

**AGENDA of the Combined Meeting of the  
Economic and Social Impact and Technical Advisory Committees**

**Sacramento Regional County Sanitation District  
Valley Oak Room, 10060 Goethe Rd, Sacramento 95827 [MAP](#)**

**Thursday, August 10, 2010 9:00 AM to 12:00 PM**

**Webcast Available and Recommended <https://www2.gotomeeting.com/join/362355378>**

**Meeting ID: 362-355-378 Teleconference Dial 213-286-1200 Access Code: 362-355-378**

- |  |        |
|--|--------|
| 1. Welcome, Introductions, Circulate <a href="#">Roster</a>  | 5 min  |
| 2. Review/Approve <a href="#">July 15 Technical Committee Meeting Notes</a>  | 5 min  |
| 3. Beneficial Use and Objectives Phase 1 <a href="#">2b/3e</a>   |        |
| a. Presentation of Mapping and Viewer  | 30 min |
| b. Presentation of <a href="#">Tech Memos 1, 2 and 3</a> and questions   | 30 min |
| 4. Technical Subcommittee Meetings Updates from <a href="#">Active Subcommittees</a>   | 45 min |
| a. BMP Subcommittee Update next meeting 8/19/10 3:00 PM Mgt Practice Eval <a href="#">6b</a>   | 5 min  |
| b. Knowledge Gained Subcommittee <a href="#">Process Recommendations</a> Next 8/18/10 <a href="#">2a</a>   | 30 min |
| c. Phase 1 BUOS Subcommittee Update last meeting 9/3/10 <a href="#">2b/3e</a>  | 5 min  |
| d. Lower San Joaquin River Committee update next meeting 8/30/10 <a href="#">3</a>   | 5 min  |
| 5. Irrigated Lands Salinity Management Integration – <a href="#">Regional Board presentation</a>   | 15 min |
| 6. <del>Site Specific Objectives Modeling/AGR – <a href="#">Discussion of comments 8a</a></del>  | 15 min |
| 7. Review and approve <a href="#">BUOS Stakeholder Identified Issues 8</a>   | 5 min  |
| 8. Questions for <a href="#">Data and Database Planning Review 3</a>   | 5 min  |
| a. Distributed data collection and management discussion review – <a href="#">Presentation in Sept.</a>  |        |
| 9. Review discuss <a href="#">Progress Demonstration List items 1a</a>   | 5 min  |
| a. <a href="#">Policy and Framework</a> Technical Issues to be discussed in the Executive Committee  |        |
| b. Nitrate Study from State Board for the Tulare Lake Basin UCD study Kickoff August 17  |        |
| 10. Actions/Recommendations/Report to the Executive Committee  | 5 min  |
| a. State Water Plan attendee for CV-SALTS  |        |
| 11. Next meeting date, September 16, <a href="#">2010 Update Calendar</a> with locations<br><b><a href="#">Annual Salinity Leadership Group meeting September 29, 2010 CalEPA downtown</a></b> |        |

*Workplan Section ##*

**Deferred**

- 12. Salt Reduction Plans Summary – Regional Board presentation
- 13. Implementation Options brainstorming (BMP Subcommittee)
- 10. c. [Updated Technical Tasks likely to use in-kind contributions](#) from workplan
- 10. d. Knowledge Gained Framework and IRWM planning

**Mission of the CVSLG:**

*The mission of the Central Valley Salinity Leadership Group is to work closely, in a collaborative manner to create a comprehensive Central Valley Salinity Management Plan.*

**Mission of the CVSLG Technical Advisory Committee:**

*The mission of the Technical Advisory Committee is to provide guidance and direction for the ongoing compilation and management of data, studies and technical information needed to develop a comprehensive Central Valley Salinity Management Plan.*

## CV-SALTS Committee Roster

Technical Advisory Committee Membership		July	Aug.
Nomination Category	Name and Organization		
1 Co-chair	Nigel Quinn, Lawrence Berkeley National Laboratory	✓	
2 Co-chair	Lisa Holm, Bureau of Reclamation		
Members	Bob Smith, LWA	✓	
	Bruce Houdesheldt, NCWA/SacValley WQ Coalition	✓	
	Burt Fleischer Hilmar Cheese Co.	✓	
	Darrin Polhemus, SWRCB, Water Quality		
	Dave Miller, GEI Consultants		
	David Cory, San Joaquin Valley Drainage Authority	✓	
	Debbie Webster, CVCWA		
	Dennis Westcot SJRGA	✓	
	Erick Althorp SSJWQC	✓	
	Erika DeHollan, LA County Sanitation		
	Ernie Taylor, DWR	✓	
	Jeff Bold, Brown and Caldwell		
	Jennifer Clary or Laurel Firestone, Community Water		
	Joe DiGiorgio, EcoLogic Engineers	✓	
	Joe McGann SJ Drainage Authority		
	Joel Miller, Consultant Wetlands		
	Jon Schutz, Somach, Simmons and Dunn		
	Karl Longley, CVRWQCB		
	Karna Harrigfeld, Stockton East Water District	✓	
	Lee Mao or Gene Lee, Bureau of Reclamation		
	Lewis Moeller, DWR		
	Linda Dorn, SRCSD		
	Lynne Baumgras, BSK		
	Mark Felton Culligan Water and PWQA		
	Mark Gowdy, SWRCB, Water Rights		
	Mark Larsen, KDWCD	✓	
	Michael Johnson or Melissa Turner, MLJ LLC	✓	
	Michael Steiger, Andy Safford, Ted Erler & Kalinowski		
	Parry Klassen, ESJWQC		
	Paula Hansen		
	Ron Crites, Brown and Caldwell		
	Steve Bayley, City of Tracy		
	Tom Reyes or Travis Peterson, City of Vacaville	✓	
	Trudi Hughes, California League of Food Processors	✓	

## Technical Advisory Committee Membership

### Participants Identified:

Anthony Toto, CVRWQCB  
Bill Luce, Friant Water Users Authority  
Bruce Thrupp, The Source Group, Inc  
Carrie Buckman/Lou Regenmorter CDM  
Chris Savage/Tim Schmelzer, Wine Institute  
Colleen Haraden, Kennedy/Jenks  
Dan Burgard, Cascade Earth Sciences  
Diane Beaucaurier, CVRWQCB  
Don Hodge  
Gail Cismowski, CVRWQCB  
Gary Carlton, Kennedy/Jenks  
Gary Dickenson SWRCB  
Geoff Anderson, DWR  
Jay Simi/Amanda Montgomery, CVRWQCB  
Jeanette Wrynsky Yolo Resource Conservation Dist.  
Joel Herr, Systech Water Resources  
John Dickey, Newfields  
John Herrick, South Delta Water Agency  
Kelli Hart, Newfields Ag & Environmental Resources  
Laura Foglie, LWA  
Lauren Bauer, Kern County Water Authority  
Loren Harlow and Lee Smith, Stoel Rives LLP  
Lou Dambrosio, TWG Wine Institute  
Michael Fan, UC Davis  
Mike Nordstrom, TLBWSD/TLDD  
Nancy Comstock, Johnson and Johnson  
Pam Buford, CVRWQCB  
Pamela Creedon, RWQCB  
Rachel McNeil, Cal Fish & Game  
Robert Chrobak and Stuart Childs Kennedy/Jenks  
Royce Cunningham, City of Dixon  
Tom Stevens Merced ID  
Vicki Kretsinger, Luhdorff and Scalmanini  
Andy Malone/Joe LeClaire, WEI  
Betty Yee, CVRWQCB  
Bob Braun, Huhtamaki Inc  
Chad Dibble, CDFG  
Chris Acree, Revive the San Joaquin  
Dan Odenweller, RWQCB  
David Lara  
David Phillips, UC Davis  
Debbie Liebersbach, Turlock ID  
Emily Alejandrino CVRWQCB  
Emily Rooney, Ag Council  
Eric Soto, DWR  
Fred Kizito CVRWQCB  
Henry Buckwalt, WPAA  
Holly Grover, CVRWQCB  
Jamil Ibrahim MWH  
Jeanne Chilcott, CVRWQCB  
Jeff Willett, City of Stockton  
Jim Martin, CVRWQCB  
Jim Murphy Isomark Packing Co.  
Joe Karkoski, RWQCB  
Kathy Rhodes CH2MHill  
Kenneth Loy, West Yost  
Mathew Belair,  
Mike Huot, SRCSD  
Mona Shulman, PCP  
Nels Rund, Furgro West  
Renee Pinel, WPHA  
Rick Landon, Yolo Ag Dept  
Rich Grass  
Rolf Frankenbach CDFA FREP  
Rudy Schnagl, CVRWQCB  
Susan Mills MWH  
Thomas Jabusch, Aquatic Science



**Joint Economic and Social Impact and  
Technical Advisory Committees  
Thursday, July 15, 2010 9:00 AM to 12:00 PM**

**Attendees:** See [Roster](#) for attendance.

**Technical Committee Co-Chair Nigel Quinn called the meeting shortly after 9:00 am followed by introductions of all present in-house and on teleconference.**

**1. Welcome, Introductions, Circulate [Roster](#)**

**2. Review/Approve [June 10 Technical Committee Meeting Notes](#)**

**Motion to approve by David Cory; Seconded by Dennis Westcot; Motion was approved**

**3. Modeling Beneficial Use for AGR- RWQCB review of approaches 8a**

Jim Martin, from the RWQCB presented a brief overview of the site specific EC studies being required in NPDES Permits. [His presentation is posted](#). The studies are the set site specific EC objectives for the receiving waters of the discharge. In the Davis study that Jim discussed the study is to protection of agricultural uses of the receiving waters downstream of the discharge from their plant.

Then UC Davis EC Study was performed by Dr. Steve Grattan one of 10-12 required studies from dischargers. The report was submitted in 2004 and reviewed, however discussion continued on the study and the permit was renewed in 2008 without the study accepted by the RWQCB with a new deadline of 2012. The permit was remanded by the SWRCB in March and requires the report to be completed by December 2010.

The Grattan model differs from the Hoffman model that has been discussed in CV-SALTS in that it is dynamic. It uses a daily versus annual time period or step. Jim highlighted that the study also does not achieve 100% protection of dry bean yield in all water years ranging as low as 90%. The report also uses a 0.6 inch per month bare soil evaporation rate in the winter, which staff questions as appropriate. The report has not been peer reviewed. Finally, the study recommends Site Specific EC objective of 1,100  $\mu\text{S}/\text{cm}$  as a monthly average to be protective of AGR beneficial uses downstream of the discharge.

Jim posed questions he asked the participants of CV-SALTS to respond to by July 30, 2010 shown below:

- Is the Grattan Model Acceptable?
- What percent crop protection is reasonable?
- What winter bare soil evaporation is appropriate?

Jim and Rudy also mentioned that there was a Revision of the MAA scheduled to go to the board soon and may wish to be reviewed at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/salinity/monthly\\_regional\\_coordination/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/monthly_regional_coordination/index.shtml)

Written comments should be submitted to Jim by July 27, an August 5<sup>th</sup> Stakeholder meeting will be held at the Regional Board at 9:30.

Some discussion ensued related to the questions and several stakeholders appeared to be willing to provide comments. The comments and any related issues will be on the agenda in August.

#### **4. Technical Subcommittee Meetings Updates from [Active Subcommittees](#)**

- a. BMP Subcommittee Notes Technical Review Proposal  
Daniel Cozad Reviewed the BMP Subcommittee Management Practice Evaluation Approach and gave an update on their progress. The approach also contains a section to provide direction on the technology and approaches that should be brought to the CV-SALTS Committees.
- b. Knowledge Gained Subcommittee Report status and discussion  
Daniel and other member of the subcommittee identified the efforts underway. Most efforts currently are channeled into two documents the Knowledge Gained discussion document and the Straw framework for studies and data. These will be further segregated to complete elements in August for committee review.
- c. Phase I BUOS Subcommittee Update Water Quality Criteria Example  
Because Kennedy Jenks staff were not schedule to attend, Daniel provided a brief update on the work that is ongoing and answered several questions about the water quality criteria example in the package. A full presentation is scheduled in August.
- d. Chairs Recommendation USEPA IEMHUB: <https://iemhub.or/home>  
Chair Quinn discussed process and status of the IEMHUB that EPA is fostering and some discussion ensued on the use and capacity to help CV-SALTS. All were encouraged to register and follow the progress.

#### **5. Recommendations Technology review and CV-SALTS presentation**

Discussion and Presentation under item 4a. Technical Committee approved the approach on package page 19 and forwarded it to the Executive Committee for final approval. Chair Quinn suggested that there were committees set up of professors and other experts for review of such efforts and that this may be useful for this work too.

#### **6. Review discuss Progress Demonstration List items 1a**

- a. Review Luce Environmental Science Fellowship Proposal  
The Luce Environmental proposal was selected and we will receive notice in September when a group selects the project. The Technical Committee will form a subcommittee to work with them.

- b. Updated Technical Tasks likely to use in-kind contributions from workplan  
Detailed discussion deferred to a future meeting
- c. Comments on the Scope and Budget document  
Detailed discussion deferred to a future meeting

**7. Review BUOS Stakeholder Identified Issues**

The Committee discussed the issues as compiled by Daniel Cozad and provided feedback on the list in general. In addition several items were edited and will be reflected in the final for committee approval in August. Additionally, participants noted that in this process potential use needs to be better defined and understood so that we can clarify the issues and use it properly.

**8. Questions for Data and Database planning Brainstorming**

- a. Distributed data collection and management discussion

The time available was used to develop a short list of questions for the use of the committee and the Database management presenters to focus discussions. The list will be reviewed in August. Further discussion of this item was deferred to the next meeting. Further questions and comments to be forwarded to Daniel.

**9. Actions/Recommendations/Report to the Executive Committee**

- a. State Water Plan attendee for CV-SALTS  
Discussion of this items was deferred to the next meeting.

**10. Next meeting date, August 12, [2010 Calendar](#) at Sac Regional.**

**11. Adjourned**

# Kennedy/Jenks Consultants

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San Francisco, California 94107  
415-243-2150  
FAX: 415-896-0999

## Technical Memorandum Task 1 – Phase 1

(Work in Progress – This TM is being updated as the beneficial use mapping and geodatabase work are being enhanced. Final maps and TM are expected on 9/10/2010)

## Identification of Beneficial Use – A Geodatabase

10 August 2010

Prepared for  
San Joaquin Valley Drainage  
Authority  
887 N. Irwin Street  
Hanford, California 93232

K/J Project No. 1064003\*00



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# Kennedy/Jenks Consultants

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## Technical Memorandum Task 2 - Phase 1

### Basin Plans Data Compilation

10 August 2010

Prepared for  
San Joaquin Valley Drainage  
Authority  
887 N. Irwin Street  
Hanford, California 93232

K/J Project No. 1064003\*00

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## **Kennedy/Jenks Consultants**

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### Technical Memorandum Task 3 – Phase 1

### Salt and Nutrient Beneficial Use Objectives Literature Review

9 August 2010

Prepared for

San Joaquin Valley Drainage  
Authority  
887 N. Irwin Street  
Hanford, California 93232

K/J Project No. 1064003\*00

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## Section 1: Introduction

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This literature review represents an assembly of water quality criteria assigned to beneficial uses at the state, national and international levels. The values represent levels of salinity and nitrate related constituents that, if met, will allow designated beneficial uses. Representative states and nations were used because not all areas can be surveyed. The literature review is part of the Phase 1 Beneficial Use and Objectives (BUO) Study as commissioned by the Central Valley Salinity Coalition. The literature review focuses on criteria related to salt and nutrients not all constituents that may be present in basin plans or other documents. The BUO Phase 1 study assembled and review representative policy, data, and on beneficial use objectives.

Many regions of the world have been challenged with salt management. Past decisions disregarding sustainability have caused environmental challenges as they relate to salt and nutrients. Water quality agencies were set up to manage salts and nutrients and in some cases reverse the damage caused by salt accumulation. Regulations, permits, and basin plans amendments have been adopted to manage salt and nutrients in the central valley basins for the protection of beneficial uses. The State Water Resources Control Board (SWRCB) directed the Regional Water Resources Control Boards in Resolution 88-16 to designate all surface and groundwater as potential drinking water and additional beneficial uses may be designed by the Regional Water Boards as deemed necessary. These designations are currently found in the Water Quality Control Plans (Basin Plans). To date, the Central Valley Regional Water Resources Control Board uses a total of 21 beneficial use designations in its two basin plans: Sacramento River and San Joaquin River Basin Plan and the Tulare Lake Basin Plan. The table below shows the beneficial uses designated in each of the plans (Table 1). An additional plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary was also included in this work per discussions with the CV SALTS oversight subcommittee.

### Salinity Units

Electrical conductivity is described by several different units. Both milli-mhos per centimeter (mmhos/cm) and deci siemens per centimeter (dS/cm) are commonly used for electrical conductivity and are equivalent terms. Levels of cations or anions are described by molar equivalent per liter (meq/L) and represent the amount of substance in a solution. SAR (sodium adsorption ratio) refers to the ratio of dissolved sodium to the amounts of dissolved calcium and magnesium. SAR generally impacts soil structure.

**Technical Committee Subcommittees**

**Salt and Nitrate Source Pilot Implementation Study Knowledge Gained**

Lisa Holm	Chair	<b>Met Last</b>		
Mona Shulman		Tuesday	11-May-10	9:30 AM
Michael Nordstrom		Wednesday	5/26/2010	9:00 AM
Nigel Quinn		Tuesday	6/29/2010	1:00 PM
David Cory			7/30/2010	8:30 AM
Joe DiGiorgio		<b>Next Meeting</b>	8/18/2010	9:00 AM

- Linda Dorn
- Debbie Webster
- Bob Braun
- Melissa Turner
- Michael Johnson
- Robert Smith
- John Dickey
- Michel Steiger
- Rudy Schnagl
- Jim Martin
- Jeanne Chilcott
- Daniel Cozad

The Lessons Learned Committee will assist CVSC with the development of a report that identifies the methodology and content of more detailed analysis of salt and nitrate on a regional basis from the Pilot Implementation Study and other information.

**Best Management Practice**

Trudi Hughes	Need Chair			
Tim Schmelzer		<b>Met Last</b>		
Chris Savage		Tuesday	25-May-10	3:00 PM
Bob Chrobak		Tuesday	6/29/2010	3:00 PM
Parry Klassen		Wednesday	7/21/2010	1:30 PM
Linda Dorn				
Joe DiGiorgio		<b>Next Meeting</b>	8/19/2010	3:00 PM

- Debbie Webster
- Bruce Houdesheldt
- Michael Johnson
- Melissa Turner
- Renee Pinel
- Rudy Schnagl
- Daniel Cozad
- Jeanne Chilcott

The Best Management Practice Committee will develop guidelines and evaluation procedures for BMP documents. The BMP Committee will also address the need to technical evaluation of proposed management and treatment technology for Salts and Nutrients

**BUOS P-1 Project Review**

Michael Huot		<b>Met Last</b>		
Nigel Quinn		Tuesday	4-May-10	10:30 AM
Mona Shulman		Wednesday	26-May-10	10:30 AM
Parry Klassen		Tuesday	6/29/2010	10:00 AM
Lisa Holm			7/30/2010	10:30 AM
Dennis Westcot		<b>Next Meeting</b>	9/3/2010	10:00 AM

- Travis Peterson
- David Cory
- Michael Nordstrom
- Eric Berntsen
- Papantzin Cid
- Rudy Schnagl
- Daniel Cozad
- Joseph McGahan
- Colleen Haraden
- Jeanne Chilcott

The BUOS Phase 1 Project Review Committee is charged with the ongoing review and comment on the BUOS P-1 Study. Additionally the Subcommittee will assist in the development of the next phase of work based on phase 1 and other information including the lessons learned products.



**Executive Committee Subcommittees**

**Funding and Fundraising**

Tim Johnson	Chair			
Parry Klassen	Co-chair	<b>Met Last</b>	14-May-10	9:00 AM
Trudi Hughes			3-Jun-10	4:00 PM
Karl Longley			9-Jul-10	8:00 AM
Tim Schmelzer			8/9/2010	9:00 AM
Mona Shulman		<b>Next Meeting</b>	8/31/2010	9:00 AM

Travis Peterson  
Deniene Husted  
Jeanne Chilcott  
Rudy Schnagl  
Daniel Cozad

The Funding and Fundraising Subcommittee is charged with development of a vision and plan for increasing long term funding of CV-SALTS plan development and Implementation.

**Lower SJR Committee**

Dennis Westcot	Chair	<b>Met Last</b>		Modesto
David Cory			7-May-10	11:00 AM
Parry Klassen			3-Jun-10	10:00 AM
Karna Harrigfeld			30-Jun-10	9:30 AM
Lisa Holm			26-Jul-10	10:00 AM
Mona Shulman		<b>Next Meeting</b>		
Jose Faria			8/30/2010	1:30 PM
Debbie Webster			9/21/2010	1:30 PM

Bobbi Larson  
Mark Gowdy  
Jeff Willett  
Debbie Liebersbach  
Joel Miller  
Rudy Schnagl  
Jim Martin  
Daniel Cozad  
Patrick Rahilly  
Nigel Quinn  
Jeanne Chilcott

The Lower SJR Committee is charged with the scoping, development and implementation salt and boron beneficial use and object study for the Lower San Joaquin River, formerly the Upstream TMDL standards process under the CVRWQCB.

**Salinity Leadership Meeting Planning Met Last**

Joe DiGiorgio	Friday		30-Jul-10	2:00 PM
Tim Johnson				
Pamela Creedon		<b>Next Meeting</b>	8/16/2010	2:00 PM

Dan Odenweller  
Darrin Polhemus  
Parry Klassen  
Lisa Holm  
Trudi Hughes  
Karl Longley  
Tim Schmelzer  
Mona Shulman  
David Cory  
Debbie Webster  
Bobbi Larson  
Daniel Cozad  
Jeanne Chilcott

The Salinity Leadership Meeting Planning Group provides assistance and planning support for the Annual Salinity Leadership Group meeting.

# CV-SALTS Technical Memorandum

**Date:** August 6, 2010

**To:** CV-SALTS Technical Advisory Committee

**From:** Salt and Nitrate Sources Pilot Studies Review Knowledge Gained Subcommittee

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The primary objectives of the Salt and Nitrate Sources Pilot Studies Review Knowledge Gained Subcommittee (Knowledge Gained Subcommittee) are:

- A.) Review the processes used by CV-SALTS to manage, fund, and contract the *Salt and Nitrate Sources Pilot Implementation Study* (SNPS) and make recommendations to the Technical Advisory Committee (TAC) to improve such processes for future work; and
- B.) Complete a technical review of the SNPS, as well as other recent salt and nitrate source studies including Eler & Kalinowski, Inc.'s (EKI's) *A Mass Balance Approach to Evaluate Salinity Sources in the Turlock Sub-Basin, California* (EKI's Turlock Salinity Source Study) and the U.S. Bureau of Reclamation's *Westside Salt and Nitrate Assessment*, to better define the associated technical issues with developing such studies and to elucidate critical policy questions that require resolution.

The Knowledge Gained Subcommittee has decided to phase its review and recommendations to the Technical Advisory Committee (TAC), starting with reviewing processes and making recommendations related to the administration and management of future projects under CV-SALTS, based on our experience with the SNPS. Therefore, this first technical memorandum focuses on recommending improvements to project administration. The Knowledge Gained Subcommittee currently envisions preparing three additional memoranda focused on technical issues, as detailed at the end of the memorandum.

**BACKGROUND:** In 2009, the TAC contracted for the SNPS to help assess the potential for rapid implementation of data collection and analysis methods for quantifying and validating salt and nitrate mass loadings in representative (diverse) areas of the Central Valley, and to help identify issues that may generally apply to similar efforts in other areas of the Central Valley. The SNPS Request For Proposals (RFP) scope of work was developed by a volunteer subcommittee of the TAC, then reviewed and approved by the CV-SALTS TAC, Executive Committee, and Central Valley Salinity Coalition (CVSC). CVSC received eight proposals and a selection subcommittee was established to review the proposals and recommend a contractor to CVSC. The selection committee chose Larry Walker and Associates, whose approach was to use quantitative modeling, using substantial data that had already been collected as part of previous projects completed by Larry Walker and Associates and its team members. The final SNPS report was submitted in February 2010.

**PROCESS:** Following review of the SNPS report, the TAC established a voluntary review subcommittee, (Knowledge Gained Subcommittee) to evaluate and document what CV-SALTS learned through the experience and to examine the role of the SNPS in the development of Salt/Nutrient Management Plans and the larger CV-SALTS program. This is the first report of the subcommittee.

**RECOMMENDATIONS:** CV-SALTS and the CVSC are exploring new arrangements and institutions for managing, funding, and contracting for technical work in support of a Basin Plan Amendment and associated Salinity/Nutrient Management Plan(s). In this respect, it is valuable to examine the process that was employed in this first contracting exercise and the value of the experience and product that resulted. The following recommendations are intended to improve the CV-SALTS process for managing, funding, and contracting future technical work.

1. **We recommend a project subcommittee be established for each project.** The Beneficial Uses and Objectives Phase 1 Study is the first project for which a project subcommittee was established. The project subcommittees should consist of a small, dedicated group of volunteers. Project subcommittees can also evolve into groups of volunteers who hold valuable institutional knowledge for development of the eventual Plan(s) and Basin Plan Amendment(s). We have identified several additional potential responsibilities for these subcommittees and support the TAC developing documentation of roles and responsibilities for project subcommittees and their members.

**1.b The Regional Board has for some time recommended and fully expects that CV-SALTS will procure a technical project manager (TPM) to oversee the technical aspects of CV-SALTS.** The TPM would be responsible for and involved in all technical aspects of the CV-SALTS effort, including development of the technical parts of the CV-SALTS work plan, contract development, preparation of scopes of work, and technical project oversight. The TPM would interact with the TAC and project subcommittees, and report to them as needed.

2. **We recommend the project subcommittee also be charged with reviewing the project.** The TAC will benefit from technical review of work products. With objectives and expectations established by the project subcommittee (and TAC), and engagement of the project subcommittee volunteers from the start of the project, project technical reviews should be more efficient.
3. **We recommend program expectations and deliverables be clearly established.** All projects that CV-SALTS funds and/or manages must consider the objectives, resources, and structure of CV-SALTS and relate back to the program. This consideration must begin at the project conception, with the TAC. Without clearly established *program* expectations and deliverables - which are currently not well defined - evaluation of projects may repeatedly get caught up in arguments over unresolved programmatic issues.
4. **We recommend CV-SALTS use an RFQ and performance work statement approach to contracting.** For the SNPS, CV-SALTS developed a scope of work prior to soliciting proposals from consultants, which included a task to develop a work plan. The RFP process can work well, but is typically used by agencies for well defined projects with the resources available to develop comprehensive scopes of work. In contrast, CV-SALTS is primarily comprised of volunteers and stakeholder representatives

so the project scopes have not been as well developed or defined. This organizational structure and type of project does not easily lend itself to development of fully-developed, detailed scopes of work. Given these resource limitations and project types, we recommend that CV-SALTS initially use a Request for Qualifications (RFQ) process to “pre-screen” contractors for projects. Many processes can be used to engage contractors, such as:

- a. Qualified and selected contractors could be requested to prepare proposals, including initial scopes of work with associated budgets and schedules that meet project goals and objectives developed by CV-SALTS;
- b. Alternatively, a contractor could be selected based on qualifications and cost estimate to prepare a detailed scope of work. Proposals would then be solicited from additional contractors for completion of the detailed scope of work.
- c. Final selection of the contractor can then be based on contractor’s understanding of the project and goals, objectives, and makeup of CV-SALTS.

This approach would allow the project manager and subcommittee volunteers who are engaged in the project to focus their initial efforts on developing project objectives and desired outcomes and deliverables rather than on the methodology (scope of work) for accomplishing desired outcomes. Many agencies use the RFQ contracting approach, which allows the selected contractor the flexibility to develop the most efficient and cost effective scope of work based on their resources, expertise, and cost goals.

5. **We recommend project expectations and deliverables be clearly established in performance work statements.** The SNPS RFP contained project-level expectations that were met, although possibly open to some interpretation. Clearly established expectations help direct project-deliverable criticism towards the substantive portions of finished the products as opposed to the scope and format. This could be in the form of a project description or problem statement and a list of questions the project must answer. The performance work statement should also discuss and spell out the expected format and intended uses for all deliverables of the project.
6. **We recommend reporting commitments be clearly spelled out.** For each project, the TAC should fully develop a project oversight plan that spells out the reporting and reviewing commitments. The plan should detail the number of status or progress reports to be presented to the various committees and subcommittees during the course of studies. One recommended approach is to encourage scopes of work that rationally phase the project tasks with intermediate deliverables for each major task. Intermediate deliverables would not be stand alone documentation, but would allow for periodic reporting and adaptive management of the work. The TAC must set realistic review periods, recognizing the voluntary nature of CV-SALTS members, collectively agree that short review periods are needed and will be conformed to, or establish project subcommittees that are given authority to perform reviews and report back to the TAC. This would benefit both consultants and the TAC, allowing consultants to clearly forecast and schedule decision points and deliverables to meet TAC expectations of review opportunities.

7. **We recommend the role of stakeholder involvement in each project be considered during scoping.** During development of project objectives, the TAC should identify potential major or key stakeholders and consider the need and value of their input to the project. Some project stakeholders may prefer to meet independently with consultants to inform a project and the TAC may feel that the project would significantly benefit from this interaction. In these cases, the TAC should include this interaction in their project objectives, deliverables and/or performance work statement.
8. **We recommend the TAC develop a peer review approach for the CV-SALTS effort.** CV-SALTS should establish and document the peer review requirements for each contracted project. CV-SALTS should discuss whether a peer review is a separate activity outside the project and whether it is preferable to have project contractors advise the TAC on the applicability of peer review. Traditionally peer review is completed as a nearly last step in the Basin Plan or regulatory study process. However, peer review feedback is often most useful when consistently applied from the development of the work planning through the completion of studies in an embedded process. If peer review is to become an embedded process, CV-SALTS should develop general scope and expectations of peer review processes and pursue this contract as well. If an overall peer review approach and process is not developed, the TAC and the Subcommittees should develop it on a project basis or make a decision to leave that review to the final basin plan peer review at the Regional Board level which has the significant risk of identifying issues that extend the process.
9. **We recommend the contracting schedule be balanced with the scope and complexity:** The contracting schedule for projects should be developed with the consultant as part of the RFQ recommendation (#4 above). In any case, more implementable schedules which consider the amount of time needed by volunteers to review proposals, to schedule meetings (discussion of proposals, interview of candidate firms), and for the CVSC to consider, negotiate and approve the project is needed.
10. **We recommend project funding be fully identified and secured prior to the start of work.** While this may slow overall progress, experience here and in other regions is demonstrating contract funding commitments from both State and stakeholder sources is uncertain and does not facilitate timely payment of contractors. Funding identified for all core elements of the scope should be identified and secured before start of work. If the project is grant funded, the total cost of work including contingency must not change significantly from original amount agreed to by the contractor without endangering the viability of the project. The project plan should include conditions under which a reduction in scope or suspension of project could occur if the project is funded by state grant funds that could be subject to suspension.
11. **We recommend schedules proceed as quickly as possible without sacrificing quality.** Without urgency and schedule pressure CV-SALTS will be unsuccessful in reaching its 2013/2014 completion goals. However, schedule pressure must be balanced with the quality of the work and quality of the documentation. The project subcommittee should monitor the schedule and capability to deliver

well integrated quality work product in which the stakeholders are involved and have the opportunity to review and consider the work.

**11a. The RWQCB suggests that this would also be a responsibility of the TPM.**

12. **We recommend reintegrating project scopes of work into the CV-SALTS work plan.** Because each project scope of work will further develop and document work to be completed, project subcommittees should reintegrate project scopes of work into the CV-SALTS work plan, and review the CV-SALTS work plan to see if additional adaptations are warranted for the program or other committees. This is especially true if recommendation #4 using a RFQ approach is implemented.
13. **We recommend the project subcommittee identify a subcommittee member to, assist contractors in communicating with the TAC.** Contractors can come into the CV-SALTS meetings without any history and little guidance on TAC expectations. Along with our recommendation to establish project subcommittees, we include a responsibility to assist contractors in producing the most effective presentations possible (both in message and duration). This should result in greater efficiencies on both sides. For Executive Committee presentations, this same volunteer could represent the TAC and present part of the presentation as a presentation from the TAC (on the decision points, recommendation, and key issues). This will require carefully balancing, as the desired outcome is to improve the reporting process, not to micro-manage it.

**13a. The RWQCB recommends that this could be a responsibility of the TPM.**

14. **We recommend CV-SALTS develop a Stakeholder Involvement Plan in the near future.** In coordination with our seventh recommendation, we recommend that CV-SALTS quickly determine the role of regional and local governments and non-governmental stakeholders in salinity and nitrate management planning and the role of CV-SALTS in engaging, organizing, and coordinating regional planning efforts. Upon this determination, CV-SALTS should develop and implement a plan to engage critical stakeholders. We believe the overall stakeholder outreach / engagement / involvement approach should consider three tiers of outreach: policy, technical, and public. Policy, for example, could focus on reaching consensus on the role of regional/local government in salinity and nitrate management plan(s) in the ultimately proposed regulation(s). Technical could then focus on obtaining the best available data and experts to inform regulatory development. Public is being addressed through PEOC.
15. **We recommend RWQCB weigh in early on performance work statements.** For example, RWQCB staff are most able to assess the level of effort needed to access data collected by the RWQCB (especially hard copy data). For projects especially dependent on RWQCB data, the RWQCB should be solicited to appoint staff to advise and assist contractors in data gathering and data requests.

**Subcommittee Next Steps:** The subcommittee has identified four discrete tasks to complete its assessment of Salt and Nitrate Source Studies. This memorandum represents the conclusion of the first task, focused on recommending improvements to project administration. The remaining tasks for this subcommittee are:

2. Develop CV-SALTS Programmatic Objectives (from the perspective of assessing the role of source studies' information)	September 2010
3. Evaluate Source Studies in context of Programmatic Objectives	October 2010
4. Develop and Recommend a Technical Framework for Regional Salt and Nitrate Management Plans	November 2010

Over the past weeks, the subcommittee has begun drafting a straw technical framework (which is intended to facilitate its fourth task), but has recently determined that the most productive review of the SNPS, as well as EKI's Turlock Salinity Source Study and intermediate products of Reclamation's Westside Salt and Nitrate Assessment, is to first develop the broad context of CV-SALTS and then evaluate and describe how these studies fit into this context. We encourage any interested parties to participate in any of these tasks.

**Subcommittee Members and Participants:** Over the past year, the Knowledge Gained Subcommittee has included:

Bob Braun  
 Daniel Cozad  
 David Cory  
 Debbie Webster  
 Jeanne Chilcott  
 Jim Martin  
 Joe DiGiorgio  
 John Dickey  
 Linda Dorn

Lisa Holm  
 Melissa Turner  
 Michael Johnson  
 Michael Nordstrom  
 Michel Steiger  
 Mona Shulman  
 Nigel Quinn  
 Robert Smith  
 Rudy Schnagl

At the recent CV-SALTS Technical Committee meeting we were presented with a background on the UC Davis salinity problem with their WWTP Discharge into Putah Creek. Jim Martin of the Central Valley Regional Water Quality Control Board made a presentation of the information they had received from UC Davis where they conducted a similar study to the one Hoffman did for the South Delta. The UC Davis study used what was termed the “Grattan Model” to project crop yield potential for the crops grown in the Lower Putah Creek area. Mr. Martin asked three questions of the Technical Committee:

1. Is the Grattan Model a scientifically sound model to use for this purpose?
2. What percent crop protection is reasonable?
3. What winter bare soil evaporation rate is appropriate?

In addition, during the discussion and presentation it was clear that three additional questions still needed clarity when doing similar analyses. Those were:

1. Which soil water uptake pattern is the most appropriate?
2. What is the best way to determine leaching fractions?
3. Is there a conservative leaching fraction that would be safe to assume in the absence of a calculated site-specific leaching fraction?

My responses to the questions are as follows:

**Is the Grattan Model a scientifically sound model to use for this purpose?**

The Grattan Model is an attempt to move from the Steady-state models of the past to a more transient-type model which better reflects the constantly changing soil moisture regime in the field. Movement to a more transient-type model was a recommendation of the Hoffman study. The Hoffman study however recognized that the transient models require much more data than is presently available and these models still have not been verified by field testing.

The Grattan Model attempts to include rainfall patterns and annual rainfall distribution as a factor in salt leaching. This was commented on as a shortcoming in the Hoffman Study of the Delta. Even though the Grattan Model attempts to include this factor, it still remains to be field tested. In addition, the Grattan Model to my knowledge has not been peer reviewed. The only review of the model occurred during a presentation in May 2007 at a Salinity Conference in Lake Arrowhead, CA but to my knowledge no peer reviewed journal articles came from this conference.

It is interesting to note however that the results from this analysis are in the same range as found by the Hoffman Study. To make the study more valid, it may be helpful to conduct a Hoffman-like analysis for the Lower Putah Creek area to see if it corresponds to the



results shown in the article provide to us entitled “*An Approach to Develop Site-Specific Criteria for Electrical Conductivity to Protect Agricultural Beneficial Uses that Accounts for Rainfall*” dated July 2004.

My conclusion is that the attempt in the 2004 article provided to us is consistent with the recommendation of the Hoffman Study to bring in the use of more transient models. The model presented in the 2004 article however does not appear to have been peer reviewed. Based on this it would seem prudent to conduct a Hoffman-like study in the Lower Putah Creek Area to see if the results of the 2004 article are consistent with the baseline approach suggested by the SWRCB (Hoffman-like study).

### **What percent crop protection is reasonable?**

There is no answer to this question. In the Hoffman Study, it was assumed that full crop protection would be strived for even though it is well known that other factors such as weather, irrigation practices, waterlogging, soils, and pests can reduce the yield below full potential. The goal to date has been full potential and that should be the “sign post” while recognizing that this places considerable conservatism in the analysis. The policy that the Board needs to consider is whether water quality will or will not be a factor in determining yield potential. If it is considered, there must be compelling evidence that it is in the best interest of the people of the state. This issue may be settled when the SWRCB decides what yield potential they will use in setting the Vernalis salinity standard.

What is more important is that the bean data may not be that good anyway. The SJRGA comments on the Hoffman-like analysis that was produced for the Lower San Joaquin River stated:

“The present water quality objective uses a 100%-yield potential based on the 1977 Mass and Hoffman analysis that established crop tolerance curves for major crops. Unfortunately, the dry bean data used for this analysis is now over 50 years old and does not represent more salt tolerant varieties used today and is likely over conservative. It is recommended that the Study Report strongly advise against the continued use of these data and it recommend that a new curve be established for dry beans.”

Until that curve is completed, we will have to continue with using the present data set which we know is overly conservative.

### **What winter bare soil evaporation rate is appropriate?**

The rate that was used in the article provide to us entitled “*An Approach to Develop Site-Specific Criteria for Electrical Conductivity to Protect Agricultural Beneficial Uses that Accounts for Rainfall*” dated July 2004 was 0.6 mm/day from the 1989 DWR Report. It is unclear whether this is a static evaporation rate with the assumption that the soil

surface is continually wet. If so, the annual loss to soil surface evaporation would be 8-9 inches/year. The SJRGA raised the use of this value in our comments on the Hoffman-like analysis that was produced for the Lower San Joaquin River. Our comments stated:

“The discussion on pages 45-48 assumes, as shown in Figure 3.11 on page 48 that a steady rate of soil evaporation occurs during the winter period. If this were true, then any fallow land would be completely dry by mid to late spring. This is not the case in California however. The soil very quickly forms a natural barrier to evaporation by creating at the surface a dry layer that little or no water can cross. This is a natural process known to farmers and soils scientists for years.

The formation of a barrier to evaporation can be illustrated in dry-land farming practices in California. Dry-land farmers do not plant each year. Rather they lay the land fallow for one year to allow soil moisture to build up for the crop the next year. This moisture is used for germination and initial plant growth in the fall prior to the winter rains. The same technique is utilized in the wheat fields of the Dakotas. Under the scenario assumed in the report these dryland areas would quickly become deserts.”

Can also be explained by capillarity where matric suction diminishes with distance between the soil surface and water table – the rate of diminution being a function of soil texture and porosity. When the water table falls beyond a certain extinction depth no further loss to the atmosphere occurs.

### **Which soil water uptake pattern is the most appropriate?**

The Hoffman Study recommended using the exponential water uptake pattern rather than the 40-30-20-10 as it more clearly reflected actual soil water use. In addition, calculations with this water uptake pattern more closely reflected leaching fractions the are occurring in the field. By using the 40-30-20-10 pattern in the article provided to us entitled “*An Approach to Develop Site-Specific Criteria for Electrical Conductivity to Protect Agricultural Beneficial Uses that Accounts for Rainfall*” dated July 2004, they introduced a conservative assumption into the analysis which allows for other errors in the analysis. Because of this, I would not recommend going back and using the exponential model as other assumptions in the modeling may have produced a greater error than is injected with use of the 40-30-20-10 assumption. However if a Hoffman-like analysis is done for the Lower Putah Creek area, then the exponential model should be compared to the 40-30-20-10 model results.

### **What is the best way to determine leaching fractions?**

Field measurements of soil salinity during the irrigation season are the best way to determine leaching fractions. Absent any data from these measurements, it is known that bean production is done with furrow irrigation and the use of pre-irrigations. These two factors alone would result in a leaching fraction higher than 20-25%. Both the Hoffman Report and the Upstream Lower San Joaquin River Report showed that the leaching fraction for bean production was likely higher than 20-25%. It is unlikely that bean production in the Lower Putah Creek area would be any different.

**Is there a conservative leaching fraction that would be safe to assume in the absence of a calculated site-specific leaching fraction?**

The article provide to us entitled “*An Approach to Develop Site-Specific Criteria for Electrical Conductivity to Protect Agricultural Beneficial Uses that Accounts for Rainfall*” dated July 2004, used a leaching fraction of 15%. Using this value presents a very conservative analysis and likely actual yield potential is much higher than presented here due to the very low leaching fraction being used. It is unlikely that anyone could achieve a leaching fraction of 15% or less with the present irrigation technology being used. What is unusual in the article is that they present data for both an arithmetic mean of soil salinity and a weighted average soil salinity. The latter should be dropped from the analysis as it has been shown that a weighted average soil salinity is more appropriate to high frequency irrigations such as drip irrigation. No such technology will be used on bean production and should be dropped from the analysis here.

# CV-SALTS Stakeholder Identified Issues with Beneficial Uses – Draft Version 3

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## 1. Triennial Review Issues in Regional Board Work plans

### 1.1. Tulare Lake Basin Plan Area

The Tulare Lake Basin Plan area has identified the following issues that relate to changes in or related to Beneficial Uses or Objectives in the triennial review.

#### 1.1.1. Beneficial Use Designations

Where a Regional Board has evidence that a use neither exists nor likely can be feasibly attained; the Regional Board should initiate (or support) appropriate basin plan amendments to consider dedesignating the use. An action is to contact Fresno Office for list of these areas.

#### 1.1.2. Lower Kings River Salinity

The Lower Kings River exceeds water quality objectives for salinity during drought periods. Additional studies are needed to adequately define the salinity problems and (determine appropriate beneficial uses and) develop policies.

#### 1.1.3. Groundwater Quality Objectives for Salinity

The Basin Plan contains sub-basin water quality objectives for incremental salinity increases in groundwater. The Basin Plan objectives should be modified to clarify (1) the intent of the objectives, (2) how the objectives are to be implemented in site-specific requirements, and (3) the means of measuring compliance. This issue may or may not need review of Beneficial Uses.

#### 1.1.4. Tulare Lake Groundwater

Identification of areas within the Tulare Lake Basin where the groundwater is adversely impacted by salts and chemicals to the extent that the groundwater no longer supports all its beneficial uses (and validate those beneficial uses)

#### 1.1.5. Dissolved Oxygen Objectives

The dissolved oxygen objective for Reach III of the Kings River (Pine Flat Dam to Friant-Kern) may not be achievable due to natural conditions. A study should be conducted to (determine the beneficial uses on the reach and if nitrate is a precursor of DO issues then) investigate the conditions and establish more appropriate objectives, if necessary.

### 1.2. Sacramento-San Joaquin Basin Plan Area

The Sacramento-San Joaquin Basin Plan area has identified the following issues that relate to changes in or related to Beneficial Uses or Objectives in the triennial review.

### **1.1.6. Beneficial Use Designations**

See the Description in the Triennial Review Issue 1 in the discussion in Attachment 1.

### **1.1.7. Regulatory Actions in Agricultural Dominated Water Bodies and Agricultural Conveyance Facilities**

See the Description in the Triennial Review Issue 3 in the discussion in Attachment 1.

### **1.1.8. Dissolved Oxygen Problems in the San Joaquin River near Stockton**

Connection between Nitrate and reduced DO have the potential to affect beneficial uses, to the extent that salt and nitrate are significant factors in the DO issue review the Beneficial uses in the area??

See the Description in the Triennial Review Issue 5 in the discussion in Attachment 1.

### **1.1.9. Policies for Maintaining Water Quality for Drinking Water**

Beneficial uses for drinking water should be reviewed to ensure they are appropriate in waterbodies that are included in the policy to be maintained.

See the Description in the Triennial Review Issue 8 in the discussion in Attachment 1.

## **2. East San Joaquin River Area Streams**

In a "typical" year (non severe El Nino), most streams draining the Sierra Nevada mountains never reach the San Joaquin River but instead percolate into the groundwater or are used for crop irrigation in fields with riparian rights. Some stream beds are also used to transfer irrigation district water from canals to the stream beds then back into canals for downstream crop irrigation. Such transfers occur over a three or four month period during the Spring/summer and only when mountain runoff supplies are adequate. Each of these conditions needs to be considered when determining beneficial uses. More broadly this may be described as "Drainages or waterways that do not reach "waters of the state" except for extremely wet years or only during limited seasonal periods".

## **3. Tulare Lake Drainage and Water Storage District Areas**

Tulare Lake interests would like the region considered and reviewed for re or de-designating the region from a MUN beneficial use designation. The reasons for doing so include the following:

1. It is a closed basin with no natural waterways
2. The first waters encountered have very high ECs (some above sea water)
3. The Corcoran clay layer (more than 1,000 feet of dense clay) separates the perched first waters and the next waters, assuming you can find some.
4. The perched saline waters create farming problems and therefore drives irrigation very high efficiencies.
5. The Tulare Lake Drainage District is collecting and disposing of the subsurface saline waters. The disposal of the salts, approximately 150,000 tons of salt each year, is cleaning up soils/water.
6. There are no urban wells or usable groundwater within the District.

#### **4. MUN designation where no MUN uses exist or would be allowed**

Some water bodies (surface and groundwater) are currently designated to have an MUN Beneficial Use but are prohibited from use as MUN by other regulation or water rights. These waterbodies should be evaluated for redesignation or dedesignation.

#### **5. Waterbody Subcategorization**

Specific waterbodies may need subcategories to appropriately protect the beneficial uses in the most efficient manner. Subcategorization would allow a better fit between use and objective to reduce over or under protection. This has to be balanced with the work and monitoring required to document these categories and attain compliance.

#### **6. Tributary Rule Issues**

Implementation of the policy related to the Tributary Rule is an important concept and the connections between upper and lower watershed are critical to attainment of objectives to maintain beneficial uses. However due to unique issues with hydrology in the San Joaquin and Tulare Lake basins the tributary may be insufficiently protective or over protective. Reviewing beneficial uses to evaluate the appropriateness of the Beneficial Uses afforded by the Tributary rule versus those that may be due to the water body may be needed. Additionally, definitions of hydraulic connections need clarification, especially in surface waters for application of the tributary rule when and how a connection is considered a tributary is important.

#### **7. First Encountered Groundwater**

Issues with first encountered groundwater likely extend beyond beneficial use evaluation but the following are proposed as connections:

1. First encountered groundwater considered appropriate for MUN, whether or not it would meet standards (i.e. – does not meet drinking water standards).
2. Point of application for groundwater (directly under facilities fence line, next well/use, etc).

#### **8. Ag Drains and Canal Issues**

Inland surface waters work in prior years provided some information on the prevalence of Ag Drains and Canals and proposed some methods of working with them to protect beneficial uses without excessive regulation. This approach was not accepted by EPA but should be reassessed in light of the changes in those issues and the opportunities for appropriate beneficial uses to be assigned to the water bodies.

#### **9. Groundwater Specific Use or Area**

Some existing areas do not support groundwater beneficial uses. Historic areas where saline soils and groundwater exist may not be adequately characterized to allow appropriate beneficial uses to be

designated. These should be evaluated and if possible mapped based on occurrence to allow appropriate management for the actual beneficial uses.

## 10. Effluent Dominated Waterbodies

What beneficial uses apply or should apply to these waterbodies and what requirement or limits are appropriate for designation as an effluent dominated waterbody are appropriate.

## 11. Exceptions for Sources of Drinking Water

Issues with the application of 88-63 should be reviewed with beneficial uses defined to help with the identification or to inform the following issues:

1. 88-63 actual exceptions
2. Does it apply w/o BPA
3. Broader application – all MUN, not consistent with BPA
4. Tributary Rule

## 12. Interpretation of the Narrative Objectives

Beneficial uses should also be reviewed to insure that the information needed to better inform the setting of numerical objectives from previous narrative objectives.

## 13. Uniformity Issues

Work should consider in review of beneficial uses the need for developing uniform treatment of specific factors that will affect the objectives and permit or WDR requirements. An example could be uniform leaching values and development of process so they are consistently applied.

## 14. Outreach Workshop Identified Issues

The April 2010 workshops revealed that the public perceives that their use of water is impacted by salinity in many areas.

### 10.1. Agricultural irrigation use

(AGR) was indicated most frequently in both Woodland and Tulare workshops as an impacted use.

### 10.2. Drinking water

(MUN) was mentioned almost as frequently as an impacted use.

### 10.3. Industrial processing use

(PRO) was mentioned,

### 10.4. Other use designations

IND, NAV, POW, REC-1, REC-2, GWR, NAV, POW, REC-1/REC-2, COMM, AQUA, WARM, COLD, BIOL, RARE, MIGR, SPWN, and SHELL—were not mentioned.

# CV-SALTS Questions for Current State and Regional Data Sources and Database Management Systems

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## Introduction

The CV-SALTS Technical Committee is working to evaluate the existing sources and systems for historic and current water quality data for its work in Basin Planning to evaluate Beneficial Uses and Surface and groundwater Objectives and for Salt and Nutrient Planning efforts. In order to limit overlap and duplicative work CV-SALTS is endeavoring to utilize existing systems and sourced of data to do its work. In order to assess each source the Committees have developed the following list of questions to help prepare presenters and focus discussion.

## CV-SALTS Data Questions

1. What is the primary user of your system and how is the data generated and used?
2. What data does the database/source have for water quality specifically for salt related constituents and nutrients?
3. What data does the database/source have for water flow, diversion or well levels to assist in determining water balance?
4. Has the system been used to support a Basin Planning effort in the past?
5. What is the structure of your data management system and the development rationale?
6. Is the system geographically based with accurate locations or connected with GIS if so what GIS?
7. In loading data how do you prevent duplication of data already in the system?
8. Who loads data and in what formats?
9. How frequently is the source information updated, what monitoring plans that use this system?
10. Does the system contain historic data if so how far back does the data exist?
11. What is the completeness of the historic data especially on salt and nitrate?
12. What are the issues you have encountered or believe CV-SALTS will encounter in using your database/source for planning work?
13. How does your database system exchange data with other sources or repositories of data?
14. What metadata is carried by the system and in what format, who develops it?
15. How do you see CV-SALTS working with your system and data?
16. What level of willingness and resources do you have to work with CV-SALTS?
17. What modeling systems interface directly with your data systems?
18. Does your system contain data on discharges or sources of salt or nitrates?
19. How is your system funded, development and operation, do you have any recommendations for CV-SALTS in funding
20. Do you have any recommendations for CV-SALTS on data management



## Daniel Cozad

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**From:** Adam Ballard [ABallard@waterboards.ca.gov]  
**Sent:** Thursday, April 01, 2010 2:58 PM  
**To:** dcozad@cvsalinity.org  
**Cc:** Karen Larsen  
**Subject:** SPAM-LOW: Contact Information

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

**Categories:** CVSC Salt

Mr. Cozad-

It was a pleasure speaking with you this afternoon. As a follow-up to our conversation, contact information for each of the individuals we discussed is provided below.

Karen Larsen - California Environmental Data Exchange Network (CEDEN) and Surface Water Ambient Monitoring Program (SWAMP) Assistant Deputy Director, Office of Information Management and Analysis (OIMA)  
916.319.9769

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CEDEN website: <http://ceden.org/>

SWAMP website: [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/swamp/index.shtml)

Jeanne Chilcott - Central Valley Water Board SWAMP Chief, San Joaquin Watershed Unit  
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Central Valley Water Board SWAMP website:

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Dawit Tadesse - State Water Board SWAMP - for questions regarding the SWAMP database  
Environmental Scientist, SWAMP Unit  
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Jon Marshack - California Water Quality Monitoring Council (SB1070), My Water Quality web portal SB1070 Coordinator, OIMA  
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[http://www.waterboards.ca.gov/water\\_issues/programs/monitoring\\_council/](http://www.waterboards.ca.gov/water_issues/programs/monitoring_council/)

Please feel free to give me a call if you have any questions.

Best Regards,  
Adam

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# CV SALTS Initiative 2010 Progress Milestones

Stakeholder (CVSC) Progress Demonstration Status

Update

August 2010

Approved May 10, 2010 Version 5

#	Timeline	Activity or Effort	Group	Document/Event	Status
1	Ongoing	Continue work on incomplete activities initiated prior to 2010	CVSC	See below	
1-a	Apr-09	Workplan development elements	TAC	Ongoing	Ongoing
1-e	Jun-09	Public Outreach/Scoping Meeting	PEOC	Outreach Meeting	Complete
1-b	Aug-09	Workplan Elements Contracting	CVSC/DA	BUOS	Ongoing
1-c	Jun-09	Management Team Development	CVSC	Planning pending budget	July
1-d	Jul-09	Management Implementation	CVSC	Budget Approval	July
2	Ongoing	Conduct regular meetings of working committees	CVSC	Ongoing	Ongoing
3	Ongoing	Continue to update Program Coordination Matrix	TAC/Exec	Ongoing	Ongoing
4	Ongoing	Add detail to the task descriptions in the CV-SALTS work plan Outline to better illustrate the extent of work involved for each item listed	TAC	Ongoing	July
4a		Technical Committee to provide Input on Plan and general updates	TAC	Updated Document	July
4b		Add elements from the Detailed BOUS scope of work	Consultant	BUOS Workplan	September
4c		Detail the rest of the CV-SALTS Workplan Outline with Cooperative Data Collection and analysis and Implementation efforts	Consultant	Program Workplan	2011
5	Ongoing	Link all agenda and action items to work plan tasks	CVSC		Complete
6	Ongoing	Set (by February) and pursue funding goals	CVSC	March to CVSC	August
6a		Membership Funding for CVSC/CV-SALTS	CVSC	Budget and Membership Guideline	April
6b		Subcommittee for Funding and Fundraising	Exec	First Meeting	Complete
6c		Projects and Funding Targets (outside membership)	Consultant	Draft Plan	August
7	Mar-10	Identify salinity management options/alternatives to be evaluated for implementation plan	TAC		July
7a		Identify existing and potential salt and nitrate management alternatives and for implementation plan	BMP Subcomm.		July
7b		Describe the management alternatives and compile information on effectiveness, applicability and economics.	BMP Subcomm.		August
7c		Identify screening and analytical evaluation tools for use in evaluation of Management Alternatives/Options	BMP Subcomm.		August
7c		Detailed description of alternatives/options with applicability and achievability	BMP Subcomm.		September
7d		Identify screening approaches and tools for review of 7b and data requirements	BMP Subcomm.		October
7e		Screen 7b items for priority and additional review	Consultant		November
8	Mar-10	Provide an informational report to the Regional Board on the CV-SALTS initiative	CVSC/Exec	State/Regional Board Report	May/June
15-a		Leadership Group Planning and Letters to Confirm Participants	CVSC	Send Letter	May/June
10	Jun-10	Prepare semiannual status reports on funding and progress toward completing work plan tasks	CVSC	Expanded Accomplishments report	June
10a		Expanded Accomplishment Report June to State Board and Post		State Board and Regional Board	June
10b		Expanded Accomplishments Report December			December
11	Jun-10	Develop a process for coordinating with RWMG planning and implementation projects with a nexus with salt or nutrient management, and other ongoing efforts on salinity management	CVSC	Draft plan finalize with Staff support	June
11a		Draft IRWM Coordination Plan (consider CalFed Salt IRWM projects)	TAC	Committee	Ongoing
11b		Mailing to IRWM Groups and Briefing at IRWM Roundtable of Regions	CVSC		Complete
11c		Solicit IRWM Projects which impact salt or nutrients, coordinate with those who respond.	CVSC		September
15b		Leadership Group Outreach and Invitations	CVSC	Send Invitation	17-Aug
12	Jul-10	Identify administrative and technical program needs that could be met through in-kind services rather than financial contributions	TAC/Exec	Report to Committee	July
12a		Identify administrative tasks	CVSC		Complete
12b		Identify technical program task likely to use in-kind assistance	TAC		July
12c		Develop system for tracking and evaluating in-kind support and effectiveness	EXEC and CVSC		July

# CV SALTS Initiative 2010 Progress Milestones

Stakeholder (CVSC) Progress Demonstration Status

Update

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#	Timeline	Activity or Effort	Group	Document/Event	Status
12d		Solicit in-kind support	EXEC and CVSC		August
13	Jul-10	Develop a plan to solicit meaningful stakeholder input on an ongoing basis from groups with limited financial resources (disadvantaged communities, EJ groups, etc)	Exec/PEOC	Expand existing efforts and document in plan	August
13a		Identify DAC representatives	Exec	Followup ongoing	June
13b		Draft Plan Outline and solicit EJ and DAC feedback	CVSC	Review with PEOC	Complete
13c		Finalize plan based on feedback	CVSC	Exec Approval	August
14	Jul-10	Assess the value and applicability of the salt and nitrate source pilot implementation study. Review approach and methodology for application of other parts of the region	TAC	Review Pilot - March Draft - April	August
14a		Develop Lessons Learned Committee	TAC		April
14b		Review report and approach	Sub Comm.		May
14c		Document and present approach/methodology changes for future work	TAC	Exec. Review	August
18	Oct-10	Identify geographic data needed (Review after BUOS P-1)	TAC	BUOS P-1 Plus	October
15	Sep-10	Hold the annual meeting of the Leadership Group	Exec/PEOC	Meeting	September
16	Sep-10	Identify the near-term, intermediate, and long-term modeling and data collection/storage needs.	TAC	Scoping	October
16a		Identify what data is needed by CV-SALTS and by local agencies	EXEC/TAC	Discussion	September
16b		Assess current state programs for data storage and collection	TAC	Scoping	September
16c		Building on task 14, and 18 review needs for BUOS	Consultant	Draft	October
16d		Identify future needs based on rest of CV-SALTS Workplan Outline	Consultant	document	2010-2011
17	Sep-10	Begin work on surface and groundwater numerical objectives and modeling sensitivity and limitations	TAC	Scoping	2010-2011
17a		Presentation on groundwater regulation and objectives	Regional Board	Presentation	September
17b		Discuss groundwater approaches and management	TAC/Exec		September
17c		Identify priority groundwater concerns/issues	TAC		October
17d		Groundwater objectives goals	Exec		November
19	Nov-10	Complete classification of salt sources	TAC	Scoping *	2010-2011
19a					
19b					
20	Dec-10	Identify data gaps to be filled and initiate effort to develop data	TAC	Scoping *	2010-2011
20a					
20b					
9	May-10	Complete Data Management Approach	TAC	Scoping *	December
9a		Familiarize participants with existing programs and options	TAC	Presentations	August - October
9b		Review options and alternatives	TAC	Subcommittee review	November
9c		Document and present approach and needs	TAC	Presentation	December
21	Dec-10	Identify beneficial use projects to be conducted and initiate collection	TAC		Ongoing
21a		Phase 1 BUOS Study underway	TAC		April
21b		Scoping BUOS Phase 2+	TAC		July
21c		Contracting/Implementation BUOS Phase 2+	TAC		August
22	Dec-10	Develop recommended process for identifying Best Practical Treatment or Control for salinity and nitrate	BMP Committee	Document process	October
23	As needed	Provide information needed for State Water Board tracking of salinity/nutrient planning being done pursuant to the Recycled Water Policy.	CVSC	December	Ongoing

## Straw Proposal - CV-SALTS Policy Statement and Regulatory Framework

The following straw proposal suggests a policy statement and regulatory framework for Central Valley Water Board consideration. The intent of the policy statement and regulatory framework is to define the Water Board's expectations of the CV-SALTS effort and clarify how various salinity related regulatory efforts will be addressed in both the short and long-term. This document is for discussion purposes only and does not represent a recommended approach of the CV-SALTS coalition or the Central Valley Water Board.

### CV-SALTS Policy Statement

Proposed concepts to be included in a policy statement:

- CV-SALTS is a programmatic approach to developing the policies and science to create sustainable salt and nitrate management in the Central Valley.
- Both regulatory and nonregulatory management options will be evaluated and a primary goal of the effort is to update the Water Quality Control Plans for both surface waters and groundwaters of the Region.
- The primary focus will be on the policies and regulations that the Central Valley Water Board can establish to facilitate cost effective salinity management while protecting beneficial uses of surface and ground waters.
- Water supply demands and management can significantly impact the ability to effectively manage salts, therefore, the CV-SALTS effort will be closely coordinated with water supply management and planning efforts.
- There are many parties that have a stake in how salt is managed in the Central Valley. It is critical that all interests be heard and that the public participation process be accessible and transparent to all stakeholders. Sustained engagement by interested parties will be vital to the successful implementation of any salinity management program adopted by the Central Valley Water Board.
- The long-term viability of portions of the Central Valley is dependent on finding cost effective and feasible methods for exporting excess salts out of the valley. However, near term efforts must focus on minimizing salt discharges and reducing the levels of other discharge contaminants in order to reduce the costs, technical feasibility, and environmental impacts of any long-term solutions.
- It is important for the Central Valley Water Board to protect existing and potential future uses of ground and surface waters. However, site specific data and scientific studies have not often been available to confirm that uses designated through general policies can be reasonably achieved. The Central Valley Water Board supports efforts to develop site specific information regarding the existence or attainment of beneficial uses.

## Regulatory Framework for Salt Management

The Central Valley Water Board recognizes that there are many regulatory efforts that must continue to move forward as the broader salinity management plan is developed. To support the Central Valley Water Board's Policy, the following approach will be used to address near and long-term regulatory issues related to salinity:

- The committees and work groups of the CV-SALTS initiative will be the primary forums for coordination of data collection, scientific studies, and policy development. Those committees and work groups are expected to develop and implement work plans to meet their objectives. The Executive Committee will periodically report to the Central Valley Water Board on progress in accomplishing work plan tasks.
- The Central Valley Water Board intends to consider adoption of a comprehensive salinity management plan based on the work of the CV-SALTS participants. The components of that plan are expected to include: (1) reviewing beneficial use designations and providing documentation for any recommended changes, modifications or additions; (2) development of documentation needed to establish numerical salinity and nitrate water quality objectives for waters of the region and (3) development of the implementation program that will be used to achieve compliance with the water quality objectives. This program will contain both regulatory and nonregulatory efforts, and will include provisions to achieve compliance if the nonregulatory efforts are not implemented.
- Although the comprehensive salinity management plan will define how salt discharges will be handled over the long-term, many discharges are confronted with challenges to meet regulatory requirements in the near term. Also, there are a number of regulatory processes that have been initiated that need not be delayed until the comprehensive plan is adopted. The Central Valley Water Board will continue to work with interested parties on these near-term issues, however, the Board expects such efforts to be coordinated with the CV-SALTS initiative. Such coordination may include collaboration with CV-SALTS on scientific studies or policy development or may focus on information exchange. Near-term salinity issues that are expected to be addressed by the Central Valley Water Board in coordination with CV-SALTS include: salt issues that must be addressed in pending or adopted permits; basin planning efforts needed to address site-specific issues in which the feasibility of meeting permit requirements is in question; basin planning efforts that have been ongoing; the development of salinity management or monitoring plans that are applicable to a broad area. Examples of such near term efforts include:
  - o Development of salinity and nutrient management plans for groundwaters as called for in the Recycled Water Policy.
  - o Development of salinity objectives for the lower San Joaquin River. CV-SALTS currently has a work group focused on this effort.

- Implementation of the salinity control program for the San Joaquin River Basin. This includes a Management Agency Agreement with the U.S. Bureau of Reclamation and TMDL load limits that apply to both point and nonpoint source dischargers or the implementation of a real time management program.
- Interim salt policy for waste water treatment. CVCWA and the Central Valley Water Board are working on this policy.
- Salt minimization plans and site specific objectives studies. Recently adopted NPDES permits and WDRs for discharge to land include a requirement to submit salt minimization plans. Some NPDES permits also include provisions for SSO studies. The permittees are working on these plans and studies with Board staff input.
- Promotion of best management practices for salinity control. This includes establishment of a standard process for evaluation of proposed practices followed by the process of reviewing and promoting the use of effective practices.
- Dairy nutrient management plans and salt minimization plans. The dairy industry/ individual dairies prepare the plans for submittal to the Board. The plans apply to over 1,400 dairies and 500,000 acres of crop land.
- Dairy ground water monitoring. Dairies are required to conduct ground water monitoring (salts/nitrates) and are investigating the feasibility of representative monitoring with the Central Valley Water Board.
- Irrigated lands salinity management plans. Several coalition groups are required to develop salinity management plans for specific watersheds. Those coalitions have indicated they will coordinate their efforts with CV-SALTS.
- Irrigated lands monitoring plans. Coalition groups are conducting surface water monitoring that includes salinity and nutrient monitoring at numerous sites. Coalition groups have developed those plans with oversight/approval of the Central Valley Water Board.
- Grasslands Bypass Project – WDRs and MRP order. Although focused on selenium, many of the selenium controls have resulted in salt load reductions. An established stakeholder group provides input on the monitoring efforts.
- Site specific objectives/ use attainability analysis. Historically, interested parties have provided funding to the Board for site-specific Basin Plan Amendments, although no assurance of a specific policy outcome has been given. The Central Valley Water Board will consider, on a case by case basis, any such requests to address site-specific salinity issues. Pursuing such an Amendment will be based on availability of funding for Board staff and consideration of the ability of the discharger to comply with their permit in absence of a Basin Plan Amendment.