

# CV-SALTS Salt and Nitrate Work Plan and Pilot Study

## Site selection Conference Call Notes

Thursday June 11, 2009 3:30 pm to 5:20 pm

### Action Summary

- **Committee reviewed the [proposed alternatives document](#) and discussed the needs and merits of each program. The Committee recommended Alternative C, including sites in Yolo, Modesto, and Tule Basin**
  - Interest in the West Valley/Modesto is appropriate and will be conducted with the Bureau of Reclamation support, through CV-SALTS.
  - Based on consensus, consultant directed to begin work on the Workplan for the three locations and the decision to be ratified by the full Technical Advisory Committee and Executive Committee.
  - Consultant to present the methods of handling the issues surfaced in the work plan, where appropriate or where needed the Technical Committee to take up the issues.
  - Consultant to propose methods for handling or documenting the lack of data in areas and time and cost required when we move from the better documented and organized areas in the work plan

### Notes from the Meeting

1. Welcome and Purpose provide by Daniel Cozad
2. Presentation of overview of the materials presented by Bob Smith. Bob Smith reviewed the Pilot area proposal and analysis providing the rationale for the recommendations and ranking provided. Several members joined during the presentation.
3. Daniel asked for questions or thought about the alternative area and proposed ranking
  - a. Steve Hogg asked if WARMF appropriate for the Tulare Lake System? Joel replied that WARMF has some good routines for near surface and the chemical biological and physical that is helpful. Vicki added that the groundwater models or actual data are then integrated with the WARMF for characterization. All salts and nitrates are characterized from fertilizer and from surface or groundwater.
  - b. Steve Hogg asked What Data is needed for the study? WARMF needs Land use, Water Quality, Water usage, groundwater quality, salt sources not accounted by land use.
  - c. Laurel Firestone asked where is the Tule Basin, Thomas H South of Tulare and up to Lindsey. He provided the graphic on the next page to better illustrate it.



- d. A participant asked if the data is available from the conservation districts: Laura described the data that the King River Conservation District had and the data that was missing for water quality in their model. Discussion ensued related to the data availability and that there is much more data available when a search is done than just in the public databases and many data sources are available if identified and requested.
- e. Linda Dorn asked how water or salt and nitrate would be calculated without the WARMF Model; Vicky replied that they would have to use a spreadsheet. This would be available from the participants in the area.
- f. Technical Advisory may have different approaches to calculating nitrate, most do nitrogen dynamics by balance. WARMF is based on use and crop need base and processes that occur in the soil.
- g. Dr. Harter discussed another alternative that would look at fertilizer and animal and human numbers plus what is removed.
- h. Steve Hogg Asked about sources of salt and ions other than Nitrate. Joel answered that WARMF tracks the ions and sums them to get the TDS. Stating that surface water is not significant in the Tulare Lake Basin. We must look in detail at groundwater in that basin. Salt and nitrate use WARMF to start loadings to groundwater
- i. Steve asked if Salt and the ion constituents beyond Nitrate were being accounted for. Discussion ensued and concluded that both Salt and Nitrate are primary constituents but the study will follow the RFP which requested the following:

*The constituents contributing to salinity impacts should be identified in the work plan and should be prioritized into tiers as indicated below in an evaluation process with the committee:*

1. *Salts as Total Dissolved Solids and/or EC, and separately, but with equal importance, Nitrates and water quality related nitrogen species*
2. *Other salt constituents, chloride, phosphate, sulfate, carbonate, and bi-carbonate or others of local interest as recommended by the consultant. Consultant should propose data collection methods for all constituents, methods or timing may vary as appropriate.*

*Other constituents may also be addressed if project scoping or information uncovered during Phase I indicates a data requirement. The plan should propose methods that are consistent with prior works indicated in References as shown in Attachment A and provide the most efficient collection and utilization. All collection efforts are intended to lead to the broader basin plan amendment work plan*

- j. Joe DeGeorgio – What are the areas where different tools and models are available. In Table 1 – Will different models and (conceptual approach) be use or will it be the same conceptual approach and different tools. The team answered that it will be the same conceptual approach and the tools (models etc.) will vary. The goal is to have an approach that can be used with varying levels of data, tools and organization available in different areas throughout the valley.
- k. Joe continued, will all the major ins and outs be handled? They must be but they will differ by area?

- l. Vick and Laura provide examples of tools and methods of calculation and validation. Such as in Yolo the characterization is primarily by empirical data but there is a WRIME Model, it may not be available to the public.
  - m. Laurel asked whether WARMF is the Model that is used everywhere or is it the approach or concept. Daniel responded that the “conceptual model” approach, data and that would be applied across the valley.
  - n. A participant commented that completion of the CalSIMII tools available and may be a tool to be added.
  - o. Laura indicated that Nigel says East Merced would not be accurate must include east and west areas to calculate Merced properly. Nigel has a model there that is in development but is not ready now.
  - p. Thomas Harter suggested the Merced would be able to be deleted if the data from UC Davis model done in that area.
4. Discussion of the alternatives vs cost
- a. The discussion began with review of Alternative E represents the most data but maybe more than is needed for a pilot
  - b. Daniel commented that he is unsure if that level of funding is possible.
  - c. Linda commented that she believes that we need the Nitrate and soil process in WARMF for all areas for the pilot. Later it may not be critical but in the pilot it is important.
  - d. Discussion ensued related to the attributes of the Areas
    - i. Yolo has empirical data and cross checking from WRIME model
    - ii. Modesto has a very complete dataset and full models that are needed to validate the approach.
    - iii. Merced (E/W) covers the west side and integrates across the valley
    - iv. Tule is a large area and robust dataset with modeling by Harter so it is available to be developed quickly with some limitations. It is needed to prove that the approach works in Tulare Lake Basin.
  - e. A participant recommended Alternative C, Linda indicated she also had ranked that one the highest. Discussion ensued related to the loss of Merced. The Bureau of Reclamation indicated they will be doing the Merced, west side with the same approach and model and will coordinate closely with CV-SALTS
  - f. Based on this the group reached consensus to select Alternative C, without dissent.

**Attendees who introduced themselves:**

1. Bob Smith
2. Joel Herr
3. Daniel Cozad
4. Joe DeGeorgio
5. Linda Dorn
6. Laura Folie
7. Vicki Kretsinger
8. Clause Suverkropp
9. Dennis Westcot
10. Andy Malone

11. Thomas Harter
12. Bobbi Larsen
13. Lisa Holm
14. Paula Hansen
15. John Dickey
16. Steve Hogg
17. Rosa Lau-Staggs
18. Joe LeClaire
19. Rudy Schnagl
20. Laurel Firestone
21. Mike Johnson
22. Melissa Turner
23. Ernie Taylor