CV-SALTS Executive Committee Meeting

Thursday, August 25, 2022 – 9:00 AM to 3:00 PM - Sunset Maple Room
Sacramento Regional Sanitation District
10060 Goethe Rd, Sacramento 95827
https://us06web.zoom.us/j/82837238797?pwd=aUY3eTZUZkxPQU9jVm5ESmFRY0ZHZz09
Meeting ID: 828 3723 8797 **Passcode:** 589075
Dial-in: 253 215 8782

Posted 08-16-2022 – Revised 08-24-2022

1) **Welcome and Introductions – Chair** – (10 mins)
   a) Committee Roll Call and Membership Roster
   b) Review and Approve June 23, 2022, Meeting Notes

2) **Basin Plan Amendments – Implementation Update** – Patrick Pulupa, Anne Walters (20 mins)
   - Program Implementation
     - Management Zone progress and deadlines
     - Enforcement Activities MZ and P&O

3) **Management Zones – Status Update** – (20 mins)
   - SAFER Funding of Co-Contaminant Impacts by MZs : VWC, Kaweah, Kings, and Tule – Daniel Cozad
   - Management Zone Progress and Outreach
     - Outreach and Implementation Status
     - LINK TO > Management Zone Program Summary

4) **Prioritization & Optimization Study** – (1.5 hrs)
   - Overview and Discussion Facilitation – Bobbi Larson
   - Mid-Year Check In
   - Baseline Characterization Report – Richard Meyerhoff/Tom Grovhoug
     - BCR Part 1 – Summary of major comments received and proposed revisions
     - Next Steps – BCR Part 2 development, introduction to Salt Management Regions (SMRs)

11:30 pm to 1:00 pm - Lunch

5) **Prioritization & Optimization Study - Continued** – (1 hr)
   - Analytical Tools/Models Identification and Evaluation – Tom Grovhoug
     - Report by Tools Evaluation Small Group re Groundwater Tools
   - Data Management: Implementation Update – Mike Cornelius/Richard Meyerhoff

6) **SAMP (Surveillance & Monitoring Program)** – Daniel Cozad/Richard Meyerhoff (30 mins)
   - Status Update: Finalization of Framework and Next Steps
     - Response to Comments on Draft Conceptual Framework
   - **Links to:**
     - Final SAMP Conceptual Framework _Clean Version
       - Final SAMP Conceptual Framework _Track Changes

7) **PEOC Status Update** – Nicole Bell (10 mins)
   - **LINK** to Outreach Matrix - Outreach Tracking

8) **Review Meeting Schedule/Location** – (5 mins)
   - PEOC Meeting: **September 9, 2022, 9:30 – 10:30 AM – Zoom**
   - Policy Meeting: **September 15, 2022, Tentatively 9:00 – 3:00 - Zoom (Final times/Location TBD)**

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.

One or more Central Valley Regional Water Quality Control Board members may attend.

CV-SALTS Committee Rosters

Executive Committee Membership			CV-SALTS Executive Committee Meetings -2021-2022												
Voters	Category/Stakeholder Group	Name	8-Apr	13-May	10-Jun	19-Aug	16-Sep	21-Oct	18-Nov	13-Jan	10-Feb	17-Mar	7-Apr	19-May	23-Jun	25-Aug
1	Central Valley Water Board	Patrick Pulupa	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	
Alt	Central Valley Water Board	Anne Walters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	State Water Resources Control Bd.	Darrin Polhemus														
3	Department of Water Resources	Barrett Kaasa														
Alt	Department of Water Resources	Jesus Mercado		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	US Bureau of Reclamation	Grace Windler				✓	✓	✓	✓	✓	✓	✓	✓		✓	
Alt	US Bureau of Reclamation	Jun Wang												✓		
5	Environmental Justice															
6	Environmental Water Quality	TBD														
CV Salinity Coalition																
1	So. San Joaquin WQC	Nicole Bell	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓	
2	City of Stockton	Deedee Antypas	✓	✓	✓	✓		✓		✓	✓		✓	✓	✓	
3	California Cotton Growers	Chris McGlothlin			✓	✓				✓	✓					
4	City of Fresno	Rosa Lau-Staggs						✓								
5	CA Leaque of Food Processors	Trudi Hughes								✓						
Alt	CA Leaque of Food Processors	Rob Neenan	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓	
6	NCWA/SVWQC	Bruce Houdesheldt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7	City of Tracy	Stephanie Hiestand		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Alt	City of Tracy	Aloke Vaid														
8	Sacramento Regional CSD	Chris Hunley				✓		✓	✓	✓	✓					
Alt	Sacramento Regional CSD	Sam Safi	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓	
9	San Joaquin Tributaries Authority	Jonathan Marz	✓	✓	✓	✓	✓	✓				✓	✓		✓	
Alt	San Joaquin Tributaries Authority	Valerie Kincaid														
10	Valley Water Management	Melissa Thorme	✓	✓	✓	✓	✓	✓	✓						✓	
Alt	Valley Water Management	Jason Meadors	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	
11	California Rice Commission	Tim Johnson	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12	City of Davis	Josie Tellers		✓	✓	✓	✓	✓		✓	✓			✓	✓	
13	Tulare Lake Drainage District	Mike Nordstrom			✓											
14	Western Plant Health Assoc.	Renee Pinel														
15	City of Vacaville	Mindy Boele		✓	✓	✓	✓	✓	✓	✓	✓			✓		
Alt	City of Vacaville	Justen Cole														
16	Dairy Cares	J.P. Cativiela		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	
Alt	Dairy Cares															
17	Westlands Water District	Zac Just	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Alt	Westlands Water District	Kori Peterson	✓								✓	✓	✓	✓	✓	
18	East San Joaquin WQ Coalition	Parry Klassen	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	
Comm. Chairs/Co-chairs																
1	Chair Executive Committee	Debbie Webster CVCWA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2	Vice Chair Executive Committee	Mike Wackman SJ Co/Delta V	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
3	Technical Advisory Committee															
	Technical Advisory Committee	Nigel Quinn, LBL	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	
4	Public Education and Outreach	Nicole Bell														
5	Economic and Social Cost Committee	David Cory, SJVDA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

CV-SALTS Committee Rosters

Participant Names			CV-SALTS Executive Committee Meetings -2021-2022												
Last	**First**	**Organization**	8-Apr	13-May	10-Jun	19-Aug	16-Sep	21-Oct	18-Nov	13-Jan	10-Feb	17-Mar	7-Apr	19-May	23-Jun	25-Aug
Aguilar	Marisol					✓										
Agus	Eva	East Bay MUD							✓							
Atume	Ngodoo	CWA	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Au-Yeung	Cindy	CVRWQCB	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		
Bean	Jessica	SWRCB														
Beckstead	Christina	Madera Farm Bureau			✓	✓						✓	✓			
Bejarano	Antonio	WWD	✓	✓			✓		✓							
Belt	David	CVRWQCB					✓									
Bradford	Mark											✓	✓			
Brown	Laura								✓							
Cady	Mark	CDFA	✓	✓				✓		✓	✓			✓		
Campbell	Morgan											✓	✓			
Cornelius	Mike	GEI										✓	✓	✓	✓	
Cremers	Noelle	Wine Institute	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	
Cruikshank	M.					✓										
Dailey	Hannah	CVRWQCB											✓	✓	✓	
Dalgish	Barb	LSCE							✓	✓	✓	✓	✓	✓	✓	
Dransoff	Zack	CRC	✓	✓												
Dunham	Tess	Kahn, Soares & Conway	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Dunn	Debra	Kings River Cons District	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	
Fuller	Dustin	TLDD	✓	✓	✓		✓	✓	✓						✓	
Fuller	Jennifer	CVRWQCB	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Garcia	Maribel														✓	
Gardiner	Charles	Catalyst Communications	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Gore	Bob	Gualco Group/CIPA	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Gosling	Doug															
Grovhoug	Tom	LWA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Guzman	Jenalyn	OPP/SWRCB										✓	✓			
Hearn	Stephanie	GEI	✓	✓	✓	✓				✓	✓					
Johnson	Michael	MLJ Environmental													✓	
Kadara	Denise	CVRWQCB								✓	✓					
Khang	True	CVRWQCB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Kretsinger Grabert	Vicki	LSCE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

ADDITIONAL PARTICIPANTS:

CV-SALTS Committee Rosters

Participant Names			CV-SALTS Executive Committee Meetings -2021-2022												
Last	**First**	**Organization**	8-Apr	13-May	10-Jun	19-Aug	16-Sep	21-Oct	18-Nov	13-Jan	10-Feb	17-Mar	7-Apr	19-May	23-Jun	25-Aug
Laputz	Adam	CVRWQCB	✓	✓			✓			✓	✓	✓	✓	✓		
Larson	Bobbi	Somach Simmons & Dunn	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
LeClaire	Joe	LeClaire & Associates	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Liu	Yuan	CCWD	✓	✓		✓					✓					
Longley	Karl	CVRWQCB							✓	✓	✓	✓	✓	✓		
Loving	Jennifer	City of Fresno							✓		✓					
Mendes	Justin	Tulare Lake Basin WSD			✓	✓				✓	✓	✓	✓			
Meyerhoff	Richard	GEI Consultants	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Miller	Kenneth	Formation Environmental										✓	✓		✓	
Nye	Sydney	GEI Consultants													✓	
Ocampo	Eddie	Self-Help Enterprises												✓		
Petersen	Chris	GEI Consultants								✓	✓					
Pope	Aaron	Catalyst Communications		✓								✓	✓			
Prescott	Darrin	Grenian	✓		✓		✓			✓	✓	✓	✓			
Rivers	Kjia														✓	
Robinson	Kathryn	CRLA			✓											
Robinson	Kristi	Chowchilla MZ					✓	✓	✓	✓	✓			✓	✓	
Rutherford	Sara	KBWQA			✓	✓	✓	✓		✓	✓				✓	
Schull	Charlotte	KRWQC	✓			✓	✓		✓	✓	✓	✓	✓	✓	✓	
Soto	Sammy	CVRWQCB					✓	✓				✓	✓	✓		
Staggs	Rick	City of Fresno							✓			✓	✓	✓		
Takeda	Jackie	GEI Consultants						✓								
Taylor	Hope								✓							
Tillman	Stephanie	LANDIQ		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Tran	Mikayla	Sustainable Conservation										✓	✓			
Trouchon	Mike	LWA					✓	✓	✓	✓	✓	✓	✓	✓	✓	
Turner	Melissa	MLJ Environmental													✓	
van Deelen	Grace														✓	
Wenzel	Alisha														✓	
Witty	J.					✓			✓	✓	✓					
Zimmerman	Christine	IOPA	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	

ADDITIONAL PARTICIPANTS:

CV-SALTS Executive Committee Meeting - Summary Action Notes

For June 23, 2022 – 9:00 AM to 11:30 AM

Attendees are listed on the Membership Roster

DISCUSSION ITEMS

1) Welcome and Introductions
   a) Executive Committee Chair, Debbie Webster, brought the meeting to order, and roll call was completed.
   b) David Cory moved, and Bob Gore seconded, and by general acclamation the May 19, 2022, Meeting Action Notes were approved.

2) Basin Plan Amendments – Implementation Update
   - Patrick Pulupa provided an update on the status of implementation activities in the Salt and Nitrate Control Programs.
     - The June update to the State Water Board on the CV-SALTS program was well-received. An extra thanks was extended to Sara Rutherford and Anne Walters for their presentations before the State Water Board.
     - Upcoming Management Zone deadlines:
       - Submission of the Final Management Zone Proposals (FMZPs) are due to the Regional Board by August 29, 2022.
       - The FMZPs will be reviewed and issued for public comment in the Fall 2022.
       - Management Zone Implementation Plans (MZIPs) would tentatively be due in the Summer of 2023.
       - The Notices to Comply (NTCs) for the Priority 2 areas are planned to be mailed following receipt of the Priority 1 MZIPs.

3) Management Zones – Status Update
   - Daniel Cozad provided a status update on the SAFER Funding of Co-Contaminants testing. The agreement for Valley Water Collaborative is STILL nearing finalization. Kaweah Water Foundation is in the process of working on their budget and scope of work, along with some changes to facilitate direct contracting. Tule Management Zone has completed and submitted their pre-application to the Division of Financial Assistance. If all contracting goes well, all zones may have the ability to do the additional testing by mid-summer.

4) Prioritization and Optimization Study
   - Bobbi Larson provided an overview of discussion topics and informational items:
     - Baseline Data Acquisition – Discuss process for review and comment on Baseline Data Characterization Report
     - Analytical Tools and Models – Informational Report from Small Group Meeting
     - Sensitive Beneficial Use Protection – Intro to Topic, Review Tasks
     - Data Management Systems – Review changes to draft and approve final Data Management Plan
   - **Baseline Characterization Report** - Richard Meyerhoff presented an overview of the primary content to be included in the Baseline Characterization Report, including proposed P&O Study surface water

sites, as well as well data sources for groundwater characterization in each of the three hydrologic regions.
    - The DRAFT Baseline Characterization Report will be forwarded to the Committee for review on July 1, 2022. Comments are due Monday, August 1, 2022. A summary of comments received, and how they are being addressed, will be presented at the August 25th meeting.
- **Analytical Tools/Models Identification and Evaluation** – Tom Grovhoug provided a summary of the Small Group Tools Evaluation discussions on the Water Management and Watershed Tools.
    - The Small Group recommended that CalSim 3 be used as the water management tool and that CV-SWAT be used as the primary watershed tool for the P&O Study.
    - After discussion the Committee voted to recommend moving forward with the CalSim 3 and CV-SWAT models. There was one abstention, Grace Windler/USBR.
- **Sensitive Beneficial Use Protection – Task 3: Establishment of Appropriate Numeric Salt Management Targets**
    - There was an introductory presentation on this topic, more material to come in future meetings.
- **Data Management Systems** – Mike Cornelius presented the Final Data Management System. After discussion, Bruce Houdesheldt moved, and Stephanie Hiestand seconded, and the Committee voted to accept the Final Date Management System Report, requesting the Central Valley Salinity Coalition (CVSC) approve the report and contract to implement the Final Data Management Plan.

5) SAMP (Surveillance & Monitoring Program)
- Daniel Cozad, MLJ Environmental and LSCE presented the key elements to be considered in development of the Draft Conceptual Framework. The written Conceptual Framework will be forwarded to the committee the week of June 27th, with written comments due by July 15, 2022.

6) PEOC Status Update
- Nicole Bell provided an update on PEOC activities. A copy of the quarterly email update, scheduled for distribution the week of June 27th, was included in the agenda package.

7) Review Meeting Schedule/Location
- PEOC Meeting: **Friday, August 19, 2022, 9:30 – 10:30 AM – Zoom**
- Policy Meeting: **Thursday, August 25, 2022, Tentatively 9:00 – 3:00 (Final Times TBD) – Zoom/In Person**

CENTRAL VALLEY SALINITY COALITION

CV SALTS
Central Valley Salinity Alternatives for Long-term Sustainablity

Prioritization & Optimization Study

8-25-22

CVSALTS Executive Committee Presentation
Prepared by the Central Valley Salinity Coalition

Overview

- Mid-Year Check-in – Where we've been, where we're going
- Actions/Decisions to Date:
  - Baseline Characterization Report
    - Formation of Data Compilation Small Group
    - Concurrence with phased approach/alignment with tools selection
    - BCR released for comment; comments due August 1st

Overview

- Tools Evaluation & Selection
  - Formation of Tools Evaluation Small Group
  - Concurrence with evaluation and selection criteria
  - Executive Committee preliminarily approved Small Group recommendations for
    - Watershed Model – CV-SWAT
    - Water Management Model – Cal Sim 3

Overview

- Data Management
  - Two Rounds of Comments on Draft Data Management Plan
  - Executive Committee Approved Data Management Plan – May
  - Scope and Cost received – July
  - Contract Change Order for CVSC meeting – today

Overview

- TODAY:
  - Review of Baseline Characterization Report Comments, Responses and Next Steps – Discussion and direction
  - Presentation of Tools Evaluation Small Group recommendations re: groundwater tools – Action
  - Salt Management Regions – Introductory Info.
  - Data Management Plan Implementation Update – Information

PRIORITIZATION & OPTIMIZATION STUDY

CV-SALTS Executive Committee Meeting

Technical Consultant Team Presentation

Baseline Characterization Report

August 25, 2022

CV SALTS
Central Valley Salinity Alternatives for Long-term Sustainability

P&O STUDY YEAR 1 - MID-YEAR CHECK-IN

Task No.	Task Description	Year (Quarter)											
		'21	2022				2023				2024		
		4	1	2	3	4	1	2	3	4	1	2	3	4
1	**Data Development and Management**													
1.1	Data Compilation													
1.2	DMS Data Management Plan Development			★										
1.3	Establish DMS													
1.4	Implement and Maintain DMS													
2	**Baseline/Future Characterization of Salt Conditions**													
2.1	Baseline Characterization		Part 1			Part 2								
2.2	Long-term Salt Planning Options (ID SMRs)							★						
2.3	Characterize SMRs/ID Sustainability Gap													
2.4	Alternatives to Close Sustainability Gap													
3	Appropriate Numeric Salt Mgmt Targets													
3.1	Protection of Sensitive Beneficial Uses													
3.2	ID Candidates/Select Archetype Areas					★								
3.3	Archetype Analysis													
3.4	Numeric Target Development									★		★		
4	**Numeric Salt Management Tool Development**													
4.1	ID Needs and Candidate Tools/Models													
4.2	Select Tools/Models				★									
4.3	Calibrate Tools													

Task 2.1, Part 2 – completion will be Q2/Q3

Task 3 will be initiated Fall 2022 revised schedule in September

P&O STUDY YEAR 1 - MID-YEAR CHECK-IN

Task No.	Task Description	Year (Quarter)												
		'21	2022				2023				2024			
		4	1	2	3	4	1	2	3	4	1	2	3	4
5	**Additional Technical and Regulatory Tasks**													
5.1	Regulatory Review Plan													
5.2	Salt Minimization Practices													
5.3	Groundwater Recharge Analysis													
5.4	Treatment Technologies Evaluation													
5.5	Salt Management Areas													
6	**Administrative Support Tasks**													
6.1	Progress Reports													
6.2	Phase 1 Funding & Governance Plan													

PART 1 BASELINE CHARACTERIZATION REPORT (BCR) – STATUS

- Part 1 provided for review on July 1
- Comments received from the following organizations/reviewers
  - Bobbi Larson
  - Contra Costa Water District, Yuan Liu
  - California Rice Commission, Tim Johnson
  - Central Valley Water Board, Jennie Fuller
  - Western States Petroleum Association, Christine Zimmerman
  - Central Valley Clean Water Association, Debbie Webster
  - Central Valley Dairy Representative Monitoring Program and Dairy Cares, JP Cativiela
  - Kahn, Soares & Conway, LLP - Tess Dunham
  - Downey Brand, Melissa Thorme
  - Sacramento Regional County Sanitation District, Sam Safi

KEY BCR COMMENTS

Topic	Key Comments	Response/Next Steps
Section 2 – Regulatory Framework	Update Basin Plan regulatory text to be consistent with Salt and Nitrate Control Program BPA	Will be updated
Sections 3.3.1 – 3.3.3	• Re-work/re-tool history of Central Valley water project development, water use and management, e.g., – Revise text to make tone more factual/neutral – Modify or remove discussion of water rights – Enhance description of benefits of agriculture to support greater good including economic benefits – Address impact of export of water from Central Valley on salinity conditions	Bobbi Larson will work with team to redraft this section

KEY BCR COMMENTS

Topic	Key Comment	Response/Next Steps
Sections 3.3.6 – 3.3.7	• Revise Planned or Potential Changes in Water Projects/Water Management (3.3.6), e.g., – Limit to initiatives that may impact Central Valley Water projects – Focus text on potential salt management impacts of planned projects – Similar to earlier sections, revise text to make tone more factual/neutral – Include potential impacts of Delta Conveyance Project • Revise Permitting Regulations for Key Sources of Salt Loading (3.3.7) – Add more discussion regarding stormwater as a salt source – Add Caltrans Stormwater Permit, Industrial Stormwater Program and General Order – Discuss recycled water in the POTW Section – Address review comments regarding: ILRP WDRs, dairies, POTWs, food processors, wineries and stormwater permit programs	To be updated in final

BCR – SUMMARY OF KEY AREAS OF COMMENT

Topic	Comment	Response/Next Steps
Section 4 – General/All Hydrologic Regions (HR)	• Methodology/Data Analysis – Describe rationale for connecting surface water quality sites to flow measurement sites – Describe QA/QC process for confirming SW data – Clarify use of term “temporal declustering” as it relates to water quality analyses – Use of ILRP monitoring sites – are these data representative of “ambient” conditions or potentially impacted by specific discharges – Suggest using “electrical conductivity” (EC) instead of “specific conductivity” (SC) – Various data specific questions	• Team will provide additional detail on data analysis methodologies, QA/QC • Discussion: Use of EC instead of SC • Data-specific questions will be responded to

BCR – SUMMARY OF KEY AREAS OF COMMENT

Topic	Comment	Response/Next Steps
Section 4 – General/All Hydrologic Regions (HR)	• Other Items – Add maps for POTWs, Food processors – Revise DACs/DUCs using latest information from DWR Bulletin 118, American Community Survey – Acknowledgement of specific questions in HR sections – Regulatory-specific comments	• Maps will be added • Will review DAC/DUC data • Specific comments/edits will be addressed
Section 4.1 - Sacramento River HR	Add summary of salinity changes in the Sacramento River Valley to match summaries prepared for San Joaquin/Tulare Hydrologic Regions	• Will be incorporated
General	Provide pdfs of all references Modify document to remove redundant text	• Pdfs will be made available • Will look for ways to reduce redundant text
Part 2 – Salt Loading Analysis	Dairy requested being involved in the approach for how to appropriate characterize salt loading from CAFOs	• All key sectors will be asked to participate in analysis approach • Discussion in next slides

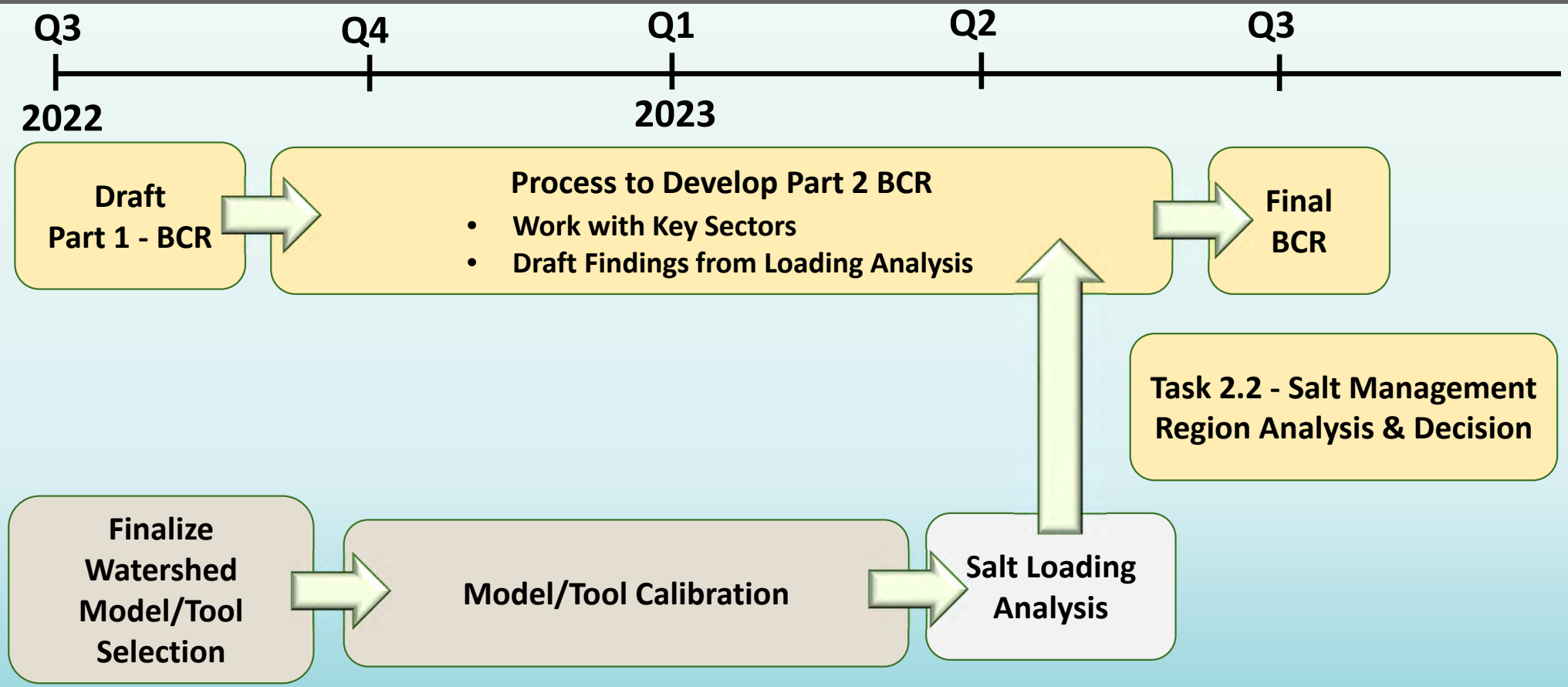
BCR – NEXT STEPS

- Part 1 BCR – Response to Comments – Matrix to be provided on Part 1 comments in Fall 2022
- Initiate Part 2 BCR – Salt Loading Analysis
  - Collaboration with key sectors begins in Fall 2022
  - Target completion of salt loading analyses: April 2023
- Draft Part 2 Findings – Target May 2023
- Final BCR - by July/August 2023
  - Final Part 2 findings
  - Revised Part 1 BCR based on response to comments

PART 2 - SALT LOADING ANALYSIS PROCESS

- Develop basis for evaluating salt loading for each of the key sectors in Part 1 BCR
  - POTWs
  - Stormwater
  - Food Processors
  - Wineries
  - Oil & Gas
  - Irrigated Lands
  - Dairies/Confined Bovine Feeding Operations
  - Poultry
- Goal is to develop methodology in collaboration with sectors
  - Coordination using any available data
  - Except potentially for large facilities, intent is to avoid facility by facility analysis at this stage of P&O Study…
  - Instead consider alternative simplified approaches such as developing ranges based on facility type, size, areal coverage or other relevant factors
- Outcome of above will be used in models/tools to generate salt loading estimates

SIMPLIFIED SHORT-TERM WORKFLOW – BCR, SMRS VS. MODEL/TOOL DEVELOPMENT



SALT MANAGEMENT REGIONS (SMRS)

- Assess and recommend options to subdivide the Central Valley Region into SMRs to provide the foundation for development of long-term salt management alternatives
  - SMRs may be equivalent to the three Hydrologic Regions, or they may represent another appropriate division of the Central Valley Region into salt planning areas
  - Findings from BCR provide essential data/information for assessment
- Options for dividing the Central Valley Region into SMRs will be evaluated based on criteria developed in collaboration with the Executive Committee

SMRS – POTENTIAL CRITERIA (ISOS EXCERPT)

- Physical landscape, including geological characteristics, and impact on the movement of salt and water, including evaluation of major pathways/impediments to salt/water flow and connectivity of areas within the Central Valley
- Current salinity levels and estimated salinity concentration and mass transport trends
- Ability to manage the proposed area, e.g., salt sustainability may be more easily achieved in smaller areas than larger areas or in areas with similar conditions, etc.
- Sources of salt, e.g., areas with natural salt sources may be managed differently than areas without such sources
- Need for a tailored approach to salt management, e.g., based on unique crop types such as rice, or based on differences between CV floor and areas outside CV floor
- Budgetary constraints of P&O Study, i.e., level of effort and budgetary requirements for alternatives development will increase in proportion to the number of SMRs selected

CVSALTS P&O Study
Tools Evaluation Small Group, Meetings 3 and 4 – July 26 and August 5, 2022

Report to the CVSALTS Executive Committee

August 17, 2022

The Prioritization and Optimization (P&O) Study Tools Evaluation Small Group met on July 26 and August 5, 2022, to evaluate candidate tools in the Groundwater category. The three tools evaluated were:

- Central Valley Hydrologic Model (CVHM/CVHM2)
- California Central Valley Groundwater – Surface Water Simulation Model (C2VSim)
- Central Valley Nonpoint Source Assessment Tool (CV-NPSAT)

These tools have been previously described at meetings of the CVSALTS Executive Committee.

As a result of the presentations and discussions that occurred on July 26 and August 5, the following recommendations have been developed by the Small Group for consideration by the Executive Committee at its August 25 meeting:

Groundwater Tools

Recommendation:

It is recommended that the CVHM/CVHM2 and CV-NPSAT tools be used in the P&O study. Use and application of the tools will be determined based on the identified need and information being sought since each tool has its own advantages and disadvantages. Further, use of CV-NPSAT may be subject to the results of calibration and validation efforts that are currently underway. It is also recommended that the C2VSim tool be considered for use in specific localized instances where its use may be beneficial.

Rationale:

The Small Group considered CVHM/CVHM2, C2VSim and CV-NPSAT as candidate tools under this category. The Small Group concluded that all three tools are worthy candidates.

CVHM was developed and is used by the US Geological Survey (USGS) and others to assess groundwater conditions in the Central Valley. It covers the groundwater basin underlying the Central Valley floor, operates on the MODFLOW platform and covers the period 1961 to 2003. It is currently being updated by USGS (new name is CVHM2) to cover the period from 1961 to 2019. It is anticipated that CVHM2 will be available for use in the P&O study starting in late 2022[1]. CVHM has previously been used by CVSALTS

[1] The USGS has communicated the opportunity to provide the CVHM2 model for CVSALTS applications prior to public release of the model; this would be accomplished through a technology transfer grant & agreement,

to assess both salt and nitrate conditions and transport and is commonly used throughout the Central Valley.

C2VSim was developed for the Department of Water Resources (DWR) to assess groundwater conditions in the Central Valley. It covers the Central Valley floor, operates on the Integrated Water Flow Model (IWFM) platform and covers the period from 1973 to 2015. The recent update of CalSim3 includes linkage to C2VSim. C2VSim is commonly used throughout the Central Valley. The primary drawback to the use of C2VSim is that, unlike CVHM/CVHM2 (coupled with a transport module) and CV-NPSAT, it does not readily incorporate capability to assess salt transport in groundwater.

CV-NPSAT was more recently developed by researchers at UC Davis under contract to the State Water Board and Natural Resources Conservation Service (NRCS). CV-NPSAT uses steady state hydrologic information derived from both CVHM and C2VSim to simulate the movement of nitrate from the land surface to the groundwater system, and is deemed to be a better tool for large scale evaluations versus smaller scale needs. CV-NPSAT uses actual well construction data to simulate a virtual well field throughout the Central Valley and has the capability of tracking the movement of nitrate to these virtual wells. CV-NPSAT can be adapted for use in the assessment of salt transport. CV-NPSAT is newer and is still being subjected to calibration and validation. Further, because it is fairly new, it has yet to be used by the State Water Board and the Central Valley Water Board in a program like the Salt Control Program. Its use in combination with CV-SWAT in the Irrigated Lands Regulatory Program (ILRP) to set Groundwater Protection Targets for nitrate is currently being evaluated.

The Small Group concluded that because CVHM/CVHM2 has greater capability to address salt transport and all the related flow features, it is the preferred tool to develop hydrologic information for groundwater in the Central Valley. The Small Group also concluded that CV-NPSAT offers advantages in the ability to assess long-term changes in salt conditions in wells associated with changes in land surface loadings. The combined usage of CVHM/CVHM2 and CV-NPSAT as our “groundwater tool kit” is recommended to address the multiple scenarios and scales to be considered among the technical analyses needed to achieve the goals of the P&O study. As the technical analyses proceed, additional decisions regarding the specific applications of these tools will be required.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
0	Debbie Webster	7/15/22	General	Other thoughts, 1) Are we looking at certified laboratory results or are we going to accept EC probes?	With appropriate data collection and analysis protocols, both field and lab data are useful. This will be discussed further in the Workplan.
0	Bob Gore	7/12/22	General	This is simple: Existing sites with existing methodologies, as this document supposedly recognizes. SAMPs are not a mystery…in fact, this report will suffice, with a bit of editing, for the final conceptual study. As a former SWRCB Chair once said during a meeting: "It is not our job to punch new holes in the ground."	Agree -- the SAMP involves existing sites and methods to evaluate conditions and trends. The Phase 2 Workplan will provide additional details.
0	Bob Gore	7/12/22	General	Another related note. If the CVWB instruction language makes an action optional, it should be excluded, absent grant full funding.	Comment acknowledged.
0	Jennifer Fuller	7/15/22	General	It would be helpful to mention at the beginning of the document that an adaptive process will be needed to address modifications to the SAMP that may be needed as the SAMP progresses. Things that may need to be modified are the need for additional sampling occurring outside the established monitoring programs, analysis of additional constituents, evaluation and/or utilization of other useful datasets or monitoring programs, etc.	Very good suggestion. This is discussed in the Groundwater Section of the TM. A relevant sentence has been added at the beginning of the TM under SAMP Requirements. Adaptive management can be further elaborated on in the Workplan
0	Jennifer Fuller	7/15/22	General	The SAMP Conceptual Framework has done a good job of proposing to use data that has been well-vetted, has undergone good QA/QC practices, and is representative. While we agree that the QA/QC and representativeness of data is very important, we also feel that some datasets that are large but have less QA/QC (such as the ILRP drinking water well monitoring program and the irrigation and domestic wells data in the Confined Animals Program Annual Reports) may serve some supplementary purpose, to ensure that the vetted data is telling the same general story as the less-vetted data, and how those evaluations might fit into the SAMP.	The technical team agrees. This was the approach for the CVGMC Five-Year Assessment Report. Supplemental data do provide additional information and has utility for some (not all) analyses. Use of supplemental data will be considered in the Workplan
2	Jennifer Fuller	7/11/22	Background	Provided corrected text regarding status of USEPA review of the amendments to the Salt Control Program	Text revised.
2	Grace Windler	7/14/22	Background	Is there a framework for thinking about what "ambient" means? Is it for the last five years? A Running tally that's updated each 5 years?	Ambient does not have a time scale associated with it. It is assumed that surface water time series monitoring data will be maintained for as long as possible. Long time series allow for more sophisticated analyses that can uncover underlying patterns in the time series.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
2	Melissa Thorme	7/14/22	Background	Why not the 15th?	Per the Regional Board staff, while OAL document online is dated January 15, the "Notice of Decision filing date" was January 17; accordingly, Board documents state January 17 as the effective date of the program.
3	Debbie Webster	7/14/22	Background	There may be some type of individual monitoring that provides information. This should not be excluded.	The bullet point has been modified to reflect that some site-specific monitoring may be appropriate
4, Figure 1	Jennifer Fuller	7/11/22	Surface Water	Opportunities to coordinate SAMP development with other programs	On page 7, there is a section that addresses coordination with other monitoring programs. No new or additional monitoring is proposed for the SAMP surface or groundwater monitoring. All monitoring data will be generated by other programs necessitating coordination with these programs.
5	Tess Dunham	6/22/22	Formatting	Typo I think.	Yes. To be corrected in t/o where needed
5	Tess Dunham	6/22/22	Background	Do management actions remove salt, or decrease salts from entering into surface waters?	Both, the sentence is edited to reflect that management practices can prevent salt from entering surface water.
5	Bob Gore	7/12/22	Monitoring Program	I fail to see the need for programmatic surface water research – acknowledging connectivity. If there is a specific need in a specific GW area to open a line of inquiry into a specific surface water connectivity issue, do so. Only time.	It was unclear what this comment was in reference to; however, no surface water or groundwater research will be included in the Workplan.
5	Melissa Thorme	7/14/22	Surface Water	Wouldn't this be useful in setting SMRs?	Until the process of setting SMRs is determined, it is unclear if a search monitoring approach will be useful. Using all of the data available will allow a search approach to be used.
6	Jennifer Fuller	7/11/22	Surface Water	Many monitoring sites have been established to monitor waste discharges which commonly include salinity constituents. We have concerns about the potential to over-estimate salt load using this method, or conversely, overlook large or important sources of salt due to the random nature of the monitoring sites.	The concern is well founded. The text is modified to indicate that the monitoring sites will be evaluated to determine if they are primarily effluent from facilities with elevated SC discharge. However, once the effluent is well mixed with ambient water, the mixed-effluent ambient water does represent water quality in the waterbody which can impact beneficial uses. The key is to identify sites that are sufficiently far enough downstream that the TDS concentration reflects a well mixed waterbody. This concern will primarily affect the Sacramento Valley as there are few POTWs that discharge to surface water in the San Joaquin Valley and Tulare Lake Basin.
6	Jennifer Fuller	7/11/22	Surface Water	Please include Tulare Lake Basin as well	It is added to the sentence and elsewhere in the document where appropriate.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
6	Tess Dunham	6/22/22	Monitoring Sites	Who will be responsible for maintaining?	The sentence did not mean that the sites would be maintained physically. The term maintain is changed to reflect the idea that all sites that can be used to evaluate trends will be retained in the SAMP network. Whether they are maintained or eliminated from the individual discharger's network is determined by the discharger itself.
6	Jennifer Fuller	7/6/22	Monitoring Sites	Concern about how random site selection will be given that some parts of the Central Valley Region are more salinity prone than others. Will there be any attempt to weight some areas for site selection or consideration of type of stratified design when selecting sites for evaluation	The monitoring sites available for inclusion in the SAMP were established and monitored by dischargers to satisfy permit requirements. Because the goal is to use current monitoring programs and sites for the SAMP, there is no option to add sites to what might be seen as sparsely sampled regions. Unless additional requirements for monitoring in these locations are imposed on a discharger by the Regional Board, they will remain sparsely sampled. There is no monitoring design that can create monitoring sites where none exist and stratification will not change that. If at some point salt management zones are established, the data can be stratified by these zones but that will not improve the monitoring site density.
6	Debbie Webster	7/14/22	Monitoring Sites	Is there a reason why this is limited to the valley floor?	Monitoring sites outside of the Valley floor can be useful in determining if source water quality is changing in a way that would cause changes to Valley floor waterbodies. The sentence has been edited to reflect the use of monitoring locations outside of the Valley floor. There are few monitoring stations outside of the valley floor and although it is unlikely that long time series will be generated, sites outside of the valley floor will be included in the analyses.
6	Grace Windler	7/14/22	Background	Could be useful to define ambient conditions for the purpose of the SAMP, especially since conditions vary so widely in California from year-to-year…or are ambient and baseline conditions used interchangeably here?	Baseline and ambient are not interchangeable. the current baseline characterization for the P&O Study uses a time period that includes the last 20 years to identify trends in surface water quality. It is hoped that all of the surface water monitoring stations used in the baseline characterization study will be maintained in the future to provide an even longer time series of water quality data from which inferences about trends can be made. Ambient refers to the conditions at the time of the monitoring and is the language used in the Basin Plan SAMP requirements.
7	Tess Dunham	6/22/22	Other Monitoring Programs	But based on previous comments, how do we ensure that they are maintained?	Comment acknowledged; text revised to replace "maintain" with "retain"

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
7	Jennifer Fuller	7/6/22	Other Monitoring Programs	Basin Plan SAMP requirements include this statement: "To assess ambient conditions and trends of salinity and other secondary MCLs in surface waters throughout the Central Valley, the monitoring program for surface waters will rely on data collected by existing Central Valley monitoring and assessment programs already established in the region *as well as any additional information collected under the Salt and Nitrate Control Program."* (emphasis added) – Be sure to include statement/discussion in SAMP regarding how this was considered.	Language has been inserted to indicate that data on additional constituents can be added if they are available. It's not clear at this time what additional information relevant to the SAMP may be collected under the SNCP. A statement has been added to indicate that if relevant information is developed during the Salt Control Program, it can be incorporated into the SAMP.
7	Tess Dunham	6/22/22	Constituents	But, if Ag is the most sensitive beneficial use, do we need to consider other ions? Or at least justify why other ions are not necessary.	Text added in this section to recognize potential for future additions of other ions.
7	Jennifer Fuller	7/6/22	Constituents	Would likely help to provide more justification re why only TDS/EC	Text added in this section to recognize potential for future additions of other ions but also reiterate that data for other salt-related constituents is not extensively available.
7	Debbie Webster	7/15/22	Constituents	Is each well going to be assessed individually so that it won't be necessary to translate EC-> TDS or visa versa? Alternatively, are you looking for sites with both pieces of information?	This Section pertains to surface water.
7	Debbie Webster	7/14/22	Formatting	Correct the table so that Specific Conductance and TDS are shown as one area. This could be an either or rather than a both.	Table revised
7	Melissa Thorme	7/14/22	Other Monitoring Programs	What about Geotracker?	Geotracker only stores groundwater data; thus, it is not applicable to this section
8	Jennifer Fuller	7/6/22	Monitoring Design	Concern that over-emphasis may be placed on data in CEDEN; noted that DWR's data library has data from many sites as well	If data from DWR's sites have quality assurance data to accompany the water quality data, these data can be used.
8	Debbie Webster	7/14/22	Baseline Conditions	Other important considerations may be reservoir releases and water wheeling/delivery actions. Additionally, when in and near Delta, trends may also be obscured by tidal influences. It will be important to take this into account.	Two sentences are inserted into the Land Use section (which is now renamed) to call out the potential influences of releases from upstream impoundments and tidal cycles.
8	Grace Windler	7/15/22	Constituents	Has the baseline period been defined yet, or will that be TBD once data analysis starts? Would be good to clarify this point somewhere.	The baseline period is the 20 years of data identified by the baseline characterization study currently being developed under the P&O Study
8	Bob Gore	7/12/22	Monitoring Program	With regards to the following text: "Although not required, the land use categorization scheme can be based on the categories used in the watershed modeling tool selected by P&O Study. Alternatively, land use categories can follow the DWR land use designations or any other categorization approved by the CVSC." - recommends this text and evaluation of land use change as part of assessment be removed.	Because the categorization is currently provided as an optional task, it has been left in the Conceptual Framework as is for now; however, it will be further evaluated during Workplan development to determine if it is a useful task, should remain an optional task, or if text should be removed.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
9	Jennifer Fuller	7/11/22	Surface Water	Regarding summary of key elements for inclusion in the surface water approach, revise text to note that while the SAMP will currently rely on data collected by existing monitoring programs, the SAMP could be modified in the future if additional data is required to meet the goals of the program	Text updated.
9	Jennifer Fuller	7/11/22	Surface Water	Understanding the presence and concentrations of additional co-contaminants may help inform the evaluation of P&O Study solutions – maybe looking into these additional constituents can be considered as a potential additional task under the adaptive process approach mentioned in our general comments.	A sentence has been added to the Surface Water Constituents section indicating that additional constituents could be added for future analyses.
9	Debbie Webster	7/14/22	Surface Water	This would be more consistent with the BPA. This includes: "To assess ambient conditions and trends of salinity and other secondary MCLs in surface waters throughout the Central Valley, the monitoring program for surface waters will rely on data collected by existing Central Valley monitoring and assessment programs already established in the region as well as any additional information collected under the Salt and Nitrate Control Program. The portion of the Work Plan that addresses the surface water component will include at a minimum: ...- Identification of the monitoring programs and associated monitoring locations that will be utilized; - Approach that will be used to compile data from existing surface water quality databases and other sources for use in the assessment;…"	The second sentence of this bullet point has been reworded to include "data" and also be grammatically correct
9	Debbie Webster	7/14/22	Surface Water	This was not really discussed above. May need to add text to justify this and why other . secondary MCLs are not included..	Text was added in the Constituents section to indicate that additional constituents can be added to the analyses but data on other constituents is inconsistent, both spatially and temporarily
9	Grace Windler	7/14/22	Data	This is particularly important for Mann-Kendall, but more specifically if the data is not autocorrelated (which it likely will be regardless of linearity). Some careful explanation will be needed if Mann-Kendall tests are used on environmental time series. Not necessarily here, but down the road.	The reviewer raises a good point. Autocorrelated time series data do compromise the ability of the Mann Kendall test to detect trends, often resulting in the detection of a trend where none exists. A paper by Hamed and Rao (Journal of Hydrology, 1998, 204:182- 196) provides a modified Mann-Kendall test for autocorrelated data. This test will be used after an initial test for autocorrelation in the data indicates that the time series data are autocorrelated. The text has been modified to indicate that this will occur.
9	Grace Windler	7/14/22	Data	Since the data series will be quite long eventually (at least at some sites that will have more continuous data), some spectral analysis might be a useful technique to use as well for looking at regular oscillations/patterns/trends/noise.	Text has been added to indicate that more sophisticated tests can be used in the future if desired.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
9	Melissa Thorme	7/14/22	Formatting	trying to use active voice where possible.	Thank you - for the most part provided edits have been incorporated into the final document.
9	Melissa Thorme	7/14/22	Constituents	what about boron? Is that just looked at in groundwater?	SAMP goal is to assess ambient conditions and trends in "salinity". The most cost effective way to do that is to rely on TDS/EC data which are readily available across the Central Valley. Boron data as well as other salinity-related constituent data tend to be more spotty spatially and temporally.
9	Jennifer Fuller	7/11/22	Data	Please define - Data Management Plan?	Defined under Surface Water SAMP Summary of Key Elements of Approach.
10	Tess Dunham	6/22/22	Groundwater	Is this a true statement if we are only looking to monitor the valley floor?	Geographic Coverage under the Surface Water section was expanded to include monitoring locations outside the Valley Floor. Again, these locations are not common and it is anticipated that few long term surface water quality data sets will be available but sites outside of the valley will be retained for analyses. For groundwater, the SAMP is proposed to be limited to the Valley Floor (consistent with SNCP). The depth horizons referenced in the SNCP (Upper and Lower Zones) are only determined for the Valley Floor. Other groundwater monitoring could be added in the future outside the Valley Floor (again consistent with Basin Plan requirements). However, for the initial implementation of the SAMP, it is recommended the focus be on the Valley Floor.
10	Jennifer Fuller	7/6/22	Groundwater	(a) make sure it is clear that both the upper and lower zones will be assessed; (b) should we consider other sources such as POTW, drinking water program data – if no, then we should discuss why, e.g., not readily available as compared to other sources of data or it doesn't provide the type of data needed to assess upper/lower zones, or the level of QA/QC is not as good, etc.	Added language on re Upper and Lower Zones. Other data do provide some utility when considering groundwater conditions and trends on the scale of the Central Valley Region; a section has been added regarding Supplemental Data.
10	Tess Dunham	6/22/22	Formatting	Seems to be an incomplete statement.	Text clarified.
10	Melissa Thorme	7/14/22	Constituents	boron?	See previous response re inclusion of boron
10	Melissa Thorme	7/14/22	Formatting	You might want to underline as the bold does not differentiate well.	Included both bold and underline.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
11	Tess Dunham	6/22/22	Groundwater	In the Basin Plan, we also refer to the Shallow zone. Seems that we may need to consider including the shallow zone, or defining what we mean regarding these three zones.	The SNCP SAMP only refers to the Upper, Lower and Production Zones (defined for groundwater basins in the Valley Floor) and not to the Shallow zone.
11	Melissa Thorme	7/14/22	Formatting	Sentence was really long so I broke it up.	Acknowledged; recommended edit incorporated into text.
12	Debbie Webster	7/14/22	Monitoring Design	Many of these programs are to assess impact of discharges. The SAMP is to assess ambient water quality and trends in groundwater basins. It is not clear from the description below on how that would be teased out from the current programs.	We concur with the comment -- the SAMP is to assess ambient water quality and trends; it is not the responsibility of the SAMP to assess the impacts of discharges. From Pg. 37, "The SAMP assessment will not include an evaluation of “progress” of other factors such as source control, modified management practices, or the like. Evaluations of these types of progress should be addressed through other water quality management programs, e.g., General Orders and individual discharge permits."
12	Melissa Thorme	7/14/22	Constituents	Boron?	See previous response re inclusion of boron
12	Jennifer Fuller	7/11/22	GW-SW	Put this in surface water section as well?	Text has ben revised
12	Jennifer Fuller	7/11/22	Groundwater	Does this include depth as well, or should depth be added as its own category?	Depth is described as part of the Proposed Approach to Identify and Select Monitoring Wells.
12	Jennifer Fuller	7/11/22	Groundwater	Though the SNCP is an ILRP/Dairy-centric program, are there any other data collected by other CV-SALTS dischargers that would be useful/appropriate to be utilized?	The SAMP proposes to use the GAMA (USGS) and ILRP GQTM monitoring wells for the initial SAMP network. Monitoring wells from other programs may be added in the future.
15	Tess Dunham	6/22/22	Groundwater	I don't see a figure that shows the Rice Commission groundwater wells for its trend monitoring program.	These figures are just a few examples; not all monitoring programs are illustrated.
20	Jennifer Fuller	7/11/22	Groundwater	We recognize this is a challenge for a lot of the data that may be useful.	Comment acknowledged.
25	Debbie Webster	7/14/22	GW Monitoring Programs	Less? The above text indicated less often unless something is exceeded.	Comment unclear. Text in that cell of Table 2 correctly describes the monitoring program.
26	Debbie Webster	7/14/22	GW Monitoring Programs	For the wells in regulatory programs, can the number that indicate "background" be determined?	The two main vetted datasets that are proposed to be used do not identify "background" monitoring wells in the same manner that site-specific regulated facility sites incorporate background well designations.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
27	Debbie Webster	7/14/22	Monitoring Program	Should there be discussion on some of the well depth and the purpose for them? For example, many of the regulatory programs have very shallow wells that only capture the very top of the vadose zone, where others monitor actual use.	The SNCP SAMP specifications in the BPA refer to Upper and Lower Zones for the focus of the analyses for the assessment report. These are defined in the CV-SALTS SNMP work and are included in the BPA definitions. The depth horizons of the Upper and Lower Zones are defined in shapefiles that were developed as part of the High Resolution work. Very shallow wells, as required by regulatory programs, are not the focus of the SAMP analyses of regional ambient groundwater quality conditions and trends.
27	Melissa Thorme	7/14/22	Monitoring Program- Wells	Most all facilities will be closed eventually, so maybe limit this to in the next 20 years or something?	Text edited. The entire network is considered to be dynamic on some level.
27	Melissa Thorme	7/14/22	Other Monitoring Programs	Will others be excluded?	No. These two programs provide a large pool of candidate wells to initiate the Program.
29	Debbie Webster	7/14/22	General	Maybe need to discuss. This is an ambient program, not discharge. How do we ensure that we are getting what we are looking for?	From Pg. 37, "The SAMP assessment will not include an evaluation of “progress” of other factors such as source control, modified management practices, or the like. Evaluations of these types of progress should be addressed through other water quality management programs, e.g., General Orders and individual discharge permits."
29	Melissa Thorme	7/14/22	Formatting	Can you copy this on the pages with Table 4 so you don’t have to flip back and forth to figure it out?	Have formatted the final document to be as friendly as possible!
30	Jennifer Fuller	7/6/22	Monitoring Design	It wasn’t clear how the checklist will ultimately be used, e.g., is it used to identify/prioritize the best wells for use in analysis? Or does a well need to check all the boxes before it will be considered in the analysis? For example, what about newer wells – may be a good well to use but it will not have the lengthy historical record.	Added text to clarify; this checklist is a guide and not all boxes need to be checked.
30, Table 3	Jennifer Fuller	7/11/22	Monitoring Design	Can you explain a bit more how this checklist will be used – e.g. Is it preferred that a well have 20+ years of data, or will it not be considered for use if it does not have 20+ years of data? It was previously discussed in the SAMP that it is challenging to find wells with consistent 20+ years of data.	Added text to clarify; this checklist is a guide and not all boxes need to be checked.
30	Debbie Webster	7/14/22	Constituents	Much of the old Nitrate data is not as reliable and significant effort was needed to translate it into Nitrate as Nitrogen. Within the framework, not much has been mentioned about Nitrogen and management zones so additional text may be needed.	Comment acknowledged. With QA/QC processes, historical information has utility for some of regional assessment considerations. MZs are briefly referenced in the context of monitoring programs yet to be developed.
30	Debbie Webster	7/14/22	General	Access may be a big issue.	All monitoring would continue to be performed by existing entities.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
31	Debbie Webster	7/14/22	General	Can you provide more information on this? Is this for discharges that meet Title 22 or only recycled water and their permits. Why only for this program? Do WDRs that perc need to be included?	This type of monitoring associated with Recycled Water permits is an example. The two main programs recommended to focus on are the GAMA (USGS) and ILRP GQTM monitoring programs.
32	Tess Dunham	6/22/22	Groundwater	Again, what about shallow zone?	The SNCP SAMP only refers to the Upper, Lower and Production Zones (defined for groundwater basins in the Valley Floor) and not to the Shallow zone.
33	Melissa Thorme	7/14/22	Monitoring Program	what about discharge sources?	This is an example and not intended to be all inclusive.
35	Jennifer Fuller	7/11/22	Monitoring Program	Would it be possible to have a SAMP-specific QAPP without disqualifying some of the data collected by other programs? If a SAMP-specific QAPP is not developed, then a documentation of minimum acceptable data qualifications specific to the SAMP could be created.	This can be included in the Workplan, possibly as an Appendix.
36	Jennifer Fuller	7/11/22	Monitoring Program	Recommended including text to acknowledge that not only that changes to groundwater quality require time to observe but that low water years and increased groundwater use may also impact groundwater quality	Text incorporated.
37	Jennifer Fuller	7/11/22	Monitoring Program	See comment above regarding the need for SAMP-specific documentation of minimum acceptable data qualifications in place of a SAMP-specific QAPP.	This can be included in the Workplan, possibly as an Appendix.
37	Bob Gore	7/12/22	Monitoring Program- Wells	Regarding references to QA/QC and data validation: If data are housed in a government database and attested by that agency as valid, they are valid. Hard stop. See final bullet, page 37.	We have found through previous CV-SALTS work that data in government databases have not been properly validated. Moreover, the data may not necessarily meet the minimum criteria for the SAMP since data may be collected and stored across programs without having the same level of quality control and/or assessment.
38	Tess Dunham	6/22/22	Groundwater	Shallow?	The SNCP calls for analysis of the Upper, Lower and Production Zones; the SNCP does not specify analysis for the Shallow portion of the groundwater system.
38	Jennifer Fuller	7/6/22	Monitoring Design	While it is agreeable to rely on the QAPPs of other programs and thus a full stand alone QAPP is probably unnecessary, still think there is a need for some overarching/umbrella document that explains how other program data are used/relied on to support SAMP. Such a document would include information re “acceptance criteria” for use of data from other programs.	This can be included in the Workplan.

Draft TM Page #	Commentor	Comment Date	Category	Comment	Response
38	Debbie Webster	7/15/22	Surface Water	Are these sites appropriate for surface water ambient sites or are they just to assess management practices?	These sites are appropriate for monitoring ambient surface water. The WDRs for each of the coalitions are based on meeting WQOs for surface water. The assessment of the effectiveness of management practices is indirectly measured by surface water not exceeding any objectives or trigger limits.
39	Tess Dunham	6/22/22	Formatting	Is this defined somewhere?	RDC defined.
39	Grace Windler	7/15/22	Formatting	Reference error needs fixing.	Text revised.
39	Grace Windler	7/15/22	Formatting	Another reference error.	Text revised.
40	Tess Dunham	6/22/22	DMS	My biggest comment would be why would we invest in the SharePoint system and then maintain a different database for SAMP data.	The SharePoint system will be developed as part of the P&O study to track and share documents. The SAMP DMS will be a relational database that will store data for the purpose of assessing trends over time. The efforts are complementary in that they both provide support to CV-SALTS, but they these DMS efforts are not duplicative.
40	Melissa Thorme	7/14/22	Formatting	some of the lines in the chart go over text - that should be cleaned up.	This will be addressed during Workplan development
42	Grace Windler	7/15/22	Formatting	Reference error.	Text revised.
43	Debbie Webster	7/15/22	Data	How is extreme determined?	Various queries and methods to cross check data can be used to assess the data for the presence of atypical or extreme results. Such data are not removed; but these data may be qualified/flagged or otherwise commented on. The Workplan will provide example methods.

Version 2

CV-SALTS Meeting Calendar

2022

1 January

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1							1
2	2	3	4	5	6	7	8
3	9	10	11	12	13	14	15
4	16	17	18	19	20	21	22
5	23	24	25	26	27	28	29
6	30	31					

2 February

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
6			1	2	3	4	5
7	6	7	8	9	10	11	12
8	13	14	15	16	17	18	19
9	20	21	22	23	24	25	26
10	27	28					

3 March

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
10			1	2	3	4	5
11	6	7	8	9	10	11	12
12	13	14	15	16	17	18	19
13	20	21	22	23	24	25	26
14	27	28	29	30	31		

4 April

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
14						1	2
15	3	4	5	6	7	8	9
16	10	11	12	13	14	15	16
17	17	18	19	20	21	22	23
18	24	25	26	27	28	29	30

5 May

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
19	1	2	3	4	5	6	7
20	8	9	10	11	12	13	14
21	15	16	17	18	19	20	21
22	22	23	24	25	26	27	28
23	29	30	31				

6 June

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
23				1	2	3	4
24	5	6	7	8	9	10	11
25	12	13	14	15	16	17	18
26	19	20	21	22	23	24	25
27	26	27	28	29	30		

7 July

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
27						1	2
28	3	4	5	6	7	8	9
29	10	11	12	13	14	15	16
30	17	18	19	20	21	22	23
31	24	25	26	27	28	29	30
32	31						

8 August

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
32		1	2	3	4	5	6
33	7	8	9	10	11	12	13
34	14	15	16	17	18	19	20
35	21	22	23	24	25	26	27
36	28	29	30	31			

9 September

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
36					1	2	3
37	4	5	6	7	8	9	10
38	11	12	13	14	15	16	17
39	18	19	20	21	22	23	24
40	25	26	27	28	29	30	

10 October

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
40							1
41	2	3	4	5	6	7	8
42	9	10	11	12	13	14	15
43	16	17	18	19	20	21	22
44	23	24	25	26	27	28	29
45	30	31					

11 November

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
45			1	2	3	4	5
46	6	7	8	9	10	11	12
47	13	14	15	16	17	18	19
48	20	21	22	23	24	25	26
49	27	28	29	30			

12 December

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
49					1	2	3
50	4	5	6	7	8	9	10
51	11	12	13	14	15	16	17
52	18	19	20	21	22	23	24
53	25	26	27	28	29	30	31

Notes/Key

- Light Red conflicts
- Executive Committee Meetings
- Policy or Admin Calls
- Yellow Salty 5
- ***State Board Worshops/Hearings***
- PEOC Committees
- *MZ Support*

Committee Meeting Conflicts