the current Exceptions Policy allows dischargers to apply to the Central Valley Water Board for an exception to discharge requirements from the implementation of water quality objectives for salinity. The exception may apply to the issuance of effluent limitations and/or groundwater limitations that implement water quality objectives for salinity in groundwater, or to effluent limitations and/or surface water limitations that implement water quality objectives for salinity in surface water. Under the current Exception Policy, a discharger’s application must include the following:

- An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with salinity constituents at this time;
- A description of salinity reduction/elimination measures that the discharger has undertaken as of the date of application, or a description of a salinity-based watershed management plan and

---

6 Variance & Exceptions Policy; page 51.
7 Variance & Exceptions Policy; page 50.
progress of its implementation;

- A description of any drought impacts, irrigation, water conservation and/or water recycling efforts that may be causing or cause the concentration of salinity to increase in the effluent, discharges to receiving waters, or in receiving waters;

- Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code Section 21080 et seq.; or, such documents as are necessary for the Regional Water Board to make its decision in compliance with Public Resources Code Section 21080 et seq.;

- Documentation of the applicant’s active participation in CV-SALTS as indicated by a letter of support from CV-SALTS; and,

- A detailed plan of how the applicant will continue to participate in CV-SALTS and how the applicant will contribute to the development and implementation of the SNMPs.

A key requirement for granting an exception, is the requirement that the discharger needs to prepare and implement a Salinity Reduction Study Work Plan, or a salinity-based watershed management plan. A Salinity Reduction Study Work Plan shall at a minimum include the following:  

1) Data on current influent and effluent salinity concentrations;

2) Identification of known salinity sources;

3) Description of current plans to reduce/eliminate known salinity sources;

4) Preliminary identification of other potential sources;

5) A proposed schedule for evaluating sources; and

6) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

A salinity-based watershed management plan shall at a minimum include the following:  

1) A discussion of the physical conditions that affect surface water or groundwater in the management plan area, including land use maps, identification of potential sources of salinity, baseline inventory of identified existing management practices in use, and a summary of available surface and/or groundwater quality data;

2) A management plan strategy that includes a description of current management practices being used to reduce or control known salinity sources;

3) Monitoring methods;

4) Data evaluation; and,

5) A schedule for reporting management plan progress.

---

8 Variance & Exceptions Policy; page 51.
9 Variance & Exceptions Policy; page 52.
After considering the dischargers’ application, the Central Valley Water Board may adopt an exception for salinity constituents after public notice and hearing through a resolution, or by amending WDRs/Conditional Waivers.

2.2 Recommendations for Revising Current Exceptions Policy

The SNMP recommends that the current policy be amended in the following ways to provide the Central Valley Water Board with the necessary authority and flexibility to permit discharges in a manner that the Central Valley Water Board deems to be appropriate.

1) Delete the provision prohibiting the Central Valley Water Board from authorizing new exceptions or reauthorizing previously approved exceptions after June 30, 2019. Because the Central Valley Water Board can decide for itself whether to grant or not grant specific exceptions, there is no need for any sunset provision that restricts their overall authority to make such decisions.

2) The current provision limiting the term of an exception to no more than 10 years should be retained; however, a new provision should be added stating that exceptions may be reauthorized (renewed) for one or more additional 10-year periods with approval of the Central Valley Water Board, after notice and hearing. In addition, the discharger(s), in conjunction with Central Valley Water Board staff, should prepare a status report for presentation to the Central Valley Water Board every 5 years summarizing compliance with the terms and conditions of the exception. The Central Valley Water Board staff maintains discretion to present such status reports to the Central Valley Water Board for individual exceptions, or collectively for multiple exceptions granted to multiple dischargers.

3) The current policy should be amended to add nitrate to the list of chemical constituents for which the Central Valley Water Board may authorize an exception. In order to ensure this is implemented as intended, it may also be necessary to include total nitrogen and various forms of nitrogen (total inorganic nitrogen [TIN], total kjeldahl nitrogen [TKN], etc.) to the same list. It will also be necessary to harmonize text throughout the existing policy where such text currently focuses exclusively on exceptions for “salinity.”

4) The current policy should be amended to add a new provision requiring dischargers to assure an adequate supply of safe, reliable and affordable drinking water, as a condition of authorizing an exception for nitrate, in those areas of the groundwater basin or sub-basin adversely affected by the non-compliant discharge (or discharges). The “assurance” must include a credible and realistic framework to construct/install a permanent long-term solution and an immediate commitment to provide temporary replacement water in the interim.

5) The current policy should be amended to add a new provision referencing the availability of regional guidance that describes the general requirements associated with seeking and approving an exception. These include, but are not limited to: eligibility criteria, mitigation responsibilities, monitoring/reporting obligations, and expectations relevant to implementing the SNMP Management Goals. The Regional Guidance will be developed and submitted for approval as part of the larger Basin Plan Amendment package in 2017.

6) The current policy should be amended to make clear that exceptions are intended to facilitate long-term attainment of water quality standards or to provide the time needed to revise an
inappropriate water quality standard. The Central Valley Water Board may renew and reauthorize exceptions but should not do so indefinitely if re-designation, de-designation and/or adoption of a site-specific water quality objective is the more appropriate regulatory approach.

7) The current policy should be amended to revise the application requirements so that such requirements now reflect and implement the SNMP management goals. Further, the application requirements should be revised to distinguish what requirements are applicable when seeking an exception from a salinity-based water quality objective versus applicable requirements for seeking an exception from the nitrate water quality objective.

8) The current policy may also need to be amended to identify application requirements that apply to dischargers seeking an exception as part of a Management Zone rather than as an individual discharger. For more information on Management Zones, see Policy No. XX.

2.3 Authorization of Exceptions

The SNMP recommends that exceptions be authorized by the Central Valley Water Board subject to certain conditions and performance obligations on the discharger(s). This provides a mechanism to ensure that exceptions serve the greater good. To that end, the SNMP sets forth several important expectations governing the manner in which exceptions are likely to be considered by the Central Valley Water Board:

1) Exceptions for nitrate will not be considered unless an adequate supply of clean, safe, reliable and affordable drinking water is assured for those living in the area adversely affected by the non-compliant discharge(s). Said assurance must take the form of a detailed work plan, schedule of milestones, and financial commitments to provide interim and permanent alternate water supplies. Performance bonds may be required to assure timely implementation.

2) Dischargers are expected to continue to make reasonable “best efforts” to comply with applicable WDRs. The specific nature of these efforts will be identified at the time the exception is proposed and authorized.

3) As a condition for reauthorizing/renewing an exception, dischargers will be required to periodically reassess Best Management Practices (BMPs) and survey available treatment technologies to determine if feasible, practicable and reasonable compliance options have become available.

4) Where exceptions are sought in order to provide time to develop and approve a more appropriate water quality standard (uses and/or objectives), there must be a well-defined work plan (including a schedule of milestones) and a commitment by dischargers to provide the resources needed to complete the proposed process.

5) Where existing water quality standards are unlikely to change, dischargers must explain how the proposed exception facilitates the larger long-term strategy designed to ultimately attain those standards (e.g., implementing Strategic Salt Accumulation Land and Transportation Study
Nitrate Implementation Measures Study [NIMS],\textsuperscript{11} forming and participating in a groundwater Management Zone,\textsuperscript{12} etc.) while, in the interim, allocating available resources to address more urgent water quality priorities (e.g., safe drinking water).

Under the SNMP’s recommendations, authorization for exceptions may be granted by the Central Valley Water Board for individual dischargers, or for multiple dischargers under a Management Zone. Terms and conditions associated with the granting of an exception will be incorporated into relevant WDRs, and failure to comply with such terms and conditions may result in the termination of the exception and/or an enforcement action.

3.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

Existing and Potential Beneficial Uses

No modifications anticipated.

Water Quality Objectives

No modifications anticipated.

Implementation

Revise the existing Exceptions Policy in the Basin Plans as described above.


\textsuperscript{12} See SNMP Section XXX for Management Zone Policy.
Policy No. X: Nitrate Permitting Strategy

1.0 Regulatory Basis for Nitrate Permitting Strategy for Discharges to Groundwater

The Salt and Nitrate Management Plan (SNMP) sets forth several different approaches for managing salts and nitrates throughout the Central Valley. For dischargers regulated by the Central Valley Water Board, these management efforts must ultimately be implemented in permits issued to dischargers. Permits issued by the Central Valley Water Board are referred to as waste discharge requirements (WDRs), or Conditional Waivers from waste discharge requirements (Conditional Waivers). WDRs must implement relevant provisions in the Basin Plans, and Conditional Waivers must be consistent with the Basin Plans. As discussed previously in Section X, the Basin Plans identify beneficial uses for designated waterbodies, establish water quality objectives that “will ensure reasonable protection of beneficial uses and the prevention of nuisance,” and specify a program of implementation. Many Central Valley groundwater basins and sub-basins are designated with the municipal and domestic water supply (MUN) beneficial use, which is defined to mean “uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.”

Along with the MUN beneficial use designation, the Basin Plans include the following water quality objective to protect drinking water:

“At a minimum, waters designated for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title-22 of the California Code of Regulations which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals)...”

For waterbodies designated MUN, the Maximum Contaminant Level for nitrate is 10 mg/L as nitrogen.

Thus, with respect to nitrate (under the Basin Plans as they currently exist), WDRs and Conditional Waivers must ensure that discharges authorized by the given WDR/Conditional Waiver meet the water quality objective in the discharge, or ensure that the receiving water will meet the water quality objective. In some areas of the Central Valley, and for some types of dischargers, the traditional permitting approach for nitrates may not be feasible, reasonable or practicable. The SNMP nitrate permitting strategy sets forth recommendations with respect to permitting nitrate discharges in WDRs and Conditional Waivers under the traditional permitting approach as well as providing for alternative permitting approaches.

---

1 CWC §13263 & 13269
2 CWC §13241
3 Basin Plan, pg. II-1
5 22 CCR §64431(a); see Table 64431-A: Maximum Contaminant Levels for Inorganic Chemicals. Prior to January 1, 2016 the MCL was expressed as 45 mg/L (as NO₃) which is equivalent to 10 mg/L Nitrate as Nitrogen.
In either case, the Central Valley Water Board must adopt permits that implement and are consistent with the Basin Plans, which includes consideration of several recent statewide policies. There is also a need to consider the reality of existing water quality conditions. Relevant statewide policies are summarized below. Existing water quality conditions are described in detail in Sections XX.

1.1 Statewide Nitrate Policies

In 2013, the State Water Resources Control Board (State Water Board) reaffirmed the importance of developing appropriate WDRs to manage nitrate discharges:

“The Water Boards will evaluate all existing Waste Discharge Requirements to determine whether existing regulatory permitting is sufficiently protective of groundwater quality at these sites. The Water Boards will use the findings to improve permitting activities related to nitrate.”

In 2012, the state legislature approved Assembly Bill 685 which amended the California Water Code to declare that:

“...every human being has the right to safe, clean, affordable and accessible water adequate for human consumption, cooking and sanitary purposes. All relevant state agencies, including the Department of Water Resources, the State Water Resources Control Board, and the State Department of Public Health, shall consider this state policy when revising, adopting or establishing policies, regulations, and grant criteria when these policies, regulations and criteria are pertinent to the uses of water described in this section.”

To ensure statewide implementation and consideration of the Human Right to Water, the State Water Board in February of 2016 adopted the Human Right to Water as a Core Value and Directing Its Implementation in Water Board Programs and Activities (Resolution 2016-0010). Among other things, Resolution 2016-0010 finds that:

“When regulating discharges that could threaten human health by causing or contributing to pollution or contamination of drinking water sources, the Water Boards may consider all solutions for ensuring safe drinking water, including providing replacement water as an interim solution while long-term water quality solutions are developed.”

The Central Valley Water Board recently followed suit and adopted Resolution 2016-0018, similarly directing implementation of the Human Right to Water in its programs and activities.

1.2 Consideration of Water Quality Conditions

Understanding and being able to characterize current and projected water quality conditions is important because regulatory requirements differ when existing water quality is better than the

---


8 Central Valley Water Board Resolution, adopted April 21, 2016
applicable standard(s) (i.e., 10 mg/L-N for Nitrate).\(^9\) Under such conditions, the range of permitting options also increases when the Central Valley Water Board finds that there is assimilative capacity available in the receiving water.\(^10\)

To determine if assimilative capacity is available, dischargers have several options. First, dischargers may rely on the amount of assimilative capacity available as determined in this SNMP at the groundwater basin or sub-basin level. Or, dischargers (individually or collectively) may supplement that information to determine if there is assimilative capacity on a broader scale or for the zone of influence of a single discharger.

Based on receiving water conditions, the SNMP permitting strategy for nitrate discharges to groundwater is separated into two paths. The first path describes the proposed approach when current groundwater quality is better than the objective and there is assimilative capacity available for nitrate (see Section 3.0 below). The second path describes the proposed approach when existing groundwater quality exceeds the nitrate objective and there is no assimilative capacity available (see Section 4.0, below).

1.3 Initial Assessment of Receiving Water and/or Discharge Conditions

Establishing appropriate WDRs\(^11\) for nitrates requires consideration of a number of key factors including, but not limited to:\(^12\)

1) The current nitrate concentration in the receiving water and any relevant trends.
2) The nitrate concentration in the discharge when it reaches the groundwater, if the information is available.
3) The nitrate concentration of other recharges to the same management zone, if permitting on a management zone basis.

The range of permitting options available to the Central Valley Water Board, and the demonstrations required to authorize the various options, depends on the relationship between these variables. An initial assessment is appropriate to determine how the regulated discharge is likely to affect nitrate concentrations in the receiving water (see Figure 1). The level of effort to complete the initial assessment should be proportional to the relative risks involved. Low threat discharges in low vulnerability areas generally require considerably less detail. High threat discharges or high vulnerability areas may require more sophisticated analysis and modeling.

In the simplest case, groundwater quality currently complies with the primary MCL and nitrate concentrations in the discharge are even lower. No special consideration is necessary because the

---


\(^10\) The specific method CV-SALTS recommends for determining whether and how much assimilative capacity is available is described in Section XXX of this Salt and Nitrate Management Plan.

\(^11\) The term WDRs as used in this section refers to both WDRs and Conditional Waivers, and the strategy applies equally to the Central Valley Water Board’s adoption of WDRs under CWC §13263 or adoption of Conditional Waivers under CWC §13269.

\(^12\) State Water Board. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).
discharge complies with water quality standards and does not cause water quality degradation. Traditional WDRs will work well in such instances.

At the other end of the spectrum, where groundwater quality already exceeds the primary MCL for nitrate and there is no reasonably feasible or practical means for assuring that nitrate concentrations from the discharge will be less than 10 mg/L when the discharge reaches the groundwater, an alternative compliance option may be needed.

**Figure 1: Initial Antidegradation Review**

<table>
<thead>
<tr>
<th>Nitrate Concentration in Discharge</th>
<th>Receiving Water Nitrate &lt; 10 mg/L (assimilative capacity available)</th>
<th>Receiving Water Nitrate &gt; 10 mg/L (no assimilative capacity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration in Receiving Water</td>
<td>Discharge meets WQO and will not degrade receiving water quality; Require traditional compliance thru WDRs and periodic monitoring.</td>
<td>1) If discharge quality <em>can meet</em> WQO, require traditional compliance with the WQO thru the WDR. 2) If discharge quality <em>cannot meet</em> WQO, authorize exception because discharge improves receiving water quality.*</td>
</tr>
<tr>
<td>Nitrate Concentration in Discharge &gt; Concentration in Receiving Water</td>
<td>Derive appropriate WDRs, including any allocation of assimilative capacity, in accordance with Antidegradation Policy (68-16). ACPs may be used to avoid causing pollution or nuisance and to demonstrate BPTC consistent with Maximum Benefit.</td>
<td>1) Require functionally-equivalent compliance using ACPs and incorporate ACP compliance into WDR (or through a &quot;bubble permit&quot;). 2) Authorize a variance/exception for discharges. *</td>
</tr>
</tbody>
</table>

*An Alternative Compliance Project (ACP) may also be required as a condition for granting the exception.

### 1.4 Form of Permits

The strategies described in Sections 2.0, 3.0, and 4.0 of this policy apply to dischargers seeking WDRs for individual facilities as well as dischargers subject to General WDRs (often referred to as General Orders). Further, the strategies below may also be implemented for permits issued to dischargers under a Management Zone. The primary difference or distinction based on the form of the permit will be the level of information necessary to make the demonstrations discussed below.

### 2.0 Permitting Strategy for Low Threat Discharges to Groundwaters with Assimilative Capacity

The SNMP recognizes that there are some discharges of nitrates to groundwater that would be considered low-threat, and are therefore relatively simple for the Central Valley Water Board to authorize in existing WDRs, or renewed/revised WDRs. For example, discharges that are better than receiving water quality and the receiving water is better than the water quality objective of 10 mg/L are considered to not lower water quality. In such circumstances, the discharge is not subject to the state’s
antidegradation policies and the Central Valley Water Board is not required to make the findings as specified in Resolution 68-16 to authorize the discharge. Others may be able to demonstrate that their discharge, or collective discharges, are low threat in nature because they have data and information that demonstrates that the discharges have not degraded groundwater over a specified time-period, and that the nature of the discharge has remained constant. For example, in some areas of the Central Valley where groundwater is better than the nitrate water quality objective, and cropping and cultural practices have remained constant, data and information may be used to demonstrate the low threat nature of the discharge. In these circumstances, the Central Valley SNMP recommends that the Central Valley Water Board revise or amend those existing WDRs with low-threat discharges for nitrate to find that such WDRs are consistent with the SNMP.

3.0 Permitting Strategy for Discharges to Groundwaters with Assimilative Capacity Available

3.1 Overview

When water quality in the groundwater basin is better than water quality objective specified in the Basin Plan, then the state’s antidegradation policy requires the Central Valley Water Board to regulate in a manner designed to maintain the highest quality water that is reasonable.\(^\text{13}\) Therefore, when the nitrate concentration in the receiving water is less than 10 mg/L, the Central Valley Water Board's preferred permitting strategy will be to establish WDRs that preserve high quality water unless if finds that lowering water quality is consistent with the state’s antidegradation policy. As indicated previously, determinations of assimilative capacity may be made by using the default groundwater basin/sub-basin evaluations contained in the SNMP, or may be determined individually or collectively using additional information. Realistically, the amount of analysis and information necessary for finding available assimilative capacity will vary - depending on if the discharger, or group of dischargers, is seeking to show available assimilative capacity in first encountered groundwater, the upper zone, lower zone or production zone.\(^\text{14}\)

The Central Valley Water Board will continue to account for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil. The Central Valley Water Board will also continue to consider any dilution that may occur from other sources recharging to the same aquifer.\(^\text{15}\)

When deriving appropriate WDRs for nitrate, the Central Valley Water Board will initially presume that the discharge can comply with such restrictions by implementing the Best Practicable Treatment or Control (BPTC) measures. In such cases, the Central Valley Water Board will likely allow the discharge and require appropriate monitoring to demonstrate on-going compliance. If dischargers require additional time to implement the necessary pollution control measures to meet what would be considered BPTC, the Central Valley Water Board is authorized to include a compliance schedule in the WDRs.

---

\(^{13}\) SWRCB. Statement of Policy with Respect to Maintaining High Quality of Waters in California. Res. No. 68-16 (Oct. 28, 1968)

\(^{14}\) See Section 4.0 of the SNMP for definitions.

\(^{15}\) SWRCB. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).
In some cases, however, there may be no reasonably feasible means of achieving compliance with the default WDRs even after implementing Best Practicable Treatment or Controls. At such times, the Central Valley Water Board has two options available: (a) It can prohibit the discharge; or (b) in certain circumstances, it can authorize the discharge by allocating some of the available assimilative capacity provided that doing so complies with the requirements set for in the state antidegradation policy.

Assimilative capacity represents the amount of nitrate that a given groundwater basin, sub-basin or local area of influence can absorb without exceeding the applicable water quality objective. Assimilative capacity is calculated by subtracting the current average nitrate concentration in the defined aquifer from the water quality objective (usually 10 mg/L). In practice, the actual computation is a good deal more difficult because nitrate concentrations can vary dramatically based on depth, location and sampling date, even in the same groundwater basin. This introduces some uncertainty into the calculation and, as a result, the Central Valley Water Board may be reticent to allocate all of the assimilative capacity that is estimated to be available - especially when state law does not obligate them to do so.

### 3.2 Allocating Assimilative Capacity

The state antidegradation policy sets forth the specific conditions that must be met and demonstrations that must be made before the Central Valley Water Board can make an allocation of assimilative capacity and, thereby, allow a discharge (or discharges) to lower existing water quality:

1. *Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*

2. *Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.*

To determine that the allocation of assimilative capacity “will not result in water quality less than that prescribed in the policies,” the Central Valley Water Board will generally require dischargers to demonstrate that the permitted discharge(s) will not cause the average nitrate concentration in the relevant groundwater basin or sub-basin to exceed 10 mg/L. The level of demonstration needed here

---

17 A detailed explanation of the procedure that CV-SALTS recommends for estimating available assimilative capacity is described in Section XXX of the SNMP.
18 CWC §13263(c)
will vary based on a number of different factors. For example, for a discharges from a single facility (often referred to as a point source discharger), the demonstration may be relatively simple if the discharger is seeking to use assimilative capacity available as determined from looking at first encountered groundwater and the discharger has the necessary data and information to show that the discharge will not cause first encountered groundwater to exceed the 10 mg/L-N within over 20 year planning horizon. At the other end of the scale, multiple dischargers seeking to show assimilative capacity available in the production zone over a defined management zone area will likely need more extensive data and information, and/or modeling, to make the demonstration that 10 mg/L will not be exceeded within a defined time frame.

Further, the Central Valley Water Board will require dischargers to demonstrate that the permitted discharge(s) will not cause the average nitrate concentration at existing or planned wells to exceed 10 mg/L, or the expressed trigger value. For permitted discharges that are likely to lower water quality, the Central Valley Water Board will presume that present and probable future beneficial uses will not be unreasonably affected if the discharge(s) consumes less than 10% of the available assimilative capacity by itself and not more than 20% of the available assimilative capacity in combination with other authorized discharges to the same groundwater basin or sub-basin, or individually defined zone of influence - up to the trigger value. This approach is similar to the recommendations for certain groundwater recharge projects in the Recycled Water Policy. In such circumstances, this demonstration can be made by preparing what is called a “simple” antidegradation analysis.

If a discharge is likely to consume more than 10% of the available assimilative capacity, or a combination of discharges to the same groundwater basin or sub-basin is likely to consume more than 20% of the available assimilative capacity, then the discharger(s) must demonstrate that allowing lower water quality will not unreasonably affect others. The identification of others will depend on the how the discharger(s) seek to determine available assimilative capacity. For example, if a single discharger seeks to utilize available assimilative capacity in first encountered groundwater, then “others” would be those down-gradient in the relative immediate surrounding area. In comparison, if multiple dischargers seek to use available assimilative capacity over a Management Zone area, then others would be those users within the Management Zone, and down-gradient of the Management Zone. The Central Valley Water Board is not required to allocate all of the estimated assimilative capacity available and, for this reason, the SNMP establishes triggers to maintain an appropriate safety factor to ensure that high quality receiving waters do not exceed the water quality objective for nitrate. Discharger(s) seeking to use assimilative capacity in these circumstances (i.e., more than 10% individually, and 20% collectively) will need to prepare a “complete” antidegradation analysis. Elements for a simple and complete antidegradation analysis are identified in Appendix X.

Next, to permit the use of assimilative capacity, the Central Valley Water Board is required to find that the discharger, or dischargers, are implementing “best practicable treatment or control necessary to assure that a pollution or nuisance will not occur.” To determine if BPTC is being implemented, the SNMP recommends that the Central Valley Water Board look at whether BPTC (at the discharge) can assure that nitrate concentrations at drinking water wells down-gradient of the discharge will remain below 10 mg/L for the defined planning horizon (i.e., 20 years). If not, then the SNMP recommends that the Central Valley Water Board next consider whether mitigation strategies applied at any other point

---

between the discharge and all affected down-gradient water users (e.g., well-head treatment or alternative water supply, etc.) can better assure safe drinking water to those users. To evaluate if BPTC is being implemented, the SNMP recommends that the complete antidegradation analysis prepared by the discharger(s) include an evaluation of alternatives, which considers socioeconomic impacts of different control/treatment measures, and if different control/treatment measures are reasonable, practicable, and/or feasible.

After, and in conjunction with evaluating BPTC, the Central Valley Water Board must then determine whether allocating assimilative capacity to authorize a discharge that is expected to lower water quality is “consistent with maximum benefit to the people of the state.” To make this finding for nitrate discharges, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Economic and social costs, tangible and intangible, direct and indirect, of the proposed discharge compared to the benefits for both the discharger and all others that may be affected by the discharge. This includes an evaluation of the discharger’s capacity to bear the cost of compliance (e.g. “affordability”) and any potential adverse impacts to the surrounding community. This is not intended to be a formal Cost-Benefit Analysis.

2) Environmental effects of allowing or prohibiting the proposed discharge (especially the net effect on water quality in the region and the Central Valley Water Board’s long-term restoration plans). In some cases, where the net effect on receiving water quality is shown to be spatially and/or temporally-limited, the Central Valley Water Board may conclude that the discharge does not result in significant degradation.

In general, the Central Valley Water Board is less likely to allocate assimilative capacity to discharges where there is a reasonably feasible and practicable means for achieving compliance with traditional waste discharge requirements. The Central Valley Water Board is also unlikely to prohibit discharges where no such means exist and considers this option only as a last resort.

Overall, the SNMP recommends that the Central Valley Water Board be predisposed to allocate assimilative capacity, and allow lower water quality, where doing so assures a significantly better outcome for the people of California than would requiring strict compliance with default waste discharge requirements. And, the Central Valley Water Board should prioritize allocations of assimilative capacity when and where it would provide a demonstrably more effective means of assuring safe drinking water than other available permitting alternatives. To this end, a more detailed regional guidance document describing what sorts of demonstrations might constitute “maximum benefit to people of the state” will be developed. It is anticipated that this recommended guidance will be submitted for consideration by the Central Valley Water Board as part of the final Basin Plan Amendment package to implement the SNMP.

Notably, if the Central Valley Water Board concludes that, even after implementing BPTC, a discharge will unreasonably affect present or anticipated beneficial uses of water, or result in water quality less than that prescribed in the Basin Plan, or cause an unmitigated pollution or nuisance to occur, or is

---

21 NOTE: To be developed as part of the SNMP Basin Plan Amendment Package based on the concepts described in Attachment A (below).
inconsistent with maximum benefit to the people of the state, then lower water quality cannot be authorized by allocating a portion of the available assimilative capacity.

4.0 Permitting Strategy for Discharges to Groundwaters with No Assimilative Capacity Available

4.1 Overview

As indicated previously, the Central Valley Water Board is required to implement the Basin Plans when establishing WDRs. When existing nitrate concentrations in the groundwater already exceed 10 mg/L, and there is no assimilative capacity available, the State Water Board has previously ruled that regional boards may not authorize WDRs that allow discharges to be greater than the applicable water quality objective.

For discharges to groundwater, compliance with the objective is generally assessed at the point-of-discharge or immediately below the root zone of an irrigated field. Exceptions to this approach “may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent by the process of percolation through the ground to the aquifer.” So, for example, the Central Valley Water Board may take into consideration crop uptake, mixing with stormwater recharge, and transformation through the soil when assessing whether a discharge will meet the water quality objective when it reaches the groundwater. The burden of providing adequate technical information to support such findings generally falls on dischargers.

The above approach generally describes the Central Valley Water Board’s current permitting strategy for discharges of nitrate to groundwater when there is no assimilative capacity available. If discharges are unable to immediately comply with such restrictions, and require additional time to implement the necessary pollution control measures, the Central Valley Water Board is authorized to establish an appropriate compliance schedule in the WDRs. The SNMP recommends no changes to the Regional Board’s existing authority in this area.

However, in some cases, there may be no reasonably feasible or practicable means for dischargers to comply with WDRs limiting the discharge of nitrate to groundwater to concentrations less than 10 mg/L, at least at the present time. In such circumstances, under the current regulatory framework, the Central Valley Water Board may have no legal option but to prohibit the discharge. This, in turn, may be tantamount to prohibiting any activity producing a discharge that is unable to comply with water quality objectives.

---

22 CWC §13263(a) and § 13269(a) for Conditional Waivers.
23 See, for example, SWRCB Order No. 73-4: In the Matter of the Petition of Orange County Water District for Review of Order No. 72-16 of the California Regional Water Quality Control Board, Santa Ana Region, Prescribing Waste Discharge Requirements for Rancho Caballero Mobile Home Park (Feb. 1, 1973).
24 State Water Board Order No. WQ-88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 14)
25 State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).
26 CWC §13263(c)
27 See, for example, a more detailed discussion in: “Conclusions of the Agricultural Expert Panel: Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program” September 9, 2014.
28 CWC §13243 and CWC §13301; see also SWRCB Order No. 88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 15).
quality objectives despite employing reasonable best efforts. Such an outcome is inconsistent with the State Water Board’s declaration that “Resolution 68-16 is not a ‘zero-discharge’ standard but rather a policy statement that existing quality be maintained when it is reasonable to do so.”

In many instances, prohibiting the discharge may also be infeasible, impracticable or unreasonable. For example, municipal wastewater treatment plants cannot simply halt the flow of sewage into the facility without severe adverse consequences on public health and the environment. Similarly, prohibiting nitrate discharges from production agriculture may result in substantial and widespread adverse social and economic impacts on residents of the state while doing little to resolve the existing water quality impairments in the region. For this reason, the State Water Board had concluded that:

“Pollution prevention and cleanups ... may not be feasible. Consequently, any practical solution to groundwater contamination must also focus on strategies to provide safe drinking water to consumers through treatment and alternative water supplies.”

To that end, the State Water Board has also declared that:

“The single most important action that can be taken to help ensure safe drinking water for all Californians is to provide a stable, long-term source(s) of funding to assist those impacted by nitrate-contaminated groundwater.”

Moreover, enforcing strict compliance with water quality objectives will do nothing to address prior nitrate discharges slowly moving through the vadose zone. Nor does prohibiting the discharge determine when compliance cannot be achieved. In either case, legacy loads are already programmed into the system even if the full affects have yet to manifest in groundwater quality.

Thus, with this background in mind, the SNMP recommends that where existing groundwater quality already exceeds the MCL for nitrate (i.e., > 10 mg/L), the Central Valley Water Board’s foremost goal should be to encourage rapid implementation of safe drinking water alternatives. To achieve this goal, the Central Valley Water Board needs additional permitting options. Specifically, the SNMP recommends that the Basin Plans be amended to extend and expand the Central Valley Water Board’s current authority to authorize exceptions under certain circumstances. The following section describes how such exceptions authority should be applied with respect to permitting nitrate discharges to

29 State Water Board Order No. 86-8; In the Matter of the Petition of the County of Santa Clara, et al. May 5, 1986; pg. 29
34 Central Valley Water Board Resolution No. R5-2014-0074 (June 6, 2014); subsequently approved by the SWRCB in Res. No. 2015-0010 (March 17, 2015).
groundwater. A more detailed description of the specific basin plan revisions required to enact a broader exceptions policy and the rationale for such changes is provided in Section XXX of the SNMP.

4.2 Authorizing Exceptions

An "exception" allows the Central Valley Water Board to authorize a discharge to occur even where doing so may violate applicable water quality standards in the receiving groundwater basin. Exceptions are most commonly employed when there is no feasible, practicable or reasonable means for a discharge to meet with water quality objectives and it is not feasible, practicable or reasonable to prohibit the discharge.

Exceptions are an appropriate option when state authorities determine that prohibiting a discharge would do more harm than good and allowing it to continue is in the best interests of the people of the state. Exceptions may also be an appropriate tool to authorize the time required to implement other regulatory solutions (e.g., developing site-specific objectives or reevaluating the applicable beneficial use) or to support a program of phased implementation and reasonable resource allocation including the planning and permitting activities required in such programs. However, exceptions are not intended to be a permanent waiver from compliance obligations. They are subject to specified conditions and reviewable periodically.

With respect to exceptions for nitrates, the SNMP recommends two overarching conditions. First, dischargers are still expected to make reasonable best efforts intended to comply with applicable WDRs when there exists a feasible and practicable means for doing so. Second, in lieu of meeting the applicable water quality objective for nitrate, dischargers will be expected to propose an Alternative Compliance Project (ACP) designed to mitigate the significant adverse effect(s) of their permitted discharge as it relates to nitrate for which an exception is granted. Moreover, an ACP for nitrate will need to assure that groundwater users down-gradient of the discharge have drinking water that meets applicable state and federal standards. ACPs may include both interim actions (e.g., bottled water) in the short-term, permanent solutions (such as well-head treatment or alternative drinking water supplies) in the intermediate term, and efforts to re-attain the water quality objective (where feasible and practicable) over the long-term. In granting an exception, the Central Valley Water Board must also consider the three management goals, as discussed previously in Section XXXX.

The SNMP recommends that exceptions be reviewable for two reasons. First, although the means to assure compliance may not currently exist, new source control and treatment technologies may be developed in the future. Therefore, exceptions need to be periodically reassessed. Second, permanent exceptions would be tantamount to nullifying the designated use. Therefore, where compliance cannot be assured (even over the long-term), the State Water Board has stated that the regional boards should

---

35 Exceptions from compliance with water quality standards in a groundwater basin is similar to the concept of a “variance” for surface waters. The key distinction is that exceptions are governed exclusively by state law and variances are subject to both state and federal authority. See, for example, Res. No. RS-2014-0074.

36 A more detailed description of the mandatory elements in an ACP is described in Section XXX of this SNMP.
consider whether the water quality standard itself is appropriate. Exceptions are intended to complement, not replace, the water quality standards review process.

In the Basin Plans, the current exceptions policy is restricted to a limited number of salinity constituents (electrical conductivity, TDS, chloride, sulfate and sodium). As discussed separately in the Exceptions Policy document (see Section XX), this policy should be revised in order to provide the Central Valley Water Board additional authority to allow exceptions for nitrate in WDRs. In summary, the current exceptions policy was deliberately designed to provide interim relief from meeting salinity objectives while CV-SALTS was in the process of developing the long-term SNMP. As such, the interim policy does not allow exceptions longer than 10 years and it prohibits the Central Valley Water Board from approving any new exceptions after June 30, 2019. Before that date, it was expected that the interim policy would be replaced by a more permanent exceptions policy – one that was developed in conjunction with the SNMP.

The SNMP recommends that the expiration date specified in the interim policy be deleted so that that the Central Valley Water Board is authorized to approve exceptions after June 30, 2019. In addition, the SNMP recommends that the 10-year time limit specified in the interim policy be revised by allowing the Central Valley Water Board to authorize or reauthorize exceptions for much longer periods where necessary to facilitate implementation of the long-term restoration strategies described in the SNMP. Regardless, dischargers are expected to comply with water quality standards if and when a feasible and practicable means for doing so becomes available. The existing requirement to periodically assess and confirm discharger conformance with the terms and conditions of any exception would remain unchanged.

To grant an exception for discharges of nitrate, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Nitrate concentrations in the groundwater basin exceed or threaten to exceed the MCL.
2) There is no feasible, practicable or reasonable means to assure compliance with the relevant WDRs governing nitrate under traditional permitting approaches.
3) It is infeasible, impracticable or unreasonable to prohibit the discharge. The Central Valley Water Board will prepare guidelines for making such an assessment.
4) Authorizing the discharge is in the best interests of the people of the state.
5) The discharger, or group of dischargers, requests an exception and proposes to implement an ACP in lieu of meeting the relevant WDRs for nitrate.
6) The ACP provides appropriate well-head treatment or an alternative drinking water supply to down-gradient groundwater users where nitrate levels exceed or threaten to exceed the MCL.

37 State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).
38 Res. No. R5-2014-0074
39 R5-2014-0074; Regional Board Staff Response to Public Comments, pg. 12 & 13.
40 The long-term approach to nitrate management is described in Section XXX of the SNMP.
41 The discharger may propose to participate in a regional project or make one or more payments to a regional nitrate mitigation fund approved as an ACP subject to Regional Water Board review and approval.
7) The discharger continues to make reasonable best efforts, where feasible and practicable, to further reduce nitrate concentrations in the discharge.

8) The discharger agrees to actively support implementation of the long-term nitrate compliance plan, as described in the SNMP.

Further, to approve an exception for nitrate, the SNMP recommends that the Central Valley Water Board consider whether the ACP will result in a higher level of public health protection (e.g., greater or faster risk reduction) than is likely to otherwise occur if the discharge were prohibited or is a key part of a long-term restoration strategy. In other words, will the ACP do a better job of achieving the real-world outcomes originally sought by requiring strict compliance with WDRs to meet water quality standards?

5.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

**Existing and Potential Beneficial Uses**

No modifications anticipated.

**Water Quality Objectives**

No modifications anticipated.

**Implementation**

Incorporate the relevant elements of this Policy into the Basin Plans to describe the permitting approach for nitrate in groundwater.
### CV-SALTS Meeting Calendar

#### 2016

<table>
<thead>
<tr>
<th>Month</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
<td>Sun Mon Tue Wed Thu Fri Sat</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>5</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>9</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>16</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>12</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

#### Notes/Key

- **Light Red conflicts**
- January is a Thursday/Friday
- Wed/Thurs 4th or 3rd
- Dark Green Exec Comm Policy
- Fridays at 1:00 pm
- Lt. Green Hatch Exec Comm Admin
  - State Board Presentation
  - Yellow Salty
  - Lower SJ River Committee
  - Regional Board Briefing
  - TAC Meeting
- **Regional Board Presentation 6/22**
- Wednesday Meetings are DRAFT
- May be held by Webinar or in person in Sacramento half day