

Task 4

Comment Source	Deliverable	Comment	Response	Modifications made to the TM	Modifications made to Table 1	Modifications made to Tables 2 and/or 3
	Task 4 Implementation Planning Memo_Full Draft_Feb 4 14					
Central Valley Water Board (CVWB)	overall	The No-Action Alternative needs to be evaluated to document if, when, where and how severe the salt problem is given the objectives being evaluated. The results from this evaluation (essentially Task 3) must be utilized as part of the screening criteria. Documenting a range of potential actions now is fine, but screening for alternatives prior to Task 3 is pre-mature.	Agree. Per the Work Flow flow chart, the LWA Team will work through a prioritization step before the three management alternatives are agreed upon. First, the Team will identify the range of implementation actions and prioritize them only in terms of suitability to either control salinity inputs into the LSJR or facilitate export of salts from the LSJR, and for inclusion in the management alternatives. They also need to be screened to ensure that they can be modeled by WARMF. Then, based on the results of Tasks 2 and 3, the Team will further prioritize the implementation actions and identify the three management alternatives (bundeled sets of implementation actions) that will be modeled. This is completed in coordination with the LSJRC.	Yes and refer to flow chart	N/A	N/A
(CVWB)	pg 2 and Table 1	May want to consider revising categories of implementation criteria to: 1) Reducing salt/boron loading to the LSJR (decrease imports; increase retention; combination; export out of basin or to in-valley salt sinks); and 2) Manage salt discharges to river to match assimilative capacity. As currently worded, #2 (Increasing the amount of salt exported from the LSJR watershed) doesn't really link directly to protecting water quality within the LSJR. If agreeable to the change, Table 1 would need to be rearranged.	Agree.	N/A	Yes	N/A
(CVWB)	pg 3	Curious if WARMF can evaluate RTMP? Not sure how that might occur.	The easiest way would be by post-processing WARMF simulation results. Based on a daily comparison between salt loading at Vernalis and the assimilative capacity there, we could show the effect of being able to time the release of X mass of salt. In Excel, we can start with the simulation without RTMP and then flatten the peaks and fill in the valleys of the Vernalis salinity load to fall under the assimilative capacity as long as we were within the assumed storage.	N/A	Yes	N/A
(CVWB)	pg 4; Step 1	I believe the end of this step is referring to Task 3. Task 3 must be reviewed and evaluated before any screening. Also not exactly sure what "qualitative metrics" are being described.	See the response to comment #1 above. There are two steps that have been identified as a part of the prioritization and screening process. Step 1 is referring to the first, coarse screening. Then, after Tasks 2 and 3 are completed, the Team will (in conjunction with the LSJRC) complete the prioritization process and identify the implementation actions that will be bundled as a part of the management alternatives and modeled. The term "qualitative metrics" refers to the fact that we are using the screening criteria in a qualitative way instead of assigning numeric rankings to them. The document was edited to clarify this.	Yes	N/A	N/A
(CVWB)	Table 2	Addressing a significant source of salt loading to the river seems like it should be a major criteria, not a sub-criteria. Technical Feasibility, economic viability and ability to implement seem more like sub-criteria of that one. Also, it seems that sub-criteria to "technical feasibility" would include things more in line with technology readily available/adaptable.	Agree. Modifications made to Tables 2 and 3.	Yes	N/A	Yes

Task 4

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(CVWB)	Page 2, Step 2	Shouldn't the 3 alternatives be the 3 best ways to manage salinity? Potentially, each of these alternatives could involve a low, medium, or high level of salinity management. For example, couldn't all 3 alternatives involve a high level of salinity management? Or am I missing something here?	The Workplan identifies that, as a part of Task 4, three (3) alternatives will be identified for more detailed modeling analysis and that these 3 alternatives are based on 1 set of assumptions each so that there are not variations of the 3 alternatives (which results in more analyses). The approach that has been proposed within the Work Flow flow chart is that the Team/LSJRC would identify a range of alternatives that would include a low, medium, and high range of effort in order to meet objectives. The reality is that some combinations of implementation actions, while they are reasonable and feasible, may not meet the WQOs and that other combinations of implementations actions, while they meet the WQOs, are not reasonable and feasible. This approach will provide a range of options so that the LSJRC understands what actions may be necessary in order to meet the proposed objectives and can make decisions accordingly.	N/A	N/A	N/A
(CVWB)	Table 1	I didn't see the acronym M&I spelled out.	Agree. Table 1 was edited and this acronym (for "municipal and industrial") was replaced with the term "point sources".	N/A	Yes	N/A
Dennis Westcot	Task 4 Implementation Planning Memo_Full Draft_Feb 4 14	I think we are well along. I am in agreement with the Initial Screening Criteria shown in Table 2 and the Criteria shown in Table 3. This is standard procedure and follows a logical evaluation technique.	Thank you.	N/A	N/A	N/A
Dennis Westcot	Table 1- Reductions in Salt Loadings to System	I am a bit lost on the initial numbering system used for 'Reductions in salt loading to system' which appears to be # 1 and 1a but # 1a is repeated in the next subheading entitled 'Increased Salt Retention in system'.	Agree. Table 1 was edited to include a better numbering system.	N/A	Yes	N/A
Dennis Westcot	Table 1- Reductions in Salt Loadings to System	I am unclear what the word 'system' means in the entire table.	Agree. In addition to other edits, Table 1 was edited to refer to the LSJR "basin" instead of "system".	N/A	Yes	N/A
Dennis Westcot	Summary of 1a which states - 'Conserve water by reducing seepage to reduce diversion of tributary flows. Main salt reductions relate to a) less water volume & attendant salt load need to be imported to meet irrigation demands, and b) where shallow groundwater is saline, reduction in saline drainage volume due to reductions in seepage will reduce salt loading into and out of the system. Recognize that incidental benefits of seepage (groundwater recharge and canal-dependent vegetation) will be lost.'	The first sentence is unclear as to how this will reduce salt? It is unclear what the word 'imported' means in the second sentence? I am in agreement with the wording on 'b)'.	Agree. Table 1 text was edited.	N/A	Yes	N/A
Dennis Westcot	Summary of 1b which states - 'Similar to (a). Note that irrigation systems are being updated at a rapid pace, primarily because the production benefits of drip and microspray systems on certain crops have proven to be very significant, and the cost of the systems has come down.'	It is unclear how this impacts groundwater quality in the better quality areas on the eastside of the river basin? Why are we focusing only on looking at impacts to groundwater when this is a study of San Joaquin river water quality?	Groundwater is a source of loadings to the LSJR in some areas through groundwater accretion. Geographic and/or subregional differences (westside vs. eastside) will be considered during the development and prioritization of alternatives.	N/A	N/A	N/A

Task 4

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Dennis Westcot	Summary of 1c which states - 'Solid salt (fertilizer and amendment) loads can be reduced when these materials are used more efficiently. This is often the case for fertilizer when more efficient, uniform irrigation is employed.'	You may find this to be the largest single source of salt to the basin behind the salt in the water supply but very unevenly distributed and it is unclear how this will help San Joaquin River Water Quality?	Thank you for the information regarding the significance of the salt loadings from fertilizers. This implementation action was combined with "reduce nonpoint sources of salts". This is an alternative that we can model within WARMF.	N/A	Yes	N/A
Dennis Westcot	Summary of 2 which states - 'Same as 6a, but implies eventual salt export to an alternative sink. Another notable difference is that reuse is not incidental on farmland, but rather on dedicated facilities with attendant costs. Thus, one precondition to success may be a source of revenue to support the cost of this facility. One such source would be a reliable market for	This alternative does nothing except reduce the volume of water to be discharged and increase the concentration to a level that discharge is impossible. How is this a viable alternative? Without being able to discharge, you must use an evaporation basin or other facility to store the salt and the Regional Board has not agreed this is acceptable. The Regional Board and the Tulare Lake Basin Plan say that such salt storage is only a temporary solution and has not agreed that it can be a permanent solution. The same goes for alternatives 3b and 3c.	Understood. Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives. This alternative was an option in the TMDL and SSALTS report.	N/A	N/A	N/A
Dennis Westcot	Alternative 5	This has been shown time and time again to be impractical. Why is it in here? Is this just a copy from the Rainbow report?	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps assist in identifying/prioritizing the alternatives. This alternative was an option in the Rainbow Report and the TMDL.	N/A	N/A	N/A
Dennis Westcot	Almost all alternatives	These are Westside alternatives and have little to do with the eastside of the River.	The eastside/westside perspectives are appreciated. Geographic and/or subregional differences will be considered during development/prioritization of alternatives.	N/A	N/A	N/A
Dennis Westcot	Alternative 9	This is very small and not practical.	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions, from large regional solutions to BMPs, that could be taken. The first step is to identify the range of actions and the subsequent steps assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Dennis Westcot	Alternative 10	How is this alternative different from 1a	Good comment. This implementation action was combined with 1a.	N/A	Yes	N/A
Dennis Westcot	Alternative 11	It will be interesting to see how this pans out. I am not sure it is worth the effort to go into it in much detail.	Agree. However, for the sake of completion, we needed to include it as an option.	N/A	N/A	N/A
Dennis Westcot	Alternative 12a	There is no support for a drain to the ocean or a valleywide drain. This is simply a repeat of the Rainbow Report that is out of date. We need to be thinking more in terms of a San Joaquin River Basin Drain or salt line that gets the salt past the South Delta. We could even take another look at proposals like the one developed by Russ Brown of ICF. We need to think outside the box on how to manage salt out of the basin and not looking at solving the valleywide salt management problem.	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps TO assist in identifying/prioritizing the alternatives. The Team will also evaluate the Russ Brown proposal. We have added it to the Table (Delta Corridors Plan)	N/A	Yes	N/A

Task 4

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Dennis Westcot	Alternative 12	The key here is to be able to capture the salt so you can manage it in one of these methods. This will continue to be a major stumbling block as in most cases this is not possible within the San Joaquin River Basin.	Agree, however, Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Dennis Westcot	Alternatives 12 and 13	These are the only viable alternatives in this list. The rest are either impossible to capture the salt, are too costly to implement or we can not measure the benefit.	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Dennis Westcot	Missing Alternatives	In the initial screening, there needs to be a look at all the alternatives available. Some of those missing from this list are the Russ Brown Proposal (From CFB); development of a San Joaquin River Basin only export facility (pipeline, drain, etc); Groundwater pumping in the winter time to reduce seepage to the river during spring and summer periods; Use of salt management alternatives only during critical periods of salinity control needs; changing the quality of the water imported to the river basin (especially on the Westside); recirculation; use of salt energy ponds (originally developed by Brian Smith of DWR) as tested in the early 1980s in the Los Banos area.	Thank you for the information. We have added salt energy ponds to Table 1 (as another example of evaporation ponds). We added a new implementation action (Water Supply Improvements) and are listing the the Delta Corridors Plan, and the Bay Delta Conservation Plan as examples under this action. We have added a new prime category (Adaptive Water Supply Management), with a new implementation action associated with it (SJR water diversions during periods of excess SJR flows).	N/A	Yes	N/A
Dennis Westcot	General Comment	Throughout this listing, everything is focused on protecting the groundwater quality while we are looking at San Joaquin River water quality. There needs to be some explanation of how the two are or are not connected.	Groundwater is a source of loadings to the LSJR in some areas through groundwater accretion. Geographic and/or subregional differences (westside vs. eastside) will be considered during the development and prioritization of alternatives.	N/A	N/A	N/A
Dennis Westcot	Task 4 Implementation Planning Memo_Full Draft_Feb 4 14	An alternative to be considered during the initial screening is to allow the diverters of San Joaquin River water to divert larger quantities of water (??%) during wet (low EC) periods when these periods follow periods of higher salinity due to drought or other factors.	We have added a new prime category (Adaptive Water Supply Management), with a new implementation action associated with it (SJR water diversions during periods of excess SJR flows).	N/A	Yes	N/A
Dennis Westcot	Task 4 Implementation Planning Memo_Full Draft_Feb 4 14	An alternative to consider in the initial screening of alternatives is to provide good quality water for specified periods by cutting off saline discharges during these periods. This would allow diverters to utilize on an alternate basis both good quality water and higher salinity water during periods of drought or higher salinity resulting from other factors.	We have added a new prime category (Adaptive Water Supply Management), with a new implementation action associated with it (SJR water diversions during periods of excess SJR flows).	N/A	Yes	N/A
Dennis Westcot	Task 4 Implementation Planning Memo_Full Draft_Feb 4 14	An alternative to consider is to cut off saline discharges late in the irrigation season to allow river diverters an opportunity to take good quality water for salt and salinity that may have developed during higher salinity periods during the irrigation season. This allows the river diverters to go into the rainy season wet and having started the salt leaching process. This has been shown to be very effective in Pakistan.	We have added a new prime category (Adaptive Water Supply Management), with a new implementation action associated with it (SJR water diversions during periods of excess SJR flows). We believe this concept is captured through this new option and a combination of others in the table (real time management, drainage water reuse, reducing impact of groundwater as a source of salinity to the LSJR, etc).	N/A	Yes	N/A
Joe McGahan	Alternative 3	Evaporation ponds are used for disposal of water that is too saline for irrigation. In most areas that discharge to the river the water can be reused and does not need disposal. It makes more sense to reuse the water.	Agree, however, Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	Alternative 4	Treatment is similar to Evaporation ponds in that if the water is usable it does not make sense to treat it.	Agree, however, Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	Alternative 7b	There is little seasonal flooding. Most farms are efficient in their application of water and farm practices do not include somehow irrigating with a lot of water when it is available.	Good comment. Table 1 text is edited to say, "infrequent periods of seasonal flushing."	N/A	Yes	N/A

Task 4

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Joe McGahan	Alternative 9	One significant example is the San Joaquin River Improvement Project (SJRIP) under the Grassland Bypass Project. This is a regional reuse project where IFDM is an on farm reuse project.	Thank you for the information. It will be considered during the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	Alternative 11	It seems like the endpoint to all the new regulations that farmers face is to prevent the water from being discharged. It may not be possible to meet the new salinity objectives. Because of other programs like the Irrigated Lands Program there may be other reasons to eliminate discharge. Some regional projects like those of Patterson Irrigation District might be more feasible to eliminate discharge.	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	Alternative 14	It is impossible to control timing without storage. Recirculation systems (Line 11) are more likely to occur because if the dollars are spent to create storage it makes more sense to recirculate and reuse the water rather than discharge it.	Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	Alternative 15	It would be problematic for farmers on a very infrequent basis to take more water than they need out of the river and irrigate with it when it is not needed. These would likely only be available during flood times when irrigation is unlikely.	Understood. Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A
Joe McGahan	General Comment	The tone of my comments are that the options have to be practical reasonable for a farmer who is trying to make a living and maximize his crop production and something he would do	Understood. Task 4 of the Workplan required the LWA Team to evaluate the SSALTS deliverables, the Vernalis TMDL documents, and the Rainbow Report (per Jeanne's request) to identify the potential salinity control actions that could be taken. The first step is to identify the range of actions and the subsequent steps to assist in identifying/prioritizing the alternatives.	N/A	N/A	N/A