

# Central Valley Salt and Nitrate Management Plan

Central Valley Water Board Public Hearing

March 9, 2017



# SNMP POLICY RECOMMENDATIONS

## *Revisions to the Exceptions Policy for Waste Discharges to Groundwater*

## Exceptions – Background

- WDRs must be written to ensure compliance with water quality objectives
- Few permitting options for discharges that are unable to meet water quality standards:
  - Assimilative Capacity
  - Compliance Schedule
  - Time Schedule Order
  - Disallow Discharge

### “Worst Case” Scenario:

- Unable to comply with WDRs, even with Time Schedule Order
- No assimilative capacity is available
- Prohibiting the discharge is untenable:
  - May not be feasible, practical or reasonable
  - May not do much to improve water quality or protect users, especially in near-term
  - May make water quality worse in some cases
  - May cause significant socio-economic impact

## Exceptions as a Regulatory Option

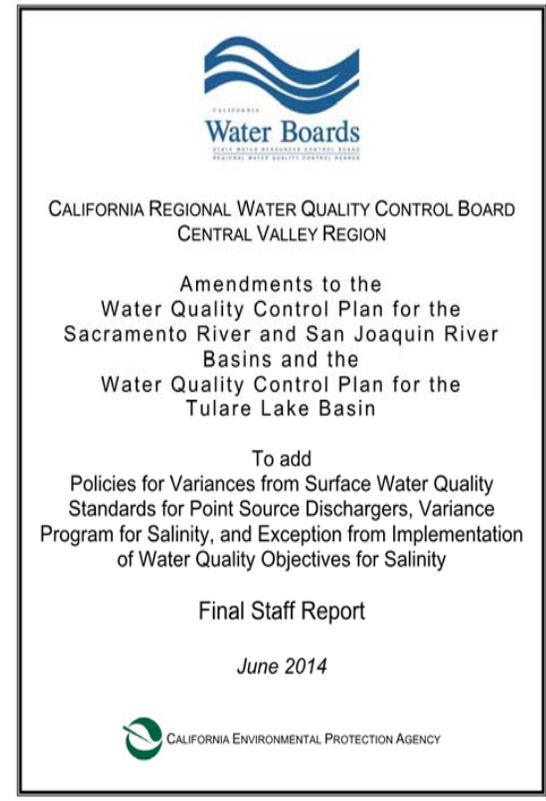
- Authorization of an Exception may be an appropriate regulatory option when:
  - Prohibiting a discharge would do more harm than good and allowing it to continue is in the best interests of the people of the state
  - It provides the time required to implement other regulatory solutions (e.g., developing site-specific objectives or reevaluating the applicable beneficial use)
  - It provides time to support a phased implementation program and reasonable allocation of resources including required planning/permitting activities
- An Exception is not intended to be a permanent waiver from compliance with water quality standards



# Central Valley Exceptions Policy

## Current Exceptions Policy

<p>Purpose</p>	<ul style="list-style-type: none"> <li>• Provides a regulatory tool that can bridge the gap when there is no feasible, practicable, or reasonable means for a discharge to meet a water quality objective, and it is not feasible, practicable or reasonable to prohibit the discharge</li> <li>• Served as a regulatory bridge while CV-SALTS completed the SNMP planning process</li> </ul>
<p>Key Program Elements</p>	<ul style="list-style-type: none"> <li>• Authority sunsets after June 30, 2019</li> <li>• Salinity-related constituents <u>only</u></li> <li>• Limited to 10 years</li> <li>• Anticipated CV-SALTS review</li> </ul>



## Recommendations to Revise Exceptions Policy

### Revise Allowable Constituents

- Allow Regional Board to authorize Exceptions for other pollutants w/ conditions

### Remove Sunset Provision

- Allow Regional Board to approve Exceptions beyond June 30, 2019

### Revise Term Limits

- Revise provision limiting Exceptions to only 10 years and clarify renewal provisions
- Require progress reports every 5 years

# SNMP POLICY RECOMMENDATIONS

## *Offsets Policy*

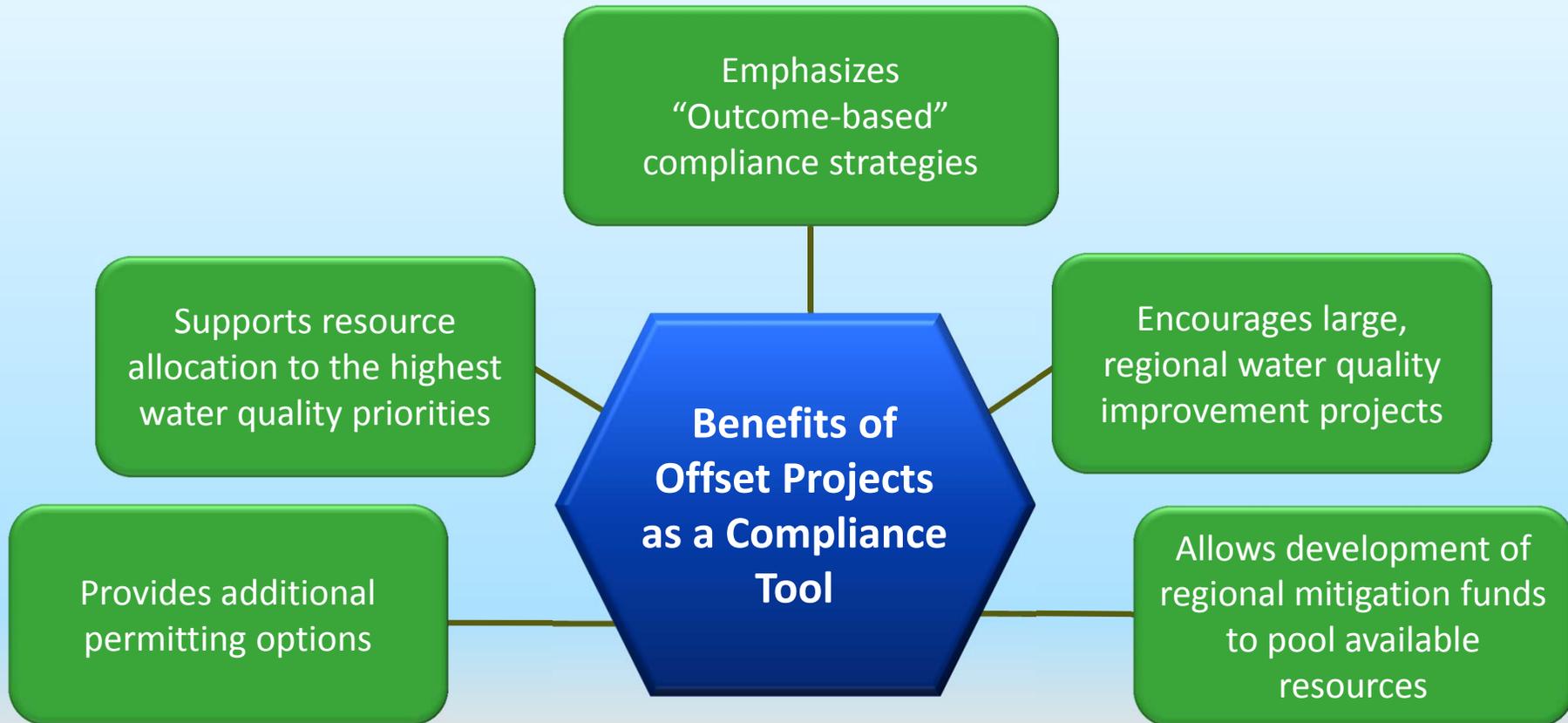
## Offsets – Background

- Traditional Permit Approach (WDRs/Waivers)
  - Compliance is assessed at the point-of-discharge or at First-Encountered-Groundwater (FEG)
  - Focuses exclusively on managing pollutants, directly, by regulating only the source
- Offset Projects may provide opportunity:
  - To implement more efficient or effective water quality improvement strategies
  - For collaboration among entities to solve multiple problems at the same time
- Proposal to amend Basin Plans to allow authorization of Offset Projects as an alternative regulatory compliance tool for managing groundwater

### Offset Projects

**Offset Projects provide an indirect approach to compliance with a WDR/Waiver requirement for a given pollutant by managing other sources and loads so that the collective net effect on receiving water quality from all known sources is functionally-equivalent to or better than that which would be expected to occur through direct compliance with the WDR at the point-of-discharge**

# Potential Benefits of Offset Projects



# Offset Projects for Groundwater – SNMP Recommendations

Element	Recommendations
Location	<ul style="list-style-type: none"> <li>• Within the same groundwater basin/subbasin or management zone as the regulated discharge</li> </ul>
Environmental Considerations	<ul style="list-style-type: none"> <li>• Must result in a net improvement to receiving water quality (compared to compliance with traditional waste discharge requirements)</li> <li>• Must be for substantially the same pollutant</li> <li>• Cannot result in unmitigated localized impairments to sensitive areas</li> <li>• Cannot have a disproportionate impact on disadvantaged communities</li> </ul>
Permit Considerations	<ul style="list-style-type: none"> <li>• Offset requirements are enforceable through a WDR or other orders</li> <li>• Must be approved by the Central Valley Water Board</li> <li>• Applies to a specific discharge and for a defined period of time</li> <li>• Specifies remedial actions to be taken in the event the offset project fails</li> <li>• Requires a monitoring and reporting program to verify offsets occur</li> </ul>

# SNMP POLICY RECOMMENDATIONS

## *Alternative Compliance Projects (ACP)*

## Alternative Compliance Project (ACP) for Nitrate

- Program or project(s) designed to provide the same or higher level of intended protection to water users that may be adversely affected by the discharge
- An ACP may be necessary to support a request for an Exception or an allocation of assimilative capacity
- ACPs may be proposed by:
  - Individual dischargers, or
  - Group of dischargers under one WDR, or
  - A group of dischargers within an approved management zone

### ACP Example

- A discharger is unable to comply with the nitrate water quality objective. To address this:
  - The discharger requests an Exception which proposes an ACP:

*Provide a safe and reliable alternative water supply for nearby drinking water wells that exceed or threaten to exceed the nitrate water quality objective.*

# SNMP POLICY RECOMMENDATIONS

## *Secondary Maximum Contaminant Levels (SMCLs)*

## SMCLs – Background

- All surface and groundwaters presumed to be protected for MUN
- The Basin Plans adopted some water quality objectives “by reference” to Tables 64449-A and B in CCR Title 22
- No instruction was provided on how to implement the “range” of values shown in the Tables.

Constituents, Units	Recommended	Upper	Short Term
Total Dissolved Solids, mg/L, or Specific Conductance, $\mu\text{S}/\text{cm}$	500	1,000	1,500
	900	1,600	2,200
Chloride, mg/L	250	500	600
Sulfate, mg/L	250	500	600

## SMCLs – Implementation Issues

- Many receiving waters already > 500 mg/L TDS
- Most discharge quality is > 500 mg/L TDS
- For many dischargers, it is not feasible, practicable, or reasonable to meet comply with a WDR of 500 mg/L TDS
- Increased water conservation is making SMCL compliance more difficult
- Strict application of SMCLs may severely restrict increased use of recycled water

### Areas Where Clarification is Needed

- Application of “Recommended”, “Upper”, and “Short Term” concentrations for TDS, electrical conductivity, chloride and sulfate
- Application of a finished drinking water standard (consistent with CCR Title 22) to surface waters and groundwater bodies
- Specification of an averaging period for assessing compliance
- Appropriate use of filtered or unfiltered samples for determining compliance

## SMCLs - 22 CCR Table 64449-A: SMCLs “Consumer Acceptance Contaminant Levels”

Constituents	Maximum Contaminant Levels/Units
Aluminum	0.2 mg/L
Color	15 Units
Copper	1.0 mg/L
Foaming Agents (MBAS)	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Methyl- <i>tert</i> -butyl ether (MTBE)	0.005 mg/L
Odor – Threshold	3 Units
Silver	0.1 mg/L
Thiobencarb	0.001 mg/L
Turbidity	5 Units
Zinc	5.0 mg/L

## Recommendations to Amend Basin Plans

### Additional Guidance

- Incorporate 22 CCR text that provides guidance for the application of consumer acceptance levels in Table 64449-B
- Provide guidance to permit writers regarding factors to consider when developing discharge permit language

### Compliance Method

- Filtered sample: Table 64449-B constituents and following Table 64449-A constituents: aluminum, color, copper, iron, manganese, silver, turbidity and zinc
- Unfiltered sample: Other Table 64449-A constituents

### Monitoring & Assessment

- Incorporate “annual average” as the assessment period
- Must evaluate impacts on downstream water intakes

# SNMP POLICY RECOMMENDATIONS

## *Drought and Water Conservation*

# Drought & Water Conservation – Background

- State policies to protect against drought are beneficial but may create unintended compliance problems for some dischargers
- WDRs rarely include provisions or consideration for variation in effluent quality that may occur as a result of changes in influent quality related to recurrent drought conditions or conservation/reuse activities

## Water Quality Management Challenges

- Increased water reuse concentrates salt
- Replacement water supplies (e.g., substituting groundwater for surface water) often results in use of water with higher salt content
- Increased use of high efficiency (low-flow fixtures & appliances) and greater use of in-home water softeners, concentrates salt in influent
- Water conservation is incremental; once implemented, it is likely to continue, especially if there has been a significant capital investment

## Drought & Water Conservation – SNMP Recommendations

- Establish automatic triggers for implementation of a Variance/Exception when extended dry periods (“drought”) occur
- For discharges to groundwater, calculate compliance based on long-term (10+ years) flow-weighted averages in order to account for annual variations in rainfall/percolation
- Authorize implementation of Offset Projects that can create/bank “credits” during wet years



## Drought & Water Conservation – SNMP Recommendations

- Consider amending the Basin Plans to promote maximum use/reuse of available water supplies by establishing a temporary Variance/Exception from salinity-related standards where the TDS/EC concentration in the permitted discharge is better (lower) than the TDS/EC concentration in the receiving water and will improve receiving water quality (even when the receiving water quality is higher than the applicable water quality objective).
- In lieu of authorizing a temporary Variance/Exception, consider pre-authorizing an automatic allocation of assimilative capacity (where it exists, or can be provided by the discharger via an offset project) to accommodate higher TDS concentrations in the discharge/recharge during drought conditions.

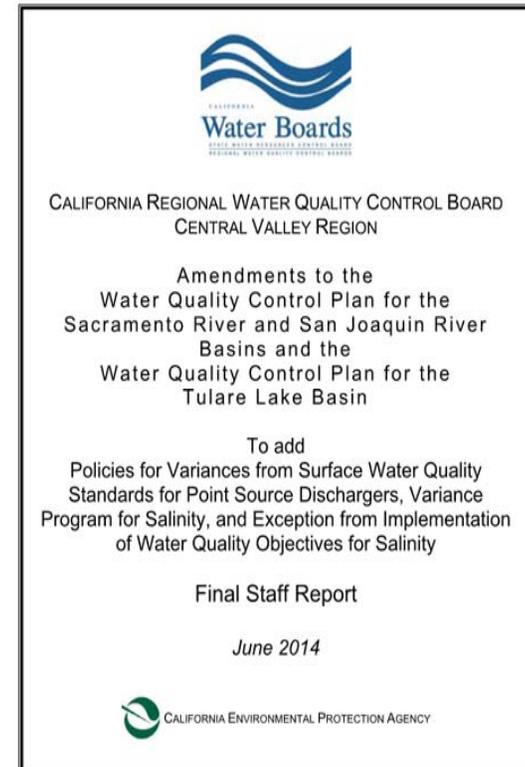
# SNMP POLICY RECOMMENDATIONS

## *Revisions to the Salinity Variance Program*

# Salinity Variance Program Policy - Background

## Existing Salinity Variance Program Policy

- Allows POTW dischargers to apply to the Central Valley Water Board for a variance to discharge requirements from the implementation of water quality objectives for salinity
- US EPA approved the program but limited its application to effluent limitations being adopted to protect the AGR beneficial use; it only applies in a limited manner to POTWs
- Existing authorization to grant a variance in surface waters sunsets on June 30, 2019



# Recommendations to Revise Salinity Variance Program

## Remove Sunset Provision

- Allow authorization of Variances 15 years beyond effective date of Basin Plan amendments

## Address US EPA Limitations

- Address US EPA limitations on variances as related to protection of the MUN beneficial use

## Align Program with Salinity Management Strategy

- Consider Phase I findings; revise if needed for Phase II implementation
- Discharger participation requirements in Phase I

# ALTERNATIVE PROPOSALS

# PROTECTING DRINKING WATER

## Groundwater

### Environmental Justice Stakeholders

## Environmental Justice Stakeholders & Alternatives

- Community Water Center, Clean Water Action, Leadership Counsel for Justice & Accountability
- Part of CV-SALTS as the “Environmental Justice Stakeholders” for 8+ years
- Attend the monthly meetings, provide oral and written comments on direction of process
- EJ Stakeholders provided alternatives are included in Attachment D-3, to the SNMP.
- These alternatives are not analyzed in the substitute environmental document.



## Nitrates & Drinking Water in the Valley

- 90% of residents in the Central Valley rely upon groundwater for drinking water.
- The majority of nitrates in groundwater come from man-made sources such as fertilizer, manure, and septic systems.
- The Harter Report found 254,000 residents within the Tulare Lake Basin and Salinas Valley are impacted by nitrates.
- There is inadequate data to show how many residents on private wells or state smalls are impacted by nitrates contamination.

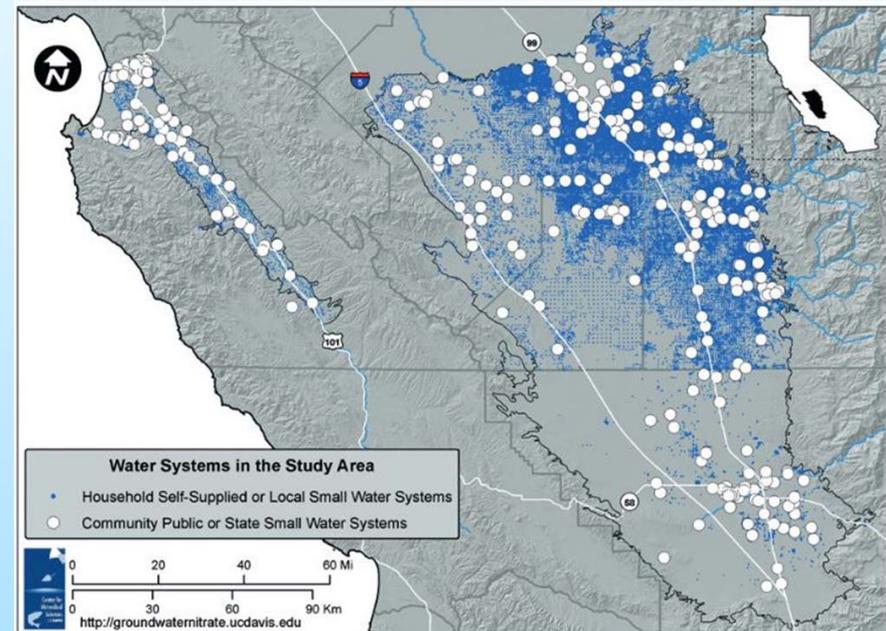


Figure 15. Estimated locations of the area's roughly 400 regulated community public and state-documented state small water systems and of 74,000 unregulated self-supplied water systems. Source: Honeycutt et al. 2012; CDPH PICME 2010.

Addressing Nitrate in California's Drinking Water  
(UC Davis Nitrate Report)

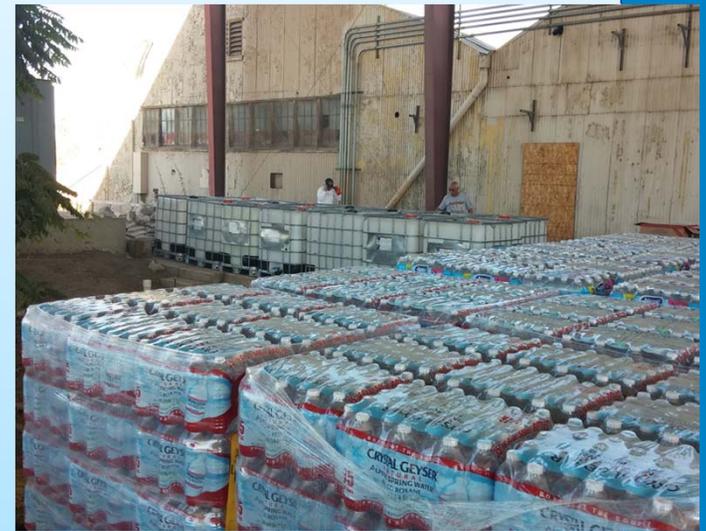
## Why are the EJ Stakeholders concerned about the SNMP?

- The SNMP will impact drinking water quality in the Valley.
- Our primary goals of participating in CV-SALTS are:
  - Protecting water quality in areas of good water, and achieving objectives in areas of contamination.
  - Obtaining both short-term and permanent replacement water for impacted communities.
  - Ensuring that communities are part of the solution.
  - Achieving nitrate balance *and* long-term restoration to ensure long-term sustainability and viability of Central Valley communities and the economy.



# Groundwater Management Zones

- Lack of adequate guidelines on boundaries, size, and governance make their use an unwieldy tool to manage nitrates.
  - SNMP allows management zones to be as large as the basin.
  - Determination of assimilative capacity at the basin scale will result in hotspots of contamination which will impact drinking water sources.
  - Boundaries are not required to meet any hydrologic or mixing criteria, leading to concern that impacted communities will be left outside boundaries.



# Groundwater Management Zones

- Governance
  - Communities impacted by nitrates must be meaningfully included in solving drinking water issues. This includes adequate notification and opportunity to provide input.
- Regular updates
  - There must be a robust outreach plan to identify current and future impacted communities.
- Replacement water
  - Should be done at regional rather than management zone level.
  - Should be lead by impacted communities, TA providers, drinking water providers, Division of Drinking Water - not by dischargers.

## Groundwater Management Zones Alternative

- Boundaries must be based on geologic and hydrologic features that limit or promote groundwater mixing. Basin or subbasin is far too large.
- Communities cannot be gerrymandered out of a management zone and must be included in the planning for solutions.
- There should be a robust outreach plan to engage all current and future impacted communities.
- Replacement water is better done at the regional level.
- Projects like trend monitoring and restoration can be done in the management zone as the zones can coordinate the necessary time & resources.

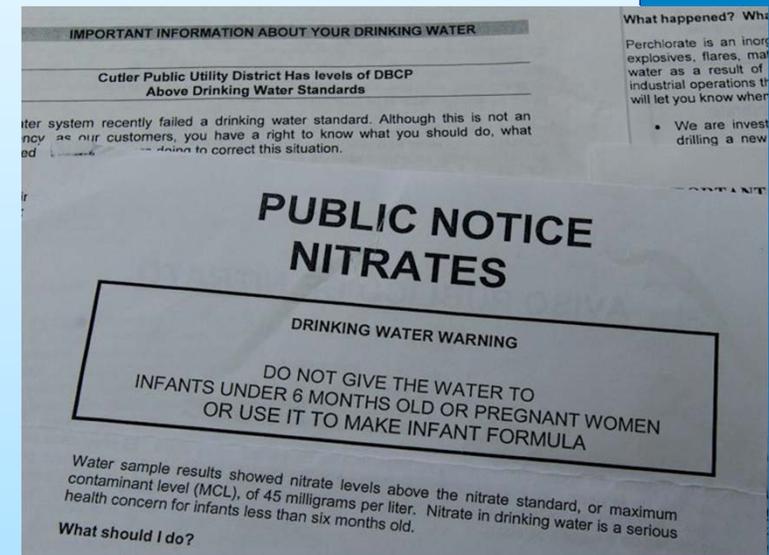
# Determining Assimilative Capacity



- The allocation of assimilative capacity up to the MCL of 10 mg/L will lead to exceedances as it gives no room for a buffer.
- SNMP calculates assimilative capacity at 7.5 mg/L but does not propose using this level as an enforceable standard.

# Determining Assimilative Capacity

- Vertical depth determination is important to ensure domestic wells are not impacted
  - Vertical averaging that includes relatively deep water leads to calculations of assimilative capacity that can cause widespread exceedances in shallow water. Domestic wells and those of small water systems are disproportionately impacted by unsafe drinking water
- Horizontal determination is also important to prevent localized impacts.
  - Should be based off relevant groundwater.
  - Horizontal averaging over large geographic area (e.g., basins, subbasins, or townships) will result in hot spots due to lack of groundwater mixing.



## Assimilative Capacity Alternatives

- Assimilative capacity should only be granted up to 7.5 mg/L to allow for a buffer to prevent exceedances.
- Discharges above 7.5 mg/L will need an Exception.
- Vertical depth should not be measured below the depth that the majority of domestic wells reach.
- Horizontal depth should be determined within the relevant groundwater - the water that is impacted by the proposed discharge. A larger scale is likely to result in hot spots.

## Nitrate Permitting Strategy Alternative

- The five categories are overly complicated and will result in degradation as they do not include a buffer between the discharge and water quality objective.
  - Instead there should be 3 categories:
    - 1) Discharge below water quality/meeting water quality objectives (discharger to monitor to ensure continue to meet WQO);
    - 2) Degrading water quality up to 75% water quality objective (offsets/mitigation may be required, must complete antidegradation analysis, require monitoring and reporting);
    - 3) Degrading water quality over 75% water quality objective (requires Exception, monitoring & reporting, mitigation measures).

# Exceptions



- Cannot be used in a way that prevents achievement of the SNMP management goals, including long-term restoration and nitrate balancing.
- The SNMP allows for Exceptions to continue indefinitely.
  - Exceptions which continue indefinitely will make achievement of management goals difficult to impossible.

## Exceptions Alternative

- Exceptions should not be available to dischargers that can meet water quality objectives.
- Should be granted for at most 10 years with potential for limited renewal.
- At each renewal must show meaningful progress towards meeting goals of nitrate balance and restoration.
- Exceptions must include:
  - Nitrate fund payment for providing short and long-term drinking water solutions.
  - Restoration fund payment to help meet water quality objectives or mitigate impacts to aquifer.
  - Long-term management plan to show how water quality trends will improve over a 10 & 20 year horizon.
  - Long-term management plan to show salt/nitrate balance within a clear timeline.

## Offsets Alternative

- As used in the SNMP, offsets are inconsistent with the traditional use of offsets.
- Traditionally, offsets are projects that reduce the overall contamination loading into the aquifer from another source to make up for the degradation caused by the discharger.
  - Should only be used as a means of achieving water quality objectives.
  - Should result in water quality improvements as good or greater than could be achieved through traditional regulatory regime.
    - Provision of a limited supply of drinking water does not constitute source water improvement.
  - Cannot result in negative localized impacts that would not have occurred but for the offset.
- Payment into a replacement water fund is not an offset, but a necessary requirement for an Exception.

## SNMP Management Goals

- SNMP only requires the achievement of nitrate balancing and long-term restoration where “reasonable and feasible”.
  - No definition or criteria describing this condition is provided.
- There is no timeline for restoration, or creation of a restoration plan.
- Implementation allows several years to lapse before “highest priority” of safe drinking water is provided throughout Region 5.
- Allows for de facto de-designation of basins.

“Healthy water, healthy people.”



## SNMP Alternative

- Accelerate funding and provision of safe drinking water.
- Require plan and timeline for achieving first balance and then restoration.
- Limit renewal of Exceptions if a plan is not in place.

## The Alternatives In Attachment D-3 Are Not Included In The SED

- An SED must analyze a “reasonable range” of alternatives, which was not done here.
- The SED instead only analyzes the proposed project and a “no project” alternative. This is facially deficient.
- The SED does not analyze enforceable feasible mitigation measures.
- The environmental impact findings in the SED are not supported by substantial evidence given that it is internally inconsistent.



## Conclusion

### SNMP Management Goals

1. Ensure a Safe Drinking Water Supply
2. Achieve Balanced Salt and Nitrate Loading
3. Implement Managed Aquifer Restoration Program

Timely and effective achievement of these goals is essential to ensure that communities will not continue to be impacted by nitrate-contaminated drinking water.

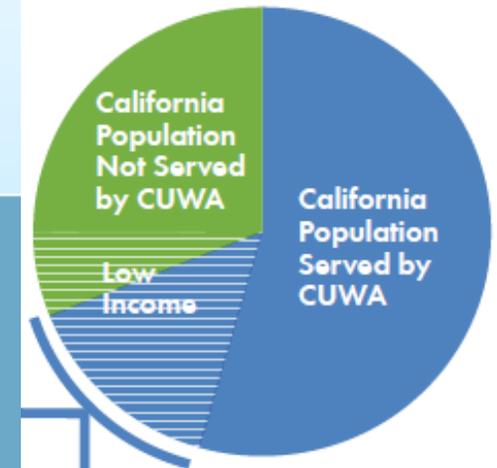
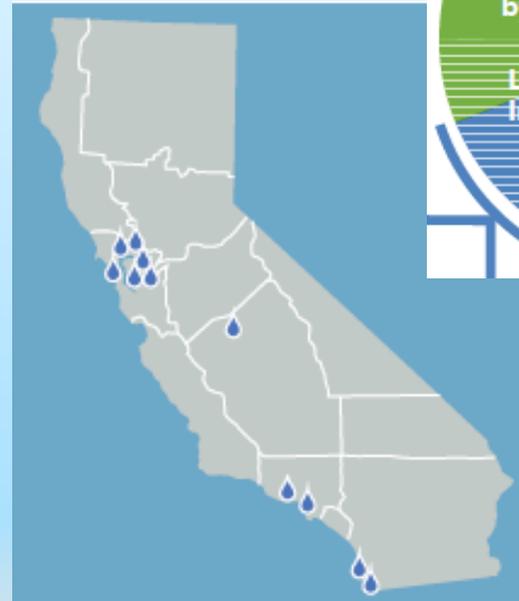


# DRINKING WATER

## Surface Water

## Who is California Urban Water Agencies (CUWA)?

- Non-profit corporation of 11 major water agencies
- Eight CUWA members rely on the Delta as a primary source of drinking water



## Why is CUWA Concerned about the SNMP?

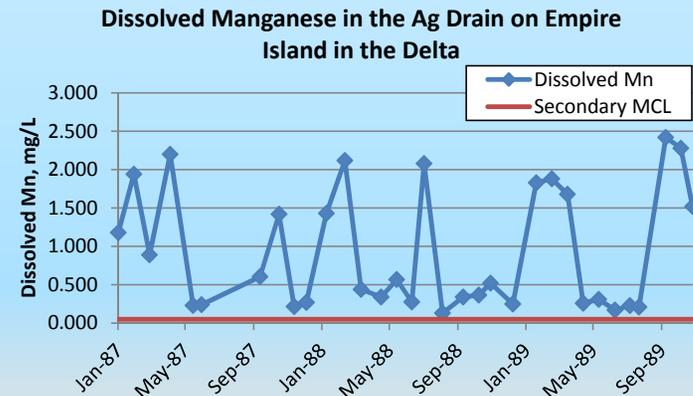
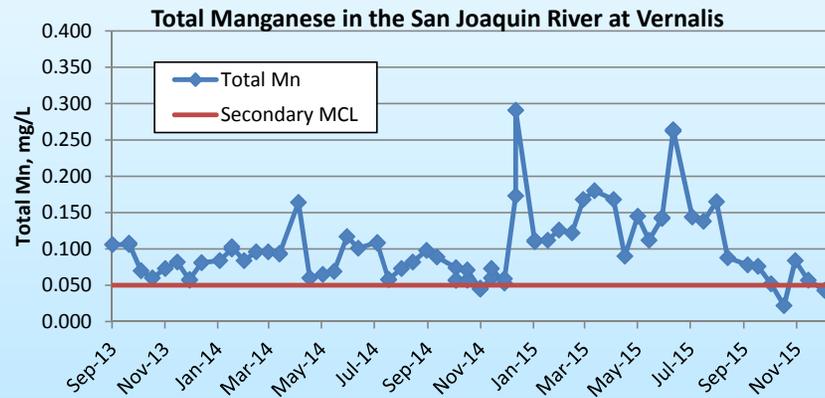
- Potential for increased salinity at Delta drinking water intakes
  - Due to many SNMP policies
  - Not fully evaluated
- Potential for increased metals concentrations
  - Not fully evaluated
  - CUWA and SRSWPP request that compliance be based on total metals
- Measuring compliance at nearest downstream intake
  - does not protect the MUN beneficial use and is inconsistent with Mixing Zone Policy
  - SRSWPP also concerned with this
- No surface water monitoring program
- Inconsistency with existing management agreements

## Why is Salinity at the Delta Intakes Important to CUWA?

- Customer acceptance
- Impacts on industrial use
- Delta water quality objectives must be met by releasing high quality water from upstream reservoirs
- Ability to blend SWP water with other supplies
- Ability to recharge groundwater
- Ability to recycle wastewater

# Why is CUWA Concerned about Secondary MCLs?

- Secondary MCLs protect public welfare
- Customers judge the healthfulness of their water based on how it tastes and smells
- There are already concerns with manganese exceeding secondary MCLs and causing water treatment problems



## The SED Acknowledges Groundwater Impacts of Some Policies

- Salinity Management Strategy – “would allow the Central Valley Water Board to manage degradation...”
- Exceptions Policy – “could result in potentially significant impacts to water quality degradation...”
- AGR Policy – allows EC up to 7,500  $\mu\text{S}/\text{cm}$  in some groundwater basins. “there is potential for groundwater quality degradation...”
- Offsets Policy – “could result in localized potentially significant impacts...”

## The SED Discounts Impacts of Other Policies

- Salinity Variance Program – extends existing program and expands from AGR to include MUN beneficial use
- Drought and Water Conservation Policy – would allow EC levels of 2,200  $\mu\text{S}/\text{cm}$ . SED discounts impact because it is “short-term”.
- Secondary MCL Guidance – would allow EC of up to 1,000  $\mu\text{S}/\text{cm}$  rather than 500  $\mu\text{S}/\text{cm}$  in WDRs

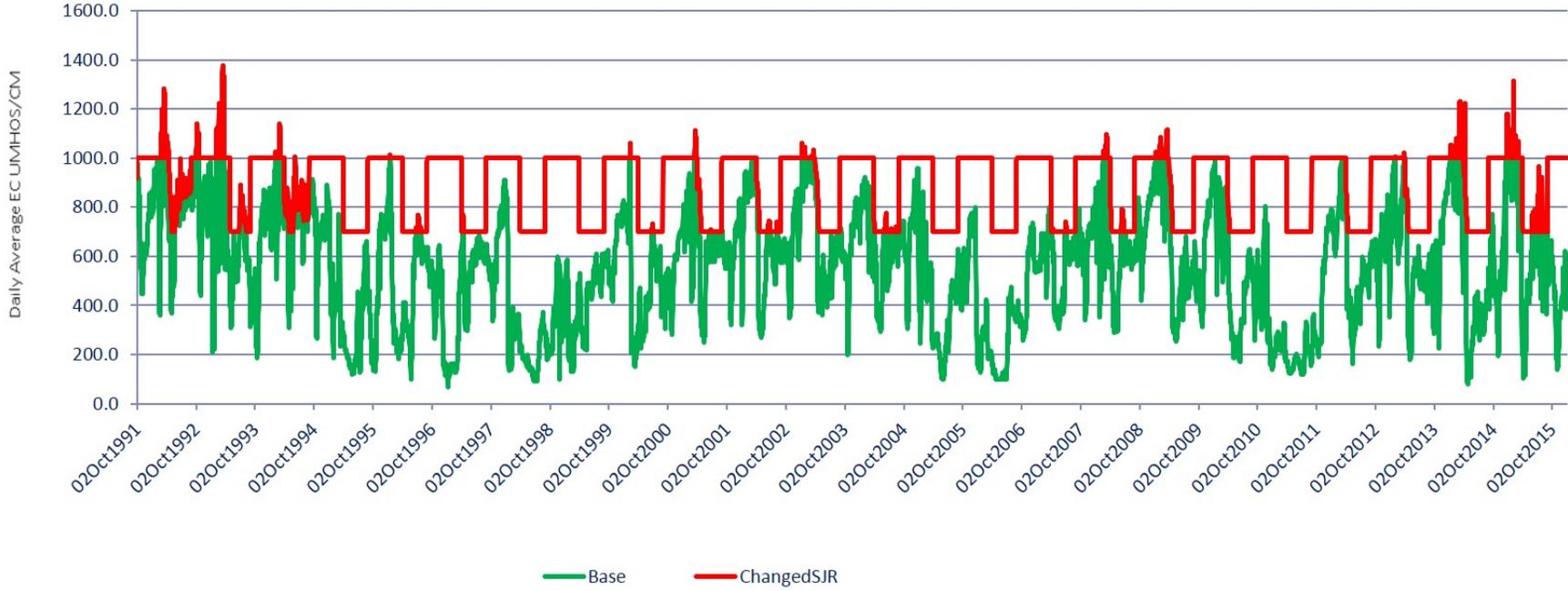
## The SED Discounts Potential Impacts on Surface Water Supplies

- The SED fails to recognize that groundwater and surface water are hydrologically connected
- The SED fails to recognize that if groundwater basins are degraded and that groundwater is used and then discharged to surface waters, there is the potential for surface water degradation
- Despite numerous requests from CUWA there was not an adequate description of the problem or analysis of existing water quality conditions and no modeling was done to evaluate impacts

# What Will Prevent Degradation of Drinking Water Supplies?

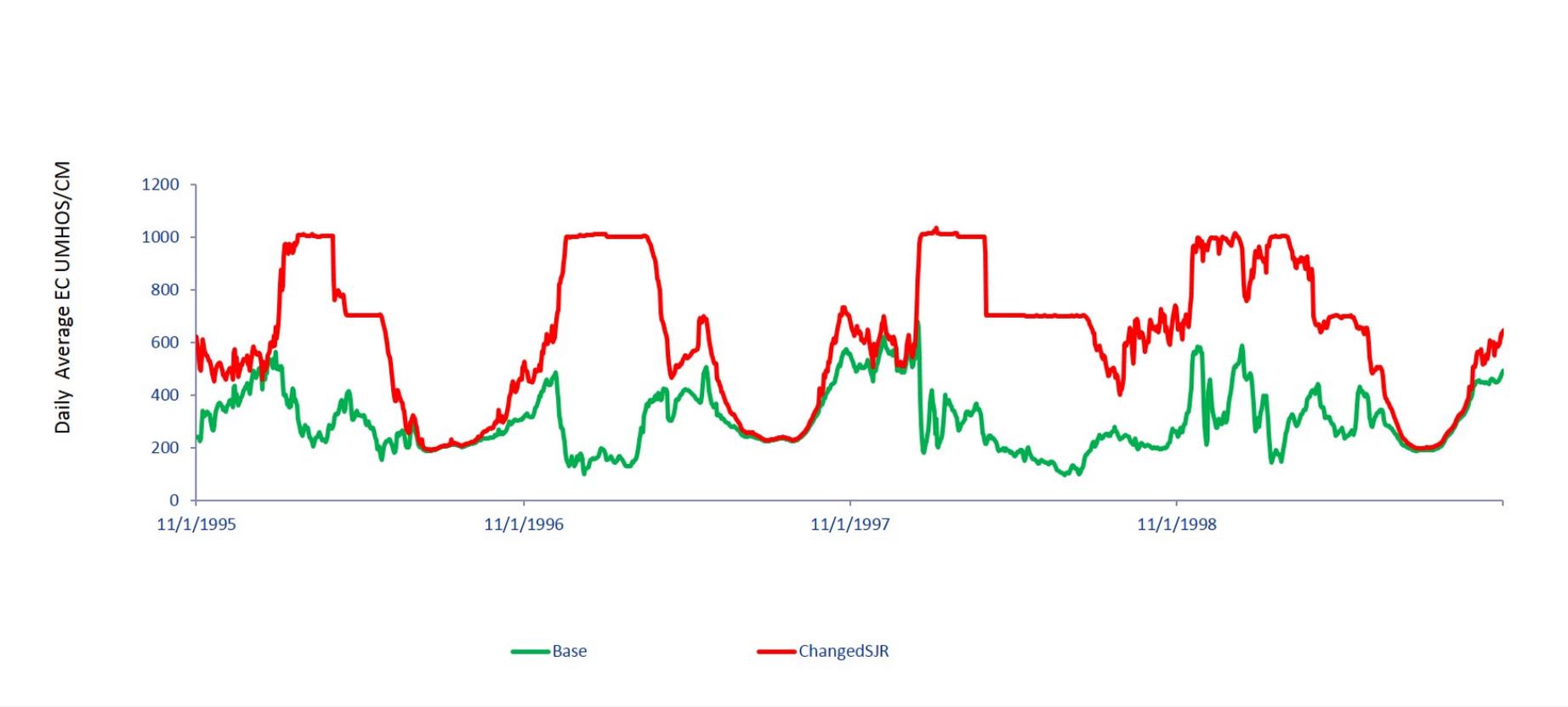
- Antidegradation Policy
  - How will this protect surface water quality if degradation of groundwater quality is allowed and there is a connection between surface water and groundwater?
- The Vernalis Water Quality Objective
  - 700  $\mu\text{S}/\text{cm}$  Apr to Aug, 1000  $\mu\text{S}/\text{cm}$  Sep to Mar
  - Currently water quality is much better than the objective during many months
  - The State Water Board is proposing to raise the water quality objective to 1,000  $\mu\text{S}/\text{cm}$  year round, effectively increasing the assimilative capacity of the San Joaquin River

# What is the Problem with Relying on the Vernalis Objective?



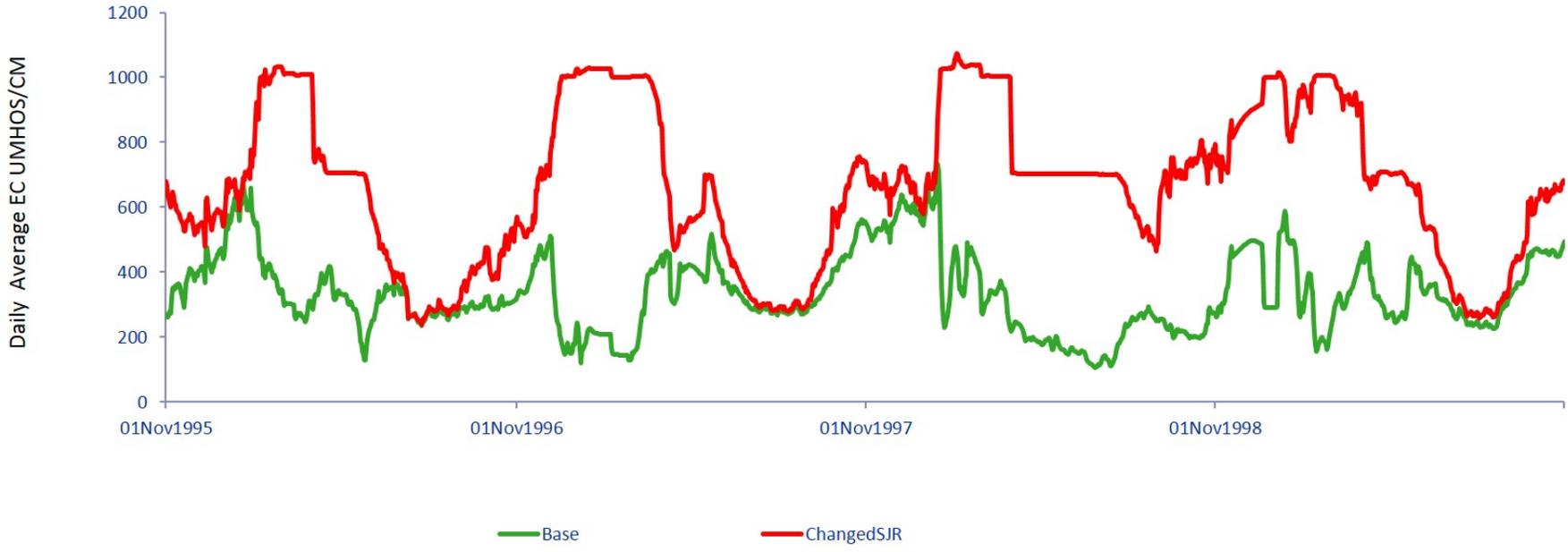
# Potential Impact on EC Levels at Banks Pumping Plant (SWP)

Preliminary Modeling Conducted by DWR



# Potential Impact on EC Levels at Jones Pumping Plant (CVP)

Preliminary Modeling Conducted by DWR



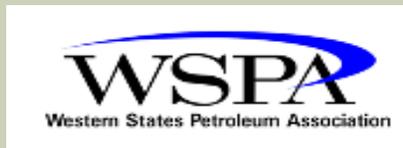
## What is CUWA Requesting?

- Modeling studies to evaluate potential increased salinity at Delta drinking water intakes
- The SED be revised to comprehensively discuss existing water quality conditions and adequately address the potential surface water impacts
- Continued compliance with the Secondary MCLs for total metals, rather than dissolved metals
- Compliance with the Secondary MCLs be measured in a discharge or at the edge of an appropriate mixing zone, rather than at the nearest downstream intake
- Development of a monitoring and assessment program to assess future potential changes in water quality
- Prevent regulatory loopholes in the SNMP that would allow agricultural dischargers to continue discharges that are prohibited by existing agreements

# STAKEHOLDER PANEL

# OIL AND GAS STAKEHOLDER REQUESTS:

- Amend Exceptions and Variance Policies to explicitly include Boron and other adequately justified constituents.
- Authorize Management Zones for other constituents besides Nitrate.
- While amending MCL section of Basin Plan, remove "prospective incorporation by reference" language.
- Tentatively assign AGR threshold classes instead of deferring.



# NEXT STEPS/COMMENTS/TIMELINE

# Final SNMP Summary

- Complex and ambitious plan that that comprehensively addresses nitrate and salt water quality concerns:
  - Assures safe drinking water available
  - Emphasizes groundwater but, where appropriate at this time, addresses surface water
  - Manages point and nonpoint pollutant sources
  - Addresses existing and legacy pollutant loads
- Meets the two primary goals
  - Assure safe drinking water; and
  - Sustain the agricultural economy



# Final SNMP Summary

- SNMP is phased but prioritized to address most important water quality issues first
  - Implementation of nitrate management requirements begins quickly following adoption of Basin Plan amendments
  - Priority areas already established for first phase of implementation
  - Commitments included for a long-term salt solution
- SNMP meets Central Valley salt and nitrate management needs:
  - Considers diversity in water quality across the region
  - Allows for innovative, local and collaborative, solutions



# Written Comments Received By February 21<sup>st</sup>

## Eleven Sets of Comments Received

- California Sportfishing Protection Alliance
- California Urban Water Agencies
- Central Valley Clean Water Association
- City of Sacramento — Sacramento River Source Water Protection
- Contra Costa Water District
- East Bay Municipal Utility District
- Environmental Justice Community Stakeholders
- Luhdorff & Scalmanini Consulting Engineers
- RegionalSan
- South Delta Water Agency
- Valley Water Management

## General Issues

- Environmental/Economics/Antidegradation Analyses Insufficient
- Secondary MCL Policy
  - Source Water Protection
- Delta
- Comments on Case Study Basin Plan Amendments
  - Lower San Joaquin River Salt/Boron
  - MUN in Ag Dominated Water Bodies



## Next Step – Initiate Basin Plan Amendment Process

- Adopt a resolution to accept the SNMP and direct staff to initiate a Basin Plan amendment process to incorporate the SNMP's recommendations (as appropriate)
- Initiate SNMP Basin Plan amendment process:
  - Consider written/oral/ongoing comments and Alternatives
  - Draft Basin Plan amendments – October 2017
  - Consideration of Basin Plan amendments – February 2018
  - Approval of Basin Plan amendments by Central Valley Water Board – April 2018
  - Approval of Basin Plan amendments by State Water Board – July 2018
  - Implementation of groundwater components – September 2018 (or after Office of Administrative Law approval)
  - Implementation of surface water components (after US EPA approval)



# PUBLIC COMMENT PERIOD 2

3/10/2017

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# RESOLUTION CONSIDERATION



Thank You