Meeting Objectives:

1. Program Development to mirror the policy development meetings
2. Execute business actions for CV-SALTS

AGENDA

1) Welcome and Introductions Chair
   a) Review/Approve April 12, 2011 notes – 2 min
   b) Review/Approve Technical Committee Notes from April 6, 2011
   c) Committee Roll call and Membership Roster

2) Lower San Joaquin River Committee Letter of December 10, 2010 – 10 min
   Reconsideration of Beneficial Use Designations
   Action: Review/Approve recommendation from Technical Committee for the LSJR Committee to undertake a review of the designations for MUN and PROC

3) Lower San Joaquin River Committee Project Request of January 12, 2011 - 20 min
   Action: Review/Approve Scope and RFP Authorization on Technical Study from LSJR and Technical Committee

4) 2011 CV-SALTS Progress Milestones Status Updated status and Program Funding - 5 min
   Action: Review and discuss

5) Technical Project Manager Scope Committee Update – 30 min
   Action: Discuss and approve scope of work and contracting approach for Technical Project Manager

6) Framework for Salt and Nitrate Identification Studies – 30 min
   Action: Review/Discuss/Accept Technical Memo and feedback comments from Knowledge Gained Committee on status and Source Study Review

7) Management Practice Subcommittee Update Status – Parry Klassen Interim Chair – 10 min

8) Public Education and Outreach Committee – 20 min
   Action: Review/Discuss what education and outreach should be planned, and what should be the areas of focus

9) Set next meeting objectives and date (May 12, 2011) and conference call date
   Review Schedule of Policy Discussions

10) Future Items
   a) 3a/3b Task Force Status – 10 min
   b) Expected Future Roles of the State and Regional Boards, stakeholders, CVSC

CV-SALTS meetings are held in compliance with the Bagley-Keene Open Meeting Act set forth in Government Code sections 11120-11132 (§ 11121(d). The public is entitled to have access to the records of the body which are posted at www.cvsalinity.org
CV-SALTS Executive Committee Meeting
April 12, 2011 9:00 AM to 3:00 PM
Sacramento Regional Sanitation District Offices – Sunset Maple Room

Attendees are listed on the Membership Roster

AGENDA
1) Welcome and Introductions Chair
   - Meeting was brought to order by Chair, Parry Klassen, and roll call was completed.
   - Mike Nordstrom moved to approve, and Debbie Webster seconded, and by general acclamation the March 17, 2011 meeting action notes were approved.

2) Basin Plan MUN Designations – Morning Session
   - Based on the responses submitted by committee members to Homework Assignment #1 on MUN designations, Tim Moore led the discussion on suggestions presented in the “Factors for Assessing Appropriateness of MUN Designation” handout. The morning session was dedicated to Sections 1 and 2 of that document: Sources of Drinking Water Policy, and Circumstances similar to Old Alamo Creek.
   - In response to a request from Parry Klassen, Tim will include a tentative schedule of topics to be covered, in the development of the strategic workplan for the July deadline, along with the next homework assignment.
   - Tim suggested the committee utilize the 1995 Regional Board’s, Ag Waters Task Force Recommendations to the Inland Surface Water Plan as a reference document. This document was provided by Jeanne Chilcott and is posted on the website under the “Documents and Presentations” tab. <<Please note that there are additional documents available under this tab for ISWP.>>
   - The committee was tasked with exploring two areas in greater depth in an effort to build a reliable position framework that can be used before the board:
     - Identify as many examples as possible of objective mathematical tools, or rule-based systems, that have already been accepted for finding thresholds of what is economically feasible, and
     - Expand upon existing precedents within the state of “alternative compliance,” or “offsets” in applying a trade of degradation for return of use. The group requested that Tim provide them with more examples of these from other areas within California.

3) Basin Plan MUN Designations – Afternoon Session
   - The committee completed review of the “Factors for Assessing Appropriateness of MUN Designation” handout, covering sections 3, 5 and 6. Tim will prepare a “test consensus document and distribute to the group. Homework Assignment #2 on AG will be distributed to committee members in preparation for the May 12th meeting.

4) Set next meeting dates and objectives
   - The next Executive Committee Meeting dates are April 22nd (teleconference only), and May 12th. The May 12th meeting will be similar in format to the April 12th meeting, but will cover AG.

5) Future Items
   - All pending administrative items to be covered on the April 22nd conference call.
Potential Technical Study components from Policy Work ((MUN Designation April 13, 2011))

1. Delineation of basins, subbasins, aquifers, and streams and stream segments based on identifying characteristics. Identify beyond existing water bodies and Bulletin 118 groundwater basins. Characterize based on classifications proposes. Show connections between the basins and segments and known interactions. Update GIS Geodatabase to show the segments and subbasins and aquifers. - Potentially part of BUOS Phase II.

2. Integrate the work completed for the Inland Surface Waters Plan into the existing GIS by review of the materials produced from (Jeanne) and update or reaffirm by contacting the agencies that participated in the original plan. Characterize by the existing formats (A, B and C) as well as those provided in the policy work for MUN and update the Geodatabase.

3. Identify and classify on GIS where surface water flows are insufficient to provide water supply, similar to the 200 gallon rule for groundwater. IE 7Q10=0 threshold or objective criteria to disqualify as a Drinking Water Source. DPH license prohibitions, Water Rights, No natural headwaters, like Del Puerto Creek. (Could this be identified by GIS?)

4. Identify water sources that are Effluent Dominated ( Severely Impaired Sources) 20:1 dilution for MUN subdesignation.

5. Economics study to evaluate cost of compliance and the 10% profit as a categorical treatment level. Evaluate top 15% of industry performance as treatment selection methodology.

6. Consider how credits or offsets could work to increase compliance and reduce costs. Consider the value of Trading Systems in a market based implementation process. Consider the differences in sources or industries including impacts to commodity price and tipping point for facility closure or other widespread economic impact.

7. Provide examples of “Horse Trading Architecture” Trade cleanup of severely impacted sourced for slight impairment of other waters which still meet the beneficial use. Alternative compliance offsets or bubble compliance.
1. Welcome and Introductions
   >Roll was taken, Dennis Westcot was unable to join the call so Jeanne was asked to introduce items 2 and 3 for the LSJR Committee

2. Lower San Joaquin River Committee Letter
   >The LSJR Committee letter, dated December 12, 2010, requesting concurrence from the Executive Committee that the LSJR Committee should undertake a review of the designations for MUN and PROC was reviewed. It is a recommendation of the Technical Committee that the LSJR Committee move forward with this. A motion put forward by Lisa Holm to recommend this to the Executive Committee was approved by general acclamation. This recommendation will be added to the April 22, 2011 Executive Committee Agenda.

3. Lower San Joaquin River Committee Project Request
   >The LSJR Committee letter, dated January 12, 2011, requesting concurrence from the Executive Committee that the Technical Committee should undertake and manage a review of scientific water quality criteria for boron and salinity was reviewed. The proposed Scopes of Work for the following two studies were reviewed:

   - Evaluation of Wildlife and Aquatic Life Water Quality Criteria for Salinity and Boron
   - Evaluation of Animal Drinking Water Quality Criteria for Salinity and Boron

   It was agreed that the information yielded by these studies would be useful to the overall CV-SALTS effort within the Central Valley, and a motion, put forward by Joe DiGiorgio, that it was appropriate for this work to be done under the broader CV-SALTS umbrella was approved by general acclamation.

   After further discussion on the details of the Scopes of Work for both studies, Daniel Cozad put forth a motion that it should be recommended to the Executive Committee at the April 22, 2011 meeting, to go forward with both scopes of work together, and oblige the funds for this study on a valley-wide basis. The LSJR Committee will be tasked with project selection, with the study to be completed within a six month time frame. This was approved by general acclamation.

   Daniel Cozad will take the standard Request for Proposal language and revise for this RFP. This will be reviewed with Dennis, David and Nigel and then added to the Executive Committee Agenda Package for the April 22nd meeting.

4. Committee’s Discussion on Technical Project Manager Needs
   The concept was discussed in summary and discussion ensued among participants. Outside participants of the subcommittee, no specific comments were made by committee members. The Subcommittee participation invitation was extended to technical committee members, the next call scheduled for 1:30 pm on April 8, 2011.
5. **Adjourn and set next meeting**

   The committee meeting was adjourned and no meeting was set as the Committee completed the task set by the Executive Committee.
## CV-SALTS Committee Rosters

### Executive Committee Membership

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<thead>
<tr>
<th>Nomination Category</th>
<th>Name and Organization</th>
<th>12-Apr</th>
<th>22-Apr</th>
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<tr>
<td><strong>Leadership Partners</strong></td>
<td>Pamela Creedon/Jeanne Chilcott, Regional WQCB</td>
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<td></td>
<td>Darrin Polhemus, State Water Resources Control Board</td>
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<td>Jose Faria/Ernie Taylor, Department of Water Resources</td>
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<td>Lisa Holm, US Bureau of Reclamation</td>
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<td>TBD - Environmental Justice</td>
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<td>TBD - Environmental, Water Quality</td>
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<td><strong>Comm. Co-chairs</strong></td>
<td>Parry Klassen, Chair, Executive Committee</td>
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<td>Jeff Willett, Vice Chair, Executive Committee</td>
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<td>Joe DiGiorgio, Public Education &amp; Outreach Comm.</td>
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<td>Lisa Holm, Technical Advisory Committee</td>
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<td>Nigel Quinn, Technical Advisory Committee</td>
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<td>David Cory, Economic and Social Cost Committee</td>
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<td><strong>CV Salinity Coalition</strong></td>
<td>Bobbi Larson, CASA</td>
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<td>Debbie Webster, CVCWA</td>
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<td>Dave Cory, San Joaquin River Drainage Authority</td>
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<td>Steve Hogg, City of Fresno</td>
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<td>Steve Bailey, City of Tracy</td>
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<td>Linda Dorn, Sacramento Regional CSD</td>
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<td>Dennis Westcot, San Joaquin River Group</td>
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<td>Nick Pinhey, City of Modesto</td>
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<td>Tim Johnson, California Rice Commission</td>
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<td>Phil Govea, City of Manteca</td>
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<td>Parry Klassen, E. San Joaquin Water Quality Coalition</td>
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<td>Mike Nordstrom/Doug Davis, Tulare Lake Drainage/Storage Districts</td>
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<td>Karnia Harrigfeld, Stockton East Water District</td>
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<td>Renee Pinel, Western Plant Health Association</td>
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<td>Travis Peterson, City of Vacaville</td>
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### Participants Identified:

- Geoff Anderson, DWR
- Erica DeHollan, LA C
- Karl Longley, CSU Fresno
- Bruce Houdesheldt, NCWA/Sac Valley WQC
- Tess Dunham, Somach
- Andy Malone, Wildermuth Env.
- Dan Odenweller, RWQCB
- Stan Dean, SRCD
- Chad Dibble, CDFG
- Danny Merkely, California Farm Bureau
- Fern Wilson, City of Vacaville
- David Miller, GEI Consultants
- Emily Alejandrino/Jim Martin, CVRWQCB
- Jim Martin, RWQCB
- Gary Carlton, Kennedy Jenkins
- Emily Robidart Rooney, Ag Council
- Rob Neenan, CA League Food Proc
- Jamil Ibrahim, MWH Global
- Gail Cismowski, CVRWQCB
- Melanie Thomson, CUWA
- Jay Simi, CVRWQCB
- Jenny Crouse, Ironhouse Sanitary District
- Leila Khatib, Kennedy Jenkins
- Jodi Pontureri, SWRCB
- Erick Althorp SSJWQC
- Sue Giampietro, The Wine Group
- Claus Suvorkropp, LWA
- Mark Dorman, Rainsoft Water PWQA
- Jean-Pierre, J.P., Cativiela, Dairy
- Pam Buford, CVRWQCB
- Mark Felton, Culligan Water and PWQA
- Stephen McCord, LWA
- Mark Gowdy, SWRCB, Water Rights
- Mark Larsen, Kaweah Delta WCD
- Rick Stags, City of Fresno
- Lou Dambrosio, TWG
- Robert Chrobak and Stuart Childs Kennedy/Jenks
- Robert Chrobak and Stuart Childs Kennedy/Jenks
- Ron Crites, Brown and Caldwell
Lower San Joaquin River Committee of CV-SALTS

10 December 2010

Mona Shulman, Chair
Executive Committee
CV-SALTS
c/o Pacific Coast Producers
631 N Cluff Avenue
Lodi, CA 95240-0756

SUBJECT: RECONSIDERATION OF BENEFICIAL USE DESIGNATIONS

As part of its effort to prepare a Basin Plan Amendment for establishing water quality objectives for salinity and boron, the Lower San Joaquin River (LSJR) Committee of CV-SALTS conducted a preliminary review of present designations of beneficial use for the San Joaquin River from Mendota Dam to Vernalis. The LSJR Committee identified two (2) designations that need further analysis to determine whether a change in designation is warranted. After discussion, it was decided that the LSJR Committee would prepare the necessary background documents to determine the appropriateness of the designation for Municipal and Domestic Supply (MUN) and for Industrial Process Supply (PROC). Please find attached to this letter a brief explanation of the two designations the LSJR Committee has committed to reviewing (Attachment).

We would appreciate the Executive Committee concurrence that the LSJR Committee should undertake a review of the designations for MUN and PROC. The extent of our review of the MUN designation will depend on advice received from the questions the LSJR Committee is posing to legal counsel at the State Water Resources Control Board. The questions deal with flexibility available under the Sources of Drinking Water Policy (SWRCB Resolution 88-63). The LSJR Committee will consider this advice in developing a work plan for the designation review.

If you have any questions regarding this request, please contact Dennis Westcot at (530) 758-8633.

Dennis W. Westcot
Co-Chair
Lower San Joaquin River Committee of CV-SALTS

David Cory
Co-Chair
Lower San Joaquin River Committee of CV-SALTS

cc: Daniel Cozad, Executive Director, CV-SALTS (sent via electronic mail)
Beneficial Use Designations for Review by the Lower San Joaquin River Committee
(FOR DISCUSSION ONLY)

Reconsider Municipal and Domestic Supply (MUN) as a Potential Beneficial Use

**Designation Needing Review:** Municipal and Domestic Supply (MUN) is designated as a potential beneficial use of the San Joaquin River for the reaches from the Mendota Dam to Vernalis (Mendota Dam to Sack Dam, Sack Dam to Mouth of Merced River and Mouth of Merced River to Vernalis). Information presented shows the potential beneficial use (P) designation for MUN for the Lower San Joaquin River from the Mendota Dam to Vernalis may not exist or have the potential to exist.

**Preliminary Information Available to the LSJR Committee:**
- Flow in the San Joaquin River from the Mendota Dam to Vernalis is highly regulated and made up primarily of operational releases for irrigation use, groundwater accretions from poor quality groundwater and agricultural return flows of varying quality (RWQCB Salt and Boron TMDL Staff Report);
- River flow in this reach is highly variable and may not provide sufficient volume for municipal or domestic supply;
- Surveys of this River reach in 1950, 1975 and again in 1985 showed that no municipal or domestic supply use or diversions were being made;
- There are no known water right permits or applications pending for municipal or domestic supply use;
- This River reach may be over appropriated at the present time and unlikely that any new use would be permitted;
- New flow requirements for Delta restoration may make new or expanded water right permits on the San Joaquin River unlikely;
- Even though the beneficial use has been listed as “potential” for almost 40 years, there is no known record of an entity or a plan in the works for such a use;
- The State Water Board’s WQ 85-1 Technical Committee did a complete review of beneficial use on the San Joaquin River in 1985 from the Salt Slough inflow to Vernalis. This Committee reported that no municipal or domestic supply uses existed and such a use was unlikely and therefore the designation should be considered for removal from the Basin Plan; and
- The California Department of Public Health, which regulates municipal and domestic water supply systems, has stated in correspondence to Stanislaus County Department of Environmental Health that they will not permit a municipal or domestic use of the Lower San Joaquin River under any conditions.
**Impact from Salinity:** When evaluated against MCL’s for salt in drinking water as established by the California Department of Public Health, the MUN beneficial use would be impacted by the salinity levels presently found in the Lower San Joaquin River.

**Conduct a Survey to Determine if the Industrial Process Supply (PROC) Beneficial Use Exists**

**Designation Needing Review:** Industrial Process Supply (PROC) is designated as an existing (E) beneficial use for the entire Lower San Joaquin River from Mendota Dam to Vernalis. Information available to the LSJR Committee shows that use of the Lower San Joaquin River for industrial processing may not be an existing use. A survey of the River needs to be conducted to determine if PROC is an existing (E) beneficial use, only exists as a potential (P) or limited (L) use or should be de-designated as a beneficial use.

**Preliminary Information Available to the LSJR Committee:**
- Flow in the San Joaquin River from the Mendota Dam to Vernalis is highly regulated and made up primarily of operational releases for irrigation use, groundwater accretions from poor quality groundwater and agricultural return flows of varying quality (RWQCB Salt and Boron TMDL Staff Report);
- River flow in this reach is highly variable and may not provide sufficient volume for an industrial supply source;
- Surveys of this River reach in 1950, 1975 and again in 1985 showed that no such uses or diversions were being made of the River for industrial process supply although none of these surveys confirmed whether incidental use is being made as part of the agricultural harvest and processing;
- There are no known water right permits or applications pending for industrial process supply use;
- This River reach may be over appropriated at the present time and unlikely any new use would be permitted;
- New flow requirements for Delta restoration may make new or expanded water right permits on the San Joaquin River unlikely; and
- Even though the beneficial use has been listed as “existing” for almost 40 years, the two known processing plants along the river have been out of business for decades and the sites have been removed or are abandoned and there is no known plan in the works to restore these sites.

**Impacted from Salinity:** This beneficial use may be impacted by salinity changes as each industrial process may require different water quality needs.
Mona Shulman, Chair
Executive Committee
CV-SALTS
c/o Pacific Coast Producers
631 N. Cluff Avenue
Lodi, CA 95240-0756

SUBJECT: NEED FOR WATER QUALITY CRITERIA INFORMATION

As part of our effort to prepare a Basin Plan Amendment for establishing water quality objectives for salinity and boron, the Lower San Joaquin River (LSJR) Committee of CV-SALTS conducted an initial review of two draft reports on water quality criteria for boron and salinity. These two reports were prepared by staff of the Regional Board in the late 1990s however neither were subjected to public or peer review. These two reports, along with water quality criteria for crop tolerance and drinking water supplies were to serve as the baseline scientific criteria for recommending water quality objectives.

The LSJR Committee feels that additional work to update the two draft Regional Board staff reports is needed. These reports need to be updated into a form that can undergo public and peer review. They are not in that form at the present time. Unfortunately, the LSJR Committee does not have funding available to complete such work. The CAA funding made available to the LSJR Committee does not allow expenditures for such a review. This conclusion is based on the resolution approving the funds by the State Water Board.

The two reports were initially developed for the establishment of water quality objectives on the Lower San Joaquin River; however the information within them will be useful to all the efforts within the Central Valley and thus the entire CV-SALTS effort. It seems prudent and more cost effective if the effort to update these two reports was done under the broader CV-SALTS umbrella rather than only in the LSJR Committee. We would hope this effort could be directly managed by the CV-SALTS Technical Committee with a defined completion date to enable the LSJR Committee to complete its work in a timely manner.

We would appreciate the Executive Committee concurrence that the Technical Committee should undertake and manage a review of scientific water quality criteria for boron and salinity for selected beneficial uses. The uses most critical to the LSJR Committee would be fish and other aquatic life uses, wildlife uses including waterfowl, and non-irrigation agricultural uses such as stock watering and animal drinking water. The LSJR Committee feels that the animal drinking water evaluation will also provide valuable information for wildlife as it may have similar tolerances. In the absence of other information, the LSJR Committee would assume any findings for animal drinking water would apply to wildlife as well.
A recent review of criteria for human health and drinking water uses (both municipal and domestic) was recently conducted as part of the development of a drinking water policy and the LSJR Committee has reviewed this work and feels this recent analysis is sufficient for the CV-SALTS effort and should not be repeated.

The remaining water quality criteria need is for irrigated agriculture. The present Crop Tolerance study that was conducted by Regional Board staff is not completed. The LSJR Committee members will be reviewing this document at a future meeting to determine what additional work is needed to complete this study. We will consult with you and the Technical Committee on how best to complete this study.

Fortunately many of the references that were used in the original draft Regional Board staff reports on salinity and boron are still available and we can arrange with the Regional Board to make copies of those available to who ever conducts the update study.

To assist in implementation of an updated review, LSJR Committee members have prepared an initial draft scope of work for both the wildlife and aquatic life use and the animal drinking water reviews (Attachment #1 and #2, respectively). These would be needed by the Technical Committee to initiate, manage and conduct the study suggested above.

The LSJR Committee has made an estimate of the cost to conduct the animal drinking water evaluation at $29,000 and the aquatic life criteria evaluation at a level likely twice that of the animal drinking water evaluation. A more accurate estimate could be obtained during the RFP process used by the Technical Committee.

If you have any questions regarding this request, please contact Dennis Westcot at (530) 758-8633.
Central Valley Salinity Coalition (CVSC)
Evaluation of Wildlife and Aquatic Life Water Quality Criteria for
Salinity and Boron
Exhibit 1
Scope of Work
10 December 2010

The objective of this project is for the CVSC to hire an entity (herein referred to as Consultant) to identify 1) water quality criteria that could be used to establish water quality objectives and 2) water quality objectives, standards, goals, and policies that have been established to protect wildlife (WILD) and aquatic life beneficial uses (BIOL, Freshwater Habitat/WARM, COLD). The Consultant will accomplish these objectives through literature and internet searches and through interviews with resource management specialists and university researchers in California, other states, and if needed, other countries. Once Tasks 1 - 5 are completed, the consultant will present the results to a CV-SALTS Technical Work Group before work is initiated on Task 6. For each of the tasks, a reference list will be prepared and provide to the CVSC along with a copy of each reference listed. Task 6 will be further defined in conjunction with the Technical Work Group after completion of Tasks 1 through 5.

Task 1  Review California Regional Water Board Basin Plans and Policies

The objective of this task is to determine if any of the nine Regional Water Boards have adopted numerical or narrative objectives with translators for protection of wildlife and aquatic life beneficial uses for the constituents listed in Table 1. The consultant will review each of the Water Quality Control Plans (Basin Plans) prepared by the nine Regional Water Boards for the constituents listed below. The consultant will develop a standard format for summarizing the information from each Basin Plan.

Table 1. Constituents of Concern for Wildlife and Aquatic Life Beneficial Uses

<table>
<thead>
<tr>
<th>Constituent Class</th>
<th>Specific Constituents</th>
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<tbody>
<tr>
<td>Dissolved Minerals</td>
<td>Total Dissolved Solids (TDS), Specific Conductance (EC), Sodium (Na), Chloride (Cl), Sulfate (SO₄), Calcium (Ca), Magnesium (Mg)</td>
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<tr>
<td>Trace Elements</td>
<td>Boron (B)</td>
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<tr>
<td>Nutrients</td>
<td>Nitrogen species (total, total Kjeldahl, organic, nitrate, nitrite, ammonia) Phosphorus species (total, dissolved)</td>
</tr>
</tbody>
</table>

**Numerical Objectives or Criteria** – The consultant will conduct a review of each Basin Plan to determine if numerical water quality objectives for protection of wildlife and...
aquatic life beneficial uses have been established for any of the constituents listed in Table 1. If numerical objectives have been established, the consultant will conduct interviews or research to identify the scientific findings upon which the objectives were based.

**Narrative Objectives** – The consultant will conduct a review of each of the Basin Plans to determine if water quality criteria are being used to translate narrative objectives into numerical effluent limitations or objectives to protect wildlife and aquatic life beneficial uses. If needed, the consultant will conduct interviews or research to identify the scientific basis used to translate narrative objectives into numerical effluent limitations or objectives.

**Nutrient Criteria** – The consultant will research whether nutrient criteria have been developed in any of the Basin Plans for protection of wildlife and aquatic life beneficial uses.

**Deliverable** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.

---

**Task 2 Review Procedures, Policies, and Guidance Used by Other California Agencies**

The objective of this task is to establish whether the California Department of Fish and Game (CDFG) and the University of California (UC) have developed guidelines for salinity, boron or nutrients for protection of wildlife and aquatic life beneficial uses. CDFG is responsible for protecting wildlife and aquatic life in California and UC conducts innovative research leading to the development of criteria needed for protecting wildlife and aquatic life beneficial uses.

**Procedure Review** - The consultant will conduct a review of all guidelines on salinity, boron and nutrients used by CDFG and UC for protecting wildlife and aquatic life beneficial uses.

**Deliverables** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.
Task 3  Review Procedures, Policies, and Guidance Used by the U. S. Environmental Protection Agency (US EPA), U. S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and the U. S. Geological Survey (USGS)

The objective of this task is to gain an understanding of methodologies used by US EPA to establish ambient water quality criteria for the protection of wildlife and aquatic life beneficial uses and procedures and guidelines used by the USFWS, NMFS and USGS for water quality protection for wildlife and aquatic life beneficial uses for the constituents listed in Table 1.

**Water Quality Criteria for Wildlife and Aquatic Life Beneficial Uses** – The consultant will conduct research and interviews to identify if US EPA, USFWS, NMFS or the USGS have published salinity, boron or nutrient source water guidance or water quality criteria for the protection of wildlife and aquatic life beneficial uses. Document the references used in this review including source books such as the Blue Book, Red Book or Gold Book.

**Deliverables** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.

Task 4  Conduct a Review of Water Quality Criteria Available in Peer Reviewed Articles

The objective of this task is to review the peer-reviewed literature to determine if scientific information is available for the constituents listed in Table 1 upon which criteria for protection for wildlife and aquatic life beneficial uses can be established.

**Conduct an Extensive Literature Search** – The consultant will conduct internet and other database searches for information on water quality impacts to wildlife and aquatic life beneficial uses for constituents listed in Table 1. Focus in this task is to be on peer-reviewed journal articles, other published research and reviews conducted by organizations such as the National Academy of Science.

**Deliverable** – The consultant will prepare a memorandum summarizing the information found in the literature search along with an extensive reference list. The reference list should include all articles reviewed, even those not used or cited in the summary; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.
Task 5  Prepare a Complete Reference List of All Documents Considered

The objective of this task is to prepare for the Basin Plan Administrative Record all documents reviewed or considered even when not used in the final analysis.

Develop an Exhaustive Reference List – The consultant will develop an extensive reference list of any and all documents used in this review even when the documents were not used in the final analysis.

Deliverables – The consultant will prepare a list of all references considered or reviewed. The list will be prepared in a format used for scientific articles and include the author(s), article title, cited source or location of the article, publication date and other information that would enable a reviewer to locate the document in a scientific journal, library or internet site. The consultant will make available copies of all documents reviewed during the course of this study in the order that they are shown in the reference listing.

Task 6  Develop a Range of Potential Water Quality Goals and Policies

The objective of this task is to analyze the information obtained in Tasks 1 through 5 to develop a range of water quality criteria that are potentially applicable to the Central Valley. This task will be defined in more detail after completion of Tasks 1 through 5 but will likely include development of a range of potential water quality criteria and their relevance to the Central Valley for each of the constituents listed in Table 1.

Schedule

Tasks 1 through 5 are to be completed within three months of the date of authorization to proceed. The Consultant should provide a schedule showing completion dates for each task. The schedule should take into consideration that the CV-SALTS Technical Work Group meets monthly and will require two weeks for review of Consultant draft submittals. The schedule for completion of Task 6 will be determined in conjunction with the CV-SALTS Technical Work Group.

Funding Needed (est.)

<table>
<thead>
<tr>
<th>Task</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task 1</td>
<td>$2,000</td>
</tr>
<tr>
<td>Task 2</td>
<td>$2,000</td>
</tr>
<tr>
<td>Task 3</td>
<td>$10,000</td>
</tr>
<tr>
<td>Task 4</td>
<td>$25,000</td>
</tr>
<tr>
<td>Task 5</td>
<td>$3,000</td>
</tr>
<tr>
<td>Task 6</td>
<td>$10,000</td>
</tr>
<tr>
<td>Total</td>
<td>$52,000</td>
</tr>
</tbody>
</table>
The objective of this project is for the CVSC to hire an entity (herein referred to as Consultant) to identify 1) water quality criteria that could be used to establish water quality objectives and 2) water quality objectives, standards, goals, and policies that have been established to protect animal\(^1\) drinking water supplies. The Consultant will accomplish these objectives through literature and internet searches and through interviews with regulatory agency staff, animal extension specialists and university researchers in California, other states, and if needed, other countries. Once Tasks 1 - 5 are completed, the consultant will present the results to a CV-SALTS Technical Work Group before work is initiated on Tasks 6 and 7. For each of the tasks, a reference list will be prepared and provide to the CVSC along with a copy of each reference listed. Task 8 will be further defined in conjunction with the Technical Work Group after completion of Tasks 1 through 7.

**Task 1  Review California Regional Water Board Basin Plans and Policies**

The objective of this task is to determine if any of the nine Regional Water Boards has adopted numerical or narrative objectives with translators for protection of animal drinking water for the constituents listed in Table 1. The consultant will review each of the Water Quality Control Plans (Basin Plans) prepared by the nine Regional Water Boards for the constituents listed below. The consultant will develop a standard format for summarizing the information from each Basin Plan.

**Table 1. Constituents of Concern for Animal Drinking Water**

<table>
<thead>
<tr>
<th>Constituent Class</th>
<th>Specific Constituents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissolved Minerals</td>
<td>Total Dissolved Solids (TDS), Specific Conductance (EC), Sodium (Na), Chloride (Cl), Sulfate (SO(_4)), Calcium (Ca), Magnesium (Mg)</td>
</tr>
<tr>
<td>Trace Elements</td>
<td>Boron (B)(^2)</td>
</tr>
<tr>
<td>Nutrients</td>
<td>Nitrogen species (total, total Kjeldahl, organic, nitrate, nitrite, ammonia)</td>
</tr>
<tr>
<td></td>
<td>Phosphorus species (total, dissolved)</td>
</tr>
</tbody>
</table>

\(^1\) Throughout this document, animal will refer to all classes of animals including cattle, dairy cattle, sheep, swine, goats, horses, poultry and other types of domestic livestock.

\(^2\) Molybdenum (Mo) has already been reviewed by the Regional Board and a full report is available.
**Numerical Objectives or Criteria** – The consultant will conduct a review of each Basin Plan to determine if numerical water quality objectives for protection of animal drinking water have been established for any of the constituents listed in Table 1. If numerical objectives have been established, the consultant will conduct interviews or research to identify the scientific findings upon which the objectives were based.

**Narrative Objectives** – The consultant will conduct a review of each of the Basin Plans to determine if water quality criteria are being used to translate narrative objectives into numerical effluent limitations or objectives to protect animal drinking water supplies. If needed, the consultant will conduct interviews or research to identify the scientific basis used to translate narrative objectives into numerical effluent limitations or objectives.

**Nutrient Criteria** – The consultant will research whether nutrient criteria have been developed in any of the Basin Plans for protection of animal drinking water sources.

**Deliverable** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.

---

**Task 2  Review Procedures, Policies, and Guidance Used by Other California Agencies**

The objective of this task is to gain an understanding of the procedures used by the California Department of Food and Agriculture (CDFA) and the University of California Cooperative Extension Service (UC Coop Ext) when developing guidelines to maintain the safety of an animal drinking water supply. CDFA is responsible for protecting animal health and the UC Coop Ext is responsible for researching and establishing guidelines for protecting animal health and animal drinking water.

**Procedure Review** - The consultant will conduct a review of guidelines or procedures used by CDFA and UC Coop Ext for protecting the quality of animal drinking water supplies.

**Deliverables** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.
Task 3  Review Procedures, Policies, and Guidance Used by the U.S. Environmental Protection Agency (US EPA)

The objective of this task is to gain an understanding of methodologies used by US EPA to establish ambient water quality criteria for the protection of animal drinking water supplies.

**Water Quality Criteria for Animal Drinking Water** – The consultant will conduct research and interviews to identify if US EPA has published source water or water quality criteria for the protection of animal drinking water supplies. Document the references used in this review including source books such as the Blue Book, Red Book or Gold Book.

**Deliverables** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.

Task 4  Identify Water Quality Criteria, Goals, Guidelines or Policies Adopted by Other States

The objective of this task is to determine if other states with conditions similar to California have adopted animal drinking water quality criteria, objectives, guidance, guidelines or goals for the constituents listed in Table 1 or have adopted policies to protect animal drinking water supplies. In addition this task will look at guidance or research results prepared by University or State Cooperative Extension Services in other states for protection of animal drinking water.

**Identify List of States to Contact** – In conjunction with the CV-SALTS Technical Work Group, the consultant will identify a list of states to be considered. This list will consist of states that are known to be progressive in the protection of source water quality based on the experience of the Work Group and the Consultant. Initial efforts will concentrate in the Western States.

**Conduct Research and Interviews** – The consultant will search state extension service or university websites for state regulations, guidelines or research findings on the impact of the constituents listed in Table 1 on animal drinking water or health. Where needed, the consultant will conduct interviews with researchers or extension advisors in the designated states to identify any objectives, criteria, guidelines or policies that have been adopted. The consultant will document the basis for the objectives, criteria or guidelines found.

**Deliverables** – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting;
respond to Work Group comments on the memorandum; and prepare a final memorandum.

Task 5  Identify Water Quality Goals or Policies Adopted by Other Countries or International Organizations

The objective of this task is to determine if other countries with similar climatic conditions to California or organizations such as the Food and Agricultural Organization of the UN (FAO) have adopted water quality criteria, objectives, guidelines or goals for the animal drinking water constituents listed in Table 1 or have adopted policies to protect animal drinking water supplies.

Identify Contact List – In conjunction with the Technical Work Group, the consultant will identify a list of countries and organizations to contact. This list will consist of countries that are known to be progressive in the protection of source water quality based on the experience of the Work Group and the Consultant.

Conduct Research and Interviews – The consultant will conduct internet searches and if needed, interviews with agency staff or specialists in the designated countries and organizations to identify any objectives or criteria that have been adopted for protection of animal drinking water supplies.

Deliverables – The consultant will prepare a memorandum summarizing the information obtained in this task; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.

Task 6  Conduct a Review of Water Quality Criteria Available in Peer Reviewed Articles

The objective of this task is to review the peer-reviewed literature to determine if scientific information is available for the constituents listed in Table 1 upon which criteria for animal drinking water quality can be established.

Conduct an Extensive Literature Search – The consultant will conduct internet and other database searches for information on water quality impacts to animals from the constituents listed in Table 1. Focus in this task is on peer-reviewed journal articles, other published research and reviews conducted by organizations such as the National Academy of Science.

Deliverable – The consultant will prepare a memorandum summarizing the information found in the literature search along with an extensive reference list. The reference list should include all articles reviewed, even those not used or cited in the summary; present the results at a CV-SALTS Technical Work Group meeting; respond to Work Group comments on the memorandum; and prepare a final memorandum.
Task 7  Prepare a Complete Reference List of All Documents Considered

The objective of this task is to prepare for the Basin Plan Administrative Record any and all documents reviewed or considered even when the documents were not used in the final analysis.

Develop an Exhaustive Reference List – The consultant will develop an extensive reference list of any and all documents used in this review even when the documents were not used in the final analysis.

Deliverables – The consultant will prepare a list of all references considered or reviewed. The list will be prepared in a format used for scientific articles and include the author(s), article title, cited source or location of the article, publication date and other information that would enable a reviewer to locate the document in a scientific journal, library or internet site. The consultant will make available copies of all documents reviewed during the course of this study in the order that they are shown in the reference list.

Task 8  Develop a Range of Potential Water Quality Goals and Policies

The objective of this task is to analyze the information obtained in Tasks 1 through 6 to develop a range of water quality criteria that are potentially applicable to the Central Valley. This task will be defined in more detail after completion of Tasks 1 through 6 but will likely include development of a range of potential water quality criteria and their relevance to the Central Valley for each of the constituents listed in Table 1.

Schedule

Tasks 1 through 7 are to be completed within three months of the date of authorization to proceed. The Consultant should provide a schedule showing completion dates for each task. The schedule should take into consideration that the CV-SALTS Technical Work Group meets monthly and will require two weeks for review of Consultant draft submittals. The schedule for completion of Task 8 will be determined in conjunction with the CV-SALTS Technical Work Group.

Funding Needed (estimated)

- Task 1: $2,000
- Task 2: $2,000
- Task 3: $3,000
- Task 4: $3,000
Task 5: $5,000
Task 6: $9,000
Task 7: $2,000
Task 8: $3,000
Total: $29,000
April 27, 2011

To: Potential Salinity Services Vendors

REQUEST FOR PROPOSAL:
The San Joaquin Valley Drainage Authority is requesting proposals in response to the attached RFP.

IMPORTANT DATES:
Proposals are due – May 27, 2011, 4:00 PM
Contract expected to be signed by July 15, 2011

SUBMISSIONS:
Please reply by email to the address below if you intend to participate in this procurement. Submit your proposal electronically by email to jmcgahan@summerseng.com. You can expect an acknowledgement soon after the proposal is received. If you have any doubt please email for confirmation or call Joseph C. McGahan, Project Manager at 559-582-9237.

Please submit a single PDF file in an email with the subject line: CV-SALTS WATER QUALITY CRITERIA STUDIES

AND

By mail, UPS or FedEx to be received prior to the deadline to:
San Joaquin Valley Drainage Authority
c/o Joseph C. McGahan
Summers Engineering
887 N. Irwin St.
P. O. Box 1122
Hanford, CA 93232
jmcgahan@summerseng.com
559-582-9237

A Standard Services Agreement for the San Joaquin Valley Drainage Authority is attached to the RFP.

We appreciate your interest in providing services to help understand and solve salt and nitrate issues in the Central Valley.

Very truly yours,

Joseph C. McGahan
SJVDA Project Manager
Central Valley Salinity Coalition with CV-SALTS Initiative

Request for Proposal (RFP) 2011-001
For Consulting Services to Conduct

Water Quality Criteria Studies

1 INTRODUCTION

Organization Background
The Central Valley Salinity Coalition (CVSC) was formed in 2008 to integrate and augment the efforts of the Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) initiative. The purpose of the organization is the governance and organization of the efforts needed to plan, develop and implement the salinity and nitrate management plan for the Central Valley. This plan will incorporate, and become implemented through, a basin plan amendment for the basins in the Central Valley.

Project Background
The objective of these two projects is to contract with an entity (herein referred to as Consultant) to identify for aquatic life and livestock drinking water supply: 1) water quality criteria that could be used to establish water quality objectives and 2) existing water quality objectives, standards, goals, and policies that have been established to protect these beneficial uses. The Consultant will accomplish these objectives through literature and internet searches and through interviews with regulatory agency staff, specialists and university researchers in California, other states, and if needed, other countries.

2 SJVDA Contract, CVSC and CV-SALTS Coordination

The funding for the project will come from the State Water Resources Control Board (SWRCB) to the San Joaquin Valley Drainage Authority (SJVDA). The contract will be executed between the SJVDA and the Consultant for the scope. Primary day to day coordination will be with a point of contact identified by the CV-SALTS Technical Committee. The Consultant will also work closely with the Technical Project Manager of CV-SALTS when available to insure focused use of time and to maintain continuity in the program.

3 Work Schedule and Budget

The Consultant shall propose a budget for all tasks in the Scope of Work. Cost should be well documented in the proposal, and should be organized to allow increases or decreases in scope based on
available funding. The funding for the budget may be developed from multiple sources but will be primarily from a State Water Board Cleanup and Abatement Contract. The project should be completed within 6 months of award.

Request for Work

This request is for professional services to accomplish the scope of work shown in Attachment A. Proposers may provide proposals for one or both of the scopes based on their qualifications. CV-SALTS may award to one or more firms for this effort.

The selected Consultant will provide all materials, equipment, labor, planning and coordination to provide the deliverables listed in Attachment A with Technical Committee input and oversight. The Consultant will provide a proposal documenting scope of work to be performed, project budget and project schedule.

4 Scope of Work

The scope of work is shown in Attachment A.

5 Instructions

Responses to this RFP must be made according to the requirements set forth in the Scope of Work. Failure to adhere to these requirements or to include conditions, limitations, or misrepresentations may be cause for rejection of the proposal. Any correction and resubmission by the proposer will not extend the time for evaluation of the proposal. Proposals will be reviewed by a group composed of members of the SJVDA and CV-SALTS Lower San Joaquin River Committee.

Submit one electronic file and six (6) complete copies of the proposal and related information to:

San Joaquin Valley Drainage Authority
c/o Joseph C. McGahan
Summers Engineering
887 N. Irwin St.
P. O. Box 1122
Hanford, CA 93232
jmcgahan@summerseng.com

All proposals must be received by May 27, 2011 – 4:00 pm.

5.1 Required Information

All proposals must include the following information:
   1. Cover letter, including name, telephone number, and address of the firm.
   2. Table of contents.
   3. Description of the proposer’s business; i.e., individual, partnership, joint venture, etc.
4. Background information about the proposer, including technical qualifications and licenses.
5. Description of the proposer’s experience, including the scope of similar projects.
6. Organizational chart showing proposed management and project team.
7. Complete list of personnel, including subcontractors that will be dedicated to this project.
8. Assigned personnel background, experience, and job title/classification.
9. Proposed scope of work including deliverable formats and products.
10. Detailed project schedule.
11. Fee proposal shall include breakdown of labor hours by employee billing classification, expense reimbursement schedule that includes cost of non-labor and sub-contractor services.
12. Hourly billing rates for personnel to be assigned to the project

6 Evaluation Criteria (to be updated by LSJRC)

Evaluation of Technical Qualifications will be conducted on the following:

1. Responsiveness to the RFP
2. Technical understanding of nutrient and salinity project work
3. Project approach and technical understanding of the scope of work
4. Demonstrated ability to act independently and perform unbiased evaluations
5. Contractor proposal to complete present scope on schedule
6. Demonstrated ability to complete work on schedule by demonstrating availability of staff during the contracting period
7. Experience and qualifications of the assigned individuals in salinity and nutrients in relation to aquatic life, wetlands and animal nutrition
8. Contractor experience and qualifications in:
   a. Water quality criteria development
   b. Water quality and toxicity guideline development
   c. Evaluation of scientific information
   d. Conducting critical reviews of scientific information
   e. Salt and nutrient interactions and impacts
   f. Scientific report writing
9. Project management qualifications of the agency or firm and staffing in:
   a. Scientific data reviews
   b. Assembling logical approaches to data review
   c. Ability to manage analyses with minimal data
   d. Ability to complete work on schedule
   e. Cost and schedule
   f. Coordination, reporting and responsiveness

Evaluation of Cost will be on the basis of the following:

1. Clarity and completeness of the breakdown of costs and explanation
2. Appropriateness of proposed fee structure and anticipated value and quality of services received
3. Total cost compared to the value of products and services

CV-SALTS reserves the sole right to evaluate and select the successful proposal. The selection process is anticipated to include an evaluation of the proposal and may include an interview with the top ranked firms.

7 General Requirements

All proposers are hereby advised that this RFP is an informal solicitation and is not a commitment or offer to enter into an agreement or engage into any competitive bidding or negotiation pursuant to any statute, ordinance, rule, or regulation. CVSC the Drainage Authority and Waterboards reserve the right to negotiate with any qualified source. CVSC the Drainage Authority and Waterboards reserves the right to reject any or all proposals for any reason or for no reason at all.

CVSC the Drainage Authority and Waterboards reserves the right to request further information from the proposer, either in writing or orally. Such request will be addressed to that person or persons authorized by the proposer to represent the proposer.

CVSC the Drainage Authority and Waterboards reserves the sole right to judge the proposer’s representations, either written or oral.

Proposers understand and agree that submission of a proposal constitutes acknowledgement and acceptance of, and a willingness to comply with, all terms, conditions, and criteria contained in this RFP.

False, incomplete, or unresponsive statements in connection with a proposal may be sufficient cause for the rejection of the proposal. The valuation and determination of the fulfillment of the above requirement will be CVSC the Drainage Authority and Waterboards responsibility and its decision shall be final.

The Drainage Authority and Waterboards reserve the right to interpret or change any provisions of this RFP at any time prior to the proposal submission date. Such interpretations or changes will be in the form of addenda to this RFP. Such addenda will become part of this RFP and may become part of any resultant contract. Such addenda will be made available to each person or organization that is known to have received this RFP. Should such addenda require additional information not previously requested, a proposer’s failure to address the requirements of such addenda might result in the proposal being disqualified or ranked lower in review. All proposals submitted in response to this RFP will become the exclusive property of the Drainage Authority and Waterboards and will be made available to CV-SALTS stakeholders.

This project is intended to be funding from grant funds awarded by the SWRCB. The terms and condition of those grant funds and the requirements of that contract will apply to the contractor. The Drainage Authority may at their discretion fund this project from proceeds of State, Federal or other grants or agreements and consultant contract may be managed by the agency providing funding with CVSC RFP 2011-01
different or additional requirements which must be complied with. These issues will be resolved at the time of contracting with the selected contractor.

The Drainage Authority and Waterboards shall not in any way be liable for any costs incurred in connection with the preparation of any proposal submitted in response to this RFP.

The contractor shall execute the Standard DRAINAGE AUTHORITY Agreement for services with the San Joaquin Valley Drainage Authority accepting terms and conditions without exception unless noted in the proposal.

8 Schedule of Proposal Events

The following table contains the expected schedule of events for the RFP process. SJVDA and the CVSC retain the right to modify this schedule as needed to support unexpected circumstances.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFP Distributed/posted to website</td>
<td>April 27, 2011</td>
</tr>
<tr>
<td>Proposals Due</td>
<td>May 27, 2011 – 4:00 pm</td>
</tr>
<tr>
<td>Committee Recommendation of Award</td>
<td>June 7, 2011</td>
</tr>
<tr>
<td>CVSALTS Executive Committee Approval</td>
<td>June 16, 2011</td>
</tr>
<tr>
<td>SJVDA Approval</td>
<td>July 5, 2011</td>
</tr>
<tr>
<td>Execution of Agreement with Contractor</td>
<td>By July 15, 2011</td>
</tr>
</tbody>
</table>
9 Proposal Authorization

(Please provide this document on your letterhead)

I certify I am authorized to submit a binding proposal on behalf of my company, _______________(company name), and this proposal conforms to required specifications unless otherwise noted.

___________________________________________
Company Name

___________________________________________
Proposal Submitted by

___________________________________________
Title

___________________________________________
Signature

___________________________________________
Date

___________________________________________
Email

___________________________________________
Telephone Number

___________________________________________
Facsimile Number
## 2011 CV-SALTS MILESTONES –Version 3 Approved 2/10/11
(Technical Progress will be Measured Against Updated Workplan) Status as of 4/1/11

<table>
<thead>
<tr>
<th>Month</th>
<th>Activity</th>
<th>Status/Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>February</td>
<td>Program Manager in place to conduct overall management, facilitation and administrative activities for the effort</td>
<td>Completed</td>
</tr>
<tr>
<td>February</td>
<td>Leadership meeting to obtain feedback on overall direction and goals of CV-SALTS</td>
<td>Completed</td>
</tr>
<tr>
<td>April</td>
<td>Framework developed for salt/nitrate identification studies (Assess the validity of the salt source survey pilot studies. If the approaches need modification, identify the adjustments that will be made to make the approach useful in the rest of the region.) [from Knowledge Gained Subcommittee]</td>
<td>Knowledge Gained meeting May likely</td>
</tr>
<tr>
<td>May</td>
<td>Technical Project Manager Team in place to insure technical tasks needed to complete effort accomplished on time and on budget – scope in March, Procurement April, Award in May</td>
<td>Subcomm meeting June likely</td>
</tr>
<tr>
<td>June</td>
<td>Develop interim recommended review process for identifying Best Practical Treatment or Control for salinity and nitrate (screening tool) [from the Management Practice Subcommittee]</td>
<td>Subcomm meeting</td>
</tr>
<tr>
<td>July</td>
<td>FINAL updated strategy including policy and framework</td>
<td>Tracking Policy</td>
</tr>
<tr>
<td>August</td>
<td>FINAL updated workplan containing the following elements</td>
<td>Tracking Policy</td>
</tr>
<tr>
<td></td>
<td>✓ Five Year Critical Path:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Work to be performed, timelines, deliverables and budget by task number based on confirmed project funding leading to Salinity-Nitrate Management Plan and Basin Plan Amendment language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Unfunded work (with estimated cost) that would improve the final product</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Milestones to insure timely progress</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Five-year funding plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>✓ Identify needs for long term implementation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Continuous funding mechanism</td>
<td></td>
</tr>
<tr>
<td></td>
<td>o Integrated monitoring system</td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>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</td>
<td>Outreach discussions</td>
</tr>
<tr>
<td>September</td>
<td>Identify administrative and technical program needs that could be met through in-kind services rather than financial contributions</td>
<td></td>
</tr>
<tr>
<td>June and December</td>
<td>Prepare semiannual (June and December) status reports on funding and progress toward completing work plan tasks</td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>Contracts for completing tasks included in the 5-year workplan have been awarded or are developed and pending approval.</td>
<td></td>
</tr>
</tbody>
</table>
# CV-SALTS Initiative Program Funding

## As of April 1, 2011

### Cleanup and Abatement Funding

<table>
<thead>
<tr>
<th>Funding</th>
<th>Expenditures</th>
<th>Date</th>
<th>Status</th>
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<tbody>
<tr>
<td>Allocated</td>
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<tr>
<td>Contracted SJVDA</td>
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<td>Contracted</td>
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<td></td>
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<tr>
<td>BUOS Phase I</td>
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<td>Complete</td>
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<td>Program Mgt 2011</td>
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<tr>
<td>Program Mgt 2012</td>
<td>$ 291,571</td>
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</tr>
<tr>
<td>Remaining Contracted</td>
<td>$ 482,244</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approved Not Contracted</td>
<td>$ 2,000,000</td>
<td>2010</td>
<td>Approved</td>
<td></td>
</tr>
<tr>
<td>Remaining Approved</td>
<td>$ 2,482,244</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remaining to be Approved</td>
<td>$ 1,800,000</td>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Remaining</strong></td>
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*Coalition and Partner funding in preparation*

### Central Valley Salinity Coalition

<table>
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### Partners

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CV-SALTS Program and Technical Work Management - VERSION 3

Leading to the materials for the Request for Qualifications (RFQ) for the Technical Project Manager procurement process

Introduction and Approach

The following sections provide introduction and background that will be used in whole or in part as portions of the RFQ to provide understanding and the setting within which CV-SALTS works.

The approach recommended by the Committee is:

- To publish a RFQ seeking responses from firms who are qualified to provide TPM services and other technical studies or reports for CV-SALTS
- To identify one or more firm to provide services
- To contract with the firm or firms to provide services

The initial sections (Introduction, Contracted and Non Contracted Elements and Contract Vehicle) are intended to provide information for the Executive Committee to inform and support their decision making process. Beginning at Section 2 is a description of the task of the Technical Project Manager (TPM). Section 3 describes technical work that is currently scoped or in development. Section 4 and 5 provide broad preliminary description of the work needed for Implementation Planning and Basin Plan Amendment Documentation. Section 6 will likely be provided as a attachment to assist those responding to the RFQ.

Questions for the Executive Committee

1. Who should release/manage the RFQ process?

2. Who should review the submissions, evaluate the qualifications, and make a recommendation to the Executive Committee?

3. Should a minimum or maximum contract value be stated in the RFQ?

4. Does the Committee have a preference of contracting methods for the preferred qualified firm?

5. What oversight role is appropriate for the review the work provided by the TPM, Scope Approval, Technical Analysis, Contracting decisions?
**Contracted Elements**

Then following elements have been contracted to support CV-SALTS.

1. Drainage Authority Master Contract – $1.2 M
2. Program Management/Administration and Policy Development 2 years
3. Water Quality Criteria Studies (pending)
4. Public Record and process provided by the Regional Board

**To Be Contracted Work Elements**

Then following elements have not been contracted but are needed to support CV-SALTS.

1. **Contract Vehicle for up to $3.8 M** – may be integrated with TPM for some or all funding *(this section will not likely need to be in the RFQ)*
2. Technical Project Manager (TPM)
3. Future Technical Projects and Studies
   3.1. BUOS Phase II – additional work to improved existing data developed in Phase I
   3.2. CV-SALTS Conceptual Model of Water, Salt and Nitrate Sources and Interactions
   3.3. Studies and Data Collection to support policy elements of the plan
   3.4. Economics Studies and Documentation
   3.5. Others
   3.6. CEQA Equivalent Documentation supporting the Basin Plan Amendment
4. Salinity Management Planning and (Plan of Implementation) describing the implementation plans for the Basin Plan Implementation Section as well as the programs and projects stakeholders need to manage salinity and nitrate.
5. Basin Plan Amendment Document Development
   5.1. Policy Development
   5.2. Technical and Document Production

**1.0 Contract Vehicle for $3.8 M**

*(This section is to inform the Executive committee but not intended to be part of the RFQ.)*

The Executive Committee should address and provide direction on the appropriate contract vehicle for the remaining $3.8 Million dollars that are no yet contracted. Of this funding $2.0M is available for current contracting and efforts and could utilize one of several contracting methods shown below.

a. Amend the current contract with the SJ Drainage Authority (recommendation from State Board to develop a new contract so can clearly distinguish sub-tasks and avoid 10% with-hold on entire contract amount)
b. Local public agency or JPA such as SJ Drainage Authority, SFEI and cities or districts do not require competition
c. UC or CSU system may be sole source selected
d. Central Valley Salinity Coalition if award justified through competitive bid process

e. Competitive procurement to any contractor who can perform the scope and with sufficient contracting experience to work with the State Board Contracts and willing to have 10% retention withheld from the final payment for the $2.0M. If the contract is structured correctly with sub-tasks, 10% can be with-held from each subtask and paid when the subtask is complete, so would not have 10% with-hold on full contract amount. ALSO NOTE: The contract can be made out for the $3.8-million with a clause that the release of the final $1.8-million is conditioned on adequate progress as determined by the State Board (include resolution language). Contracting the full amount now would avoid administrative delays later.

Each of these has issues, discussed by the committee at length were pros and cons of the use of one contractor, (d) shown above for all work to complete the basin plan amendment. Issues discussed include:

a. Inability to identify a detailed scope of all activities needed to complete the basin plan amendment prior to request for qualifications and entering into a contract.

b. Questions about the ability to select the best qualified firm if all funding must be obligated

c. Potential difficulty with Stakeholders contributing funding to selected consultant if not a public agency, i.e. adequacy of procurement process for all future entities that may wish to contribute may do so.

d. Overhead and markup on subcontracted costs (15%)

2.0 The TPM Performance Statement
(This section is expected to be included in the RFQ)

The role of TPM is that of an individual or firm with the base capability to manage the technical work required for to support the CV-SALTS program. In addition to the base capabilities and qualifications the RFQ would solicit the firm’s capabilities and qualifications to perform the work activities that are expected in the CV-SALTS program. The Technical Committee will act as the advisory committee for all technical work performed under the TPM. The Executive Committee will serve in the advisory role during the development of the Salt and Nitrate Management Plan.

The RFQ would seek to solicit one or more firms with various expertise or capabilities. Firms that do not wish to provide TMP services would be held for future technical contract efforts.

At a minimum the technical project manager shall provide all materials, labor, equipment, (subcontract services), and perform the following in a management role under the oversight of the Technical Committee and Executive Committee:

a. Develop the scopes of technical work (research, data, modeling, economics and related efforts) along with a draft schedule and draft cost budget.

b. When the scope, budget and schedule have been reviewed and approved by the Technical and Executive committees work with the contracting entity to procure or assign staff to perform work in accordance with the approved budget and schedule.
c. With the committee, develop technical standards and guidelines for Basin Plan related work as requested.
d. Manage the scope, schedule and cost for all technical efforts to insure the work is completed on budget and within schedule. Provide status of all authorized work, including contracted efforts, subcontracted work, and in-kind efforts. Provide updates on work to be contracted and an estimate of funding needed for completion of work.
e. Assist the Technical Committee and the Co-Chairs of the committee with process and work product.
f. Coordinate with the Program Manager, Regional Board and others to inform and coordinate technical work.
g. Critically review all technical work performed by contractors and in-kind efforts by stakeholders and prepare comments and acceptability review for the technical committee
h. Support the technical committee meetings and subcommittee meetings to develop work as directed by the Executive Committee
i. Coordinate with the Program Manager, State Water Board Staff, Regional Water Board staff and CV-SALTS committees as needed to be informed and accomplish all efforts required
j. Ensure all technical work needed for the completion of the basin plan amendment is completed by January 2014 for final review and approval by June 2014.

Selection criteria for the RFQ are provided in the following section. The Technical Project Manager must have a strong understanding of the scientific and technical documentation required to support new regulatory requirements as demonstrated by history of by actual adopted basin plan amendments, use attainability assessments, site-specific objectives, variances, in a collaborative setting.

3.0 Future Technical Projects and Studies

This section provides a brief overview of potential projects and studies that may be included in the prime contract, subcontracts, or other projects managed by the TPM.

3.1 Beneficial Use and Objective Study (BUOS) Phase II – Update GIS Work and Water Quality Criteria to reduce errors in collected existing data by working with stakeholders to improve sections where they are knowledgeable and engaged. Add needed layers of information related to diversions and outfalls not available when originally compiled. The GIS tools should show all tributary relationships, wastewater outfalls, stormwater drains, Ag drains, water intakes, water supply wells, irrigation-only wells, basin plan segments, 303(d) listings, etc. In addition the information compiled during the development of the Inland Surface Waters Program should be incorporated into the GIS to allow it to improve the data and inform the program. These coverages being developed will eventually show monitoring locations, stations, points of compliance, land use types and changes, drainage-shed, and become the backbone of the plan of implementation.

3.2 Conceptual Model of Water, Salt and Nitrate Sources and Interactions – Drawing on the Pilot Salt and Nitrate Source work, West Side Salt and Nitrate Study, BUOS Phase I and II and other sources of information compile and organize existing information to develop missing
information to prepare an initial conceptual model of water, salt and nitrate movement and interactions for the Central Valley Basins. This will be the basis of planning and evaluation of plans for salt control on a high level. This should be developed to use or be compatible with the GIS Tools developed in BUOS work.

3.3 Studies and data to support policy changes proposed in the salt and nutrient management plans and the Basin Plan Amendment, which will be further developed in the coming months.

3.4 Economics Studies and Documentation – Based on the conceptual model and implementation planning, there is a need for study, evaluation and documentation of the economic costs and benefits as well as societal impacts of current regulation, future regulation and proposed program of implementation. Draft work may be needed during the development of 3.2.

3.5 Others

3.6 CEQA Equivalent Documentation - To be determined during 3.2

4.0 Salinity Management Planning and (Plan of Implementation)

(This area of scope will bring together the policy elements developed in the Program Management and Facilitation scope with the technical studies that detail and demonstrate the plan of implementation. This plan must show the plan will be successful at meeting the policy objectives and beneficial uses in the revised Basin Plan. The Program Manager and the Technical Project Manager will work with stakeholders to develop and document their actions and the results of those actions to control salts and nitrate. These actions and elements of the policy changes and requirements, monitoring and other program requirements (adaptive management, future implementation and etc.) will be integrated at within the Program of Implementation. Elements of the Program of Implementation will be used in the development of the Basin Plan Implementation Section or incorporated by reference.

4.1 Description of major efforts, changes and impacts
4.2 Integration of regional and valley wide efforts and expected results
4.3 POI Draft document preparation support
4.4 POI Final document preparation support

5.0 Basin Plan Amendment Draft Document Development

5.1 Policy Development – initially occurs in the facilitation section and will proceed to development and approval by Executive Committee. At the completion this will be incorporated and documented in draft basin plan language.
5.2 Technical and Document Production – Technical efforts and document management and production will be required to assemble the document for incorporation into the basin plan. This effort and other preparation and documentation would be included in this section.

6.0 CV-SALTS Program and Roles of Various Groups

The earlier sections detail the activities and role of the TPM. This section briefly describes the roll of the other groups or functions within CV-SALTS. This section will likely be presented as an appendix or attachment to the RFQ. A diagram is being prepared to illustrate these relationships.

**Executive Committee of CV-SALTS** – is the programmatic Management Committee of the CV-SALTS initiative. They provide oversight of all committees and consultant work products to insure review and policy acceptance. Committee has final authority in approval of scope, services and acceptance of products. The Committee Directs the Program Manager and Policy Facilitator.

**Program Manager** – Provides overall program management and prime contract for administration, coordination and facilitation. Under the direction of the Executive Committee provides coordination, program definition and integration of policy, outreach and technical activities supported by the TPM.

**Policy Facilitator** – Working under the Program Management contract develops and facilitates agreement on the policy issues and requirements to be developed for the basin plan

**Technical and Economic Committee** – Committee under the direction of the Executive Committee plans and manages technical studies and provides direction and reviews technical work making recommendations to the Executive Committee.

**Central Valley Salinity Coalition** – The Coalition is the organizing entity for the Stakeholders to provide funding and coordinate stakeholder issues for CV-SALTS. Many Coalition Board Members are members of the Executive Committee.

**Regional Water Board** – The Regional Water Board composed of appointed members who participate in meetings but have a primary responsibility for consideration and approval of the basin plan when proposed. The Regional Board is a member of the MOA for CV-SALTS.

**Regional Water Board Staff** – Under direction of the Regional Board, participate as active stakeholders and provide oversight and feedback on efforts developed and coordination with other state agencies. The Regional Board is a member of the Executive Committee.

**State Water Board** – The Board is a member of the MOA for CV-SALTS and is a primary source of funding for the CV-SALTS efforts. Their primary responsibility will be for consideration and approval of the final basin plan when approved by the Regional Water Board.

**State Board Staff** – Participate as representative members of the MOA members to assist in coordination of State Board Issues and as a participant and member of the Executive Committee.
**US EPA** – The EPA should be represented as a participant in CV-SALTS and would have the role of coordination with their internal programs and with other federal agencies. Their primary responsibility will be for consideration and approval of the final basin plan when approved by the State Water Board.

**SJ Drainage Authority** – The Authority is a member of the Coalition and has also volunteered to act as contracting agent for State Board Cleanup and Abatement Funding for CV-SALTS.
Request for Submission for Release May 2, 2011

Central Valley Salinity Coalition with CV-SALTS Initiative

Request for Qualifications (RFQ) 2011-002
For Consulting Services to Provide

Technical Project Management Services
and Technical Services Supporting CV-SALTS

1 INTRODUCTION

Organization Background
The Central Valley Salinity Coalition (CVSC) was formed in 2008 to integrate and augment the efforts of the Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) initiative. The purpose of the organization is the governance and organization of the efforts needed to plan, develop and implement the salinity and nitrate management plan for the Central Valley. This plan will incorporate, and become implemented through, a basin plan amendment for the basins in the Central Valley.

Project Background
The objective of RFQ is to receive qualifications from firms with experience in managing Technical project leading to successful Basin Plan Amendments. The intention is to contract with an entity (herein referred to as Consultant) to perform services as a Technical Project Manager for the CV-SALTS initiative and to receive Consultants qualifications for various technical services to support CV-SALTS. The selected Consultant, team or Consultants will receive oversight from the Technical Committee and Executive Committee.

2 SJVDA Contract, CVSC and CV-SALTS Coordination

The funding for the project may come from one or more sources including the State Water Resources Control Board (SWRCB) directly, a contract with the San Joaquin Valley Drainage Authority (SJVDA), from the CVSC or other sources. The contract will be executed between an agency to be selected and the Consultant for the scope of work, but may include funding for task orders to be approved in the future. The funding for the budget may be developed from multiple sources but will be primarily from a State Water Board Cleanup and Abatement Contract. Primary day to day coordination will be with a point of contact identified by the CV-SALTS Technical Committee and with the Program Manager.
Request for Qualifications

This request is for a Statement of Qualifications (SOQ) for providers of professional services to accomplish the scope of work shown in Attachment A. Responding entities may provide SOQ document covering one or tasks in the scope. The Consultant shall provide qualifications for all areas of Basin Planning they wish to be considered to provide. CV-SALTS may award to one or more firms for this effort. Consultants who are not qualified or do not wish to be evaluated for the TPM task in the scope will mark their SOC as NON-TPM SOQ for review. The Consultant will provide a SOQ documenting their project approach, hourly rates for all staff listed in the qualifications document and needed to perform the scope of work, any other rates or charges for the staff, any travel costs for staff and any other charges including markup on subcontracting or any standard charges. Charges or fees not included will not be allowable costs in the task orders under the contract.

Consultant should address how they would manage Task Orders under their contract. They should address how they would recommend work scope tasks be done by the Consultants staff or team or a third party. The Consultant should explain how they would manage the work of outside parties, other Consultants and volunteers or in-kind work provided.

TPM Work, Schedule and Budget

While this SOQ will focus on qualifications for the Technical Project Manager the Consultant should also provide their approach to the work for the TPM. The consultant should propose a budget, work breakdown structure, schedule and TPM Scope based on a 1 year period of performance with two one year extensions for the TPM scope only. These documents will illustrate the qualifications of the proposed TPM and provide the draft source documents for the contract with the Consultant.

Cost assumptions for the TPM proposal should be well documented and organized to allow the Executive Committee to increase or decrease efforts based on available funding, duration or work load. The selected Consultant will provide all materials, equipment, labor, planning and coordination to provide the services listed in Attachment A with Technical Committee input and oversight.

CV-SALTS will require the Consultant commit providing the selected individual as Technical Project Manager for the duration of the program. Should the individual become unavailable, the contract may be terminated. Should the Executive Committee elect not to terminate the Consultant shall bear all costs related in any way to changes in staffing.

3 Scope of Work

The scope of work is shown in Attachment A.

4 Instructions

RFQ 2011-02
Responses to this RFQ must be made according to the requirements set forth in the Scope of Work. Failure to adhere to these requirements or to include conditions, limitations, or misrepresentations may be cause for rejection of the submission. Any correction and resubmission by the proposer will not extend the time for evaluation of the submission. SOQ documents will be reviewed by a group composed of members of CV-SALTS Technical and Executive Committees.

Submit one electronic file and six (6) complete copies of the submission and related information to:

San Joaquin Valley Drainage Authority
C/o Joseph C. McGahan
Summers Engineering
887 N. Irwin St.
P.O. Box 1122
Hanford, CA 93232
jmcgahan@summerseng.com

All submissions must be received by June 15, 2011 – 4:00 pm.

4.1 Required Information

All submissions must include the following information:

1. Cover letter, including name, telephone number, and address of the firm
2. Table of contents
3. Description of the firm’s business; i.e., individual, partnership, joint venture, etc.
4. Background information about the proposer, including technical qualifications and licenses
5. Description of the firm’s experience, including the scope of similar projects
6. Organizational chart showing proposed management and project team
7. Complete list of personnel, their qualifications for CV-SALTS work this should also include any subcontractors that will be dedicated to this project
8. Assigned personnel background, experience, and job title/classification
9. Proposed scope of work for the TPM task
10. Detailed project schedule for the TPM task
11. Fee proposal shall include breakdown of labor hours by employee billing classification, expense reimbursement schedule that includes cost of non-labor and sub-contractor services for the TPM task
12. Hourly billing rates for personnel to be assigned to the project

5 Evaluation Criteria (may be updated)
Evaluation of Technical Qualifications will be conducted on the following:

1. SOQ organization and clarity
2. Project approach and understanding
3. Experience and qualifications of the assigned individuals
4. Experience and qualifications of the firm in
   a. Technical Project Management in a stakeholder driven regulatory environment
   b. Salts and nutrients issues
   c. Basin Planning and successful Basin Plan Amendment completion
   d. Technical skills and experience in studies supporting Basin Planning
   e. Regional planning and Agricultural issues
5. Project management qualifications of the firm and staff
   a. Demonstrated management experience
   b. Track record of completion of complex tasks on schedule
   c. Scope, cost and schedule development and review
   d. Coordination, reporting and responsiveness in a stakeholder environment

Evaluation of Cost will be on the basis of the following:

6. Clarity and completeness of the breakdown of costs and explanation for the TPM task
7. Appropriateness of proposed fee structure and anticipated value and quality of services received for the TPM task
8. Total cost compared to the value of products and services

The selection process is anticipated to include an evaluation of the qualifications and cost proposal for the TPM task and may include an interview with top ranked firms.

6 General Requirements

All proposers are hereby advised that this RFQ is an informal solicitation and is not a commitment or offer to enter into an agreement or engage into any competitive bidding or negotiation pursuant to any statute, ordinance, rule, or regulation. CVSC the Drainage Authority and Waterboards reserve the right to negotiate with any qualified source. CVSC the Drainage Authority and Waterboards reserve the right to reject any or all submissions for any reason or for no reason at all.

CVSC the Drainage Authority and Waterboards reserve the right to request further information from the proposer, either in writing or orally. Such request will be addressed to that person or persons authorized by the proposer to represent the proposer. CVSC the Drainage Authority and Waterboards reserve the sole right to judge the proposer’s representations, either written or oral. The Executive Committee will make the final selection decision for the award contracts.

Proposers understand and agree that submission of the SOQ constitutes acknowledgement and acceptance of, and a willingness to comply with, all terms, conditions, and criteria contained in this RFQ.

False, incomplete, or unresponsive statements in connection with a submission may be sufficient cause for the rejection of the submission. The valuation and determination of the fulfillment of the above requirement will be CVSC the Drainage Authority and Waterboards responsibility and its decision shall be final.

RFQ 2011-02
The CVSC Drainage Authority and Waterboards reserve the right to interpret or change any provisions of this RFP at any time prior to the submission date. Such interpretations or changes will be in the form of addenda to this RFQ. Such addenda will become part of this RFQ and may become part of any resultant contract. Such addenda will be made available to each person or organization that is known to have received this RFQ. Should such addenda require additional information not previously requested, a firm’s failure to address the requirements of such addenda might result in the submission being disqualified or ranked lower in review. All SOQs submitted in response to this RFP will become the exclusive property of the CVSC, Drainage Authority and Waterboards and will be made available to CV-SALTS stakeholders.

This project is intended to be funding from grant funds awarded by the SWRCB. The terms and condition of those grant funds and the requirements of that contract will apply to the contractor. The Drainage Authority or other CV-SALTS entities may at their discretion fund this project from proceeds of State, Federal or other grants or agreements and consultant contract may be managed by the agency providing funding with different or additional requirements which must be complied with. These issues will be resolved at the time of contracting with the selected contractor.

The Drainage Authority and Waterboards shall not in any way be liable for any costs incurred in connection with the preparation of any submission submitted in response to this RFP.

The Consultant shall execute a Standard Agreement for services with the selected agency. The San Joaquin Valley Drainage Authority terms are shown in Appendix B, Submission of an SOQ is deemed accepting terms and conditions without exception unless noted in the submission.

7 Schedule of Submission Events

The following table contains the expected schedule of events for the RFQ process. SJVDA and the CVSC retain the right to modify this schedule as needed to support unexpected circumstances.

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<tr>
<td>Submissions Due</td>
<td>June 15, 2011 – 4:00 pm</td>
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<tr>
<td>Committee Recommendation of Award</td>
<td>June 30, 2011</td>
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<tr>
<td>CV-SALTS Executive Committee Approval</td>
<td>July 21, 2011</td>
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<tr>
<td>Agency Approval</td>
<td>July 30, 2011</td>
</tr>
<tr>
<td>Execution of Agreement with Contractor</td>
<td>By August 15, 2011</td>
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8 SOQ Authorization

(Please provide this document on your letterhead)

I certify I am authorized to submit a this SOQ on behalf of my company, ____________(company name), and this submission conforms to required specifications unless otherwise noted.

___________________________________________
Company Name

___________________________________________
Submission Submitted by

___________________________________________
Title

___________________________________________
Signature

___________________________________________
Date

___________________________________________
Email

___________________________________________
Telephone Number

___________________________________________
Facsimile Number
CV-SALTS Technical Memorandum

Date: April 15, 2010

To: CV-SALTS Technical Advisory Committee

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

Early in 2011, the CV-SALTS Executive Committee directed the Knowledge Gained Subcommittee to develop a framework for salt/nitrate identification studies by April 2011. This memorandum responds to this direction. An additional and more detailed report will be submitted in May to expand upon this memorandum.

PROCESS: Following review of the Salt and Nitrate Pilot Implementation Study (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. In the fall of 2010 the Executive Committee suspended all subcommittees in order to refocus the mission of the CV-SALTS. This memorandum responds to specific direction from the CV-SALTS Executive Committee.

RECOMMENDATION: The Knowledge Gained subcommittee submits this salt/nitrate identification study framework for adoption by the Executive Committee. This submittal is intended to meet the Progress Goal due in April:

Framework developed for salt/nitrate identification studies (Assess the validity of the salt source survey pilot studies. If the approaches need modification, identify the adjustments that will be made to make the approach useful in the rest of the region.) [from Knowledge Gained Subcommittee]

FRAMEWORK FOR SALT/NITRATE IDENTIFICATION STUDIES: The Knowledge Gained Subcommittee is producing a framework report that includes:

1. Description of the purpose of Salt/Nitrate Identification Studies
2. Study process
3. Technical principles
4. A list of the technical design questions for Salt/Nitrate Identification Studies
5. A technical outline of the contents of Salt/Nitrate Identification Studies
6. Examples of visualizations of results of Salt/Nitrate Identification Studies

This memorandum presents the final version of the first three sections of this framework report.
The Knowledge Gained Subcommittee is also producing a final Framework Document that describes the final three sections in more detail.

DESCRIPTION OF PURPOSE OF SALT/NITRATE IDENTIFICATION STUDIES: Salt/Nitrate Identification Studies serve several purposes:

• Studies develop information at appropriate regional scales for region-specific salinity problems

• Studies enable prioritization of management efforts throughout the Basin

• Studies provide data that can be utilized in the development of Salt/Nutrient Management Plans required by the Recycled Water Policy

• Studies provide technical support for basin plan amendments

• Studies are a starting point for regulated regions’ implementation activities.

Studies can vary in the level of detail, dependent on the scope and scale of salinity issues, the availability of data, as well as the urgency of salt and nitrate issues in the region.

STUDY PROCESS

Studies should be conducted in a stepwise fashion, as each step is dependent on the results of the previous step. All areas should complete Steps 1 through 4 and areas with more data and with a higher priority for management should complete Step 5 and will have greater detail developed in Steps 2 through 4.

Step 1: The first step in a Salt/Nitrate Identification Study is the description of study area characteristics and delineation of the study region. Study area characteristics should include climate, physiography, geology, hydrology, and hydrogeology. Delineation considerations should include: natural hydrological pathways (watersheds), water supply and wastewater infrastructure, existing salinity/nitrate regulation endpoints, and land use. The regulatory endpoints are used to inform temporal scales of the budgets. Use of GIS is recommended.

Step 2: The second step in a Salt/Nitrate Identification Study is the development of a water budget. A water budget is the characterization and accounting of water sources, water uses, uncontrolled water pathways, controlled pathways of irrigated return water and treated municipal and storm waters, and other water loss pathways (evapotranspiration, biomass). Water budgets identify constraints to the water budget (permit terms, environmental regulations, risk management, etc.). More than one water budget may need to be developed to capture shifts in water or wastewater management due to factors like hydrology (dry versus wet year water management). Data sources should be described and quality assessed and assumptions documented (see principles). The development of an accurate water budget is the foundation of salt and nitrate characterizations.
Step 3: The third step in a Salt/Nitrate Identification Study is the development of salt and nitrate sources and budgets. All salt and nitrate sources are identified with appropriate quantitative, location, and land use data. Salt and nitrate information is attached to elements of the water budget and simple mass balances are developed. For more complicated and data-rich areas, more complicated mass balances are developed. Significant salt/nitrate sources and sinks are highlighted. Data sources should be described and quality assessed and assumptions documented (see principles).

Step 4: The fourth step in a Salt/Nitrate Identification Study is to synthesize and create visualizations of the budget information. The transformation of data into information should be done in consideration of salinity issue(s) and regulatory endpoints. Minimum uniform requirements shall be developed so that different Studies can be integrated into a conceptual model and directly compared, while recognizing variability in data availability and temporal scales.

Step 5: The fifth step (for higher priority/more complex areas) in a Salt/Nitrate Identification Study is to develop additional information needed to support effective management practices and alternatives. High priority areas will likely view Salt/Nitrate Identification Studies as a tool to inform solutions. Additional information can include the collection of information to refine budgets or default values, to develop additional ways of characterizing salt/nitrate loading, trends, or accumulation, or other data to inform strategic priorities related to regulatory endpoints.

Additional Principles

Data availability: The accuracy of water and salt/nitrate budgets is largely dependent on the availability of accurate data. The availability of data varies broadly throughout the Central Valley. Available data should be supplemented by documented assumptions (preferably supported by references) where needed to develop budgets.

Data quality: The highest priority is to use data that is supported by quality assurance/quality control processes. Other data should be used after they are reviewed for obvious quality issues, and such data should be clearly documented as of lower quality. The quality of data varies broadly throughout the Central Valley. Uncertainty analyses should be conducted to determine whether improved data would improve budgets.

Default assumptions: CV-SALTS should develop a set of default assumptions for use in areas where data is not available. Sensitivity tests can be used to determine where areas should consider replacing default assumptions through data collection to improve budgets.

Clearly defined control volumes: Studies should employ a clearly defined control volume to accomplish a regional water budget and salt/nitrate load balances.

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

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• Daniel Cozad
CV-SALTS Technical Memorandum

Date: April 18, 2011 Revised by Committee Members after the last Committee Meeting

To: CV-SALTS Technical Advisory Committee

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

Early in 2011, the CV-SALTS Executive Committee directed the Knowledge Gained Subcommittee to develop a framework for regional-scale salt/nitrate identification studies in the Central Valley by April 2011.1 This memorandum responds to this direction. An additional and more detailed document will be submitted in May to provide more detailed guidance on preparing regional-scale salt/nitrate identification studies.

PROCESS: Following review of the Salt and Nitrate Pilot Implementation Study (SNPS) report, the Technical Advisory Committee (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. In the fall of 2010 the Executive Committee suspended all subcommittees to refocus the mission of the CV-SALTS. This memorandum responds to this specific direction from the CV-SALTS Executive Committee.

RECOMMENDATION: The Knowledge Gained subcommittee submits this framework for salt/nitrate identification studies for adoption by the Executive Committee. Our recommendation is that salt/nitrate source identification studies be conducted in a phased approach.

A phased approach allows for cost-effective evaluation and provides opportunity for stakeholder input. With a phased approach, the scope of the salt/nitrate source identification studies are not pre-determined, but depend on encountered regional-specific technical and political factors that become apparent during preparation of the study (e.g., management priority, urgency of salinity/nitrate issues, data quality and availability, funding availability, and cooperation of stakeholders). Stakeholder input is critical to determine whether study results are adequate to make salinity/nitrate management decisions and meet regulatory endpoints, or whether additional data collection or analyses are needed.

1 The subcommittee has used the term “regions” within this technical memorandum to define plan areas within the Central Valley, on the assumption that the Central Valley Salt and Nutrient Management Plan will be a collection of smaller plans that fit together. At this point we have not attempted to define regions beyond thinking of them as small enough to be managed. The framework described herein is specifically limited to regional-scale studies and not applicable to salinity and nitrate source identification studies that would be accomplished on a facility- or municipal-scale basis.
This submittal is intended to meet the Progress Goal due in April:

Framework developed for salt/nitrate identification studies (Assess the validity of the salt source survey pilot studies. If the approaches need modification, identify the adjustments that will be made to make the approach useful in the rest of the region.) [From the Knowledge Gained Subcommittee]

FRAMEWORK FOR SALT/NITRATE IDENTIFICATION STUDIES: The Knowledge Gained Subcommittee is producing a framework report that includes:

1. Description of the purpose of Salt/Nitrate Identification Studies
2. Study process
3. Technical principles
4. A list of the technical design questions for Salt/Nitrate Identification Studies
5. A technical outline of the contents of Salt/Nitrate Identification Studies
6. Examples of visualizations of results of Salt/Nitrate Identification Studies

This memorandum presents the final version of the first three sections of this framework report.

The Knowledge Gained Subcommittee is also producing a final Framework Document that describes the final three sections in more detail.

DESCRIPTION OF PURPOSE OF SALT/NITRATE IDENTIFICATION STUDIES: Salt/Nitrate Identification Studies serve several purposes:

• develop information at appropriate scales for region-specific salinity problems to enable prioritization of management efforts throughout the Central Valley groundwater Basins and watersheds;

• provide data that can be utilized in the development of Salt/Nutrient Management Plans required by the Recycled Water Policy;

• provide technical support for basin plan amendments; and

• provide a starting point for regulated regions’ implementation activities.

Studies can vary in scope, depending on encountered technical and political factors such as priority and urgency of salinity/nitrate issues, the availability and quality of data, funding availability, and cooperation of stakeholders.

STUDY PROCESS

Studies should be conducted in a phased approach to promote cost-effective evaluations and provide opportunity for stakeholder input. All studies should include completion of Steps 1 through 4.
Depending on encountered technical and political factors, certain salt/nitrate source identification studies may require additional data collection or analysis, as outlined in Step 5.

Step 1: The first step in a Salt/Nitrate Identification Study is the **description of study area characteristics and clear delineation of the study region**. All studies should employ a clearly defined control volume to accomplish a regional water budget and salt/nitrate load balances. Study area characteristics should include climate, physiography, geology, hydrology, and hydrogeology. Delineation considerations may include natural and political boundaries such as natural hydrological boundaries (watersheds and groundwater basins), water supply and wastewater infrastructure, existing salinity/nitrate regulation endpoints, land use, water district or other political boundaries, and data availability, coverage and format. Study regions should be primarily defined by natural boundaries because use of political boundaries will complicate the development of water budgets and salt/nitrate mass balances.

Step 2: The second step in a salt/nitrate identification study is **the development of a water budget**. A water budget is the characterization and accounting of inputs (water sources), outputs (water sinks), and changes in water volume (e.g., groundwater table elevation changes, volume of surface water in a reservoir) within a defined study region. Water sources and sinks may include natural and artificial infiltration (recharge), uncontrolled water pathways, controlled pathways of irrigated return water and treated municipal and storm waters, and other water loss pathways (evapotranspiration, biomass). The study also may need to identify constraints to the water budget (permit terms, environmental regulations, risk management, etc.). Data sources should be described and quality assessed and assumptions documented (see principles). The development of an accurate water budget is the foundation of salt and nitrate characterizations.

Step 3: The third step in a salt/nitrate identification study is **the development of salt and nitrate mass balances**. All salt and nitrate sources and sinks are identified with appropriate quantitative, location, and land use data. Salt and nitrate information is applied to elements of the water budget and spreadsheet mass balances are developed. Significant salt/nitrate sources and sinks are highlighted.

As with the water budget, the data relied upon to conduct the salt and nitrate mass balances must be clearly identified. The accuracy of the water budget and salt/nitrate mass balances is largely dependent upon data completeness and accuracy. Data completeness and accuracy varies broadly throughout the Central Valley. Incomplete or conflicting data should be described, and actions taken to address such circumstances should be documented with other assumptions (preferably supported by references) needed to develop salt/nitrate mass balances.

Step 4: The fourth step in a salt/nitrate identification study is to **synthesize and create visualizations of water budget and salt/nitrate mass balance information** so stakeholders can determine if the studies are sufficient to inform salt/nitrate management efforts with regions, while ensuring regional Salt and

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2 The regulatory endpoints are used to inform temporal scales of the water budgets.

3 More than one water budget may need to be developed to capture shifts in water or wastewater management due to factors like hydrology (dry versus wet year water management).
Nitrate Management Plans fit together to achieve overall Regional Water Quality Control Board Basin Plan objectives.

The transformation of data into information should be done in consideration of salinity issue(s) and regulatory endpoints. The salt/nitrate identification studies should be essentially the “common language” between regional Salt and Nitrate Management Plans, so as to allow for some surety that regional management efforts will be coordinated and not acting at cross-purposes to one another. The salt/nitrate identification studies must allow for consistent descriptions and quantifications of salt/nitrate sources and sinks throughout the Central Valley.

Step 5: The fifth step in a salt/nitrate identification study is to develop additional information needed to support effective management practices and alternatives. If stakeholders determine in Step 4 that the salt/nitrate identification study is not sufficient to develop a Salt and Nitrate Management Plan then further data collection or analysis may be required. Additional investigations or computer modeling may be needed to more accurately characterize salt/nitrate loadings, salt/nitrate concentration temporal trends, salt/nitrate fate and transport, salt/nitrate groundwater plume movement, or other data to inform strategic priorities related to regulatory endpoints.

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- Daniel Cozad

(SOME RECOMMEND DELETING THE SECTION BELOW – WITH THE EDITS ABOVE ALL OF THESE POINTS ARE INCLUDED ABOVE, EXCEPT FOR THE POINT ABOUT DEFAULT ASSUMPTIONS, WHICH SOME COMMENTERS DISAGREED WITH)
**Data availability:** The accuracy of water and salt/nitrate budgets is largely dependent on the availability of accurate data. The availability of data varies broadly throughout the Central Valley. Available data should be supplemented by documented assumptions (preferably supported by references) where needed to develop budgets.

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**Default assumptions:** CV-SALTS should develop a set of default assumptions for use in areas where data is not available. Sensitivity tests can be used to determine where areas should consider replacing default assumptions through data collection to improve budgets.

**Clearly defined control volumes:** Studies should employ a clearly defined control volume to accomplish a regional water budget and salt/nitrate load balances.
# KNOWLEDGE GAINED SUBCOMMITTEE
## TECHNICAL REVIEW OF SALT AND NITRATE SOURCE STUDY APPROACHES

<table>
<thead>
<tr>
<th>Technical Criterion</th>
<th>Source Study</th>
<th>Bureau of Reclamation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the study provide a basic conceptual model that describes salt/nitrate sources, sinks, salt/nitrate paths of movement from source to sink, and areas of salt/nitrate accumulation?</td>
<td>The spreadsheet model provides a conceptual model that describes salt sources and sinks within the Turlock Sub-basin. Nitrate sources and sinks are not considered. The spreadsheet model could be adapted to include nitrate sources/sinks but a means of accounting for nitrate formation and loss would need to be developed because nitrate is not conserved to the same degree as salt. The approach to mineral dissolution in the spreadsheet model is highly simplified and does not attempt to simulate actual processes (e.g., ion exchange, mineral precipitation, microbial mediated reactions) that may be occurring in subsurface. SNPS provides a conceptual model that describes both salt and nitrate sources and sinks for each of the three pilot study areas (e.g., Yolo, Modesto, and Tule River). The SNPS also models the movement of salt and nitrate from sources to sinks, and the locations where these constituents are accumulating. Many of the parameters used in SNPS modeling are default or assumed values (e.g., nitrification and denitrification rates, atmospheric deposition, sorption rates, hydraulic conductivity, soil moisture, mineralization rate). Parameters were adjusted until discrepancies were minimized between flow and water quality monitoring data and modeled values. As WARMF and MODFLOW may yield non-unique solutions, SNPS indicates that a sensitivity analysis should be performed whereby the ranges of expected values of physical and process parameters are entered into the models to judge their effects on the allocations of salt/nitrate among sources and sinks.</td>
<td>The Bureau of Reclamation intends to conduct a salt and nitrate source study of the Westside Salt Assessment Area using WARMF. The WARMF will be checked by applying a spreadsheet model to subregions of the study area. The results of the source study are not yet available.</td>
</tr>
<tr>
<td>2. Does the conceptual model include a regional water budget that describes source quantity, quality and timing, and supply demand patterns (by timing and use); characterize fate and transport of water; and list critical influences on regional water management?</td>
<td>The spreadsheet model presents a regional water balance based upon average flows. Average TDS concentrations reported in the flows are used to describe salinity conditions. Temporal variations in quantity and quality are not reflected in the model. Water balances were performed on the three pilot study areas, but the report does not include tables summarizing individual flow rates or salinity and nitrate concentrations in the various water flows that comprise the water balance. However, the modeling approach could be modified to clearly illustrate the regional water budget.</td>
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<tr>
<td><strong>3.</strong> Do the regional water budget and total salt/nitrate mass loads individually balance and are the results clearly communicated?</td>
<td>The spreadsheet model includes tables that summarize the manner in which the water budget and salt mass loads balance. The study did not examine nitrate mass loads.</td>
<td>SNPS includes tables and figures that summarize the manner in which salt/nitrate mass loads balance. Similar tables and figures for the regional water balance are not included but could be added.</td>
</tr>
<tr>
<td><strong>4.</strong> Does the conceptual model employ a clearly defined control volume to accomplish the regional water budget and salt/nitrate load balances?</td>
<td>The control volume corresponds to DWR sub-basin boundaries and DWR estimated volume of fresh groundwater in the sub-basin. Study presentation could be improved by including land use maps, and locations of drains, canals, and creeks that enter and exit the control volume boundaries.</td>
<td>Control volume boundaries of the pilot study areas encompass one or more DWR watersheds, and groundwater basins or sub-basins. The control volumes employed in WARMF and MODFLOW appear to differ, which complicates understanding of the salt/nitrate load balances. For example, WARMF includes salt/nitrate contributed by surface water originating from areas west of the San Joaquin River, which are outside the Modesto Study Pilot Area, but MODFLOW does not consider salt/nitrate that may be conveyed in groundwater from these same areas. SNPS presentation could be improved by accomplishing the regional water and salt/nitrate mass load balances according to DWR boundaries so the findings are more easily comparable with agency reports that rely upon such boundaries.</td>
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<td><strong>5. Is the regional water budget used to examine salt and nitrate concentrations through the water supply chain?</strong></td>
<td>The spreadsheet model does not evaluate the effects of diversions and discharges on salinity/nitrate concentrations through the water supply chain. The spreadsheet model could be adapted to model the effects provided adequate flow rate and water quality data pertaining to the diversions and discharges are available. WARMF modeled the flow and water quality at selected surface water monitoring stations within the three pilot study areas. Good agreement between model results and available data was obtained for monitoring stations upstream of agricultural areas. Agreement was not as good for monitoring stations influenced by agricultural return flow and irrigation drainage possibly because these flows are largely unmeasured and the areas tributary to specific agricultural drains and canals are difficult to discern.</td>
<td></td>
</tr>
<tr>
<td><strong>6. Are regulatory requirements, beneficial uses, and local planning objectives pertaining to salinity and nitrate within the region identified and considered in the implementation of the study?</strong></td>
<td>Water quality management goals were not considered in the spreadsheet model but should be incorporated into future studies. An understanding of regulatory requirements, beneficial uses, and local planning objectives is important to identifying significant sources, and surface water bodies and portions of the groundwater basin or sub-basin that need to be protected. In particular, salinity/nitrate concentrations of sources need to be compared with water quality management goals to establish if predicted concentrations are sufficiently precise to be meaningful. For instance, if the variability of a predicted concentration is so large that it cannot be determined that the concentration is less than or greater than an applicable goal then further study may be warranted. SNPS does not include water quality management goals, but such goals should be considered in future studies for the reasons described under the spreadsheet model.</td>
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<td>7. Does the study determine the salt/nitrate mass loading rates of each source and clearly present a written and graphical comparison of source loads?</td>
<td>The spreadsheet model describes the salt mass loading rates originating from each source category within the sub-basin and percentages of the total mass loads to surface water and groundwater each source category represents. Study presentation could be improved by including graphical summaries.</td>
<td>SNPS describes salt/nitrate mass loading rates and provides tabular and graphical summaries. Future studies could be improved by organizing salt/nitrate mass loading rates according to source categories that coincide with existing regulatory programs, such as irrigated lands, CAFOs, POTWs, and food processors.</td>
</tr>
<tr>
<td>8. Are historical and projected salt/nitrate loads for each source quantified sufficiently to conduct trend analyses?</td>
<td>The spreadsheet model projects the trend in average TDS concentration in sub-basin groundwater to assess the reasonableness of salt mass loading estimates. The spreadsheet model is not sufficiently refined to predict salinity/nitrate concentration trends at specific locations.</td>
<td>SNPS estimated trends of average chloride, nitrate, and TDS concentrations in shallow groundwater beneath certain catchments in the Yolo Pilot Study Area to assess the reasonableness of the WARMF output. SNPS performed preliminary MODFLOW groundwater simulations for the Tule River Pilot Study Area and concluded that available data and the spatial resolution of the model are not sufficient to make reliable trend predictions.</td>
</tr>
<tr>
<td>9. If salt/nitrate is accumulating within the region, does the study determine the locations and rates of accumulation?</td>
<td>The spreadsheet model aggregates the individual entities that comprise a specific source category. The spreadsheet model could be modified to estimate salt/nitrate mass loadings attributable to each entity and linked to GIS to display the locations of these entities. However, assessing the locations and rates of salt/nitrate accumulation in the subsurface would require fate and transport modeling.</td>
<td>WARMF and MODFLOW are capable of describing the locations and rates of salt/nitrate accumulation in groundwater. The ability of modeling to accomplish this criterion is variable depending upon the amount of data that are available to calibrate the models. Fairly good agreement of modeled values with measured chloride, nitrate, and TDS concentrations in shallow groundwater in the Yolo Pilot Study were obtained. Poorer agreement was achieved for the Modesto and Tule River Pilot Study Areas due to sparser input data.</td>
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<tr>
<td>11. Are the salt/nitrate mass loading rates translated into corresponding water flow volumes and salinity/nitrate concentrations so the loading rates can be put into a regional context to allow prioritization of management options?</td>
<td>The spreadsheet model translates the salt/nitrate mass loadings of the sources into water flow volumes and salinity/nitrate concentrations, such that the relative effects of the source categories on water quality objectives can be judged. The spreadsheet model does not resolve the mass loadings into water flow volumes and salinity/nitrate concentrations by the individual entities that comprise each source. The results of the spreadsheet model coupled with mapping of available surface water and groundwater data could be used to prioritize sources and areas within a given region for more detailed study and implementation of management options.</td>
<td>SNPS presents modeled water flow volumes and salinity/nitrate concentrations for selected surface water streams in the Pilot Study Areas. Source category salt/nitrate mass loading rates are not similarly translated. The modeling approach could be modified to estimate the water quantity and quality characteristics of individual entities that comprise each source category. However, the reliability of the estimations depends upon the accuracy and completeness of data needed for model input. Insufficient input data could lead to non-unique solutions. SNPS notes multiple ways may exist for model simulations to match observed measurements if a lack of input data prevents the models from being sufficiently constrained.</td>
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<tr>
<td>12. Does the study determine salt/nitrate assimilative capacities of groundwater and surface water bodies within the region?</td>
<td>No.</td>
<td>No.</td>
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</table>

15 November 2010

Package Page 57
13. Are salt/nitrate loadings characterized in sufficient detail to inform control strategies?

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<td>The spreadsheet model quantifies salt mass loadings associated with general source</td>
<td>SNPS quantifies salt and nitrate mass loadings associated with general source categories and attempts to characterize the distributions and trends of salinity and nitrate concentrations in groundwater. The study also makes efforts to model temporal variations in salinity and nitrate concentrations in surface water flows. However, the accuracy and reliability of SNPS modeling results are hampered by limitations in the data that must be input into the WARMF and MODFLOW models.</td>
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<td>categories (e.g., CAFOs, irrigated agriculture, municipalities, food processors, septic</td>
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<td>tank systems, mineral dissolution), which allow these sources to be ordered by their mass loading rates.</td>
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<td>The spreadsheet model does not describe temporal or spatial variations in mass loadings that are attributable to the entities that comprise these source categories. Therefore, the study results cannot be used to identify specific entities or locations within the sub-basin that require control strategies to maintain or achieve water quality management goals.</td>
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<tr>
<td>14. Does the study clearly describe the methodology used to conduct the study?</td>
<td>The spreadsheet model describes the methodology used to perform the study. The methodology essentially consists of accomplishing water balances for the sub-basin unsaturated and saturated zones. Each water flow was then multiplied by the estimated representative TDS concentration of the flow to derive the flow’s associated salt mass. Salt mass balances were completed by considering dissolved salts resulting from mineral dissolution.</td>
<td>SNPS clearly describes that WARMF and MODFLOW were used to model salt/nitrate mass loading rates. The manner in which these models are coupled could be more fully explained and documented. For example, groundwater recharge rates and salinity/nitrate concentrations of extracted groundwater from MODFLOW are input to WARMF. SNPS does not explain how effects due to changes in land use, fertilizer application, or other factors modeled by WARMF in turn influence groundwater conditions predicted by MODFLOW. Salt/nitrate mass loading rates associated with atmospheric deposition includes wet and dry deposition, and plant and soil respiration. Plant and soil respiration are not typically considered part of atmospheric deposition. The methodology for calculating salt formed through plant and soil respiration should be explained in detail given the magnitude of salt mass loads that WARMF predicts is due to these processes.</td>
<td></td>
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<tr>
<td>15. Is the methodology sound and transferrable to other regions?</td>
<td>The spreadsheet model is simply a means by which to conduct mass balances on water, salt, and nitrate in a given region. These mass balances must be completed as part of any modeling approach.</td>
<td>WARMF and MODFLOW are sound modeling techniques. The primary advantages of these models are they can be used to examine the fate and transport of salt and nitrate, and identify not only significant sources, but the pathways from sources to sinks. The predictive capabilities of the models depend greatly on the input data available to describe physical conditions of the region being modeled.</td>
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</table>
| 16. Are data gaps identified? | **Limited groundwater elevation data lead to an incomplete understanding of groundwater flow in the sub-basin and results in uncertainty in the regional water balance. In addition, the salt mass loads balance could be refined by performing detailed water and salinity mass balances at representative food processors, CAFOs, and municipalities, conducting mineral dissolution studies to quantify the effects of local soil and water types on salt loadings and concentrations, and more accurately establishing local salt contributions of fertilizers and soil amendments.**  
SNPS notes data gaps exist with regards to soil processes, quantities and quality of groundwater that discharge to surface water, groundwater levels, groundwater salinity and nitrate concentrations, agricultural well pumping rates, agricultural return flow rates (i.e., tailwater), and well construction records.  
Most flow and water quality data were obtained from state and federal agencies. Data completeness could be enhanced by developing data sharing protocols with water districts, municipalities, and other local agencies. For instance, SNPS states that only 1 of 21 irrigation districts provided requested groundwater quality data for the Tule River Pilot Study Area. |
| 17. Is the data validated? How? | **Data were validated using procedures similar to those employed in the SNPS.**  
Data were compiled from various agencies, references, and studies. Reported values for the same flow, salinity concentration, land area, or other parameter were cross checked against one another. Consistency among reported values provides an indication of data accuracy. |
<table>
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<td>18. Are the data relied upon in the study sufficient and of high enough quality to answer the above questions with an acceptable degree of confidence?</td>
<td><strong>EKI Spreadsheet Model</strong>&lt;br&gt;Available data are insufficient to credibly answer all of the above questions on a groundwater basin or sub-basin scale. Due to its simplicity, the spreadsheet model is less affected by data limitations than other modeling approaches. Thus, compared with more sophisticated modeling techniques, the spreadsheet model can be applied more readily on a groundwater basin or sub-basin scale to determine the salt/nitrate mass loadings and associated water flows, and salinity and nitrate concentrations of various source categories. The spreadsheet model also can be applied on a smaller scale, such as a single facility, to identify practices contributing to the salt/nitrate being emitted from the facility and to evaluate actions for control of salt/nitrate from the facility. The spreadsheet model cannot be easily adapted to describe spatial and temporal variations in salinity and nitrate concentrations in surface water and groundwater within a basin or sub-basin.</td>
</tr>
<tr>
<td></td>
<td><strong>SNPS WARMF and MODFLOW Models</strong>&lt;br&gt;SNPS concludes that available data are not sufficiently complete to adequately model each of the three pilot study areas. Therefore, future salt/nitrate studies would benefit from conducting an initial evaluation on a basin or sub-basin scale to identify significant salt/nitrate sources, and surface water bodies, and portions of the groundwater basin or sub-basin that have higher risks of impairment. The results of such an evaluation could be used to prioritize sources, surface water bodies, and portions of the basin or sub-basin for further study. Data completeness also could be determined. WARMF, MODFLOW, or other modeling techniques may prove important in conducting more detailed study, and implementing and assessing the effectiveness of salt/nitrate control strategies.</td>
</tr>
<tr>
<td></td>
<td><strong>Bureau of Reclamation WARMF and Spreadsheet Models</strong></td>
</tr>
<tr>
<td>19. Is the data storage and management system compatible with the system that will be used for the entire project?</td>
<td>Data storage and management were accomplished in electronic spreadsheets. The data storage and management system needs to be defined for the reasons cited under the SNPS. The data storage and management system needs to be defined before conducting further studies to avoid conflicts and redundancies between databases.</td>
</tr>
</tbody>
</table>
CV-SALTS Management Practice Subcommittee


The Management Practice Subcommittee’s charter is to assist CV-SALTS to improve salt and nitrate management through industry and community management practices, identifying, characterizing and screening the management alternatives to improve implementation and monitoring of results. This document is part of the Management Practice Document Review developed in 2010 and 2011. This approach and process draw from others used to review stormwater and water conservation practice and criteria.2

1 Management Practice Review Approach
At the recommendation of the CV-SALTS Committees or in accordance with the sector schedule below the Subcommittee will evaluate a management practices in accordance with the following process and standards. These will be used to develop a “toolbox” of Management Practices or actions (BMPs) which have been vetted in the CV-SALTS process to assist others in reducing salinity and nitrate. This “toolbox” would provide a range of options and their document effectiveness or expected reductions. These practices provide early implementation opportunities and for the basis implementation planning to meet the requirements that will be identified in the Basin Plan Amendment.

1.1 Products
A brief description of the products of the committees efforts are described in the following sections.

1.1.1 Screening Tool
The Committee will provide the enclosed procedure and standards to evaluate and characterize the validity of BMP’s for Salt components and nitrates for approval by May 2011.

1.1.2 Toolbox of Practices
Over the coming 2 years the Committee will through the processes identified with volunteers and technical support review and evaluate management practices that reduce salt constituents and nitrates of relevance to the Central Valley. Initially the toolbox may be simple electronic documents for each practice reviewed. Later, as the number and diversity of practices develop this compendium of practices will need to become more sophisticated to allow search and easier implementation.

1 International Stormwater BMP Database Performance evaluation http://www.bmpdatabase.org/MonitoringEval.htm#PerformanceEval

2 Process
The process for new or developing and validated practices are different in their requirements and efforts. Each process if described in summary below (additional details to be described by the subcommittee). Practices are evaluated for acceptance in the “toolbox” as a salt or nitrate management practice. They may be included in the “toolbox” as a management practice or action if they are found to be an improved or advanced practice for a given process and circumstances above a baseline or standard practice conducted before management for salt constituents was encourages or required through any program or regulation.

2.1 Sector Review Schedule
The Pilot Salt and Nitrate Source Implementation Study identified sources of salt and each primary or significant source of salt shown in the report will be scheduled for review. Sources (industries or communities) which have prepared Best Management Practice documents will be reviewed in priority to other sources. The Subcommittee will establish the final schedule for review of practices and technologies in each sector, at a pace that is manageable but which reviews all significant sources alternatives prior to the implementation plan development. As processes are reviewed the technologies or methodologies will be reviewed for consistent assumptions and effectiveness where common techniques are used, such as managing nutrients to agronomic loading rates.

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<tr>
<th>Source</th>
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<tbody>
<tr>
<td>1. Surface Irrigation and Drinking Water</td>
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<td>3. Irrigated agriculture/Fertilizer</td>
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<td>4. Non-point source/stormwater</td>
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<td>5. Wetlands</td>
<td>January 2012</td>
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<td>6. Wastewater/Industrial dischargers</td>
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<td>7. Food processing industries</td>
<td>May 2012</td>
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<td>8. Wastewater/Residential dischargers</td>
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<td>10. Water treatment and softening</td>
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<td>11. Septic tank discharges</td>
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<td>12. Other point sources and discharges to land</td>
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<td>13. Atmospheric deposition and other sources</td>
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3 Practice Types
To simplify review and inclusion in the “toolbox” the various practices have been separated into several types. All types may be included in the toolbox if they meet the standards provided in section 4.0. Each type represents a different stage or expectation for the documentation and analysis. Additionally, these types may be applied to a single practice or set of practices which address salt constituents, Nitrate or both. There may be additional or subtypes developed in the future.

3.1 Validated Practices
Management practices which are established and can provide information shown in Attachment 1 (to be developed by the Subcommittee) should submit under validated practices. The standards (described in
Section 4) for effectiveness and broadly demonstrated field implementation should be thoroughly met through any variety of sources of documentation including scientific studies, university research, trade research publications and monitoring or other verifiable sources. These practices will allow the greatest implementation flexibility and lowest monitoring requirements. Attachment 1 will provide the information and evaluation framework and formats for information to be submitted. The result will be a compendium of information concerning the practice or action that makes it amenable to implementation (toolbox).

Management Practices which have been evaluated by other Best Management Practice programs may submit documentation for concurrence in the formats provided in Attachment 1.

3.2 New or Developing Practices
Many management practices to address salt and nitrate are new or are still being developed, demonstrated or validated. The identification of a practice as new or developing should not detract from its perceived effectiveness or value, but only indicates its status of implementation and review. New or developing practices will not have all documentation under the standards section and will not generally have monitoring necessary for full validation information. The practices will be listed as new or developing and included in that section of the “toolbox” meaning additional monitoring or information may need to be provided by implementing industries or communities.

3.3 Indirect or Policy Practices
Another grouping of practices includes practices which are deemed appropriate and necessary but may not directly impact salt or nitrates in the environment and for which quantification other than broad societal estimates are not reliable. For these practices inclusion in the “toolbox” will be based on industry recommendation or regulatory requirement or where they are a clear adjunct to other actions. Such actions and practices may include public outreach and awareness for urban and rural water users and wastewater dischargers. Rate structures and other economic incentives to reduce salt and nitrate that could become released to the environment. Because of their status cost effectiveness may be impossible to determine.

4 Standards
Screening of practices to include in the toolbox requires the review of practices for effectiveness and superiority to general practice for salt and nitrate. Superior to general practice is should be determined from an unregulated or improved management baseline in order that industries that previously or voluntarily reduced salt constituents or nitrate are not penalized for such leadership. The Demonstration of Best Practices may be situational or not be able to be determined until implemented in several locations. The Subcommittee may further develop the screening standards to provide additional detail as needed.

4.1 Technical Effectiveness
Demonstrating Technical effectiveness is critical for a management practice to be implemented and accepted by industry or communities. Evidence of technical effectiveness is demonstrated by lab, pilot and demonstration studies and evaluation of the studies.
4.2 Implementability
Implementability includes both feasibility as well as well as broad applicability. Satisfactory implementability is shown by evidence of implementation by industries and communities as well as other issues related to cost and efficiency covered in other sections.

4.3 Cost effectiveness
Cost effectiveness is critical to being a best practice, low efficiency costly practices are not likely to be able to be broadly implemented due to the value of implementation. High value practices will likely be implemented with minimal regulatory requirements. The assessment of effectiveness related to cost is not always a simple as dollars per ton of salt or pound of nitrate, often it is the cost to implement, operate and maintain and the availability of technically trained workforce to implement the practice.

4.4 Monitoring
Both ability to monitor as well as the length and breadth of the monitoring history will be identified in this standard, primarily related to validated or developing.

4.5 Other Regulatory or Non-Regulatory Approvals
CV-SALTS may be able to defer to prior decisions made by Waterboards, industrial societies and accreditation groups for validation. Where appropriate this should be done to reduce the cost and delays associated with duplication of validation.

5 Management Practice Toolbox
The Subcommittee will establish and update a list of management practices and alternatives that are known to the Subcommittee. This will initially form the beginnings of the toolbox and may be used to track management practices, alternatives and technologies. The list will be maintained by the Subcommittee and CVSC. The list will be available on the cvsalinity.org website and track the status of evaluation and verification or monitoring. The Preliminary list of practices is shown as Attachment 2, this list will be replaced by committee efforts. As it is developed the toolbox will become a more complete toolbox completed by the efforts of the Subcommittee.

The Subcommittee should also look for management practices that while achieving other goals of the management practice are actually detrimental to the management of salt and nitrate. These should be identified and any impact quantified if possible.

6 CV-SALTS Management Practice or Technology Presentations
Technologies appropriate for presentation to CV-SALTS Technical Committee or Executive Committee are technologies and approaches that have been reviewed in accordance with the process set forth above and found to merit wider application. Presentation opportunities are limited to available meeting time and may take several months to schedule. Technologies warranting presentation should normally be validated or have had several pilot deployments with monitoring data to demonstrate effectiveness. Exceptions may be granted by the committee for alternatives and technologies that show special promise or that are strongly recommended by an Executive Committee Member.
Vendors or technology proponents who wish to have their salt and nitrate alternatives or technologies evaluated for presentation should contact the Central Valley Salinity Coalition or the Committee Chair.

7 Additional Recommendations and Questions for Consideration
The CV-SALTS committees should consider the following recommendations and questions:

1. We recommend the Technical Committee discuss the level of expertise needed to review the practices and make recommend where that expertise is available to CV-SALTS.
2. We recommend CV-SALTS consider who should best implement this effort, from a technical and management or policy approach. Should it be contracted or done by all volunteers or with the support of technical staff, and if so what funding and support is available from the State/Regional Board or industry.
3. We recommend the Executive Committee and Regional Board determine what information is needed from this process for the Basin Plan amendment and how will the results be integrated into the Basin Plan or supplemental documents.
4. What accounting methods are needed for the implementation of the BMPs and what credit or allowances will be provided to those who have implemented the BMP’s or commit to do so?
5. We recommend the Regional Board both CV-SALTS and other regulatory areas provide guidance on how they review such practices related to permits issued by their agencies.
6. We recommend that CV-SALTS and the Regional Board determine what the “toolbox” practices with the Regional Board and its programs?
7. We recommend the committees discuss the importance of the Indirect BMPs in the Basin Plan context and their proposed inclusion in the “toolbox”.
8. If an entity commits to implement a specific management practice with a documented efficiency will they be held to achieve that reduction? What if the basin plan counts of that reduction for salt management or balance?
Attachment 1

This attachment provides information on the review of Management Practices for inclusion in the CV-SALTS “toolbox” for reductions in salt and nitrate that are significant to the basin plan.

Evaluation Framework

The committee will use the evaluation framework process in Section 2 to review management practice documentation. The committee should further develop the following sections based on evaluation of several recommended BMP’s.

1. Industry nomination and screening tool data formatting
2. Preliminary Assessment of submitted data by Committee
3. Detailed/Expert Review based on preliminary assessment, if needed
4. Science Review, if needed
5. Committee Recommendations and actions
6. Toolbox update
7. Practice Implementation
   7.1 Operations and Maintenance
   7.2 Monitoring
   7.3 Reporting
   7.4 Continuous improvement

Data Formats

Standardization of information on Management Practices is of value for both review of the practices as well as for management of the implementation and effects to overall salinity management in the basin plan. The following areas should be addressed in the documentation summary. The subcommittee may wish to more completely develop the requirements in this section to identify the fulfillment of the standards in section 4.0. Several of the sections were included in the Best Management Practices Guideline developed in early 2010.

1. Title
2. Description
3. Constituent salt or nutrient managed
4. Applicability
5. Effects, results, and cross media benefits or impacts
6. Effectiveness calculation or narrative discussion
7. Studies and research (compendium format)
8. Implementation monitoring (completed and required)
9. Critical factors to efficiency
10. Implementation Costs (range per _____)
11. Cost effectiveness (range per ton?)
Attachment 2

A very preliminary list of potential management practices, actions, efforts and alternatives to manage salt and nitrate. This list is sourced from brainstorming, web research and other sources no attempt at screening or evaluation was conducted. This list should be replaced with a list developed by the Subcommittee.

1. Irrigation efficiency/reduce irrigation – Would reduce salt from imported or evapotranspiration of groundwater
2. Tailwater reuse/Drainage recirculation – reduced discharged salt may increase
3. Growing Salt tolerant Crops – reduces imported water and maintains some production
4. Evaporation Ponds, solar evaporators – isolates the salt
5. Land disposal and retirement uses land to store salt and retired
6. Biologic and filtration drainage treatment systems to remove salt and selenium
7. Enhanced evaporation systems – Isolate salts for management
8. Salt separation and utilization – fractionate and create products
9. Drain water and brackish water desalination isolates salt for Management
10. Detergent reformulation - source control
11. Industrial biomass and brine management – isolates salts and potentially reuses salts
12. Plasma converter – creates fuel and products
13. Reduce Imported Feed for CAFO’s – reduces salt import from feedsources
14. Reduce Seepage from Conveyance - reduces dissolution of salt from soils
15. Industrial Salt Source reduction/reuse – reduces salts for production
16. Increase export of salt containing products - exports salt unless salt is brought in to produce products
17. Increase salt export in surface water leaving the region, San Joaquin River and State Water Project- export of salts could be hampered by toxic constituents and flow required
18. Increase Outdoor Landscape Irrigation efficiency – reduces imported water and groundwater use with salts
19. Increase indoor water use efficiency – reduces imported water and groundwater use with salts
20. Reduce water softening need or shift to ocean disposal of brine – reduces salt from residential indoor plumbing
21. Water preconditioning, Lime softening and management at water plant – reduces softening need and salt related to softeners
22. Salt collection and Landfill disposal – Disposal and removal from basins
23. Increase salt discharge at EBMUD – ocean discharge and removal from basins
24. Salt collection and treatment (ocean qualified brine) for ocean discharge – ocean discharge and removal from basins
25. Deep well injection for storage and recovery of salts – Removal of salt from basins, with recovery when economic
26. Various source controls - Reduce salt imported and discharged
27. Legislation to require any new industrial use of salt to use salt produced in “salt surplus” areas of the state, as public policy to reduce transportation and minimize import
28. Tax imported salt and credit salt that is produced from salt surplus areas and exported.
29. Sell the salt to the melting polar ice cap areas to help offset the dilution of ocean water with melting ice
30. Concentrate and market to Canada, Toronto alone uses 150,000 tones of salt annually, or trade them for low TDS water.
31. Digestion and Co-digestion of wastes containing salt – Concentrates salt for removal
32. Credit or offset program, cap and trade programs to geographically or temporally shift salts

This list likely should be converted to a matrix by type of management effort, application and result

Salt Reuse Opportunities

Nutrient or Flavor
baking, breakfast cereals, butter and cheese, canning, cattle blocks, flour mixes, heat tablets, isotonic solutions, livestock feeds, oleomargarine, pickles, potash substitute, salted nuts, table salt, spices and flavoring

Preservative
cheese making, cucumber salting, fish bait curing, fish curing, hay preserving, hide curing, meat curing, sausage

Food Processing Material
blanching seafood & vegetables, chicken de-boning, crabmeat pickling, egg preservative, fish striking agent, gravity separation, oyster shucking, wine stabilization, yeast processing

Chemical Manufacturing
Calcium hypochlorite, Chlorine dioxide, Sodium chlorate, Sodium fluosilicate, Sodium hypochlorite, Sodium Percarbonate

Freezing Point Depressant
coal antifreeze, highway de-icing, ice cream making, ice manufacture, iron ore antifreeze, refrigerating brines, refrigerating cars

Metallurgical Processing
chloride roasting, drawing lubricant, foam killer, heat treating baths, iron ore cementation, metallurgical flux, mill scale remover, molten metal cover, rare metal refining, sink and float baths

Miscellaneous Processing
artificial seawater, coal briquettes, dehydrating agent, dye processing, dyestuff carrier, electrolytic milling, emulsion breaker, etching aluminum foil, herbicides, ion exchange regeneration, leather tanning, rubber coagulant, soap salting-out agent, soil stabilizer, starch manufacture, synthetic leather manufacture, textile dyeing, tile glazing, water softening, weed killing, well drilling fluids.

Soda Ash - Na2 CO3
abrasives, adhesives, batteries, ceramics, cleansers, cosmetics, degreasers, dies, explosives, fats and oils, fertilizers, fire extinguishers, inhibitors, insecticides, leather, metal fluxes, ore refining, paint removers, paper, petroleum, pigments, soap, textiles, water softeners

Sodium - Na
bactericides, case hardening, cosmetics, detergents, dye fixation, dies, flour conditioning, fumigation, heat transfer, ore refining, organic synthesis, paints, pharmaceuticals, photography, pigments, plating salts, pulp bleaching, starch conversion, tetraethyl lead, textile bleaching, titanium metal, zirconium metal
Sodium Sulphate - Na₂SO₄
ceramics, detergents, dyes, explosives, fertilizers, metal fluxes, paper, pharmaceuticals, photography, pigments, plating salts, rubber, soap, textiles

Business or Enterprise Model to Combine Alternative Technologies or Processes

![SIMFAC Salinity Integrated Management Facility Diagram](image-url)
Public Education and Outreach Committee

Coordination Meeting – March 17, 2011

Draft Notes

The Public Education and Outreach Committee met briefly following the March 17, 2011 Executive Committee meeting to review activities and accomplishments from 2010 and begin planning outreach activities for 2011.

2010 Activities
The group reviewed the activities completed in 2010, which included the following:

- Outreach/Scoping Meetings – (Joe, can you fill in how many were done, when, and where?)
- Leadership Group Meeting (postponed to February 2011)
- Others?

Priorities for 2011
The group discussed four potential areas of outreach and education to stakeholders and the public:

A. Engage additional leaders and organizations to participate in CV-SALTS and commit resources to the program
B. Engage stakeholders and underserved communities in the Basin Plan Amendment planning process
C. Inform executives and funders (including legislators) about progress and needs
D. Motivate behavior change among target audiences to reduce salts and nutrients and improve management

After some discussion of these four general approaches and communications techniques and activities, the group agreed to the following:

1. The PEO Committee should take a lead role in developing a concise description of CV-SALTS and the priority messages for specific audiences
2. Increasing the number of organizations that participate in CV-SALTS and provide resources (Item A above) is primarily the responsibility of the Funding Committee. The PEO Committee will provide assistance with messages, target audiences, and materials.
3. Developing and implementing a plan for engaging stakeholders, particularly underserved communities, in the planning process (Item B above) is the highest
priority because the substantive planning work is now getting underway. Certain audiences such as the environment justice and environmental organizations are critical to engage now.

4. Informing executives and funders about progress and accomplishments (Item C above) is important and will be considered as part of discussions to revise the structure of the Leadership Group.

5. Motivating public behavior change on salt and nutrient management (Item D above) is important, but not a high priority for effort and resources until the Basin Plan Amendment is developed. Other outreach activities for 2011, such as good public engagement in planning, will help support the long-term public education goals.

6. Near-term activities should include (1) updates to the website to make it more public friendly and informative and (2) a newsletter (hard copy or electronic) to keep participating agencies and stakeholders informed.

Next Steps

1. Update the PEO Committee work plan for 2011 and gain approval of the Executive Committee.
2. Develop concise CV-SALTS story and messages for specific audiences.
3. Develop and implement a plan for gaining constructive input from stakeholders and underserved communities into the planning process at critical milestones.
4. Develop a plan and schedule for website updates and program newsletter.
5. Coordinate with the Funding Committee on outreach activities and messages.

Participants

Joe Digiorgio, Committee Chair
Jeanne Chilcott, Regional Board
Mark Felton, Culligan Water Conditioning
Charles Gardiner, CV-SALTS Program Support Team
## CV-SALTS Annual Meeting Calendar 2011

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**Sac Regional**

### SALTY 5 Coordination Meetings

- 1/3/2011 Salty 5 January
- 2/7/2011 Salty 5 February
- 3/7/2011 Salty 5
- 5/2/2011 Salty 5
- 6/6/2011 Salty 5
- 7/11/2011 Salty 5
- 8/1/2011 Salty 5
- 9/12/2011 Salty 5
- 10/3/2011 Salty 5
- 11/7/2011 Salty 5
- 12/5/2011 Salty 5

### CV-SALTS Committee Meetings

- 2/24/2011 Salinity Leadership Group
- 1/20/2011 Committees Meetings
- 2/10/2011 Committees Meetings
- 4/12/2011 Committees Meetings
- 6/16/2011 Committees Meetings
- 7/21/2011 Committees Meetings
- 8/18/2011 Committees Meetings
- 9/15/2011 Committees Meetings
- 10/20/2011 Committees Meetings
- 11/17/2011 Committees Meetings
- 12/15/2011 Committees Meetings

### Potential Conflicting Meetings

- 1/10/2011 Special Meeting
- 1/4/2011 State Board Meeting
- 1/5/2011 State Board Meeting
- 1/18/2011 State Board Meeting
- 1/19/2011 State Board Meeting
- 2/1/2011 State Board Meeting
- 2/2/2011 Regional Board Meeting
- 2/2/2011 State Board Meeting
- 2/3/2011 Regional Board Meeting
- 2/4/2011 Regional Board Meeting
- 2/15/2011 State Board Meeting
- 2/16/2011 State Board Meeting
- 3/1/2011 State Board Meeting
- 3/2/2011 State Board Meeting
- 3/15/2011 State Board Meeting
- 3/16/2011 State Board Meeting
- 4/5/2011 State Board Meeting

**ACWA Downtown**
## Schedule of Policy Discussions for the CV-SALTS Executive Committee Meetings

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Policy Area</th>
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<tbody>
<tr>
<td>March 17</td>
<td>Kickoff Meeting to Confirm Priority Tasks</td>
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<tr>
<td>April 12</td>
<td>Clarifying the MUN Use Designation</td>
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<tr>
<td>May 12</td>
<td>Clarifying the AGR Use Designation</td>
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<tr>
<td>May 26</td>
<td>Water Quality Objectives for Nitrate and Salinity</td>
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<tr>
<td>June 16</td>
<td>Antidegradation Reviews &amp; Maximum Benefit Demonstrations</td>
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<tr>
<td>July</td>
<td>Draft Basin Plan Amendments</td>
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<tr>
<td>August</td>
<td>Revise Basin Plan Amendments</td>
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<tr>
<td>September</td>
<td>Finalize Basin Plan Amendments</td>
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