AGENDA of the Combined Meeting of the
Economic and Social Impact and Technical Advisory Committees
CV Regional Water Quality Control Board Room
11020 Sun Center Drive #200, Rancho Cordova, CA Map
Thursday, June 10, 2010 9:00 AM to 12:00 PM

Webcast https://www2.gotomeeting.com/join/667671618 Meeting ID: 667-671-618
Teleconference Dial 218-844-4926 Access Code: 667-671-618

1. Welcome, Introductions, Circulate Roster 5 min
2. Review/Approve May 13 Technical Committee Meeting Notes 5 min
3. Upper San Joaquin River Committee Kickoff Update 15 min
   a. Dennis Westcot and Parry Klassen Co-chairs
   b. Participants, study area, scope and efforts discussions
   c. Background meeting with RWQCB June 30, 2010 9:30 to 4:30
   d. Next committee meeting July 26, 2010 in Modesto
4. Meetings and Update Reports from Active Subcommittees 15 min
   a. BMP Subcommittee Agenda
   b. Pilot Lessons Learned
   c. Phase 1 BUOS Subcommittee Update may be updated 40 min
5. Technical Subcommittee Meetings Scheduled 10 min
   a. BUOS Phase 1 Subcommittee meeting 6/24/10 10:00 AM
   b. Best Management Practice Subcommittee next call 6/24/10 3:00 PM
   c. Pilot Lessons Learned and Phase 2 BUOS Meet 6/24/10 1:00 PM
6. Review discuss Progress Demonstration List items 50 min
   a. Review Luce Environmental Science Fellowship Proposal may be updated
   b. Brainstorm Technical Tasks likely to use in-kind contributions
   c. Distributed data collection and management
   d. Data and database planning contact recommendations (July)
7. Scoping BUOS Phase 2 and Coordinated Data Collection Buff sheet 20 min
8. Actions/Recommendations/Report to the Executive Committee 10 min
9. Next meeting date, July 15, 2010 Calendar with locations 5 min

Deferred

10. Implementation Options brainstorming (July)

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

<table>
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<th>Nomination Category</th>
<th>Name and Organization</th>
<th>May</th>
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<tr>
<td>1 Co-chair</td>
<td>Nigel Quinn, Lawrence Berkeley National Laboratory</td>
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<td>2 Co-chair</td>
<td>Lisa Holm, Bureau of Reclamation</td>
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<td>Members</td>
<td>Bob Smith, LWA</td>
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<td>Bruce Houdesthield, NCWA/SacValley WQ Coalition</td>
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<td>Darrin Polhemus, SWRCB, Water Quality</td>
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<td>David Cory, San Joaquin Valley Drainage Authority</td>
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<td>Dennis Westcot SJRGA</td>
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<td>Erick Althorp SSJWQC</td>
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<td>Erika DeHollan, LA County Sanitation</td>
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<td>Joel Miller, Consultant Wetlands</td>
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<td>Jon Schutz, Somach, Simmons and Dunn</td>
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<td>Karl Longley, CVRWQCB</td>
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<td>Karna Harrigfeld, Stockton East Water District</td>
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<td>Lee Mao or Gene Lee, Bureau of Reclamation</td>
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<td>Mark Gowdy, SWRCB, Water Rights</td>
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<td>Mark Larsen, KDWCD</td>
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<td>Michael Johnson or Melissa Turner, MLJ LLC</td>
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<td>Michael Steiger, Andy Safford, Ted Erler &amp; Kalinowski</td>
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<td>Parry Klassen, ESJWQC</td>
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<td>Paula Hansen</td>
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<td>Steve Bayley, City of Tracy</td>
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<td>Tom Reyes or Travis Peterson, City of Vacaville</td>
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<td>Trudi Hughes, California League of Food Processors</td>
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Technical Advisory Committee Membership

Participants Identified:

Anthony Toto, CVRWQCB
Bill Luce, Friant Water Users Authority
Carrie Buckman/Lou Regenmorter CDM
Chris Savage/Tim Schmelzer, Wine Institute
Colleen Haraden, Kennedy/Jenks
Dan Burgard, Cascade Earth Sciences
Diane Beaucarier, CVRWQCB
Don Hodge
Gail Cismowski, CVRWQCB
Gary Carlton, Kennedy/Jenks
Gary Dickenson SWRCB
Jay Simi/Amanda Montgomery, CVRWQCB
Jeanette Wrysinsky Yolo Resource Conservation Dist.
Joel Herr, Systech Water Resources
John Dickey, Newfields
John Herrick, South Delta Water Agency
Laura Foglie, LWA
Loren Harlow and Lee Smith, StoeI Rives LLP
Lou Dambrosio, TWG Wine Institute
Mike Nordstrom, TLBWSD/TLDD
Nancy Comstock, Johnson and Johnson
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
Bruce Thrupp, The Source Group, Inc
Kelli Hart, Newfields Ag & Environmental Resources

Andy Malone/Joe LeClaire, WEI
Betty Yee, CVRWQCB
Chad Dibble, CDFG
Dan Odenweller, RWQCB
David Lara
Debbie Liebersbach, Turlock ID
Emily Alejandrino CVRWQCB
Eric Soto, DWR
Fred Kizito CVRWQCB
Holly Grover, CVRWQCB
Jamil Ibrahim MWH
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
Rolf Frankenbach CDFA FREP
Rudy Schnagl, CVRWQCB
Susan Mills MWH
Thomas Jabusch, Aquatic Science
Bob Braun, Huhtamaki Inc
Henry Buckwalt, WPAA
Emily Rooney, Ag Council
## CV-SALTS Committee Roster

### Economic and Social Cost Committee Membership

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### Participants Identified:

- Mark Larson, KDWCD
- Dennis Westcot SJR GA
Joint Economic and Social Impact and Technical Advisory Committees
Thursday, May 13, 2010 9:00 AM to 12:00 PM

Attendees: See Roster for attendance.

Technical Committee Co-Chair Lisa Holm 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 April 21 Technical Committee Meeting Notes
   
   Motion to approve by Nigel Quinn; Seconded by David Cory; approved with changes.

3. Coordination Programs – San Joaquin River Upstream Salt & Boron BPA
   
   a. RWQCB Transition, Discussion from Regional Board

   b. Subcommittee Recommendation

   An ad-hoc committee was formed at the last meeting to develop a recommendation for the executive committee. That recommendation was presented to the Technical Committee for conditional acceptance. The effort and process for the development of this BPA would move to CV-SALTS and the listed conditions would apply. In effect, this could be a sub-set of the entire CV-SALTS planning/BPA effort, with this particular region addressed by a committee appointed by the Executive Committee.

   Karna raised the issue of whether or not the transition of the responsibility to CV-SALTS would slow down the process and if the intent was to keep up with the schedule laid out by the Regional/State Board? Amanda responded that the effort is currently aligned with State Board efforts to update the WQCP by the first quarter of 2012 and that they had planned to share the modeling effort. Rudy added that this should still be the case, but that the Work Plan and schedule should be reviewed by the new committee as soon as possible, using the Regional/State Board’s plan as a guideline. One big advantage is that CV-SALTS can now frame the implementation strategy. David Cory agreed with Amanda that it will be key to keep the effort aligned with the SWRCB effort (and coordinated). Technical issues from the new Committee will still come back to the TAC.

   Rudy Schnagl offered to coordinate with State Board on timing and related to the Salt Boron TMDL and San Joaquin flow efforts and to provide a detailed report back to the TAC.
4. Review discuss Progress Demonstration List

a. Technical Committee Work Plan approval

The subcommittee met on Monday and updated the list with a little more detail under each item. There were a few items where detailed would be best added once the BUOS Phase 1 study is completed and the SNPS Review is finished, and so those items will be updated at that time (probably July/August).

Item 1 a, b, c, d, e were not completed last year. Item 1 b (contracting work plan elements) is next and has been started with the BUOS Phase 1.

Management team development and implementation: Building out the capacity and infrastructure of the coalition so CV-SALTS can accomplish all this work. The coalition is currently working with the newly passed budget to determine what they can do.

Daniel reviewed the items that the subcommittee changed.

Item 4 (task descriptions) – adding more detail to the work plan.

Items 6 a and b - setting and pursuing funding goals. The executive committee appointed a subcommittee to work on this. The membership funding has been done on behalf of the coalition, but the next step is to go after grants.

Item 7 – looking at management options and alternatives to be evaluated – this task was broken up into identifying the management options and alternatives and then identifying a screening or analytical evaluation tool. The subcommittee identified the BMP subcommittee as an appropriate venue for this task.

Item 10 – preparing a semi-annual status report. We expect to expand the accomplishments report.

Item 11 – developing a process for coordinating with regional water management groups, planning and implementation projects. One element is to identify the information would we want those groups to give us.

The committee laid out a few steps to identify administrative and technical program needs that can be met through in-kind services rather than financial contributions. In order to enable offers of in-kind service, tasks will have to be scoped out, so this task will be ongoing.

Item 13 – Developing a plan to solicit meaningful stakeholder input from groups with limited financial resources. This will be a our template for involving the people who are really important to the process, but don’t have the financial ability or physical proximity to be involved. There is currently a quarterly conference call, but need to find a way to get them even more involved and engaged.
Item 14 - Assessing the value and applicability of the pilot salt sources study, and using the study to identify where we should go from here.

Item 16 - identifying near-term, medium-term, and long-term data storage and collection needs. This item needs more discussion and work to identify the data that is really needed and assess the state programs to understand what we can use and what changes are needed.

Item 20 is one of the tasks that will be scoped in the next few months, but will likely go beyond 2010.

Item 9 - completing data management approach. This was moved down the list following the discussion in the last meeting.

Item 21 - Identifying beneficial use and objectives. Phase 1 has been done and we are currently working on Phase 2.

Progress Demonstration List items are ordered by their schedule/status date, not numerically by task. We propose that the work plan will be a living document and a way to monitor current projects and progress on those projects, including updating documents. This annual effort will be referred to as the “Progress Demonstration List” and serve as an annual snapshot of the larger work plan. A “key” will be developed to tie Progress Demonstration List item numbers to Work Plan task numbers.

A suggestion was made that the existing ad-hoc subcommittees also be listed on the work plan, along with the committee’s mission statement/agendas. Daniel agreed and said that lists would be available before the next meeting. A suggestion was made that the subcommittee meetings be included in the meeting calendar, with links to members, agendas, and call in numbers. Daniel agreed to follow up on these suggestions before the next TAC meeting.

A suggestion was made that updates to the plan be recorded each month in the document for tracking by the TAC. Major changes and schedule issues should be brought to the Executive Committee for approval and status reports.

**Motion to approve Progress Demonstration List and recommend executive committee approval. Moved by Debbie Webster. Seconded by David Cory, motion passed.**

5. **Lessons Learned** Salt/Nitrate Source Pilot Implementation Study

This is item 14 on the Progress Demonstration List. The subcommittee met on Tuesday. They discussed the report background and what the group was looking for from the pilot implementation study. It wasn’t intended to be a definitive study and to reach regulatory conclusions. The subcommittee will develop a “Lessons Learned” report; an initial outline starts on page 22 of the agenda package, with some of Lisa Holm and Daniel Cozad’s thoughts and questions embedded as preliminary thoughts.
The subcommittee decided that the salt sources study was only one piece of information needed for salt and nitrate management planning. The subcommittee discussed that they would also need to information like water budgets, fate and transport of salts, as examples. As a starting point, the subcommittee discussed the concept of triage: developing a methodology to prioritize or categorize regions for salt/nitrate management plans. As an initial discussion, for example, the subcommittee discussed what the minimal level of information would be needed to participate in the plan, say for regions with minimal salt/nutrient issues or regions who believe this is the case and want to minimize their participation. The list developed in the call is on page 30 of the agenda package. The subcommittee was given a homework assignment of thinking about what information the most impacted regions would need – perhaps even think of this as levels of information: for participation in this planning effort, or beyond that, the information needs to develop a regional implementation strategy. The subcommittee also discussed the use of the BUOS Phase 1 Study in the “triage” concept. Pamela commented that no area of the region would be able to “opt out” of the basin plan process and basin plan amendment and the subcommittee relayed that they had discussed the need for environmental and land use monitoring, periodic reporting, and the potential use of monitoring-related “triggers” which could bump regions into a higher triage category.

There was a question about what kind of feedback the committee received from the public. Daniel replied that much of the feedback are those that are already participating in salt management or those looking to get involved in salt management. We heard that the local regions know how they want to manage salt and requested that CV-SALTS tell the communities the options protect beneficial uses.

Next meeting is May 26 at 9:00 am in the Rancho Cordova offices of Kennedy Jenks. There will be a call-in number as well.

A participant asked what the deadline was for the report. Lisa replied that the preliminary goal was to have something for July.

6. **Scoping BUOS Phase 2** and **Coordinated Data Collection Buff sheet**

Not much progress has been made to this point on scoping Phase 2. Much of the effort that has been put into examining lessons learned from the Sources Study and the work outlined in the Phase 1 BUOS is going to put the committee in a better position to proceed with Phase 2 scoping. Daniel suggested that the committee tackle Phase 2 in two portions. First compile a list of beneficial uses that committee members view as problematic, misapplied, wrong, or causing conflicts. For example, calling every water source a municipal water source, the definition of agriculture use and designation of Ag irrigation as streams etc. Second identify the beneficial uses or physical areas that need special attention.

Daniel asked for people to send him suggestions as to beneficial use issues that need to be addressed or reviewed, and may be integrated into use attainability studies or more extensive studies.
Parry suggested that his group has a list of waterways that, except for extremely wet years, never reach the San Joaquin River - either due to agriculture usage or because of percolation and evaporation. Their beneficial uses were applied through the tributary rule, but they are only occasionally true tributaries that provide those beneficial uses.

Rudy suggested that the regional board has a list of issues that the board has identified as needing attention through their Triennial Review Process, and a couple of those issues include beneficial uses – Ag drains and water bodies including groundwater are the topics. Rudy will summarize and provide this information for the committee.

Pamela Creedon commented that most of the issues the group is dealing with are identifying uses and therefore objectives that are not appropriate or accurate. One issue is identification that is a blanket application for all water bodies – surface and ground water and those that supply them. Even if they keep or don’t keep the definition defined by that policy because of salt concentrations, they still apply regardless and need to be specifically designated in the basin plan (i.e. remember that beneficial uses apply to a broad spectrum of water quality constituents). The other thing with the ground water is the general application that all ground waters are used for drinking water. The designation of the beneficial use is valuable but some applications are problematic for surface and ground water. There the problem is not so much the use but the numeric objective Nigel suggested that perhaps a little refinement is needed. Pamela agreed that redesignation or revision may be needed.

Bob Smith commented that for discharges to ground water there is the issue of first encountered groundwater as the compliance point.

A suggestion was made that CV-SALTS should verify that the beneficial use is there and not just rely on what’s in the Basin Plan.

A comment was made that from a water supply management basis, one of the problems is the issue is running up against cost, solution space and regulations. The economical route may be to go de-designate or redesignate, and CV-SALTS could be involved in the redesignation process as part of its implementation strategy.

Daniel set a deadline of June 1st for suggested target issues and beneficial use areas that are known problems.

A suggestion was made that a group of interested/involved parties get together to put the list together. Daniel responded that the idea was to start with a few ideas and then go to a larger audience.

Question about whether these items will be included in the Phase 2 scope of work. Daniel responded, yes.
7. Westside Salt/Nitrate Study Status - Reclamation

Reclamation is examining the subareas that receive water from the DMC and how DMC-delivered salts move through the Valley and when and if they end up in the San Joaquin River. Reclamation’s intent is to look for additional implementation strategies to mitigate, offset and control salts and also to complement and expand upon CV-SALTS salt sources work.

Reclamation has been working on refining and updating WARMF and WESTSIM models. Instead of traditional WARMF hydrologic watershed boundaries, we are using irrigation district and wetland boundaries. Water movement is dictated by irrigation district infrastructure in the Valley floor. Developing monthly 2000-2007 water budgets first, then salt and nitrate budgets, as well as looking at residence time and fate of water, salt, and nitrates. They are hoping to post the technical approach and results on the web in the near future. Initial results should be available in a couple of weeks. Also trying to incorporate lessons learned from the salt sources study and to identify what information may still be needed.

Lisa Holm will send an update to Daniel when the website is available.

8. Actions/Recommendations/Report to the Executive Committee

1) Progress Demonstration List
2) Subcommittee lists and meetings on calendar
3) Request submittal of Beneficial Use Issues (for BUOS Phase 2 scoping)

9. Subcommittee Meetings and Reports

a. BUOS Phase 1 Subcommittee meeting 5/26/10 10:30 AM
b. Best Management Practice Subcommittee next call 5/25/10 3:00 PM
c. Pilot Lessons Learned and Phase 2 BUOS Meet 5/26/10 9:00 AM

Daniel asked if the entire TAC committee would like to receive information and notices of the subcommittee meetings. Consensus is no.

10. Next meeting date, June 10, 2010 Calendar with locations
Active CV-SALTS Subcommittees

Updated 6/8/2010

Technical Committee Subcommittees

Salt and Nitrate Source Pilot Implementation Study Lessons Learned Report
Lisa Holm Chair
Mona Shulman Met Last
Michael Nordstrom Tuesday 11-May-10 9:30 AM
Nigel Quinn Wednesday 5/26/2010 9:00 AM
David Cory Next Meeting
Joe DiGiorgio Tuesday 6/29/2010 1:00 PM
Sarah Harrigfeld
Linda Dorn
Debbie Webster
Bob Braun
Melissa Turner
Robert Smith
John Dickey
Rudy Schnagl
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 Met Last
Chris Savage Tuesday 25-May-10 3:00 PM
Bob Chrobak
Parry Klassen Next Meeting
Linda Dorn
Joe DiGiorgio Tuesday 6/29/2010 3:00 PM
Debbie Webster
Bruce Houkesheldt
Michael Johnson
Melissa Turner
Rudy Schnagl
Daniel Cozad

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 Need Chair
Nigel Quinn Met Last
Mona Shulman Tuesday 4-May-10 10:30 AM
Parry Klassen Wednesday 26-May-10 10:30 AM
Lisa Holm Next Meeting
Dennis Westcot Tuesday 6/29/2010 10:00 AM
Travis Peterson
David Cory
Michael Nordstrom
Eric Berntsen
Papantzin Cid
Rudy Schnagl
Daniel Cozad
Joseph McGahan
Coileen Haraden

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 Met Last
Trudi Hughes Friday 14-May-10 9:00 AM
Karl Longley Thursday 3-Jun-10 4:00 PM
Tim Schmelzer Next Meeting
Mona Shulman 9-Jul-10 8:00 AM
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 Need Chair
David Cory Met Last
Parry Klassen 7-May-10 11:00 AM
Karna Harrigfeld 3-Jun-10 10:00 AM Modesto
Lisa Holm Next Meeting
Mona Shulman 26-Jul-10 10:00 AM Modesto
Jose Farias
Debbie Webster
Bobbi Larson
Mark Gowdy
Jeff Willett
Debbie Liebersbach
Rudy Schnagl
Daniel Cozad

The Lower SJR Committee is charged with the scoping, development and implementation of salt and boron beneficial use and object study for the Lower San Joaquin River, formerly the Upperstream TMDL standards process under the CVRQCB.
BMP Subcommittee Recommendations and Summary Notes from 5/25/2010

Participants

1. Trudi Hughes
2. Tim Schmelzer
3. Chris Savage
4. Bob Chrobak
5. Parry Klassen
6. Linda Dorn
7. Joe DiGiorgio
8. Debbie Webster
9. Rudy Schnagl
10. Daniel Cozad
11. Rich Hails
12. Jim Martin
13. Travis Peterson
14. Nigel Quinn
15. Burt Fleischer

Recommendations

1. Consider alternative nomenclature: Best or Beneficial Management Practices
2. Identify the Salt and Nitrate BMP continuum, from industry, communities and permittees just beginning the process to industries, communities and processes with well documented BMP plans with supporting technical information.
   a. Describe the continuum with benefits and examples
   b. Recommend actions based on groups stage in the continuum
3. Develop a Management Practice Tool Box
   a. 2 models to consider
      i. ASCE/EPA –International Stormwater BMP Database (technical)
         http://www.bmpdatabase.org/
      ii. CUWCC for conservation - Foundational and programmatic (policy/indirect)
         http://www.cuwcc.org/bmps.aspx
   b. Toolbox to contain the BMPs and technology that industries and communities have selected them for processes and methods
   c. Contains direct impact BMPs (eg.treatment) and indirect impact BMPs (eg. public outreach)
   d. Applicable practices, what they reduce or control and what they do not (limitations)
   e. Efficiency or effectiveness should be considered
   f. Net environmental benefit should be considered
   g. Related Monitoring and reporting requirements
   h. Documents are available to be linked
      i. Food and Agriculture management practices (need link)
      ii. Etc
iii. Etc
   i. Make information accessible potentially available on the web

4. Develop a CV-SALTS process and framework for screening and review
   a. Process and steps for screening and review and referral to regulatory review
   b. Information needed for screening a BMP (beneficial)
   c. Information for review (evidence of proper selection)
   d. Information for Regulatory compliance (Permit required data)
   e. Information for verification of reductions or improvements
   f. Performance Monitoring factors and metrics
   g. Regulatory monitoring

5. Identify BMP Plan Models that have submitted review information as they are completed
   a. Wine Institute land application
   b. Food processing land application
   c. Dairy General Order
   d. Wetlands
   e. Wastewater salt minimization
   f. Others

6. BMP Evaluation
   a. Who and How (Expanding Item 4 above)
   b. Screening Process
      i. Trigger to screen
      ii. Data and information required for screening
      iii. Accept or Appeal
   c. Review Process
      i. Triggers to review
      ii. Data and information needed to review
      iii. Accept or appeal
      iv. Document

7. Regulatory approval
   a. Regulatory process
   b. Data and information required for regulatory review and approval
   c. Monitoring and reporting
   d. Adaptive management
   e.

**Facility Community BMP Selection Process**

1. Identify processes that use water
2. Review the constituents
3. What is the limiting constituent for each case or process
4. What practices work for the constituent to the level needed and what are the limitations
5. Is it implementable?
6. What additions would be needed to meet water quality standards (objectives for beneficial uses)
7. Document practices and implementation
8. Performance and water quality monitoring

Develop a Framework for BMPS

Participants discussed the need for a framework to classify and characterize BMPS a preliminary outline is proposed for discussion.

Type

A. Policy/Legislation
B. Regulatory or
C. Non-Regulatory or Agreement
D. Program (industry or other basis)
E. Independent Action

Practice or Management Alternative Categories

1. Salt and Nitrate sources reduction, limiting salt entering the region/facility/industry
2. Segregation of salts and nitrates from process or in use
3. Salt and Nitrate Treatment – end of process
4. New or Developing BMP

Applicability Classes

a. Universally applicable where encountered
b. Commonly applicable to range of processes and industries
c. Selectively applicable significant limitations to usage
d. Limited application to source, industry or process
e. Undocumented applicability limited information or evidence
f. Alternative practices or methods/demonstration or pilots

Monitoring and Reporting Group (risk based)

i. Confirm Evidence – startup, annual or 5 year and compliance
ii. Complex or dependent on a variety of factors +/- quarterly and trigger circumstances
iii. Development or demonstration – Intensive during development and startup, QA/QC and Peer review
CV-SALTS Subcommittee Meeting

Best Management Practice Subcommittee

When: Tuesday, June 29, 2010 - 3:00 PM-4:30 PM
Location: Kennedy/Jenks Rancho Cordova, 10850 Gold Center Drive, Suite 350 Rancho Cordova, CA 95670

Conference #: (218) 339-4600 Participant Code: 927571#

Agenda

1. Welcome and Introductions
2. Review Notes Document and Changes
3. Discuss Approach to finalizing BMP Document, scope and phasing
4. Discuss Other BMP documents
5. Management Alternatives brainstorming for salinity transferred to BMP Committee
   a. Discuss process and schedule
6. Next Meeting/Call
9 Subcommittee Notes

9.1 Subcommittee members

Technical Committee Subcommittees
Salt and Nitrate Source Pilot Implementation Study Lessons Learned Report
- Lisa Holm
- Robert Smith
- Mona Shulman
- Michael Nordstrom
- Nigel Quinn
- David Cory
- Joe DiGiorgio
- Rudy Schnagl
- John Dickey
- Linda Dorn
- Daniel Cozad

9.2 Overview and General Discussion Items

1. What do we need to know, where do we need to know it and what is the level of detail/accuracy needed?
2. Can a lower level of information on impact and complexity be used to complete triage?
3. What do regions need to do and from CV-SALTS to plan for salinity and nitrate?
4. How do we integrate the pilot and other areas into the overall characterization of CV?
5. How is #4 above harnessed for salt management for the CV?
6. Need for synthesis of data in the report
7. Need to determine a measure of [certainty] how sure are you that you are right
8. Identify problems and develop the information to fill the problems we are trying to manage
9. Need information to support regulatory and non-regulatory efforts including triggers and necessary commitment from areas.

9.3 Cost and Duration Implications for Rest of the Central Valley

What can we say we learned about the cost and time needed for the “pilot level” scope of work for the rest of the Central Valley.

The pilot implementation study covered about 10% area coverage, cost approximately $500K and took about 8 months. The Pilot areas were selected because they had considerable data and complexity. The other areas of the region may not be as complex or have as much data. That said, the assumptions will need more documentation.

<table>
<thead>
<tr>
<th>Study</th>
<th>Area Covered</th>
<th>Population</th>
<th>Cost</th>
<th>Duration</th>
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<td>3 pilots</td>
<td>9% of CV</td>
<td>13% of CV</td>
<td>$500,000</td>
<td>8 months</td>
</tr>
<tr>
<td>Rest of CV</td>
<td>87%</td>
<td></td>
<td>$3,846,154</td>
<td>16 months</td>
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<tr>
<td>Rest of CV</td>
<td>91%</td>
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<td>$5,555,556</td>
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<tr>
<td>Average Cost</td>
<td>91%</td>
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<td>$4,700,855</td>
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</table>

Comment [J BD39]: By defining WQO’s so ass cap and excess salt can be assessed and management/ligation can be quantified and monitored.

Comment [J BD40]: Less cost??

Comment [J BD41]: More cost??

Comment [J BD42]: This needs to be jacked to complete study

Comment [J BD43]: ditto
9.4 *Three Levels of Detail to the Scope of Information for Regions*

- Conceptual for Triage
- What does an area need to provide to CV-SALTS to demonstrate an area has or is capable of managing salts and nitrates
- What would CV-SALTS need to develop a conservative “default” management plan for the region and
- What level of efforts would be required to revise and get it accepted in a new basin plan amendment?

9.5 *Development of a Conceptual Model of Assessment*

The committee attempted to develop a model for the level of information needed for assessment shown below.

9.5.1 *Minimum Level of Complexity and Impact*

Minimum information needed for Triage process/areas/regions and for lowest threat level triage for a long term steady state scenario, with exceptions noted:

**Information Needed**

1. Physical Description of Region. Region should identify itself by physical boundaries and participating stakeholders. (GIS shapefile?)
2. Water Budget. Region should develop one or more water budget examples that characterize the water use of that region, at a scale that is appropriate to salinity and nitrate management.

*The figure below represents the elements of a water budget.*

2.1. Define appropriate physical scale: These may be traditional watershed boundaries, or they may need to adapt to human manipulation of watershed. Either way, they must maintain integrity between unit boundaries and throughout the region. (Or for a minimum level can it be the entire region?)

2.2. Define appropriate temporal scale: Region should determine on which temporal scale salinity/nitrate issues are most appropriately addressed, and the water budget should be developed to support this scale. If there are no existing issues (existing water quality objectives or local water quality operational guidelines), then region’s should consider as a default a monthly temporal scale for surface water and an annual/decadal? scale for groundwater.

2.2.1. Residence time consideration – since some water quality solutions come through changing the timing of discharge or of water supply management.

**2.2.2. Exceptions to the steady state assumption and other factors needed to understand the water balance**

2.3. Define representative budget scenario(s). Region should account for sources, qualities and uses of source waters and should identify waters leaving region. The water budget should consider all sources of water, as well as the current priorities and constraints of their use and properties. For example, if a region’s water supply is entirely surface water in wet years, but entirely ground water in dry years, a region should develop water budgets for both of those hydrologic conditions. If water use decisions are dependent on other constraints that can vary significantly, those should be considered when defining representative scenarios.
2.3.1. Surface water (source and receiving) – *If there are major surface waters flowing through, but not entirely used as a supply, should there be some way to just pass through that water/salt and focus on incremental effect on the water body?*

2.3.2. Groundwater (source and receiving)

2.3.3. Recycled water

2.3.4. Constraints (i.e. hydrology, regulatory demands, habitat considerations, flood control, water supply variability, drought planning, future development, water rights)

3. Land Cover. *Region should provide descriptions of land cover in region.*

3.1. At current development level and at estimated build out (or through end of existing general plan coverage)

3.2. Identify associated water sources

3.3. CLUs where different from standard CVSALTS assumptions

3.4. Identify any salinity/nitrate best management practices currently supported by region

4. Salt Budget. *Region should develop salt budgets that correspond to each representative water budget developed.*  
*The figure below represents the elements of a salt (mass) budget.*

4.1. Identify Salt Sources. *Region should identify all salt sources.*  
Default values by land cover are provided by CVSALTS. Salt source categories are water supply, land cover, and atmospheric deposition. Salt sources should be described in terms of concentration, loading rate (per acre, per region), and acres of associated land cover. Salt sources should be ranked by largest to smallest sources, with a focus on the largest sources relative to each major receiving water body.

4.2. Identify Salt Sinks. *Region should identify all salt sinks: surface water, groundwater, land disposal, off-site shipping.*

4.3. Inventory in soils, both as a source of nitrate to groundwater and interim storage

4.4. Concentration processes and locations. *Region should identify activities that are currently concentrating salts a) within the region generally and b) in localized hot spots.*

4.5. Identify all site-specific salinity water quality objectives in the region.
4.6. Identify any existing problem areas, hotspots and compliance issues for surface and groundwaters within the region (at any scale).

4.7. Identify any current salinity management plans, projects or activities being implemented in the region.

4.8. Identify current plans, regulations, or projects designed to maintain or reduce salt that is transported to neighboring regions.

4.9. Identify current salinity monitoring locations.

4.10. Identify performance measures and triggers. Based on nitrate budget, region should identify performance monitoring locations (these may include water quality, land cover, planning or other activities) as well as “triggers” that would require reassessment of the region’s status within the long term Central Valley salinity and nitrate management plan.

5. Nitrate Budget: region should develop nitrate budgets that correspond to each representative water budget developed.

5.1. Identify Nitrate sources. Region should identify all nitrate sources, including nitrate precursors. Default values by land cover are provided by CVSALTS. Nitrate source categories are water supply, land cover (fertilizer application), and atmospheric deposition. Nitrate and nitrate precursor sources should be described in terms of concentration, loading rate (per acre, per sub-region), and acres of associated land cover. Transformation of precursors into nitrates should be identified by facilitating activity. Nitrate and nitrate precursor sources should be ranked by largest to smallest sources, with a focus on the largest sources relative to each major receiving water body.

5.2. Identify Nitrate Sinks. Region should identify all nitrate sinks: surface water, groundwater, land disposal, off-site shipping.

5.3. Nitrogen loss in surface, wetlands, near-surface groundwater

5.4. Inventory of nitrate in soils that can enter groundwater

5.5. Identify all site-specific nitrate, dissolved oxygen, and related water quality objectives in the region.

5.6. Identify any existing problem areas, hotspots and compliance issues for surface and groundwaters within the region (at any scale).

5.7. Identify any current nitrate or nutrient management plans, projects or activities being implemented in the region.

5.8. Identify current plans, regulations, or projects designed to maintain or reduce nitrate that is transported to neighboring regions.

5.9. Identify current nitrate monitoring locations.

5.10. Identify performance measures and triggers. Based on nitrate budget, region must identify performance monitoring locations (can include water quality, land cover, planning or other activities) as well as “triggers” that would require reassessment of the region’s status within the long term Central Valley salinity and nitrate management plan.

Process, Monitoring, and Reporting

6. Triennial monitoring reporting requirement – Region is required to report any changes in the reported information (items 1–5). These changes can include:

6.1. New projects/land covers that have the potential to increase salt/nitrate

6.2. BMP implementation status and impacts on salt and nitrate

6.3. Other region-specific suggested or required documentation to confirm status or update information
9.5.2 Higher Level of Complexity and Impact
What level of detail is needed between the low and highest levels of impact and complexity? How many levels are needed?

9.5.3 Highest Level Complexity and Impact
(Subcommittee Work Assignment)

Committee members are to propose the level of information and verification needed for the CV-SALTS proves for Highest Tier areas.

Highest Level Complexity and Salt Impact
1. Physical Description of Region. Region should identify itself by physical boundaries and participating stakeholders. (GIS shapefile format)
   1.1. Existing Institutional and legal frameworks for addressing salt/nitrates (planning, funding, implementing)
2. Water Budget. Region should develop one or more water budget examples that characterize the use of that region, at a scale that is appropriate to salinity and nitrate management. For more complex regions, numerical models should be used to develop water, salt, and nitrate budgets. The figure below represents the elements of a water budget

2.1. Define appropriate physical scale: These may be traditional watershed boundaries, or they may need to adapt to human manipulation of watershed. Either way, they must maintain integrity between unit boundaries and throughout the region. (Or for a minimum level can it be the entire region?)
2.2. Define appropriate temporal scale: Region should determine on which temporal scale salinity/nitrate issues are most appropriately addressed, and the water budget should be developed to support this scale. If there are no existing issues (existing water quality objectives or local water quality operational guidelines), then region’s should consider as a default a monthly temporal scale for surface water and an annual/decadal? scale for groundwater.
   2.2.1. Residence time consideration – since some water quality solutions come through changing the timing of discharge or of water supply management.
   2.2.2. Exceptions to the steady state assumption and other factors needed to understand the water balance
3. Define representative budget scenario(s). Region should account for sources, qualities and uses of source waters and should identifywaters leaving region. The water budget should consider all sources of water, as well as the current priorities and constraints of their use and properties. For example, if a region’s water supply is entirely surface water in wet years, but entirely groundwater in dry years, a region should develop water budgets for both of those hydrologic conditions. If water use decisions are dependent on other constraints that can vary significantly, those should be considered when defining representative scenarios.
   2.3.1. Surface water (source and receiving) – If there are major surface waters flowing through, but not entirely used as a supply, should there be some way to just pass through that water/salt and focus on incremental effect on the water body?
      2.3.1.1. Identify drivers of surface water supply management
      2.3.1.2. Identify existing surface water models
      2.3.1.3. Identify evapo-transpiration rates throughout region
   2.3.2. Groundwater (source and receiving)

Comment [J BD45]: if conservative assumptions serve as default values then individual area make as complex as needed to adequately characterize.
Comment [J BD46]: Timeline, sequestering/mitigation plans monitoring plan.....financial liabilities covered in case of default???
2.3.2.1. Identify drivers and constraints of ground water supply management
2.3.2.2. Identify existing groundwater models
2.3.3. Recycled water
2.3.4. Constraints (i.e. hydrology, regulatory demands, habitat considerations, flood control, water supply variability, drought planning, future development, water rights)
2.3.5. Current state of development and future state of development

3. Land Cover. Region should provide descriptions of land cover in region.
3.1. At current development level and at estimated build out (or through end of existing general plan coverage)
3.2. Identify associated water sources
3.3. CUs where different from standard CVSALTS assumptions
3.4. Salt and nitrate Loading rates where different from standard CVSALTS assumptions, including documentation of replacement values
3.5. Identify any salinity/nitrate best management practices currently supported by region
3.6. Identify the largest drivers of land cover decisions in region

4. Salt Budget. Region should develop salt budgets that correspond to each representative water budget developed. The figure below represents the elements of a salt (mass) budget.

4.1. Identify Salt Sources. Region should identify all salt sources. Default values by land cover are provided by CVSALTS. Salt source categories are water supply, land cover, and atmospheric deposition. Salt sources should be described in terms of concentration, loading rate (per acre, per region), and acres of associated land cover.
4.1.1. Prioritize Salt sources: Salt sources should be ranked by largest to smallest sources, with a focus on the largest sources relative to each major receiving water body. Differentiate between anthropogenic (controllable) and non-anthropogenic sources.
4.2. Identify Salt Sinks. Region should identify all salt sinks: surface water, groundwater, land disposal, off-site shipping.
4.3. Inventory in soils. Is this meant as sink, or background condition characterization? I would move under 3.1, 3.2 (or both?)
4.4. Concentration processes and locations. *Region should identify activities that are currently concentrating salts a) within the region generally and b) in localized hot spots.*

4.5. Identify where residence time and/or proximity is a factor in surface water balances of salt.

4.6. Identify all site-specific salinity water quality objectives in the region.
   4.6.1. Identify all existing control programs adopted in region and status of implementation.
   4.6.2. Are existing control programs in place to regulate throughout the watershed (including all of the region’s neighboring regions)?

4.7. Identify any existing problem areas, hotspots and compliance issues for surface and groundwaters within the region (at any scale).

4.8. Identify any current salinity management plans, projects or activities being implemented in the region.
   4.8.1. Identify current implementation of appropriate best management practices.
   4.8.2. Scale, technology, economics, other drivers/benefits for each project.

4.9. Identify current plans, regulations, or projects designed to maintain or reduce salt that is transported to neighboring regions.

4.10. Identify current salinity monitoring locations.

4.11. Identify current salinity monitoring gaps and funding/schedule to fill.

4.12. Identify performance measures and triggers. *Based on nitrate budget, region must identify performance monitoring locations (can include water quality, land cover, planning or other activities) as well as “triggers” that would require reassessment of the region’s status within the long term Central Valley salinity and nitrate management plan.*

5. Nitrate Budget- *Region should develop nitrate budgets that correspond to each representative water budget developed.*

5.1. Identify Nitrate sources. *Region should identify all nitrate sources, including nitrate precursors. Default values by land cover are provided by CVSALTS. Nitrate source categories are water supply, land cover (fertilizer application), and atmospheric deposition(?). Nitrate and nitrate pre-cursor sources should be described in terms of concentration, loading rate (per acre, per region), and acres of associated land cover. Transformation of pre-cursors into nitrates should be identified by facilitating activity. Nitrate and nitrate pre-cursor sources should be ranked by largest to smallest sources, with a focus on the largest sources relative to each major receiving water body.*
   5.1.1. Prioritize Nitrate sources: *Nitrate and nitrate pre-cursor sources should be ranked by largest to smallest sources, with a focus on the largest sources relative to each major receiving water body. Differentiate between anthropogenic (controllable) and non-anthropogenic sources.*

5.2. Identify Nitrate Sinks. *Region should identify all nitrate sinks: surface water, groundwater, land disposal, off-site shipping.*

5.3. Nitrogen loss – is this now captured in 4.1?

5.4. Inventory in soils – again, my grasp of this is inadequate.

5.5. Identify all site-specific nitrate and dissolved oxygen water quality objectives in the region.
   5.5.1. Identify all existing control programs adopted in region and status of implementation.
   5.5.2. Are existing control programs in place to regulate throughout the watershed (including all of the region’s neighboring regions)?

5.6. Identify any existing problem areas, hotspots and compliance issues for surface and groundwaters within the region (at any scale).
5.7. Identify any current nitrate or nutrient management plans, projects or activities being implemented in the region.
   5.7.1. Identify current implementation of appropriate best management practices.
   5.7.2. Scale, technology, economics, other drivers/benefits for each project.
5.8. Identify current plans, regulations, or projects designed to maintain or reduce nitrate that is transported to neighboring regions.
5.9. Identify current nitrate monitoring locations.
5.10. Identify current nitrate monitoring gaps and funding/schedule to fill.
5.11. Identify performance measures and triggers. Based on nitrate budget, region must identify performance monitoring locations (can include water quality, land cover, planning or other activities) as well as “triggers” that would require reassessment of the region’s status within the long term Central Valley salinity and nitrate management plan.
6. Salinity/Nitrate Management Strategy
7. Economic Analysis

Process, Monitoring, and Reporting
8. Annual monitoring reporting requirement – Region is required to report any changes in the reported information (items 1-5). These changes can include:
   8.1. New projects/land covers that have the potential to increase salt/nitrate
   8.2. BMP implementation status and impacts on salt and nitrate
   8.3. Other region-specific suggested or required documentation to confirm status or update information
9.

Management Alternatives and Management Strategies
Proposed Implementation Plan and funding
CV-SALTS Subcommittee Meeting

Salt and Nitrate Source Study Lessons Learned Subcommittee

When: Tuesday, June 29, 2010 1:00 PM-3:00 PM

Location: Kennedy/Jenks Rancho Cordova, 10850 Gold Center Drive, Suite 350 Rancho Cordova, CA 95670

Conference #: (218) 339-4600 Participant Code: 927571#

Agenda

1. Welcome and Introductions
2. Review Comments and Report Document Changes
3. Review Report Lessons Section
4. Next phases of BUOS
5. Next Meeting/Call
6. For Membership see the Subcommittee Membership and Scope Document
8 June 2010

Joseph C. McGahan
San Joaquin Valley Drainage Authority
P. O. Box 1122
887 N. Irwin Street
Hanford, CA 93232

Subject: Monthly Project Status Report – May 2010
Beneficial Use Objective Phase I
K/J 1064003*00

Dear Joe:

In accordance with the Agreement for the Beneficial Use Objective (BUO), Phase I, Kennedy/Jenks Consultants (K/J) is pleased to submit this Monthly Status Report for consulting services for the BUO Phase I effort. This project status report covers activities performed during April and May 2010. The status report summarizes work activities by task for the period including anticipated work during the next period, and identifies issues (if any) that might impact the work scope, schedule or budget for authorized work tasks under the Agreement.

Summary of Activities

Task 1: Identification of Existing and Potential Beneficial Uses in the Central Valley

Task 1.1: Base Map Development

Work Completed During the Period

• Collected GIS layers listed in RFP.
• Prepared data request for CV-SALTS to distribute to the Department of Water Resources (DWR).
• Developed preliminary base map.
• Set-up file structure and reviewed metadata of data received for completeness.

Upcoming Work in the Next Period

• Follow-up on outstanding data requests with the Department of Water Resources Water Rights group, for the Delta boundary. We received an incomplete dataset for the Delta-Estuary boundary, Mark Goudy from DWR is coordinating with their GIS group.
• Summarize data gaps.


Task 1.2: Beneficial Use Mapping

Work Completed During the Period

- Developed attribute tables for surface water and ground water Beneficial use(s).
- Assigned categories (Existing, Exempt and Potential).
- Identified a means to link beneficial uses and water quality objectives with DWR California Water data set (Calw221.shp).

Upcoming Work in the Next Period

- Finalize beneficial use mapping.
- Apply tributary rule, for tributaries without beneficial use assignments.

Task 1.3: GeoDatabase Development and GIS Web Viewer

Work Completed During the Period

- GeoDatabase development is on-going, as shapefiles and tables are finalized or used as-is.

Upcoming Work in the Next Period

- On-going.
- Develop GIS Web Viewer (draft due for review on June 18, 2010).

Task 2: Identification of Existing Water Quality Objectives

Work Completed During the Period

- Reviewed Board NPDES Permits, list provided by Rudy Schnagl and reviewed by Subcommittee.

Upcoming Work in the Next Period

- Finalize water quality objectives table.

Task 3: Literature Search of Water Quality Criteria

Work Completed During the Period

- Collect literature review to include:
  - California
    - Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta, 2010
Colorado River Basin Study, 1997
- Regulation no. 41 The Basic Standards for Groundwater, 2009
- International (Australia and Middle East)

Bibliography

Upcoming Work in the Next Period

- Complete literature review:
  - Decision 1641 Bay Delta Plan (1976 or 78), updated in 1996,
  - A Compilation of Water Quality Goals (Marshack)
  - Rio Grande River Basin
  - Arkansas River Basin (Pueblo Basin)
  - Colorado River Basin and Gunnison River Basin (West Grand Junction)

- Bibliography

Task 4: Project Management, QA/QC and Meetings

Work Completed During the Period

Project Management

- Reviewed and monitored overall progress of the work task items authorized under BUO Phase I.
- Prepared monthly project status report and summary of budget expenditure and projection by work task items.

QA/QC

- Reviewed draft attribute tables.
- Reviewed GIS base map data.

Meetings

Upcoming Work in the Next Period

Project Management

- Reviewed and monitored overall progress of the tasks authorized under BUO Phase I.
- Prepared monthly project status report and summary.

QA/QC

- Review attribute tables (Beneficial Use, Water Quality Objectives, NPDES table).
- Review GIS Viewer.

Meetings

- Present to the CV-SALTS Technical Advisory Committee on 6/10/2010
- Present to the BUO Phase I Subcommittee 6/29/2010

Budget Status

To date, project expenditures are within budget and generally track projected cash flow expenditures for the project.

Deliverable Schedule

The project schedule is on track and scheduled to meet the deliverables laid out in the project schedule, see attached.

Closing

Please do not hesitate to contact us with any questions on the project status report.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Colleen Haraden
Project Manager

Attachments: Monthly Invoice and project schedule

cc: Daniel Cozad, CV-SALTS
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<td>1</td>
<td>Project Kick-off Meeting</td>
<td>Thu 4/29/10</td>
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<td>2</td>
<td>Task 1.1: Base Map Development</td>
<td>Thu 4/29/10</td>
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<td>Task 1.2: Map Beneficial Uses</td>
<td>Thu 5/13/10</td>
<td>Mon 7/5/10</td>
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<td>Progress Report Meeting Task 1</td>
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<td>Fri 5/28/10</td>
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<td>Tue 7/6/10</td>
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<td>Fri 7/2/10</td>
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<td>Progress Report Meeting Tasks 2 &amp; 3</td>
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<td>Geodatabase and GIS Web Viewer Review and Testing</td>
<td>Wed 7/21/10</td>
<td>Tue 7/27/10</td>
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<td>11</td>
<td>Final Deliverable and Presentation</td>
<td>Fri 7/30/10</td>
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## CV SALTS Initiative 2010 Progress Milestones

**Stakeholder (CVSC) Progress Demonstration Status**

**Update**: June 2010

Approved May 10, 2010 Version 5

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<td>1-b</td>
<td>Aug-09</td>
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<tr>
<td>1-c</td>
<td>Jun-09</td>
<td>Management Team Development</td>
</tr>
<tr>
<td>1-d</td>
<td>Jul-09</td>
<td>Management Implementation</td>
</tr>
<tr>
<td>2</td>
<td>Ongoing</td>
<td>Conduct regular meetings of working committees</td>
</tr>
<tr>
<td>3</td>
<td>Ongoing</td>
<td>Continue to update Program Coordination Matrix</td>
</tr>
<tr>
<td>4</td>
<td>Ongoing</td>
<td>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</td>
</tr>
<tr>
<td>4-a</td>
<td></td>
<td>Technical Committee to provide Input on Plan and general updates</td>
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<tr>
<td>4-b</td>
<td></td>
<td>Add elements from the Detailed BOUS scope of work</td>
</tr>
<tr>
<td>4-c</td>
<td></td>
<td>Detail the rest of the CV-SALTS Workplan Outline with Cooperative Data Collection and analysis and Implementation efforts</td>
</tr>
<tr>
<td>5</td>
<td>Ongoing</td>
<td>Link all agenda and action items to work plan tasks</td>
</tr>
<tr>
<td>6</td>
<td>Ongoing</td>
<td>Set (by February) and pursue funding goals</td>
</tr>
<tr>
<td>6-a</td>
<td></td>
<td>Membership Funding for CVSC/CV-SALTS</td>
</tr>
<tr>
<td>6-b</td>
<td></td>
<td>Subcommittee for Funding and Fundraising</td>
</tr>
<tr>
<td>6-c</td>
<td></td>
<td>Projects and Funding Targets (outside membership)</td>
</tr>
<tr>
<td>7</td>
<td>Mar-10</td>
<td>Identify salinity management options/alternatives to be evaluated for implementation plan</td>
</tr>
<tr>
<td>7-a</td>
<td></td>
<td>Identify existing and potential salt and nitrate management alternatives and for implementation plan</td>
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<tr>
<td>7-b</td>
<td></td>
<td>Describe the management alternatives and compile information on effectiveness, applicability and economics.</td>
</tr>
<tr>
<td>7-c</td>
<td></td>
<td>Identify screening and analytical evaluation tools for use in evaluation of Management Alternatives/Options</td>
</tr>
<tr>
<td>7-d</td>
<td></td>
<td>Identify screening approaches and tools for review of 7b and data requirements</td>
</tr>
<tr>
<td>7-e</td>
<td></td>
<td>Screen 7b items for priority and additional review</td>
</tr>
<tr>
<td>8</td>
<td>Mar-10</td>
<td>Provide an informational report to the Regional Board on the CV-SALTS initiative</td>
</tr>
<tr>
<td>10</td>
<td>Jun-10</td>
<td>Prepare semiannual status reports on funding and progress toward completing work plan tasks</td>
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<tr>
<td>10-a</td>
<td></td>
<td>Expanded Accomplishment Report June</td>
</tr>
<tr>
<td>10-b</td>
<td></td>
<td>Expanded Accomplishments Report December</td>
</tr>
<tr>
<td>11</td>
<td>Jun-10</td>
<td>Develop a process for coordinating with RWMS planning and implementation projects with a nexus with salt or nutrient management, and other ongoing efforts on salinity management</td>
</tr>
<tr>
<td>11-a</td>
<td></td>
<td>Draft IRWM Coordination Plan (consider CalFed Salt IRWM projects)</td>
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<tr>
<td>11-b</td>
<td></td>
<td>Mailing to IRWM Groups and Briefing at IRWM Roundtable of Regions</td>
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<tr>
<td>11-c</td>
<td></td>
<td>Solicit IRWM Projects which impact salt or nutrients, coordinate with those who respond.</td>
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<tr>
<td>15</td>
<td></td>
<td>Leadership Group Outreach and Invitations</td>
</tr>
<tr>
<td>12</td>
<td>Jul-10</td>
<td>Identify administrative and technical program needs that could be met through in-kind services rather than financial contributions</td>
</tr>
<tr>
<td>12-a</td>
<td></td>
<td>Identify administrative tasks</td>
</tr>
<tr>
<td>12-b</td>
<td></td>
<td>Identify technical program task likely to use in-kind assistance</td>
</tr>
<tr>
<td>12-c</td>
<td></td>
<td>Develop system for tracking and evaluating in-kind support and effectiveness</td>
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<tr>
<td>12-d</td>
<td></td>
<td>Solicit in-kind support</td>
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</tbody>
</table>

**Package Page 30**
ON CV-SALTS/CVSC Letterhead

Christy Henzler
MARINE SCIENCE INSTITUTE
ROOM 2306
UC SANTA BARBARA, CA 93106
Submitted via Email henzler@msi.ucssb.edu

June 10, 2010

Proposals for projects are due by 5:00 p.m. Pacific Daylight Time, June 11th, 2010 and are limited to three pages (excluding references). On June 10, 2010 the Executive Committee of CV-SALTS and Board of Directors of the Central Valley Salinity Coalition (CVSC) approved the submission of this proposal.

1. Descriptive title
Central Valley Salinity Alternative for Long Term Sustainability (CV-SALTS) Salinity Management Alternative Results Study

2. Name and contact information (email, phone number) of the proposer(s)
Daniel Cozad, Executive Director, Central Valley Salinity Coalition for CV-SALTS, dcozad@cvsalinity.org (888) 826-3635 FAX (860) 736-8498

3. Proposed Project
CV-SALTS proposes the LUCE Teams consider the SMARS as a significant opportunity participate in the important study needed for the future sustainability of California communities and agriculture.

a. Problem Statement. What is the context for this work?
Salinity buildup due to irrigation, wastewater treatment, urban users, water import and other users in the San Joaquin and Tulare basins of the Central Valley has been increasing, and unless properly managed will impact larger and larger areas of the Central Valley. In these areas the soil and water impacts will reduce crops and economic productivity result in higher cost for urban users. The Central Valley Salinity Alternative for Long Term Sustainability (CV-SALTS) is a collaborative group formed by the SWRCB, the RWQCB and various stakeholders to create a comprehensive salinity management plan in the CV. The CV-SALTS initiative is intended to address management alternatives, including treatment and regulatory schemes which will stabilize or lessen the impact of salts. CV-SALTS has active committees which are ongoing, to carry out research and to plan and implement solutions in the CV.

Some of the most advanced treatment methodology and management alternatives have been developed and are operating in California. Despite this, salinity management in will have to expand and become more efficient in order to accommodate the more stringent regulation and impacts to crop yields. The need for evaluation of technology and management alternatives is critical to the future sustainability.

b. Project Objectives. What questions will be answered by this project?
Objective 1 for the Luce Team is to identify, understand and evaluate how salinity is being managed now by communities and industry in certain identified salt critical areas.
Objective 2 to identify the most effective methods to manage salinity for long term sustainability
Objective 3 to present the work in the prior objectives so CV-SALTS committees can integrate this work into the critical CV-SALTS program and Regional Salt and Nutrient Management Planning for the Central Valley
c. **Project Significance. Why is this work important? Who is the target audience or client?**

The CV is California’s most productive growing region, and in fact supplies 95% of the world’s processing tomatoes, 80% of the world’s almond crop, more than 50% of the fresh fruits and vegetables feeding the nation and fertile soils and clean water are essential to its continued viability. The growing population of California also relies on clean water for its use. Managing salinity in agricultural and urban regions is critical in many areas, and these plans and studies will be essential for communities, further academic study, legislative interests, industry and agriculture.

d. **Background information. In general, how did the problem evolve? What work, if any, has been done to date in an effort to solve the problem?**

Salinity buildup is not new. It is a result of the use of water by people, which changes the natural flow of a basin. Some salinity management efforts have taken place in Australia, and other areas, however, each watershed is unique and solutions for each must be individualized. The Central Valley is a large and varied area, which will offer several different challenges to salinity management, all of which will be useful for solutions in other areas. Thus far, salinity management has been addressed on a critical occurrence, and primarily with individual permitting processes, rather than regional plans and alternatives. There are some exceptions to this, but further research and implementation is necessary. The SWRCB and the RWQCB, together with stakeholders, have formed this strategic initiative to cooperatively plan and implement alternatives. Programs being discussed and considered include, regional salt storage or conveyance systems, treatment facilities, real time management, water or salt trading, or other actions that m beyond the scope of a regulatory program. The group plans to study what others have done that has been effective, look for other alternatives, and incorporate the best strategies into a regional plan. Committees and stakeholders can provide data and information that will facilitate these studies.

To develop approaches that will manage salinity on sustainable basis multidisciplinary stakeholder process are required. This provides an excellent opportunity for academic research into the methods and technology and its efficiency and implementability.

CV-SALTS is a strategic initiative to address salinity, including nitrates, throughout the region in a comprehensive, consistent and sustainable manner. The CV-SALTS initiative was formed by the State Water Resources Control Board (SWRCB), the Central Valley Regional Water Quality Control Board (CVRWQCB) and the Central Valley Salinity Coalition (CVSC) to support, facilitate and manage the policy and science required to develop a management plan for the regulatory and non-regulatory management of salt and nitrate. The stakeholders who are impacted by salt and nitrates have come together to fund and manage the initiative through CVSC.

CV-SALTS has active Technical, Economic and Policy Committees to work with researchers and support the work and review. These committees and the outreach efforts of the organization will make identifying additional data, if needed easier.

e. **Stakeholders, other than the client. What other people or groups would benefit from the results of this project?**

CV-SALTS is truly a stakeholder driven program. The Stakeholder list includes hundreds of businesses and communities throughout the Central Valley and improvements to water quality benefit Central Valley water users Statewide due to water exported to coastal and Southern California. Major Stakeholder list is shown in the References.
f. **Possible approaches and available data. Available data sets should be identified here.**
Many approaches are possible for evaluating data to reach the objectives. While CV-SALTS would welcome other approaches recommendations for several levels of engagement are shown below:

1. Consolidate and tabulate data provided to the CVRWQCB in monitoring reports to determine effectiveness of a number of different approaches to salinity management and identify those that have broad applicability and implementability.
2. From a combination of the data in 1. above and facility data determine the economically efficient management alternatives and document those which have the best applicability and implementability.
3. Based on the data from approach 1. and 2. Above compare efficiencies to other methods used around the world and document potential methods which are more efficient and could be implemented in the Basin Plan.

**Data Availability**
Ample existing data on treatment from existing permitted programs and facilities are available from the Regional Water Quality Control Board and the implementing organizations. Best management practices and studies of salt issues are available from CV-SALTS and from industry associations. This data is augmenting with recent salt and nitrate source pilot study (in references). This existing data with would support the approaches listed above providing the existing management alternatives. Augmenting this information with facility data on cost and effectiveness would provide an extremely strong data set for analysis.

g. **Deliverables. What types of recommendations are expected as an outcome of the project?**
A final written report containing the data, references, analysis and comparative efficiencies of salt management methods and report conclusion with an oral presentation to the CV-SALTS Technical and Executive are appropriate.

h. **References**
CV-SALTS has compiled a list of references and significant prior work efforts for support and review. These references are also shown as Attachment 1 on page 4

4. **Client, including name and email**
Central Valley Salinity Coalition, Daniel Cozad, dcozad@cvsalinity.org

5. **Data and Usage Commitment**
The Central Valley Salinity Coalition, the Central Valley Regional Water Quality Control Board and the State Water Resources Control Board are committed to the CV-SALTS Initiative via an MOU listed in the references. We are committed to provide and develop data and information to support the proposed Luce Project without restrictions or limitations on it use or publication.

6. **Anticipated financial needs and sources of support**
CV-SALTS expects the support provided will be sufficient for the work needed to support the possible approaches discussed above in 3. f. This work can be done from any location via electronic communication methods and is adaptable to available collaboration tools. Draft and final reports can be submitted electronically. The final presentation will be in Sacramento and some costs should be reserved for that effort. Should the team’s approach need additional funding the CV-SALTS program may make additional funding available if approved by the Executive Committee and Central Valley Salinity Coalition Board of Directors.
CVSC and CV-SALTS appreciate the Luce Fellowship consideration of this proposal

Attachment 1 References

CV-SALTS References for Salinity and Nitrate Works and Data Sources in the Central Valley

- CV-SALTS Workplan Outline provides a brief overview of work needs and Cost and Schedule estimates indicate resources and timeline while the Approach summarizes the steps
- CV-SALTS Salt and Nitrate source Pilot study work plan, methodology and pilot tests the plan that will be modified and implemented throughout the region.
- CV-SALTS MOA between the SWRCB, CVRWQCB and CVSC for cooperation and governance
- Hilmar Supplemental Environmental Project Study http://www.hilmarsep.com
- Metadata Guide for Salinity Data Sources for the Central Valley of California – 2008 by the California Water Institute
- Surface Water Ambient Monitoring Program (SWAMP) http://www.waterboards.ca.gov/water_issues/programs/swamp/
- Chapter 5, CALFED Water Quality Program Stage 1 Final Assessment: http://www.calwater.ca.gov/content/Documents/Draft_Final.pdf
- Staff Report for the San Joaquin River at Vernalis Salt and Boron TMDL and Basin Plan Amendment
- Technical Committee Report "Regulation of Agricultural Drainage to the San Joaquin River", State Water Board Order No. WQ 85-1 1987
- DWR has lists of groups that have received public money for GW studies in recent years: http://www.grantsloans.water.ca.gov/grants/assistance.cfm these lists may include work that is not included in GAMA or any of the more accessible datasets.
- Water Quality Survey of Tile Drainage Discharges in the San Joaquin River Basin – 1988 by CV Regional Water Quality Control Board
- SWRCB Order No. WQ 85-1 Technical Committee Report "Regulation of Agricultural Drainage to the San Joaquin River", August 1987
- San Joaquin Valley Drainage Implementation Program's "Status Report on Drainage Management in the San Joaquin Valley", 1998
- San Joaquin Valley Drainage Implementation Program's "Drainage Management Strategy", 2000

Additional Reference may be located at www.cvsalinity.org or www.waterboards.ca.gov/centralvalley/water_issues/salinity