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| 8-167 | 8 | | | | 6/11/2019 | Virsik | Given the GSA has access to the MCWRA records, it can and must do the same comparison for the limited number of 180/400 eWRIMS statements. Chapter 8 draft Table 8-9. It's simple, yet necessary to meet the "best available" standard. And it leads to a better and more reliable real-world outcome based on accurate water use / yield numbers. No part of the comparison involves determining any "water right" or claim thereto. | | The GSP acknowledges the potential double counting of extractions, and identifies this as an uncertainty in the water budget. Because of the many uncertainties in the historical water budget, it was determined that attempting to identify all double counting was not cost effective. The cost effective approach is to refine the water budget with the SVIHM when it becomes available. The SVIHM does not double count surface water diversions and groundwater pumping. This is the approach specifically identified in the GSP. | Public Comments, Tom Virsik, Chapter 6 cc'd Derrik Williams |

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| 9-1 | 9 | | | 7/10/19 | Isakson | asked if slides will be posted on website | not at this time but once finished | Question answered |
| 9-2 | 9 | | | 7/10/19 | Isakson | all cost must be combined in one financing system? Or depending on the project how will the funding system will be done. | setting up a financing structure, the mechanism hasn't been set. G. Petersen added there will be a couple of mechanism. D. Williams also added that there is several tier's and one tier cost are regulatory fees other cost will be based on area of benefit. | Question answered |
| 9-3 | 9 | | | 7/10/19 | Secondo | fee collection, if it will be collected on the property tax or separate group? | Mr. Girard replied it depends on what you allow to be charged on the property tax along with the special assessments on property tax. D. Williams emphasized there are several options. | Question answered |
| 9-4 | 9 | | | 7/10/19 | Brennan | Water Charges Framework is based on pumping is it subject to the 218? | Mr. Girard replied no it's not since it's not a special benefit, it's the activity of pumping water, what it's been charged for. | Question answered |
| 9-5 | 9 | | | 7/10/19 | Brennan | asked how is the funds going to be collected? | D. Williams clarified the mechanism for collecting the Water Charges Framework the mechanism is yet to be decided. G. Petersen added there will be some projects that need a 218 vote. | Question answered |
| 9-6 | 9 | | | 7/10/19 | Secondo | Advised on the need to coordinate on the invasive species eradication since there has been issues taking out invasive species | D. Williams agreed | Question answered |
| 9-7 | 9 | | | 7/10/19 | Secondo | who will handle the funding for the CSIP Project? | G. Petersen indicated it will be researched first before its set after the modeling is done and negotiations. | Question answered |
| 9-8 | 9 | | | 7/10/19 | Brennan | suggested for the CSIP Projects to be organized as four projects under a major heading as CSIP Projects. And define SRDF (Salinas River Diversion Facility) D. Williams indicated all acronyms will be defined on the final report. | | Text modified |
| 9-9 | 9 | | | 7/10/19 | Isakson | asked for the Expanded CSIP Area, what is the water source for the Expanded CSIP Area; water right would be needed | D. Williams indicated the water source for the Expanded CSIP Area is the Monterey 1 Water to some degree and river water. Trying to get away from the supplements water wells; agreed and advised that would be a legal matter | Question answered |
| 9-10 | 9 | | | 7/10/19 | Girard | clarified on the water rights associated with the water project. The Salinas Valley Water Project didn't grant to the agency any additional water rights, it changed the point of diversion to the SRDF. The original water rights were when the reservoirs and dams were constructed | | Comment noted |
| 9-11 | 9 | | | 7/10/19 | Franklin | asked for clarification regarding pumping on the CSIP Area is covered in zone 2b ordinance . For CSIP to be successful you need the supplement wells during the dry periods when needed. | D. Williams indicated there is a zone that has limitations and there are growers that have the right to pump wells to supplement from CSIP. | Text clarifies that circumnstance for implementation is that a year round supply of water is avaialble to CSIP. |

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| 9-12 | 9 | | | 7/10/19 | Brennan | asked for clarification the CSIP Projects need to go forward before the Management Actions. | D. Williams clarified it does indicate under Management Actions this will be implemented after the CSIP project and will clarify on the report. G. Petersen added there is number of Management Actions that will happen simultaneously with project development. Clarify that there are some Projects and Management Actions that are related to the point that one needs to happen before the other. D. Williams advised there will be an Implementation Schedule on Chapter 10. | Question answered |
| 9-13 | 9 | | | 7/10/19 | Lukacs | how was the cost benefit analysis done for all projects; asked for visual of the cost per project | D. Williams indicated it's a rough draft per acre foot, based on the capitol cost will be, annual will be and a 25-year annexation. Looking into each project since some are expensive and others less expensive; will be added in a future chapter. | Question answered |
| 9-14 | 9 | 22 | | 7/10/19 | Lukacs | how the projects were selected, process and presented to the stakeholders | It was decided after speaking with various Ag Groups and stakeholders. | Question answered |
| 9-15 | 9 | | | 7/10/19 | McIntyre | asked on the cost per acre foot, is it per acre feet of all the water in the basin; requested for a clearer description of the cost per acre foot | D. Williams indicated it's the cost per acre foot of delivered water to that project to the area of its benefit; description will be provided in the funding mechanism | Question answered |
| 9-16 | 9 | | | 7/10/19 | Isakson | will be helpful to have a better understating of the cost and be presented in a future the presentation | It will be added and presented in the funding structure; Girard added general operations can't be funded with the benefit assessment. Benefit assessment are defined special benefits and determined by an engineer. D. Williams indicated this is the reason we need the mechanism of these projects. | Question answered |
| 9-17 | 9 | | | 7/10/19 | Isakson | commented on the Seawater Extraction there is several reports on this and can be used for this project to expedite things | D. Williams agreed it was a good suggestion and will look into. | Comment noted |
| 9-18 | 9 | | | 7/10/19 | McIntyre | asked if this was presented to the 180/400 Group and what was the reaction | D. Williams indicated they were satisfied and received good feedback. D. Williams continued with 11043 Water Right is a wet water right with two existing diversion points one in Chualar and Soledad. It mainly benefits | Question answered |
| 9-19 | 9 | | | 7/10/19 | Brennan | asked if this conflicts with phase 2 of the Salinas Valley Water project and is the water right in relocation proceedings | L. Girard informed it's still active and it's at the State Water Board for renewal. D. Williams advised he doesn't believe it conflicts with phase 2 | Question answered |
| 9-20 | 9 | | | 7/10/19 | Lukacs | asked what authority GSA has on the plans with the water rights and the Water Resource Agency. | L. Girard indicated it has the ability to come up with a plan with GSA Agency. Clarification on how to get access on the 11043 Water Right | Question answered |
| 9-21 | 9 | | | 7/10/19 | Brennan | commented water from the Carmel River doesn't look like a valuable project if this is a decision from CalAm Water, is the water right to the district. | D. Williams indicated they made an agreement with CalAm to run the water through their pumps. One vote against that | Project removed from Chapter 9 |

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| 9-22 | 9 | | | 7/10/19 | Secondo | asked if any word on the Jarrett Dam | D. Williams indicated he doesn't have much information on the Jarrett Dam. Potential on the Jared Dam. | Not included in Chapter 9 |
| 9-23 | 9 | | | 7/10/19 | McIntyre | asked on Alternative Projects the Recharge winter Salinas River flow | It needs to be looked into since it has a diversion point | Question answered |
| 9-24 | 9 | | | 7/10/19 | Isakson | on two votes on Recharge winter water right from Carmel River and find out more on the water rights and permits | | Project removed from Chapter 9 |
| 9-25 | 9 | | | 7/10/19 | Franklin | commented on the 11043-water right caution during the wintertime the southern Gonzalez there is an environmental component and to please consider | D. Williams agreed; Isakson added the diversion season isn't winter it was the irrigation time | Comment noted |
| 9-26 | 9 | | | 7/10/19 | McIntyre | suggested to propose a two-year period ordinance and consider making a permanent ordinance | | Section 9.3.6 modified to reflect extension of two-year oridnance. |
| 9-27 | 9 | | | 7/10/19 | Brennan | what's the status of the deep aquifer study | A. Franklin replied this agency funding, it's not a priority unless the funding structure changes; D. Williams indicated this will be a funding questions for the future and will make a recommendation if needed | Question answered |
| 9-28 | 9 | | | 7/10/19 | Brennan | added on the propose for landowners to retire their land or pumping allowances | D. Williams indicated it will be said a restriction will be placed for irrigated land. Director Brennan requested to rephrase Change convert land to be consistent with the general plan | Section 9.3.2 modified so that it is consistent with the County General Plan |
| 9-29 | 9 | | | 7/10/19 | McHatten | added on retirement land between Soledad and Gonzalez there is purposed annexation that is going forward with LAFCO that can be replaced urban residential that can affect the General Plan with the County | D. Williams indicated they will only be taking Ag sellers that are willing to give up their land but can live on the land. | Question answered |
| 9-30 | 9 | | | 7/10/19 | Brennan | asked for the language to be changed on the rural development plan of the Monterey County General Plan | D. Williams indicted will be done | Section 9.3.2 modified so that it is consistent with the County General Plan |
| 9-31 | 9 | | | 7/10/19 | McIntyre | pointed out a typing error on section 9.3.3.8 $50,0000 a year for two years should be $100,000 | D. Williams indicated it will be corrected | Text modified (Section 9.3.5.8) |
| 9-32 | 9 | | | 7/10/19 | Brennan | in terms to comments on registered wells how will it be enforced? Can you transfer between sub-basins? Will it require flow meters? Are you directly pumping to the MWRA or GSA is it a duplication of reporting? What kind of comments are you expecting? | D. Williams said these are details that must be worked out | Question answered |
| 9-33 | 9 | | | 7/10/19 | McIntyre | pointed out with the recharge credits does it have return flow | D. Williams indicated no it doesn't have because of the allowances. Recharge credits have return flow. | Question answered |
| 9-34 | 9 | | | 7/10/19 | Secondo | do you encourage high water use | If you have a water right it can be done but it's not encouraged | Question answered |
| 9-35 | 9 | | | 7/10/19 | Secondo | regarding the ground been farmed before 2017, is that the cutoff date? | It's legal with a cutoff date saying you only have up to a certain date. | Question answered |
| 9-36 | 9 | | | 7/10/19 | Isakson | on developing GSA approval for credits or transferring should be added to the list and will there be a limitation on how much any one can pump? Based on the base allowance if you go over then a fee needs to be paid. Isn't the goal of GSA sustainability? | A water right isn't established. The idea of paying an additional fee if your pumping over the allowed amount those funds will be used for projects. The purpose of the higher cost tier so you can achieve sustainability | Question answered |

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| 9-37 | 9 | | | 7/10/19 | Virsik | based on an adjudication. The proposal is heading that route. There is a huge emphasize on disclosure and how this look on GSA when setting allowance and have history or not and have been or not it can be irrelevant to your allowance's and have been publicly reporting and then after the fact you might have legal actions. Making it public might get the process faster it could be all the pumping in the sub basin numbers correct. Should pumping data be made public to move forward in the project. And on regulatory requirement on the 180-400 get rid of the overdraft and on the leap of faith on the client's perspective what this might look at this time, some kind of assurance that might cause less worry. Mr. Virsik will provide further information at a later time | D. Williams asked for him to provide and will consider | Question answered |
| 9-38 | 9 | | | 7/17/19 | Virsik/Orradres & Scheid | DRAFTS LACK MANDATORY REGULATORY CONTENT; the GSP for the 180/400 fails to quantify the overdraft to be mitigated to achieve sustainability (does not refer to Reg 354.44(b)(2) or 354.18; The word "overdraft" is used in text a single time in Chapter 6 but no number/figure/quantity in any table is so labeled. The 180/400 basin is designated by the DWR as in a critical condition of overdraft, of course. | | Text added to section 9.6 |
| 9-39 | 9 | | | 7/17/19 | Virsik/Orradres & Scheid | The current iteration of Chapter 9 also recites "overdraft" a handful of times -- section 9.7 is prominently labeled as a list of projects and actions for the "mitigation of overdraft" but one cannot find the quantity of overdraft to be mitigated, which renders of questionable value any projection of how much water is provided or mitigated by a given action or project. The current draft GSP for a basin in critical overdraft does not disclose the current quantity of overdraft. That lacuna will make the Plan non-compliant, no matter its other merits. | | Text added to section 9.6. Section 9.7 deleted. |
| 9-40 | 9 | | | 7/17/19 | Virsik/Orradres & Scheid | Chapter 9 (including the oral presentations at the Planning Committee) is explicit that the priority projects may be insufficient to meet sustainability and one or more alternative projects are needed. The total amount of water just CSIP Projects 2, 3, 4, and 5 may develop appears to be 40,300 AF. By force of logic, one can guess the current overdraft in the 180/400 exceeds that 40,300 AFY figure. But the public should not need to guess or rely on back of cocktail napkin calculations. The total amount of overdraft to be mitigated to achieve sustainability must be explicitly identified for the GSP to meet minimum requirements. | | Text added to section 9.6 |
| 9-41 | 9 | | | 7/17/19 | Virsik/Orradres & Scheid | ACCEPTING THE "FRAMEWORK" IS NOT APPROVAL OF THE LATER DETAILS; partial or full acquiescence to the<br>proposed "framework" may be perceived or taken as a willingness to accept the later "details." Well before any GSP chapter was drafted, they reminded the GSA that in 2003/04 they and certain others from the southern parts of the Valley<br>obtained judgments based on hard-fought settlements in multiple validation actions. Those validation judgments limit the fiscal contribution of certain lands to efforts addressing the northern coastal overdraft and seawater intrusion issues. That the GSA was created after the date of the judgments does not immunize it from honoring the judgment terms. To put in somewhat practical terms, while the proposed slate of CSIP projects/actions in Chapter 9 may have certain merit, their fiscal aspects remain subject to | | Sentence added to Section 9.2 that, "The fee structures in each subbasin will be developed in accordance with all existing laws, judgements, and established water rights." |
| 9-42 | 9 | | | 7/18/19 | Gardner | would like to include information on backup projects that were not included in the GSP and why | | The complete list of projects are in Appendix 9B. The list was reduced to what the SVBGSA believed are the most cost efficient and likely successful projects. If there is a public desire, we can add any projects in this Appendix to our list of preferred projects. |
| 9-43 | 9 | | | 7/18/19 | McCullough | would like to highlight management actions that will have Valley-wide benefit | | Sentence added to Section 9.3.1 |

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| 9-44 | 9 | | | 7/18/19 | Lee | would like projects rated according to cost effectiveness | D. Williams responded that the cost per acre foot is estimated and there will be a map for each project that will show the water level rise | Question answered |
| 9-45 | 9 | | | 7/18/19 | Adcock | wondered why all winter flows are not being treated and stored | D. Williams stated the nondiurnal water would require enormous storage, and advance water purification is expensive. It is an alternative project for winter flows. | Question answered |
| 9-46 | 9 | | | 7/18/19 | Lee | would like information on how much more beneficial one project is over another | Does not have an answer currently, because it depends on how much water we can get at a lesser cost | Question answered |
| 9-47 | 9 | | | 7/18/19 | Lee | asked if it is less costly to run the treatment plant than injecting fresh water into aquifers. | stated he would look into the cost of a scalping plant where Salinas is expanding | Costs will be evaluated during plan implementation as project details are defined. |
| 9-48 | 9 | | | 7/18/19 | Frus | wondered about an investment risk analysis and which projects would show resilience in the face of extreme climate change; presented the possibility of analyzing feasibility considering a range when predicting climate change | D. Williamsesponded the analysis includes predictable climate change but not an excessive drought of proportions not yet seen | Question answered |
| 9-49 | 9 | | | 7/18/19 | Franklin | expressed concern that the cost of the extraction barrier is high for capital costs could make the problem worse. | D. Williams stated the cost of the extraction barrier is high for capital costs, roughly tens of millions of dollars; D. Williams included it because it is definitive, but there is some flexibility based on the success of other projects. | Question answered |
| 9-50 | 9 | | | 7/18/19 | Isakson | stated more information is needed about the implications of requesting changes to Permit 11043 or its possible revocation. | | Comment noted |
| 9-51 | 9 | | | 7/18/19 | Lee | the scalping alternative would be drought proof and keep the hydrological cycle intact. | | Comment noted |
| 9-52 | 9 | | | 7/18/19 | Adcock | | In response to Tom Adcock, D. Williams stated that they need to review the water rights for the Alisal and Gabilan Creeks to determine if they are fully allocated. | A review of the water rights will be completed during the implementation phase of the GSP. |
| 9-53 | 9 | | | 7/18/19 | Lee | stated that the Gabilan range should be looked at for climate and ecological system changes because of the large potential to impact groundwater ecosystems | D. Williams stated that the diversion rights would be difficult to get so this would be put from a primary to alternative project | Question answered |
| 9-54 | 9 | | | 7/18/19 | Gardner | suggested looking at using tile drain water more effectively | | Tile drain water will be evaluated during plan implementation as project details are defined. |
| 9-55 | 9 | | | 7/18/19 | Isakson | stated that some people would rather pay per acre instead of per acre foot | D. Williams stated that the cost is per acre foot because charging per acre would not result in controlling extraction | Comment noted |
| 9-56 | 9 | | | 7/18/19 | Tubbs | | In response to Dallas Tubbs, D. Williams stated that a water marketplace is not the focus on the water charges framework but would be an outcome that would take a long time and require an impact | Question answered |
| 9-57 | 9 | | | 7/18/19 | Breen | asked for the nexus between the different fees. G. Petersen responded that the administration fee, pumping charge and Proposition 218 projects can be thought of in terms of tiers. Mr. Breen stated the GSP assumes there will be projects which means all users will have tier 2 or 3 charges or fees. | D. Williams stated that would only be accurate for sea water intrusion projects. All other projects balance inputs and outputs. D. Williams stated this is an innovative viable framework that will require negotiations and studies | Question answered |

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| 9-58 | 9 | | | 7/18/19 | Isakson | stated that there have been comments from the Upper and Forebay Subbasins that they do not prefer fees based on extraction, and it is not clear that Chapter 9 is not cast in stone. G. Petersen stated that the GSP is adaptive for each sub-basin. | | Comment noted |
| 9-59 | 9 | | | 7/18/19 | McCullough | | In response to Mike McCullough, G. Petersen stated that the Board can reconsider how to fund administration fees if necessary. D. Williams stated that the water charges chapter is not discussing specifics yet but outlines a structure. | Question answered |
| 9-60 | 9 | | | 7/18/19 | McCullough | suggested including some clarifiers, e.g. this would be the fee if utilizing four out of five best management practices. If they are using efficiency as the driver, they should not be punished if being really efficient | D. Williams stated they would only be paying large fees if they are pumping outside of what we think is sustainable, and we have to decide what is sustainable. And these questions need to be answered for every sub-basin. | Question answered |
| 9-61 | 9 | | | 7/18/19 | Jacques | | In response to Bob Jaques, D. Williams stated that the financial structure is to establish bonding capacity for projects | Question answered |
| 9-62 | 9 | | | 7/18/19 | Tubbs | | In response to Dallas Tubbs, D. Williams stated that municipalities may be treated differently than outliers when setting base allowances, but that will be discussed in another forum. | Question answered |
| 9-63 | | | | 7/18/19 | SVWC | How do we "re-operate" | D. Williams state that the reoperation plan had to come out of the HCP. D. Williams said the reservoirs should recharge the basin every year – the WRA didn't want every –D. Williams said he is committed to making it clear that releases every year is the objective | Question answered |
| 9-64 | | | | 7/18/19 | SVWC | AS to the Arundo removal program – will landowners/growers be charged twice? D. Williams said landowners/growers will be charged only if program is expanded beyond what is being done today | D. Williams said landowners/growers will be charged only if program is expanded beyond what is being done today | Question answered |
| 9-65 | | | | 7/18/19 | SVWC | MCWRA owns the assets for some of the projects, how will this be addressed? | G. Petersen stated that there are many such issues that he is currently negotiating with MCWRA | Question answered |
| 9-66 | | | | 7/18/19 | SVWC | Coordination between agencies will be important to ensure there is no duplication of cost | D. Williams said fees will be structured to capture what is being paid for already | Question answered |
| 9-67 | | | | 7/18/19 | SVWC | Doesn't it matter where reduced pumping occurs and who is responsible? | D. Williams said he wasn't going to address who is responsible, but reducing pumping will not solve seawater intrusion along – the problem of seawater intrusion must be actively addressed. | Question answered |
| 9-68 | | | | 7/18/19 | SVWC | Are seawater intrusion barriers being considered and are they injection or pumping based? | Our primary choice is a pumping-based seawater intrusion barrier. Injection requires water we don't have. | Question answered |
| 9-69 | | | | 7/18/19 | SVWC | Permit 11043's point of diversion is above the confluence of the Arroyo Seco – [it was stated that there is only one point of diversion and not a second one at chualar – this needs to be confirmed] | We will investigate the points of diversion | Question answered |
| 9-70 | | | | 7/18/19 | SVWC | Why aren't the existing reservoirs on the project list? | D. Williams stated that only projects that directly benefit grounwater are on the list. We avoided projects that simply increase the available water supplies | Question answered |

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| 9-71 | | | | 7/18/19 | SVWC | What about a retro fit at Naci to increase the outflow capacity below 755 elev? | D. Williams admitted this was a good idea | Evaluation of a retrofit to Nacimiento will be completed during the implementation phase of the GSP. |
| 9-72 | | | | 7/18/19 | SVWC | Are water charges based on gross pumping? | Generally yes, but there will be opportunities to refine water charges based on local conditions | Question answered |
| 9-73 | | | | 7/18/19 | SVWC | Will CSIP be subsidized by everyone? | The overall sustainability program will be paid for by everybody, but individual projects will not be singled out. | Question answered |
| 9-74 | | | | 7/18/19 | SVWC | Benefits are not the same in all sub-basins? | D. Williams stated that different areas will pay different amounts | Question answered |
| 9-75 | | | | 7/18/19 | SVWC | How do the charges affect water rights? Are fees/taxes on water extractions a limiting factor on one's water rights? | The fees do not affect water rights | Question answered |
| 9-76 | | | | 7/18/19 | SVWC | Are those operating costs or project costs? | Both! The idea is to eventually replace the administrative fee with a baseline tiered fee, with projects and O&M built on top of those. | Question answered |
| 9-77 | | | | 7/18/19 | SVWC | Who will be 'watching' out for landowners/growers? | | Comment noted |
| 9-78 | | | | 7/18/19 | SVWC | Will structure fee be implemented with the 180/400 plan | No, this will be a multi-year negotiation. | Question answered |
| 9-79 | | | | 7/18/19 | SVWC | Not everyone is in favor of an extraction fee basis | Baseline rates will be different in different areas. If there is no extraction fee, then there will be no limits on pumping. If there is a per acre fee, then there will have to be other caps on how much one can pump. | Question answered |
| 9-80 | | | | 7/18/19 | SVWC | Will there be more influence on the MCWRA to fix the dams? | G. Petersen stated that the MCWRA is working on funding these projects now. | Question answered |
| 9-81 | | | | 7/18/19 | SVWC | How do you factor recharge of extracted water in to the fee? | It could be factored in to the 1st tier charge, based on sub basin. | Question answered |
| 9-82 | | | | 7/18/19 | SVWC | Who established baseline for pumping? | It is based on our assumed sustainable yield | Question answered |
| 9-83 | | | | 7/18/19 | SVWC | Water Budget – how much is based on assumed reservoir releases/operation? | D. Williams pointed out this is an excellent quesiton that he cannot answer at this time. We will address it while we develop the Upper Valley and Forebay GSPs over the next two years | Question answered |
| 9-84 | | | | 7/18/19 | SVWC | Extraction fees are they reasonable or unreasonable? | D. Williams believes they will be reasonable | Question answered |
| 9-85 | | | | 7/18/19 | SVWC | Cost incurred by FB/UV landowners for maintaining their own wells, energy, etc., is different than CSIP where they get delivered water | | Comment noted |
| 9-86 | | | | 7/18/19 | SVWC | Need to consider contribution to basin from recharge | | Comment noted |
| 9-87 | | | | 7/18/19 | SVWC | Should pumping allowances account for different soil-climate conditions? | D. Williams said this was certainly possible | Question answered |
| 9-88 | | | | 7/18/19 | SVWC | Basin/sub-basin limitations? | D. Williams said every subbasin will need a limit on how much can be pumped. But some subbasins may not have reached that limit yet. | Question answered |
| 9-89 | 9 | | | | Christopher Bunn | 1. De minimis users should be required to pay some sort of fee. While I realize they can't be charged according to usage, they shouldn't get a free pass as they are benefiting from the basin and all of our hard work and capital. | | Comment noted |

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| 9-90 | 9 | | | | Christopher Bunn | 2. The fallow land program should allow for a landowner to lease the land for fallowing, as opposed to simply put it in permanent deed restriction. The fallow lease could either be held by the GSA/county or secured by another landowner in order for that landowner to gain a certain portion of the fallowed land's water credits. This open-ended approach to fallowing would allow such land to come back into production if the basin achieved balance and/or surplus. | | Comment noted |
| 9-91 | 9 | | | | Christopher Bunn | 3. Reservoir re-operation (and increasing winter flows, etc) would have an adverse effect on river vegetation. This would have to be mitigated (see # 5). | | The effect on river vegetation will be a factor incorporated into the design of this management action. |
| 9-92 | 9 | | | | Christopher Bunn | 4. Before completely restricting drilling and pumping in the deep aquifer, the GSA will first have to create a viable alternative (CSIP expansion does not seem to be a viable alternative yet, if it is merely to benefit the book-end months), as the county's current regs prohibit new wells in the 400 west of Davis Road. | | The extent to which alternatives are viable will be considered in the implementation phase of the GSP. |
| 9-93 | 9 | | | | Christopher Bunn | 5. The invasive species eradication project as it is written, limited to arundo, tamarisk and other negligible non-natives is too limited. Chapter 9 should amplify that eradication to species overgrowth in general in the river, as willows and several other species are what create the larger problem in the river in terms of sucking up water and blocking flow. The Salinas River Maintenance Program has permits in place that allow for that kind of maintenance, in addition to eradicating the arundo. A change from invasive to species overgrowth in general will more effectively reduce the amount of water taken by plants, in addition to allowing better flow in the river from the dams to the SRDF, radial collectors, and recharge points in between. The permits allow willows less than the 6 inches diameter at chest height to be taken without mitigation. Furthermore, if larger willows are taken (which is rarely necessary), the 2-1 replanting mitigation can be done along riverbanks and up on the levees, which many landowners are happy to do. This project, as currently written, is missing a tremendous opportunity for creating water and enabling better control of river flows, in addition to being a critical action that virtually all landowners, farmers and valley cities would be happy to see. Furthermore, if one of the projects is going to be reservoir re-operation for increased winter flows, the river will become even more choked; amplifying species eradication would mitigate this problem caused by the GSP. | | Comment noted. Whether to include other species in invasive species eradication will be examined in the implementation phase. |
| 9-94 | 9 | | | | Christopher Bunn | 6. Chapter 9 should contain a blanket statement that all viable sewage should be pursued for capture and reclamation. Spreckels should be given priority in this regard. Also, a comfortable majority of the residents in the Toro area would be in favor of their sewage going to M1. This would not shut down CUS completely, as they would still need to capture the sewage and pipe it. The dollars involved here would be only focused on diverting it from their plant to the M1 plant, shutting down CUS' spray fields (which are a food safety problem in themselves, let alone issue of being along the river and contaminating the water). Furthermore, as the Davis Rd bridge project is on the books, this is the time to influence that project and get a suitable pipe slung under the new bridge. | | All potentially viable diversions from existing water reclamation plants will be considered in further planning efforts as part of GSP implementation. |

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| 9-95 | 9 | | | | Christopher Bunn | 7. All old, unused wells in the CSIP area and then over to the city and Davis Road need to be destroyed. This needs to be down at landowner cost, rather than expecting MCWRA to pay for it. Set a date when it needs to be done. Sooner than later. | | This was not evaluated in the development of the GSP, but will be considered in further planning efforts and assessments. |
| 9-96 | 9 | | | | Christopher Bunn | 8. GSA needs to determine any and all pumping in the basin that is being exported out of the basin. If this is not done and policed, then the fee structures will not be honest and reflective of reality. Water export needs to stop. | | The Monterey County Water Resources Agency Act, § 52.21 prohibits the export of groundwater from any part of the Salinas Valley Groundwater Basin, including the 180/400-Foot Aquifer Subbasin. |
| 9-97 | 9 | | | | Christopher Bunn | 9. The Salinas River Maintenance Program also includes a permit for sediment removal. This should be included in the project list as it would allow more efficient water movement in the river, either to get it to the SRDF, planned radial collectors, or to percolation points. | | This will be discussed with MCWRA during the implementation phase of the GSP, as they manage surface water flows. |
| 9-98 | 9 | | | | Christopher Bunn | 10. Lastly, the Jerrett Reservoir should be included on the list. Increasing water storage will allow us to move increased amounts of water more efficiently down the river to percolation points, radial collectors and the SRDF. I haven't spoken with a single farmer/landowner who disagrees with this. If we're going to include Nacimento/San Antonio re-operation on the project list, a new reservoir would be governed by the same logic: controlling storage means controlling flow means controlling perc/extraction points. | | This will be discussed with MCWRA during the implementation phase of the GSP, as they manage surface water flows. |

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| 9-99 | 9 | | | 8/7/19 | Thomas Virsik | Draft Chapter 10 (implementation) was discussed during the Planning Committee meeting on 1 August 2019. Based on language in that draft, I asked how the water charges framework would be applied in the 180/400 where the overall goal of the current GSP direction is to stop pumping and instead provide water from various projects or sources. The current CSIP area, for example, relies on, and is charged various levies by the MCWRA for water that is delivered via pipes. My query contributed to a discussion of the water charges framework by those present, including comments by GSA counsel Les Girard on the complications and intricacies of regulatory fees, SGMA statutory authority, Proposition 218, and other aspects of applying the proposed framework. The thrust of the discussion was that while a framework based on water extraction charges has certain merit, as a practical and legal matter, it may not be the only or most appropriate basis to finance projects under all circumstances. D. Williams suggested he would rewrite “that section” of presumably draft Chapter 10. The difficult decisions about financing and management will eventually come before the Board, but are not part of today’s agenda. Nevertheless, Chapter 9, which introduces and explains the water charges framework, states that it is the “fundamental structure for managing groundwater pumping and funding projects” and will be implemented in “all Salinas Valley subbasins in Monterey County.” § 9.2. The current draft fails to identify how the framework is geared to the 180/400, the focus of the GSP. The current Chapter 9 language may not be consistent with what one may expect in Chapter 10 about flexibility, the continuation of the current regulatory fee within or apart from the water charges framework, and how to charge extraction fees in areas (like the CSIP) that will not pump.<br>It may be best to hold Chapter 9 until the language in Chapter 10 is finalized so that the two do not clash. | | Clarification was added in 9.1 stating that this GSP is developed as part of an integrated sustainability plan between all six subbasins in the SVBGSA's jurisdiction. It also notes that the "specific design for implementing the water charges framework, management actions, and projects will provide individual landowners and public entities flexibility in how they manage water..." |
| 9-100 | 9 | | | 8/1/19 | Keith Van Der Maaten | Pumping Allowance (9.2.2) document implies that municipalities may not receive a sustainable pumping allowance and will need to pay more than agricultural users to pump their base amount. GSP needs to provide that MCWD's MCWRA groundwater allocations are the sustainable pumping allowances for Fort Ord Lands and Marina Area Lands pursuant to the annexation agreements (1993 Fort Ords Lands Annexation Agreement; MCWRA Backstop; 1996 Marina Area Lands Annexation Agreement; MCWRA's Obligation to Protect the Deep Aquifer for MCWD's Use. | | Sustainable pumping allowances will be negotiated in the implementation period of the GSP. |
| 9-101 | 9 | | | 8/1/19 | Keith Van Der Maaten | Water Charges Framework - the sustainable pumping allowances cannot be tied to sustainable yield of the subbasin after all projects have been implemented because some projects will have more localized benefits and/or losses to certain subbasins versus others. We recommend SVBGSA consider using some estimate of the "natural safe yield" within each subbasin to determine the sustainable pumping allowance for each basin. | | Sustainable pumping allowances will be negotiated in the implementation period of the GSP and stakeholders can discuss the structure and design of the framework at that point. |
| 9-102 | 9 | | | 8/1/19 | Keith Van Der Maaten | Management Actions, Projects, and Alternative Projects; Replenishment Water - it is recommended that the primary objectives of the actions/projects should be 1) provide replenishment water to North County in substitution for groundwater; 2) Repeal seawater intrusion - a mission that the MCWRA has had since the 1940s. | | Comment noted |

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| 9-103 | 9 | | | 8/1/19 | Keith Van Der Maaten | Following are first cut, suggested combinations of actions/projects for consideration: District Replenishment Water - Actions/Projects 1: MA2 - Reservoir Reoperation; PP1 - Invasive Species Eradication; PP2 - Optimize CSIP Operations; PP3 - Improve SRDF Diversion including installing Radial Collectors to increase ability to divert more water when water is available; PP5 - Expand Area Served by CSIP; PP6 - 11043 Diversion Facilities; PP5 - Expand Area Served by CSIP | | Comment noted |
| 9-104 | 9 | | | 8/1/19 | Keith Van Der Maaten | Section 9.4.4.7 Preferred Project 6: 11043 Diversion Facilities incorrectly states that diversions under this permit can only occur at the two diversion locations identified in the original July 1949 Water Rights Application. The reservoir reoperation management action already stated the goal of operating the two reservoirs to allow both natural and surplus flows to better reach the SRDF diversion. Adding the SRDF as an additional point of diversion under permit 11043 would conform that the permit with the authorized points of redivision in MCWRA's other water rights licenses and permit comply with the biological opinion. The MCWRA has submitted a petition for an extension of time to put the water under the permit to beneficial use. A petition to add a new point of diversion could be added to that petition. | | Comment noted |
| 9-105 | 9 | | | 8/1/19 | Keith Van Der Maaten | Indirect Replenishment Water - Actions/Projects 2: PP3 - Improve SRDF Diversion; PP6 - 11043 Diversion Facilities; PP5 - Expand Area Served by CSIP; AP2 - Winter Potable Reuse Water Injection; AP3 - Extract Winter Flows Using Radial Collector(s) and Inject into 180- and 400-Foot aquifers; AP5 - Use the Upper Portion of the 180/400-Foot Aquifer Subbasin for Seasonal Storage. These are complimentary projects; the synergy of these actions/projects is to use winter water for groundwater recharge and later extract that water for delivery in the summer. Any water to be injected must be treated. MCWD has performed a feasibility study on constructing a water treatment plant; that study will be made available to the SVBGSA. | | Thank you, that will be helpful to have that information as projects and management actions are refined and considered.. |
| 9-106 | 9 | | | 8/1/19 | Keith Van Der Maaten | Seawater Intrusion/Replenishment Water - Actions/Projects 3: PP8 - Sewater Intrusion Pumping Barrier; AP1 - Desalinate water from the Seawater Barrier Extraction Wells | | Comment noted. |
| 9-107 | 9 | | | 8/1/19 | Keith Van Der Maaten | Regulatory - Actions/Projects 4: MA1 - Agricultural Land and Pumping Allowance Retirement; MA3 - Restrict Pumping in CSIP area; MA3 - Restrict pumping in CSIP area; MA4 - Support and strengthen MCWRA restrictions on additional wells in the deep aquifer. During the 25% driest water years, some agricultural pumping may be necessary. Formation of pump improvement districts or private community pumps for designated areas within CSIP could be considered for use during the driest water years. | | Comment noted |

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| 9-108 | 9 | | | 8/1/19 | Keith Van Der Maaten | Combined Seawater Intrusion Pumping Barrier (PP8) with Desalinate Water from the Seawater Barrier Extraction Wells (with or without reinjection) AAP1) Project: The extracted water or a portion thereof could be conveyed to a new or existing desalination faciltiy where it can be treated for potable and/or agricultural use. The water extracted from these wells will be brackish due to historical seawater intrusion, therefore, the extraction will serve to remove the brackish water and allow replacement for fresh water from other sources, most likely a combination of desalinated water, excess surface water from the Salinas River, and/or the purified recycled water. The project will stop and reverse sewater intrusion, helping to remediate and restore the 180/400-foot aquifer subbasin. The project would treat water extracted from the seawater intrusion barrier an allow for its reinjection in the 180-ft aquifer and 400-ft aquifer | | Comment noted |
| 9-109 | 9 | | | 8/1/19 | Keith Van Der Maaten | Injection barriers are the most common method employed to halt seawater intrusion. Injection barriers have<br>been used in Southern California basins to control saltwater intrusion for over 30 years. They are the most<br>common, technically demonstrated method employed to stop seawater intrusion around the world. But they<br>add another layer of costs and infrastructure.<br>A pure extraction barrier project with no reinjection of treated water, with similar groundwater hydrology to North County, may not exist. Alameda County Water District's Newark Desalination Facility could be studied to determine if it can possibly be used as a model for the Pumping Barrier. ACWD's Desalination Facility is part of ACWD's Aquifer Reclamation Program which began in 1974 with the goal of reclaiming those portions of the Niles Cone Groundwater Basin affected by saltwater intrusion from San Francisco Bay in the early 20th century. The District pumps brackish water from the groundwater basin so that freshwater from other parts of the basin can move in to take its place. A key component of this project has been the addition of replenishment water to the basin, which brought mean water levels above sea level prior to the initiation of extraction. Since 2003, brackish water which was once allowed to flow back into San Francisco Bay is now diverted to the Desalination Facility so that it can be put to beneficial use in the Tri-City area. | | Comment noted |

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| 9-110 | 9 | | | 8/1/19 | Keith Van Der Maaten | There is a lot of uncertainty relating to costs, who pays, where are the optimum locations for the extraction wells, and whether an injection barrier would also be needed as envisioned in AP1. It is suggested that the combined project be broken up into possibly 4 phases with each phase consisting of 4 to 6 extraction wells and a modular brackish water desalination plant with the 1st Phase starting at the northern end of the 180/400-Foot Aquifer Subbasin. A study would be performed during 2020 and 2021 to determine the specific depths, locations, spacing and rates of extraction of the brackish water extraction wells to make the project most effective, and to assess, among other things, (1) the effectiveness of these wells to halt salt-water intrusion, (2) evaluate other potential subbasin impacts, and (3) the best location for the brackish water desalination plant. A majority of the project area has been the subject of intense hydrogeological study within the last decade and most recently the focus of a high-quality Airborne Electromagnetic (AEM) survey (data-collection effort) that has generated valuable information about subsurface conditions over a significant section of the coastline and inland areas and is available for use in project design and implementation. MCWD conducted its first AEM overflight in May 2017 (AEM 1.0) and its second in April 2019 (AEM 2.0). Both AEM studies covered the North County area and should be used to focus well locations and well design that would target the main pathways of seawater intrusion into and within the multi-aquifer system of the 180/400 Foot Aquifer Subbasin. The use of this technology has grown to be an effective tool in California as shown by other AEM studies that have been conducted in Tulare County, Eastern Kern County, and Butte and Glenn Counties. (see letter for remainder of comment) | | Comment noted |
| 9-111 | 9 | | | 8/1/19 | Keith Van Der Maaten | Potential Project Benefits: The potential project benefits could be considerable, including: (1) stop and reverse seawater intrusion within the 180/400 Foot Aquifer Subbasin and Monterey Subbasin; (2) provide supplemental drinking water to Castroville; (3) provide supplemental drinking water to the City of Salinas to decrease the known pumping depressions within the Eastside Subbasin and to help restore seaward gradients and groundwater flow within the 180 Foot Aquifer and 400 Foot Aquifer; (4) provide supplemental drinking water to Marina, Fort Ord and the Monterey Peninsula, and potentially groundwater recharge within the Seaside Subbasin; (5) provide desalinated water for an injection barrier located landward of the extraction barrier and inland of the seawater intrusion front to increase the benefit of the extraction barrier and halt the further inland movement of seawater; and (6) avoid pumping and building new infrastructure within Environmentally Sensitive Habitat Areas (ESHA). | | Comment noted |
| 9-112 | 9 | | | 8/1/19 | Keith Van Der Maaten | Project Elements: Location of Brackish Water Extraction Wells: PP8 proposes a Pumping Barrier of approximately 8.5 miles in length between Castroville and Marina. Assuming that the project will be phased, it is recommended that the Phase 1 extraction wells be located west of Castroville for the protection of the area that suffers both seawater intrusion and the counter flow of groundwater east to the East Side pumping depressions. | | Comment noted. Location of extraction wells will be considered in the project design during the implementation phase of the GSP. |

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| 9-113 | 9 | | | 8/1/19 | Keith Van Der Maaten | Location of Brackish Water Desalination Plant: The location of the desalination plant will need to be determined by an optimization study using various factors, including identified Project Benefits and their prioritization. For example, a plant located north of the Salinas River would be located (1) nearer to Castroville, (2) nearer to the City of Salinas and the East Side pumping depressions, and (3) within the North County agricultural area. However, it would be further away from the Monterey Peninsula. In contrast, a plant located south of the Salinas River would be located nearer to the Monterey Peninsula but further away from, Castroville, City of Salinas, and the North County agricultural area. AP1 lists the following possible desalination plants: Monterey Peninsula Water Supply Project (MPWSP) (6.4 mgd/7,100 AFY); Deep Water Desalination Plant (22 mgd/ 25,000 AFY); and People Water Supply Project (12 mgd/ 13,400 AFY). | | Comment noted. Location of desalination plant will be considered in the project design during the implementation phase of the GSP. |
| 9-114 | 9 | | | 8/1/19 | Keith Van Der Maaten | Desalination Capacity of Brackish Water Plant: The desalination capacity of the brackish water plant will initially depend upon the pumping capacity of the extraction wells and how the plant's product water will be allocated among Project Benefits c(2) through (5) or any other uses. It is common for these types of facilities to be constructed for future expansion in a modular design that will allow for incremental growth as additional feedwater is made available. The design capacities of the pipelines bringing brackish water in and of the pipelines carrying product water out will need to take into consideration future expansion for the ultimate project buildout. | | Comment noted |
| 9-115 | 9 | | | 8/1/19 | Keith Van Der Maaten | Groundwater Rights Issues: Because the 180/400-Foot Aquifer Subbasin has been designated as a Critically Overdrafted Subbasin, the necessary groundwater rights that would support the project will need to be assessed. Returning water to the Salinas Valley Groundwater Basin to comply with the Monterey County Water Resources Agency Act's export prohibition does not confer a groundwater right, only compliance with the Agency Act. | | Comment noted. Project will take into account water rights and MCWRA's export prohibition. |
| 9-116 | 9 | | | 8/1/19 | Keith Van Der Maaten | Restriction on Additional Wells in the Deep Aquifer (Priority Management Action 4) MCWD supports implementation of Priority Management Action 4: Support and Strengthen MCWRA Restrictions on Additional Wells in the Deep Aquifer. As presented in our comments for Chapter 8, groundwater elevations in the Deep Aquifer are below sea level and declining, suggesting that extraction from this aquifer exceeds the sustainable yield of this aquifer zone. This issue is very important to MCWD because in the 1996 Annexation Agreement, MCWRA agreed to<br>protect the Deep Aquifer for MCWD's use, but MCWRA did not take any protective action until the recent<br>adoption of Ordinance 5302. Section 5.3, Management of 900-foot aquifer, of the 1996 Annexation Agreement provides, "The Parties agree that the '900-foot' aquifer should be managed to provide safe, sustained use of the water resource, and to preserve to MCWD the continued availability of water from the '900-foot' aquifer." Section 5.9 further stated that the annexation fees paid by MCWD "shall also be used for management protection of the '900-foot aquifer.'" MCWD will work with MCWRA pursuant to the 1996 Annexation Agreement on MCWRA's Deep Aquifer study. | | Comment noted |

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| 9-117 | 9 | | | 8/1/19 | Keith Van Der Maaten | Winter Potable Reuse Water Injection (Alternative Project 2) For Alternative Project 2: Winter Potable Reuse Water Injection, the document should include an option (or separate alternative) for year-round potable reuse water injection by MCWD, as described in its Grant Application, provided to SVBGSA on 20 June 2019. MCWD has rights to recycled water on a year-round basis. Per discussions during the meeting on 11 July 2019, MCWD provided the following language for inclusion in the GSP: "MCWD is currently conducting a feasibility study on injection of purified recycled water into the Monterey Subbasin. The project proposes to use purified recycled water available to MCWD from the AWPF, some of which is available year-round per the district's agreement with M1W, for indirect potable reuse and prevention of further seawater intrusion. This project is consistent with and can readily be implemented in conjunction with the winter potable reuse project identified herein." | | Injection of purified recycled water into the Monterey Subbasin will be considered when the Subbasin GSP for the Monterey Subbasin is completed, working together with MCWD. |
| 9-118 | 9 | | | 8/1/19 | Keith Van Der Maaten | Extract Winter Flows using Radial Collectors and Inject into 180- and 400-Foot Aquifers (Alternative Project 3) Alternative Project 3 is the winter extension of Preferred Project 3, Improve SRDF Diversion. While under Alternative Project 3, the new radial collector system would only operate from November through March, the system would be operated from April through October under Preferred Project 3. There may be even steelhead benefits to also operating the system during April through October in conjunction with the SRDF.<br>Section 9.4.5.3 correctly observes that a significant volume of water may be available for diversion or extraction from the Salinas River during the winter. However, securing and clarifying water rights is not a constraint on this proposed project. As discussed above, MCWRA's Amended Water Rights License 7543, Amended License 12624, and Amended Permit 21089 already designate the SRDF Diversion as an authorized point of rediversion. Those licenses and permits were amended to comply with the NMFS' Biological Opinion. Therefore, water stored and released under those water rights is already authorized to be diverted at the SRDF. The Reservoir Reoperation Management Action already has the stated goal of operating the two reservoirs so as to "Allow both natural and surplus flows to better reach the SRDF diversion." Adding the SRDF as an additional point of diversion under Permit 11043 pursuant to a change petition under Water Code Sections 1701.2, et | | Suggested language added. |

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| 9-119 | 9 | | | 8/8/19 | Virsik | As asked in the planning committee meeting on 8/1: how will the water charges framework be applied in the 180/400 where the overall goal of the current GSP direction is to stop pumping and instead provide water from various projects or sources. The current CSIP area, for example, relies on, and is charged various levies by the MCWRA for water that is delivered via pipes. My query contributed to a discussion of the water charges framework by those present, including comments by GSA counsel Les Girard on the complications and intricacies of regulatory fees, SGMA statutory authority, Proposition 218, and other aspects of applying the proposed framework. The thrust of the discussion was that while a framework based on water extraction charges has certain merit, as a practical and legal matter, it may not be the only or most appropriate basis to finance projects under all circumstances. D. Williams suggested he would rewrite "that section" of presumably draft Chapter 10. The difficult decisions about financing and management will eventually come before the Board, but are not part of today's agenda. Nevertheless, Chapter 9, which introduces and explains the water charges framework, states that it is the "fundamental structure for managing groundwater pumping and funding projects" and will be implemented in "all Salinas Valley subbasins in Monterey County." § 9.2. The current draft fails to identify how the framework is geared to the 180/400, the focus of the GSP. The current Chapter 9 language may not be consistent with what one may expect in Chapter 10 about flexibility, the continuation of the current regulatory fee within or apart from the water charges framework, and how to charge extraction fees in areas (like the CSIP) that will not pump. It may be best to hold Chapter 9 until the language in Chapter 10 is finalized so that the two do not clash. | | Comment noted. The details of the Water Charges Framework for each subbasin will be developed during the implementation period of the 180/400-Foot Aquifer Subbasin GSP. |
| 9-120 | 9.2.2 | 4 | | 8/2/19 | Woodrow | re: "pro-rata share of their subbasin's sustainable yield" - Would a share be determined for landowners in CSIP? They would still receive benefit from future projects but are not directly pumping groundwater. | | Text clarified to note that landowners in CSIP will receive separate allowances, as projects are intended to reduce their pumping. |
| 9-121 | 9.3.5 | 16 | | 8/2/19 | Woodrow | This management action has the potential to duplicate or conflict with parts of Agency Ordinance No. 3790, which regulates wells within Zone 2B. Any ordinance that the SVBGSA enacts in this area should include an exemption for pumping of CSIP supplemental wells, otherwise, one of the three water sources for CSIP could be compromised. There is language in the Agency's 2017 Recommendations report that addresses such an exemption (section 1.4.2).<br><br>Consider optimizing and expanding CSIP rather than restricting pumping in that area. | | Comment noted. Implementation details will be developed in coordination with MCWRA so that there is not duplication nor conflict with MCWRA ordinances. This instance could be handled by making CSIP supplementary wells exempt from this ordinance restriction. |
| 9-122 | 9.3.6 | 18 | | 8/2/19 | Woodrow | Ordinance 5302 is a County ordinance, not MCWRA ordinance. Ordinance 5302 applies to the entirety of the Deep Aquifers, not just the Deep Aquifers within the Area of Impact. From the ordinance: "The Deep Aquifers new well prohibition applies in the portions of the 180/400-Foot Aquifer Subbasin and the Monterey Subbasin within the Area of Impact; in the portions of those Subbasins outside the Area of Impact, it is the intent and purpose of this ordinance to require testing to ensure no extraction of water from the Deep Aquifers." | | Text revised accordingly. |

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| 9-123 | 9.3.6 | 18 | | 8/2/19 | Woodrow | re: "This study is anticipated to be completed by MCWRA over the next three years" - MCWRA proposed this study in the 2017 Recommendations report and made a presentation to the Board of Supervisors/Board of Directors, but no funding has been identified to support a study of the Deep Aquifers. | | Comment noted. |
| 9-124 | 9.3.6.3 | 19 | | 8/2/19 | Woodrow | re: "study of Deep Aquifer" -Such a study is not underway and funds have not been identified to support this study. | | Text revised to note that it will be completed when funding becomes |
| 9-125 | 9.4.4.3 | 32 | | 8/2/19 | Franklin | Supplemental wells are responsible for most pumping in CSIP zone for the reason specified here. Private wells in the CSIP area standby wells and are allowed to be pumped for specified circumstances. | | Comment noted. |
| 9-126 | 9.4.4.3 | 34 | | 8/2/19 | Franklin | Additional storage will also reduce the need to drill additional CSIP supplemental wells. Existing wells will be stressed less and last longer. Storage could also be used when SRDF or SVRP is unavailable, reducing the number of wells needed to meet demand on an emergency basis or peak demand period. | | Comment noted. |
| 9-127 | 9.4.4.3 | 34 | | 8/2/19 | Franklin | There are no wells classified as "Non-CSIP Supplemental" wells. What you are refering to are "standby" wells. As noted previously, " standby wells are private wells in the CSIP area that are allowed to be pupmped for specific reasons. Eliminating the use of of standby wells within CSIP would reduce pumping in zone 2b. Theis current demend which is being met by standby wells could be met thouugh optimizing effecencies in CSIP operation to better utilize diverted and/or treated water. | | These have been changed to 'standy wells'. |
| 9-128 | 9.4.4.4 | 41 | | 8/2/19 | Franklin | Some components of the existing SVRP must be shut down during low-demand wet weather months for annual maintenance. Any plan to operate SVRP during this period must consider the impact to opertions of winter maintance. | | Comment noted. |
| 9-129 | 9.4.4.8 | 57 | | 8/2/19 | Franklin | re: 3,000 hp: This is a very (very - huge) large pump moter. Is this a correct number? | | This number has been updated to 350 hp. |
| 9-130 | 9.4.4.10 | 66 | | 8/2/19 | Franklin | It is incorect that 27,900 acre-feet is a maximum annual SRDF diversion under Permit 21089. 27,900 acre-feet is the additional volume of storage found after the orinianl volume approved in License 7543 uas updated in the early 1990's with more accurate topographic data; an increase from 350,000 acre-feet to 377,900 acre-feet at Nacimiento Reservoir. Permit 21089 is a change in place of use of waters released from Nacimiento Reservoir, the maximum amount releassed annually not to exceed 180,000 acre-feet | | Comment noted. |
| 9-131 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | This GSP should not set forth any basin-wide commitments since the other subbasins within the Salinas Valley Groundwater Basin ("SVGB") have not benefited from any thorough analysis. Additional details are found in the letter. | | This GSP does not set forth any basin-wide commitments. Rather, this GSP includes a list of potential management actions, projects, and charges framework that will be negotiated, taking into consideration the effects on all subbasins. |
| 9-132 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | Water charges framework should require voter approval for funding of projects consistent with Proposition 218. Additional details are found in the letter. | | If Proposition 218 funding is used, you are correct in stating that it would require voter approval; however, other financing strategies will also be considered. |
| 9-133 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | All of the Priority Management Actions in Chapter 9 can be supported by the Coalition for further consideration and analysis to address seawater intrusion and overdraft in the 180/400 Subbasin. That said, these Priority Management Actions should be evaluated for their appropriateness for the other Subbasins of the SVGB only at the time the respective GSPs are prepared for these Subbasins. Additional details are found in the letter. | | All management actions and projects that potentially affect other subbasins will be evaluated with respect to subbasin impacts in the subbasin GSPs. |

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| 9-134 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | The Coalition strongly supports further consideration and analysis of Priority Management Action 3, Reservoir Reoperation. This Management Action should be evaluated not only for valley-wide benefits but also for environmental (fishery flow) benefits. Additional details are found in the letter. | | Assessment for environmental benefits was added explicitly. |
| 9-135 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | The Coalition supports further evaluation and analysis of the following Priority Projects in Chapter 9 in order to address seawater intrusion and overdraft in the 180/400 Subbasin: invasive species eradication; optimize Castroville Seawater Intrusion Project ("CSIP") operations; maximize existing Salinas River Diversion Facility ("SRDF") diversion; modify Monterey One Water recycled water plant; and expand area served by CSIP. Additional details are found in the letter. | | Comment noted. |
| 9-136 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | The Coalition supports further evaluation and analysis of the following Priority and Alternative Projects in Chapter 9 for consideration and potential implementation to address sustainability issues, if any, in the Subbasins other than the 180/400 Subbasin: winter releases (coupled with reservoir infrastructure upgrade) and 11043 Diversion Facilities Phase 1 and Phase II. Additional details are found in the letter. | | Comment noted. Further evaluation and analysis of these projects on other subbasins during the development of their subbasin GSPs. |
| 9-137 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | Any "new water" the Salinas Valley Water Project ("SVWP") generates as part of any related projects such as "optimize CSIP operations" and "maximize existing SRDF diversion" must be shown to be over that amount already produced by the previously approved SVWP and must not be double counted. The SVWP is currently funded by special assessments which must be taken into consideration when determining a Prop 218 vote for its expansion or optimization. Additional details are found in the letter. | | Comment noted. |
| 9-138 | 9 | | | 9/10/19 | Salinas Valley Water Coalition | Nitrate issues are already addressed through other governmental processes, and those processes should be referenced to avoid duplicative efforts. Additional details are found in the letter. | | Nitrate issues are no longer discussed in Ch |
| 9-139 | 9 | | | 9/9/2019 | LandWatch | The SVGBSA cannot rely on voluntary reductions to ensure sustainability because it does not have the information needed to set water prices that would limit water demand to the available supply. The SVGBGSA should<br>initially limit pumping to sustainable yield plus transitional allowance until new water supplies are firmly in place. When new water supplies are produced, the SVGBGSA should then limit pumping to sustainable yield plus those new water supplies. Additional explanatory text is included in the letter. | | Comment noted. This will be taken into consideration when developing and negotiating the details of the water charges framework. |
| 9-140 | 9 | | | 9/9/2019 | LandWatch | Transitional Allowances should be ramped down as quickly as feasible because there is no substantial evidence that a longer period is consistent with attaining sustainability by 2040. Additional explanatory text is included in the letter. | | Comment noted. |
| 9-141 | 9 | | | 9/9/2019 | LandWatch | The Transitional pumping surcharge should be based on the best estimate of future supplemental fees. Supplementary allowances and supplementary fees should not be implemented until new water is developed, priced, and allocated. Additional explanatory text is included in the letter. | | Comment noted. |
| 9-142 | 9 | | | 9/9/2019 | LandWatch | The Plan should not assume the Monterey County Water Resources Agency (MCWRA) will complete a Deep Aquifer study; MCWRA has no funding or authorization. Instead, SVGBGSA should fund and undertake the study because development of this information is part of SVGBGSA's mandate under SGMA. | | Comment noted. |

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| 9-143 | 9 | | | 9/9/2019 | LandWatch | Chapter 9 fails to provide the mandatory quantification of the mitigation of overdraft: it fails to quantify the benefits of Management Actions, assigns all of the Basin-wide Project benefits to the 180/400- Foot Aquifer Subbasin, double counts some benefits, and contains an arithmetic error. Additional explanatory text is included in the letter. | | Chapter 9 provides figures that estimate the location and amount of overdraft mitigation. In addition, Section 9.6 discusses mitigation of overdraft by projects and management actions. |
| 9-144 | 9 | | | 9/9/2019 | LandWatch | De minimis wells on fallowed land should be limited to those needed to support the residential use that is currently permitted by right in order not to interfere with general plan land use designations. Additional explanatory text is included in the letter. | | Comment noted. |
| 9-145 | 9 | | | 9/9/2019 | LandWatch | Agricultural Best Management Practices (BMP) provisions are redundant. Additional explanatory text is included in the letter. | | This has been deleted to avoid redundancy |
| 9-146 | 9.2 | | | 9/16/2019 | MCWD | RE: "The fee structures in each subbasin will be developed in accordance with all existing laws, judgements, and established water rights." We understand that SVBGSA will further revise this sentence to include existing water management agreements as part of the basis for developing fee structure and pumping allowances (discussion during the 7/10/19 meeting and MCWD's comment letter for Chapter 9 dated 8/1/19). We understand that SVBGSA has received the comment letter but have yet to incorporate those comments into Chapter 9. Additionally, it appears that this sentence and the associated paragraph discuss the fee structure as well as the sustainable pumping allowance. Therefore, the sentence should be revised to begin with "The fee structures and pumping allowance in each subbasin..." | | Water management agreements' and 'pumping allowances' was added to this sentence. |
| 9-147 | App 9-C | | | 9/16/2019 | MCWD | Appendix 9-C mentions that the estimated pumping rates of the barrier project is calculated based on an analytical solution published by Javandel and Tsang (1987). This analytical solution assumes a constant background gradient. However, it is highly unlikely that a constant background gradient will be maintained over the project lifetime, because once sea water intrusion is stopped water levels inland of the barrier will begin to decline as seawater stops recharging the basin. As recognized in the GSP, numerical modeling is needed to assess rates of groundwater extraction that will be required to halt saltwater intrusion. The SVIHM will likely not have the resolution or adequate calibration in proposed project area and cannot be used to model density driven flow. Therefore, the GSP should acknowledge that alternative models will likely be required to evaluate the proposed pumping barrier project. | | Comment noted. |
| 9-148 | App 9-C | | | 9/16/2019 | MCWD | Appendix 9-C estimates that the pumping barrier will have a total extraction volume of 30,000 AFY; 22,500 AFY of which would be extracted from the 180/400 Foot Aquifer Subbasin. Per discussion, it is understood that the remaining 7,500 AFY would be extracted from the Monterey Subbasin. | | Comment noted. |
| 9-149 | 9.6 | | | 9/16/2019 | MCWD | As stated in Chapter 6, "[t]he priority projects include more than ample supplies to mitigate existing overdraft, as presented in Table 9-5." As agreed during the meeting, SVBGSA should add a discussion that Section 9.6 is included per requirements of GSP Regulations (and cite relevant sections) and that mitigating the overdraft as estimated does not meet all of the basin's sustainable management criteria. Specifically, without a hydraulic barrier, seawater intrusion will continue to occur if groundwater extraction within the basin occurs at the identified sustainable yield. As SVBGSA stated in Chapter 6, "simply reducing pumping to within the sustainable yield is not proof of sustainably, which must be demonstrated via Sustainable Management Criteria (SMC)." | | Comment noted. |

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| 9-150 | 9.6 | | | 9/16/2019 | MCWD | Given the technical uncertainties of the proposed seawater intrusion pumping barrier project and the potential project cost that may not be approved by groundwater basin users, the GSP should provide an estimate of the sustainable yield of the 180/400 Foot Aquifer Subbasin (or the larger Salinas Valley Basin) without the pumping barrier project. This estimate is required under SGMA, which defines "Sustainable Yield" as "the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result." We understand that due to modeling limitations and data gaps, SVBGSA is reluctant to provide an estimate the "sustainable yield" of the basin when sustainable management criteria for seawater intrusion are considered. However, analytical methods, similar to those used to estimate extraction rate of the pumping barrier project, could be utilized to provide a preliminary estimate of the Sustainable Yield of the basin if the extraction barrier is not installed. For example, previous studies conducted on this topic by Geoscience (2013), Protective Elevations to Control Sea Water Intrusion in the Salinas Valley, estimated that approximately 60,000 AFY would be needed for the Salinas Valley Water Project to recharge the Salinas Valley Basin sufficiently to stop seawater intrusion. Alternatively, the GSP could compare and discuss the volume of water needed for an injection barrier, as presented in Appendix 9-C. | | Comment noted. |

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| 10-1 | 10 | 8/1/19 | Adcock | asked if the State Water Resource Control Board has an understanding there will be basins where there is GSA's and a separate water resource agency, and will it be accepted | indicated its relatively unique as having two agencies with overlapping authorities and understand that if there are activities in a basin, yes it will be accepted to reach sustainability. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-2 | 10 | 8/1/19 | Brennan | asked how is the Deep Aquifer study going be done financially | indicated as of today there is no agreement for GSA to take it over and is not committing the GSA to work on this | Question answered | 8-1-2019 Planning Committee Comments |
| 10-3 | 10 | 8/1/19 | Public Comment | Howard Franklin added the agency is not currently funded to complete the deep aquifer study, and asked Mr. Williams if he has a monitoring program in the deep aquifer and planning to expand it. | All the data currently being collected from the Deep Aquifer will be used in future asssessment of the Deep Aquifer conditions. There is no plan to expand the monitoring program until we assess what data are already availalbe. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-4 | 10 | 8/1/19 | McIntyre | Chair McIntyre asked if there is a proposal. Mr. Franklin indicated not until the funding is identified. Once finalized then a proposal will be developed. | Mr. Williams pointed out the tools are in place and have an approachable plan. All GSPs will end up with a flexible plan knowing they are difficult to implement but need to be negotiated. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-5 | 10 | 8/1/19 | McIntyre | asked in terms of implementing groundwater monitoring system what is the timeline | indicated his guess will be in two or three year | Question answered | 8-1-2019 Planning Committee Comments |
| 10-6 | 10 | 8/1/19 | Brennan | indicated a number of issues have been identified that need to be addressed one is USGS Historical Model that doesn't fall under a data gap definition. The big issue is the double counting issue and it isn't addressed as a data gap. | Clarified the issue of double counting by pointing out that historical pumping was estimated from the Water Resource Agency records of what is self-reported. The amount of diversions of the river were based on the State records. There are growers that report the same amount of water use to both groups. In our historical budget there is some amount of water that is therefore double counted as both groundwater pumping and river diversion. This double counting does not show up in the future water budget which is derived from the groundwater model. When the historical groundwater model is made available, it will avoid the double counting problem | Question answered | 8-1-2019 Planning Committee Comments |
| 10-7 | 10 | 8/1/19 | Brennan | asked what's the implication of having the historical model | clarified the Historical Model and the USGS Model will not have the double counting. Based on the best data and tools | Question answered | 8-1-2019 Planning Committee Comments |
| 10-8 | 10 | 8/1/19 | McIntyre | added for clarification regarding the data that was used from the county and state needs to be stated in Chapter 6; Need edits in chapter 6 that clarifies the source of double counting and it will be irrelavent once the Historical Model is in place. | | Text added to Chapter 6 | 8-1-2019 Planning Committee Comments |
| 10-9 | 10 | 8/1/19 | Public Comment | Heather Lukacs agreed that the double counting does need to be more clarified on Chapter 6. With basic links or refences that were used for that data. | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-10 | 10 | 8/1/19 | Public Comment | Howard Franklin: two questions one on the model and one on the cost. It should be noted some stakeholders are already paying a portion of the cost to the agency. Moving forward integrating this data collection program, monitoring program with the agency programs will be key that the stakeholders are not paying twice for the same thing. The model, currently the agency has provided the USGS data to update has provided the USGS will be the historical model of spring 2020, the agency has made a commitment that the USGS will be updated yearly. | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-11 | 10 | 8/1/19 | Brennan | asked the fee collected in water charges framework will also be used in the projects | indicated yes, details need to be worked with the Board and Legal counsel. His preference, first tier is money that is used in operational charges the projects are funded by higher tiers. Higher charges raise more money per acre foot. Pumping that is outside the sustainable yield that goes to the projects | Question answered | 8-1-2019 Planning Committee Comments |
| 10-12 | 10 | 8/1/19 | Brennan | in terms of the cost that will be refined, to address the duplicated counting data. Clarify that cost will not be duplicated. | | Sentences added to Section 10.8 clarifying that no duplicate fees will be assessed | 8-1-2019 Planning Committee Comments |
| 10-13 | 10 | 8/1/19 | Adcock/Peterson | Adcock asked is January 31, 2022 the deadline for the refining projects and agreeing on funding details; asked if the State will be holding the date. Mr. Petersen added once the plan is updated the date might change until 2025. | indicated it should be January 2023; indicated if more time would be needed the State will likely allow as long as the SVBGSA is showing substantial progress. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-14 | 10 | 8/1/19 | Virsik | Chapter 10 of the 180-400 CSIP modification projects, shouldn't there be more specific of those projects, those cost for implementation. Chapter 6 says this is what needs to be done. Potentially money numbers more specific the amount of water changes how will it affect. For that subset it should be more define. For the State to see how the process will work. On the water charges framework is the first tier, how does the first-tier work for CSIP? | Indicated that the first tier costs will need to account for fees already paid into CSIP | Question answered | 8-1-2019 Planning Committee Comments |
| 10-15 | 10 | 8/1/19 | Girard | commented CSIP is an agency project. A decision will be made if GSA will take ownership of any expansion of CSIP. Or if it's going to be a project of the agency to expand CSIP. If they keep ownership of that expansion project how they finance will be CSIP issue not GSA's. CSIP may choose to finance it based on benefit assessment. GSA doesn't own the means of production. He added there is several options of financing. | | Comment noted | 8-1-2019 Planning Committee Comments |

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| 10-16 | 10 | 8/1/19 | McIntyre | added facilitated process will accomplish funding | indicated that is correct the facilitated process will show how all is incorporated, with a timeframe of three-years. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-17 | 10 | 8/1/19 | Brennan | asked Mr. Girard if the water charges framework will require protest votes and if other funding mechanisms will be needed. | Mr. Girard indicated that is correct due to regulatory fees. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-18 | 10 | 8/1/19 | McIntyre | added this needs to be as flexible as possible due to all the pro and cons. Mr. Girard added who pays for an expansion of CSIP is to be determined in the future. | agreed with Chair McIntyre indicated we do have options and look for funding mechanisms and emphasize funding options | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-19 | 10 | 8/1/19 | Brennan | added water charges framework is a big selling point of the funding | indicated it is appealing with the practical aspect, however flexibility is needed for funding purposes | Question answered | 8-1-2019 Planning Committee Comments |
| 10-20 | 10 | 8/1/19 | Brennan | asked the water charges framework can be funded with an extraction fee or some other kind of fee. Is that where the option is | Yes, the option is to fund with an extraction fee, a flat fee, a land-based fee, or some other type of fee | Question answered | 8-1-2019 Planning Committee Comments |
| 10-21 | 10 | 8/1/19 | Peterson | answered water charges framework isn't been excluded. The water charges framework remains an option along with other more traditional funding options, including protest votes or 218's. It might not work in all sub-basins it is important to understand that Chapter 9 will have the projects. The biggest cost and funding needed is on the 180-400. | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-22 | 10 | 8/1/19 | Brennan | indicated the discussion needs to be expanded to clarify, because at this point this is the only option | Offerend to look at test and recognize other options for funding open | Text revised | 8-1-2019 Planning Committee Comments |
| 10-23 | 10 | 8/1/19 | Girard | added GSA has the ability to require pumpers to pay for a measuring device on the well. GSA doesn't have to pay for it the owners will. Using water charges gives you data. In his opinion, two things do you do that for the purpose of data or to raise revenue Greenfield or combination of both. Recognizing the revenue you raise has to be committed to the program for funding. There is a number of limitations and GSA Board needs to understand there is a variety of ways to make revenue before making a plan to raise revenue. Menu of options for raising revenue. | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-24 | 10 | 8/1/19 | McHatten/Girard/ Adcock | McHatten requested clarification on the 218 process what does it look like and what does the process include. Will it include Gonzales, Soledad and King City, since there isn't enough people or benefit assessment district? Is it 66% of people? the Board of Directors need to know all the options in implementing a fees, assessments or tax. | Mr. Girard indicated a 218 is majority protest for a vote for a property related fee, the 2/3 has to do with a tax fee. Director Adcock added in a plan once decided the State would understand. Mr. Girard said yes, | Question answered | 8-1-2019 Planning Committee Comments |
| 10-25 | 10 | 8/1/19 | Public Comment | Heather Lukacs commented, the biggest issue for her because projects are so uncertain. A measure of allowable pumping for or sustainable yield that doesn't assume new projects that is needed to know for the whole Valley. Chair McIntyre indicted that would be different for each sub-basin. She indicated then for each sub-basin for the public to see the numbers and avoid political issues. Her concern is seawater intrusion. Chair McIntyre indicated that was provided already. | indicated the only thing he doesn't have is if pumping would be cut off completely on the 180-400 would it reverse the seawater intrusion, will it push it back and what will it look like. He also added, seawater intrusion you end up with two time periods getting to sustainability and maintain it. Getting there is difficult you need to raise water levels, sustaining it isn't so difficult since you just need to maintain it there. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-26 | 10 | 8/1/19 | Brennan | asked the 7% percent reduction on the 180-400 that doesn't include sweater intrusion | indicated no, The 7% cut only balances the water budget. He added he will ask DWR to clarify what is the definition of the sustainable yield number. There is a strict reading of the regulations saying the sustainable yield doesn't get any sweater intrusion. | Waiting for response from DWR | 8-1-2019 Planning Committee Comments |
| 10-27 | 10 | 8/1/19 | Brennan | Are we looking into interim to sustainability or maintain sustainability? It becomes a complicated problem due to no guidance from DWR. | indicated to Heather Lukacs point there is a question of what sorts of cutbacks might be necessary if there weren't no projects, what might our future in 20 years would look like. | Question answered | 8-1-2019 Planning Committee Comments |
| 10-28 | 10 | 8/1/19 | Lukacs/Peterson | Heather Lukacs also added in terms to interim GSA is committed to holding the seawater intrusion line and will not include it through pumping but through projects. The projects won't be implemented in several years and it's a disconnect. Mr. Petersen added it's important to remember we have 20 years to get to sustainability because it acknowledges how much effort it will require to get there | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-29 | 10 | 8/1/19 | Public Comment | Walter commented doesn't see in the plan the development of Deep Aquifer study. Aseked if SVBGSA plans to take over or develop it. What will happen to the 180-400 in the interim period? | indicated GSA is supporting the extension of the emergency ordinance until there is a better understating of the deeper aquifer. At the same time, it's understood the farmers can't be cut off of a water source | Question answered | 8-1-2019 Planning Committee Comments |
| 10-30 | 10 | 8/1/19 | Public Comment | Walter added there is no 180 foot wells in the area and no replacement opportunities. Walter asked how it is going to be handled in the interim period. | D. Williams recognized the interim period is a problem | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-31 | 10 | 8/1/19 | Peterson | added it's needed categorize the sub-basin as soon as possible to have the data to make a good decision | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-32 | 10 | 8/1/19 | Public Comment | Patrick asked will you be categorizing a replace well not a deeper well | G. Petersen indicated the only deep well allowed is if you have a well that is in the 400 and it goes bad and decide to replace it there is an agreement that if you take it out of commission and replace it in accordance with the requirement. Drinking portable water is acceptable as well. Franklin indicated the agency will use the best data available to determine if the well will be in the deep aquifer and verify based on the logs | Question answered | 8-1-2019 Planning Committee Comments |

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| 10-33 | 10 | 8/1/19 | Peterson | Petersen commented the $1,200,000 a year is for the entire Valley. And this GSP is for the 180-400? Is it needed to say this much comes from this fee and this from this fee? Mr. Girard replied yes, if portion of the fee that only benefits the 180-400. Providing it can be identified for other benefits the sub-basins, forebay or upper valley | D. Williams indicated to look at the table and see if this is supporting the 180-400 or is it a valley wide implementation | Tables modified to differentiate between Valley-Wide and Subbasin costs | 8-1-2019 Planning Committee Comments |
| 10-34 | 10 | 8/1/19 | Brennan | asked this implementation fee does not include developing the other GSP yet the $1,200,000 million a year is collected to the GSA. | D. Williams clarified yes it goes to GSA not to develop the GSP. G. Petersen indicated because of matching funds our grants require 50% matching funds. All cost that goes to operating the GSA are used as the matching funds on the grant to cover our 50%. DW encouraged the Committee and public to look over the list and provide suggestions. He stated this is the implementation cost not the project cost. | Cost tables now divided into Subbasin and Valley-Wide costs | 8-1-2019 Planning Committee Comments |
| 10-35 | 10 | 8/1/19 | Public Comment | Tom Virsik on the cost fees as Director Brennan pointed out the regulatory fee of $1,200,000. His impression was for regulatory fee for those who are not in 180-400 and will get you to the others end in the GSP's. If the message is, we need more money to finish the GSP's you will have fight. Regarding the Chapter and presentation policy issues. There are two one is weather the Board should be focused on the minimum of what DWR wants under any circumstances or should it be focused on something other than that. In particular in the interim period one of the best management practices, documents from DWR that explains the regulatory content and shows examples on a metric this is a way the plans can be implemented. The Board policy decision is if they will go with it and that's with seawater intrusion particular. | | The cost tables do not include the costs of developing additional GSPs | 8-1-2019 Planning Committee Comments |
| 10-36 | 10 | 8/1/19 | Public Comment | the agency will move forward with revising GEMS ordinance with data collection addressing the boundaries under the GSA | D. Williams asked Mr. Franklin to write /email him directly with details of this information to make the appropriate changes | Question answered | 8-1-2019 Planning Committee Comments |
| 10-37 | 10 | 8/1/19 | Public Comment | Mr. Franklin continued with the groundwater level seen it was based under CASGEM is a small subset of the agency in the monitoring program. To participate in the CASGEM you need full disclosure and redacted information. | D. Williams indicated he wasn't sure if that was needed for SGMA but would look into it. | Requirements for SGMA are similar to CASGEM requirements | 8-1-2019 Planning Committee Comments |
| 10-38 | 10 | 8/1/19 | Public Comment | Heather Lukacs asked for clarification under communication and outreach related to the monitoring in a well how is the GSA tracking the groundwater levels or how the public can obtain that information | D. Williams indicted with transparency of the data that is been used and obtained it will be released in the next Board meeting next week | Data portal is now active | 8-1-2019 Planning Committee Comments |
| 10-39 | 10 | 8/1/19 | Peterson | added this is a continued effort to obtain as much as information as legally as possible to provide to the public | | Comment noted | 8-1-2019 Planning Committee Comments |
| 10-40 | 10 | 8/15/19 | Groot / Ward | expressed concerns about meeting the three-year water charges framework. | | Comment noted | 08-15-19 AC minutes |
| 10-41 | 10 | 8/15/19 | Girard | Girard responded that generally, absent an allegation of illegality, the Agency would not be prohibited from going forward with the Plan unless the plaintiff received a preliminary injunction | D. Williams believes the legislation includes a tolling provision in the event of litigation. | Question answered | 08-15-19 AC minutes |
| 10-42 | 10 | 8/15/19 | Girard | Girard stated that the DWR's ability to declare our Basin probationary would be tolled by litigation preventing filing of the Plan. | | Comment noted | 08-15-19 AC minutes |
| 10-43 | 10 | 8/15/19 | Johnson | stated that Chevon would like an outline for an appropriate well test for the upper Valley so that they may provide the Agency with the information they need. He referenced Section 10.4.4, Water Quality Monitoring Network and asked whether the GSA would expand the scope of water systems in the fee structure. | D. Williams stated the negotiations would begin with seeking financial contributions for all non de minimis systems and could include non-community water systems. | Outline has been provided to Chevron | 08-15-19 AC minutes |
| 10-44 | 10 | 8/15/19 | Wolgamott | expressed surprise at the increase in the fee from $1.2 million to $2.1 million | D. WIlliams stated that a fee structure for operational costs is needed going forward, including new commitments that were not contemplated in the $1.2 million such as the USGS model and expanding monitoring systems and gets the projects going. There will be costs on top of that. | Question answered | 08-15-19 AC minutes |
| 10-45 | 10 | 8/15/19 | Peterson | stated that some of these costs may be covered by grants. The cost framework is being approved as required, not the fees | D. Williams stated the Plan estimates what it would cost to implement the Plan, and we did not know what the costs were until the Plan was developed. By approving the Plan, we are saying we are committed to finding the funding | Question answered | 08-15-19 AC minutes |
| 10-46 | 10 | 8/15/19 | Adcock | | In response to Tom Adcock, D. Williams stated that the additional costs may not be spread throughout the Basin; valley-wide project costs would be spread throughout the Basin | Question answered | 08-15-19 AC minutes |
| 10-47 | 10 | 8/15/19 | Virsik | Tom Virsik stated that flexibility would not be found in the water charges framework. Mr. Williams' comments are good but not written into the Plan. He questioned how the charges framework concept can work in the most critical area where pumping needs to stop. His memory is the $1.2 million administrative fee was to include preparation for other parts of the Basin. It lays the foundation for litigation by people who believe they would pay twice. | | People will not pay twice. Either pumpers pay for the water they pump, or they pay for the water they import. | 08-15-19 AC minutes |
| 10-48 | 10 | 8/15/19 | Franklin | stated it is apparent that more education is needed on how water is used in the 180/400 sub-basin and options for water demands and developing fees | | Comment noted | 08-15-19 AC minutes |
| 10-49 | 10 | 8/15/19 | Lukacs | asked how the Agency could work with environmental health and agencies that collect water quality data on obtaining information when new data is available to inform groundwater decisions | SVBGSA decision was to set the number of groundwater quality monitoring wells and only change the monitoring network every 5 years | Question answered | 08-15-19 AC minutes |

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| 10-50 | 10 | 8/15/19 | Tynan | | In response to Eric Tynan, D. Williams stated that seawater intrusion will be impacted by our approach to the deep aquifer and the approach taken to promote the interim ordinance that allows replacement wells in the deep aquifer until we understand how much pumping it can support. G. Petersen confirmed that he is having discussions with other GSAs. Mr. Johnson agreed it would be valuable to compare critical data gaps. | Question answered | 08-15-19 AC minutes |
| 10-51 | 10 | 8/15/19 | Amezquita | Horacio Amezquita asked what the GSA will do if systems' nitrates continue going up due to overdraft. | D. Williams responded that the GSA will look at overdrafting, but is not taking on the role of providing drinking quality water to everyone in the Valley. Quality has a sustainability aspect, but there are other programs to address this issue. | Question answered | 08-15-19 AC minutes |
| 10-52 | 10 | 9/11/19 | Virsik | First, the cost estimate of implementation over the next five years rose over $500,000 between the two drafts, with some $300,000 of the increase in the "refine water charges framework. Additional explanatory information for the comment is included in the letter. | | Comment noted. | Chapter 10 and 11, Virsik.pdf |
| 10-53 | 10 | 9/11/19 | Virsik | A cursory review of Chapter 9's recommendations show that, by design, numerous of the management actions and projects benefit the 180/400, thus the cost of "refining" those actions and projects should also be allocated to that sub basin, rather than shared (in a yet unknown ratio) among all. Additional explanatory information for the comment is included in the letter. | | Comment noted. | Chapter 10 and 11, Virsik.pdf |
| 10-54 | 10.3 | 9/16/19 | EKI Environment & Water | The following additional data gaps and analyses should be identified Chapter 10:<br>Seawater intrusion cross-sections (Chapter 5 comments dated 18 April 2019) - Per GSP Regulations Section 354.16 (c), a GSP should provide "seawater intrusion conditions in the basin, including maps and cross sections of the seawater intrusion front for each principal aquifer". The GSP should commit to development of such cross-sections, once data gaps have been filled. These data are needed to inform placement of seawater intrusion barrier wells.<br>Groundwater extraction within individual aquifers (Chapter 6 comments dated 2 July 2019) - We suggest that SVBGSA collect information needed to identify groundwater extraction from each principal aquifer, to allow the development of a water budget for each aquifer. As discussed and agreed upon during the 7/2/19 meeting, this data gap may be extremely difficult to fill and water level data/gradients in each aquifer may serve as a proxy for evaluating the effectiveness of projects and management actions to address saltwater intrusion within each of these zones. However, given the uncertainties associated with groundwater recharge and groundwater levels within the Deep Aquifer (consistent with data gaps identified in Section 10.3), quantification of all groundwater extraction from the Deep Aquifer, should be clearly identified as a Data Gap that will be filled as under the GSP. | | The seawater intrusion cross-section is included as Figure 5-25. Some of the data gaps in the Deep Aquifers will likely be filled in response to Monterey County Urgency Ordinance 5302. The SVBGSA will support MCWRA's efforts to fill the Deep Aquifer data gaps. | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 |
| 10-55 | 10.3 | 9/16/19 | EKI Environment & Water | We further recommend that the GSP identify actions that will be implemented to allow:<br>Development of Sustainable Management Criteria for the deep aquifer; and Development of Sustainable Management Criteria that consider project implementation. For example, alternative groundwater elevation Sustainable Management Criteria will be required near the coast if a pumping barrier is constructed. | | SMC were developed for all principal aquifers that have sufficient data. Where insufficient data exists, SMCs will be developed when data gaps are filled, such as for the Deep Aquifers. The SMCs are developed based on current conditions and the projects and management actions are intended to address them. DWR does not require SMCs for after project implementation, but those could be considered during GSP updates. | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 |
| 10-56 | 10.6-10.7 | 9/16/19 | EKI Environment & Water | The GSP should acknowledge that alternative models will likely be required to evaluate certain projects, such as the pumping barrier or injection wells, because the SVIHM does not have the resolution or adequate calibration in proposed project areas and cannot model density driven flow.<br>Further, The GSP states that SVIHM model will be available for use within one year. Per discussion during the meeting, we understand that within one year, the SVIHM model will be released for public use by USGS. Additionally, we understand that the model will be made publicly available consistent with GSP Regulations Section 352.4 (f)(3), "[g]roundwater and surface water models developed in support of a Plan after the effective date of these regulations shall consist of public domain open-source software." | | A note that alternative models may be used to complement the SVIHM was added. | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 |
| 10-57 | | 9/16/19 | EKI Environment & Water | MCWD is considering applying for Proposition 68 Grant (SGM Grant Round 3) for Monterey Subbasin. We understand that SVBGSA is also planning to apply for this grant for other basins under its jurisdiction. As agreed, both parties will coordinate and support each other in grant funding processes. | | Comment noted. | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 |

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| 10-58 | 10 | 10/7/19 | LandWatch | 1. The proposed implementation fails to recognize the urgency required for action to address the critically overdrafted 180/400 Foot Aquifer Subbasin. (The issue is further discussed in the letter.) | | Refinement of the projects and actions will occur simultaneously with refinement of the funding mechanism that supports the projects and actions. This will take time to complete and will be undertaken immediately following submission of the GSP. For the projects and management actions that are dependent on not only the 180/400, but other subbasins, refinement will occur as the other GSPs are being developed and implementation will begin as soon as possible. Individual SMCs will be met simultaneously. | LandWatchComments_GSPChapter 10.pdf |
| 22190 | 10 | 10/7/19 | LandWatch | The SVGBGSA should impose pumping restrictions pending start-up of new water projects in order to restore and maintain the protective groundwater elevations needed to attain the adopted minimum threshold for seawater intrusion. | | Comment noted. | LandWatchComments_GSPChapter 10.pdf |
| 10-60 | 10 | 10/7/19 | LandWatch | 2. Chapter 10 does not disclose realistic project start-up projections. (The issue is further discussed in the letter.) | | Thank you for your comment noting that implementation should not begin before all subbasin plans are complete. This is why Chapter 10 notes that project refinement and negotiation will occur from 2020-2023 and project implementation will begin in 2023. | LandWatchComments_GSPChapter 10.pdf |
| 10-61 | 10 | 10/7/19 | LandWatch | 3. Unlike projects, pumping restrictions are feasible in the very near term. (The issue is further discussed in the letter.) | | The SVBGSA will evaluate pumping restrictions once the Salinas Valley Integrated Hydrologic Model becomes available. It is duplicative of efforts and not cost-effective to do so before it is available. | LandWatchComments_GSPChapter 10.pdf |
| 10-62 | 10 | 10/7/19 | LandWatch | 4. Unlike projects, pumping restrictions do not require extensive additional data acquisition. (The issue is further discussed in the letter.) | | Having access to the SVIHM will enable comparison between pumping restrictions and other projects and management actions, and therefore will be evaluated when the SVIHM is available. | LandWatchComments_GSPChapter 10.pdf |

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| 11-1 | 10 | 9/11/19 | Virsik | The head/footers of Appendix 11E identifying it as a no-longer accurate early draft that should be understood as a legacy staff document, not authorized by Board action. Additional explanatory information for the comment is included in the letter. | | Appendix 11E has been updated. | Chapter 10 and 11, Virsik.pdf |

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| W-1 | All | | | | 10/31/2019 | Virsik | Grammatical edits - see letter | | Relevant edits were added. | Virsik_GSPComment31Oct2019 |
| W-2 | All | | | | 11/14/19 | Virsik | Clarify subbasins under SVBGSA (see letter for specific details) | | This has been double checked and any consistencies corrected. | Virsik_GSPComment14Nov2019 |
| W-3 | All | | | | 11/14/19 | Virsik | The Basin or Sub-basin Counts are Misleading and Confusing (see letter for specific details) | | Thank you for the specific examples. The relevant ones have been fixed. | Virsik_GSPComment14Nov2019 |
| W-4 | All | | | | 11/14/19 | Virsik | The GSP is Premised on a Demonstrably False Binary Distinction Between the 180/400 and "Valley-wide" (see letter for specific details) | | This GSP covers the 180/400-Foot Aquifer Subbasin, which is a subbasin of the Salinas Valley Basin. In accordance with the approach approved by the SVBGSA Board of Directors, all subbasins in the Salinas Valley will be managed in an integrated fashion. Therefore, it is important to include actions that primarily benefit the 180/400 and those that are part of a Valley-wide sustainability effort. SGMA does not require full details for projects outside of the GSP subbasin, but it is important to highlight other projects in the Valley and those that require a Valley-wide effort. | Virsik_GSPComment14Nov2019 |
| W-5 | All | | | | 11/14/19 | Virsik | Certain Important Tables are Facially Confusing/Impenetrable | | The arithmetic has been double checked and does add up. | Virsik_GSPComment14Nov2019 |
| W-6 | All | | | | 11/14/19 | Virsik | The Water Budgets Tacitly Admit They Do Not Comply with SGMA Standards | | The water budgets are based on best available data and tools, and therefore comply with SGMA standards. As noted throughout the GSP process, the GSP acknowledges the water budgets have some uncertainty which will be reduced as additional data and tools become available. | Virsik_GSPComment14Nov2019 |
| W-7 | All | | | | 11/14/19 | Virsik | The Water Budgets Analyses Have Inexplicably Changed From the Prior Iteration | | The changes were made in response to the chapter's public review process. Discussing the numbers and calculations used is part of the iterative process and shows that the GSP preparation is responsive. | Virsik_GSPComment14Nov2019 |
| W-8 | All | | | | 11/14/19 | Virsik | GSP Ignores the Tool of a Management Area; letter highlights that CSIP could be a management area | | You are correct - the GSA is not obligated to create a management area for CSIP and thus far they have not decided to designate it as such; however, the option remains if they so choose. | Virsik_GSPComment14Nov2019 |

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| W-9 | 9.3.5.8 | | | | 10/8/2019 | Adin Holdings | The "mandatory pumping reduction program" should be explained and the activities covered by the mentioned budget should be listed. | | As explained in Section 9.3.5, mandatory pumping reductions in the CSIP area are implemented only after a group of projects that provide alternative sources of water to the CSIP area are completed. The budget item in Section 9.3.5.8 will be used to conduct a study and deliberations on how to design and implement the program. | AH commentary on Ch 9 10.8.2019.pdf |
| W-10 | 9.4 | | | | 10/8/2019 | Adin Holdings | The time-line of projects currently being pursued by other agencies and their integration with the preferred projects should be clearly explained in this GSP. | | The existing efforts by other agencies are explained under each specific project. | AH commentary on Ch 9 10.8.2019.pdf |
| W-11 | 9.4.1 | | | | 10/8/2019 | Adin Holdings | What about water conservation: Is looking for substituting types of plants/products that evapotranspirate at high rate or consume much water with more effective ones totally out of question? A close issue to this is water savings by controlling "exporting water" so called also "virtual water" through export of agricultural products that contain large percentage of water. | | The GSA cannot instruct private entities what types of plants to grow. Rather, private entities may choose to switch crops based on the availability or cost of water supplies. | AH commentary on Ch 9 10.8.2019.pdf |
| W-12 | 9.4.1.1 | | | | 10/8/2019 | Adin Holdings | The offset depends on the water source. Reclaimed wastewater and desalinated seawater (remineralized) could be used to offset use of groundwater. Using river water and rainwater harvesting to offset use of groundwater requires careful water balance calculations considering potential natural recharge by these waters. | | Agreed. Careful water balance calculations will be conducted prior to implementation. | AH commentary on Ch 9 10.8.2019.pdf |
| W-13 | 9.4.1.2 | | | | 10/8/2019 | Adin Holdings | In view of the continuously increasing demand for food, land availability and cost is expected to increase. | | Costs will be taken into consideration and programs will be adjusted over time, taking into account factors such as the change in price of land. | AH commentary on Ch 9 10.8.2019.pdf |
| W-14 | 9.4.1.2 | | | | 10/8/2019 | Adin Holdings | Dual-purpose wells should also be considered for underground storage or for aquifers where the water table rises enough seasonally or due to unpredictable climate changes. "Dual-purpose well" is a well intended both for injection and recovery. | | Construction of existing wells will be examined prior to construction of new injection wells to see whether existing wells could be turned into dual-purpose wells. | AH commentary on Ch 9 10.8.2019.pdf |
| W-15 | 9.4.1.3 | | | | 10/8/2019 | Adin Holdings | A highly effective method for reducing water loss by evaporation, already widely implemented in Salinas Valley, is transformation of traditionally used irrigation methods such as flood or furrow irrigation to irrigation with low-rate applicators, e.g. sprinkler or drip irrigation systems. Other BMPs in agriculture should be explored. | | Agricultural BMPs are included in 9.3.3 | AH commentary on Ch 9 10.8.2019.pdf |
| W-16 | 9.4.1.4 | | | | 10/8/2019 | Adin Holdings | Dual-purpose wells may also be worth consideration here (see comment above). Energy demand and cost are particularly critical in this kind of project, and should be presented. Injection - The possible water resources should be listed. Extraction - Seawater might have no use other than discharge to the sea. | | Energy demand and cost will be taken into consideration. The water resources depend on the exact location of the wells, which will be assessed in the project design phase. | AH commentary on Ch 9 10.8.2019.pdf |
| W-17 | 9.4.2.2 | | | | 10/8/2019 | Adin Holdings | It is not enough to present only the merits. The shortcomings of each proposed project should be equally presented. A detailed comparison of the alternatives should be presented. | | The consideration and comparison of projects and alternatives will include both benefits and shortcomings. | AH commentary on Ch 9 10.8.2019.pdf |
| W-18 | 9.4.3 | | | | 10/8/2019 | Adin Holdings | A true holistic approach demands presenting the integrated GSP at basin level. | | Agreed. That is why the SVBGSA will continue to revise and add to the Integrated Sustainability Plan as the GSPs for other subbasins are developed. | AH commentary on Ch 9 10.8.2019.pdf |

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| W-19 | 9.4.3 | | | | 10/8/2019 | Adin Holdings | The methodology of assessment should be presented in detail. | | The complete list of projects are in Appendix 9B. The list was reduced to what the SVBGSA believed are the most cost efficient and likely successful projects. If there is a public desire, we can add any projects in this Appendix to our list of preferred projects. | AH commentary on Ch 9 10.8.2019.pdf |
| W-20 | 9.4.4.1 | | | | 10/8/2019 | Adin Holdings | The full list of projects and the list of preferred projects should be revisited occasionally as more information is gathered. Reassessment with new information may change projects' preferences. | | The projects will be revisited as more information is gathered, more detailed assessments done, and the other subbasin plans completed. | AH commentary on Ch 9 10.8.2019.pdf |
| W-21 | 9.4.4.2 | | | | 10/8/2019 | Adin Holdings | Which chemical treatment? How will it affect groundwater and runoff to Salinas river? Using chemicals for invasive species eradication is not a sustainable solution and should be reconsidered or minimized, requiring careful environmental impact assessment. This may take a while. What will be done in the cleared areas? Could cleared areas be used as recharge basins or storage reservoirs? Could agriculture be a future use? | | EPA- and RWQCB-approved aquatic formulations for use near open water is used for herbicide spraying (glyphosphate or imazapyr). There are no effects from this approved method - application is done when no surface water is present in/near treatment areas. Using chemicals should require careful environmental impact assessment. In cleared areas, natural recruitment of native forbs and shrubs are allowed to come back into treatment areas. Cleared areas can be used for recharge, but they are primarily in the active flood channel and not on agricultural areas or out of the active channel so storage would be limited. Cleared areas provide benefit primarily by reducing roughness in the channel. Agriculture cannot be a future use because arundo populations are limited to the active flood channel and farm levee banks and typcially would not be allowed to be converted to agricultural use according to laws. | AH commentary on Ch 9 10.8.2019.pdf |
| W-22 | 9.4.4.2 | | | | 10/8/2019 | Adin Holdings | For Invasive Species Eradication, a direct measure of success could be river flow before and after cleared areas and groundwater elevation measurements in the large cleared areas. | | Comment noted. | AH commentary on Ch 9 10.8.2019.pdf |
| W-23 | 9.4.4.3 | | | | 10/8/2019 | Adin Holdings | For Optimize CSIP Operations, leakage is not mentioned. Leak detection and repair should be included and priced. Increasing pressure will increase leakage and require more leakage detection and repair. Requirements for the ongoing monitoring of the system should include leak detection. Advanced technologies for this are readily available. | | Comment noted. We will consider CSIP maintnance when looking at CSIP optimization and improvements. | AH commentary on Ch 9 10.8.2019.pdf |
| W-24 | 9.4.4.4 | | | | 10/8/2019 | Adin Holdings | Is there a plan for using these effluents for injection to the aquifer in the hydraulic barrier project? | | If injection is chosen as the preferred the hydraulic barrier, the least expensive source of water wil be chosen. Effluent will be considered as one source of injection water. | AH commentary on Ch 9 10.8.2019.pdf |
| W-25 | 9.4.4.4 | | | | 10/8/2019 | Adin Holdings | An effort should be made to treat and reuse all wastewater during all seasons. | | Comment noted | AH commentary on Ch 9 10.8.2019.pdf |

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| W-26 | 9.4.4.4 | | | | 10/8/2019 | Adin Holdings | 1. The final title 22 Engineering Report April 2019 (Revised) of Pure Water Monterey states (p.28) that the recycled water supply for agriculture here "is subject to (1) Water Recycling Requirements issued to MRWPCA (Order 94-82) and (2) Recycled Water Used Requirements (Order No. 95-52) issued to MCWRA by the Central Coast Regional Water Quality Control Board." What is the status of meeting those requirements?<br>2. The recycled water is purified to the standard of drinking water quality with technologies that altogether produce excellent water for that purpose. Irrigation for most products would not need such a high level of purification, which might end up with higher costs of water for the farmers than necessary. If not done already, other alternatives for that portion of the recycled water intended for irrigation can be considered. (see letter for remainder of comment) | | If recycled water is used for any project, the level of treatment will be appropriate for the intended use. | AH commentary on Ch 9 10.8.2019.pdf |
| W-27 | 9.4.4.4 - 9.4.4.6 | | | | 10/8/2019 | Adin Holdings | These projects are highly interdependent and should be planned and managed as one project. | | Agreed. The plan is to develop all projects and actions as a single program. | AH commentary on Ch 9 10.8.2019.pdf |
| W-28 | 9.4.4.7 | | | | 10/8/2019 | Adin Holdings | This option of using extracted water seems promising and sustainable, yet depends on the sustainability of the barrier project as a whole. | | Comment noted | AH commentary on Ch 9 10.8.2019.pdf |
| W-29 | 9.4.4.7 | | | | 10/8/2019 | Adin Holdings | Could there be a situation where a good rainy season will drive the seawater intrusion front back enough that pumping of sweet water could be of interest? If and where such a case exists, dualpurpose wells could perhaps be of value. | | To date, we have not seent high rainfall years reverse seawater intrusion | AH commentary on Ch 9 10.8.2019.pdf |
| W-30 | 9.4.4.7 | | | | 10/8/2019 | Adin Holdings | By that time several other projects are planned to be completed. What will be the need then? A consolidated planning on a timeline of the water balance is missing. | | Projects will only be initiated as needed. SVBGSA will adopt an adaptive management approach to see how each project is working, and to assess whether additional projects are necessary. | AH commentary on Ch 9 10.8.2019.pdf |
| W-31 | 9.4.4.7 | | | | 10/8/2019 | Adin Holdings | Missing: Impact on groundwater - Either extraction or injection will affect groundwater. This project is the only one with no Estimated Groundwater Level Benefit graphs. | | These graphs will be developed when appropriate tools are developed. | AH commentary on Ch 9 10.8.2019.pdf |
| W-32 | 9.4.4.8 | | | | 10/8/2019 | Adin Holdings | Could dual-pumping serve here (Preferred Project 7)? | | This is a river diversion project, and dual-purpose wells are likely not appropriate. | AH commentary on Ch 9 10.8.2019.pdf |
| W-33 | 9.4.4.9 | | | | 10/8/2019 | Adin Holdings | This option seems promising and sustainable. | | Comment noted. | AH commentary on Ch 9 10.8.2019.pdf |
| W-34 | 9.4.5.1 | | | | 10/8/2019 | Adin Holdings | The desal plants (Alternative Project 1) are close to the coast so there should be no specific problem of disposing the brine. | | Comment noted. | AH commentary on Ch 9 10.8.2019.pdf |
| W-35 | 9.5 | | | | 10/8/2019 | Adin Holdings | Why are these not part of the GSP? The benefit of these projects could be similar to and higher than the programs included in the GSP. Is there more than one GSP? | | The benefits from these activities are difficult to rely on or quantify. The SVBGSA supports these activities, but cannot rely on them to achieve sustainability. | AH commentary on Ch 9 10.8.2019.pdf |
| W-36 | 9.5.1 | | | | 10/8/2019 | Adin Holdings | Important: Why not plan and calculate the benefit of agricultural BMPs and compare them to the projects above mentioned, perhaps they will be found more economic and more sustainable than some of them? Inputs from agro-technology experts may be needed for assessing the potential. | | Comment noted | AH commentary on Ch 9 10.8.2019.pdf |
| W-37 | App 9C | | | | 10/8/2019 | Adin Holdings | The GSP should present complete information on the process of assessing the projects and on the process of selecting the preferred and alternative projects. | | The complete list of projects are in Appendix 9B. The list was reduced to what the SVBGSA believed are the most cost efficient and likely successful projects. If there is a public desire, we can add any projects in this Appendix to our list of preferred projects. | AH commentary on Ch 9 10.8.2019.pdf |
| W-38 | App 9C | | | | 10/8/2019 | Adin Holdings | The GSP should include an estimation of energy demand and cost for extraction and for injection. Destination and cost of extracted water should be presented, particularly alternatives of using the extracted water. In case of injection, alternative water resources should be presented with their costs and compared. | | Energy demand and cost will be taken into consideration. The water resources depend on the exact location of the wells, which will be assessed in the project design phase. | AH commentary on Ch 9 10.8.2019.pdf |

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| W-39 | App 9C | | | | 10/8/2019 | Adin Holdings | Not clear: "in the absence of any of the other future projects included in the GSP."<br>What does this mean? | | Injection or recharge projects may reduce or eliminate the need for the seawater intrusion barrier | AH commentary on Ch 9 10.8.2019.pdf |
| W-40 | | | | | 11/13/2019 | LandWatch | The GSP fails to adopt a conservative estimate of sustainable yield until resolution of data gaps and calibration of the groundwater model. 1. The groundwater model is not calibrated. 2. The minimum threshold for reduction in storage is improperly based on uncalibrated model projection of 2070 sustainable yield and improperly uses the least conservative estimate of sustainable yield. | | The GSP is based on best available data at the time of development. It will be updated when the SVIHM is released, at which point the future water budget will be calibrated with the historical water budget. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-41 | | | | | 11/13/2019 | LandWatch | The minimum thresholds for groundwater levels and storage reduction are inconsistent with SGMA regulations because they fail to avoid the undesirable results for the seawater intrusion sustainability indicator. The minimum threshold for groundwater levels, set at one foot above lowest historical groundwater levels, will not support the minimum threshold for seawater intrusion, set at existing line of seawater intrusion advance, because those groundwater levels will not halt seawater intrusion. The minimum threshold for reduction in storage, set at the future long-term sustainable yield, will not support the minimum threshold for seawater intrusion, because halting seawater intrusion requires replacement of depleted groundwater storage by temporarily reducing extractions to below the sustainable yield. | | The sustainability indicators will be met simultaneously, but they are independent, such that the minimum thresholds for groundwater levels and storage reduction are not responsible for avoiding seawater intrusion. Further, the long-term sustainable yield is the sustainable yield AFTER all undesirable results have been addressed, including seawater intrusion. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-42 | | | | | 11/13/2019 | LandWatch | The GSP proposes inconsistent programs and management actions to attain the minimum threshold for seawater intrusion, and these remedies would not be timely. | | SGMA specifies that GSAs have 20 years to come to sustainability. The projects and management actions are realistic within that timeframe. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-43 | | | | | 11/13/2019 | LandWatch | The Plan fails to include immediate pumping reductions, which are required in order to attain the identified minimum threshold for seawater intrusion. | | Immediate pumping reductions are not required by SGMA, but rather are only one possible management option. The GSP includes other projects and management actions to meet the minimum threshold for seawater intrusion, such as the seawater intrusion barrier and the water charges framework. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-44 | | | | | 11/13/2019 | LandWatch | The Plan fails to mitigate overdraft: the water charges framework cannot reliably mitigate overdraft because pumping reductions remain voluntary and because price sensitivity and demand elasticity are unknown. SGMA requires that a GSP identify projects or management actions, including demand reduction or other methods, that would be sufficient to mitigate overdraft. Contrary to the Plan's claim, the water charges framework would not reduce demand or increase supply sufficiently to mitigate overdraft because it relies on voluntary pumping reductions and permits pumping in excess of sustainable pumping allocations. Mitigation of overdraft requires mandated pumping restrictions that limit total pumping to current sustainable yield plus newly produced water. The Plan fails to provide the mandatory quantification of the mitigation of overdraft: it fails to quantify the benefits of management actions, it assigns all of the Basin-wide Project benefits to the 180/400- Foot Aquifer Subbasin, it double counts some benefits, and it contains an arithmetic error. | | SGMA does not specify HOW GSAs mitigate overdraft - they leave that decision to the GSAs. Using a voluntary, market-based approach must take into consideration price sensitivity and demand elasticity and often involve adjustments over time, but there are myriad examples of market mechanisms meeting and exceeding environmental targets (which is the sustainable yield in this case). This is the approach the Board has elected to take. The Board may change that at a future date, or they may combine it with mandatory pumping reductions if they so choose. The GSP outlines the plan to achieve sustainability, but allows for flexibility in implementation to adjust as needed to meet sustainability. | LandWatchCommentsEntireGSP_FINAL.pdf |

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| W-45 | | | | | 11/13/2019 | LandWatch | The implementation plan improperly delays substantive action for two years in order to accommodate the implementation schedule for the GSP for the rest of the Basin, which is not critically overdrafted. | | The implementation period set forth by DWR is 20 years. The Salians Valley subbasins are hydraulically connected, and it is important that the GSA take a coordinated approach to sustainability. Development details of the projects and management actions will occur simultaneously as the other subbasin GSPs are being developed. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-46 | | | | | 11/13/2019 | LandWatch | The Plan fails to identify project startup dates | | Notional timelines are proposed with the understanding that exact start-up dates depend on a number of factors such as project refinement, environmental permitting, etc. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-47 | | | | | 11/13/2019 | LandWatch | The Plan fails to impose pumping restrictions pending startup of new water projects. Interim pumping restrictions are needed in order to restore and maintain the protective groundwater elevations to attain the minimum threshold for seawater intrusion. | | The GSP proposes other ways to meet minimum thresholds that are more likely to be agreed upon by the Board. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-48 | | | | | 11/13/2019 | LandWatch | The GSP's multiple, inconsistent, incomplete, and deferred approaches to meeting the seawater intrusion minimum threshold – eventual temporary pumping reductions, a long-delayed $100+ million pumping barrier, or some eventual "agreed approach" from the Working Group – renders the GSP uncertain and inadequate as a plan. | | The GSP describes several projects and management actions. Implementation of all of them may not be necessary, but further analysis and discussion is needed for the Board to decide which to implement, which will occur in the implementation period. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-49 | | | | | 11/13/2019 | LandWatch | Chpater 6: Assumptions regarding efficacy of future projects and management actions to address seawater intrusion in the projected future sustainable yield should be spelled out. | | The impact of each project and management action on the seawater intrusion SMC will be refined as the projects are refined. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-50 | | | | | 11/13/2019 | LandWatch | Double counting of water withdrawals should be resolved. | | The GSP acknowledges the potential double counting of extractions, and identifies this as an uncertainty in the water budget. Because of the many uncertainties in the historical water budget, it was deterimined that attempting to identify all double counting was not cost effective. The cost effective approach is to refine the water budget with the SVIHM when it becomes availalbe. The SVIHM does not double count surface water diversions and groundwater pumpiong. This is the approach specifically identified in the GSP. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-51 | | | | | 11/13/2019 | LandWatch | Sustainable yield determinations should incorporate climate change?caused variability in precipitation. | | The future sustainable yield does incoroporate reasonable climate change, in accordance with the climate change factors provided by DWR. | LandWatchCommentsEntireGSP_FINAL.pdf |
| W-52 | | | | | 11/13/2019 | LandWatch | Chapter 7 should require that pumping be monitored by flowmeters. | | Section 10.1.5 states that, "The SVBGSA will work with MCWRA to expand the existing well metering system currently in place to collect additional groundwater pumping information." | LandWatchCommentsEntireGSP_FINAL.pdf |

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| W-53 | 9 | | | | 11/25/2019 | Farm Bureau | We fully support the intent of Preferred Project #1 and desire this to be the highest priority project for the 180/ 400 sub-basin (as well as the Forebay and Upper Valley sub-basins). Eradicating the exotic Arundo donax vegetation from the Salinas River Channel has multiple benefits for both landowners, the environment, and the groundwater basin. Table 9-5 lists 6,000 acre-feet of savings due to Arundo donax removal, but there is a reference of 20,000 acre-feet also; is that amount of the entire water savings for the full basin for just theArundo donax vegetation type?<br>While we fully respect and support the program that the Resource Conservation District of Monterey County and the success achieved in removing Arundo donax, there is more to be done than just replicating this as Preferred Project #1. We urge that the draft be modified to include other vegetative species that are in overgrowth mode. ..Reducing all vegetation in the river channel would improve water conveyance and lead to increased water flows for recharge as well other possible projects, such as the diversion points for the Permit #11043 that could supply water to the Eastside trough. (see letter for full comment). | | A range of water savings is included due to the range of potential benefits from existing data sources. The existing Arundo Removal Program will be nearing a 4-year review in 2020 and will be required to submit a report to permitting agencies regarding the program status. This will include an assessment of exiting vegetation management areas and arundo and tamarisk removal in the river channel. This information can be used to update strategies related to vegetation management in the river. | GSP Comment Letter-MCFB 112519.pdf |
| | 9.4.3.6 | | | | 11/25/2019 | Farm Bureau | The estimated yield for this project is 11,600 AF/yr; yet, “the yield for this project is the same yield that is identified in Priority Project #2 and a portion of the yield identified in Priority Project #3. Is this statement intending that the same water. | | Clarifying text has been added. | GSP Comment Letter-MCFB 112519.pdf |
| W-55 | 9.4.3.7 | | | | 11/25/2019 | Farm Bureau | Much more needs to be known about this particular project before it can be considered more fully. Although seawater intrusion extraction wells may very well yield 30,000 acre-feet per year, this water is essentially useless until it can be desalinated. That seems to indicate that extracted water would need to be dispose of, possibly into the ocean? After determining if this project is environmentally (and politically) feasible, the cost-benefit analysis may not be justified. If the project yield is 30,000 acre-feet, why is there a statement in the notes below Table 9-5 that shows only 22,000 acre-feet? Shouldn't the projected cost benefits of this project then be based on the 11,000 acre-feet of net yield? | | The cost and benefit of the seawater intrusion pumping barrier will be refined during GSP implementation. The yield/benefit of the project is now consistent throughout the document. The yield is included soley for cost comparison to other projects. The seawater instrusion barrier does not contribute to mitigation of overdraft, but rather provides benefits in other ways, so it was removed from Table 9-5. | GSP Comment Letter-MCFB 112519.pdf |
| W-56 | 9.4.3.10 | | | | 11/25/2019 | Farm Bureau | We question if winter flow injection makes sense in the context of possible land fallowed and available for dedicated recharge basins. The costs of removing the ground from active production could be offset by passive recharge that has little in ongoing operational and maintenance costs, and very little (comparatively) of capital investment costs. This may be an alternative opportunity for land use should there be voluntary fallowing of land in the sub-basin area. | | Surface recharge in the northern end of the 180/400 foot aquifer will likely not percolate into the deeper, productive aquifers. However, if a location is found where surface recharge does percolate to deeper aquifers, this option will be considered. | GSP Comment Letter-MCFB 112519.pdf |

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| W-57 | 9.2 | | | | 11/25/2019 | Farm Bureau | As described, the water charges framework is a proposal and will still need approval from the SVBGSA Board of Directors (requiring 3 of 4 agricultural directors supporting the program). We question that if this type of funding program is to incentivize the reduction of groundwater pumping, the program will eventually defund itself due to declining water use revenue. This has happened to other utilities and is a distinct possibility in the Salinas Valley also as future farming practices may find more efficient means of delivering and using groundwater. We also note that significant analysis will be required to determine the correct rate levels of the proposed framework; fluctuations in crops and land values, availability of any new project water, and intensive cropping patterns may make the process of determining the rate structure nearly impossible. Will the water charges framework be adopted in all sub-basins? What happens to the budget if one or more sub-basins is not needing to adopt this method of funding? | | Comments noted. These concerns will be discussed and addressed when the details of the water charges framework are developed during GSP implementation. | GSP Comment Letter-MCFB 112519.pdf |
| W-58 | 9.2.1 | | | | 11/25/2019 | Farm Bureau | We point out that the draft language indicates that well registration does not obviously equate to metering, but only that some wells may have meters. There is needed clarity on what well registration and metering requirements intend, how they transect, and how this will be enforced. | | Clarifying text has been added. | |
| W-59 | 9.2.4 | | | | 11/25/2019 | Farm Bureau | We find that this section may need some enhancements with more details. This is effectively a water trading market mechanism and critical to how pumping allowances will be managed ultimately. If SVBGSA intends to manage this on a case-by-case basis, there will need to be guidelines for how this will be managed and who will make any determinations for transfers; the mechanics of this can get quite complicated and should be fully understood before any transfers are considered. What will be the platform for managing these transfers? Will farmers need to manage these trades amongst themselves? What distance will be allowed as a maximum for a transfer (only within each sub-basin)? In past community discussions there was little support for this type of program; is that why there are no details or the consultants have not recommended a platform or program? We suggest that the fallowing of land needs to be a fully-defined Management Action or Preferred Project. Will SVBGSA purchase water and retire land for a single year or more? There is no direct statement on what will happen if growers decide to change to different crops that may require higher water use, such as vineyard to vegetables. Just as followed land can be recycled into production, can irrigated land that was formerly producing low water use crops convert to a higher water use crop? Will there then be a penalty applied to that farm or land? This could then cross a line into managing land use and dictating which crops can be produced, or even restrict the ability of a farm to change when market conditions alter the economics of any given crop. | | These concerns will be discussed and addressed when the details of the water charges framework are developed during GSP implementation. SVBGSA may consider promoting land fallowing to a fully defined Management Action during the next draft of the GSP, planned for 2022. There is no plan to manage which crops can be produced other than establishing pumping charges through the Water Charges Framework. | |

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| W-60 | 9.3.2 | | | | 11/25/2019 | Farm Bureau | We support the right of landowners to do as they please with their lands in terms of wanting to continue farming, temporarily fallow or permanently retire agricultural lands under SGMA on a voluntary basis. However, we find this section lacking in detail and therefore may not garner the attention from landowners that may be interested. The assumption is that a combination of reduced pumping and Preferred Projects are likely needed; however, there is no statement on how this goal will be achieved with reduced extractions alone. The cost analysis is also incorrect and needs revision. In a basin that has seawater intrusion and facing a long list of expensive projects, we believe this warrants a more proactive and thoughtful approach. SVBGSA and its consultants should conduct a geospatial analysis to assess the best areas to potentially retire land through careful study of the economic value of the land and water, and then proactively contact the specific landowners to gauge interest in voluntarily participating. There is no mention that funding could be sourced from grant programs for water quality, habitat, and conservation easements for a voluntary land retirement program. All sources of financial support should be fully explored and exhausted prior to SVBGSA expending funds on land fallowing or retirement. | | Comment noted. SVBGSA agrees that a voluntary land retirement program is the correct approach. The financial incentive for land retirement will be refined during GSP implementation. | |
| W-61 | 9.6 | | | | 11/25/2019 | Farm Bureau | We find there is a lack of transparency in understanding the overall goal; the total acre-feet of savings through projects needed to bring the sub-basin into balance should be clearly stated here. What is the current demand? What is the sustainable yield? What is the overdraft amount? What is the target goal that includes a buffer for seawater intrusion mitigation? There is also a lack of understanding of what the cumulative impact of multiple projects would be, if more than one or all are put into place; would there be enough water to manage multiple projects? For example, the three projects listed for the Castroville Seawater Intrusion Project (CSIP) have overlapping water savings, yet these three projects are listed independent of each other. | | The current demand, overdraft, and sustainable yield are included in Chapter 6. The cumulative impact of multiple projects will be addressed after the projects are refined during GSP implementation and the SVIHM becomes available for project benefit analysis. | |

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| W-62 | 9.3 | | | | 11/25/2019 | Farm Bureau | Our members are sensitive to total costs of implementing SGMA over the next 20 years. Between the First and Second drafts of Chapter 9 (between July 18 and August 8, 2019), two new Management Actions (MAs) have been added and the cost for existing MAs have expanded in number of years and cost per year, and total cost. We calculate that annual costs for these Management Actions have increased total costs by $1,000,000 or more. On the "Public Comment" document, there is no apparent public comment on these MA changes; most of the comments were around the Water Charges Framework and Projects. A table listing the MAs with anticipated costs would be a good addition to this chapter of the document. We request more specific information on the following:<br>-Why did MA #1 change from a 4% 30-year amortization to a 6% 25-year amortization?<br>• How many years is MA #2 expected to take? There is only a notation of "on going."<br>• Why has the cost per year increased for MA #4?<br>• SVBGSA will provide oversight for many of the MAs; will these be overseen by SVBGSA staff<br>or the consultants?<br>• Why are there missing MAs on the Table 10-1?<br>• Should 180/400 operational costs specific to MAs be in table 10-1? | | Costs have been updated according to feedback provided on subsequent drafts regarding more realistic projected costs of implementation. | |
| W-63 | | 10-1, 10-2 | | | 11/25/2019 | Farm Bureau | There appear to be some mathematical errors on these two tables. Table 10-1 lists planning level costs that total to $1,399,000 yet the table reflects a total of $1,784,000, a difference of $385,000. Table 10-2 lists planning level cots of $2,922,000 yet the table reflects a total of $9,423,000, a difference of $6,501,000. If either of these tables reflects planning level costs that are for multiple years, it is not clearly noted; thus, there is a distortion of the projected planning level costs for the first five years of implementation. | | Tables have been double checked and corrected. | GSP Comment Letter-MCFB 112519.pdf |
| W-64 | | 9.4.3.6 | | | 11/25/2019 | Farm Bureau | The estimated yield for this project is 11,600 AF/yr; yet, “the yield for this project is the same yield that is identified in Priority Project #2 and a portion of the yield identified in Priority Project #3. Is this statement intending that the same water can be saved twice, or is this just a simple double reference to water that can be saved? Clarification is needed to determine the exact savings for this project and the related three projects listed for the CSIP upgrades and expansion. | | No, it is not intended that the same water can be saved twice, but the CSIP projects are related. This statement was intended to avoid double counting of project yields, however, text has been added to clarify further. | GSP Comment Letter-MCFB 112519.pdf |
| W-65 | 3 | | | | 11/21/2019 | Dept of Fish and Wildlife | The Department recommends changing the map on page 3-14 to include privately conserved lands to Moro Cojo Ecological Reserve. The Department also recommends the GSP include a section within 3.3 Jurisdictional Areas that defines the privately conserved lands within its boundary, including Elkhorn Slough Foundation lands. | | The labeling of the the Department's Moro Cojo Ecological Reserve matches the data provided by DWR. We would appreciate further information on any errors that we can remedy. Figure 3-3 is intended to identify Federal and State jurisdictional areas, not private foundation lands. This map shows other government agencies that may have groundwater jurisdiction: the map is not intended to identify all conserved lands. | Dept of Fish and Wildlife SVBGSA GSP Comments |

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| W-66 | | | | | 11/21/2019 | Dept of Fish and Wildlife | i.The Department recommends that the GSP model results that identify the estimated quantity and timing of streamflow depletions in the Subbasin. The Department also recommends that the GSP include clear documentation on model development, as numerical modeling is an apt but complex tool for identifying surface water-groundwater connectivity.<br>ii.The Department recommends including the shallow water-bearing sediments above the Salinas Valley Aquifer as a principal aquifer in the GSP to encourage diligent monitoring and management of a resource of great significance to environmental beneficial uses and users in the Subbasin.<br>iv.The Department requests clarification on how surficial recharge can be both severely restricted by the Salinas Valley Aquitard and comprise such a significant portion of the Water Budget inflow when shallow groundwater above the aquitard is not included in the GSP's Water Budget analysis.<br>v.The Department requests including expanded ISW studies and monitoring in the Subchapter 4. 7 Data Gaps. | | i. The SVBGSA will use the SVIHM to estimate the quantity and timing of streamflow depletions in the Subbasin when the model becomes available.<br>ii. In accordance with the description in DWR Bulletin 118, the shallow sediments are not identified as a principal aquifer.<br>iii. We have added clarifying language to the text.<br>iv. Text has been added discussing uncertainty regarding the fate of percolation from the river.<br>v. The data gaps address the key issues needed to substantiate the sustainable management criteria for interconnected surface waters. | Dept of Fish and Wildlife SVBGSA GSP Comments |
| W-67 | 4 | | | | 11/21/2019 | Dept of Fish and Wildlife | The Department recommends developing a specific plan and timeline for GOE identification that includes methods used to vet the current set of potential GD Es shown in Figure 4-10. If the GSP will include a depth-to-groundwater analysis for GOE verification, in addition to field reconnaissance, the Department advjses development of a hydrologically robust baseline that relies on multiple, climatically representative years of groundwater elevation and that accounts for the inter-seasonal and inter-annual variability of GOE water demand. The Department also suggests careful consideration of potential GDEs near interconnected surface water bodies, as they may depend on sustained groundwater elevations that stabilize the gradient or rate of loss of surface water, rather than directly on the water table itself. | | We have identified potential GDEs using the approach detailed by TNC. Currently, there is no plan to further analyze GDEs. However, this subject will likely be addressed again during GSP implementation, and we look forward to working with TNC when we revisit this subject. | Dept of Fish and Wildlife SVBGSA GSP Comments |
| W-68 | | | | | 11/21/2019 | Dept of Fish and Wildlife | ii. The Department recognizes that NCCAG (Klausmeyer et al. 2018) provided by California Department of Water Resources (CDWR) is a good starting reference for GDEs however, the Department recommends that the GSP consider additional resources for evaluating GOE locations, including but not limited to the California Department of Fish and Wildlife (CDFW) Vegetation Classification and Mapping Program (VegCAMP) (CDFW 2019A); the CDFW California Natural Diversity Database (CNDDB) (20198); the California Native Plant Society (CNPS) Manual of California Vegetation (CNPS 2019A); the . CNPS California Protected Areas Database (CNPS 20198); the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (2018); the USFWS online mapping tool for listed species critical habitat (2019); the U.S. Forest Service CAL VEG ecological grouping classification and assessment system (2019); and other publications by Klausmeyer et al. (2019), Rohde et al. (2018), The Nature Conservancy (TNC) (2014), and Witham et al. (2014). | | We have identified potential GDEs using the approach detailed by TNC. Currently, there is no plan to further analyze GDEs. However, this subject will likely be addressed again during GSP implementation, and we look forward to working with TNC when we revisit this subject. | Dept of Fish and Wildlife SVBGSA GSP Comments |

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| W-69 | | | | | 11/21/2019 | Dept of Fish and Wildlife | The Department recommends that the GSP provide a more robust representation of water quality data for the constituents identified within the plan and provide data (i.e. graphical or tabular) illustrating trends over time. Additionally, the Department recommends that the GSP provide the most current available water quality information for the constituent presented within the plan to further substantiate sustainability for this indicator. | | Additional groundwater quality analysis is not warranted under SGMA. The GSP is not intended to address all groundwater quality conditions in the Subbasin; rather it sets a baseline to asses whether future actions taken by the SVBGSA may impact groundwater quality. | Dept of Fish and Wildlife SVBGSA GSP Comments |
| W-70 | | | | | 11/21/2019 | Dept of Fish and Wildlife | The Department recommends that the GSP specify management actions to mitigate potential undesirable results to ISW and GDEs during dry years when groundwater pumping increases. Suggestions include pumping restrictions for areas that may impact surface water flow when streamflow depletion minimum thresholds are reached in dry and critical water years. | | The GSP is a long-term management plan, and is not intended to manage to short-term weather fluctuations. | Dept of Fish and Wildlife SVBGSA GSP Comments |
| W-71 | | | | | 11/21/2019 | Dept of Fish and Wildlife | See OTHER COMMENTS beginning on page 9 , Implementation of Project Actions Related to SGMA | | Comment noted. These details will be taken into consideration in the planning and implementation of projects and management actions. | Dept of Fish and Wildlife SVBGSA GSP Comments |
| W-72 | | | | | 11/24/2019 | James Sang | I disagree with the proposed groundwater sustainability project unless it can add a managed aquifer recharge project!<br><br>My objection is that majority of the proposed projects take water and don't add water. The injections wells need a source of water to work. CSIP requires recycled water and water from the Salinas River to work. The Arundo project sounds iffy. Plants only transpire 10 percent of the atmosphere water vapor, which is a small amount of water effecting the ground moisture.<br><br>I would like the project to include my proposed swale and pond idea to see if we can recharge the ground water and the aquifer and wells. I believe that this is a project that will be accepted by the property owner because this would directly effect the well owner. The project can be monitered easily to find the results and the well owner can use the surface pond water to irrigate. | | Managed Aquifer Recharge IS included within the list of projects. It wasn't initially called that specifically, so a paragraph has been added to clarify. | SVBGSA PROJECT James Sang.pdf |
| W-73 | App 11E | | | | 11/25/2019 | TNC | Appendix 11E states (Responses to Comments 7-26, 8-124, 8-132): “The shallow aquifer is not considered a principal aquifer.” The GSP states (p. 4-17) that some domestic wells draw water from the shallow aquifer, and that groundwater in these sediments is hydraulically connected to the Salinas River. TNC disagrees with the statement that the shallow aquifer is not a principal aquifer; it is indeed a principal aquifer that needs Sustainable Management Criteria established to prevent adverse impacts to GDEs and surface water beneficial users. Additionally, SGMA defines principal aquifers as “aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems” [23 CCR § 351 (aa)]. | | Comment noted. In accordance with DWR Bulletin 11, The GSP does not identify the shallow sediments as a principal aquifer. | TNC comments - Salinas 180-400ft.pdf |

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| W-74 | App 11E | | | | 11/25/2019 | TNC | Appendix 11E states (Responses to Comments 8-131, 8-133, 8-134): "The GSP does not protect species; it assesses whether the depletion of surface water due to pumping is significant or unreasonable." However, the Water Code § 10723.2 states: "The groundwater sustainability agency shall consider the interests of all (emphasis added) beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include, but are not limited to [..] (e) Environmental users of groundwater; and (f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies. Identifying beneficial users of surface water, which include environmental users, is a critical step in defining "significant and unreasonable adverse impacts". Without this it is impossible to know what is being impacted. In the GSP, please propose Sustainable Management Criteria that assure protection of GDEs and instream environmental beneficial users. | | As stated in section 8.6.2.3, groundwater elevations are set above historical and current depletion rates, and therefore the impact to surface water bodies, including GDEs, will be less than historical impacts. Thererfore, our impact on GDEs is neither significant nor unreasonable. | TNC comments - Salinas 180-400ft.pdf |
| W-75 | | | | | 11/25/2019 | TNC | TNC considers the 180/400-Foot Aquifer Subbasin Draft GSP to be inadequate under SGMA since key environmental beneficial uses and users are not adequately identified and considered. In particular, ISWs and GDEs are not adequately identified and evaluated for ecological importance or adequately considered in the basin's sustainable management criteria. Please present a thorough analysis of the identification and evaluation of ISWs and GDEs in subsequent drafts of the GSP. Once GDEs are identified, they must be considered when defining undesirable results and evaluated for further monitoring needs. | | We have identified potential GDEs using the approach detailed by TNC. Currently, there is no plan to further analyze GDEs. However, this subject will likely be addressed again during GSP implementation, and we look forward to working with TNC when we revisit this subject. | TNC comments - Salinas 180-400ft.pdf |
| W-76 | 11 | | | | 11/25/2019 | TNC | The Joint Exercise of Powers Agreement (Appendix 11D) lists the Board of Directors that includes a Director representing environmental users and interests. This is the only mention of environmental users in Chapter 11. No details are given as to the types and locations of environmental uses and habitats supported, or the designated beneficial environmental uses of surface waters that may be affected by groundwater extraction in the Subbasin. | | More information on environmental users and interests has been added to Chapter 11. | TNC comments - Salinas 180-400ft.pdf |
| W-77 | 3.1 | | 3-39 - 3-50 | | 11/25/2019 | TNC | This section discusses the city (Salinas, Gonzales, and Marina) and county (Monterey) general plans covering areas within the Subbasin. Please include a discussion of how implementation of the GSP may affect and be coordinated with General Plan policies and procedures regarding the protection of wetlands, aquatic resources and other GDEs and ISWs. | | Section 3.10.7 discusses plan implementaion effects on existing land uses | TNC comments - Salinas 180-400ft.pdf |
| W-78 | | | | | 11/25/2019 | TNC | This section should identify Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) within the Subbasin and if they are associated with critical, GDE or ISW habitats. Please identify all relevant HCPs and NCCPs within the Subbasin and address how GSP implementation will coordinate with the goals of these HCPs or NCCPs. | | The Salinas River HCP is addressed in Chapter 8. No NCCPs have been developed to our knowledge. | TNC comments - Salinas 180-400ft.pdf |
| W-79 | | | | | 11/25/2019 | TNC | Please refer to the Critical Species Lookbook4 to review and discuss the potential groundwater reliance of critical species in the basin. Please include a discussion regarding the management of critical habitat for these aquatic species and its relationship to the GSP. | | Comment noted. This is not relevant to the general plans discussion. | TNC comments - Salinas 180-400ft.pdf |

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| W-80 | 3.3 | | 3-13 - 3-15 | | 11/25/2019 | TNC | The GSP describes several wildlife refuges, reserves, and conservation areas under Federal and State Jurisdiction, however there is no discussion of any in-stream flow requirements or other protections in place for species in these critical areas. Please include a discussion regarding the management of critical habitat for aquatic species and its relationship to the GSP, including discussion of any in-stream flow requirements. | | The Salinas River HCP is addressed in Chapter 8. This is the only known flow requirement for aquatic species. | TNC comments - Salinas 180-400ft.pdf |
| W-81 | 3.10.5 | | Mar-47 | | 11/25/2019 | TNC | The GSP includes a brief discussion of well permitting policies governed by Monterey County. Please include a discussion of how future well permitting will be coordinated with the GSP to assure achievement of the Plan's sustainability goals. | | There is no plan to modify the well permitting system | TNC comments - Salinas 180-400ft.pdf |
| W-82 | | | | | 11/25/2019 | TNC | The State Third Appellate District recently found that counties have a responsibility to consider the potential impacts of groundwater withdrawals on public trust resources when permitting new wells near streams with public trust uses (ELF v. SWRCB and Siskiyou County, No. C083239). Compliance of well permitting programs with this requirement should be stated in the GSP. | | A paragraph on the case was added to Chapter 3. Monterey County is responsible for well permitting in the Salinas Valley. | TNC comments - Salinas 180-400ft.pdf |
| W-83 | 4.3.2 | | | | 11/25/2019 | TNC | [Comment 4-14: GSP text changed but theme of original comment still holds; response does not adequately address the comment.] The SVBGSA has adopted the base of the aquifer defined by the USGS (Durbin et al., 1978). However, as noted on page 9 in DWR's Hydrogeologic Conceptual Model BMP5 "the definable bottom of thebasin should be at least as deep as the deepest groundwater extractions". Thus, groundwater extraction well depth data, as part of the best available data available to the GSA, should also be included in the determination of the basin bottom. This will prevent extractors with wells deeper than the basin boundary from claiming exemption of SGMA due to their well residing outside the vertical extent of the basin boundary. | | This GSP has adopted the USGS definition of the bottom of the aquifer for consistency. | TNC comments - Salinas 180-400ft.pdf |
| W-84 | 4.4 | | | | 11/25/2019 | TNC | Regional basin-wide geologic cross sections are provided in Figures 4-6 through 4-8 (p. 4-14 to 4-16). These cross-sections do not include a graphical representation of the manner in which the shallow aquifer may interact with ISWs or GDEs that would allow the reader to understand this topic. Please include example near-surface cross section details that depict the conceptual understanding of shallow groundwater and stream interactions at different locations. | | Per SGMA regulations, these cross sections illustrate the current understanding of the regional, principal aquifers. Near-surface cross sections are not required by SGMA, and it is unclear that adequate data exists to construct realistic near-surface cross sections. | TNC comments - Salinas 180-400ft.pdf |
| W-85 | 4.4.1 | | 4-17 | | 11/25/2019 | TNC | TNC disagrees with the statement that the shallow aquifer is not a principal aquifer; it is indeed a principal aquifer that needs Sustainable Management Criteria established to prevent adverse impacts to GDEs and surface water beneficial users. | | Comment noted | TNC comments - Salinas 180-400ft.pdf |

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| W-86 | 5.6.1 | | 5-54 | | 11/25/2019 | TNC | While groundwater in the 180- and 400-foot Aquifers is generally not considered to be hydraulically connected to the Salinas River or its tributaries, the Shallow Aquifer (which resides above the Salinas Valley Aquitard) likely does. To address this, interconnections of surface water with groundwater in the Shallow Aquifer should be evaluated in this section of the GSP, since the Shallow Aquifer is within the 180/400-Foot Aquifer Subbasin. Where data gaps exist, cite them here or refer to a subsequent section of the GSP. Cite cross-sections that relay the conceptual understanding of the shallow aquifer interaction with surface water. Groundwater in the shallow aquifer is also likely to be supporting groundwater dependent ecosystems and interacting with the Salinas River in this part of the basin. Basins with a stacked series of aquifers may have varying levels of pumping across aquifers in the basin, depending on the production capacity or water quality associated with each aquifer. If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, that can support springs, surface water, and groundwater dependent ecosystems. This is because the goal of SGMA is to sustainably manage groundwater resources for current and future social, economic, and environmental benefits, and while groundwater pumping may not be currently occurring in a shallow aquifer, it could be in the future. | | Because the shallow sediments are not a principal aquifer, they are not evaluated in this GSP. The sustainable management criteria state that there will not be any increased depletion of surface water from the Salinas River due to pumping from the 180 for 400-Foot aquifers. | TNC comments - Salinas 180-400ft.pdf |
| W-87 | | | | | 11/25/2019 | TNC | Mapping ISW locations would be best done using contours of depth to groundwater measured from multiple points in time (different seasons and water year types) rather than only from Fall 2013. Groundwater conditions evaluated across the range of seasonal and interannual time frames provides a more representative view of ISWs. | | Comment noted. Our ability to identify areas of interconnected surface water will be improved when the SVIHM becomes available. | TNC comments - Salinas 180-400ft.pdf |
| W-88 | | | | | 11/25/2019 | TNC | The groundwater levels shown on Figure 5-35 are irrelevant to the discussion of ISWs since they do not map the shallow water table. The use of piezometric head from confined aquifers should be eliminated from these ISW mapping efforts, since they do not adequately reflect the position of the true water table (see last paragraph on p. 38 of Salinas Valley Basin ISP). | | These are maps of groundwater levels in the principal aquifers. | TNC comments - Salinas 180-400ft.pdf |
| W-89 | | | | | 11/25/2019 | TNC | It is unclear on Figure 5-35 whether missing groundwater levels along certain reaches of the Salinas River are due to groundwater levels >20 feet bgs or due to data gaps in groundwater levels. Mapping the position of wells used for the interpolation of groundwater elevation data used to map groundwater level contours near surface water would help provide further clarification. | | The groundwater level maps were adopted from MCWRA, who does not provide well locations for their maps. In accordance with SGMA regulations, future groundwater elevation maps will provide well locations. | TNC comments - Salinas 180-400ft.pdf |
| W-90 | 5 | | | 5-35 | 11/25/2019 | TNC | Please elaborate on how depth to groundwater contours were developed for Figure 5-19 of the Salinas Valley Basin ISP and on Figure 5-35 of the GSP. | | Groundwater contours were adopted directly from maps previously developed by MCWRA. These previously developed maps were considered the best available data for historical groundwater level contours. | TNC comments - Salinas 180-400ft.pdf |
| W-91 | | | | | 11/25/2019 | TNC | We recommend mapping the gaining and losing reaches onto Figure 5-19 (Salinas Valley Basin ISP) using the data from Figure 5-23 (Salinas Valley Basin ISP). | | Comment noted. We will review this in the ISP. | TNC comments - Salinas 180-400ft.pdf |

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| W-92 | 5.6 | | | | 11/25/2019 | TNC | Please present or refer to a depth to groundwater map in this section. Refer to our comments on Section 5.6 Interconnected Surface Water above. Please ensure that only wells screened in the shallow unconfined aquifer are used to develop the depth to groundwater maps. Using “depth to groundwater” measurements from confined aquifers is mapping piezometric head of the confined aquifer and not detecting groundwater conditions in the unconfined aquifer that is supporting the ecosystem. The GSP refers to data gaps in water levels in the shallow unconfined aquifer. If there are insufficient groundwater level data in the shallow aquifer, then the GDE polygons in these areas should be included as GDEs in the GSP until data gaps are reconciled in the monitoring network. | | Figure 5-35 is a depth to groundwater map. As noted in Appendix 4A, the conservative approach to identifying potential GDEs used in this GSP, "clearly has the potential to overestimate the number of GDEs in the Subbasin." | TNC comments - Salinas 180-400ft.pdf |
| W-93 | | | | | 11/25/2019 | TNC | Please clarify how the light blue shaded area shown in Figure 4A-3 (depth to water < 30 ft south of Chualar) is used for the GDE analysis. The figure implies an incorrect interpretation of the GDE Guidance | | The methodology is described in Appendix 4A. Only areas south of Chular or near the coast have groundwater elevations within 30 feet of ground surface. | TNC comments - Salinas 180-400ft.pdf |
| W-94 | | | | | 11/25/2019 | TNC | Please use care when considering rooting depths of vegetation. Please list the species in each GDE, and whether the GDE was eliminated or retained based on the 30-foot standard, and provide evidence for the decision. | | Comment noted. | TNC comments - Salinas 180-400ft.pdf |
| W-95 | | | | | 11/25/2019 | TNC | While depth to groundwater levels within 30 feet are generally accepted as being a proxy for confirming that polygons in the NC dataset are connected to groundwater, it is highly advised that seasonal and interannual groundwater fluctuations in the groundwater regime are taken into consideration. Utilizing groundwater data from one point in time (e.g., Fall 2013) can misrepresent groundwater levels required by GDEs, and inadvertently result in adverse impacts to the GDEs. Based on a study we recently submitted to Frontiers in Environmental Science Journal, we've observed riparian forests along the Cosumnes River to experience a range in groundwater levels between 1.5 and 75 feet over seasonal and interannual timescales. Seasonal fluctuations in the regional water table can support perched groundwater near an intermittent river that seasonally runs dry due to large seasonal fluctuations in the regional water table. While perched groundwater itself cannot directly be managed due to its position in the vadose zone, the water table position within the regional aquifer (via pumping rate restrictions, restricted pumping at certain depths, restricted pumping around GDEs, well density rules) and its interactions with surface water (e.g., timing and duration) can be managed to prevent adverse impacts to ecosystems due to changes in groundwater quality and quantity under SGMA. We highly recommend using depth to groundwater data from multiple seasons and water year types (e.g., wet, dry, average, drought) to determine the range of depth to groundwater around NC dataset polygons. (see letter for more details) | | Our ability to identify areas of interconnected surface water will be improved when the SVIHM becomes available. | TNC comments - Salinas 180-400ft.pdf |
| W-96 | | | | | 11/25/2019 | TNC | Decisions to remove, keep, or add polygons from the NC dataset into a basin GDE map should be based on best available science in a manner that promotes transparency and accountability with stakeholders. Any polygons that are removed, added, or kept should be inventoried in the submitted shapefile to DWR, and mapped in the plan. We recommend revising Figure 4-10 to reflect this change. | | Interim maps are included in Appendix 4A. Figure 4-10 is intended to only show the final set of potential GDEs. | TNC comments - Salinas 180-400ft.pdf |

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| W-97 | | | | | 11/25/2019 | TNC | Please include a description of the types of species (protected status, native versus non-native), habitat, and environmental beneficial uses (see Worksheet 2, p.74 of GDE Guidance Document) and assign an ecological value to the GDEs. | | This will be undertaken should the GSA opt to undertake additional GDE analysis. | TNC comments - Salinas 180-400ft.pdf |
| W-98 | | | | | 11/25/2019 | TNC | Are any of the wells from the MCWRA program (described in Section 5.1.1 of the Salinas Valley Basin ISP) close enough (<1 km) to GDEs and screened in the shallow portions of the aquifer to characterize historical and current groundwater conditions for each GDE? If data gaps exist, they should be discussed in Chapter 5. | | This has been identified as a data gap that will be addressed during implementation. | TNC comments - Salinas 180-400ft.pdf |
| W-99 | | | | | 11/25/2019 | TNC | The GDE Pulse web application developed by The Nature Conservancy provides easy access to 35 years of satellite data to view trends of vegetation metrics, groundwater depth (where available), and precipitation data. This satellite imagery can be used to observe trends for NC dataset polygons within the 180-400 Foot Aquifer area (Figure 1). Over the past 10 years (2009-2018), NC dataset vegetation polygons have experienced adverse impacts to vegetation growth and moisture which are correlated to declines in groundwater levels (e.g., as indicated by wells GZWA21202, CHEA21208). | | Comment noted | TNC comments - Salinas 180-400ft.pdf |
| W-100 | | | | | 11/25/2019 | TNC | In a future draft of the document, please provide more details on how the needs of environmental beneficial users (GDE and ISW ecosystems) will be balanced with other water users in the basin. | | In accordance with the SGMA regulations, the GSP currently describes the assessment of whether surface water depletions are significant and unreasonable. | TNC comments - Salinas 180-400ft.pdf |
| W-101 | | | | | 11/25/2019 | TNC | Please provide or crossreference this information, including reference to publicly available information regarding GDEs that was researched and how environmental stakeholders were engaged. | | All cited material will be uploaded to the SGMA Portal when the GSP is uploaded. Environmental stakeholder engagement is addressed in Chapter 11. | TNC comments - Salinas 180-400ft.pdf |
| W-102 | | | | | 11/25/2019 | TNC | The shallow aquifer is indeed a principal aquifer that needs SMC established to prevent adverse impacts to surface water beneficial users. SGMA defines principal aquifers as “aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems” [23 CCR § 351 (aa)]. In addition, more nested/clustered wells are needed in the 180-400 Foot Aquifer area to determine vertical groundwater gradients and whether pumping in the deeper aquifers are causing groundwater levels to lower in the shallow aquifer and deplete surface water. | | Comment noted. In accordance with DWR Bulletin 11, The GSP does not identify the shallow sediments as a principal aquifer. | TNC comments - Salinas 180-400ft.pdf |
| W-103 | | | | | 11/25/2019 | TNC | As previously mentioned in our April 11 letter regarding Chapter 5 of the Draft GSP, the shallow aquifer in the 180/400 Foot Aquifer and Monterey Subbasins are likely to be supporting GDEs and interconnecting with the Salinas River. Thus, pumping in deeper aquifers can still cause adverse impacts to environmental beneficial users reliant on shallow groundwater. Even if pumping is not occurring in shallow groundwater aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, especially those that support springs, surface water and GDEs for current and future uses. | | The sustainable management criteria state that there will not be any increased depletion of surface water from the Salinas River due to pumping from the 180 for 400-Foot aquifers. | TNC comments - Salinas 180-400ft.pdf |

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| W-104 | | | | | 11/25/2019 | TNC | Several published references indicate that the 180-Foot aquifer is in direct hydraulic communication with the overlying Dune Sand Aquifer or Shallow Alluvial Aquifer where the Salinas Valley Aquitard is thin or absent.7 These same references indicate aquitards within the 180/400 Foot aquifer system are known to be locally discontinuous. In addition, the fact that the Salinas is a losing stream and that 67,000 acre feet are recharged from the stream to the groundwater basin in an average year strongly suggests that the shallow aquifer is hydraulically connected to the underlying pumped aquifer systems. | | The GSP notes that the Salinas Valley Aquitard is thin or absent in places. However the depth to groundwater map shown on Figure 5-35 shows that groundwater elevations in the 180-Foot aquifer are high enough to be hydraulically connected to the Salinas River in only limited areas. | TNC comments - Salinas 180-400ft.pdf |
| W-105 | 8.10.2 | | | | 11/25/2019 | TNC | Please include a discussion of how baseline conditions, current trends and potential adverse impacts to GDEs were considered in the definition of significant and unreasonable conditions and establishment of Minimum Thresholds and Measurable Objectives. A discussion of applicable state, federal and local standards, policies and guidelines applicable to the GDE species and habitats identified should also be provided. The section should explain how, in light of the nature and condition of the GDEs, these Sustainable Management Criteria will prevent undesirable results related to damage to GDE resources. Any data gaps and the means to address them should be identified. | | Chapter 8 includes a discussion of how minimum thresholds effect ecological users for each of the six sustainability indicators. | TNC comments - Salinas 180-400ft.pdf |
| W-106 | | | | | 11/25/2019 | TNC | Please expand the listing of beneficial uses and users to address GDEs and ecosystems that are located adjacent to the river and its tributaries. The discussion of ecological land uses and users should include GDEs and ecosystems adjacent to the river and its tributaries, and their dependence on interactions with ISW and groundwater. | | The GSP addresses GDEs as required by regulation. The Board of Directors was informed during open session that they have the ability to expand the definition of significant and unreasonable groundwater elevations to address GDEs | TNC comments - Salinas 180-400ft.pdf |
| W-107 | | | | | 11/25/2019 | TNC | We recommend the streamflow requirements set by the NMFS should be explicitly stated or referenced in the GSP. In addition, any other state, federal or local standards, requirements and guidelines pertaining to the GDE habitats and species identified in the NC dataset or the list of species included in Attachment C should also be discussed or referenced. | | As discussed in Section 8.11.1, The U.S. Army Corps of Engineers has re-initiated consultation with the National Marine Fisheries Service on the Biological Opinion. No flow requirements are presently in place, even though MCWRA continues to operate in accordance witht he 2007 biological opinion as a safe harbor practice. The GSP is not required to meet flow requirements, it is only required to assess whether depletions due to pumping are significant and unreasonable. Therefore, there is no need to list flow requirements in this document. The Salinas Valley Water Project Flow Prescription for Steelhead Trout in the Salinas River (MCWRA, 2005) will be included in the list of references uploaded to DWR during GSP submission. | TNC comments - Salinas 180-400ft.pdf |

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| W-108 | | | | | 11/25/2019 | TNC | Model estimates should be monitored more closely than every five years in order to detect potentially significant effects in a time frame that allows for rapid response and alleviation of ecosystem decline. Please discuss how the minimum threshold will be measured in a way that assures protection of GDEs and instream environmental beneficial users. | | The GSP will be addressed regularly in accordance with SGMA regulations. The modeling approach to assessing depletions due to pumping is the approach proposed in the DWR BMP for monitoring. | TNC comments - Salinas 180-400ft.pdf |
| W-109 | | | | | 11/25/2019 | TNC | It is noteworthy that the table does not include a single well completed in the Shallow Alluvial or Dune Sand Aquifer. Please identify the lack of shallow aquifer monitoring wells as a data gap, and cross reference your plans discussed in Chapter 7 to install a sufficient number of shallow monitoring wells to assess potential undesirable results to GDEs. | | No wells are included for the shallow sediments because they do not constitute a principal aquifer. However, shallow wells along the Salinas River that will help estimate river depletions are identified as a data gap, and will be installed during implementation. | TNC comments - Salinas 180-400ft.pdf |
| W-110 | 8.6.2.3 and 8.7.2.2 | | | | 11/25/2019 | TNC | Please revise these sections to include a discussion regarding the effects of potential groundwater level declines on GDEs and limitations of groundwater level monitoring alone to assess potential undesirable results to GDEs. | | In accordance with SGMA regulations, chapter 8 includes a discussion of how minimum thresholds effect ecological users for each of the six sustainability indicators. | TNC comments - Salinas 180-400ft.pdf |
| W-111 | 8.6.2.5 and 8.7.2.4 | | | | 11/25/2019 | TNC | Please include a discussion explaining how GDEs, ISWs and recreational uses may benefit or be protected by implementation of the proposed Minimum Thresholds and Measurable Objectives. | | In accordance with SGMA regulations, chapter 8 includes a discussion of how minimum thresholds effect ecological users for each of the six sustainability indicators. | TNC comments - Salinas 180-400ft.pdf |
| W-112 | 8.6.4.3 | | 8-26 | | 11/25/2019 | TNC | This section should be revised to use these data as a basis for addressing how the proposed compliance strategy will address significant and undesirable decline of GDEs at the spatial scale already observed in the GDE Pulse data. | | The undesirable result includes the additional clause that no one well will exceed it's minimum threshold for more than two consecutive years to avoid ongoing, localized water level declines. | TNC comments - Salinas 180-400ft.pdf |
| W-113 | 7 | 7-2 | 7-4 | | 11/25/2019 | TNC | This fact should be acknowledged with a cross reference to Section 7.2.4 which describes the proposed actions to remedy this situation. | | Section 7.2.4 only addresses the groundwater level monitoring plan for principal aquifers, and therefore is not relevant as a cross reference for the shallow sediments. Shallow wells along the Salinas River that will help estimate river depletions are identified as a data gap for the surface water depletion SMC. | TNC comments - Salinas 180-400ft.pdf |
| W-114 | 7.7 | | 7-29 | | 11/25/2019 | TNC | Please revise this section to (1) reflect what is known and published regarding potential surface-groundwater interactions in the subbasin and related groundwater level and budget trends, (2) identify the existing data gaps, and (3) provide recommendations for an adequate number of monitoring wells to assess surface-groundwater interaction and shallow groundwater level trends. | | Text has been added to discuss the uncertainty regarding the fate of surface water depletions. | TNC comments - Salinas 180-400ft.pdf |
| W-115 | | | | | 11/25/2019 | TNC | Please specify what other monitoring data and methods will be implemented to inform a determination whether significant and unreasonable impacts to GDEs are occurring, and explain how they will adequately meet the requirements of 23 CCR §354.34(c)(6) relative to GDEs and ISWs. | | The groundwater model will be used to assess whether future surface water depletions exceed current rates, and therefore become unreasonable. | TNC comments - Salinas 180-400ft.pdf |
| W-116 | | | | | 11/25/2019 | TNC | In Appendix 7B, please include monitoring protocols that meet the requirements of 23 CCR §354.34(c)(6) relative to GDEs and ISWs. | | Because there is no specific GDE monitoring other than estimating surface water depletion rates, no monitoring protocols are required. | TNC comments - Salinas 180-400ft.pdf |
| W-117 | 9.1 | | 9-1 | | 11/25/2019 | TNC | Please include environmental benefits and multiple benefits as criteria for assessing project priorities. | | The SVBGSA will attempt to address multiple benefits as the list of projects are refined. | TNC comments - Salinas 180-400ft.pdf |
| W-118 | 9.3 | | 9-9 to 9-21 | | 11/25/2019 | TNC | Please consider adding Management Actions which include education and outreach for protection of GDEs and ISWs as well as specific management of these ecosystems and the species they provide for. | | Text has been added to the existing education and outreach management action. | TNC comments - Salinas 180-400ft.pdf |

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| W-119 | 9.4 | | | | 11/25/2019 | TNC | Section 9.4.1 lists “Direct Recharge through recharge basins or wells” as one of the four major types of projects that can be developed to supplement the 180/400-Foot Aquifer Subbasin’s groundwater supplies or limit seawater intrusion. However, only one of this project type is presented, as an Alternative Project. The description of Measurable Objectives for Alternate Project 2 (Recharge Local Runoff from Eastside Range) only identifies benefits to groundwater elevation, groundwater storage, land subsidence, and groundwater quality. Because maintenance or recovery of groundwater levels or construction of recharge facilities may have potential environmental benefits, it would be advantageous to demonstrate multiple benefits from a funding and prioritization perspective. For Alternate Project 2, please consider stating how ISWs and GDEs will benefit or be protected, or what other environmental benefits will accrue. | | The comment is inaccurate: priority projects 7, 8 and 9 are all direct recharge projects. Alternate project 2 is included only for Valley-wide completeness, but does not directly impact the 180/400-Foot Aquifer Subbasin. This project will be discussed in more detail in the Eastside Subbasin GSP. | TNC comments - Salinas 180-400ft.pdf |
| W-120 | 9.4 | | | | 11/25/2019 | TNC | If ISWs and GDEs will not be adequately protected by the projects listed, please include and describe additional management actions and projects targeted for protecting ISWs and GDEs. | | Existing projects and actions, including priority and alternate projects and actions, are sufficient to avoid all undesirable results. | TNC comments - Salinas 180-400ft.pdf |
| W-121 | | | | | 11/25/2019 | TNC | Please consider identifying if there is habitat value incorporated into the design and how the recharge basins will be managed to benefit environmental users. Grant and funding considerations for SGMA-related work may be given to multi-benefit projects that can address water quantity as well as provide environmental benefits. Therefore, please include environmental benefits and multiple benefits as criteria for assessing project priorities. | | The SVBGSA will attempt to address multiple benefits as the list of projects are refined. The clear example is project #1 - invasive species removal. | TNC comments - Salinas 180-400ft.pdf |
| W-122 | 3.4.1 | | | | 11/25/2019 | Chevron | It is stated in the GSP, that the 180/400-Foot Aquifer Sub-basin has three water source types: groundwater, surface water, and recycled water. However, there is inconsistent use of terminology: both "recycled" and "reclaimed" water appear to be used interchangeably in the document. Chevron recommends the consistent use of the term reclaimed as opposed to recycled. While the terms are synonyms, reclaimed better describes the conversion of wastewater into water that can be reused for other purposes. | | All mentions of reclaimed water have been changed to recycled water for consistency. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-123 | | | | | 11/25/2019 | Chevron | Chevron recommends that the SVBGSA include a fourth category, that being "desalinated water". This will include the desalinated new water that is expected to be produced by the California American Water (Cal-Am) Monterey Peninsula Water Supply Project. It will also allow for the inclusion of water sources created via reverse osmosis or equivalent processes. | | This will be considered in the future, but at this point is not included because there currently are not any sources of desalinated water in the Subbasin. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-124 | 3.9 | | | | 11/25/2019 | Chevron | Chevron recommends that the California American Water (Cal-Am) Monterey Peninsula Water Supply Project also be included in this section. While not reclaimed water, the Cal-Am desalination project will represent a new source of water that will be used for urban uses in the Monterey Peninsula, which will offset water demand from the other water sources within the Sub-basin. | | There is uncerainty regarding whether this project will move forward, so this was not included at this point. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |

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| W-125 | 6 | | | | 11/25/2019 | Chevron | The "future" water budget is based on output from a groundwater model still under developed by the USGS. Chevron notes that the Salinas Valley Integrated Hydrologic Model (SVIHM) has not been made available for public review. Chevron formally requests that a copy of the model and its relevant input parameters be provided for review. Without external review, the water budget lacks foundation for broad stakeholder acceptance and becomes a matter of faith. | | USGS will release the SVIHM review in 2020, at which point stakeholders can review it. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-126 | 6 | | | | 11/25/2019 | Chevron | Although this GSP is for the 180/400-Foot Aquifer Sub-basin, the SVIHM is dependent on flow parameters for the entirety of the Salinas Valley Basin. Chevron notes that the amount of monitoring well data at the southern boundary of the Salinas Valley - Upper Aquifer Sub-basin is sparse (between Monterey and San Luis Obispo counties). This could be a consequential source of error in the USGS model. | | Comment noted. The USGS is working on reducing error within the model. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-127 | 6.2.2 | | | | 11/25/2019 | Chevron | Chevron notes that the Groundwater budget inflows does not include desalinated water and recommends that it be added to the "Inflows" budget. This will account for new source of desalinated water expected from projects like the California American Water (Cal-Am) Monterey Peninsula Water Supply Project | | Comment noted. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-128 | 6.11 | | | | 11/25/2019 | Chevron | In answer to a Chevron question posed at a meeting of the Advisory Committee, it was learned that the USGS model has not been history matched using actual data from prior years. Replicating historical data seems an obvious first step in validating the efficacy of the model. Accordingly, what is the technical foundation for the expressed confidence in the SVIHM Model? | | The water budgets will be updated when USGS releases the SVIHM in 2020. It was the best available data while the future water budget was under development. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-129 | | 7-5 | | | 11/25/2019 | Chevron | Table 7-5 contains placeholders for data not yet populated. Will data for desalination projects be include in the data field labeled "Recharge"? If not, Chevron recommends that an additional column be added to capture desalination projects. | | Comment noted. This data is to be populated in the future, after GSP submittal. | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf |
| W-130 | | | | | 11/25/2019 | The Otter Project | The Plan is a plan to create a plan at a later date. The SGMA was passed by the California legislature in 2014 and GSAs have had five years to form and create plans for priority watersheds. The Draft GSA is incomplete. Over and over again the Draft Plan uses “Details to be Developed Later.” This is unacceptable at this late date. Instead of using best available data and modeling, the Draft GSP proposes to wait for a USGS model that has been promised for -- literally -- years. Instead of making a good effort to create a plan around the two existing models that call for reduction of extraction of 22 and 45 percent (in addition, see comment two below), the SVBGSA proposes to wait for a model that they hope will be more generous. As noted, the Central Coast is the region most reliant on groundwater, critically over-drafted, and as noted by numerous studies of nitrate contamination,3 perhaps one of the most contaminated in the state. Waiting is not an option. | | Comment noted. The GSP establishes a clear definition of sustainability in the SMC chapter; and presents the tools SVBGSA will use to achieve sustainability in the Projects and Actions Chapter. While many details on the projects and actions have yet to be finalized, this is not a plan to create a plan. | TOP GSP comments.pdf |

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| W-131 | | | | | 11/25/2019 | The Otter Project | The amount of "Usable Storage" is over-estimated by 21 to 32 percent. As stated in section 5.3, the definition of usable storage is: "[T]he annual average increase or decrease in groundwater that can be safely used for municipal, industrial, or agricultural purposes."<br>But the same paragraph goes on to state: "Change in usable groundwater storage is the sum of change in storage due to groundwater level changes and the change in storage due to seawater intrusion." "Usable" does not mean, just for agriculture. Just as saltwater is not available for agricultural use, nitrate contaminated groundwater is not available for municipal use. As outlined in the executive summary, three different studies have shown the lower Salinas basin groundwater to be heavily contaminated with nitrates. Agricultural fields require the application of literally hundreds of pounds of chemicals per acre.4 The impact of not considering nitrate laden groundwater is to allow pumping far above the seven-percent reduction mentioned is the Draft GSP. This pumped groundwater will then percolate through the chemical laden soils and further contaminate groundwater. The actions or inactions of the SVBGSA will directly impact water quality; by allowing excessive pumping water quality will be degraded, an action considered an "undesirable result" not allowed under the SGMA. This SVBGSA action or inaction could also violate the California Nonpoint Source Pollution Policy recently successfully litigated in the trial and appellate courts by Monterey Coastkeeper. | | Usable is interpreted to mean usable by at least one group of groundwater users. Therefore, groundwater with elevated nitrates is still considered usable groundwater. | TOP GSP comments.pdf |
| W-132 | | | | | 11/25/2019 | The Otter Project | Comment Three: Nitrate laden groundwater plumes are ignored in the Draft GSA. The Draft GSA states at 7.5: " There are no known significant contaminant plumes in the GSP area, therefore the monitoring network is monitoring non-point source pollution and naturally occurring water quality impacts." This statement contradicts studies performed by the Monterey County Water Resources Agency, a partner agency for implementation of the GSP. Graphically, nitrate plumes in the 180/400 aquifers are demonstrated in the following illustration extracted from a MCWRA report (see document for figure). Increases in nitrate concentration are results of contamination plumes. Monitoring of plumes will most likely require a greater density of monitoring site. | | The statement about significant contaminant plumes refers to remediation sites associated with point source contamination. The GSP acknowledges that there are elevated nitrates broadly distributed throughout the Subbasin, and a map of the elevated nitrates is included in the GSP. | TOP GSP comments.pdf |

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| | | | | | 11/25/2019 | The Otter Project | Comment Four: The cost of priority projects is greatly underestimated. Not all projects were evaluated, but review of the highest priority project, Invasive Species Eradication, revealed a gross under-estimation of the costs of the project. One must wonder if all project costs are under-estimated. The concept is to remove the invasive reed Arundo donax and benefit from the resulting evapotranspiration water savings. Without question, removing Arundo is desirable and would have environmental benefits. However it is extremely expensive as evidenced by the very high cost of the 2014 removal of 75 acres; approximately 1500 acres remain. Referring to the removal project the Draft GSP states: "Implementation costs for these projects are typically capital intensive with only minor long-term maintenance costs. Thus, the water supply benefit/cost ratio can increase significantly over the long term." The concept that removal of 1500 acres of Arundo is financially feasible is a fallacy and the idea that the long term maintenance cost will be minor is equally flawed. As has been experience during the initial roll-out of the project, not all landowners are cooperative and Arundo will re-infest areas very quickly. Continuous removal will be required. The benefits may be exaggerated as well: removal of Arundo do not result in bare dirt, the Arundo is replaced by other plants that could use a very significant amount of water, just as the Arundo did. | | Comment noted. Costs and associated benefits will be refined as the projects are refined during GSP implementaiton. | TOP GSP comments.pdf |
| W-134 | | | | | 11/25/2019 | The Otter Project | The Tiering Structure of the pumping allowances will be ineffective – for many years – in reducing over-extraction of groundwater. The Draft GSP states that sustainable pumping allowances will be developed over the first three years. We believe this first step is structured to take far longer. We believe determination of the allowances will take longer because of the structure of the board, and/or allowances will be overgenerous in pro-rata allocation and underpriced (limiting management actions) because of the structure of the board.<br>Once the sustainable pumping allowances are determined, the tiering structure is designed to not meet the goal of sustainable balance within 20 years. As stated on page 9-5, the Tier Two transitional pumping allowance will be phased out over 10 to 15 years. The result of three years of sustainable allowance planning and a 10 to 15-year transition means that it takes 13 to 18 years to even start to come to balance. Also as stated on page 9-5, "Maximum annual (calendar year) pumping between 2012 and 2017 will be used to determine transitional pumping allowances." In other words, the Draft GSP requires absolutely no reduction in pumping from the over-extraction-status-quo for the first 13 to 18 years and then "overnight" growers will be required to meet their sustainable pumping allowance.<br>We believe, the tiering structing leads to growers simply planning to pay supplemental charges instead of reducing pumping. Again, we must state that because of the board voting structure, the growers control the fees. | | The tiered water charges framework is designed to encourage, but not demand, pumping reductions that meet the 20-year sustainability goal. Any groundwater pumper will have the option of paying supplemental charges instead of reducing pumping. The funds from these supplemental charges will be used to implment additional projects and retain teh Subbaisn's groundwater balance. | TOP GSP comments.pdf |

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| W-135 | | | | | 11/25/2019 | The Otter Project | The ability to “Carry over” (9.2.3) or”Transfer” (9.2.4) saved water defeats the entire purpose of the Draft GSP and in addition, carry over water is simply “paper water” that will likely no longer exist in the basin. Water moves. Pumping less that the allocation is a very good thing, but that water allowance can not be carried over into a future year as that water has moved downslope and may no longer be in the watershed. | | The SVBGSA has the option to either implement the carryover options or not. Carryover can be reduced annually to account for water that leaves the Subbaisn. | TOP GSP comments.pdf |
| W-136 | | | | | 11/25/2019 | Rincon Farms | How are water rights, specifically appropriated water rights being considered in the plan for the 180/400 Sub-Basin? Especially when it comes to allocation and pumping. What are the details or ideas on specifics for well extraction limits? Can previously held water rights be mandated with limits? Legal ramifications will need to be considered.<br>Specifically in Gonzales, please consider the jurisdiction of the former Gonzales Irrigation Company- there are special preliminary water rights in this region from this case. These pre-1914 water rights could take precedent over other rights on other parcels in Monterey County. In drought instances ifthere is a shortage of water, holders of these rights may have first call on river water even if it is not taken directly from the river. (See letter to Clarence "Toots" Vosti and map enclosed). Supporting the invasive species issue in the Salinas River should not just stop at Arundo donax- a more thorough examination and analysis of the species in the river should conclude other finds that with their removal can also gain additional water to help with replenishing our aquifer. Other ways to help penetration and replenishment would be additional clearing of our river channels. | | Water rights will be considered and analyzed as projects and management actions are further refined and designed in the implementation phase of the GSP. | Public Comment_Rincon Farms.pdf |
| W-137 | | | | | 11/25/2019 | Rincon Farms | How will this plan handle well drilling rights or replacement wells?<br>In cases of financial hardships, there should not be a penalty or cease of water rights and/or access. Be aware of Ag Order 4.0 on its jurisdiction of groundwater. Part of the new regulations, specifically in Table 5, is crossing into SGMA territory by requiring irrigated riparian habitats/buffers. Most of the irrigated water in the Salinas Valley is groundwater. It is in the best interest of landowners, farmers and SVBGSA to monitor this cross over of regulatory agencies. And a final note, please consider or make sure to be aware of the SVPOLA- Salinas Valley Property Owners for Lawful Assessments v. County of Monterey (Monterey County Superior Court Case No. M66890). From this court case there may need to be reconsideration of the responsibility for salt water intrusion for those represented land parcels whose owners won the ruling of this case. Most of these parcels are in the southern portion of the Pressure Area, which does not fall under the same category or jurisdiction of other parcels in the Pressure Area. | | Well drilling rights and replacement wells will be considered in the implementation phase of the GSP. Implementation of the GSP will work together with Ag Order 4.0 and other areas of potential regulatory overlap. | Public Comment_Rincon Farms.pdf |

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| W-138 | 5 | | | 5-23, 5-24 | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | Based on the seawater intrusion maps developed by the MCWRA, there is significant uncertainty regarding the extent of seawater intrusion in the northern and southern portions of the impacted area for both the 180-Foot and 400-Foot Aquifers.2 These uncertainties are not reflected in the draft GSP's presentation of MCWRA's historical seawater intrusion boundaries (Figure 5-23 and 5-24), or in the draft GSP's adoption of these boundaries as the basis for its seawater intrusion MTs. Therefore, it is not known how far seawater has actually intruded in the areas of Castroville and north of Castroville (DACs) and it is not known to what degree the proposed seawater intrusion MTs are protective of beneficial users in these areas. This uncertainty is not clearly and transparently reflected in the draft GSP, which is of particular significance as these data are used as the basis for MTs. | | The GSP includes an action to develop a seawater intrusion working group to address the uncertainty in the extent and location of seawater intrusion. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-139 | 7 | 7-2 | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP includes hydrographs for numerous wells in the 180-Foot and 400-Foot Aquifers, but, as the draft GSP acknowledges, does not include any such data for the Deep Aquifer, which represents a significant data gap. Well 13S02E19Q003M,3 listed in Table 7-2 of the draft GSP, is part of the California Statewide Groundwater Elevation Monitoring (CASGEM) monitoring network and water level data are available. The draft GSP should at least consider and include data from this well. While limited data are available for this well, as shown in the hydrograph below, water levels at this well show a declining trend over the available period (2014 – 2019). In order to develop a better understanding of the subbasin, the interaction between aquifers, and the conditions of the Deep Aquifer, the Salinas Valley Basin Groundwater Sustainability Agency (SVGSA) should work to fill this data gap and at a minimum, should include the limited available data in the draft GSP. | | The hydrograph has been added as existing data for the deep aquifer. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-140 | 8-6 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The review of water quality data in the groundwater conditions section of the draft GSP (Section 5.5) is very limited and focused almost entirely on nitrate. The draft GSP identifies numerous constituents that have been detected in groundwater above drinking water standards, but, with the exception of nitrate, does not present this data spatially or even in tabular format. Even though the draft GSP sets water MTs for these constituents (Table 8-6 through 8-9), the supporting data are not presented, and no analyses of spatial or temporal water quality trends are presented. This does not present a clear and transparent assessment of current water quality conditions in the subbasin with respect to drinking water beneficial use (23 CCR § 354.16(d)). It is therefore recommended that the GSP include specific discussions supported by maps and charts, of the spatial and temporal water quality trends for constituents that have exceeded drinking water standards. | | The GSP is based on best available data. No existing maps are available for the mapped extent of most constituents of concern. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |

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| W-141 | 4.4.1 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP identifies three principal aquifers, i.e., the 180-Foot Aquifer, the 400-Foot Aquifer, and the Deep Aquifers, and notes that the subbasin's "aquitards and aquifers have long been recognized, and are the distinguishing features of this subbasin" (Section 4.4.1). However, despite this, the draft GSP lumps all three aquifers together in its evaluation of the water budget, and does not appear to account for lag time and flows between aquifers, or the effects of differential pumping rates and changes in pumping rates between aquifers. Given this, it is not clear that the projected water budget, as developed in the draft GSP, is sufficiently robust and representative of subbasin conditions for purposes of fully assessing sustainable yield. | | The water budget is developed for the entire Subbasin in accordance with SGMA regulation 354.18(a) | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-142 | 6 | 6-31 | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The projected sustainable yield values presented in Table 6-31 of the draft GSP reflect a roughly 7% reduction in groundwater pumping, but still reflect an annual change in storage deficit of approximately 4,700 acre-feet per year (AFY). It is not clear how the sustainable yield of a subbasin already severely impacted by seawater intrusion can include continued decline in storage, particularly when the proposed inland groundwater flow gradients under the water level sustainable management criteria (SMCs) will allow for continued seawater intrusion into the subbasin. This sustainable yield value also does not take into account of the effects of a hydraulic barrier, which the draft GSP highlights as necessary to achieve the seawater intrusion SMCs. 5 Thus, the sustainable yield values presented in Section 6.10.5 do not appear to be reflective of the sustainability conditions outlined elsewhere in the draft GSP. It is important that the sustainable yield values take into consideration all factors that will lead to long-term sustainability of the subbasin, especially given that these values form the basis for the Water Charges Framework described in Section 9.2. | | Text has been added to explain that the sustainable yield is a long term management number, not the amount of pumping needed to stop current seawater intrusion. The sustainable yield assumes seawater intrusion has been halted. In other words, the future sustainable yield is the sustainable yield once actions have been taken to reach measureable objectives and avoid undesirable results. Prior to the future sustainable yield there will need to be actions taken to come to sustainability. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |

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| W-143 | 8 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | In its discussion of the relationship between the water level MTs to other sustainability indicators, Section 8.6.2.3 of the draft GSP indicates that "A significant and unreasonable condition for seawater intrusion is seawater intrusion in excess of the extent delineated by MCWRA in 2017. Lower groundwater elevations, particularly in the 180- and 400-Foot Aquifers, could cause seawater to advance inland. The groundwater elevation minimum thresholds are set at or above existing groundwater elevations. Therefore, the groundwater elevation minimum thresholds will not exacerbate, and may help control, seawater intrusion." However, as shown in Figure 8-2 and 8-3 of the draft GSP, the proposed water level MTs are set at 0 feet above mean sea level (ft MSL) along the coastline, and decrease farther east for both the 180- and 400-Foot Aquifers. Figure 8-2 and 8-3 are excerpted below and shown alongside the August 2017 groundwater level contours (Figure 5-3 and 5-5 from the draft GSP). As illustrated here, while the groundwater flow gradient would be less steep, the direction is consistent with the conditions that have resulted in seawater intrusion. Given that the inland water level MTs are below sea level an easterly groundwater flow gradient will remain and seawater intrusion will continue. While the rate of seawater intrusion would likely be slower than observed historically, even if the water level MTs were met today, seawater intrusion will still continue within the subbasin, threatening the drinking water supplies for DACs and other vulnerable populations...(see letter for remainder of comment). | | The minimum thresholds are set independently for each sustianability indicator. All six undesirable results must be avoided simultaneously, therefore there is no need to predicate the groundwater elevation undesireable result on the seawater intrusion undesirable result. Furthermore, groundwater elevations will be different if seawater intrusion is manager through an extraction barrier, or if it is managed through significant managed recharge. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-144 | 8 | 8-2 | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | Charts 2a and 2b below reflect the proposed SMCs (per Table 8-3 of the draft GSP) for the 180-Foot and 400-Foot Aquifer water level representative monitoring wells (RMWs) located in and near the areas of seawater intrusion (wells identified on excerpted Figures 8-2 and 8-3 above). If the measurable objectives (MOs) are met, this represents a relatively small decline in water levels from current conditions in most wells, and in some wells an increase in water levels. However, the MTs in most cases represent a substantial decline in water levels from current conditions, to levels well below sea level. Given that current conditions are resulting in significant seawater intrusion conditions, it is unclear from the draft GSP how such declines in water levels will result in sustainability for the beneficial uses and users of the subbasin, and how seawater intrusion will be limited to 2017 limits (i.e., the seawater intrusion MTs). | | The measurable objectives are set independently for each sustianability indicator. All six undesirable results must be avoided simultaneously, therefore there is no need to predicate the groundwater elevation undesirable result on the seawater intrusion undesirable result. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |

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| W-145 | | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP definition for degraded water quality identifies constituents of concern (COCs) as those that have an established level of concern or affect crop production and have been found in the subbasin above those levels of concern (Section 8.9.2). Further, the list of monitored COCs is dependent on the water quality constituent that each type of well is monitored for independent of the Sustainable Groundwater Management Act (SGMA). As illustrated in Tables 8-6 through 8-9 of the draft GSP, many COCs have been detected in municipal supply wells that have not been detected in domestic or small system wells, because these wells are not routinely tested for as many constituents as municipal supply wells. Given this selective sampling and establishment of MTs for water quality constituents, the draft GSP does not present a monitoring network that is sufficient to monitor for impacts to beneficial users who rely on domestic wells and small water systems for drinking water (pursuant to 23 CCR § 354.34(b)(2)) and the draft GSP does not fully evaluate how these selective MTs will affect the interests of these beneficial users (pursuant to 23 CCR §354.28(b)(4)). | | The monitoring system includes both large municipal and small water systems. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-146 | | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | DACs and public water systems in the subbasin, and the seawater intrusion MO and MTs. There are no water level RMWs located in the northernmost portion of the subbasin, in an area with a high concentration of domestic well users. Thus, the water level monitoring network is inadequate to properly monitor for these sensitive beneficial users, as required under 23 CCR §354.34 (b)(2). | | Figures 7-4 and 7-5 identify areas with data gaps. These data gaps will be filled by measuring either existing wells or installing new wells. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-147 | 3 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | Figures 3A and 3B show the estimated water decline from current conditions that would occur at each RMW if water levels reach the MTs for the 180-Foot and 400-Foot Aquifers, respectively. As shown in Figure 3B, the MTs for two RMWs (14S/02E-03F03 and 14S/02E-12B03) located along the 2017 seawater intrusion line/seawater intrusion MT are more than 20 feet below current groundwater conditions. The GSP should explain how continued water level declines in areas already or imminently impacted by seawater intrusion will result in sustainable conditions for beneficial users. | | The minimum thresholds are set independently for each sustianability indicator. All six undesirable results must be avoided simultaneously, therefore there is no need to predicate the groundwater elevation undesirable result on the seawater intrusion undesirable result. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |

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| W-148 | 8 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP does not clearly identify what wells will specifically be used as water quality RMWs, but rather lists MTs by general type of well (i.e., Municipal Supply Wells, Small Systems Supply Wells, Irrigated Lands Regulatory Program (ILRP) Domestic Wells, and Agricultural Use in ILRP Wells) in Tables 8-6 through 8-9, and states that the MOs are the same as the MTs (Section 8.9.3).6 However, under 23 CCR §354.34(h), the GSP must include "The location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used." Thus, the GSP must clearly identify on both maps and in tabular form each of the wells to be used as RMWs for water quality. Without this information, the public cannot review and assess the adequacy of the proposed GSP to monitor impacts to beneficial users of groundwater, in particular those reliant on domestic wells for drinking water purposes. | | The groundwater quality monitoring wells are shown in Figure 7-9 and 7-10. Well data are listed in Appendix 7E | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-149 | 7 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | Table 7-2 of the draft GSP tabulates the locations and well depths of existing CASGEM wells and Table 7-4 of the draft GSP tabulates the locations and well depths of seawater intrusion RMWs. However, the well locations and well depths are different between these two tables for a given well (based on the State Well Number [SWN]).7 Therefore, it is unclear what well information is accurate, and as a result the draft GSP does not fulfill the requirement of 23 CCR § 354.34(h). | | All well tables are being double checked. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-150 | 9 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP identifies an estimated groundwater storage deficit of up to 9,600 AFY under 2030 conditions and up to 10,300 AFY under 2070 conditions (Table 6-29), which represents roughly 8.5% of agricultural pumping and 6% of total pumping in the basin (Table 6-30). In order to arrest and roll back seawater intrusion to 2017 levels, significant projects and management actions will need to be implemented. The draft GSP identifies several potential options but does not select one clear path forward. The options include a hydraulic barrier, which "can be operated as a recharge barrier, wherein water is injected into the wells and the resulting water level mound creates the hydraulic barrier. Or the barrier can be operated as an extraction barrier, wherein the wells are pumped and the resulting water level trough creates the hydraulic barrier" (Section 9.4.1.4). The draft GSP identifies a seawater intrusion pumping barrier and estimates that operation will require withdrawing up to 30,000 AFY of groundwater, which would then be conveyed to discharge into the Pacific Ocean or to a new or existing desalination plant (Section 9.4.3.7). The draft GSP also states that an "optional barrier using injection instead of extraction was also considered" and that this option would require injection of approximately 46,000 AFY of water to create a protective mounding effect. While it is clear that one of these options is necessary to achieve the seawater intrusion MTs, the draft GSP does not consider and fully articulate impacts of these options on the projected water budget or sustainable yield. Implementation of either an extraction or a recharge barrier will, by definition, change the localized groundwater flow gradients. An extraction barrier will result in localized seaward flow gradients, and some portion (likely significant) of the estimated 30,000 AFY extracted will be of freshwater from the subbasin. (see letter for remainder of comments) | | The projects and management actions identified in Chapter 9 will be implemented as part of an overall program. Each project or management action has both benefits and some impact on the Subbasin water budget. The final selected set of projects and management actions will meet all six sustainability indicators and balance the Subbasin water budget.. | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf |

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| W-151 | 9 | | | | 11/25/2019 | Clary, Dolan, Arthur, Lukacs, Matsumoto, Ortiz-Partida | The draft GSP contemplates "Agricultural Land and Pumping Allowance Retirement [sic]" as a management action (Section 9.3.2), but does not actually quantify the scale or expected benefit of such a management action.... the future overdraft conditions including implementation of the pumping barrier represents approximately 40% of agricultural pumping. The draft GSP also identifies several potential recharge projects to augment the groundwater supply, but these projects, along with the pumping barrier, require construction of infrastructure and will take years to implement even under the best circumstances. In order to achieve the seawater intrusion MTs and to avoid further degradation of the subbasin, more immediate action is necessary. Thus, the draft GSP should: 1) more transparently lay out and quantify the deficit that needs to be addressed by projects and management actions; 2) provide a clear plan for implementing pumping restrictions and agricultural land retirement with specific targets; 3) clearly articulate how much pumping will need to be reduced in the subbasin; and 4) quantify and present the degree of continued seawater that will occur before the projects and management actions are implemented. | | The projects and management will be refined during GSP implementation, and will clearly articulate how the projects individually, and as a program, achieve sustainability. | Salinas Valley - 180_400 Ft Aqufer GSP FULL Analysis V2 Ag Innovations.pdf |
| W-152 | | | | | 11/25/2019 | RCDMC | GSP in section 9.3.3 "Priority Management Action 2: Outreach and Education for Agricultural BMPs" starting on page 9-12. According to personal communication with local UC Cooperative Extension Farm Advisors (Drs. M. Cahn and R. Smith), they have observed potential agricultural water use efficiency increases of 10% on average among the farmers they have surveyed and/or with whom they have conducted water use efficiency trials while factoring in necessary leaching fractions and maintaining comparable yields. We actively engage in local producer and irrigator trainings for water use efficiency. However, beyond simply providing outreach and education, we need to invest in critical tools for guiding more efficient irrigation management decisions. Placement of additional weather stations throughout the valley that better reflect the variable microclimates that farmers experience moving west to east and north to south is a relatively low-cost project with substantial potential benefit. Such stations can be installed relatively cheaply (around $10k each) and connected to the CA Dept of Water Resources' California Irrigation Management Information System (CIMIS) for easy online access and incorporation of weather and reference evapotranspiration data for informing day-to-day water management on area farms. Support for more stations in the Salinas Valley could be a low-expense relative to impact project for the GSP. | | Comment noted. Text has been added to management action 2. | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |

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| W-153 | | | | | 11/25/2019 | RCDMC | The RCD's official name is the 'Resource Conservation District of Monterey County (RCDMC)' rather than the 'Monterey County Resource Conservation District (MCRCD).' | | Text has been fixed | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |
| W-154 | | | | | 11/25/2019 | RCDMC | There are two programs currently underway on the river: the RCD's Arundo Control Program, and the Salinas River Stream Maintenance Program (SMP). While we work very closely and compatibly, and in-fact do have substantial interconnectivity between the two programs, they are, in fact, distinct, with separate lead agencies and separate environmental permits. The RCD is CEQA lead and holds all permits for the Arundo Control Program, and Monterey County Water Resources Agency is the CEQA lead and holds the primary permits for the SMP. It is a bit confounding that the RCD is the CDFW permittee on behalf of the SMP, and that arundo control is a valuable mitigation option for SMP participants. That's a blessing of a history of positive collaboration between two mutually-beneficial programs developed somewhat in parallel in the first half of this decade. The majority of arundo control work on the river is being conducted under the RCD's program. | | Text has been modified to discuss the Arundo Control Program | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |
| W-155 | | | | | 11/25/2019 | RCDMC | It's important to acknowledge the pivotal role that the Monterey County Agricultural Commissioner's Office has played in the genesis, development and continuity of the RCD's Arundo Control Program. They provided the initial funding and encouragement to initiate the program in 2009 and remain a critical partner to the RCD in this endeavor. As such, they are also an important partner for the GSA. | | Comment noted | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |
| W-156 | | | | | 11/25/2019 | RCDMC | On page 9-27, reference is made to the wide range of estimated potential water savings to be garnered from arundo eradication. We have communicated to GSA consultants that there is research needed to better understand the actual water conservation benefits on the Salinas River and that we have pursued research partnerships with Cal State University Monterey Bay (CSUMB) and UC Santa Barbara for this purpose, both at very different scales. CSUMB is currently funded through one of our Wildlife Conservation Board grants to use satellite imagery and data to estimate differences in evapotranspiration rates on Salinas River lands with and without arundo. UCSB is measuring water use on individual plants, a method that would provide the highest level of accuracy for understanding water consumption on-site, but for which we have not yet been able to develop or fund a collaboration. We would encourage GSA consideration of inclusion of research funding to better understand the actual water conservation benefits of arundo control along with seeking funding for the arundo control and maintenance work itself. | | Text has been added to acknowledge ongoing studies | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |

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| W-157 | | | | | 11/25/2019 | RCDMC | On this same topic, figures 9-2 and 9-3 on pages 9-28 and 9-29, respectively, show modeled groundwater elevation benefits from arundo eradication within the 180/400-Foot aquifer subbasin, but it is not clear what base numbers (4 ac-ft/ac/year or 20 ac-ft/ac/year?) were used for informing the model, and the units for the groundwater level benefit gradations (feet?) are not identified. | | All groundwater elevations are in feet. The benefits in the GSP are provided as a range, depending on the assumed base number. | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf |
| W-158 | | | | | 11/25/2019 | California Water Service | We recommend the following to be considered and defined in the Water Charges Framework:<br>1. Recognition of a groundwater user's share of a basin's native safe yield and the benefits and/or effects of previous efforts undertaken by the user to augment basin supplies (e.g., investment in water supplies and conservation);<br>2. The ability to incorporate and preserve the projects and water management efforts that are implemented by individual agencies that result in additional supplies to the basin;<br>3. A mechanism by which a projects' yield can be reasonably allocated to those who have contributed to the project, either via the tiered rate structure or through direct investment;<br>4. Flexibility for groundwater users that are located in multiple Salinas Valley subbasins and are willing to invest in projects. Specifically, given the integrated nature of the Salinas Valley subbasins, groundwater users should receive credit for projects and water management efforts across subbasins where there are demonstrable benefits (i.e. each subbasin's issues do not need to be entirely addressed through projects in that subbasin). | | The letter has been read and the comments in the letter have been reviewed and considered. These will be taken into consideration during the GSP implementation phase, as the Water Charges Framework is refined and implemented. | California Water Service 180-400 GSP Comments.pdf |
| W-159 | | | | | 11/25/2019 | ALCO | Because the California Legislature has already declared, in California Water Code § 1063, that the highest use of water is for that 15f domestic purposes, which is the type of water that Alco and all other municipal water providers provide, Alco believes that municipal water providers must be allowed a Tier 1 sustainable allowance, which should be based on historical groundwater pumped by municipal water providers. Courts, including the California Supreme Court and Federal Courts, have upheld California Water Code § 106' s declaration that the highest use of water is domestic use and that this is binding upon all California agencies. Please refer to the cited cases, below: Provision of this section declaring that use of water for domestic purposes is the highest use to which water can be devoted is binding on every California agency, City of Beaumont v. Beaumont Irrigation District (1965) 46 Cal.Rptr. 465, 63 Cal.2d 291, 405 P.2d 377. And, Provisions of this section declaring general state policy that use of water for domestic purposes is the highest and best use and in § 106. 5 that rights of municipalities are to be protected to extent necessary for existing and future uses, do not merely regulate administrative action which state engineer might take on applications to appropriate surplus water, but they constitute part of substantive law of California delineating rights of users of water. Rank v. Krug, S.D.Cal.1956. 142 F.Supp. 1. | | Comment noted. The water charges framework will not alter water rights and is not envisaged to ban or place limitations on groundwater pumping, and as such will not restrict municipal pumping directly. Whether it establishes Tier 1 sustianable pumping allowances for municipal water providers will be considered during the design of the framework. | Alco's Comments on SVBGSA GSP for 180-400 ft Aquifer.pdf |

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| W-160 | | | | | 11/25/2019 | ALCO | As Alco has previously stated, when the SVBGSA is establishing water allowances and water charges framework for municipal water providers, it must take into consideration the obligations of California Water Code § 106.3, the requirements of the CPUC (in the case of water utilities like Alco that are regulated by that agency) and SWRCB on municipal water providers. Alco believes that the Tier 1 sustainable water allowance for municipal water providers should be based on the providers' historical pumping information. Also, the municipal water providers should be able to carry over any excess pumping allowances into future years. Municipal water providers should be able to obtain all pumping credits and/or Tier 1 and Tier 2 pumping allowances for irrigated and fallow lands to which the municipal water provider provides water service in excess of the amounts that are pumped on these lands, if any. | | Comment noted. This will be taken into consideration during the development of the water charges framework | Alco's Comments on SVBGSA GSP for 180-400 ft Aquifer.pdf |
| W-161 | | | | | 11/25/2019 | ALCO | Alco believes that there should be a mechanism for the transfer of pumping credits and/or Tier 1 and Tier 2 pumping allowances for 1) lands or any portion thereof that are converted from agricultural use ( or fallow lands) to development to which the municipal water provider provides service and 2) agricultural lands (or fallow lands) to which the municipal water provider provides water service in excess amounts of the amounts that are pumped on these lands, if any. | | Comment noted. This will be taken into consideration during the development of the water charges framework. | Alco's Comments on SVBGSA GSP for 180-400 ft Aquifer.pdf |
| W-162 | | | | | 11/25/2019 | ALCO | The benefit of allowing parties to directly fund such projects is that the SVBGSA will not have to expend the time, monies and efforts to implement a tax and/or go through the Proposition 218 process. Additionally, the tax burden and/or fees to landowners and residents of the Salinas Valley Basin will subsequently be reduced. | | Comment noted. This will be taken into consideration during the development of the water charges framework and financing options for projects. | Alco's Comments on SVBGSA GSP for 180-400 ft Aquifer.pdf |
| W-163 | | | | | 11/25/2019 | Community Water Center | This letter contained a number of comments on the GSP and its relation to drinking water sources of the vulnerable, and often underrepresented, groundwater users. Its key points include: the GSP should include immediate actions to take effect in 2020 while projects are being developed; the SVBGSA should immediately develop a robust drinking water well program present or mitigate impacts; include a map of DACs; the GSP should revise the basin setting and water budget to better articulate and quantify the needs of drinking water users within the GSA; provide the locations and depths of all public water systems, state and local small water systems, and private domestic wells in the subbasin using hte best available information; and revise SMC to be protective of drinking water users. | | The letter has been read and the comments in the letter have been reviewed and considered. Due to the large number of comments received immediately before GSP adoption, not all comments from this letter are addressed individually in this matrix. Comments that were not able to be individually addressed in this matrix will be addressed as the GSP is implemented and refined. In response to the main points: more detailed analysis and design of projects and management actions is needed before implementation, and this will begin immediately following GSP submittal and simultaneous to the development of other subbasin GSPs; SGMA does not require improving water quality, and it needs to be a choice of the Board to do so, however, there is insufficient time to consider it before GSP submittal; SMC levels and who they protect is a determination of the Board, which can change the levels in the future as needed. | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |

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| W-164 | 7 | | | | 11/25/2019 | Community Water Center | Update language on Chapter 7 to reflect the data gaps mentioned in Chapter 8. Specifically, that state and local small water systems and domestic wells will be part of the monitoring network. (CWC p. 21) | | The text has been updated | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-165 | App 7E | | | | 11/25/2019 | Community Water Center | Clarify through the text or a footnote that well construction information will be added at a later date to the table of state and local small water systems, similar to what is currently Appendix 7E. | | Text now reads: Small public water systems wells, regulated by Monterey County Department of Public Health, include a total of 136 wells in the current network. The limitation of this dataset is that the well location coordinates and construction information are currently missing; this is a data gap. SVBGSA work with the County to fill this data gap and additional wells from this network with sufficient data will be added to the public water supply wells network for water quality monitoring. These wells will be added to Appendix 7E when this data gap is filled. | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-166 | | 8-6 | | | 11/25/2019 | Community Water Center | Also for Table 8-6, we noted that the water quality monitoring network in for public water systems should include the same number of wells for each contaminant. The reason for data gaps for individual systems (e.g. some systems are missing data for some contaminants) is likely due to the monitoring schedules as all public water systems have the same requirements. (CWC page 25) | | This has been checked. | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-167 | | | | | 11/25/2019 | Community Water Center | Clarify definitions of drinking water systems. We outlined and recommend the 3 commonly used system types used by all drinking water regulators (CWC p. 8 and throughout). | | The definitions of drinking water systems have been clarified | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-168 | 3 | | | 3-6 | 11/25/2019 | Community Water Center | Update Figure 3-6 to include Moss Landing and clarify the definition of "municipal areas." In the future, this map can also include GW Dependent domestic wells, SSWS, and LSWS. (CWC p. 11) | | Figure 3-6 was made based on a DWR data set on water districts, which does not include Moss Landing. The figure was updated to clarify the data Figure 3-6 is based on. | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-169 | 11 | | | | 11/25/2019 | Community Water Center | Include map of all DACs. Ideally this would be included in Chapter 3, but might be more appropriate in Chapter 11. (CWC p. 3) | | A map of DACs was added to Chapter 11. | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |
| W-170 | | | | | 11/25/2019 | Community Water Center | The CWC letter includes many recommendations regarding DACs and drinking water. We suggest adding an appendix on DACs and their relationship to groundwater quality. | | An informational appendix on DACs has been added | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf |

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| W-171 | | | | | 11/25/2019 | Arroyo Seco GSA | The draft 180/400 Foot Aquifer Subbasin GSP repeatedly oversteps its appropriate geographic scope, which should be limited to the 180/400 Foot Aquifer Subbasin. It is written as if it were the "Valley-Wide Plan." The SVBGSA may develop a Valley-wide plan, but it is not appropriate for a single basin plan. Valley-wide planning has not yet even commenced, much less reached a point that results can be published. There has been neglible coordiantion between SVBGSA and ASGSA regarding data, methods and groundwater conditions outside the 180/400 Foot Subbasin, and there has been no discussion of sustainability criteria or management actions. If interbasin agreements had been developed as part of the 180/400 Aquifer GSP process, it would be appropriate to discuss those in this GSP. However, no agreements have been reached. It is premature to discuss valley-wide problems and solutions in this document. Its geographic scope should be the 180/400 Foot Aquifer Subbasin....The technical chapters (1 through 8) are nearly silent with respect to the Forebay and Upper Valley Subbasins, but Chapter 9 suddenly sweeps them into a valley-wide plan for solving problems in the 180/400 Foot Subbasin. | | Comment noted. Based on conversations with DWR, the SVBGSA Board decided to develop a GSP for each subbasin under its jurisdiction with an Integrated Sustainability Plan to coordinate them. The ASGSA is not in the 180/400-Foot Aquifer Subbasin, so is not discussed in this GSP. The SVBGSA is working with the ASGSA to develop a coordination agreement for the Forebay Subbasin. It is not premature to discuss valley-wide solutions in this GSP because the subbasins of the Salinas Valley are hydrologically connected; however, it notes that valley-wide components, such as the projects and management actions will be revised as the GSPs for the other subbasins are developed. | SVBGSA_GSP_comment_ltr_11252019.doc |
| | | | | | 11/25/2019 | Arroyo Seco GSA | Almost all of the activities and all of the benefits of the management actions and projects described in the draft GSP are local to the 180/400 Foot Subbasin. Therefore, the GSP should describe implementation of those activities within the 180/400 Foot Subbasin. ...Instead of passively accepting the SVBGSA-proposed actions that could potentially benefit the ASGSA area, ASGSA would prefer to implement similar actions on its own. (see letter for more comments). | | Comment noted. SVBGSA will work with the ASGSA on proposed projects and management actions that affect the City of Greenfield. | SVBGSA_GSP_comment_ltr_11252019.doc |
| W-173 | | | | | 11/25/2019 | MGSA | SVBGSA Must Evaluate and Incorporate the Best Available Science Regarding the Coastal Portion of the Subbasin into the Draft GSP | | The SVBGSA agrees that there are differences in opinion regarding the extent of seawater intrusion. To remedy this, the GSP requires a Seawater Intrusion Working Group be formed early during GSP implementation. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-174 | | | | | 11/25/2019 | MGSA | The Draft GSP Must Designate, Evaluate, and Manage the Dune Sand Aquifer as a Principal Aquifer | | In accordance with the geologic descriptions in Bulletin 118, the shallow sediments are not designated as principal aquifers. The three principal aquifers in the Subbasin are the 180-Foot Aquifer, 400-Foot Aquifer, and Deep Aquifers. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-175 | | | | | 11/25/2019 | MGSA | The Draft GSP Must Recognize, Monitor, and take Management Actions for Groundwater Dependent Ecosystems as a Beneficial Water Use. | | The GSP adopted TNC's approach to identifying potential GDEs in the Subbasin. Discussions of impacts on GDEs were held during Advisory Committee meetings and Board of Directors meetings. These criteria may be modified in future versions of the GSP. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-176 | | | | | 11/25/2019 | MGSA | The Draft GSP Should Recognize and Consider State and Federal Protections for Habitats and Species in and near the MGSA Area. | | This comment does not directly address requirements of SGMA. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |

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| W-177 | | | | | 11/25/2019 | MGSA | SVBGSA Must Expand the GSP's Proposed Monitoring Network | | The GSP includes an assessment of data gaps, including monitoring locations, that will be filled during implementation. The MCWRA Coastal Monitoring program may fill many of the identified data gaps. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-178 | 2 | | 2-4 | | 11/25/2019 | MGSA | Subbasin Governance: This section states that SVBGSA developed the GSP for the 180/400-Foot Aquifer Subbasin with input and assistance from MCWD GSA; however, the GSP should also recognize the MGSA and document its efforts to coordinate with SVBGSA. (see letter for more details) | | A formal agreement exists between SVBGSA and MCWD that promotes input from MCWD. MGSA is not a party to this agreement. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-179 | 2.3.2 | | 2-8 | | 11/25/2019 | MGSA | Coordination Agreements: This section describes coordination agreements and is confusing and incomplete as currently worded. We recommend the following edits (see letter for more details). | | No coordination agreement exists, and therefore is not cited in the GSP. | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf |
| W-180 | | 9-5 | | | 11/25/2019 | MCWD | The total in Table 9-5 is incorrect and should sum up to positive 40,800 AFY. | | This has been corrected. | MCWD09582120191125152330; and MCWD Comment Letters to 180-400 GSP Draft Chapters |
| W-181 | 3.3.1 | | | | 11/25/2019 | MCWD | Most of the former Fort Ord property has been transferred for civilian use and no long under federal jurisdiction as of 2019, including the airport. This area should be removed from Figure 3-3 and the above statement should be revised (see letter for text). | | These changes have been made. | MCWD09582120191125152330; and MCWD Comment Letters to 180-400 GSP Draft Chapters |
| W-182 | 6.10.5 | | | | 11/25/2019 | MCWD | Please provide a definition of "well interflow" and clarify why it was subtracted from total pumping. | | This has been added. | MCWD09582120191125152330; and MCWD Comment Letters to 180-400 GSP Draft Chapters |
| W-183 | 8.6.2.3 | | | | 11/25/2019 | MCWD | It is not accurate to state that groundwater elevation minimum thresholds, which are set below mean sea level and will maintain landward gradients "will not exacerbate and may help control seawater instrusion." The seawater intrusion front will continue to migrate inland if water levels remain below sea level and inland gradients persist. Section 8.6.2.3 should be modified (see letter for suggested wording). | | The section has been revised according to the suggested wording. | MCWD09582120191125152330; and MCWD Comment Letters to 180-400 GSP Draft Chapters |
| W-184 | 8.6.2.4 | | | | 11/25/2019 | MCWD | We understand that the SVBGSA intends to coordinate SMC development as the managing GSA for each of the adjacent subbasin. However, it is premature to state that the minimum threshold of the 180/400-Foot Aquifer Subbasin has taken sustainable management of adjacent basins into full consideration, as those subbasins are still in their early phases of GSP development. Therefore, the following caveat should be included, and the following would replace the entire paragraph (see letter for suggested wording). | | The suggested wording has been incorporated. | MCWD09582120191125152330; and MCWD Comment Letters to 180-400 GSP Draft Chapters |

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| W-185 | | | | | 11/14/2019 | Robin Lee | It is my opinion that the ground water level of sustainable yield has been set at an unsustainable level. The level for sustainable yield should be set at the average depth of domestic wells. For projects, a scalping plant should be used for the east side of Salinas. This plant would be closer to connecting the much disrupted hydrologic cycle on the east side, making the scalping plant both an economical and efficient project.<br>Looking at and correcting the ordinances that prevent the recommendations stated in the GSP from being implemented, should be listed as an administrative project in GSP. | | The sustainable yield is determined by the water budget. The SMC for chronic lowering of groundwater levels is a decision of the Board, which can change the level in the future if it so decides. More details are needed on a scalping plant. Relevant ordinances will be reviewed as needed during the implementation phase, together with MCWRA or the corresponding agency. | Lee_comments on draft GSP 11 14 19 |
| W-186 | | | | | 11/25/2019 | MCWRA | The GSP refers frequently to the "Eastside" subbasin. Bulletin 118 uses a two-word naming of this subbasin: East Side. | | Incorrect, Bulletin 118 uses a one-word naming of this subbasin. | SVBGSA_MCWRA Cover Letter.pdf |
| W-187 | | | | | 11/25/2019 | MCWRA | The GSP refers to the "Deep", "deep aquifer", "Deep Aquifer", and "Deep Aquifers". Suggest that this be standardized to 'Deep Aquifers' for consistency with MCWRA nomenclature. | | All these references have been changed to 'Deep Aquifers' to standardize with MCWRA nomenclature. | SVBGSA_MCWRA Comments.pdf |
| W-188 | ES-1 | | 1 | | 11/25/2019 | MCWRA | Suggest changing The Salinas Groundwater Valley to the Salinas Valley Groundwater Basin | | Fixed | SVBGSA_MCWRA Comments |
| W-189 | ES-1 | | 3 | | 11/25/2019 | MCWRA | Spreckles should be changed to Spreckels | | Fixed | SVBGSA_MCWRA Comments |
| W-190 | ES-1 | | 3 | | 11/25/2019 | MCWRA | Paragraph two states that "The primary water use sector is agriculture, which uses 85% of the water in the Subbasin." Data from the 2015 Groundwater Extraction Summary report published by MCWRA in April 2017 indicates that 88% of groundwater extractions in the 180/400-Foot Aquifer Subbasin were attributed to agriculture. | | Changed; The numbers were derived from that report and a MCWRA 2015 report. The 85% is derived from averaging the use from 2010 to 2015. 88% is if only the year 2015 is used; however, since agricultural water use increased in 2015, it is more accurate to use the average over several years. | SVBGSA_MCWRA Comments |
| W-191 | ES-1 | | 4 | | 11/25/2019 | MCWRA | paragraph 3 states " ... the 180-Foot Aquifers and the 400-Foot Aquifer are relatively transmissive aquifers with very good well yields." The phrase "very good" is open to wide interpretation. Perhaps a couple of examples, or a range of well yields for the subbasin, could be used instead. Also, it is critical that the treatment of the Shallow Aquifer is consistent throughout. As it is not a principal aquifer, it should not be included in water budgets. Important gaps in the Salinas Valley Aquitard have been reported (e.g., Kennedy Jinks' 2004 report; "Hydrostratgraphic Analysis of the Northern Salinas Valley") that create important connectivity<br>between the Shallow Aquifer and the 180-Foot Aquifer that must be also be addressed. Additionally, the MCWRA does not agree with the statement, " ... the 400-Foot Aquifer is a single permeable bed approximately 200 feet thick. This disagreement in the characterization of the 400-Foot Aquifer is illustrated in analysis from Kennedy Jinks, 2004 and cross sections from Section 4 of this report. And, it will be important that the statement; "Recharge to the productive zones of the Subbasin is very limited due to the low permeability of the Salinas Valley Aquitard, meaning it is unlikely that any significant surficial recharge in the Subbasin would reach the productive 180-Foot and 400-Foot Aquifers" is consistent with this reports and future water budgets. | | Very good was updated to "high." The level of detail is higher level than examples in the Executive Summary. The water budget is for the entire groundwater system, including the shallow sediments and principal aquifers. The Executive Summary was revised to better match the text, including adding "400-Foot Aquifer, a single permeable bed approximately 200 feet thick near Salinas, but variable throughout the Subbasin." | SVBGSA_MCWRA Comments |
| W-192 | ES-1 | | 4 | | 11/25/2019 | MCWRA | Consider adding some discussion of induced vertical recharge<br>to the Deep Aquifers from overlying aquifers. Also, consider including the Deep Aquifers in the list of "productive" aquifers of the Subbasin. | | This is more detail than we have in the Executive summary and do not want to mislead readers; however, it is detailed in the GSP. | SVBGSA_MCWRA Comments |
| W-193 | ES-1 | | 6 | | 11/25/2019 | MCWRA | Are domestic purposes included in the list of applications used to determine change in groundwater storage? Only municipal, industrial, and agricultural purposes are listed. | | Different parts of the GSP Regulations refer to different sets of uses...changed to domestic, ind, agr | SVBGSA_MCWRA Comments |

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| W-194 | ES-1 | | 6 | | 11/25/2019 | MCWRA | Are domestic purposes included in the list of applications used to determine change in groundwater storage? Only municipal, industrial, and agricultural purposes are listed. | | Different parts of the GSP Regulations refer to different sets of uses...changed to domestic, ind, agr | SVBGSA_MCWRA Comments |
| W-195 | ES-5 | | 8 | | 11/25/2019 | MCWRA | "High groundwater levels in 1983 suggest groundwater levels previously had the capacity to recover to earlier levels in response to recharge events, but decline since then provides no indication that they can recover to pre-1983 levels." The MCWRA believes this statement to be incorrect and/or too simplistic. See detailed comments to Section 5.1.3 page 15. | | This has been clarified. | SVBGSA_MCWRA Comments |
| W-196 | ES-5 | | 8 | | 11/25/2019 | MCWRA | Acronym for the Salinas Valley Integrated Hydrologic Model in paragraph two should be SVIHM. | | This has been corrected. | SVBGSA_MCWRA Comments |
| W-197 | ES-5 | | 9 | | 11/25/2019 | MCWRA | Percolation of streamflow plus percolation of precipitation and excess irrigation frequently provides over 100,000 afy of inflow to groundwater, which doesn't correspond to earlier statements about stream connectivity and recharge to the aquifers. Please state what is included in the water budgets and reconcile that with the description of the conceptual model. | | Done. The water budgets are for the entire groundwater system, including the shallow sediments and principal aquifers. | SVBGSA_MCWRA Comments |
| W-198 | ES-5 | | 10 | | 11/25/2019 | MCWRA | The section on Projected Water Budgets refers to the "projected SVIHM". Does this mean the provisional, "operational" version of the SVIHM? Consider differentiating between the historical SVIHM and operational SVIHM for clarity, as both versions of the model are being used for projects within Monterey County. The statement; ''The average changes in storage due to groundwater level fluctuations during the historical and current periods are approximately 400 AF/yr. and 600 AF/yr., respectively", does not indicate whether this is a positive or negative change in storage. The statement; "The difference between the storage calculated based on groundwater budgets and storage estimated based on groundwater levels shows the uncertainty of the budgets" is one measure of uncertainty within the budgets, but it should not be inferred to capture the full extent of uncertainty within the budget. | | It is unclear what is meant by 'operational' version... It has been clarified that 400 and 600 AF/yr are negative changes in storage. | SVBGSA_MCWRA Comments |
| W-199 | ES-5 | 1 | | | 11/25/2019 | MCWRA | Only comparing the calculated difference between the budget and estimated storage changes to the outflow seems to underestimate the "error". This is not a true measurement of error, although it is referred to that way in the text. | | Error changed to uncertainty. | SVBGSA_MCWRA Comments |
| W-200 | ES-5 | 2 | | | 11/25/2019 | MCWRA | Under the "Groundwater Storage" heading, Groundwater Level Change is positive and Seawater Intrusion is negative, giving a total that is positive. The Change in Storage based on the budget components is negative. These should be reconciled. | | This has been fixed. | SVBGSA_MCWRA Comments |
| W-201 | ES-5 | | 12 | | 11/25/2019 | MCWRA | GSP states that " ... pumping will need to be reduced by about 7% to meet the sustainable yield." What years(s) are the basis for determining the 7% reduction? That is, a 7% reduction compared to what? Does this consider how much of the action (stream leakage, groundwater ET, and lateral fluxes) is taking place in the Shallow Aquifer, which is not used for water supply? Water that is cycled above the production aquifers should probably not be considered in the calculation of sustainable yield. | | The water budget includes all water in the groundwater system, including both in the shallow sediments and principal aquifers. 7% is from the future pumping that the SVIHM projects, and that has been clarified in the ES. | SVBGSA_MCWRA Comments |
| W-202 | ES-6 | | 13 | | 11/25/2019 | MCWRA | Consider using groundwater level data from the monitoring wells that have been, and others that are expected to be, installed as part of the Monterey Peninsula Water Supply Project in addition to CASGEM wells. | | Good suggestion. Wells that have already been installed will be reviewed during the activity of filling data gaps, and other wells can be added as they become available | SVBGSA_MCWRA Comments |

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| W-203 | ES-7 | 3 | | | 11/25/2019 | MCWRA | The aspirational goal (Measurable Objective) for groundwater levels is 2003, but the Minimum Threshold for seawater intrusion is the 2017 extent of intrusion. What is not addressed in this GSP is; was seawater intrusion actively progressing in 2003? If so (it was), the Measurable Objective for groundwater level should reconcile what is hoped to achieve for seawater intrusion? Also, it would be clearer if the Sustainable Management Criteria stated that pumping is to be limited to the long-term future sustainable yield. As it stands, this could be read as suggesting that the reduction in groundwater storage could be 112,000 afy. | | ~~Pumping added to description of measurable~~ objective for storage. Changing the measurable objective is something that must go through the Board.<br><br>The minimum thresholds are set independently for each sustianability indicator. All six undesirable results must be avoided simultaneously, therefore there is no need to predicate the groundwater elevation undesirable result on the seawater intrusion undesirable result. Furthermore, groundwater elevations will be different if seawater intrusion is manager through an extraction barrier, or if it is managed through significant managed recharge. | SVBGSA_MCWRA Comments |
| W-204 | ES-8 | | 17 | | 11/25/2019 | MCWRA | One of the management actions refers to "MCWRA restrictions on additional wells in the Deep Aquifers." The existing limitation on new wells in the Deep Aquifers is the result of a County ordinance (Ord. No. 5302) and is not a restriction set in place by MCWRA. | | Done | SVBGSA_MCWRA Comments |
| W-205 | ES-8 | | 18 | | 11/25/2019 | MCWRA | Section on Mitigation of Overdraft lists "optimizing CIP". Assume this should this be corrected to "CSIP" | | Done | SVBGSA_MCWRA Comments |
| W-206 | 2.1 | | 2-6 | | 11/25/2019 | MCWRA | The name of the "Salinas Valley Groundwater Sustainability Agency" is missing the word "Basin". | | Added | SVBGSA_MCWRA Comments |
| W-207 | 3.6.1.3 | | 3-25 | | 11/25/2019 | MCWRA | "These pumping depressions occur in the 180-Foot and 400-Foot Aquifers between the City of Salinas and the coast. 11 Figure 5-3 and 5-5 show the deepest water levels in both aquifers being approximately along the western edge of the City of Salinas, whereas the text implies that they would be found further west. Although it is understood that this GSP is only for the 180/400-Foot Aquifer subbasin, it seems like the water level monitoring should be contextualized by stating that the far deeper groundwater troughs are located further east, in the East Side. Or, remove this sentence entirely. | | The sentence has been deleted | SVBGSA_MCWRA Comments |
| W-208 | 3.6.1.4 | | 3-25 | | 11/25/2019 | MCWRA | Most CASGEM wells are monitored monthly, except for a few that are monitored twice per year. | | Clarifying language was added. | SVBGSA_MCWRA Comments |
| W-209 | 3.8 | | | | 11/25/2019 | MCWRA | Consider including Monterey County Water Resources Agency Ordinance No. 3709 which prohibits groundwater extractions and the drilling of new groundwater extraction facilities in certain portions of the 180-Foot Aquifer after January 1, 1995. | | This ordinance has been added to the chapter | SVBGSA_MCWRA Comments |
| W-210 | 3.8.9 | | 3-39 | | 11/25/2019 | MCWRA | This section mentions the Habitat Conservation Plan under development by MCWRA. Was consideration given to any potential impacts to operational flexibility from regulatory documents that are currently in place? | | This section lists impacts to operational flexibility from three other in-place regulations. | SVBGSA_MCWRA Comments |
| W-211 | 4 | | 4-49 | | 11/25/2019 | MCWRA | "Previous studies of groundwater flow across this boundary indicate that there is restricted hydraulic connectivity between the subbasins. 11 While groundwater flow might be "restricted" it may be significant. The HBA calculated something like 8,000 afy of exchange (from Pressure to East Side). | | comment noted | SVBGSA_MCWRA Comments |
| W-212 | 4 | | 4-13 | | 11/25/2019 | MCWRA | Groundwater in the 180/400 Foot Aquifer Sub basin is increasingly being produced from the Purisima and Santa Margarita Formations that comprise the Deep Aquifers. Also, statement; "These three cross sections are adapted from the Final report, hydrostratigraphic analysis of the Northern Salinas Valley (Kennedy-Jenks, 2004 ). " I believe that Figure 4-6 is adapted from Brown and Caldwell (2015). | | The correct citation has been added to the text. | SVBGSA_MCWRA Comments |

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| W-213 | 4 | | 4-18 | | 11/25/2019 | MCWRA | Statement; "Near Salinas, the 400-Foot Aquifer is a single permeable bed approximately 200 feet thick; but in other areas the aquifer is split into multiple permeable zones by clay layers (DWR, 1973)." This is an important qualification statement that should be used in the Executive Summary for clarification. | | This qualification has been added to the executive summary | SVBGSA_MCWRA Comments |
| W-214 | 4 | | 4-21 | | 11/25/2019 | MCWRA | Statement; "ft is unlikely that any significant surficial recharge in the 180/400-Foot Aquifer Subbasin reaches the productive 180-Foot Aquifer or the 400-Foot Aquifer." "Significant" should be defined. For example, in Section 6 (Water Budgets) net deep percolation to groundwater of precipitation and irrigation is about 20,000 afy, equivalent to lateral inflows from adjoining subbasins and about 20% of the total inflow to the subbasin. If just considering recharge of precipitation, that amounts to 8,500 afy in the historical water budget, about 10% of the total inflow. | | The 20,000 AF/yr. cited in this comment does not necessarily reach the productive aquifers. These numbers can be refined when the SVIHM becomes available. | SVBGSA_MCWRA Comments |
| W-215 | 4.6.1 | | 4-28 | | 11/25/2019 | MCWRA | The caption of the figure and content of the figure do not match | | These now match | SVBGSA_MCWRA Comments |
| W-216 | 5.1.1 | | 5-2 | | 11/25/2019 | MCWRA | Section 5.1.1, page 5-2 - Data collected from privately-owned CASGEM wells is not available prior to 2015 when permission for data sharing was granted by the well owner. | | It is our understanding that this comment has been superseded based on MCWRA's revised policies. | SVBGSA_MCWRA Comments |
| W-217 | 5.1.3 | | 5-15 | | 11/25/2019 | MCWRA | Statement; "The high groundwater levels observed in 1983 suggest that groundwater levels previously had the capacity to recover to earlier levels in response to significant recharge events." This implies that recharge can affect water levels in the 180/400 over a period of several years. There was a statement earlier (Section 4.4.3) that local recharge is "very limited" but that seems inconsistent with the text here. Unless we're to believe that it only takes a few years for groundwater to flow in laterally from adjoining subbasins that don't have aquitards, or that this results from a decrease of pumping during wet years (very little decrease in agricultural pumping is observed in wet periods). | | This sentence has been removed from the text | SVBGSA_MCWRA Comments |
| W-218 | 5.1.3 | | 5-17 | | 11/25/2019 | MCWRA | Statement; "Groundwater levels have declined since 1983 with no indication that they will recover to pre-1983 levels." The data does not necessarily support this conclusion. There hasn't been an extended wet period like that seen in the late 1970's/early 1980's, therefor to conclude that it would not occur again is unsupported. The last period where 2 consecutive years of +1 standard deviation on rainfall occurred was 1982-1983. | | This sentence has been removed from the text. | SVBGSA_MCWRA Comments |
| W-219 | 5 | | | 5-10 thru 5-18 | 11/25/2019 | MCWRA | It is difficult to read the figures due to text/image quality. Placement of vertical axis at 110' artificially dampens changes. Maximum range in data is approximately 85'. | | All figures have a similar range on the vertical axis so that hydrographs can be compared to each other. The 110-foot range is chosen to easily accommodate the hydrograph with the greatest range. | SVBGSA_MCWRA Comments |
| W-220 | 5.1.4 | | 5-29 | | 11/25/2019 | MCWRA | Limited data were available that could be presented, due to confidentiality agreements. More data will be available in the future. | | Limited data were available that could be presented, due to confidentiality agreements. More data will be available in the future. | SVBGSA_MCWRA Comments |
| W-221 | 5.2.1 | | 5-31 | | 11/25/2019 | MCWRA | The 500 mg/L chloride concentration is also significant in that it represents a level that is approximately 10 times greater than native background chloride levels in the groundwater of the 180/400 Foot Aquifer. | | This has been added to the text. | SVBGSA_MCWRA Comments |

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| W-222 | 5.2.2 | | 5-34 | | 11/25/2019 | MCWRA | Statement; "Figure 5-23 shows that the extent of seawater intrusion in the 180-Foot Aquifer has nearly reached a local cone of depression, as represented by the small circular water level contour with a -20 foot ms/ label. This partially explains why the rate of seawater intrusion has slowed in recent years: the seawater intrusion is reaching a local low point and is not being drawn further inland." The closed -20 foot msl contour does not represent a local cone of depression, it represents a local high in water level. The closed contour is between the - 20 and -30 feet msl contours, which means that anything outside of the closed contour is below - 20 feet msl. Therefore, the area inside the closed contour must be above -20 feet msl. This statement is incorrect. | | This statement has been removed. | SVBGSA_MCWRA Comments |
| W-223 | 5 | | | 5-25 | 11/25/2019 | MCWRA | Consider stating the year associated with the seawater intrusion data on the figure. | | The date has been added. | SVBGSA_MCWRA Comments |
| W-224 | 5.2.3 | | 5-37 | | 11/25/2019 | MCWRA | Some of the increase in area of seawater intrusion in the 400-Foot Aquifer between 2013 and 2015 was also due to additional data points that made contouring possible, particularly in the Marina area. | | comment noted | SVBGSA_MCWRA Comments |
| W-225 | 5.2.3 | | 5-37 | | 11/25/2019 | MCWRA | Thin/discontinuous aquitards and improperly constructed / improperly abandoned wells may also contribute to the vertical migration of seawater intruded groundwater. | | Text added | SVBGSA_MCWRA Comments |
| W-226 | 5.3.2 | | 5-37 | | 11/25/2019 | MCWRA | Seawater intrusion likely occurs preferentially along pathways determined in part by geology so the rate of advancement of the seawater intrusion "front" can be highly variable. | | Comment noted | SVBGSA_MCWRA Comments |
| W-227 | 5 | | 5-40 | | 11/25/2019 | MCWRA | Suggest changing "Deeper Aquifers" to "Deep Aquifers". | | Text has been modified. | SVBGSA_MCWRA Comments |
| W-228 | 5 | | 5-40 | | 11/25/2019 | MCWRA | Restrictions on new wells in the Deep Aquifers was also driven by previous modeling which suggests that increased pumping in the Deep Aquifers will lead to increased vertical flow from the overlying aquifers (WRIME, 2003). | | Comment noted. This is captured in the statement, "...due to concern over this risk [of seawater intrusion into the deep aquifers]..." | SVBGSA_MCWRA Comments |
| W-229 | 5 | | 5-40 | | 11/25/2019 | MCWRA | Statement; "The volume of seawater flowing into the subbasin every year does not strictly correspond to the acreages overlying the seawater-intruded area that is shown in Figure 5-27 and Figure 5-28. As the seawater intrusion front approaches pumping depressions, the front will slow down and stop at the lowest point in the pumping depression. The seawater intrusion front will then appear to stop; and no more acreage will be added every year. However, seawater will continue to flow in from the ocean towards the pumping depression." There are several reasons that the volume of SWI will never correspond to the acreage intruded. For example, the area behind the mapped SWI front has variable concentrations of chloride (an acre-foot of seawater, with about 22,000 mg/L chloride, could translate to about 44 acre-feet of intruded groundwater at 500 mg/L). Also, the aquifer thickness is quite variable in the subbasin. Regarding the appearance of the SWI front to "slow or stop at pumping depressions", it is not the opinion of the MCWRA that this mechanism is a driver of the rate of SWI in the subbasin. The presented understanding of how the seawater intrusion front reacts at a pumping depression is not relevant in this situation. And in fact, a gradient toward the pumping depression will not necessarily prevent intrusion from continuing. | | comment noted | SVBGSA_MCWRA Comments |
| W-230 | 5.3.1 | | 5-40 | | 11/25/2019 | MCWRA | MCWRA estimates of annual change in groundwater elevation are made on a Subarea (MCWRA management zones) basis rather than for Bulletin 118 subbasins. | | Comment noted. This is shown on Figure 5-20. | SVBGSA_MCWRA Comments |

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| W-231 | 5.3.2 | | 5-41 | | 11/25/2019 | MCWRA | The 2015 State of the Basin report from Brown and Caldwell was prepared for Monterey County, not MCWRA | | The text has been changed | SVBGSA_MCWRA Comments |
| W-232 | 5.3.2 | | 5-43 | | 11/25/2019 | MCWRA | It would make more sense to divide into periods based on significant change in the management of the groundwater basin (i.e., up to the beginning of operation of Nacimiento Reservoir in 1957, San Antonio Reservoir in 1967; then introduction of the CSIP in 1998 and the SVWP in 2010). This would be an approach that is defensible as it is based on known fundamental shifts in groundwater management. | | These periods are already shown on Figure 5-25. We will consider revising the time periods for analyzing changes in groundwater storage in future iterations of the GSP. | SVBGSA_MCWRA Comments |
| W-233 | 5.3.2 | | 5-43 | | 11/25/2019 | MCWRA | The variation in storage from 1947 to 1998 has seen large increases in storage during wet periods, along with a cumulative positive storage change from 1949 to 1998. During the period from 1947 to 1998, there were 28 years of negative storage change and 24 years of positive storage change; while technically that indicates that "most" years had decreasing storage, it's very close to an equal number of negative and positive years. Consider revising the statement indicating a trend of steadily-decreasing groundwater storage in most years. | | The text has been slightly modified. | SVBGSA_MCWRA Comments |
| W-234 | 5 | | | 5-29 | 11/25/2019 | MCWRA | Suggest clarifying if the figure depicts data from the 180/400 Foot Aquifer Subbasin or MCWRA's "Pressure Subarea". | | Notation added | SVBGSA_MCWRA Comments |
| W-235 | 6.3.1 | | 6-7 | | 11/25/2019 | MCWRA | Statement; "The BCM-reported average annual precipitation in the 180/400-Foot Aquifer Subbasin is 114,100 AF for the historical water budget period and 106,600 AF for the current water-budget period. As shown in Table 6-1, the runoff for the historical and current periods was 1,100 and 1,700 AF/yr., respectively; equivalent to approximately 1 to 2% of precipitation." It is unclear from the text whether this analysis is limited to runoff generated within the 180/400-Foot Aquifer subbasin, or includes tributary inflow from the hills to the west (not otherwise quantified). | | The text states that the calculation is "in the Subbasin" | SVBGSA_MCWRA Comments |
| W-236 | 6.3.1 | 6-1 and 6-2 | | | 11/25/2019 | MCWRA | It is confusing that runoff would be higher during the Current period compared to the Historical period, when precipitation is lower? In contrast, flow in the Salinas River during the Current period was substantially lower than during the Historical period (Table 6-2). | | Comment noted. The difference is small. It is unclear why this difference exists. It may be due to antecedent conditions in the BCM model. | SVBGSA_MCWRA Comments |
| W-237 | 6.3.2 | | 6-7 | | 11/25/2019 | MCWRA | Statement; "As reported by MCWRA, the Salinas River depletion during September 2017 between Soledad and Gonzales, near the Subbasin boundary, was 134 cubic feet per second (cfs). The Salinas River depletion between Gonzales and the Chualar gauge was 79 cfs. Therefore, approximately 63% of the Salinas River depletion between Soledad and the Chualar gauge occurred in the Forebay Subbasin, above Gonzales; and 37% of the Salinas River depletion occurred in 180/400-Foot Aquifer Subbasin, below Gonzales." This stream depletion is based on a single day's measurement which may not be representative. If this analysis conclusion is used there should be a discussion of the limitations of applying a single data point to annual stream loss calculations. | | This does constitute best available data. A comment to this effect has been added to the text. | SVBGSA_MCWRA Comments |
| W-238 | 6.5.3 | | 6-15 | | 11/25/2019 | MCWRA | The "Pressure Management Area" is more commonly referred to as the "Pressure Subarea". Also, when discussing CSIP deliveries, it is worth noting that SRDF diversions did not begin until 2010. | | All instances of Pressure Management Area have been changed to Pressure Subarea | SVBGSA_MCWRA Comments |

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| W-239 | 6.5.4 | 6-11 | 6-17 | | 11/25/2019 | MCWRA | Statement; "Based on groundwater flow directions and hydraulic gradients at the Subbasin boundaries, subsurface inflow to the 180/400-Foot Aquifer Subbasin from the Forebay Subbasin has been estimated as approximately 17,000 AF/yr. (Montgomery Watson, 1997; MCWRA, 2006; Brown and Caldwell, 2015)." The Brown and Caldwell reference is incorrect in this context. This reference should also be removed from Table 6-11. The correct reference would be Montgomery Watson, 1998. | | The citation has been changed | SVBGSA_MCWRA Comments |
| W-240 | 6 | | 6-29 | 6-5 | 11/25/2019 | MCWRA | Either the vertical scale or data shown on the graph for agricultural and urban pumping seem incorrect. For example, in 1998, total (agricultural and urban) pumping reported by MCWRA was 104,916 AF. The data in Figure 6-5 seems to suggest that total pumping was less than 100,000 AF for that year. | | Pumping has been modified to roughly compensate for the difference between the MCWRA Pressure Area and the 180/400-Foot Aquifer area. | SVBGSA_MCWRA Comments |
| W-241 | 6.6.2 | | 6-19 | | 11/25/2019 | MCWRA | Was any consideration given to capturing variation in ET by crop type? Perhaps data reported through ranch maps could be used as a coarse approximation to group crops and provide a more refined ET value for the basin. Also, the stated ET for Arundo donax of 16 AF/year/acre should be referenced. Regarding riparian ET included with the groundwater, it is the opinion of the MCWRA that riparian ET has a more significant impact on surface water flows | | This refinement will be done when the SVIHM becomes available. | SVBGSA_MCWRA Comments |
| W-242 | 6.6.2 | | 6-19 | | 11/25/2019 | MCWRA | The estimate of riparian ET for the subbasin (12,000 AFY) differs from the calculated value of 4,277 AFY determined by the Agency in a 1997 exercise. Changes to reservoir operations and channel maintenance practices have changed since 1997, surely influencing the extent of some phreatophytes, however, does SVBGSA believe that there has there been enough of a change in coverage to account for a nearly three-fold increase in riparian ET? | | These ET estimates were the best available from people currently working along the riparian corridor. However, the text notes that the ET rate is highly variable. | SVBGSA_MCWRA Comments |
| W-243 | 6.6.3 | 6-15 | 6-19 | | 11/25/2019 | MCWRA | "The combined outflow to these two subbasins has been estimated at approximately 8,000 AF/yr. (Brown and Caldwell, 2015)." The correct reference here and in Table 6-15 is Montgomery Watson, 1998. | | The citation has been changed | SVBGSA_MCWRA Comments |
| W-244 | 6.8.1 | 6-17 | | | 11/25/2019 | MCWRA | This section should include a discussion of why there is a substantial difference (5% for historical, 15% for current) between the surface water inflows and outflows for an average year. There is no substantial storage change in the surface water system. (Section 6.9 discusses the differences in terms of uncertainty, and that section should be summarized or referenced here.) | | These numbers are a result of the calculations based on best available data. Some data collected during the current period are questionable. | SVBGSA_MCWRA Comments |
| W-245 | 6.8.3 | | 6-30 | | 11/25/2019 | MCWRA | "A review of water supply sources in the 180/400-Foot Aquifer Subbasin shows that surface water supplies, as measured by the San Antonio and Nacimiento Reservoir releases to the Salinas River, allow for a stable supply in wet and normal years." Direct diversions of reservoir releases provide a very small portion of the water supply for the 180/400-Foot Aquifer sub basin, and only since 2010. The Maximum diversion capacity of the SRDF is approximately an order of magnitude lower than total pumping in this subbasin. This statement should be revised. | | This statement is about reliability, not volume. The statement has been modified to emphasize this. | SVBGSA_MCWRA Comments |
| W-246 | 6.8.5 | | 6-32 | | 11/25/2019 | MCWRA | "Based on the water budget components, the sustainable yield of the Subbasin is 97,200 AF/yr., which represents a 10% reduction in total pumping relative to the average annual historical pumping rate." Using the average annual storage change of - 39,700 afy derived from Table 6-19, the sustainable yield would be 68,400 afy, representing a pumping decrease of 37%. | | Because of the high uncertainty in the historical water budget components, the water budget is based on a calculated change in storage using water levels and seawater intrusion, not the difference between inflows and outflows. | SVBGSA_MCWRA Comments |
| W-247 | 6.9 | | | | 11/25/2019 | MCWRA | The difference between groundwater inflow and outflow for the historical budget is referred to twice, with different totals: 39,700 AF and 39,900 AF. | | The text is now consistent. | SVBGSA_MCWRA Comments |

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| W-248 | 6.10.5 | | | | 11/25/2019 | MCWRA | Statement; "For example, the total pumping used to calculate the historical sustainable yield is 86,500 AFY, while the pumping used to estimate the projected sustainable yields varies between 115,300 and 120,600 AFY." Total pumping from Table 6-21 is 108,100 afy, not 86,500 afy. Review value given in Table 6-31. | | The text is now consistent. | SVBGSA_MCWRA Comments |
| W-249 | 7.2.2 | | 7-3 | | 11/25/2019 | MCWRA | The CASGEM network consists entirely of wells that are either owned by MCWRA or were monitored by MCWRA prior to the initiation of the CASGEM program, rather than "primarily" as stated. | | The word "primarily" has been deleted | SVBGSA_MCWRA Comments |
| W-250 | 7.3.2 | | 7-17 | | 11/25/2019 | MCWRA | "During implementation ... the SVBGSA will verify well completion information and location." Does SVBGSA intend to collect location data for all wells during the effort to acquire an accurate accounting of wells in the subbasin? MCWRA has done some preliminary work on the availability of GPS location data for wells and may be able to assist with defining data gaps in this area. | | An accurate accounting of wells is one of the implementation actions. We look forward to working cooperatively with the MCWRA in this activity. | SVBGSA_MCWRA Comments |
| W-251 | 7.3.2 | | 7-17 | | 11/25/2019 | MCWRA | "A potential data gap is the accuracy and reliability of reporting pumping rates." Is this referring to data reported to MCWRA through GEMS? If so, a clarification of what is meant by "pumping rates" would be helpful. Data reported through GEMS is done so annually and includes monthly totals of water usage but not a 'gallons per minute' type of pumping rate for each well. | | The word "rates" has been deleted | SVBGSA_MCWRA Comments |
| W-252 | 7.7 | | 7-29 | | 11/25/2019 | MCWRA | Statement; "As described in Section 5.5, there is little to no connection between the 180-Foot, 400-Foot, or Deep Aquifer and surface water in the 180/400-Foot Aquifer Subbasin. However, the Salinas River is potentially in connection with groundwater in the shallow water-bearing sediments that do not constitute a principal aquifer. The shallow sediments are not used for any significant extraction, and have very little monitoring data. Therefore, the level of interconnection is unclear." According to the water budget, stream percolation accounts for 50,000 afy of the 90,000 afy of annual inflow to the subbasin, more than half the total. This indicates either that the water budget includes the Shallow Aquifer sediments, or that the River is better connected to the 180-Foot Aquifer than is indicated by the text. As stated earlier in the GSP, there are recognized gaps in the Salinas Valley Aquitard. | | The water budget includes the shallow sediments. | SVBGSA_MCWRA Comments |
| W-253 | 8 | 8-1 | 8-6 | | 11/25/2019 | MCWRA | The Undesirable Result for Sustainability Indicator "Reduction in Groundwater Storage" refers to a "long-term average". Suggest defining how the period of time for "long-term" will be determined. | | Comment noted. No definition of long-term exists. | SVBGSA_MCWRA Comments |
| W-254 | 8 | 8-1 | 8-6 | | 11/25/2019 | MCWRA | Sustainability Indicator "Seawater Intrusion" has interim milestones that suggest measurements will be made relative to some starting point, e.g. "one third of the way". Suggest clarifying the starting point, as the seawater intrusion front consists of irregularly-shaped contours or, in the case of the 400-Foot Aquifer, multiple non-contiguous contours. | | The first interim milestone is current conditions, the implied starting point. | SVBGSA_MCWRA Comments |
| W-255 | 8.6.2.1 | | 8-17 | | 11/25/2019 | MCWRA | Fall groundwater level contour maps are developed from data collected from October through December. | | The text has been clarified | SVBGSA_MCWRA Comments |
| W-256 | 8.6.2.1 | | 8-34 | | 11/25/2019 | MCWRA | MCWRA seawater intrusion contours are developed using data from privately-owned wells and dedicated monitoring wells, not only "dedicated monitoring wells near the coast" as stated in paragraph 3. | | The text has been clarified. | SVBGSA_MCWRA Comments |

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| W-257 | 8 | | 8-36 | 8-7 | 11/25/2019 | MCWRA | Suggest showing the 2017 contours as depicted by MCWRA as part of the overall front illustrated on the figure. | | The objective must be a single isocontour. therefore, the 2017 contours were combined into a single isocontour. | SVBGSA_MCWRA Comments |
| W-258 | 8.11 | | 8-61 | | 11/25/2019 | MCWRA | The Salinas River is a losing river, independent of the year type or season. | | The text has been clarified. | SVBGSA_MCWRA Comments |
| W-259 | 9.3 | | | | 11/25/2019 | MCWRA | Through its extensive experience and knowledge of facilities operation, MCWRA can provide valuable insights to aid the SVBGSA in the implementation of Management Actions. MCWRA looks forward to a cooperative approach in the assessment and implementation of Management Actions. | | SVBGSA looks forward to working cooperatively with MCWRA during GSP implementation. | SVBGSA_MCWRA Comments |
| W-260 | 9.3.2 | | | | 11/25/2019 | MCWRA | The SVBGSA should evaluate the impact of Prime Agricultural Land designation or Agricultural Preservation Zones prior to the development of policies or ordinances related to agricultural land retirement. | | This will be considered during the implementation phase. | SVBGSA_MCWRA Comments |
| W-261 | 9.3.4 | | | | 11/25/2019 | MCWRA | The MCWRA Board of Directors adopted a Reservoir Operations Policy in February of 2018 after a robust stakeholder process. As stated on page 2 of the policy, "As a multi-use facility, Nacimiento Dam and Reservoir is operated with consideration to many factors including dam safety, flood protection, groundwater recharge, operation of the SRDF, water supply, fish migration, fish habitat requirements, agriculture, and recreation. This Operation Policy defines parameters and describes guidelines and requirements the Agency will follow to operate the Dam and meet the challenges of balancing the sometimes competing interests involved in operating this multi-use facility." The MCWRA is undertaking a Habitat Conservation Plan (HCP) to update the operations of the reservoirs. The HCP will be developed through an extensive stakeholder process and robust scientific analysis that evaluate a wide range of environmental and operational considerations. The MCWRA anticipates the SVBGSA will play a significant role in the development of a Habitat Conservation Plan for future reservoir operations. | | SVBGSA looks forward to participating in MCWRA's HCP development process. | SVBGSA_MCWRA Comments |
| W-262 | 9.3.5 | | 9-16 | | 11/25/2019 | MCWRA | This management action has the potential to duplicate or conflict with parts of MCWRA Ordinance No. 3790. | | SVBGSA will work with MCWRA to ensure management actions do not conflict with MCWRA ordinances. | SVBGSA_MCWRA Comments |
| W-263 | 9.3.6 | | 9-18 | | 11/25/2019 | MCWRA | Ordinance No. 5302 is a Monterey County ordinance. Restrictions on wells in the Deep Aquifers are not MCWRA's restrictions. | | This has been corrected. | SVBGSA_MCWRA Comments |
| W-264 | 9.4.3.1 | | | | 11/25/2019 | MCWRA | MCWRA will actively participate in the pre-design phase of all projects related to existing MCWRA infrastructure. | | SVBGSA looks forward to working with MCWRA on the pre-design and implementation of projects. | SVBGSA_MCWRA Comments |
| W-265 | 9.4.3.2 | | | | 11/25/2019 | MCWRA | The RCD of Monterey County spearheads an arundo eradication project that is not considered mitigation for impacts. It is a comprehensive program that has systematically addressed this invasive species from the upstream to the downstream sections of the Salinas River. The long-term benefits of invasive species eradication will decrease as native vegetation grows in its place. The Salinas River Stream Maintenance Program allows for consistent vegetation treatment to increase flow capacity of the river and will reduce evapotranspiration for the longer term. Additional river flows as considered in Section 9.3.4 will make vegetation management actions even more critical since vegetation will thrive under those conditions. | | Comment noted. | SVBGSA_MCWRA Comments |

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| W-266 | 9.4.3.2.2 | | | | 11/25/2019 | MCWRA | Statement; "Model results suggest that this project reduces seawater intrusion by approximately 890 AF/yr. on average." First mention of a groundwater model, not referenced in Appendix 9C. | | This is the NSV model is discussed in Appendix 9C. | SVBGSA_MCWRA Comments |
| W-267 | 9.4.3.3 | | | | 11/25/2019 | MCWRA | The CSIP system has integrated recycled water, well water and river diversion supply through the sharing of infrastructure. As it is currently configured, the recycled water and river diversion water share a storage pond near the treatment facilities. The wells are located out in the irrigation system and therefore serve as a critical link to distributing water when there are peak demands. Substituting more recycled water or river water does not always reduce well use as the previous two compete to fill the storage pond. Irrigation demands are dependent on many other factors such as crop type, stage of growth, and climate conditions. Shifting the irrigation demand to when the water is available may not meet the objectives of optimal plant growth and productivity. Water storage could be from recycled water since | | Comment noted. This will be taken into consideration during the implementation phase. | SVBGSA_MCWRA Comments |
| W-268 | 9.4.3.3 | | 9-31 | | 11/25/2019 | MCWRA | Supplemental wells are responsible for most pumping in the CSIP zone for the reason specified here. Private wells in the CSIP area are standby wells and can be pumped for specified circumstances. | | Comment noted. | SVBGSA_MCWRA Comments |
| W-269 | 9.4.3.4 | | | | 11/25/2019 | MCWRA | MCWRA is a sister agency to MIW and the agencies work collaboratively on operating and maintaining the tertiary treatment facility (SVRP). Modifications to produce tertiary treated recycled water when demands are low is needed at the SVRP site. All wastewater is treated to the secondary level without any modifications necessary. Groundwater pumping is currently necessary for meeting demand as well as addressing pressure issues in the system. These modifications would need to be coupled with the hydraulic modeling and other system improvements described in the previous section to be most effective at reducing groundwater pumping. This project is not currently funded nor have the CSIP customers approved an increased charge. New funding estimates are $7-10 million and additional funding resources should be identified to implement this project. | | The GSP includes an estimated capital cost for the M1W Winter Modification project of $1,493,000, estimated by Raftelis Financial Consultants (2018). This comment does not include sufficient information to revise this estimate at this time, but the SVBGSA will discuss the project and cost with MCWRA during the implementation phase. | SVBGSA_MCWRA Comments |
| W-270 | 9.4.1.3 | | 9-72 | | 11/25/2019 | MCWRA | Statement; "The desalination alternative project is one of five alternative projects that may provide additional water to the Subbasin. The project will only be implemented after all five alternative projects have been refined. The most cost-effective project of the five will be selected to supply additional water to the Subbasin." There are only four Alternative Projects listed in 9.4.4. | | Text revised to say four. | SVBGSA_MCWRA Comments |
| W-271 | 9.4.3.5 | | | | 11/25/2019 | MCWRA | Other possible approaches to CSIP expansion should be considered moving forward. A thorough analysis of distribution system upgrades and some reliance of existing wells must be considered. Storage of recycled water may not be able to meet peak demands and SRDF water is not available every year. Areas for expansion should consider more factors than seawater intrusion. Expansion may decrease the need for the SVRP modifications described previously. | | Thank you for the information. This will be included as projects are refined during the implementation phase of the GSP. | SVBGSA_MCWRA Comments |
| W-272 | 9.4.3.6 | | | | 11/25/2019 | MCWRA | Scheduling irrigation deliveries to reduce peak demands and re-operating the SVRP storage pond could help increase SRDF efficiency. Additional analysis to understand how the water would be used in the system is necessary. In years when SRDF diversions are not available, an alternate back up supply, such as groundwater, will be needed. As the system is currently configured, when SVRP usage increases SRDF reduces and vice versa as they are sharing facilities that limit the amount of water that can be delivered. Capital expenditures may be necessary to accomplish the increased use of SRDF water. | | Thank you for the information. This will be included as projects are refined during the implementation phase of the GSP. | SVBGSA_MCWRA Comments |

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| W-273 | 9.4.3.7 | | 9-50 | | 11/25/2019 | MCWRA | GSP States that "Supplemental water to replace the extracted water would come from one of a number of other sources" but does not elaborate on what those other sources might be. | | Sources of supplemental water will be evaluated during the implementation phase of the GSP as projects are refined. | SVBGSA_MCWRA Comments |
| W-274 | 9.4.3.7 | | 9-51 | | 11/25/2019 | MCWRA | GSP includes assumptions about the pumping rates of wells in the 180- and 400-Foot Aquifer but does not explain the origin of these assumptions, subsequently making it difficult to evaluate the validity of the assumptions and the project as a whole. | | Comment noted. Section 4.4.2 gives a range of pumping rates for the principal aqiufers. | SVBGSA_MCWRA Comments |
| W-275 | 9.4.3.9 | | | | 11/25/2019 | MCWRA | Preferred Project 8 (11043 Diversion Facilities Phase II: Soledad) should include coordination with MCWRA and consultation on construction and operation of a diversion facility. | | Text added: The SVBGSA will coordinate and consult with MCWRA on planning, construction, and operation of this project. | SVBGSA_MCWRA Comments |
| W-276 | 9.4.3.9.2 | | 9-60 | | 11/25/2019 | MCWRA | Consider including water quality as a relevant measurable objective for this project. | | Water quality is not a primary expected benefit of this project; however, could be added during the planning phase. | SVBGSA_MCWRA Comments |
| W-277 | 9.4.3.10 | | | | 11/25/2019 | MCWRA | The SRDF is a point of re-diversion from Nacimiento and San Antonio Reservoir's two water right licenses and permit. Permit 21089 is a right to store and use water from the Nacimiento River. Changes to all three would be necessary to change the time of year water could be rediverted, along with the addition of an additional storage component. These changes are currently in conflict with the amou nt of water available to redivert at the SRDF from April 1st to October 31st, when demands are at their peak. The reservoirs have a limit on the amount of water that can be stored on an annual basis; and the water right licenses and permits have restrictions as to how much is withdrawn from storage annually. Additionally, treatment of river water should must comply with all state and federal regulations for injection into the groundwater aquifers. | | Thank you for the additional information. The SVBGSA will work with MCWRA in the planning stages of this project. | SVBGSA_MCWRA Comments |
| W-278 | 10.3 | | 10-8 | | 11/25/2019 | MCWRA | Statement; 'To develop better estimates of aquifer properties, the SVBGSA will identify up to three wells in the 180-Foot Aquifer and up to three wells in the 400-Foot aquifer for aquifer testing. Each well test will last a minimum of 8 hours, and will be followed by a 4-hour monitored recovery period. Wells for testing will be identified using the following criteria." It is the opinion of the MCWRA that three data points and the minimum test period in each aquifer will do little to refine the hydrogeologic properties of this subbasin. At a minimum, the MCWRA would recommend six to eight additional data points in the Deep Aquifers with an additional four to six data points in each of the 180-Foot and 400-Foot Aquifers. Pumping for the tests should last for a minimum of 12 hours, with a six to eight-hour recovery period in order to derive aquifer properties beyond the immediate vicinity of each well (data point). | | Comment noted. The number of wells or duration of test was not changed at this point, as it would increase the budget ; however, SVBGSA will revisit these details when the testing program is initiated. | SVBGSA_MCWRA Comments |
| W-279 | 10.4 | | | | 11/25/2019 | MCWRA | Numbering errors in subsections | | Numbering is fixed | SVBGSA_MCWRA Comments |
| W-280 | 10.1.9 | | 10-8 | | 11/25/2019 | MCWRA | Two Shallow wells adjacent to the Salinas River are inadequate to characterize level of interconnection. | | Comment noted. MCWRA can raise this with stakeholders in future SVBGSA meetings. | SVBGSA_MCWRA Comments |
| W-281 | | | | | 11/25/2019 | SVWC | Many of the references to the other Sub-Basins within the text of the 180/400 GSP should be deleted as they are confusing as to whether they apply other subbasins and/or how they would apply. This GSP is specific to the 180/400 Aquifer Subbasin and it should be clear to the reader that the various thresholds, standards, projects and/or management actions work to provide the needed and required sustainability to the 180/400 Aquifer Subbasin. | | The GSP needs to be clear as to how this GSP relates to other subbasins. Text has been revised to try to clarify these relationships and avoid confusion. | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-282 | | | | | 11/25/2019 | SVWC | Data gaps and lack of data: Section ES-5, Historical and Current Water Budgets states the historical and current water budgets are based on "best available data and tools", but goes on to state that "no groundwater model is available that produces an accurate historical and current water budget." That is, there are significant data gaps due to the unavailability of a groundwater model. We understand that it is anticipated that the water budgets will be updated to reflect the SVIHM output when it is released. The water budgets are key to this critically overdrafted subbasin. It is difficult to fully know what management actions and projects are needed to bring this subbasin into sustainability without having accurate historical and current water budgets. This is an important element of the entire GSP. Because of the lack of accurate data and tools, it is important to look at what management actions and projects should be implemented in the near-term (immediately) and the short-term (within 6 months to one year) and the long-term in order to bring the 180/400 subbasin into sustainability as soon as possible while preparing to meet long-term sustainability. This section also states that the "relatively high percentage error emphasizes the need to adopt the modeled historical groundwater budget when the historical SVIHM becomes available." It is because of this statement, in part, that it is difficult to understand the extent of the existing seawater intrusion problem in the 180/400 subbasin and the level of management actions and/or projects needed to meet sustainability, and whether the ones presented in the GSP will provide it. Table 1 on page 10 demonstrates the level of uncertainty of using the 'best available data and tools', and only further confuses the matter and the reader. | | Comment noted. Lack of a groundwater model does not prohibit the determination of water budgets from other available data and tools, so it is not a data gap. However, the water budget wil be updated when the SVIHM is available. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-283 | | | | | 11/25/2019 | SVWC | Water Charges Framework: The water charges framework discussion should be geared only for the 180/400 GSP. While this type of framework may work for the other subbasins, this plan is ONLY for the 180/400 subbasin and what management actions and projects need to be implemented to meet the required sustainability for this critically overdrafted subbasin. Any contemplated water charges for implementing management actions and/or projects to address the seawater intrusion issue in this subbasin, should not be applied to the other subbasin unless and until it is shown how, and if, the other subbasins contribute to the seawater intrusion of the 180/400 subbasin and how they will benefit from the implementation of the management actions and/or projects.<br>o Please know that the Salinas Valley Water Coalition supports all lands within the entire SVGBGSA paying fees to meet the overall administrative costs. However, they do not support blanket implementation of pumping charges to offset costs of implementing management actions and/or projects within the 180/400 subbasin; the costs for implementing these actions and projects should be paid for by those who would benefit from them – i.e. those within the 180/400 subbasin. | | Comment noted. The SVBGSA decided to include the water charges framework, projects, and management actions for the entire SVBGSA area because they are hydraulically connected and affect each other. Comment noted regarding what SVWC supports. | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-284 | | | | | 11/25/2019 | SVWC | Management Actions: This section identifies six management actions that "are most reliable, implementable, cost-effective, and acceptable to stakeholder." The GSP then goes on to state "the first three would benefit the entire Salinas Valley; the last three are specific to the 180/400 Aquifer Subbasin." "Agricultural land and pumping allowance retirement". The SVWC does not believe that the Salinas Valley, other than the 180/400 Aquifer Subbasin will benefit from such pumping allowances and/or agricultural land retirement. Science and 'accurate' data has shown that areas outside of the 180/400 Aquifer do not contribute to seawater intrusion in the 180/400 and/or will the Salinas Valley, other than the 180/400, benefit from stopping seawater intrusion – except and to the extent of being a good neighbor and wanting to see this problem in the northern end of the Salinas Valley solved. Science and data have shown that this problem can only be solved by those within the 180/400 Aquifer Subbasin. See letter for specific comments. | | SVWC preferences are noted. These comments will be taken into consideration during the implementation phase when projects and management actions are further developed. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-285 | | | | | 11/25/2019 | SVWC | Without offering a tracked changes version for each document, it is difficult for the public to sift through all text, figures and tables to determine what has been changed. Although the SVB GSA website is a repository for all documents, not all previous versions of Chapters are easily accessible to the public. On the GSP Valley Wide page, only Chapter 7 (released 5/16/19), Chapter 5 ((released 3/14/19) and Chapter 4 ((released 1/10/19) are available.1 The 180/400 page lists a simple one page "Update No. 1" description of a few high level changes. 2 Instead, one has to look through old meeting agendas and packets to find previous versions of documents. Unfortunately, many of these documents, although included as part of a dated agenda, do not have a date and the bottom of the document. | | While meeting materials are transparent and located with the corresponding meeting agendas, the SVBGSA only makes the chapters public by putting them on the main pages after Board approval. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-286 | 9.2 | | | | 11/25/2019 | SVWC | As mentioned above, the water charges framework should be considered for implementation only within the 180/400 Aquifer Subbasin. It should not be assumed to apply and be appropriate for the entire Salinas Valley. The GSP should also include other types of funding mechanisms to fund the implementation of management actions and projects for this GSP – but again, it should only consider such funding mechanisms as needed for the 180/400 Aquifer Subbasin, and not the entire Salinas Valley. Each subbasin should be allowed to consider other funding mechanisms as need to support implementation of their individual GSP. See letter for specific comments related to the text | | Comment noted | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-287 | 9.2.7 | | | | 11/25/2019 | SVWC | As we have stated above, this section should add: "Which financing method will fund GSA functions and projects for the 180/400 sub basin"<br>o The option for multiple funding sources is clearly stated earlier, but at this point the document is making it sound as if WCF is already finalized and that it will be applied throughout all subbasins in the Salinas Valley—when it should only be applied within the 180/400 Aquifer Subbasin for this GSP and then may be considered within the other subbasins as their GSP's are developed and implemented.<br>o Page 9-2: "Depending on the outcome of the negotiations, long-term GSP implementation may be funded by the water charges framework, other financing method as permitted by SGMA and other state law, or a combination thereof." | | The water charges framework has not been finalized. As stated in the text, there will be numerous stakeholder discussions to design and agree upon it. | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-288 | 9.2.7 | | | | 11/25/2019 | SVWC | The GSP states, "What is an equitable balance between the Tier 1 Sustainable Pumping Charge collected in the 180/400-Foot Aquifer Subbasin and the Tier 1 Sustainable Pumping Charge collected in other subbasins?"<br>o However, this seems to conflict with what is stated on Page 9-2: "Therefore, actual costs seen by growers are proportional to individual needs project water."<br>o This statement assumes that other subbasins will have Tiered WCF similar to the 180/400, as we have stated, this may not be the case. The 180/400 Aquifer Subbasin GSP should clearly state that the water charges framework will be applied to the 180/400 Aquifer Subbasin GSP and "may' be considered for implementation in other subbasins as their GSP's are developed. | | The GSP outlines a notional idea of what the water charges framework could look like; however, as stated in the text, there are many details to be discussed and agreed upon, such as this question. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-289 | 9.3.2 | | | | 11/25/2019 | SVWC | The assumption of Chapter 9 is that a combination of reduced pumping and projects are likely needed, however, doesn't state how we may be able to achieve our goal with reduced pumping alone. The 180/400 Aquifer Subbasin GSP should state what other action(s) would be needed if projects are not supported and approved – this would be comparable to including a 'no project' alternative. | | An analysis of how to achieve the sustainability goal with reduced pumping alone has not been done at this point, but the SVBGSA may do so during the implementation and GSP update period. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-290 | 9 | | | | 11/25/2019 | SVWC | SGMA requires projects and management actions to have quantified benefits. Management Action #1 is the only Management Action that has potential water savings, therefore it should either state those savings or be moved to the Projects section in the Final Draft. It should consider, and be limited to, opportunities for such savings within the 180/400 Aquifer.<br>The "Project" would be for SVB GSA staff or consultants to conduct a geospatial analysis to assess the best areas to potentially purchase lands for retirement, study the economic value of the land and water | | Projects are defined as activities that support groundwater sustainability that require infrastructure, so Management Action #1 would not qualify. The amount of water savings is unknown at this time. The SVBGSA includes the suggested assessment as part of the overall management action. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-291 | 9 | | | | 11/25/2019 | SVWC | In order provide a full understanding as to what it would be mean to the 180/400 Aquifer if NO projects were approved and implemented, at the minimum, the Permanent Retirement estimated cost calculations (9.3.2.8) needs to be refined | | While water savings will continue, to obtain a comparable number, 25 years was used. More detailed refinement of the cost of implementation and benefits will be calculated during the implementation period. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-292 | 9 | | | | 11/25/2019 | SVWC | Relevant Measurable Objectives - Why isn't Water Quality Objective mentioned in any of these sections?<br>• The GSP should state that it is the intent to collaborate with other agencies, entities, including the Regional Water Quality Control Board to promote water quality objectives. | | The Retional Water Quality Control Board is one of the stakeholders. The GSP does not list all stakeholders individually. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-293 | 9 | | | | 11/25/2019 | SVWC | "The project cost will be covered through delivery charges to existing CSIP customers. Because a funding mechanism for this project has already been identified, these costs will not be incorporated into the Water Charges Framework."<br>• Seems that this would apply to PP2 and PP5 as well. Shouldn't optimizing CSIP be paid by those who would benefit, and expanding CSIP be paid by those who benefit? Would all growers in the 180/400 pay into PP2 and PP5 or just those that receive water from CSIP?<br>• Page 9-2: "Therefore, actual costs seen by growers are proportional to individual needs project water." | | Which projects are included in the water charges framework will be part of future discussions. | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-294 | 9.4.3.6.6 | | | | 11/25/2019 | SVWC | " The estimated projected yield for the project is 11,600 AF/year. "The yield for this project is the same yield that is identified in Priority Project #2 and a portion of the yield identified in Priority Project #3."<br>• What does this statement mean, does it mean it is the same water saved (it cannot be double-counted)?<br>• If this is the case, why is the project yield AF related to CSIP projects listed separately in Table 9-5 if the water saved is the same?<br>• The 3 CSIP-related projects need to be clarified for the public, growers and land owners to understand<br>o How are they interrelated?<br>o How many acre-feet exactly result from the separate projects of 2,3 and 5?<br>o What is the intention of separating projects vs. combining all into one if they have overlapping water savings?<br>o Could these projects be listed as one project to be implemented in phases? | | The text has been clarified and now reads "The yield for this project will facilitate achieving the yield that is identified in Priority Project 2 and a portion of the yield identified in Priority Project 4." The 11,600 was removed from Table 9-4. The questions will be considered as the projects are refined. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-295 | 9.4.3.7 | | | | 11/25/2019 | SVWC | Does the cost estimate include environmental review under CEQA? PG&E costs? Where will brackish water go? There are many unanswered questions that require significant analysis before a decision can be made as to whether this project can work. It might be helpful to also compare this project to a desal plant. | | CEQA is not included in estimated project costs, but is included in the budget because it is part of the design and permitting phase (whereas the water charges framework or other funding mechanism would fund construction). | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-296 | 9.4.3.7 | | | | 11/25/2019 | SVWC | Does the cost estimate include desalination so it can be used? If not, it is not a "yield" of water for the basin to use. Although the seawater intrusion wells may pump this amount per year, none of this water will be useful for irrigation or domestic purposes. Therefore a reader cannot easily make an "apples to apples" comparison from this to other Preferred Projects, such as PP2,3,4,5. Even PP1, Invasive Species removal, which is of a different category, still has the supposed end result that less water is taken up by evapotranspiration and therefore more water will be left in the river or groundwater basin that could be available to recharge. To the contrary, PP6 takes brackish water out of the basin and discharges it into the ocean, so where is the water savings? | | The estimation of yield for the seawater intrusion barrier is only included for the purpose of comparing its cost to other projects (and that has been clarified in the text). The benefit it provides is not directly comparable to other projects. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-297 | 9.4.3.7 | | | | 11/25/2019 | SVWC | Whether environmentally and politically possible, the cost-benefit analysis of this proposed project does not seem to be correct. Specifically:<br>o If the project yield is 30,000 AFY, why is it stated that it extracts 22,000 AFY in the notes below Table 9-5?<br>o If project yield and costs calculation use the denominator 30,000 AFY, why is it listed as a value of only -11,000 AFY in table 9-5? If this is the actual value to the basin, shouldn't the cost be divided by 11,000 AF?<br>o If the value is negative 11,000 AFY (and other projects are positive) how exactly does this add up to helping mitigate overdraft? Again, it is hard to compare apples to oranges. | | The seawater intrusion barrier yield has been removed from Table 9-5 since it does not directly mitigate overdraft. | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-298 | 9.4.3.7 | | | | 11/25/2019 | SVWC | Why is PP6 the same cost as PP9, when capital costs are $50 million higher and annual O&M is $6Million higher/year? (Again, the 30,000 AF "yield" of PP6 does not increase water in the aquifer – it takes it out, therefore you cannot divide by yield in PP6 similarly to PP9).<br>o PP6 Seawater Intrusion Pumping Barrier: "Capital cost for the Seawater Intrusion Pumping Barrier project is estimated at $102,389,000. This includes 44,000 LF of 8-inch to 36-inch pipe and rehabilitation of the existing M1W outfall. Annual O&M costs are anticipated to be approximately $9,800,000. The total projected yield for the Seawater Intrusion Pumping Barrier is 30,000 AF/yr. The cost of water for this project is estimated at $590/AF."<br>o PP9 SRDF Winter Flow Injection: "The majority of the costs are for the construction of the injection wells. Capital costs are assumed to be $51,191,000 for construction of an injection well field consisting of 16 wells as well as construction of a 4-mile conveyance pipeline between the SRDF site and the injection well system. Annual O&M costs are estimated at $3,624,000 for the operation of the injection well field. Total annualized cost is $7,629,000. Based on a project yield of 12,900 AF/yr., the unit cost of water is $590/AF/yr." | | The costs in the text are correct. The capital costs are annualized and the O&M costs are then added to the annualized capital costs. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-299 | 9.4.3.10 | | | | 11/25/2019 | SVWC | This project proposes injection wells, have groundwater recharge basins been considered? This would include a water savings from taking ground out of production (3 af/acre) and no major ongoing O&M/capital costs.<br>• Why is there 4 miles of pipeline? Could you contact landowners closer to facilities, purchase land, permanently fallow ground closer to region to be served and reduce fee. Compare the cost/mile pipe vs. land costs. | | Because the 180 and 400 foot aquifers are somewhat confied, surface recharge is inefficient at recharging these aquifers. The deatils of implementation we'll work out during the design phase. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-300 | 9.6 | | | | 11/25/2019 | SVWC | What is the current demand in the 180/400 Aquifer Subbasin? What is the sustainable yield for Subbasin? What is the overdraft of the Subbasin?<br>- According to 5.3.4 Total Change in Groundwater Storage, the basin is over drafted by 11,700 AFY.<br>- According to 9.6 Mitigation of Overdraft, the historical subbasin overdraft estimated in Chapter 6 is 12,600 AF/yr.<br>- If we have to add on to the overdraft as a "buffer" to stop seawater intrusion, what is the target goal? 20,000 AFY? | | Text has been added to clarify that mitigation of overdraft is based on the long-term future overdraft, and is not sufficient for reaching sustainability. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-301 | 9.6 | | | | 11/25/2019 | SVWC | What is the cumulative impact of multiple projects? If all projects were put in place, or a certain combination of projects in place, would there be enough water for it? | | Table 9-5 demonstrates that there are ample projects to mitigate overdraft | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-302 | 9.6 | | | | 11/25/2019 | SVWC | Table 9-5 – total in table is -58,201, but this appears to be incorrect, if added the total is 40,800 AF | | Table 9-5 has been modified | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-303 | 10 | | | | 11/25/2019 | SVWC | Our members are sensitive to total costs to implement SGMA, especially for Management Actions that may be lumped into the shared Valley Wide budget. Between the First and Second drafts of Chapter 9 (between July 18 and August 8, 2019, as described in Process section above), the two Management Actions (MAs) have been added and the cost for existing MAs have increased in both years, cost per year and total cost. In total we have calculated that annual costs for these MAs have gone up +$255,000 and assuming MA #2 education lasts 5 years, total costs increase by $1,000,000. On the "Public Comment" document, there is no apparent public comment on these MA changes, most of the comments were around the Water Charges Framework and Projects.6 Since the release of the August draft and the October draft, there doesn't seem to be substantial changes despite the extensive comments received. | | Discussions and comments received. Only formal comments and meetings were included in the spreadsheet. Only technical edits and more realistic cost estimates were made to projects and management actions, not substantive changes that require more thorough analysis, which will be done as the projects are refined during the implementation period. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-304 | 10 | | | | 11/25/2019 | SVWC | Why did MA 1 change from a 4% 30 year mortgage to a 6% 25-year mortgage?<br>• How many years is MA #2 expected to take?<br>• Why has the number of years gone up for MA #3, 4, 5?<br>• Why has the cost per year gone up for MA #4?<br>• MA6 creating a Seawater Intrusion Working Group (SIWG) was recently added, and while this may be a good idea, it is the most expensive Management Action. It also isn't clear as to the level of inclusion of stakeholders – they need to be included in any working group.<br>o Why is there $250,000 on Tale 10-1 for "Seawater Intrusion Working Group" and an additional $200,000 on Table 10-2 for "Coordinate SIWG? If total budget is $250,000+$200,000, why aren't these costs stated in Chapter 9?<br>o Table 10-2: We have $1.2 million for Operational Costs, why is SWIG listed as a separate line item whereas other Management Actions are assumed to be included under Operational Costs?<br>• It states that the SVB GSA is only providing "oversight" for many of the Management Actions and even some Projects. Will these be overseen by other agencies? If so, would SVBGSA have any authority over these actions and projects?<br>o If it is just to primarily stay informed and attend meetings, why is the cost to GSA so high (especially MA 3,4,5)?<br>o Has SVB-GSA Board of Directors approved expansion to its staffing?<br>o If not, will salaries of two existing staff be significantly increasing? | | The cost assumptions for MA1 were changed to be consistent with the cost assumptions for all other projects<br><br>Management Action 2: Outreach and Education is ongoing with no set end date<br><br>The timeframes and costs for management actions were set based on our best estimate of when these actions could reasonable be implemented and the estimated effort.<br><br>The costs for seawater intrusion working group include coordination, meeting, and negotiation costs (Coordinate SIWG), as well as costs for technical analyses of existing data (Seawater Intrusion Working Group).<br><br>SVBGSA plans to work cooperatively with other agencies and NGOs to effectively and efficiently implement the management actions and projects. SVBGSA currently does not plan to duplicate work done by others. While not agreed to yet, it is possible that SVBGSA will share authority on shared projects. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-305 | 10 | 10-1 and 10-2 | | | 11/25/2019 | SVWC | Are all Management Actions assumed to be included under Table 10-2 Operational Costs ($1.2M)?<br>o We have $1.2 million for Operational Costs, why is SWIG listed as a separate line item if other Management Actions are assumed to be included under Operational Costs? | | As stated in the text: "Costs for implementing projects and actions are in addition to the agreed-upon funding to sustain the operational costs of the GSA, and the funding needed for monitoring and reporting. " | SVWC comments on 180 400 GSP 112519 final.pdf |

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| W-306 | 10 | 10-1 and 10-2 | | | 11/25/2019 | SVWC | All 180/400 planning, operational costs and specific actions should be put under table 10-1, not 10-2. This is important because the basin is different both scientifically and in the eyes of the State Water Board. It is considered a high priority basin and therefore has different regulatory time schedule for the implementation of 180/400 projects. Because saltwater intrusion issue it faces is more challenging than other sub-basins, the potential need for complex and multiple projects will also drive up the costs for compliance for this sub-basin. For example,<br>o Why is SIWG ($200,000) listed on “Valley-wide” planning cost Table 10-2 when seawater intrusion isn’t a valley-wide issue?<br>o Why is Refine Projects and Actions ($460,000) on table 10-2 if other basins may have no need for projects, or the projects they may partake in (such as PP#1 Invasive Species Removal) already exist?<br>o While the cost/benefit analysis of projects for the 180/400 may have some interaction with other basins such as the Forebay, to put a generic placeholders on table 10-2 and claim that they are “Whole Valley” line items is erroneous. | | Table 10-1 lists costs that are specific to the 180/400-Foot Aquifer Subbasin; Table 10-2 are costs that could reasonably viewed as Valley-wide. These are estimated costs, but are open to revision when the funding mechanisms are finalized.<br><br>The Seawater intrusion were accidently duplicated. The seawater intrusion working group costs have been removed from the Valley-wide costs. | SVWC comments on 180 400 GSP 112519 final.pdf |
| W-307 | 10 | 10-1 and 10-2 | | | 11/25/2019 | SVWC | There appears to be an addition error in Table 10-2 as the ‘Total’ of $9,422,600.00 is not correct – but rather it should be $2,921,800.00 according to our addition. This is a significant error as it distorts the overall total costs of the projects, and then distorts the average annual cost and hence, the potential costs to be paid by landowners. Table 10-1 also appears to be added incorrectly, calling into question the integrity of the document. | | In both Tables 10-1 and 10-2 costs are marked as 'lump sum' or 'annual' costs. Annual costs are included in the total budget for 5 years. Numbers have been double checked and are correct. | SVWC comments on 180 400 GSP 112519 final.pdf |

List of Letters

| | Date | Commenter | Commenter document name | Chapter PDF |
|---|---|---|---|---|
| 1 | 11/15/2018 | Bob Jaques email to D. Williams, G. Petersen | BobJaques.11.15.2018 comment_180-400 and ISP | 1-3 |
| 2 | 11/13/2018 | Tamara Voss to D. Williams, G. Petersen | TamaraVossGSP Comments 1-3_TV111418 | 1-3 |
| 3 | 11/21/2018 | Mike McCullough email to D. Williams | 12-18-2018 email from Mike McCullough | 1-3 |
| 4 | 12/18/2018 | Paul Tran CHISPA email to G. Petersen | 11-21-2018 email from Paul Tran | 1-3 |
| 5 | 1/17/2019 | EKI | Draft Hydrostratigraphy Summary_MCWD_2019-01-17_EKI | 4 |
| 6 | 2/7/2019 | Sandi Matsumoto/TNC | TNC_180-400ftAquifer_Chapter4 | 4 |
| 7 | 3/26/2019 | EKI | Preliminary Comments_Chapter4_2019-3-26_EKI | 4 |
| 8 | 12/6/2018 | Heather Lukacs | HeatherLukacs_WaterQuality for Chapter 4_12.06.2018 | 4 |
| 9 | 12/21/2018 | Brian Frus | GSP 180_400 Aquifer Comments Chs 4 Salinas Brian Frus 18 12 21 | 4 |
| 10 | 4/4/2019 | Glenn Church | GChurch_Public Comment Chapters 5 | 5 |
| 11 | 4/11/2019 | The Nature Conservancy | TNC_180-400ftAquifer_Chapter5 submitted 04.11.2019 | 5 |
| 12 | 4/18/2019 | EKI | KeithVanDerMaaen_PrelimComments_Chapter 5 2019-4-18.pdf | 5 |
| 13 | 5/6/2019 | Central Coast Water Board | Signed CC Regional Board comments chpater 5 - final | 5 |
| 14 | 4/8/2019 | Gus Yates | GusYates_Valleywide_Plan_Ch_5_comments_cw)4102019 | 5 |
| 15 | 7/10/2019 | Community Water Center | Chapter 6 Water Budget_CWC Comments, 7/11/19 | 6 |
| 16 | 7/11/2019 | Thomas Virsik | GSABOD comment 7-11-19 | 6 |
| 17 | 7/2/2019 | Marina Coast Water District | MCWD letter to SVBGSA_Chapter 6 Comments, 7/2/19 | 6 |
| 18 | 8/5/2019 | LandWatch | LandWatchCommentsChapter6 | 6 |
| 19 | 7/10/2019 | Anderson, MC Water Systems | Chapter 6. MOCOW Comments | 6 |
| 20 | 6/18/2019 | Virsik | Public Comments, Tom Virsik, Chapter 6 cc'd Derrik Williams | 6 |
| 21 | 6/10/2019 | LandWatch | LandWatchComments_GSPChapter7.pdf | 7 |
| 22 | 6/18/2019 | TNC | TNC_180-400ftAquifer_Chapter7+8.pdf | 7 |
| 23 | 5/16/2019 | Dallas Tubbs | 5-16-19_180-400_Ch8_Chevon_DallasTubbs | 8 |
| 24 | 6/18/2019 | TNC | TNC_180-400ftAquifer_Chapter7+8 (see Chapter 7) | 8 |
| 25 | 7/2/2019 | Landwatch | LandwatchComments_GSPChapter8 | 8 |
| 26 | 7/16/2019 | CC Regional Board | CC Regional Board comments Salinas Valley 180 400 Ch 8.pdf | 8 |
| 27 | 7/26/2019 | NMFS | NOAA National Marine Fisheries Service Comments on Draft Chapter 8 | 8 |
| 28 | 11/4/2019 | Rural Well Owner P Scholz | MOCOWS comment letter#3 | 8 |
| 29 | 6/4/2019 | Virsik | Public Comments, Tom Virsik, Chapter 6 cc'd Derrik Williams<br>Listed above for Ch. 6 | 8 |
| 30 | 7/10/2019 | Marla Anderson | MOCOWS GSP comment letter 11-3-19 | 8 |
| 31 | 7/17/2019 | Thomas Virsik/Orradres & Scheid | GSABadvisor 17July2019 | 9 |
| 32 | 7/18/2019 | SVWC | SVWC_Chapter 9 | 9 |
| 33 | 8/7/2019 | Thomas Virsik | MCWD letter to SVBGSA Chapter 9 comments 20190801.pdf | 9 |
| 34 | 9/10/2019 | Salinas Valley Water Coalition | 20190910 - SVWC comments on SVBGSA chapter 9 final | 9 |

List of Letters

| | Date | Commenter | Commenter document name | Chapter PDF |
|---|---|---|---|---|
| 35 | 9/9/2019 | LandWatch | LandWatchComments_GSPChapter9 | 9 |
| 36 | 10/8/2019 | M1W | M1W Comment Matrix - Draft SVBGSA Chapter 9 27Aug2019 | 9 |
| 37 | 11/14/2019 | Robin Lee | Lee_comments on draft GSP 11 14 19 (see Chapter 8) | 9 |
| 38 | 10/9/2019 | Monterey One Water, Salinas, Cal Water | SVBGSA Joint Letter for Chapter 9 M1W Salinas Cal Water.pdf | 9 |
| 39 | 9/30/2019 | CC Water Board | CC Regional Board comments Salinas Valley 180 400 Ch 9.pdf | 9 |
| 40 | 11/13/2019 | James Sang | James_Sang_11-13-2019_ch9_letter | 9 |
| 41 | 7/25/2019 | Christopher Bunn | Christopher_Bunn_email_07-25-2019 | 9 |
| 42 | 8/7/2019 | Thomas Virsik | BOD Aug 2019 Comment | 9 |
| 43 | 12/9/2019 | River Management Unit | River Management Unit comment letter 12-09-19 | 9 |
| 44 | 12/12/2019 | NOAA | US NOAA comment letter 12-12-19 | 9 |
| 45 | 10/8/2019 | Adin Holdings | AH commentary on Ch 9 10.8.2019.pdf | 9 |
| 46 | 9/16/2019 | MCWD | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 | 9 |
| 47 | 9/11/2019 | Thomas Virsik | Chapter 10 and 11, Virsik.pdf | 10 |
| 48 | 9/16/2019 | MCWD | MCWD letter to SVBGSA Chapter 9-10 comments 2019-09-16 (see chapter 9) | 10 |
| 49 | 10/7/2019 | LandWatch | LandWatchComments_GSPChapter10.pdf | 10 |
| 50 | 9/11/2019 | Thomas Virsik | Chapter 10 and 11, Virsik.pdf (see chapter 10) | 11 |
| 51 | 10/31/2019 | Thomas Virsik | Virsik_GSPComment31Oct2019 | Whole GSP |
| 52 | 11/13/2019 | LandWatch | LandWatchCommentsEntireGSP_FINAL.pdf | Whole GSP |
| 53 | 11/14/2019 | Thomas Virsik | Virsik_GSPComment14Nov2019 | Whole GSP |
| 54 | 11/14/2019 | Robin Lee | Lee_comments on draft GSP 11 14 19 | Whole GSP |
| 55 | 11/21/2019 | Chevron | 180_400-Foot_Aquifer_Subbasin_GSP_Chevron_Comments.pdf | Whole GSP |
| 56 | 11/21/2019 | Department of Fish and Wildlife | Dept of Fish and Wildlife SVBGSA GSP Comments | Whole GSP |
| 57 | 11/25/2019 | James Sang | SVBGSA PROJECT email Sang.pdf | Whole GSP |
| 58 | 11/25/2019 | TNC | TNC comments - Salinas 180-400ft.pdf | Whole GSP |
| 59 | 11/25/2019 | Farm Bureau | GSP Comment Letter-MCFB 112519.pdf | Whole GSP |
| 60 | 11/25/2019 | The Otter Project | TOP GSP comments.pdf | Whole GSP |
| 61 | 11/25/2019 | Community Water Center | 180_400 Foot Aquifer Subbasin GSP Comment Letter with Attachments 11.25.19 Final from CWC and San Jerardo.pdf | Whole GSP |
| 62 | 11/25/2019 | Arroyo Seco GSA | SVBGSA_GSP_comment_ltr_11252019.pdf | Whole GSP |
| 63 | 11/25/2019 | City of Marina | MGSA Comment Letter on the SVBGSA 180_400 Aquifer GSP.pdf | Whole GSP |
| 64 | 11/25/2019 | RCDMC | RCDMC Salinas Basin GSP Comments 2019-11-25.pdf | Whole GSP |
| 65 | 11/25/2019 | MCWRA | SVBGSA_MCWRA Cover Letter.pdf | Whole GSP |
| 66 | 11/25/2019 | MCWRA | SVBGSA_MCWRA  Comments.pdf | Whole GSP |
| 67 | 11/25/2019 | California Water Service | California Water Service 180-400 GSP Comments.pdf | Whole GSP |
| 68 | 11/25/2019 | Alco | Alco's Comments on SVBGSA GSP for 180-400 ft Aquifer.pdf | Whole GSP |

List of Letters

| | Date | Commenter | Commenter document name | Chapter PDF |
|---|---|---|---|---|
| 69 | 11/25/2019 | SVWC | SVWC comments on 180 400 GSP 112519 final.pdf | Whole GSP |
| 70 | 11/25/2019 | Ag Innovations | Salinas Valley - 180_400 Ft Aquifer GSP FULL Analysis V2 Ag Innovations.pdf | Whole GSP |
| 71 | 11/25/2019 | Rincon Farms | Public Comment_Rincon Farms.pdf | Whole GSP |
| 72 | 11/25/2019 | MCWD | MCWD09582120191125152330 | Whole GSP |
| 73 | 11/25/2019 | MCWD | MCWD Comment Letters to 180-400 GSP Draft Chapters | Whole GSP |
| 74 | 12/12/2019 | City of Marina | Marina Comment Letter 12-12-19 | Whole GSP |
| 75 | 1/8/2020 | James Sang | Sang 1-8-2020 | Whole GSP |
| 76 | 1/8/2020 | Virsik | Virsik_Jan-8-2020_Comment_Letter | Whole GSP |
| 77 | 1/8/2020 | City of Marina | 2020-01-08 Marina and MGSA Opp. Letter to SVBGSA | Whole GSP |
| 78 | 1/9/2020 | Bunn | Bunn letter River Clearing 01-09-2020 | Whole GSP |

**From:** bobj83@comcast.net <bobj83@comcast.net>
**Sent:** Thursday, November 15, 2018 12:39 PM
**To:** Derrik Williams <dwilliams@elmontgomery.com>; Gary Petersen <peterseng@svbgsa.org>
**Cc:** Bob Jaques <bobj83@comcast.net>
**Subject:** 180-400 Foot GSP and Valley Wide Management Plan

Derrik/Gary:

I request that a short para, such as this one below, be added to the GSP on page 10 under Section 3.2, and to the Management Plan on page 6 under Section 3.2, so that readers will have a general understanding of what is meant by an adjudicated basin, and some specifics about the adjudicated Seaside Basin.

> *An adjudicated basin is one in which, through legal action, the basin has certain requirements placed on it by the Court, and those requirements are normally administered and enforced by a "Watermaster" that is appointed by the Court. The Seaside SubBasin Watermaster was appointed through the Decision filed February 9, 2007 by the Superior Court in Monterey County under Case No. M66343 - California American Water v. City of Seaside et al. The Seaside Basin Watermaster has 10 members, including several cities on the Monterey Peninsula, representatives from certain subareas with that basin, the Monterey Peninsula Water Management District, the Monterey County Water Resources Agency, and California American Water Company.*

In the Management Plan under Section 3.6.1 on page 20 and in Section 3.6.3 on page 22, it might be good to note that the Seaside Basin Watermaster has an extensive Monitoring and Management Plan that has been implemented for the Seaside SubBasin, which includes both water quality and water level data from numerous wells. That data may be useful to the SVBGSA in developing GSPs for the subbasins that are adjacent to the Seaside SubBasin.

Similarly, under Section 3.6.2 on page 20 of the Management Plan it might be good to note that there is extraction data compiled from numerous wells in the Seaside Subbasin by the Seaside Basin Watermaster.

Thanks,

Robert S. Jaques, PE
Technical Program Manager
Seaside Basin Watermaster
83 Via Encanto
Monterey, CA 93940
Office: (831) 375-0517
Cell: (831) 402-7673

SVRP ..... Salinas Valley RECLAMATION PROJECT
SVWP ..... Salinas Valley Water Project
SWQCB ..... State Water Quality Control Board
UWMP ..... Urban Water Management Plan
USGS ..... United States Geological Survey

# SECTION 1
# INTRODUCTION TO THE 180/400-FOOT AQUIFER SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

## 1.1 PURPOSE OF THE GROUNDWATER SUSTAINABILITY PLAN

In 2014, the State of California enacted the Sustainable Groundwater Management Act (SGMA). This law required groundwater basins or subbasins that are designated as medium or high priority to be managed sustainably. Satisfying the requirements of SGMA generally requires four basic activities:

1. Forming one or more Groundwater Sustainability Agency(s) (GSAs) in the basin
2. Developing a Groundwater Sustainability Plan (GSP)
3. Implementing the GSP and managing to measurable, quantifiable objectives
4. Regular reporting to the California Department of Water Resources (DWR)

This document satisfies the GSP requirement for the Salinas Valley – 180/400-Foot Aquifer Subbasin (Subbasin or 180/400-Foot Subbasin). The GSP describes the Subbasin, establishes local sustainable management criteria and provides projects and programs for reaching sustainability in the Subbasin by 2040. The GSP also includes monitoring and reporting protocols to document long-term sustainable management in the Subbasin.

The Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) developed this GSP with cooperation from the Marina Coast Water District (MCWD) GSA. This GSP is developed in concert with GSPs for five other Salinas Valley subbasins under SVBGSA jurisdiction: the East Side Aquifer Subbasin (DWR subbasin number 3-004.02), the Forebay Aquifer Subbasin (DWR subbasin number 3-004.04), the Upper Valley Aquifer Subbasin (DWR subbasin number 3-004.05), the Langley Area Subbasin (DWR subbasin number 3-004.09) and the Monterey Subbasin (DWR subbasin number 3-004.10). The projects and programs presented in this GSP are part of a cohesive set of projects and programs designed to achieve sustainability throughout the entire Salinas Valley. GW Basin

## 1.2 DESCRIPTION OF THE 180/400-FOOT AQUIFER SUBBASIN

The 180/400-Foot Aquifer Subbasin is identified by DWR as Subbasin 3-004.01. The Subbasin is part of the greater Salinas Valley groundwater Basin in the Central Coastal region of California (DWR, 2016). The Subbasin is named for its two primary water-bearing units: the 180-Foot Aquifer and the 400-Foot Aquifer. The Subbasin encompasses an area of approximately 84,400 acres, or 132 square miles. The subbasin lies in Monterey County and

# SECTION 3
# DESCRIPTION OF PLAN AREA

## 3.1 180/400-FOOT AQUIFER SUBBASIN INTRODUCTION

This GSP covers the entire 180/400-Foot Aquifer Subbasin, as shown on Figure 3-1. The Subbasin lies in northwestern Monterey County and includes the northern end of the Salinas River Valley. The Subbasin covers an area of 84,400 acres (132 square miles) (DWR, 2004). The boundaries of the Subbasin, combined with those of the Monterey and Seaside subbasins, are generally consistent with the Monterey County Water Resource Agency's (MCWRA) Pressure Subarea (MCWRA, 2006).

The Salinas River drains the Subbasin, discharging into Monterey Bay. The Subbasin contains the municipalities of Salinas and Gonzales and the census-designated places of Castroville, Moss Landing, Elkhorn, Boronda, Spreckels, and Chualar. United States Highway 101 runs north-south along the eastern border of the Subbasin. State Highways 1, 156, 183, and 68 also cross the subbasin. Rivers and streams, urban areas, and major roads are shown on Figure 3-1.

## 3.2 ADJUDICATED AREAS, OTHER GSAS, AND ALTERNATIVES

The Subbasin is not adjudicated. The only adjudicated area in the Salinas Valley Basin is the Seaside Subbasin (3-004.08), which is not adjacent to the 180/400-Foot Aquifer Subbasin. The adjudicated Seaside Subbasin is shown by the shaded area on Figure 3-2.

One non-exclusive GSA that is not a party to this GSP exists in the Subbasin: The City of Marina. Figure 3-1 shows the area within the 180/400-Foot Aquifer Subbasin covered by the City of Marina GSA. No alternative plans have been submitted for any part of the Subbasin, or for any other Salinas Valley subbasin.

NO IT DOESN'T
FIG 2.1 DOES.

## 3.3 JURISDICTIONAL AREAS

There are several federal, state, and local agencies with water management authority in the Subbasin.

### 3.3.1 FEDERAL JURISDICTION

A portion of the Fort Ord former Army base lies in the Subbasin. The United States Department of Defense manages this part of Fort Ord. The United States Department of Fish and Wildlife manages the Salinas River National Wildlife Refuge. Areas under federal jurisdiction are shown on Figure 3-3.

### 3.3.2 STATE JURISDICTION

NAME NOT SAME AS ON MAP

The California Department of Fish and Wildlife owns and operates the Elkhorn Slough Ecological Reserve, the Moro Cojo Slough State Marine Reserve, and the Moss Landing Wildlife Area. The California Department of Parks and Recreation manages several areas in the Subbasin near Moss Landing including: Moss Landing State Beach, Salinas River Dunes Natural Preserve, Salinas River State Beach, and the Salinas River Mouth Natural Preserve. Areas under State jurisdiction are shown on Figure 3-3.

### 3.3.3 COUNTY JURISDICTION

MAP 3-4 LISTS MCWRA NOT MPC

The entire Subbasin lies in Monterey County; and the County of Monterey has jurisdiction over the entire Subbasin. The County operates Toro Regional Park in the Subbasin.

### 3.3.4 CITY AND LOCAL JURISDICTION

NOT ON MAP - WAY INCLUDED IN TEXT?? WHAT'S THE POINT??

The cities of Salinas and Gonzales have water management authority in their incorporated areas. The Castroville Community Service District provides water and sewer collection services in the town of Castroville. A small portion of the Marina Coast Water District's service area extends from the Monterey subbasin into the 180/400-Foot Aquifer Subbasin. The jurisdictional boundaries of these areas are shown on Figure 3-4.

## 3.4 LAND USE

Land use planning authority in the 180/400-Foot Aquifer Subbasin is the responsibility of the County of Monterey and the cities of Salinas and Gonzales. Land use information for the Subbasin was collected from the Department of Water Resources. Current land use in the Subbasin is shown on Figure 3-5 and summarized by major category in Table 3-1 (DWR, 2014). The majority of land in the Subbasin is used for agriculture; major crops are truck crops, including lettuce, berries, onions and garlic.

*Table 3-1: Land use summary*

| Category | Area in subbasin (acres) |
|---|---|
| Agriculture (non-Vineyard) | 50,170 |
| Urban | 6,716 |
| Vineyard | 1,592 |
| Idle Cropland | 1,472 |
| Pasture | 87 |
| Total | 60,037 |

# 3.6 EXISTING MONITORING PROGRAMS

## 3.6.1 EXISTING GROUNDWATER LEVEL MONITORING

### 3.6.1.1 MCWRA MONTHLY GROUNDWATER LEVEL MONITORING

As of 2018, MCWRA collects monthly groundwater level measurement from approximately ~~105~~ 100 wells throughout the Salinas Valley. Of these wells, ~~41~~ 38 are in the 180/400-Foot Aquifer Subbasin. MCWRA processes these monthly measurements to develop a computed average of depth to water for each Subbasin.

### 3.6.1.2 MCWRA ANNUAL FALL GROUNDWATER LEVEL MONITORING

Each fall, MCWRA collects annual groundwater level measurements from approximately 52 wells in the 180/400-Foot Aquifer Subbasin. The fall usually coincides with the end of the irrigation season, and groundwater levels at this time reflect ~~depleted~~ RELAXED aquifer conditions ~~due to pumping for irrigation~~. MCWRA uses these annual measurements to estimate the change in storage in each Subbasin.

WRONG!! PRIOR TO THE ONSET OF SEASONAL WINTER RECHARGE

AN ADDITIONAL ~120 — WE USE THESE TO CONTOUR/MAPS

### 3.6.1.3 AUGUST GROUNDWATER LEVEL MONITORING

MCWRA collects groundwater level measurements every August in the 180/400-Foot Aquifer Subbasin to establish the location and extent of groundwater pumping depressions that drive seawater intrusion. These pumping depressions occur in the Pressure 180-Foot and Pressure 400-Foot Aquifers between the City of Salinas and the coast. Changes in pumping stress and recharge conditions cause the troughs to vary in location and depth from year to year. MCWRA uses the August groundwater elevation data to develop groundwater contour maps of the coastal pumping depressions on odd-numbered years.

~ 100 WELLS

### 3.6.1.4 CALIFORNIA STATEWIDE GROUNDWATER ELEVATION MONITORING (CASGEM)

MCWRA is the responsible agency for CASGEM monitoring in Monterey County. The monitoring network comprises ~~48~~ 51 wells throughout the Salinas Valley. Of these ~~48~~ 51 wells, ~~22~~ 19 are in the 180/400-Foot Aquifer Subbasin. Some of the CASGEM monitoring wells are owned by MCWRA and others are privately owned by owners who have volunteered the well for inclusion in the CASGEM program. MCWRA collects groundwater elevation data two times each year from the CASGM wells and reports the groundwater elevation data to DWR. Figure 3-10 shows the locations of the CASGEM monitoring wells in the 180/400-Foot Aquifer Subbasin.

DATA COLLECTED 4x/yr - SUBMITTED 2x/yr

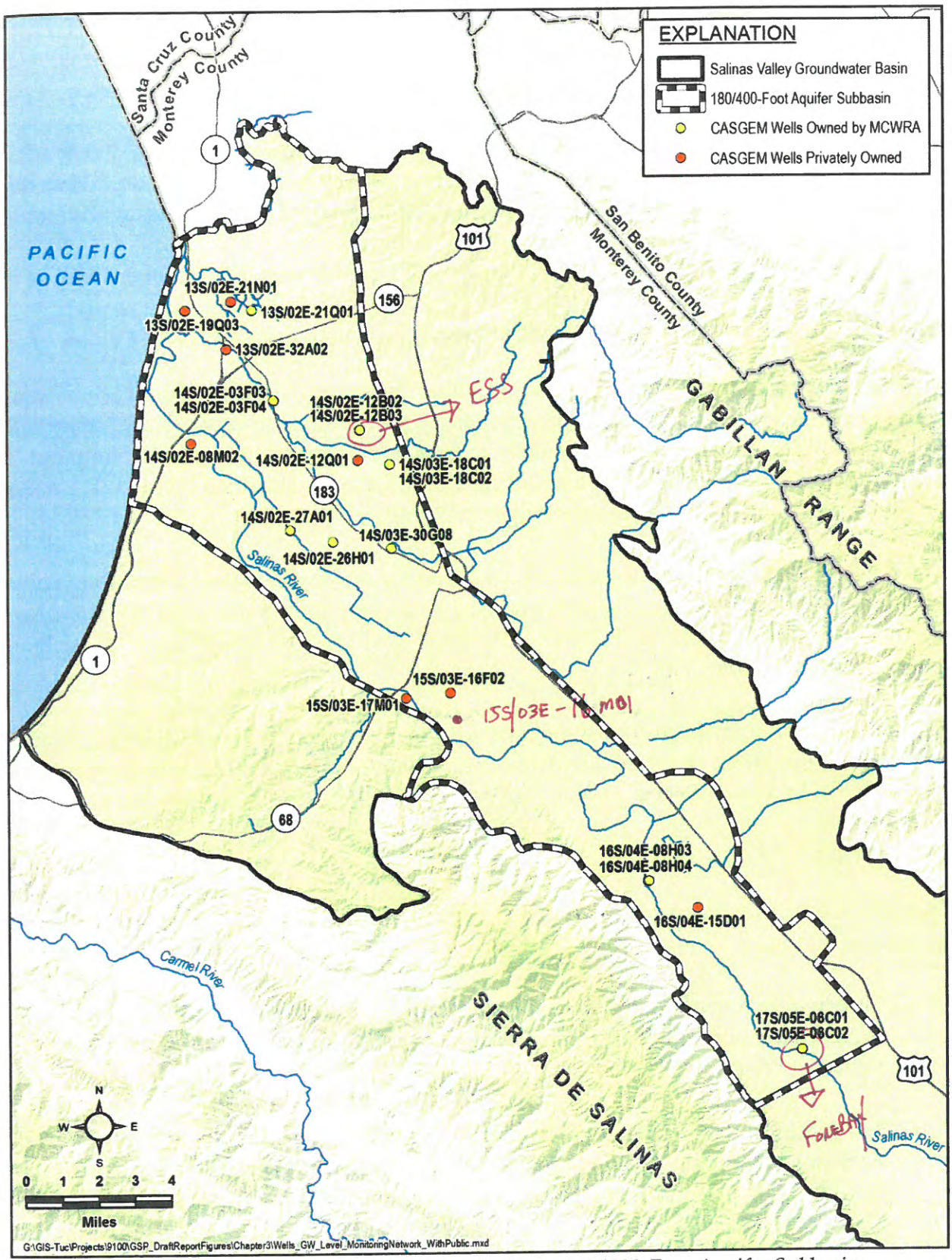


*Figure 3-10: Locations of CASGEM Wells in the 180/400-Foot Aquifer Subbasin*

### 3.6.2 Groundwater Extraction Monitoring

MCWRA collects groundwater extraction information from all wells in the 180/400-Foot Aquifer Subbasin that have discharge pipes of three inches or greater in diameter. These data have been collected since 1993. Extraction is self-reported by well owners.

### 3.6.3 Groundwater Quality Monitoring

#### 3.6.3.1 MCWRA Seawater Intrusion Monitoring

MCWRA monitors seawater intrusion in the Salinas Valley with a network of 121 monitoring wells located in the 180/400-Foot Aquifer Subbasin. 96 wells in the network are agricultural production wells that are sampled annually in June and August (during peak pumping). 25 wells in the network are dedicated monitoring wells that are maintained by MCWRA and/or the Monterey Peninsula Water Supply Project (MPWSP).

Water quality samples from the wells are analyzed for major constituents, including anions and cations, conductivity, etc. The data are used to develop time-series plots of chloride and conductivity trends, Stiff and Piper diagrams, and to compute ratios of chloride concentration ~~to sodium~~. Cl/Na

The data are used to prepare ~~annual~~ maps of ~~saltwater~~ seawater intrusion in the 180/400-Foot Aquifer. Additional information about the occurrence and extent of ~~saltwater~~ seawater intrusion is provided in Section 5.

#### 3.6.3.2 Other

Groundwater quality is monitored under several different programs and by different agencies including:

- Muncipal and community water purveyors must collect water quality samples on a routine basis for compliance monitoring and reporting to the California Division o Drinking Water.

- The USGS collects water quality data on a routine basis under the Groundwate Ambient Monitoring and Assessment (GAMA) program. These data are stored in th State's GAMA/Geotracker system. Figure 3-11 shows the location of wells in th State's GAMA Geotracker database that are in the 180/400-Foot Aquifer subbasin.

- There are multiple sites that are monitoring groundwater quality as part of investigation or compliance monitoring programs through the Central Coast Regional Water Quality Control Board.

### 3.6.4 Surface Water Monitoring

Streamflow gages operated by the USGS within the 180/400-Foot Aquifer Subbasin include:

- Reclamation Ditch near Salinas (USGS Site #11152650)
- Salinas River near Chualar (USGS Site #11152300)
- Salinas River near Spreckels (USGS Site #11152500)

Water levels (stage) in the Salinas River Lagoon are measured by MCWRA at Monte Road. The locations of the surface-water monitoring facilities are depicted in Figure 3-12.

I & NEAR THE SLIDE GATE TO THE CSR

## 3.3 JURISDICTIONAL AREAS

There are several federal, state, and local agencies with water management authority in the SVIGSP area.

### 3.3.1 FEDERAL JURISDICTION

The A portion of the Fort Ord former Army base lies in the SVIGSP area. The United States Department of Defense manages this part of Fort Ord. The United States Department of Fish and Wildlife manages the Salinas River National Wildlife Refuge. The United States Bureau of Land Management (BLM) manages a 27.5-acre parcel in the Salinas River floodplain approximately 3.5 miles north of Greenfield. The BLM additionally owns several parcels of land approximately 5.5 miles southwest of Soledad; a portion of these are within the SVIGSP area. The BLM also owns land contiguous with Fort Ord. Areas under federal jurisdiction are shown on Figure 3-3.

### 3.3.2 STATE JURISDICTION

The California Army National Guard operates Camp Roberts, a military training facility located in both Monterey and San Luis Obispo counties. The California Department of Corrections and Rehabilitation manages the Salinas Valley State Prison, located 5 miles north of Soledad. The California Department of Fish and Wildlife owns and operates the Elkhorn Slough and Moro Cojo ecological reserves; and the Big Sandy and Moss Landing Wildlife Areas. The California Department of Parks and Recreation manages several areas in the SVIGSP area near Moss Landing: Moss Landing State Beach, Salinas River Dunes Natural Preserve, Salinas River State Beach, and Salinas River Mouth Natural Preserve. Areas under State jurisdiction are shown on Figure 3-3.

### 3.3.3 COUNTY JURISDICTION

The entire SVIGSP area lies in Monterey County. The Monterey County Water Resources agency has been responsible for water management in Monterey County since 1947. Specific lands managed by the County include Royal Oaks Park, Manzanita Regional Park, Toro Regional Park and San Lorenzo Park. Areas under County jurisdiction are shown on Figure 3-3.

### 3.3.4 CITY AND LOCAL JURISDICTION

The cities of Salinas, Gonzales, Soledad, Greenfield, and King City have water management authority in their incorporated areas. The Castroville Community Service District provides services in the town of Castroville. The Marina Coast Water District's has water management authority in its service. The jurisdictional boundaries of these areas are shown on Figure 3-4.

### 3.4.2 Water Use Sectors

Groundwater demands in the SVIGSP area are organized into the six water use sectors identified in the GSP emergency regulations. These include:

- **Urban**. Urban water use is assigned to non-agricultural water uses in the cities and census-designated places. Domestic use outside of census-designated places is not considered urban use. For the years 2010-2015, urban water use averaged 42,896 ac-ft and accounted for an average of 9% of the groundwater pumped in the SVIGSP area (MCWRA, 2016).
- **Industrial**. There is limited industrial use in the SVIGSP area. DWR does not have any records of wells in the SVIGSP area that are specifically categorized as industrial use wells. Most industrial use is associated with agriculture and is likely lumped into the agricultural water use sector.
- **Agricultural**. This is the largest water use sector in the SVIGSP area; with an annual average use of 448,049 ac-ft between 2010 and 2015 (MCWRA, 2016). Agricultural water use accounted for an average of 91% of the groundwater pumped in the SVIGSP area (MCWRA, 2016).
- **Managed wetlands**. DWR land use records indicate that there is one managed wetland in the SVIGSP area; an 11.2-acre wetland owned by the State of California and located northeast of the Monte De Lago neighborhood, between state highway 156 and Castroville Boulevard.
- **Managed recharge**. There is no managed recharge in the SVIGSP area. Wastewater treated by the Monterey One Water is distributed by the Castroville Seawater Intrusion Project (CSIP) distribution system and used to offset agricultural groundwater pumping within the CSIP service area.
- **Native vegetation.** Approximately 43% of the SVIGSP area is composed of agricultural, urban, or vineyard land uses. Native vegetation is largely present on the remaining 57% of the land; identified as pasture and grazing, federal land, conservation/recreation, or other. Groundwater use by native vegetation has not been quantified for these areas.

## 3.5 Density of Wells

Groundwater in the SVIGSP area is used for agricultural, municipal, and domestic purposes. Based on data available from DWR's Well Completion Report Map Application, more than half of the wells in the DWR dataset are used for production; all production wells are assumed to be used for agricultural irrigation. Domestic use accounts for most of the remaining wells. Well counts in the SVIGSP area are summarized in Table 3-2. Figure 3-7 and Figure 3-8 show the density of domestic and production wells, respectively, per square mile in the SVIGSP area.

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# 3.6 EXISTING MONITORING AND MANAGEMENT PROGRAMS

## 3.6.1 GROUNDWATER LEVEL MONITORING

### 3.6.1.1 MCWRA MONTHLY GROUNDWATER LEVEL MONITORING

As of 2018, MCWRA collects monthly groundwater level measurement from approximately ~~105~~ wells throughout the Salinas Valley. MCWRA processes these monthly measurements to develop a computed average depth to water for each Subbasin.

### 3.6.1.2 MCWRA ANNUAL FALL GROUNDWATER LEVEL MONITORING

Each fall, MCWRA collects annual groundwater level measurements from approximately 5( wells in the Salinas Valley. The annual groundwater elevation measurements are collected in fall of each year, which usually coincides with the end of the irrigation season. MCWRA uses these annual measurements to estimate the change in storage in each Subbasin.

### 3.6.1.3 AUGUST GROUNDWATER LEVEL MONITORING

MCWRA collects groundwater level measurements every August to establish the location and extent of groundwater pumping depressions that drive seawater intrusion. These pumping depressions occur in the 180-Foot and 400-Foot Aquifers between the City of Salinas and the coast. Changes in pumping stress and recharge conditions cause the trough to vary in location and depth from year to year. MCWRA uses the August groundwater elevation data to develop groundwater contour maps of the coastal pumping depressions in odd-numbered years.

### 3.6.1.4 CALIFORNIA STATEWIDE GROUNDWATER ELEVATION MONITORING (CASGEM)

MCWRA is the responsible agency for CASGEM monitoring in Monterey County. The monitoring network comprises ~~48~~ wells throughout the Salinas Valley. Some of the CASGEM monitoring wells are owned by MCWRA and others are privately owned by owners who have volunteered the well for inclusion in the CASGEM program. MCWRA collects groundwater elevation data ~~two~~ times each year from the CASGM wells and reports the groundwater elevation data to DWR. Locations of CASGEM monitoring wells are shown on Figure 3-10.

## 3.6.2 GROUNDWATER EXTRACTION MONITORING

MCWRA collects groundwater extraction information from all wells that have discharg pipes of three inches or greater in diameter. These data have been collected since 199 Extraction is self-reported by well owners.

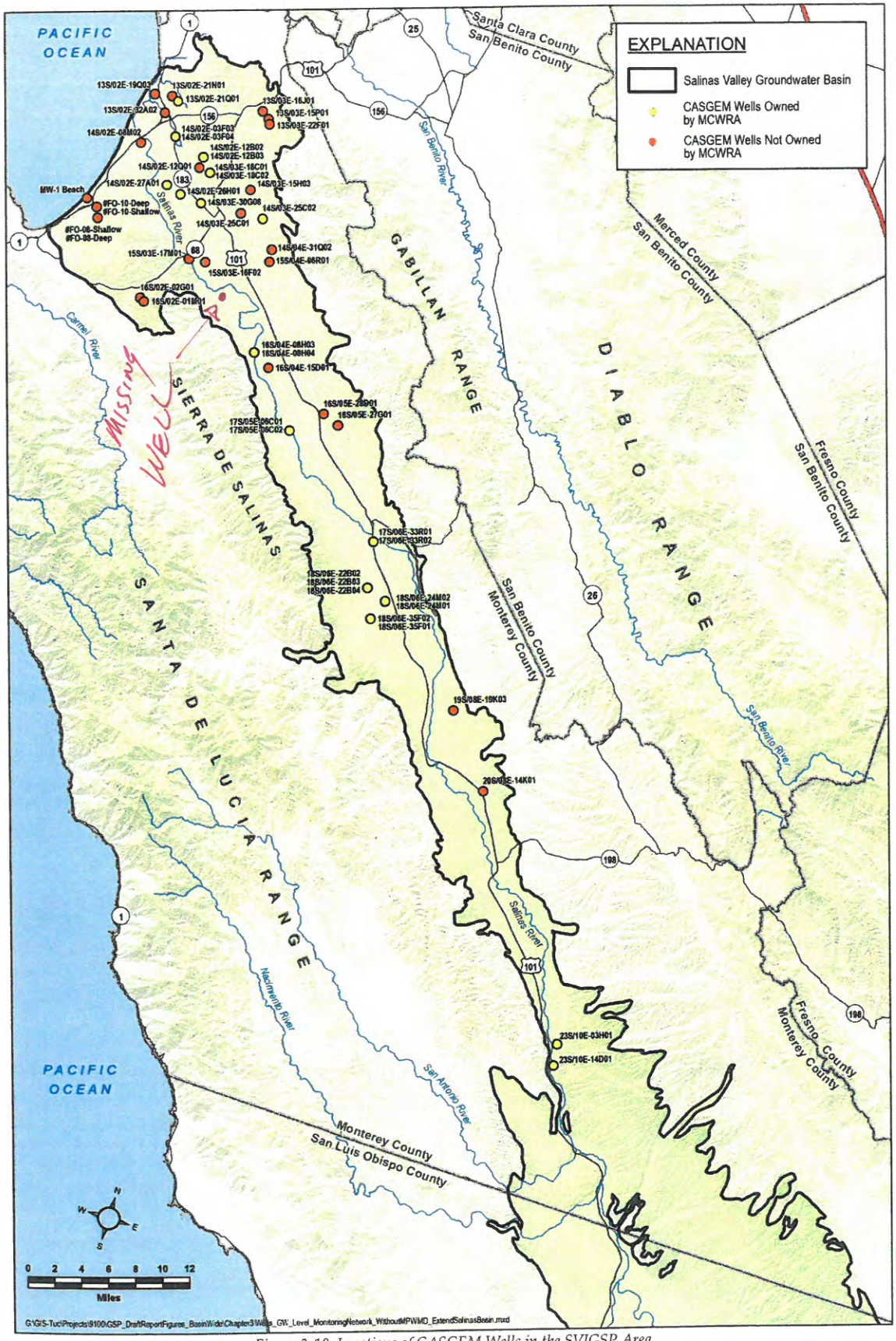


*Figure 3-10: Locations of CASGEM Wells in the SVIGSP Area*

Same comments as 180-400 GSP

### 3.6.3 Groundwater Quality Monitoring

#### 3.6.3.1 MCWRA Seawater Intrusion Monitoring

MCWRA monitors seawater intrusion in the Salinas Valley with a network of 121 monitoring wells located in the 180/400-Foot Aquifer Subbasin. Of these 121 well, 96 are agricultural production wells that are sampled annually in June and August: timed to occur during peak pumping. 25 wells in the network are dedicated monitoring wells that are maintained by MCWRA and/or the Monterey Peninsula Water Supply Project (MPWSP).

Water quality samples from the wells are analyzed for major constituents, including anions and cations, conductivity, etc. The data are used to develop time-series plots of chloride and conductivity trends, Stiff and Piper diagrams, and to compute ratios of chloride concentration to sodium.

The data are used to prepare annual maps of saltwater intrusion in the 180/400-Foot Aquifer Subbasin. Additional information about the occurrence and extent of saltwater intrusion is provided in Section 5.

#### 3.6.3.2 Other

Groundwater quality is monitored under several different programs and by different agencies including:

- Muncipal and community water purveyors must collect water quality samples on a routine basis for compliance monitoring and reporting to the California Division o Drinking Water.
- The USGS collects water quality data on a routine basis under the Groundwate Ambient Monitoring and Assessment (GAMA) program. These data are stored in th State's GAMA/Geotracker system. Figure 3-11 shows the location of wells in th State's GAMA Geotracker database that are in Monterey County.
- There are multiple sites that are monitoring groundwater quality as part c investigation or compliance monitoring programs through the Cedntral Coa Regional Water Quality Control Board.

### 3.6.4 Surface Water Monitoring

Streamflow gages operated by the USGS within the SVIGSP area include:

- Arroyo Seco near Soledad (USGS Site #11152000)
- Arroyo Seco below Reliz Creek near Soledad (USGS Site #11152050)
- Salinas River near Bradley (USGS Site #11150500)
- Salinas River near Chualar (USGS Site #11152300)
- Salinas River near Spreckels (USGS Site #11152500)
- Reclamation Ditch near Salinas (USGS Site #11152650)
- Salinas River near Soledad (USGS Site #11151700)
- Gabilan Creek near Salinas (USGS Site # 11152600)

Water levels (stage) in the Salinas River Lagoon are measured at Monte Road. The location of the surface-water monitoring facilities are depicted on Figure 3-12.

.

NEAR SLIDE @ GATE USF

**From:** Mike McCullough <MikeM@my1water.org>
**Sent:** Tuesday, December 18, 2018 9:55 AM
**To:** Derrik Williams <dwilliams@elmontgomery.com>
**Subject:** GSP

Derrik,

Giving the chapters one through 3 a quick read.

Can we make sure our new name Monterey One Water is used versus Monterey Regional Water Pollution Control Agency.

Page 30.

I think you could also get an idea of how much water the industries use in and around Salinas. The City should know how much they are extracting each month.

**Mike McCullough, MPA**
Government Affairs Administrator
**Monterey One Water**
P:831-645-4618
www.MontereyOneWater.org

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**From:** Paul Tran <ptran@chispahousing.org>
**Date:** November 21, 2018 at 3:49:28 PM PST
**To:** "Gary Petersen (GPetersen@rgs.ca.gov)" <peterseng@svbgsa.org>
**Cc:** Alfred Diaz-Infante <alfredd@chispahousing.org>, Dana Cleary <dcleary@chispahousing.org>
**Subject: Advisory Committee Comments on both Draft GSP Chapters 1-3**

Hi Gary –

Below are our comments on both draft GSPs:

**180/400 Foot Aquifer Subbasin Draft GSP**

- Starting with page 40, section 3.10 should include the complete language of the settlement agreement in reference to a long-term water supply in the Zone 2C benefit assessment area. This language is contained in the amended Monterey County 2010 General Plan section PS-3.1

**Valley-Wide Intergrated Draft GSP**

- Same comment above for section 3.9 (page 34)

Have a Happy Thanksgiving!

Regards,

Paul V. Tran
Project Manager
CHISPA, Inc.
295 Main Street, Suite 100
Salinas, CA 93901
831.757.6251 x 119 Fax 831.757.6268
ptran@chispahousing.org

17 January 2019

**MEMORANDUM**

To: Patrick Breen, Marina Coast Water District Groundwater Sustainability Agency
Keith Van Der Maaten, Marina Coast Water District Groundwater Sustainability Agency

From: Vera Nelson, P.E., EKI Environment & Water, Inc.
Tim Ingrum, EKI Environment & Water, Inc.
Tina Wang, P.E., EKI Environment & Water, Inc.

**Subject: Draft Hydrostratigraphic Summary for the Marina Coast Water District Study Area (B60094.03)**

A draft hydrostratigraphic summary is provided herein for the Marina Coast Water District (MCWD) Study Area, which consists of the Marina Subarea and the Ord Subarea of the Monterey Subbasin. This summary intends to serve as the basis for developing the hydrogeologic conceptual model (HCM) for the MCWD Study Area as part of the Monterey Subbasin Groundwater Sustainability Plan (GSP) (Figure 1).

We understand that MCWD GSA is coordinating with Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) to develop a single GSP for the Monterey Subbasin, which includes developing a HCM for the entire basin pursuant to California Code of Regulations (CCR) Title 23 Section 354.14. In addition, SVBGSA is preparing the GSP for areas adjacent to the MCWD Study Area in the 180/400 Foot Aquifer Subbasin. Therefore, upon review and approval by MCWD GSA, we recommend that this information to be shared with SVBGSA to coordinate HCM development both within the Monterey Subbasin and with the adjacent basin.

According to the GSP Regulations, the HCM will define significant water-bearing zones as principal aquifers. This designation has important implications because groundwater elevations, groundwater quality, and seawater intrusion must be discussed, monitored, and reported for each principal aquifer within the GSP. Therefore, we recommend careful consideration be given to the identification of principal aquifers within the HCM, as the identification of many principal aquifer zones could drive additional monitoring requirements. The proposed HCM would limit the number of principal aquifers to the following: (1) Principal Shallow Aquifer, (2) Principal Intermediate Aquifer System (3) Principal Deep Aquifer System. Further description of these zones is provided below. Under this structure, zones within each principal aquifer could be evaluated and discussed within the GSP, but monitoring could be limited to the principal aquifer zones if desired.

## MCWD STUDY AREA BOUNDARIES

The MCWD Study Area is shown on Figure 1. The western boundary of the MCWD Study Area is defined by extent of Quaternary sand dunes on the shore of Monterey Bay (DWR, 2004). The eastern and northern boundaries of the MCWD Study Area are defined by MCWD jurisdictional boundaries. A portion of the northwestern boundary is coincident with the Monterey Subbasin boundary, which is defined by a groundwater flow divide and the Reliz Fault passing through the MCWD area (DWR, 2016). Similarly, the southwestern boundary is coincident with the Monterey Subbasin boundary, defined by a groundwater flow divide that outlines the Adjudicated Seaside Subbasin (MPWMD, 2016).

## HYDROSTRATIGRAPHIC SUMMARY

1. Principal Shallow Aquifer
    a. Fine to medium, well sorted dune sands (Ahtna Engineering, 2013).
    b. Locally named "Dune Sand Aquifer" (Harding ESE, 2001; HWG, 2017) and "A-Aquifer" beneath Fort Ord (Harding Lawson Associates, 1994; Jordan et al., 2005; Harding ESE, 2001).
    c. Recharged primarily by rainfall and surface water infiltration (Harding Lawson Associates, 1994).
    d. Measured horizontal hydraulic conductivity in the Fort Ord area ranges from 0.14 to 120 ft/d, and vertical conductivity ranges from 0.6 to 4.0 ft/d (Harding Lawson Associates, 1994; Harding Lawson Associates, 1999; MACTEC, 2006; HydroGeoLogic, Inc., 2006; Jordan et al., 2005).
    e. In the USGS Salinas Valley Integrated Hydrologic Model (SVIHM), the Shallow Aquifer is represented by model layer 1 (Hanson et al., 2017).
2. Principal Intermediate Aquifer System
    a. Salinas Valley Aquitard
        i. The Salinas Valley Aquitard (SVA) includes the Fort Ord Salinas Valley Aquitard (FO-SVA). The SVA and FO-SVA have distinct characteristics and may have been formed in different depositional environments, but hydraulically they behave similarly in confining the underlying 180-Ft Aquifer (Harding ESE, 2001). The SVA exists under Marina, the northern part of the Fort Ord area, and extends northeast to Salinas (Harding ESE, 2001). The FO-SVA occurs beneath most of Fort Ord (Kennedy/Jenks, 2004; Ahtna Engineering, 2013; MACTEC, 2006).
        ii. The SVA thins to the south (Harding ESE, 2001), and the FO-SVA thins toward the coast and appears to pinch out near Highway 1 (Harding ESE, 2001). The reduction in aquitard thickness increases the vertical hydraulic connection between the Shallow Aquifer and underlying 180-Ft Aquifer.

iii. Airborne electromagnetics (AEM) data AEM collected in the North Salinas Valley (Gottschalk I, Knight R, 2018) showed that fresh groundwater exists in the vicinity of the Salinas River in the 180-Ft Aquifer and 400-Ft aquifer zones. These data indicate that that the Salinas River may recharge these aquifers and that there may be gaps in the SVA/ FO-SVA near the river.
iv. Measured vertical hydraulic conductivity in the Fort Ord area ranges from $5.7x10^{-5}$ to $2.8x10^{-3}$ ft/d; no horizontal hydraulic conductivity data are reported (MACTEC, 2006).
v. In the SVIHM, the SVA is represented by model layer 2 (Hanson et al., 2017).

b. 180-Ft Aquifer
   i. The aquifer is comprised of valley fill material including older alluvium and alluvial fan deposits (Greene, 1970). The sediments "extend to submarine outcrops on the floor and canyon walls of Monterey Bay" (Harding ESE, 2001; cf. Greene, 1970; Greene,1977; DWR, 1946).
   ii. South of Marina, in a portion of Fort Ord the 180-Ft Aquifer is separated into "upper" zone of sandy deposits with some gravel and "lower" zone of gravel with sand and clay lenses; the two zones are separated by thin clay (Ahtna Engineering, 2013).
   iii. Receives recharge from Salinas Valley, Monterey Bay, overlying Shallow Aquifer, and the Aromas Sand and Paso Robles formations southeast of the study area (Harding Lawson Associates, 1994).
   iv. Measured horizontal hydraulic conductivity in the Fort Ord area ranges from 0.04 to 390 ft/d; no vertical hydraulic conductivity data are reported (Harding Lawson Associates, 1994; Harding Lawson Associates, 1999; MACTEC, 2006; HydroGeoLogic, Inc., 2006; Jordan et al., 2005).
   v. In the SVIHM, the 180-Ft Aquifer is represented by model layer 3 (Hanson et al., 2017).

c. Middle Aquitard
   i. Confines the 400-Ft Aquifer (Harding ESE, 2001; Kennedy/Jenks, 2004).
   ii. At the boundary between Fort Ord and Marina, an aquitard separating the 180-Ft and 400-Ft Aquifers was not observed, though it was reported elsewhere beneath Fort Ord indicating the aquitard probably "varies laterally throughout the Fort Ord area" (MACTEC, 2006). Kennedy/Jenks (2004) also identify Fort Ord as one of several locations where the aquitard is thin or discontinuous.
   iii. No measured hydraulic conductivity data are available.
   iv. In SVIHM, the Middle Aquitard is represented by model layer 4 (Hanson et al., 2017).

d. 400-Ft Aquifer
    i. The aquifer is comprised of a fine to medium grained sand (Ahtna Engineering, 2013).
    ii. The bottom of the 400-Ft Aquifer has been defined as the bottom of the Aromas Sand (Hanson et al., 2002). Under Fort Ord, the aquifer appears to be composed of portions of the Aromas Sand and Paso Robles formations (Harding Lawson Associates, 1994), but it is difficult to delineate where the two formations occur (Harding ESE, 2001). In the southeast portion of the study area, wind-blown sand deposits equivalent to the Aromas Sand are present in the Fort Ord hills (Geosyntec, 2007).
    iii. Receives recharge from Salinas Valley, Monterey Bay, Paso Robles Formation, and leakage down from the 180-Ft Aquifer (Harding Lawson Associates, 1994). Surface recharge rate for the Aromas-Paso Robles Formation in the southeastern portion of the study area has been estimated as 2–3 inches per year (Geosyntec, 2007).
    iv. Measured horizontal hydraulic conductivity in the Fort Ord area ranges from 7.4 to 230 ft/d; no vertical hydraulic conductivity data is reported (Harding Lawson Associates, 1994; Harding Lawson Associates, 1999; MACTEC, 2006; HydroGeoLogic, Inc., 2006; Jordan et al., 2005).
    v. In the SVIHM, the 400-Ft Aquifer is represented by model layer 5 (Hanson et al., 2017).

3. <u>Principal Deep Aquifer System</u>
    a. Deep Aquitard
        i. Confines the underlying Deep Aquifer (Kennedy/Jenks, 2004).
        ii. No measured hydraulic conductivity data are reported.
        iii. In the SVIHM, the Deep Aquitard is represented by model layer 6 (Hanson et al., 2017).
    b. Deep Aquifer
        i. Locally named “900-Ft Aquifer” (WRIME, 2003; Kennedy/Jenks, 2004).
        ii. Composed of Paso Robles Formation and Purisima Formation deposits (Hanson et al., 2002), and can represent multiple aquifers and aquitards (Kennedy/Jenks, 2004).
        iii. The primary recharge source is leakage from overlying aquifers (Feeney and Rosenberg, 2003).
        iv. Sand and gravel of the Paso Robles Formation apparently extends to the Fort Ord hills in the southeastern portion of the study area, at least as far as HWY-68 (Geosyntec, 2007).
        v. Measured horizontal hydraulic conductivity ranges from 2.5 to 36 ft/d (horizontal) in the Fort Ord area and 2.0 to 25 ft/d in the Marina area; no

vertical hydraulic conductivity data are reported (Harding Lawson Associates, 1994; Harding Lawson Associates, 1999; MACTEC, 2006; HydroGeoLogic, Inc., 2006; Hanson et al., 2002; Feeney and Rosenberg, 2003).

vi. In the SVIHM, the 900-Ft Aquifer is represented by model layers 7 and 8 (Hanson et al., 2017).

**HYDROSTRATIGRAPHIC CORRELATION TABLE**

<table>
<tr><th>180/400-Foot Aquifer Subbasin<br>(North of Study Area)</th><th colspan="2">Monterey Subbasin<br>(Includes MCWD Study Area)</th><th>Seaside Subbasin<br>(South of Study Area)</th></tr>
<tr><td>“Shallow Aquifer”<br>“Dune Sand Aquifer”<br>“35-Ft Aquifer”<br>“-2-Ft Aquifer”</td><td>Principal Shallow Aquifer</td><td>“Shallow Aquifer”<br>“A-Aquifer”</td><td>“Surficial deposits”</td></tr>
<tr><td>“Salinas Valley Aquitard” (SVA)</td><td rowspan="5">Principal Intermediate Aquifer System</td><td>“Salinas Valley Aquitard” (SVA)<br>“Fort Ord Salinas Valley Aquitard” (FO-SVA)</td><td>“Salinas Valley Clay”<br>“Surficial deposits”</td></tr>
<tr><td>“180-Ft Aquifer”<br>“Pressure 180-Ft Aquifer”</td><td>“180-Ft Aquifer”</td><td rowspan="2">“Surficial deposits”</td></tr>
<tr><td>”180/400-Ft Aquitard”</td><td>“Middle Aquitard”</td></tr>
<tr><td>“400-Ft Aquifer”<br>“Pressure 400-Ft Aquifer”</td><td>“400-Ft Aquifer”</td><td rowspan="2">“Paso Robles Aquifer”</td></tr>
<tr><td>”400/900-Ft Aquitard”</td><td rowspan="2">Principal Deep Aquifer System</td><td>“Deep Aquitard”</td></tr>
<tr><td>“900-Ft Aquifer”<br>“Pressure 900-Ft Aquifer”<br>“Deep Aquifer”</td><td>“Deep Aquifer”</td><td>“Paso Robles Aquifer”<br>“Santa Margarita/Purisima Aquifer”<br>“Deep Aquifer”</td></tr>
</table>

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7 February 2019

General Manager Gary Petersen
Salinas Valley Basin Groundwater Sustainability Agency
200 Lincoln Avenue
Salinas, CA 93901

*Submitted online via email: peterseng@svbgsa.org*

Re: 180-400 Foot Aquifer Subbasin Draft GSP Chapter 4

Dear Mr. Gary Petersen,

The Nature Conservancy (TNC) appreciates the opportunity to comment on the 180-400 Foot Aquifer Subbasin Chapter 4 in the Draft Groundwater Sustainability Plan (GSP) being prepared under the Sustainable Groundwater Management Act (SGMA).

*TNC as a Stakeholder Representative for the Environment*

TNC is a global, nonprofit organization dedicated to conserving the lands and waters on which all life depends. We seek to achieve our mission through science-based planning and implementation of conservation strategies. For decades, we have dedicated resources to establishing diverse partnerships and developing foundational science products for achieving positive outcomes for people and nature in the Salinas Valley. TNC was part of a stakeholder group formed by the Water Foundation in early 2014 to develop recommendations for groundwater reform and actively worked to shape and pass SGMA.

Our reason for engaging is simple: California's freshwater biodiversity is highly imperiled. We have lost more than 90 percent of our native wetland and river habitats, leading to precipitous declines in native plants and the populations of animals that call these places home. These natural resources are intricately connected to California's economy providing direct benefits through industries such as fisheries, timber and hunting, as well as indirect benefits such as clean water supplies. Given the inextricable connection between the Salinas River and the Salinas Valley's groundwater supply, SGMA must be successful for a sustainable future for the Salinas Valley in which people and nature thrive.

SGMA is now law and the success of SGMA depends on bringing the best available science to the table, engaging all stakeholders in robust dialog, providing strong incentives for beneficial outcomes and rigorous enforcement by the State of California.

Given our mission, we are particularly concerned about the inclusion of nature, as required, in GSPs. The Nature Conservancy has developed a suite of tools based on best available science to help GSAs, consultants, and stakeholders efficiently incorporate nature into GSPs. These tools and resources are available online at GroundwaterResourceHub.org. The Nature

Conservancy's tools and resources are intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

*Addressing Nature's Water Needs in GSPs*

SGMA requires that all beneficial uses and users, including environmental users of groundwater, be considered in the development and implementation of GSPs (Water Code § 10723.2).

The GSP Regulations include specific requirements to identify and consider groundwater dependent ecosystems (23 CCR §354.16(g)) when determining whether groundwater conditions are having potential effects on beneficial uses and users. GSAs must also assess whether sustainable management criteria may cause adverse impacts to beneficial uses. In addition, monitoring networks should be designed to detect potential adverse impacts to beneficial uses due to groundwater. Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decision, and using data collected through monitoring to revise decisions in the future. Over time, GSPs should improve as data gaps are reduced and uncertainties addressed.

To help ensure that GSPs adequately address nature as required under SGMA, The Nature Conservancy has prepared a checklist (Attachment A). The Nature Conservancy believes the following elements are foundational for 2020 GSP submittals.

1. Environmental Representation

SGMA requires that groundwater sustainability agencies (GSAs) consider the interests of all beneficial uses and users of groundwater. To meet this requirement, we recommend actively engaging environmental stakeholders by including environmental representation on the GSA board, technical advisory group, and/or working groups. This could include local staff from state and federal resource agencies, nonprofit organizations and other environmental interests. By engaging these stakeholders, GSAs will benefit from access to additional data and resources, as well as a more robust and inclusive GSP.

2. Basin GDE and ISW Maps

SGMA requires that groundwater dependent ecosystems (GDEs) and interconnected surface waters (ISWs) be identified in the GSP. We recommend using the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) provided online (https://gis.water.ca.gov/app/NCDatasetViewer/) by the Department of Water Resources (DWR) as a starting point for the GDE map. The NC Dataset was developed through a collaboration between DWR, the Department of Fish and Wildlife and TNC.

3. Potential Effects on Environmental Beneficial Users

SGMA requires that potential effects on GDEs and environmental surface water users be described when defining undesirable results. Because effects to plants and animals are difficult and sometimes impossible to reverse, we recommend erring on the side of caution to preserve sufficient groundwater conditions to sustain GDEs and ISWs.

4. Biological and Hydrological Monitoring

If sufficient hydrological and biological data in and around GDEs is not available in time for the 2020/2022 plan, data gaps should be identified along with actions to reconcile the gaps in the monitoring network.

Our comments related to the 180-400 Foot Aquifer Subbasin GSP Draft Chapter 4 are provided in detail in Attachment B and are in reference to the numbered checklist items in Attachment A.

Thank you for fully considering our comments as you develop your GSP.

Best Regards,

Sandi Matsumoto
Associate Director, California Water Program
The Nature Conservancy

# Attachment A: Considering Nature under SGMA: A Checklist

The Nature Conservancy is neither dispensing legal advice nor warranting any outcome that could result from the use of this checklist. Following this checklist does not guarantee approval of a GSP or compliance with SGMA, both of which will be determined by DWR and the State Water Resources Control Board. The checklist is available online: https://groundwaterresourcehub.org/public/uploads/pdfs/TNC_GDE_Checklist_for_SGMA_Sept2018.pdf

| GSP Plan Element* | | GDE Inclusion in GSPs: Identification and Consideration Elements | | Item Number |
|---|---|---|---|---|
| Admin Info | 2.1.5 Notice & Communication *23 CCR §354.10* | Description of the types of environmental beneficial uses of groundwater that exist within GDEs and a description of how environmental stakeholders were engaged throughout the development of the GSP. | | 1. |
| Basin Setting | 2.2.2 Current & Historical Groundwater Conditions *23 CCR §354.16* | Interconnected surface waters: | | 2. |
| | | Interconnected surface water maps for the basin with gaining and losing reaches defined (included as a figure in GSP & submitted as a shapefile on SGMA portal). | | 3. |
| | | Estimates of current and historical surface water depletions for interconnected surface waters quantified and described by reach, season, and water year type. | | 4. |
| | | Basin GDE map included (as figure in text & submitted as a shapefile on SGMA Portal). | | 5. |
| | | If NC Dataset *was* used: | Basin GDE map denotes which polygons were kept, removed, and added from NC Dataset (Worksheet 1, can be attached in GSP section 6.0). | 6. |
| | | | The basin's GDE shapefile, which is submitted via the SGMA Portal, includes two new fields in its attribute table denoting: 1) which polygons were kept/removed/added, and 2) the change reason (e.g., why polygons were removed). | 7. |
| | | | GDEs polygons are consolidated into larger units and named for easier identification throughout GSP. | 8. |
| | | If NC Dataset *was not* used: | Description of why NC dataset was not used, and how an alternative dataset and/or mapping approach used is best available information. | 9. |
| | | Description of GDEs included: | | 10. |
| | | Historical and current groundwater conditions described in each GDE unit. | | 11. |
| | | Ecological condition described in each GDE unit. | | 12. |
| | | Each GDE unit has been characterized as having high, moderate, or low ecological value. | | 13. |
| | | Inventory of species, habitats, and protected lands for each GDE unit with ecological importance (Worksheet 2, can be attached in GSP section 6.0). | | 14. |

| | | | | |
|---|---|---|---|---|
| | 2.2.3 Water Budget *23 CCR §354.18* | Groundwater inputs and outputs (e.g., evapotranspiration) of native vegetation and managed wetlands are included in the basin's historical and current water budget. | | 15. |
| | | Potential impacts to groundwater conditions due to land use changes, climate change, and population growth to GDEs and aquatic ecosystems are considered in the projected water budget. | | 16. |
| Sustainable Management Criteria | 3.1 Sustainability Goal *23 CCR §354.24* | Environmental stakeholders/representatives were consulted. | | 17. |
| | | Sustainability goal mentions GDEs or species and habitats that are of particular concern or interest. | | 18. |
| | | Sustainability goal mentions whether the intention is to address pre-SGMA impacts, maintain or improve conditions within GDEs or species and habitats that are of particular concern or interest. | | 19. |
| | 3.2 Measurable Objectives *23 CCR §354.30* | Description of how GDEs were considered and whether the measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to the environment. | | 20. |
| | 3.3 Minimum Thresholds *23 CCR §354.28* | Description of how GDEs and environmental uses of surface water were considered when setting minimum thresholds for relevant sustainability indicators: | | 21. |
| | | Will adverse impacts to GDEs and/or aquatic ecosystems dependent on interconnected surface waters (beneficial user of surface water) be avoided with the selected minimum thresholds? | | 22. |
| | | Are there any differences between the selected minimum threshold and state, federal, or local standards relevant to the species or habitats residing in GDEs or aquatic ecosystems dependent on interconnected surface waters? | | 23. |
| | 3.4 Undesirable Results *23 CCR §354.26* | For GDEs, hydrological data are compiled and synthesized for each GDE unit: | | 24. |
| | | If hydrological data *are available* within/nearby the GDE | Hydrological datasets are plotted and provided for each GDE unit (Worksheet 3, can be attached in GSP Section 6.0). | 25. |
| | | | Baseline period in the hydrologic data is defined. | 26. |
| | | | GDE unit is classified as having high, moderate, or low susceptibility to changes in groundwater. | 27. |
| | | | Cause-and-effect relationships between groundwater changes and GDEs are explored. | 28. |
| | | If hydrological data *are not available* within/nearby the GDE | Data gaps/insufficiencies are described. | 29. |
| | | | Plans to reconcile data gaps in the monitoring network are stated. | 30. |
| | | For GDEs, biological data are compiled and synthesized for each GDE unit: | | 31. |
| | | Biological datasets are plotted and provided for each GDE unit. | | 32. |
| | | Data gaps/insufficiencies are described. | | 33. |
| | | Plans to reconcile data gaps in the monitoring network are stated. | | 34. |
| | | Description of potential effects on GDEs, land uses and property interests: | | 35. |

| | | | |
|---|---|---|---|
| | | Cause-and-effect relationships between GDE and groundwater conditions are described. | 36. |
| | | Impacts to GDEs that are considered to be "significant and unreasonable" are described. | 37. |
| | | Known hydrological thresholds or triggers (e.g., instream flow criteria, groundwater depths, water quality parameters) for relevant species or ecological communities are reported. | 38. |
| | | Land uses include and consider recreational uses (e.g., fishing/hunting, hiking, boating). | 39. |
| | | Property interests include and consider privately and publicly protected conservation lands and opens spaces, including wildlife refuges, parks, and natural preserves. | 40. |
| Sustainable Management Criteria | 3.5 Monitoring Network *23 CCR §354.34* | Description of whether hydrological data are spatially and temporally sufficient to monitor groundwater conditions for each GDE unit. | 41. |
| | | Description of how hydrological data gaps and insufficiencies will be reconciled in the monitoring network. | 42. |
| | | Description of how impacts to GDEs and environmental surface water users, as detected by biological responses, will be monitored and which monitoring methods will be used in conjunction with hydrologic data to evaluate cause-and-effect relationships with groundwater conditions. | 43. |
| Projects & Mgmt Actions | 4.0. Projects & Mgmt Actions to Achieve Sustainability Goal *23 CCR §354.44* | Description of how GDEs will benefit from relevant project or management actions. | 44. |
| | | Description of how projects and management actions will be evaluated to assess whether adverse impacts to the GDE will be mitigated or prevented. | 45. |

* In reference to DWR's GSP annotated outline guidance document, available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/GD_GSP_Outline_Final_2016-12-23.pdf

# Attachment B

## TNC Evaluation of the 180-400 Foot Aquifer Subbasin GSP Draft Chapter 4

Items 5-8 on Environmental User Checklist (Attachment A) were most relevant to Chapter 4: Hydrologic Conceptual Model.

We support the use of the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) to map groundwater dependent ecosystems in the Salinas Valley Groundwater Basin (GSP Draft Figure 4-11). Since the NC Dataset is intended as a starting point, The Nature Conservancy has developed a Guidance Document to assist GSAs and their consultants address GDEs in GSPs. To adequately address GDEs, we offer the following suggestions:

- The identification of GDEs within GSPs is a required GSP element of the Basin Setting Section under the description of Current & Historical Groundwater Conditions (23 CCR §354.16). Recognizing natural points of discharge (seeps & springs) as GDEs is consistent with the SGMA definition of GDEs[1], however, we recommend the identification of GDEs (GDE map Figure 4-11) for the 180-400 Foot Aquifer be moved to Chapter 5: Groundwater Conditions and elaborated upon with a description of current and historical groundwater conditions in the GDE areas. Chapter 5 is a more appropriate place for the identification of GDEs, since groundwater conditions (e.g., depth to groundwater, interconnected surface water maps, groundwater quality) are necessary local information and data from the GSP in assessing whether polygons in the NC dataset are connected to groundwater in a principal aquifer. Appendix 4A (Page 27, Chapter 4) was referenced as describing methods used to determine the extent and type of potential GDEs, but that document was not available on the SVBGSA website for us to review.
- Decisions to remove, keep, or add polygons from the NC dataset into a basin GDE map should be based on best available science in a manner that promotes transparency and accountability with stakeholders. Any polygons that are removed, added, or kept should be inventoried in the submitted shapefile to DWR, and mapped in the plan. We recommend revising Figure 4-11 to reflect this change.
- Best practices for identifying GDEs in GSPs are outlined in detail in Step 1 of The Nature Conservancy's Guidance Document: "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans". Here are some highlights:
    - The NC dataset is a starting point for GSAs, and needs to be groundtruthed with aerial photography to screen for changes in land use that many not be reflected in the NC dataset (e.g., recent development, cultivated agricultural land, obvious human-made features).
    - Grouping multiple GDE polygons into larger units by location (proximity to each other) and principal aquifer will simplify the process of evaluating potential effects on GDE due to groundwater conditions under GSP Chapter 7: Sustainable Management Criteria.
    - Groundwater conditions within GDEs should be briefly described within the portion of the Basin Setting Section where GDEs are being identified.

[1] *Groundwater dependent ecosystem refer to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. [23 CCR §351 (m)]*

- When using groundwater levels to confirm that a connection to groundwater in a principal aquifer exists, please refer to Attachment C for best practices in doing so.
- Not all GDEs are created equal. Some GDEs may contain legally protected species or ecologically rich communities, whereas other GDEs may be highly degraded with little conservation value. Including a description of the types of species (protected status, native versus non-native), habitat, and environmental beneficial uses (see Worksheet 2, p.74 of GDE Guidance Document) can be helpful in assigning an ecological value to the GDEs. Identifying an ecological value of each GDE can help prioritize limited resources when considering GDEs as well as prioritizing legally protected species or habitat that may need special consideration when setting sustainable management criteria.

Other Comments

The basin boundary bottom for the aquifer was determined using the 1970 USGS TDS=3,000ppm contour lines ("usable water" boundary), but groundwater extraction well depth data should also be included in the determination of the basin bottom to prevent extractors with wells deeper than the basin boundary from claiming exemption of SGMA due to their well residing outside the vertical extent of the basin boundary. As noted on page 9 in DWR's Hydrogeologic Conceptual Model BMP[2] "the definable bottom of the basin should be at least as deep as the deepest groundwater extractions".

[2] *Available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_HCM_Final_2016-12-23.pdf, accessed Feb 6, 2019.*

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# Attachment C

## IDENTIFYING GDEs UNDER SGMA
## Best Practices for using the NC Dataset

The Sustainable Groundwater Management Act (SGMA) requires that groundwater dependent ecosystems (GDEs) be identified in Groundwater Sustainability Plans (GSPs). The California Department of Water Resources has provided the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) online (https://gis.water.ca.gov/app/NCDatasetViewer/) to help Groundwater Sustainability Agencies (GSAs) identify GDEs within a groundwater basin. The NC Dataset is a compilation of 48 publicly available State and Federal agency datasets that map vegetation, wetlands, springs, and seeps commonly associated with groundwater in California[3]. The NC Dataset is intended to be a starting point, and it is the responsibility of the GSAs to utilize best available science and local knowledge on the hydrology, geology, and groundwater levels in an area to verify whether or not a connection to groundwater exists (Figure 1). Guidance on identifying GDEs within a groundwater basin from the NC dataset is available[4]. As detailed in the guidance, one of the key factors to consider when mapping GDEs is the depth to groundwater below the ecosystem. However, detailed groundwater data may not always be available for areas in and around the NC Dataset polygons to confirm whether a connection to groundwater exists.

[3] For more details on the mapping methods, refer to: Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, A. Lyons. 2018. Mapping Indicators of Groundwater Dependent Ecosystems in California: Methods Report. San Francisco, California. Available at: https://groundwaterresourcehub.org/public/uploads/pdfs/iGDE_data_paper_20180423.pdf

[4] "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans" is available at https://groundwaterresourcehub.org/gde-tools/gsp-guidance-document/

This document highlights three best practices that Groundwater Sustainability Agencies (GSAs) and their consultants can apply when using groundwater data to locally confirm a connection to groundwater for the NC Dataset. If sufficient data are not available in time for the 2020/2022 plan, The Nature Conservancy strongly advises that questionable polygons from the NC dataset be included in the GSP until data gaps are reconciled in the monitoring network. Erring on the side of caution will help minimize inadvertent impacts to GDEs as a result of groundwater use and management actions during SGMA implementation.


Figure 1. Considerations for the identification of groundwater dependent ecosystems. Source: DWR, 2018[5].

## KEY DEFINITIONS

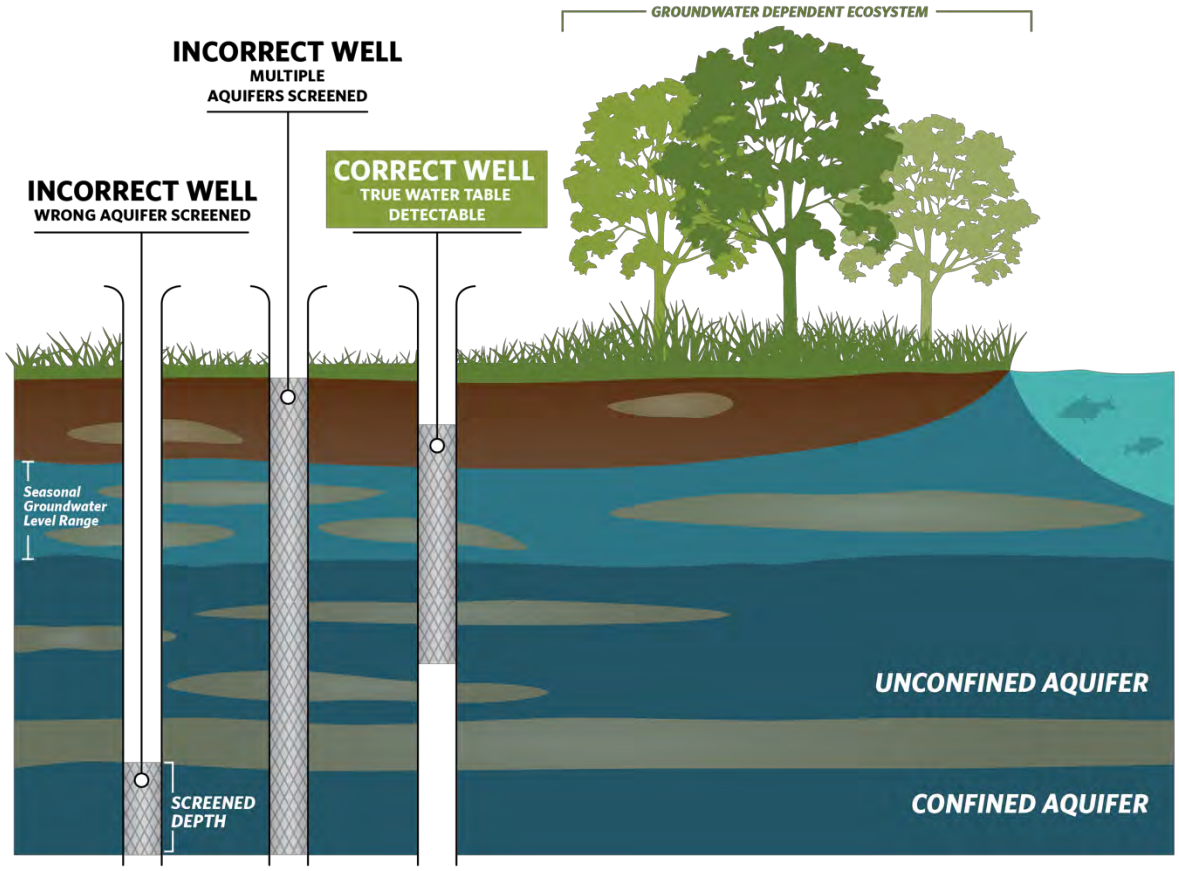
Groundwater Dependent Ecosystem ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. [23 CCR §351(m)]

Principal aquifers aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems [23 CCR §351(aa)]

[5] *"Summary of the "Natural Communities Commonly Associated with Groundwater" Dataset and Online Web Viewer. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/Natural-Communities-Dataset-Summary-Document.pdf*

The NC Dataset indicates the likely presence of a groundwater dependent ecosystems that should be verified locally for its presence or absence, as well as for its dependence on groundwater. To create a map of GDEs in the basin, a hydrologic connection between each GDE to a principal aquifer needs to be confirmed. The most practical approach[6] for a GSA to assess whether polygons in the NC dataset are connected to groundwater is to rely on groundwater elevation data. To do this, we recommend using data from representative wells, interpolating groundwater elevations, and characterizing groundwater conditions that represent the variable fluctuations of groundwater depths due to seasonal and interannual patterns. When assessing the depth of groundwater below a polygon from the NC dataset, follow these three best practices:

## BEST PRACTICE #1. Select Representative Groundwater Wells



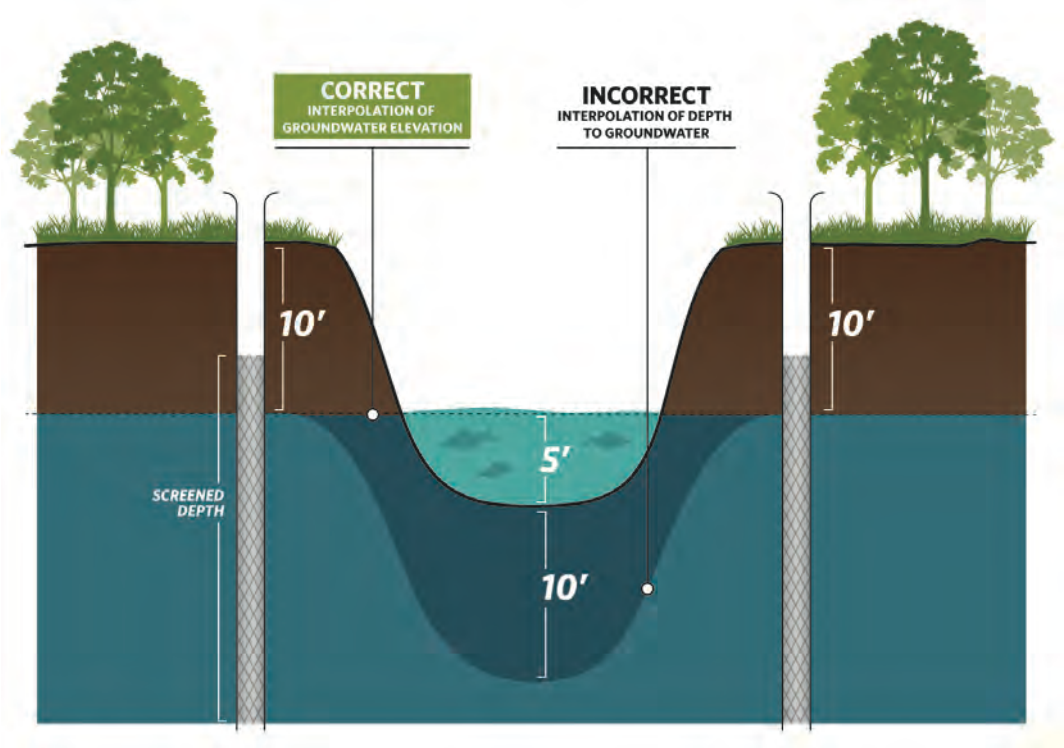

- Consider the subsurface heterogeneity (especially near river/streams where groundwater and surface water interactions occur around

[6] Groundwater reliance can also be confirmed via stable isotope analysis and geophysical surveys. For more information see The GDE Assessment Toolbox (Appendix IV, GDE Guidance Document for GSPs - link in footnote above).

heterogeneous stratigraphic units or aquitards formed by fluvial deposits)

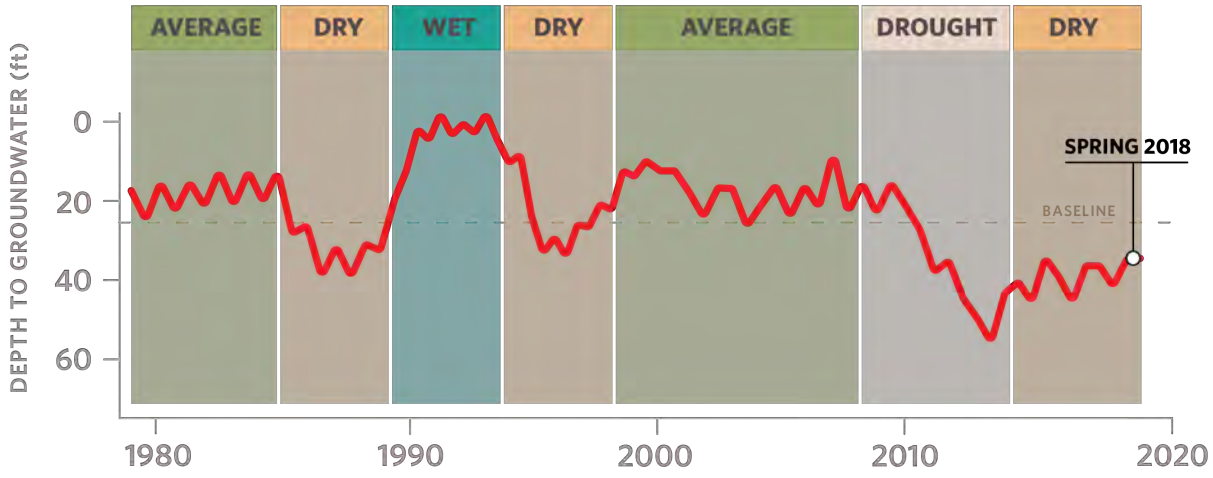
- Choose wells that are within 1 kilometer (0.6 miles) of the NC Dataset polygons, and more likely to reflect the local conditions relevant to the ecosystem.
- Choose wells that are screened within the surficial unconfined aquifer and capable of measuring the true water table.
- Avoid wells that have insufficient well information on the screened well depth interval.

## BEST PRACTICE #2. Interpolate Groundwater Depth




- When interpolating groundwater levels in and around surface water features (e.g., streams, wetlands) take land surface elevations into consideration. The most accurate way to interpolate depth to groundwater in GDEs is first interpolate groundwater elevations and then to subtract land surface elevation to get a depth to groundwater measurement.
- Subsurface heterogeneity in and around GDE areas may not be adequately captured if the interpolated well density is too low.

## BEST PRACTICE #3. Characterize Groundwater Conditions




SGMA requires GSAs to describe current and historical conditions when identifying GDEs [23 CCR §354.16(g)]. Relying solely on the SGMA benchmark date (January 1, 2015) to characterize groundwater conditions (e.g., depth to groundwater) is inadequate because managing groundwater conditions with data from one point in time fails to capture the seasonal and interannual variability (i.e., wet, average, dry, and drought years) that is characteristic of California's climate.

## ABOUT US

The Nature Conservancy is a science-based nonprofit organization whose mission is *to conserve the lands and waters on which all life depends*. To support successful SGMA implementation that meets the future needs of people, the economy, and the environment, TNC has developed tools and resources (www.groundwaterresourcehub.org) intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

26 March 2019

**MEMORANDUM**

To: Gary Peterson, Salinas Valley Basin Groundwater Sustainability Agency
Derrik Williams, P.G., C.Hg., Montgomery & Associates

From: Keith Van Der Maaten, P.E., Marina Coast Water District
Patrick Breen, Marina Coast Water District
Vera Nelson, P.E., EKI Environment and Water, Inc.
Tina Wang, P.E., EKI Environment and Water, Inc.

**Subject: Preliminary Comments Regarding Salinas Valley Basin Groundwater Sustainability Agency Draft Groundwater Sustainability Plan Chapter 4 (EKI B60094.03)**

On behalf of the Marina Coast Water District Groundwater Sustainability Agency (MCWD GSA), EKI has reviewed and prepared preliminary comments on the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) draft 180/400 Foot Aquifer Subbasin and Salinas Valley Integrated Groundwater Sustainability Plans (GSPs) Chapter 4, dated 30 November 2018 and updated 3 January 2019.

EKI has provided a majority of these comments during SVBGSA's December 6 Planning Committee Meeting and received concurrence from SVBGSA as identified below.

**Comments for 180/400 Foot Aquifer Subbasin GSP, Chapter 4**

1. <u>Section 4.4.1 – Principal Aquifers and Aquitards</u>

   The GSP Regulations specifically define the term "Principal Aquifer" (California Code of Regulations (CCR) §351 (aa)) and have plan development as well as monitoring network requirements for identified Principal Aquifers. Currently, GSP Section 4.4.1 appears to have included all alluvial deposits/valley fill deposits from ground surface to the bottom of the subbasin in a single Principal Aquifer.

   As agreed upon during the December 6 Planning Committee Meeting, the 180/400 Foot Aquifer Subbasin GSP should define multiple Principal Aquifers given the definable layers of aquifer and aquitard units in the subbasin. At least one Principal Aquifer should be defined for the Deep Aquifers (i.e. the 900-Foot and 1,500-Foot Aquifers). Per GSP Regulations, groundwater elevation contours, hydrographs, minimum thresholds for

seawater intrusion, sufficient monitoring network coverage, etc. should be developed for each Principal Aquifer identified in this GSP.

2. Section 4.4.1 – Principal Aquifers and Aquitards

   In addition to the comment above, this section discusses extensive continuous clay layers within the 180/400 Foot Aquifer Subbasin. However, there are existing wells and abandoned wells that are potentially acting as "conduits" for saline water to flow to the lower aquifers[1]. Airborne electromagnetic analysis conducted in the northern Salinas Valley Basin also showed that there are gaps in the 180/400-Foot Aquitard in the 180/400-Foot Aquifer Subbasin near the coast.

   Please add a discussion of potential conduits of vertical flow in the Subbasin. This comment was not provided during the December 6 Planning Committee Meeting.

3. Section 4.4.2 – Aquifer Properties

   In addition to defining multiple Principal Aquifers, the 180/400 Foot Aquifer Subbasin GSP should provide aquifer properties for each of the defined Principal Aquifers. The GSP should provide storativity, conductivity (per CCR §354.14 (b)(4)(B)), and transmissivity for each Principal Aquifer. We understand that Section 4.7 of the January 2019 update discussed aquifer parameters as a data gap. As agreed upon during the Planning Committee meeting, SVBGSA will obtain these aquifer property parameters from the Water Resources Agency to include in this section.

   This section could benefit from either a table or description on an aquifer and aquitard basis compiling all the relevant data (e.g. from field tests or models) and tabulating ranges for each aquifer or aquitard.

4. Figures 4-6, 4-7, and 4-8 – Cross-Sections

   The Deep Aquifers are unrepresented in cross-sections. Please provide a discussion if this is a data gap.

   This comment has been noted by and concurred to by SVBGSA during the Planning Committee Meeting. Section 4.7 of the January 2019 update has included information on the deep aquifer as a data gap.

5. Section 4.6.2 – Seawater Intrusion

[1] Monterey County Water Resources Agency. Recommendations to Address the Expansion of Seawater Intrusion in the Salinas Valley Groundwater Basin, October 2017.

Please add the following text after the second paragraph on Page 33. This comment was not provided during the December 6 Planning Committee Meeting.

"Groundwater with a total dissolved solid of 3,000 mg/L or less, is groundwater that is considered to be suitable, or potentially suitable, for beneficial uses in accordance with SWRCB Resolution No. 88-63 as adopted in its entirety in the Central Coast Regional Water Quality Control Board's Basin Plan. California Code of Regulations, Title 23, Section 659 – 669 lists the beneficial uses of surface water, which is also applicable to groundwater. Those beneficial uses include (1) domestic use, (2) irrigation use, (3) power use, (4) frost protection use, (5) municipal use, (6) mining use, (7) industrial use, (8) fish and wildlife preservation and enhancement use, (9) aquaculture use, (10) fish and wildlife protection and enhancement, (11) recreational use, (12) water quality use, and (13) stock watering use. In addition, Water Code Section 1242 states that the storing of water underground constitutes a beneficial use."

**Comments for Salinas Valley Integrated Subbasin GSP, Chapter 4**

1. Section 4.4 – Groundwater Hydrology

   On Page 17, the GSP states

   *"The presence of laterally continuous clay layers distinguishes the 180/400-Foot Aquifer Subbasin from the other subbasins in the Valley. As described in the following two subsections, the presence of continuous clay layers affects the following aspects of the basin hydrogeology:*
   - *A near-surface clay layer creates relatively shallow confined conditions in the 180/400-Foot Aquifer Subbasin, in contrast to the unconfined conditions over most of the basin*
   - *Deeper clay layers create definable aquifers in the 180/400-Foot Aquifer Subbasin, whereas most of the basin includes only a single undifferentiated aquifer."*

   This section implies that the 180/400 Foot Aquifer Subbasin contains definable aquifer layers, whereas other subbasins in Salinas Valley do not have definable aquifer layers. However, definable aquifers also exist throughout the Monterey Subbasin and throughout most of the Forebay Aquifer Subbasin to just north of King City.

   Additionally, this section should provide a discussion of the sediments across the basin that are stratigraphically equivalent. For example, the shallow zone and deep zones in the Eastside Subbasin "are generally time-stratigraphically equivalent to the Pressure 180-Foot and Pressure 400-Foot Aquifers".[2]

[2] Brown and Caldwell, 2015. State of the Salinas River Groundwater Basin, dated 16 January 2015.

2. Section 4.7.2 – Seawater Intrusion

Please add the following text on Page 35. This comment was not provided during the December 6 Planning Committee Meeting.

"Groundwater with total dissolved solids of 3,000 mg/L or less, is groundwater that is considered to be suitable, or potentially suitable, for beneficial uses in accordance with SWRCB Resolution No. 88-63 as adopted in its entirety in the Central Coast Regional Water Quality Control Board's Basin Plan. California Code of Regulations, Title 23, section 659 – 669 lists the beneficial uses of surface water, which is also applicable to groundwater. Those beneficial uses include (1) domestic use, (2) irrigation use, (3) power use, (4) frost protection use, (5) municipal use, (6) mining use, (7) industrial use, (8) fish and wildlife preservation and enhancement use, (9) aquaculture use, (10) fish and wildlife protection and enhancement, (11) recreational use, (12) water quality use, and (13) stock watering use. In addition, Water Code Section 1242 states that the storing of water underground constitutes a beneficial use."

**From:** Gary Petersen <peterseng@svbgsa.org>
**Sent:** Thursday, December 6, 2018 1:42 PM
**To:** Derrik Williams <dwilliams@elmontgomery.com>; Chris Peters <cpeters@elmontgomery.com>
**Subject:** Fwd: Comments on Water Quality for next chapter (and maybe Chapter 4)

Comments from Heather Lukacs fro this morning.

Gary

---------- Forwarded message ---------
From: **Heather Lukacs** <heather.lukacs@communitywatercenter.org>
Date: Thu, Dec 6, 2018 at 11:52 AM
Subject: Comments on Water Quality for next chapter (and maybe Chapter 4)
To: <peterseng@svbgsa.org>
Cc: <camela@svbgsa.org>

HI Gary (and Ann),

Could you please pass along this email to Derek to make sure these important data sources are included in the water quality sections of Chapter 4 and other chapters?

We have been working on a factsheet on Water Quality and SGMA. We are working with academic partners on informational materials that present geochemistry science on how pumping, recharge, and water level changes in groundwater influence water quality. Therefore, we find it imperative that water quality is considered as it relates to other GSP data and implementation.

For the Salinas Valley Basin, we would specifically like you to start by considering at least the following contaminants for inclusion in the GSP and your monitoring network:
1. Nitrate
2. Arsenic
3. Hexavalent Chromium
4. Uranium
5. 123-TCP
6. DBCP
7. (also, chloride and TDS, as others have mentioned)

This Map Viewer shows state/local small water system water quality data for Nitrate, Arsenic, and Chrom-6. Monterey County does not have the budget to monitor for 123-TCP which has been shown in several pubic water systems including San Jerardo Cooperative (and also in our own testing of private domestic wells). More info about the Map Viewer here. Please let me know if you have any questions.

Thanks!
heather

Integrated Plan to Address Drinking Water and Wastewater Needs of Disadvantaged Communities in the Salinas Valley and Greater Monterey County IRWM Region

***Database and Map Viewer:*** A database and mapping tool was created for this project, and is being hosted on a three-year renewable basis at California State University, Water Resources and Policy Initiatives. A new viewing platform, called the *Greater Monterey County Community Water Tool*, has been created to show the locations of disadvantaged and suspected disadvantaged communities, geographic areas with water quality contamination (including nitrate, arsenic, and hexavalent chromium contamination), and the boundaries of nearby water districts. The GMC Community Water Tool provides a powerful tool for the Greater Monterey County Regional Water Management Group, local agencies, and non-profit community assistance organizations to identify "hot spots" of contamination and to evaluate options for potential consolidation of small disadvantaged communities with nearby water utilities. The GMC Community Water Tool can be viewed at this link.

--

Heather Lukacs, PhD
*Pronouns: She/Her/Hers*
Director of Community Solutions
Community Water Center

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Gary Petersen

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**Assignmnent:**

General Manager

Salinas Valley Groundwater Sustainability Agency

SVBGSA.org

Salinas Valley Basin
Groundwater Sustainability Agency

| Document | Chapter | Section | Page | Comment | Commenter | Date |
|---|---|---|---|---|---|---|
| GSP 180/400 | 4 | 4.3.2 | 14 | Line 4 - “Error! Reference source not found.” Should be deleted. | Brian Frus | 12/21/18 |
| GSP 180/400 | 4 | 4.5 | 29 | Line 8 should read “35,000” acre-feet | Brian Frus | 12/21/18 |
| GSP 180/400 | 4 | 4.6.1 | 31 | Suggest this section state in layperson terms what is happening to the concentrations of the constituents discussed as one moves down the valley (or deeper into either the180 or 400 aquifers) | Brian Frus | 12/21/18 |

---------- Forwarded message ---------
From: **Glenn Church** <gwchurch@gmail.com>
Date: Thu, Apr 4, 2019 at 12:41 PM
Subject: Public Comment for Chapters 5, Groundwater Conditions, of the draft Valley-Wide Integrated Groundwater Sustainability Plan and the 180-400 Foot Aquifer Subbasin GSP
To: <peterseng@svbgsa.org>

Mr. Petersen,

After reviewing the draft for the 180/400 aquifer, my main concerns rest with the northern section of the aquifer, primarily north of Dolan Rd./Castroville Blvd.

There is a serious lack of data on this section of the aquifer, primarily a lack of data on saltwater intrusion. I find it difficult to imagine that an adequate groundwater sustainability plan can be drafted without having basic scientific information for this area. We know saltwater has advanced considerably since the years following World War II in the Castroville area and continues to advance towards Salinas. The area north of this has traditionally been marshy. Until the early 1900s the Salinas River used to flow past where Moss Landing harbor now is and emptied into the ocean about a mile north of the Elkhorn Slough's opening. Historically, the Elkhorn Slough was a fresh and saltwater mix, depending on the time of year. In the early 1980s, the state of California cut dikes easterly from the Elkhorn Slough towards Elkhorn Rd. This brought saltwater onto lands that had freshwater vegetation growing on them. Many freshwater ponds were turned to saltwater. Besides forever altering the freshwater environments in these locations, the opening of these lands to a saltwater marsh greatly expanded saltwater over what appears to be thousands of acres.

I do not know of any studies that show how the presence of aboveground saltwater has affected groundwater levels. This knowledge is of extreme importance in developing a sustainability plan along the Elkhorn Slough. Many places on the slough, such as Moro Cojo and Parson's Slough are no longer freshwater, but they were just a few years ago. Some wells in these areas have been lost to the introduction of saltwater over the years. The many organizations involved in the Elkhorn Slough have done tremendous work, but they have used saltwater primarily as a means to rehabilitate the lands. While saltwater intrusion in the groundwater in the Castroville area is an unplanned result of water use, the expansion of saltwater in the Elkhorn Slough is a planned action. Future plans will continue to advance the saltwater easterly. This runs counter to the goals of the SVBGSA which is to protect groundwater.

The SVBGSA needs to coordinate with the organizations along the Elkhorn Slough in developing a sustainability plan for this area. There should also be coordination with the Pajaro Valley Water Management Agency handling the GSA there. The boundaries of all three of these interests (SVBGSA, Elkhorn Slough, Pajaro Valley) meet at the Elkhorn Slough and even overlap. The Elkhorn Slough is the largest surface saltwater encroachment on the Central Coast. There is

a case to be made that the diversion of the Salinas River a hundred years ago, and the filling of the Elkhorn Slough purely with saltwater are contributors to saltwater intrusion from the current boundaries of the Salinas River to the Elkhorn Slough. Any sustainability plan must take these factors into consideration.

Respectfully,
Glenn Church

--

Gary Petersen

Regional Government Services

peterseng@svbgsa.org

(831) 682-2592

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**Assignment:**

General Manager

Salinas Valley Groundwater Sustainability Agency

SVBGSA.org

Salinas Valley Basin
Groundwater Sustainability Agency

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nature.org
GroundwaterResourceHub.org

11 April 2019

General Manager Gary Petersen
Salinas Valley Basin Groundwater Sustainability Agency
200 Lincoln Avenue
Salinas, CA 93901

*Submitted online via email: peterseng@svbgsa.org*

Re: Chapter 5 of the 180-400 Foot Aquifer Subbasin Draft GSP and the Salinas Valley Basin Integrated Sustainability Plan Draft GSP

Dear Mr. Gary Petersen,

The Nature Conservancy (TNC) appreciates the opportunity to comment on Chapter 5 for the 180-400 Foot Aquifer Subbasin and Salinas Valley Basin Integrated Sustainability Plan Draft Groundwater Sustainability Plans (GSPs) being prepared under the Sustainable Groundwater Management Act (SGMA).

*TNC as a Stakeholder Representative for the Environment*

TNC is a global, nonprofit organization dedicated to conserving the lands and waters on which all life depends. We seek to achieve our mission through science-based planning and implementation of conservation strategies. For decades, we have dedicated resources to establishing diverse partnerships and developing foundational science products for achieving positive outcomes for people and nature in California. TNC was part of a stakeholder group formed by the Water Foundation in early 2014 to develop recommendations for groundwater reform and actively worked to shape and pass SGMA.

Our reason for engaging is simple: California's freshwater biodiversity is highly imperiled. We have lost more than 90 percent of our native wetland and river habitats, leading to precipitous declines in native plants and the populations of animals that call these places home. These natural resources are intricately connected to California's economy providing direct benefits through industries such as fisheries, timber and hunting, as well as indirect benefits such as clean water supplies. SGMA must be successful for us to achieve a sustainable future, in which people and nature can thrive within the Salinas Valley and California.

We believe that the success of SGMA depends on bringing the best available science to the table, engaging all stakeholders in robust dialog, providing strong incentives for beneficial outcomes and rigorous enforcement by the State of California.

Given our mission, we are particularly concerned about the inclusion of nature, as required, in GSPs. The Nature Conservancy has developed a suite of tools based on best available science to help GSAs, consultants, and stakeholders efficiently incorporate nature into GSPs.

These tools and resources are available online at GroundwaterResourceHub.org. The Nature Conservancy's tools and resources are intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

*Addressing Nature's Water Needs in GSPs*

SGMA requires that all beneficial uses and users, including environmental users of groundwater, be considered in the development and implementation of GSPs (Water Code § 10723.2).

The GSP Regulations include specific requirements to identify and consider groundwater dependent ecosystems (23 CCR §354.16(g)) when determining whether groundwater conditions are having potential effects on beneficial uses and users. GSAs must also assess whether sustainable management criteria may cause adverse impacts to beneficial uses, which include environmental uses, such as plants and animals. In addition, monitoring networks should be designed to detect potential adverse impacts to beneficial uses due to groundwater. Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decision, and using data collected through monitoring to revise decisions in the future. Over time, GSPs should improve as data gaps are reduced and uncertainties addressed.

To help ensure that GSPs adequately address nature as required under SGMA, The Nature Conservancy has prepared a checklist (Attachment A) for GSAs and their consultants to use. The Nature Conservancy believes the following elements are foundational for 2020 GSP submittals. For detailed guidance on how to address the checklist items, please also see our publication, *GDEs under SGMA: Guidance for Preparing GSPs* (https://groundwaterresourcehub.org/public/uploads/pdfs/GWR_Hub_GDE_Guidance_Doc_2-1-18.pdf).

1. Environmental Representation

SGMA requires that groundwater sustainability agencies (GSAs) consider the interests of all beneficial uses and users of groundwater. To meet this requirement, we recommend actively engaging environmental stakeholders by including environmental representation on the GSA board, technical advisory group, and/or working groups. This could include local staff from state and federal resource agencies, nonprofit organizations and other environmental interests. By engaging these stakeholders, GSAs will benefit from access to additional data and resources, as well as a more robust and inclusive GSP.

2. Basin GDE and ISW Maps

SGMA requires that groundwater dependent ecosystems (GDEs) and interconnected surface waters (ISWs) be identified in the GSP. We recommend using the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) provided online (https://gis.water.ca.gov/app/NCDatasetViewer/) by the Department of Water Resources (DWR) as a starting point for the GDE map. The NC Dataset was developed through a collaboration between DWR, the Department of Fish and Wildlife and TNC.

3. Potential Effects on Environmental Beneficial Users

SGMA requires that potential effects on GDEs and environmental surface water users be described when defining undesirable results. In addition to identifying GDEs in the basin, The Nature Conservancy recommends identifying beneficial users of surface water, which include environmental users. This is a critical step, as it is impossible to define "significant and unreasonable adverse impacts" without knowing *what* is being impacted. For your convenience, we've provided a list of freshwater species within the boundary of the 180-400 Foot Aquifer in Attachment C. Our hope is that this information will help your GSA better

evaluate the impacts of groundwater management on environmental beneficial users of surface water. We recommend that after identifying which freshwater species exist in your basin, especially federal and state listed species, that you contact staff at the Department of Fish and Wildlife (DFW), United States Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Services (NMFS) to obtain their input on the groundwater and surface water needs of the organisms on the freshwater species list. Because effects to plants and animals are difficult and sometimes impossible to reverse, we recommend erring on the side of caution to preserve sufficient groundwater conditions to sustain GDEs and ISWs.

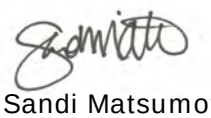
4. Biological and Hydrological Monitoring

If sufficient hydrological and biological data in and around GDEs is not available in time for the 2020/2022 plan, data gaps should be identified along with actions to reconcile the gaps in the monitoring network.

Our comments related to Chapter 5 of the 180-400 Foot Aquifer Subbasin Draft GSP and Salinas Valley Integrated Sustainability Plan GSP are provided in detail in Attachment B and are in reference to the numbered items in Attachment A. Attachment D describes six best practices that GSAs and their consultants can apply when using local groundwater data to confirm a connection to groundwater for DWR's Natural Communities Commonly Associated with Groundwater Dataset (https://gis.water.ca.gov/app/NCDatasetViewer/).

Thank you for fully considering our comments as you develop your GSP.

Best Regards,



Sandi Matsumoto
Associate Director, California Water Program
The Nature Conservancy

# Attachment A
# Considering Nature under SGMA: A Checklist

The Nature Conservancy is neither dispensing legal advice nor warranting any outcome that could result from the use of this checklist. Following this checklist does not guarantee approval of a GSP or compliance with SGMA, both of which will be determined by DWR and the State Water Resources Control Board. The checklist is available online: https://groundwaterresourcehub.org/public/uploads/pdfs/TNC_GDE_Checklist_for_SGMA_Sept2018.pdf

| GSP Plan Element* | | GDE Inclusion in GSPs: Identification and Consideration Elements | | Item Number |
|---|---|---|---|---|
| Admin Info | 2.1.5 Notice & Communication *23 CCR §354.10* | Description of the types of environmental beneficial uses of groundwater that exist within GDEs and a description of how environmental stakeholders were engaged throughout the development of the GSP. | | 1. |
| Basin Setting | 2.2.2 Current & Historical Groundwater Conditions *23 CCR §354.16* | Interconnected surface waters: | | 2. |
| | | Interconnected surface water maps for the basin with gaining and losing reaches defined (included as a figure in GSP & submitted as a shapefile on SGMA portal). | | 3. |
| | | Estimates of current and historical surface water depletions for interconnected surface waters quantified and described by reach, season, and water year type. | | 4. |
| | | Basin GDE map included (as figure in text & submitted as a shapefile on SGMA Portal). | | 5. |
| | | If NC Dataset *was* used: | Basin GDE map denotes which polygons were kept, removed, and added from NC Dataset (Worksheet 1, can be attached in GSP section 6.0). | 6. |
| | | | The basin's GDE shapefile, which is submitted via the SGMA Portal, includes two new fields in its attribute table denoting: 1) which polygons were kept/removed/added, and 2) the change reason (e.g., why polygons were removed). | 7. |
| | | | GDEs polygons are consolidated into larger units and named for easier identification throughout GSP. | 8. |
| | | If NC Dataset *was not* used: | Description of why NC dataset was not used, and how an alternative dataset and/or mapping approach used is best available information. | 9. |
| | | Description of GDEs included: | | 10. |
| | | Historical and current groundwater conditions described in each GDE unit. | | 11. |
| | | Ecological condition described in each GDE unit. | | 12. |
| | | Each GDE unit has been characterized as having high, moderate, or low ecological value. | | 13. |
| | | Inventory of species, habitats, and protected lands for each GDE unit with ecological importance (Worksheet 2, can be attached in GSP section 6.0). | | 14. |

| | | | | |
|---|---|---|---|---|
| | 2.2.3 Water Budget *23 CCR §354.18* | Groundwater inputs and outputs (e.g., evapotranspiration) of native vegetation and managed wetlands are included in the basin's historical and current water budget. | | 15. |
| | | Potential impacts to groundwater conditions due to land use changes, climate change, and population growth to GDEs and aquatic ecosystems are considered in the projected water budget. | | 16. |
| Sustainable Management Criteria | 3.1 Sustainability Goal *23 CCR §354.24* | Environmental stakeholders/representatives were consulted. | | 17. |
| | | Sustainability goal mentions GDEs or species and habitats that are of particular concern or interest. | | 18. |
| | | Sustainability goal mentions whether the intention is to address pre-SGMA impacts, maintain or improve conditions within GDEs or species and habitats that are of particular concern or interest. | | 19. |
| | 3.2 Measurable Objectives *23 CCR §354.30* | Description of how GDEs were considered and whether the measurable objectives and interim milestones will help achieve the sustainability goal as it pertains to the environment. | | 20. |
| | 3.3 Minimum Thresholds *23 CCR §354.28* | Description of how GDEs and environmental uses of surface water were considered when setting minimum thresholds for relevant sustainability indicators: | | 21. |
| | | Will adverse impacts to GDEs and/or aquatic ecosystems dependent on interconnected surface waters (beneficial user of surface water) be avoided with the selected minimum thresholds? | | 22. |
| | | Are there any differences between the selected minimum threshold and state, federal, or local standards relevant to the species or habitats residing in GDEs or aquatic ecosystems dependent on interconnected surface waters? | | 23. |
| | 3.4 Undesirable Results *23 CCR §354.26* | For GDEs, hydrological data are compiled and synthesized for each GDE unit: | | 24. |
| | | If hydrological data *are available* within/nearby the GDE | Hydrological datasets are plotted and provided for each GDE unit (Worksheet 3, can be attached in GSP Section 6.0). | 25. |
| | | | Baseline period in the hydrologic data is defined. | 26. |
| | | | GDE unit is classified as having high, moderate, or low susceptibility to changes in groundwater. | 27. |
| | | | Cause-and-effect relationships between groundwater changes and GDEs are explored. | 28. |
| | | If hydrological data *are not available* within/nearby the GDE | Data gaps/insufficiencies are described. | 29. |
| | | | Plans to reconcile data gaps in the monitoring network are stated. | 30. |
| | | For GDEs, biological data are compiled and synthesized for each GDE unit: | | 31. |
| | | Biological datasets are plotted and provided for each GDE unit. | | 32. |
| | | Data gaps/insufficiencies are described. | | 33. |
| | | Plans to reconcile data gaps in the monitoring network are stated. | | 34. |
| | | Description of potential effects on GDEs, land uses and property interests: | | 35. |

| | | | |
|---|---|---|---|
| | | Cause-and-effect relationships between GDE and groundwater conditions are described. | 36. |
| | | Impacts to GDEs that are considered to be "significant and unreasonable" are described. | 37. |
| | | Known hydrological thresholds or triggers (e.g., instream flow criteria, groundwater depths, water quality parameters) for relevant species or ecological communities are reported. | 38. |
| | | Land uses include and consider recreational uses (e.g., fishing/hunting, hiking, boating). | 39. |
| | | Property interests include and consider privately and publicly protected conservation lands and opens spaces, including wildlife refuges, parks, and natural preserves. | 40. |
| Sustainable Management Criteria | 3.5 Monitoring Network *23 CCR §354.34* | Description of whether hydrological data are spatially and temporally sufficient to monitor groundwater conditions for each GDE unit. | 41. |
| | | Description of how hydrological data gaps and insufficiencies will be reconciled in the monitoring network. | 42. |
| | | Description of how impacts to GDEs and environmental surface water users, as detected by biological responses, will be monitored and which monitoring methods will be used in conjunction with hydrologic data to evaluate cause-and-effect relationships with groundwater conditions. | 43. |
| Projects & Mgmt Actions | 4.0. Projects & Mgmt Actions to Achieve Sustainability Goal *23 CCR §354.44* | Description of how GDEs will benefit from relevant project or management actions. | 44. |
| | | Description of how projects and management actions will be evaluated to assess whether adverse impacts to the GDE will be mitigated or prevented. | 45. |

* In reference to DWR's GSP annotated outline guidance document, available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/GD_GSP_Outline_Final_2016-12-23.pdf

# Attachment B

## TNC Evaluation of Chapter 5 of the 180-400 Foot Aquifer Subbasin GSP Draft and Salinas Valley Basin Integrated Sustainability Plan (ISP)

Although none of the items on the Environmental User Checklist (Attachment A) were relevant to Section 5.2., we have the following suggestions:

### 5.5 Interconnected Surface Water (p.39)

- [Paragraph 1] While groundwater in the 180- and 400-foot Aquifers is generally not considered to be hydraulically connected to the Salinas River or its tributaries, the Shallow Aquifer (which resides above the Salinas Valley Aquitard) likely does. In chapter 4, the following aquitards and aquifers have been identified in the 180/400-Foot aquifer and Monterey Subbasins: 1) Shallow Aquifer; 2) Salinas Valley Aquitard; 3) 180-Foot Aquifer; 4) 180/400-Foot Aquitard; 5) 400-Foot Aquifer; 6) 400-Foot/Deep Aquitard; 7) Deep Aquifers (Chapter 4 ISP; p. 19). We recommend that interconnections of surface water with groundwater in the Shallow Aquifer be evaluated in this section of the GSP, since the Shallow Aquifer is within the 180/400-Foot Aquifer Subbasin. Groundwater in the shallow aquifer is also likely to be supporting groundwater dependent ecosystems and interacting with the Salinas River in this part of the basin. Basins with a stacked series of aquifers may have varying levels of pumping across aquifers in the basin, depending on the production capacity or water quality associated with each aquifer. If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, that can support springs, surface water, and groundwater dependent ecosystems. This is because the goal of SGMA is to sustainably manage groundwater resources for current and future social, economic, and environmental benefits, and while groundwater pumping may not be currently occurring in a shallow aquifer, it could be in the future.
- [Paragraph 2] The 180-Foot Aquifer and the 400-Foot Aquifers are confined units, thus comparing groundwater levels of <20 feet below the ground surface with wells screened within a confined aquifer is an incorrect approach. This is because the potentiometric surface of a confined aquifer cannot reflect the position of the true water table. Comparing groundwater levels from the shallow (unconfined) aquifer (that exists above the Salinas Valley Aquitard) with the ground surface is a more appropriate approach for identifying ISW in the basin.
- [Paragraph 3] We would like to see groundwater conditions evaluated across the range of seasonal and interannual time frames. Relying solely on any single point in time (in this case Fall 2013) to characterize groundwater conditions (e.g., depth to groundwater) is inadequate because data from one time point fails to capture the seasonal and interannual variability (i.e., wet, average, dry, and drought years) that is characteristic of California's climate.

Environmental User Checklist (Attachment A) Items 2-4:

Interconnected surface waters (ISW) are defined in the GSP Regulations as "surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted" [23 CCR §351(o)]. California's Mediterranean-like climate is characterized by large seasonal variations (dry summers and wet winters) and interannual variability in water year types (drought, dry, average, wet years), which can result in the groundwater regime to have varying levels of interconnections with surface water in time and space. For this reason, we highly recommend the following:

- Mapping ISW locations would be best done using contours of depth to groundwater measured from multiple points in time (different seasons and water year types) rather than only from Fall 2013. If data gaps exist in groundwater level contour data over time, these data gaps should be discussed in the GSP section 5.5.1 (Salinas Valley Basin ISP) and section 5.5 (180-400 Foot Aquifer GSP Draft) and reconciled in the Monitoring Network section, so that ISW maps can be improved in future GSPs.
- The use of piezometric head from confined aquifers should be eliminated from these ISW mapping efforts, since they do not adequately reflect the position of the true water table (see last paragraph on p. 38 of Salinas Valley Basin ISP)
- It is unclear on Figure 5-19 (Salinas Valley Basin ISP) and Figure 5-22 (180-400 Foot Aquifer GSP Draft), whether missing groundwater levels along certain reaches of the Salinas River are due to groundwater levels >20 feet bgs or due to data gaps in groundwater levels. Mapping the position of wells used for the interpolation of groundwater elevation data used to map groundwater level contours near surface water would help provide further clarification.
- Please elaborate on how depth to groundwater contours were developed after the first sentence in GSP section 5.5.1 (Salinas Valley Basin ISP) and third paragraph (p.39) of the 180-400 Foot Aquifer GSP Draft section 5.5. More accurate depth to groundwater maps around surface water features can be obtained by first interpolating groundwater elevations around surface water features and then subtracting groundwater elevations from land surface elevation data (obtained via digital elevation maps (DEM)[1]) for more accurate ISW mapping.
- We recommend mapping the gaining and losing reaches onto Figure 5-19 (Salinas Valley Basin ISP) using the data from Figure 5-23 (Salinas Valley Basin ISP). If this is not possible due to insufficient data, then as with the first bullet above, we would like the data gaps to be addressed by the Monitoring Network.

Environmental User Checklist (Attachment A) Items 5-14:

- The identification of GDEs is a required element of the Basin Setting Section under the description of Current & Historical Groundwater Conditions (23 CCR §354.16). Recognizing natural points of discharge (seeps & springs) as GDEs is consistent with

[1] Available at: https://catalog.data.gov/dataset/usgs-national-elevation-dataset-ned-1-meter-downloadable-data-collection-from-the-national-map-

the SGMA definition of GDEs[2], however, we recommend the identification of GDEs (GDE map Figure 4-11; Chapter 4) for the 180-400 Foot Aquifer be moved to Chapter 5: Groundwater Conditions and elaborated upon with a description of current and historical groundwater conditions in the GDE areas. Chapter 5 is a more appropriate place for the identification of GDEs, since groundwater conditions (e.g., depth to groundwater, interconnected surface water maps, groundwater quality) are necessary local information and data from the GSP in assessing whether polygons in the NC dataset are connected to groundwater in a principal aquifer. Appendix 4A (Page 27, Chapter 4) was referenced as describing methods used to determine the extent and type of potential GDEs, but that document was not available on the SVBGSA website for us to review.

- Decisions to remove, keep, or add polygons from the NC dataset into a basin GDE map should be based on best available science in a manner that promotes transparency and accountability with stakeholders. Any polygons that are removed, added, or kept should be inventoried in the submitted shapefile to DWR, and mapped in the plan. We recommend revising Figure 4-11 and including it in Chapter 5 to reflect this change.
- Best practices for identifying GDEs in GSPs are outlined in detail in Step 1 of The Nature Conservancy's Guidance Document[3]. Here are some highlights:
    - The NC dataset is a starting point for GSAs, and needs to be groundtruthed with aerial photography to screen for changes in land use that many not be reflected in the NC dataset (e.g., recent development, cultivated agricultural land, obvious human-made features).
    - Grouping multiple GDE polygons into larger units by location (proximity to each other) and principal aquifer will simplify the process of evaluating potential effects on GDE due to groundwater conditions under GSP Chapter 7: Sustainable Management Criteria.
    - Groundwater conditions within GDEs should be briefly described within the portion of the Basin Setting Section where GDEs are being identified.
    - When using groundwater levels to confirm that a connection to groundwater in a principal aquifer exists.
    - Not all GDEs are created equal. Some GDEs may contain legally protected species or ecologically rich communities, whereas other GDEs may be highly degraded with little conservation value. Including a description of the types of species (protected status, native versus non-native), habitat, and environmental beneficial uses (see Worksheet 2, p.74 of GDE Guidance Document) can be helpful in assigning an ecological value to the GDEs. Identifying an ecological value of each GDE can help prioritize limited resources when considering GDEs as well as prioritizing legally protected species or habitat that may need special consideration when setting sustainable management criteria.
- Are any of the wells from the MCWRA program (described in GSP section 5.1.1 of the Salinas Valley Basin ISP) close enough (<1 km) to GDEs and screened in the shallow portions of the aquifer to characterize historical and current groundwater conditions for each GDE? If data gaps exist, they should be discussed in Chapter 5.

[2] Groundwater dependent ecosystem refer to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. [23 CCR §351 (m)]

[3] "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans" is available at https://groundwaterresourcehub.org/gde-tools/gsp-guidance-document/

# Attachment C

## Freshwater Species Located in the 180-400 Foot Aquifer

To assist in identifying the beneficial users of surface water necessary to assess the undesirable result "depletion of interconnected surface waters", Attachment C provides a list of freshwater species located in the 180-400 Foot Aquifer. To produce the freshwater species list, we used ArcGIS to select features within the California Freshwater Species Database version 2.0.9 within the 180-400 Foot Aquifer groundwater basin boundary. This database contains information on ~4,000 vertebrates, macroinvertebrates and vascular plants that depend on fresh water for at least one stage of their life cycle. The methods used to compile the California Freshwater Species Database can be found in Howard et al. 2015[4]. The spatial database contains locality observations and/or distribution information from ~400 data sources. The database is housed in the California Department of Fish and Wildlife's BIOS[5] as well as on The Nature Conservancy's science website[6].

| Scientific Name | Common Name | Legally Protected Status | | |
|---|---|---|---|---|
| | | Federal | State | Other |
| **BIRD** | | | | |
| Actitis macularius | Spotted Sandpiper | | | |
| Aechmophorus clarkii | Clark's Grebe | | | |
| Aechmophorus occidentalis | Western Grebe | | | |
| Agelaius tricolor | Tricolored Blackbird | Bird of Conservation Concern | Special Concern | BSSC - First priority |
| Aix sponsa | Wood Duck | | | |
| Anas acuta | Northern Pintail | | | |
| Anas americana | American Wigeon | | | |
| Anas clypeata | Northern Shoveler | | | |
| Anas crecca | Green-winged Teal | | | |
| Anas cyanoptera | Cinnamon Teal | | | |
| Anas discors | Blue-winged Teal | | | |
| Anas platyrhynchos | Mallard | | | |
| Anas strepera | Gadwall | | | |
| Anser albifrons | Greater White-fronted Goose | | | |
| Ardea alba | Great Egret | | | |
| Ardea herodias | Great Blue Heron | | | |
| Aythya affinis | Lesser Scaup | | | |
| Aythya americana | Redhead | | Special Concern | BSSC - Third priority |
| Aythya collaris | Ring-necked Duck | | | |

[4] Howard, J.K. et al. 2015. Patterns of Freshwater Species Richness, Endemism, and Vulnerability in California. PLoSONE, 11(7). Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0130710
[5] California Department of Fish and Wildlife BIOS: https://www.wildlife.ca.gov/data/BIOS
[6] Science for Conservation: https://www.scienceforconservation.org/products/california-freshwater-species-database

| | | | | |
|---|---|---|---|---|
| Aythya marila | Greater Scaup | | | |
| Aythya valisineria | Canvasback | | Special | |
| Botaurus lentiginosus | American Bittern | | | |
| Bucephala albeola | Bufflehead | | | |
| Bucephala clangula | Common Goldeneye | | | |
| Butorides virescens | Green Heron | | | |
| Calidris alpina | Dunlin | | | |
| Calidris mauri | Western Sandpiper | | | |
| Calidris minutilla | Least Sandpiper | | | |
| Chen caerulescens | Snow Goose | | | |
| Chen rossii | Ross's Goose | | | |
| Chlidonias niger | Black Tern | | Special Concern | BSSC - Second priority |
| Chroicocephalus philadelphia | Bonaparte's Gull | | | |
| Cistothorus palustris palustris | Marsh Wren | | | |
| Cygnus columbianus | Tundra Swan | | | |
| Egretta thula | Snowy Egret | | | |
| Empidonax traillii | Willow Flycatcher | Bird of Conservation Concern | Endangered | |
| Fulica americana | American Coot | | | |
| Gallinago delicata | Wilson's Snipe | | | |
| Geothlypis trichas trichas | Common Yellowthroat | | | |
| Grus canadensis | Sandhill Crane | | | |
| Haliaeetus leucocephalus | Bald Eagle | Bird of Conservation Concern | Endangered | |
| Himantopus mexicanus | Black-necked Stilt | | | |
| Histrionicus histrionicus | Harlequin Duck | | Special Concern | BSSC - Second priority |
| Icteria virens | Yellow-breasted Chat | | Special Concern | BSSC - Third priority |
| Limnodromus scolopaceus | Long-billed Dowitcher | | | |
| Lophodytes cucullatus | Hooded Merganser | | | |
| Megaceryle alcyon | Belted Kingfisher | | | |
| Mergus merganser | Common Merganser | | | |
| Mergus serrator | Red-breasted Merganser | | | |
| Numenius americanus | Long-billed Curlew | | | |
| Numenius phaeopus | Whimbrel | | | |

| | | | | |
|---|---|---|---|---|
| Nycticorax nycticorax | Black-crowned Night-Heron | | | |
| Oxyura jamaicensis | Ruddy Duck | | | |
| Pelecanus erythrorhynchos | American White Pelican | | Special Concern | BSSC - First priority |
| Phalacrocorax auritus | Double-crested Cormorant | | | |
| Phalaropus tricolor | Wilson's Phalarope | | | |
| Plegadis chihi | White-faced Ibis | | Watch list | |
| Pluvialis squatarola | Black-bellied Plover | | | |
| Podiceps nigricollis | Eared Grebe | | | |
| Podilymbus podiceps | Pied-billed Grebe | | | |
| Porzana carolina | Sora | | | |
| Rallus limicola | Virginia Rail | | | |
| Recurvirostra americana | American Avocet | | | |
| Riparia riparia | Bank Swallow | | Threatened | |
| Rynchops niger | Black Skimmer | | | |
| Setophaga petechia | Yellow Warbler | | | BSSC - Second priority |
| Tachycineta bicolor | Tree Swallow | | | |
| Tringa melanoleuca | Greater Yellowlegs | | | |
| Tringa semipalmata | Willet | | | |
| Tringa solitaria | Solitary Sandpiper | | | |
| Xanthocephalus xanthocephalus | Yellow-headed Blackbird | | Special Concern | BSSC - Third priority |
| **CRUSTACEAN** | | | | |
| Americorophium spp. | Americorophium spp. | | | |
| Cambaridae fam. | Cambaridae fam. | | | |
| Cyprididae fam. | Cyprididae fam. | | | |
| Gammarus spp. | Gammarus spp. | | | |
| Gnorimosphaeroma spp. | Gnorimosphaeroma spp. | | | |
| Hyalella spp. | Hyalella spp. | | | |
| Neomysis mercedis | | | | Not on any status lists |
| **HERP** | | | | |
| Actinemys marmorata marmorata | Western Pond Turtle | | Special Concern | ARSSC |
| Ambystoma californiense californiense | California Tiger Salamander | Threatened | Threatened | ARSSC |
| Ambystoma macrodactylum | Long-toed salamander | | | |
| Ambystoma macrodactylum croceum | Santa Cruz Long-toed Salamander | Endangered | Endangered | |

| | | | | |
|---|---|---|---|---|
| Anaxyrus boreas boreas | Boreal Toad | | | |
| Anaxyrus boreas halophilus | California Toad | | | ARSSC |
| Pseudacris regilla | Northern Pacific Chorus Frog | | | |
| Pseudacris sierra | Sierran Treefrog | | | |
| Rana boylii | Foothill Yellow-legged Frog | Under Review in the Candidate or Petition Process | Special Concern | ARSSC |
| Rana draytonii | California Red-legged Frog | Threatened | Special Concern | ARSSC |
| Spea hammondii | Western Spadefoot | Under Review in the Candidate or Petition Process | Special Concern | ARSSC |
| Taricha torosa | Coast Range Newt | | Special Concern | ARSSC |
| Thamnophis elegans elegans | Mountain Gartersnake | | | Not on any status lists |
| Thamnophis elegans terrestris | Coast Gartersnake | | | Not on any status lists |
| Thamnophis hammondii hammondii | Two-striped Gartersnake | | Special Concern | ARSSC |
| Thamnophis sirtalis infernalis | California Red-sided Gartersnake | | | Not on any status lists |
| Thamnophis sirtalis sirtalis | Common Gartersnake | | | |
| **INSECT & OTHER INVERT** | | | | |
| Abedus spp. | Abedus spp. | | | |
| Ablabesmyia spp. | Ablabesmyia spp. | | | |
| Acentrella spp. | Acentrella spp. | | | |
| Aeshna interrupta interna | | | | |
| Aeshna palmata | Paddle-tailed Darner | | | |
| Aeshnidae fam. | Aeshnidae fam. | | | |
| Agabus spp. | Agabus spp. | | | |
| Ameletus spp. | Ameletus spp. | | | |
| Argia spp. | Argia spp. | | | |
| Baetidae fam. | Baetidae fam. | | | |
| Baetis spp. | Baetis spp. | | | |
| Belostomatidae fam. | Belostomatidae fam. | | | |
| Berosus spp. | Berosus spp. | | | |
| Bisancora spp. | Bisancora spp. | | | |
| Brachycentrus spp. | Brachycentrus spp. | | | |
| Brillia spp. | Brillia spp. | | | |

| | | | | |
|---|---|---|---|---|
| Calineuria californica | Western Stone | | | |
| Callibaetis spp. | Callibaetis spp. | | | |
| Centroptilum spp. | Centroptilum spp. | | | |
| Chaetocladius spp. | Chaetocladius spp. | | | |
| Cheumatopsyche spp. | Cheumatopsyche spp. | | | |
| Chironomidae fam. | Chironomidae fam. | | | |
| Chironomus spp. | Chironomus spp. | | | |
| Chloroperlidae fam. | Chloroperlidae fam. | | | |
| Choroterpes spp. | Choroterpes spp. | | | |
| Cladotanytarsus spp. | Cladotanytarsus spp. | | | |
| Coenagrionidae fam. | Coenagrionidae fam. | | | |
| Corisella decolor | | | | Not on any status lists |
| Corisella spp. | Corisella spp. | | | |
| Corixidae fam. | Corixidae fam. | | | |
| Cricotopus spp. | Cricotopus spp. | | | |
| Cryptotendipes spp. | Cryptotendipes spp. | | | |
| Cymbiodyta spp. | Cymbiodyta spp. | | | |
| Dicrotendipes spp. | Dicrotendipes spp. | | | |
| Diphetor hageni | Hagen's Small Minnow Mayfly | | | |
| Drunella spp. | Drunella spp. | | | |
| Dytiscidae fam. | Dytiscidae fam. | | | |
| Enallagma carunculatum | Tule Bluet | | | |
| Enallagma spp. | Enallagma spp. | | | |
| Epeorus spp. | Epeorus spp. | | | |
| Ephydridae fam. | Ephydridae fam. | | | |
| Fallceon quilleri | A Mayfly | | | |
| Fallceon spp. | Fallceon spp. | | | |
| Gomphidae fam. | Gomphidae fam. | | | |
| Gumaga spp. | Gumaga spp. | | | |
| Gyrinus spp. | Gyrinus spp. | | | |
| Heptageniidae fam. | Heptageniidae fam. | | | |
| Hydrophilidae fam. | Hydrophilidae fam. | | | |
| Hydroporus spp. | Hydroporus spp. | | | |
| Hydropsyche spp. | Hydropsyche spp. | | | |
| Hydroptila spp. | Hydroptila spp. | | | |
| Hydroptilidae fam. | Hydroptilidae fam. | | | |
| Ischnura spp. | Ischnura spp. | | | |
| Isoperla spp. | Isoperla spp. | | | |
| Laccobius spp. | Laccobius spp. | | | |
| Laccophilus spp. | Laccophilus spp. | | | |
| Lepidostoma spp. | Lepidostoma spp. | | | |
| Leptoceridae fam. | Leptoceridae fam. | | | |

| | | | | |
|---|---|---|---|---|
| Leucrocuta spp. | Leucrocuta spp. | | | |
| Limnophyes spp. | Limnophyes spp. | | | |
| Liodessus obscurellus | | | | Not on any status lists |
| Malenka spp. | Malenka spp. | | | |
| Micropsectra spp. | Micropsectra spp. | | | |
| Microtendipes spp. | Microtendipes spp. | | | |
| Mystacides spp. | Mystacides spp. | | | |
| Nanocladius spp. | Nanocladius spp. | | | |
| Nectopsyche spp. | Nectopsyche spp. | | | |
| Ochthebius spp. | Ochthebius spp. | | | |
| Onocosmoecus spp. | Onocosmoecus spp. | | | |
| Optioservus spp. | Optioservus spp. | | | |
| Oreodytes spp. | Oreodytes spp. | | | |
| Pantala hymenaea | Spot-winged Glider | | | |
| Paracladopelma spp. | Paracladopelma spp. | | | |
| Paracymus spp. | Paracymus spp. | | | |
| Parakiefferiella spp. | Parakiefferiella spp. | | | |
| Paraleptophlebia spp. | Paraleptophlebia spp. | | | |
| Paratanytarsus spp. | Paratanytarsus spp. | | | |
| Paratendipes spp. | Paratendipes spp. | | | |
| Peltodytes spp. | Peltodytes spp. | | | |
| Phaenopsectra spp. | Phaenopsectra spp. | | | |
| Polypedilum spp. | Polypedilum spp. | | | |
| Procladius spp. | Procladius spp. | | | |
| Psephenus falli | | | | Not on any status lists |
| Pseudosmittia spp. | Pseudosmittia spp. | | | |
| Psychodidae fam. | Psychodidae fam. | | | |
| Rhagovelia distincta | | | | Not on any status lists |
| Rhagovelia spp. | Rhagovelia spp. | | | |
| Rheotanytarsus spp. | Rheotanytarsus spp. | | | |
| Rhionaeschna multicolor | Blue-eyed Darner | | | |
| Rhionaeshna spp. | Rhionaeshna spp. | | | |
| Rhithrogena spp. | Rhithrogena spp. | | | |
| Rhyacophila spp. | Rhyacophila spp. | | | |
| Serratella spp. | Serratella spp. | | | |
| Sigara spp. | Sigara spp. | | | |
| Simulium spp. | Simulium spp. | | | |
| Sperchon spp. | Sperchon spp. | | | |
| Sperchontidae fam. | Sperchontidae fam. | | | |
| Stylurus spp. | Stylurus spp. | | | |

| | | | | |
|---|---|---|---|---|
| Sweltsa spp. | Sweltsa spp. | | | |
| Sympetrum corruptum | Variegated Meadowhawk | | | |
| Tanytarsus spp. | Tanytarsus spp. | | | |
| Tipulidae fam. | Tipulidae fam. | | | |
| Trichocorixa calva | | | | Not on any status lists |
| Trichocorixa spp. | Trichocorixa spp. | | | |
| Tricorythodes spp. | Tricorythodes spp. | | | |
| Tropisternus spp. | Tropisternus spp. | | | |
| Uvarus subtilis | | | | Not on any status lists |
| Zaitzevia spp. | Zaitzevia spp. | | | |
| **MAMMAL** | | | | |
| Lontra canadensis canadensis | North American River Otter | | | Not on any status lists |
| **MOLLUSK** | | | | |
| Anodonta californiensis | California Floater | | Special | |
| Ferrissia rivularis | Creeping Ancylid | | | CS |
| Ferrissia spp. | Ferrissia spp. | | | |
| Helisoma spp. | Helisoma spp. | | | |
| Hydrobiidae fam. | Hydrobiidae fam. | | | |
| Lymnaea spp. | Lymnaea spp. | | | |
| Menetus opercularis | Button Sprite | | | CS |
| Physa spp. | Physa spp. | | | |
| Pisidium spp. | Pisidium spp. | | | |
| Planorbidae fam. | Planorbidae fam. | | | |
| Pomatiopsis spp. | Pomatiopsis spp. | | | |
| Sphaeriidae fam. | Sphaeriidae fam. | | | |
| **PLANT** | | | | |
| Arundo donax | NA | | | |
| Azolla filiculoides | NA | | | |
| Calochortus uniflorus | Shortstem Mariposa Lily | | Special | CRPR - 4.2 |
| Carex densa | Dense Sedge | | | |
| Carex harfordii | Harford's Sedge | | | |
| Carex obnupta | Slough Sedge | | | |
| Cotula coronopifolia | NA | | | |
| Eleocharis macrostachya | Creeping Spikerush | | | |
| Euthamia occidentalis | Western Fragrant Goldenrod | | | |
| Helenium puberulum | Rosilla | | | |
| Hypericum anagalloides | Tinker's-penny | | | |
| Jaumea carnosa | Fleshy Jaumea | | | |
| Juncus effusus pacificus | | | | |

| | | | | |
|---|---|---|---|---|
| Juncus phaeocephalus phaeocephalus | Brown-head Rush | | | |
| Juncus xiphioides | Iris-leaf Rush | | | |
| Lemna minor | Lesser Duckweed | | | |
| Lepidium oxycarpum | Sharp-pod Pepper-grass | | | |
| Limonium californicum | California Sea-lavender | | | |
| Mimulus guttatus | Common Large Monkeyflower | | | |
| Navarretia intertexta | Needleleaf Navarretia | | | |
| Oenanthe sarmentosa | Water-parsley | | | |
| Perideridia gairdneri gairdneri | Gairdner's Yampah | | Special | CRPR - 4.2 |
| Phacelia distans | NA | | | |
| Phragmites australis australis | Common Reed | | | |
| Plantago elongata elongata | Slender Plantain | | | |
| Populus trichocarpa | NA | | | Not on any status lists |
| Potentilla anserina pacifica | | | | Not on any status lists |
| Psilocarphus tenellus | NA | | | |
| Rorippa curvisiliqua curvisiliqua | Curve-pod Yellowcress | | | |
| Rumex conglomeratus | NA | | | |
| Rumex occidentalis | | | | Not on any status lists |
| Rumex salicifolius salicifolius | Willow Dock | | | |
| Rumex stenophyllus | NA | | | |
| Salix babylonica | NA | | | |
| Salix exigua exigua | Narrowleaf Willow | | | |
| Salix laevigata | Polished Willow | | | |
| Salix lasiandra lasiandra | | | | Not on any status lists |
| Salix lasiolepis lasiolepis | Arroyo Willow | | | |
| Sequoia sempervirens | | | | |
| Sparganium eurycarpum eurycarpum | | | | |
| Stachys ajugoides | Bugle Hedge-nettle | | | |
| Stachys chamissonis chamissonis | Coast Hedge-nettle | | | |
| Stellaria littoralis | Beach Starwort | | Special | CRPR - 4.2 |
| Triglochin maritima | Common Bog Arrow-grass | | | |
| Typha latifolia | Broadleaf Cattail | | | |

| | | | | |
|---|---|---|---|---|
| Veronica anagallis-aquatica | NA | | | |
| **FISH** | | | | |
| Catostomus occidentalis mnioltiltus | Monterey sucker | | | Least Concern - Moyle 2013 |
| Cottus aleuticus | Coastrange sculpin | | | Least Concern - Moyle 2013 |
| Cottus asper ssp. 1 | Prickly sculpin | | | Least Concern - Moyle 2013 |
| Entosphenus tridentata ssp. 1 | Pacific lamprey | | Special | Near-Threatened - Moyle 2013 |
| Eucyclogobius newberryi | Tidewater goby | Endangered | Special Concern | Vulnerable - Moyle 2013 |
| Gasterosteus aculeatus aculeatus | Coastal threespine stickleback | | | Least Concern - Moyle 2013 |
| Gasterosteus aculeatus microcephalus | Inland threespine stickleback | | Special | Least Concern - Moyle 2013 |
| Lavinia exilicauda harengeus | Monterey hitch | | Special | Vulnerable - Moyle 2013 |
| Lavinia symmetricus subditus | Monterey roach | | Special Concern | Near-Threatened - Moyle 2013 |
| Oncorhynchus gorbuscha | Pink salmon | | Special Concern | Endangered - Moyle 2013 |
| Oncorhynchus mykiss - SCCC | South Central California coast steelhead | Threatened | Special Concern | Vulnerable - Moyle 2013 |
| Oncorhynchus mykiss irideus | Coastal rainbow trout | | | Least Concern - Moyle 2013 |
| Orthodon microlepidotus | Sacramento blackfish | | | Least Concern - Moyle 2013 |
| Ptychocheilus grandis | Sacramento pikeminnow | | | Least Concern - Moyle 2013 |
| Rhinichthys osculus ssp. 1 | Sacramento speckled dace | | | Least Concern - Moyle 2013 |
| Spirinchus thaleichthys | Longfin smelt | Candidate | Threatened | Vulnerable - Moyle 2013 |

# Attachment D

## IDENTIFYING GDEs UNDER SGMA
## Best Practices for using the NC Dataset

The Sustainable Groundwater Management Act (SGMA) requires that groundwater dependent ecosystems (GDEs) be identified in Groundwater Sustainability Plans (GSPs). The California Department of Water Resources (DWR) has provided the Natural Communities Commonly Associated with Groundwater Dataset (NC Dataset) online (https://gis.water.ca.gov/app/NCDatasetViewer/) to help Groundwater Sustainability Agencies (GSAs) identify GDEs within a groundwater basin. The NC Dataset is a compilation of 48 publicly available State and Federal agency datasets that map vegetation, wetlands, springs, and seeps commonly associated with groundwater in California[7].

The NC Dataset indicates the vegetation and wetland features that are good indicators of a GDE. The NC dataset is a starting point, and it is the responsibility of GSAs to utilize best available science and local knowledge on the hydrology, geology, and groundwater levels to verify its presence or absence, as well as whether a connection to groundwater in an aquifer exists (Figure 1)[8]. Detailed guidance on identifying GDEs within a groundwater basin from the NC dataset is available[9]. This document highlights six best practices that GSAs and their consultants can apply when using local groundwater data to confirm a connection to groundwater for the NC Dataset.

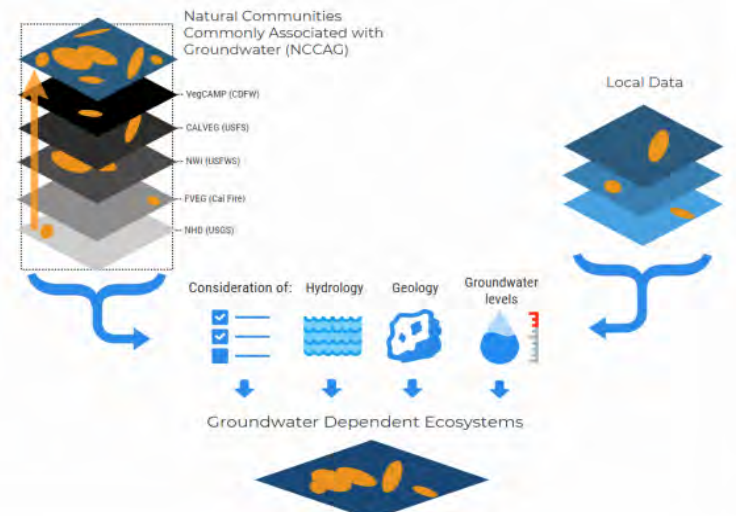



**Figure 1. Considerations for GDE identification.**
**Source: DWR[2]**

[7] For more details on the mapping methods, refer to: Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, A. Lyons. 2018. Mapping Indicators of Groundwater Dependent Ecosystems in California: Methods Report. San Francisco, California. Available at: https://groundwaterresourcehub.org/public/uploads/pdfs/iGDE_data_paper_20180423.pdf

[8] *California Department of Water Resources (DWR). 2018. Summary of the "Natural Communities Commonly Associated with Groundwater" Dataset and Online Web Viewer. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Data-and-Tools/Files/Statewide-Reports/Natural-Communities-Dataset-Summary-Document.pdf*

[9] "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans" is available at https://groundwaterresourcehub.org/gde-tools/gsp-guidance-document/

## BEST PRACTICE #1. Connection to an Aquifer

Groundwater basins can be comprised of one continuous aquifer or multiple aquifers stacked on top of each other. Basins with a stacked series of aquifers may have varying levels of pumping across aquifers in the basin, depending on the production capacity or water quality associated with each aquifer. If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, such as perched aquifers, that support springs, surface water, and groundwater dependent ecosystems (Figure 2). This is because the goal of SGMA is to sustainably manage groundwater resources for current and future social, economic, and environmental benefits, and while groundwater pumping may not be currently occurring in a shallower aquifer, it could be in the future. For example, if a shallow perched aquifer is currently not being pumped due to poor water quality resulting from irrigation return flow, producing this water will become more appealing and economically viable in future years as pumping restrictions are placed on the deeper production aquifers in the basin to meet the sustainable yield and criteria. Thus, identifying GDEs in the basin should done irrespective to the amount of current pumping occurring in a particular aquifer, so that future impacts on GDEs due to new production can be avoided and a GSA's legal risk be minimized. A good rule of thumb to follow is: *if groundwater can be pumped from a well - it's an aquifer*.

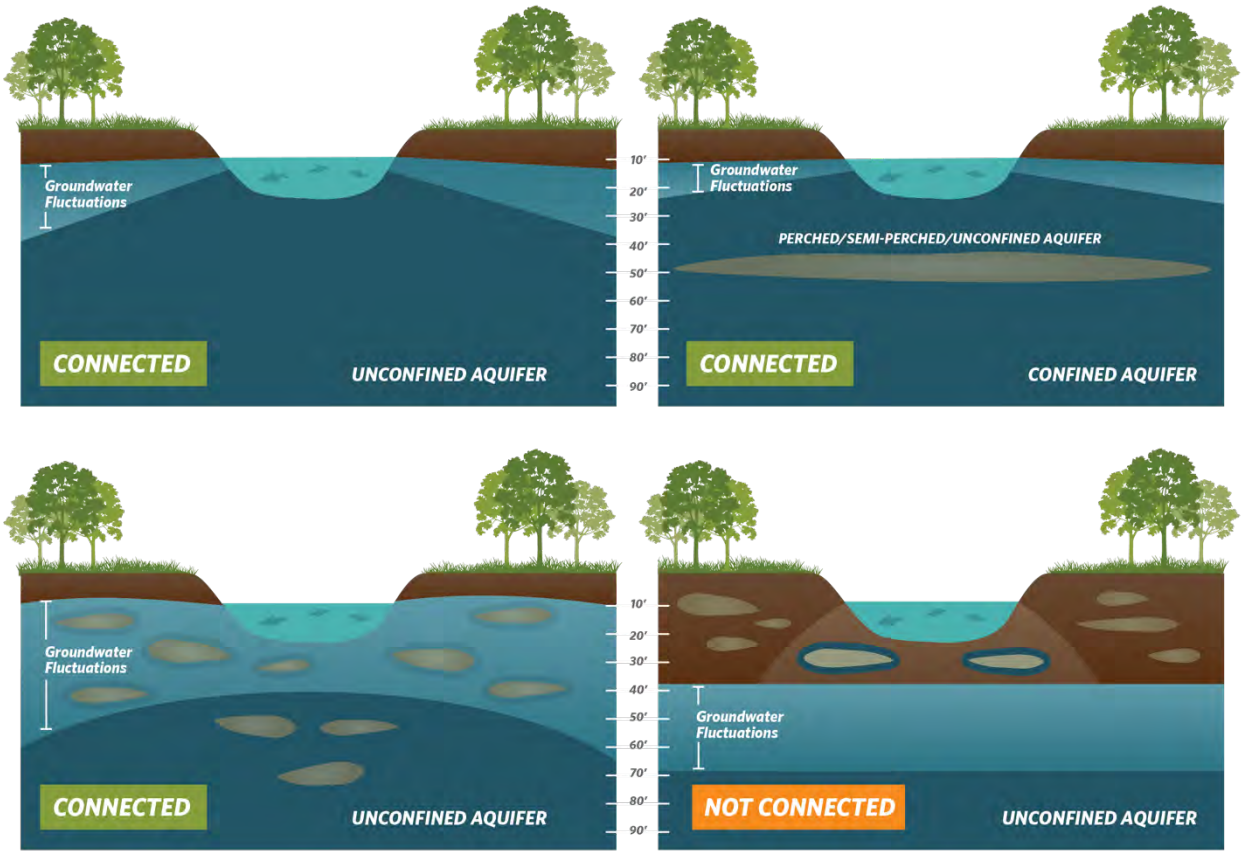



Figure 2. Confirming whether an ecosystem is connected to groundwater in a principal aquifer. Top: (Left) Depth to Groundwater in the aquifer under the ecosystem is an unconfined aquifer with depth to groundwater fluctuating seasonally and interannually within 30 feet from land surface. (Right) Depth to Groundwater in the *shallow* aquifer is connected to overlying ecosystem. Pumping predominately occurs in the confined aquifer, but pumping is possible in the *shallow* aquifer. Bottom: (Left) Depth to groundwater fluctuations are seasonally and interannually large, however, clay layers in the near surface prolong the ecosystems connection to groundwater. (Right) Groundwater is disconnected from surface water, and any water in the vadose (unsaturated) zone is *due to* direct recharge from precipitation and indirect recharge under surface water feature.

## BEST PRACTICE #2. Characterize Groundwater Conditions

SGMA requires GSAs to describe current and historical groundwater conditions when identifying GDEs [23 CCR §354.16(g)]. Relying solely on the SGMA benchmark date (January 1, 2015) or any other single point in time to characterize groundwater conditions (e.g., depth to groundwater) is inadequate because managing groundwater conditions with data from one time point fails to capture the seasonal and interannual variability (i.e., wet, average, dry, and drought years) that is characteristic of California's climate. DWR's Best Management Practices document on water budgets[10] recommends using 10 years of water supply and water budget information to describe how historical conditions have impacted the operation of the basin within sustainable yield, implying that a baseline[11] could be determined based on data between 2005 and 2015.

GDEs existing on the earth's surface depend on groundwater levels being close enough to the land surface to interconnect with surface water systems or plant rooting networks. The most practical approach[12] for a GSA to assess whether polygons in the NC dataset are connected to groundwater is to rely on groundwater elevation data. As detailed in the GDE guidance document[2], one of the key factors to consider when mapping GDEs is to contour depth to groundwater in the aquifer that is in direct contact with the ecosystem.

Groundwater levels fluctuate over time and space due to California's Mediterranean climate (dry summers and wet winters), climate change (flood and drought years), and subsurface heterogeneity in the subsurface (Figure 3). Many of California's GDEs have adapted to dealing with intermittent periods of water stress, however, if these groundwater conditions are prolonged adverse impacts to GDEs can result. While depth to groundwater levels within 30 feet[2] are generally accepted as being a proxy for confirming that polygons in the NC dataset are connected to groundwater, it is highly advised that fluctuations in the groundwater regime are taken into consideration and to characterize the seasonal and interannual groundwater variability in GDEs. Utilizing groundwater data from one point in time can misrepresent groundwater levels required by GDEs, and inadvertently result in adverse impacts to the GDEs. Time series data on groundwater elevations and depths are available on the SGMA Data Viewer[13]. However, if insufficient data are available to describe groundwater conditions within polygons from the NC dataset, it is highly advised that they be included in the GSP until data gaps are reconciled in the monitoring network (See Best Practice #6).

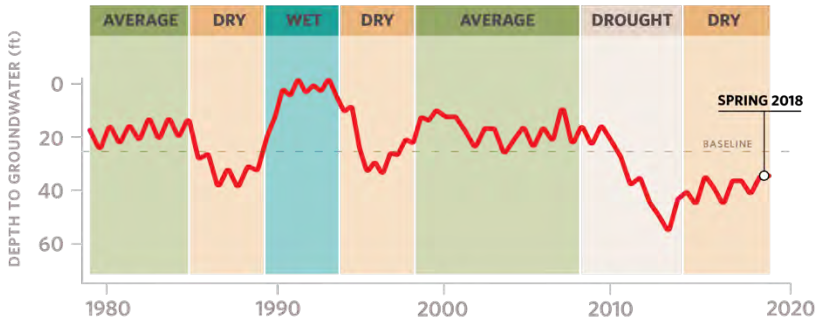



Figure 3. Example seasonality and interannual variability in depth to groundwater over time. Selecting one point in time, such as Spring 2018, to characterize groundwater conditions in GDEs fails to capture what groundwater conditions are necessary to maintain the ecosystem status into the future so adverse impacts are avoided.

[10] DWR. 2016. Water Budget Best Management Practice. Available at: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/BMP_Water_Budget_Final_2016-12-23.pdf

[11] *Baseline is defined under the GSP regulations as "historic information used to project future conditions for hydrology, water demand, and availability of surface water and to evaluate potential sustainable management practices of a basin." [23 CCR §351(e)]*

[12] Groundwater reliance can also be confirmed via stable isotope analysis and geophysical surveys. For more information see The GDE Assessment Toolbox (Appendix IV, GDE Guidance Document for GSPs - link in footnote above).

[13] *SGMA Data Viewer: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer*

## BEST PRACTICE #3. Ecosystems Can Rely on Both Surface and Groundwater

GDEs can rely on groundwater for all or some of its requirements, using multiple water sources simultaneously and at different temporal or spatial scales. The presence of non-groundwater sources (e.g., surface water, soil moisture in the vadose zone, applied water, treated wastewater effluent, urban stormwater, irrigated return flow) within and around NC polygons does not preclude the possibility that a connection to groundwater exists. SGMA defines GDEs as "ecological communities and species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface" [ 23 CCR §351(m)]. Hence, depth to groundwater data should be used to identify whether NC polygons are connected to groundwater and should be considered GDEs.

GSAs are only responsible for impacts to GDEs resulting from groundwater conditions in the basin, so if adverse impacts to GDEs result from the diversion of applied water, treated wastewater, or irrigation return flow away from the GDE, then those impacts will be evaluated by other permitting requirements (e.g., CEQA) and would not be the responsibility of the GSA. However, if adverse impacts occur to the GDE due to changing groundwater conditions resulting from pumping or groundwater management activities, then the GSA would be responsible (Figure 4).

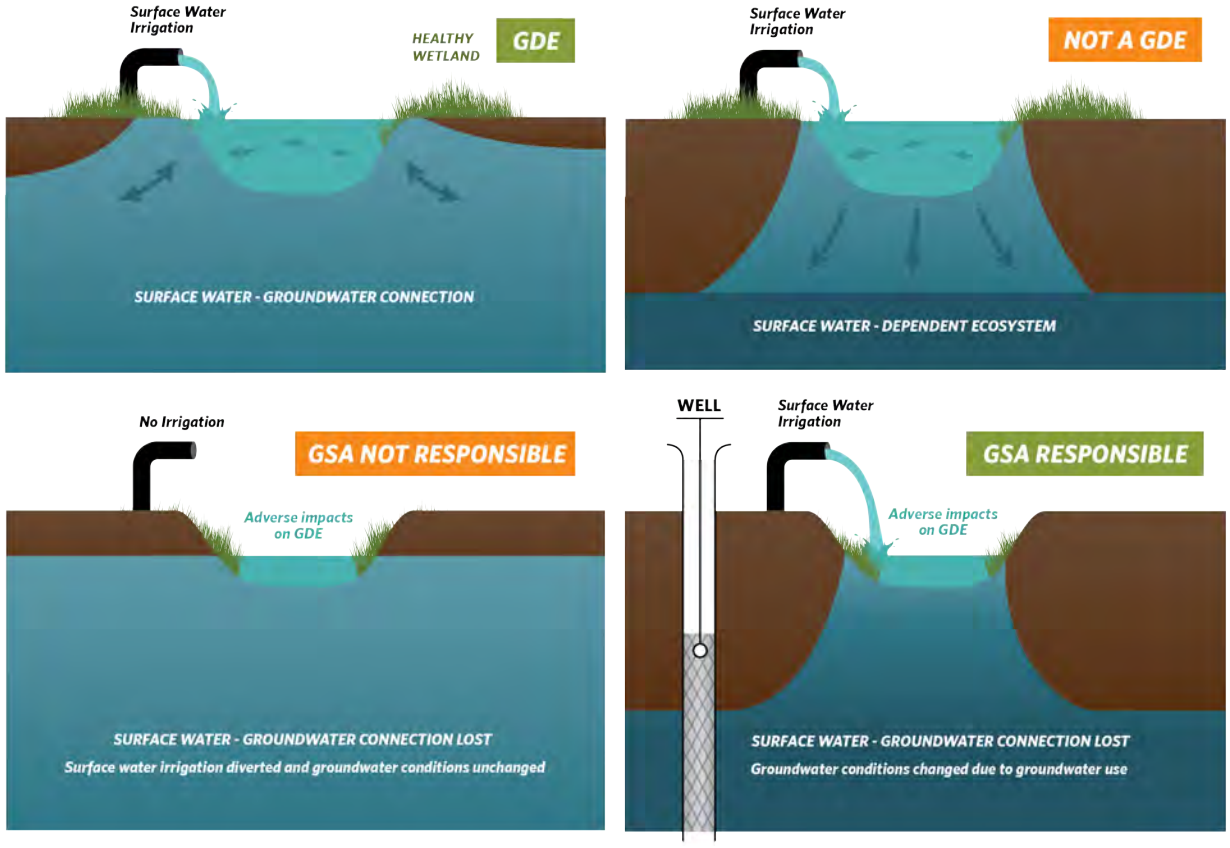



Figure 4. Ecosystems can depend on multiple sources of water. Top: (Left) Surface water and groundwater are interconnected, such that a connection to groundwater exists for the ecosystem. (Right) Ecosystems that are only reliant on non-groundwater sources are not groundwater-dependent. Bottom: (Left) An ecosystem that was once dependent on an interconnected surface water and groundwater connection, but then loses this connection due to surface water diversions would not be the GSA's responsibility. (Right) Groundwater dependent ecosystems in places where a surface water – groundwater connection existed, but then loose that connection due to groundwater pumping would be the GSA's responsibility.

## BEST PRACTICE #4. Select Representative Groundwater Wells

Identifying GDEs in a basin require that groundwater conditions are characterized to confirm whether polygons in the NC dataset are connected to an underlying aquifer. Once an aquifer has been identified, representative groundwater wells are necessary to characterize groundwater conditions (Figure 5). It is particularly important to consider the subsurface heterogeneity around NC polygons, especially near surface water features where groundwater and surface water interactions occur around heterogeneous stratigraphic units or aquitards formed by fluvial deposits. The following selection criteria can help ensure groundwater levels are representative of conditions within the GDE area:

- Choose wells that are within 5 kilometers (3.1 miles) of the NC Dataset polygons, and more likely to reflect the local conditions relevant to the ecosystem. NC dataset polygons that are farther than 5 km from a well should not be excluded because of interpolated groundwater depth conditions, as there is insufficient information to make that determination. Instead, they should be retained as potential GDEs until there is sufficient data to determine whether or not the NC Dataset polygon is connected to groundwater and is a GDE.

- Choose wells that are screened within the surficial unconfined aquifer and capable of measuring the true water table.

- Avoid relying on wells that have insufficient well information on the screened well depth interval for excluding GDEs because they could be providing data on the wrong aquifer.

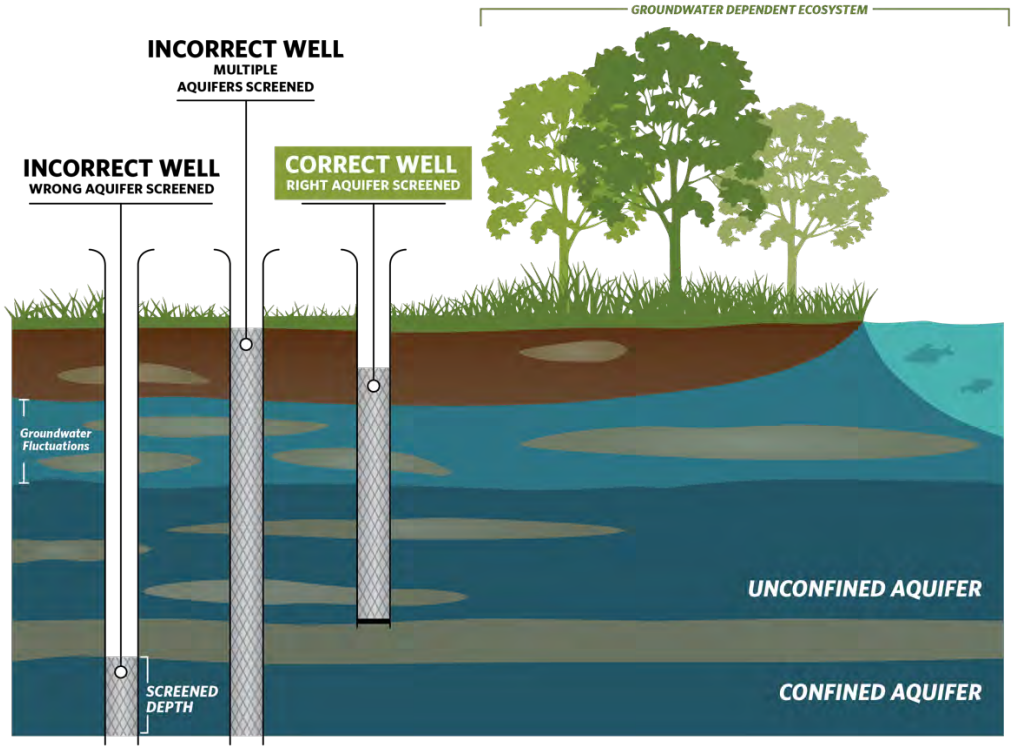



Figure 5. Selecting representative wells to characterize groundwater conditions in the aquifers directly connected with GDEs.

## BEST PRACTICE #5. Contouring Groundwater Elevations

A common, but error prone practice, to contour depth to groundwater over a large area is to interpolate depth to groundwater measurements at monitoring wells. This practice causes errors when the land surface contains features like streams and wetlands depressions because it assumes the land surface is constant across the landscape and depth to groundwater is constant below these low-lying areas (Figure 6). A more accurate approach is to interpolate groundwater elevations at monitoring wells to get an estimate of groundwater elevation across the landscape. This layer can then be subtracted from the land surface elevation from a Digital Elevation Model (DEM)[14] to estimate depth to groundwater contours across the landscape (Figure 7). This will provide a much more accurate contours of depth to groundwater along streams and other land surface depressions where GDEs are commonly found.

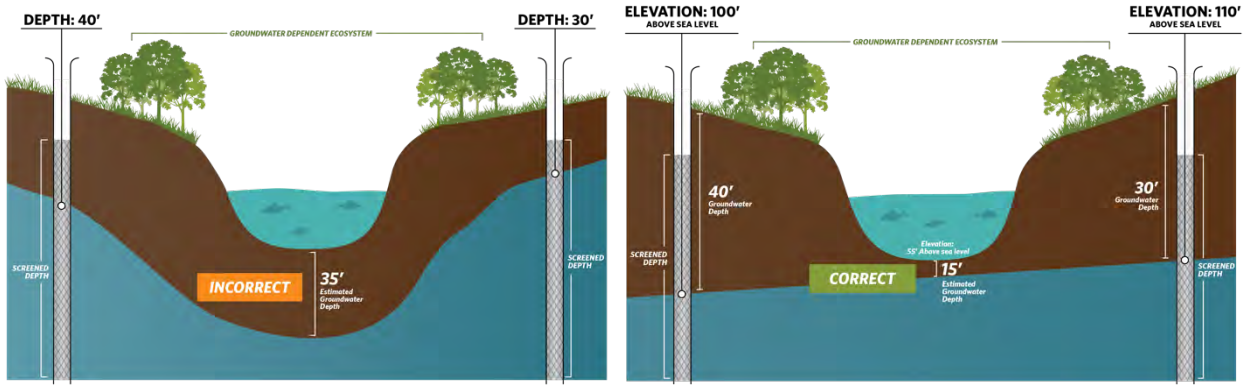



Figure 6. Contouring depth to groundwater around surface water features and GDEs. (Left) Groundwater level interpolation using depth to groundwater data from monitoring wells. (Right) Groundwater level interpolation using groundwater elevation data from monitoring wells and DEM data.

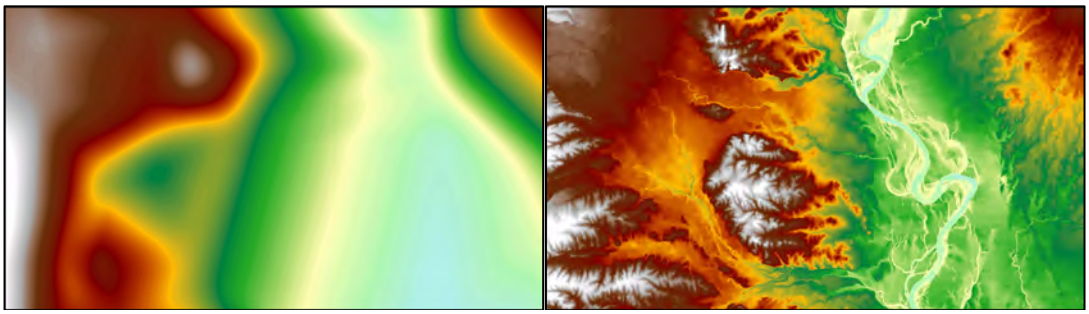


Figure 7. Depth to Groundwater Contours in Northern California. (Left) Contours were interpolated using depth to groundwater measurements determined at each well. (Right) Contours were determined by interpolating groundwater elevation measurements at each well and superimposing ground surface elevation from DEM spatial data to generate depth to groundwater contours. The image on the right shows a more accurate depth to groundwater estimate because it takes the local topography and elevation changes into account.

[14] *Digital Elevation Model data is available at: https://catalog.data.gov/dataset/usgs-national-elevation-dataset-ned-1-meter-downloadable-data-collection-from-the-national-map-*

## BEST PRACTICE #6. Best Available Science

Adaptive management is embedded within SGMA and provides a process to work toward sustainability over time by beginning with the best available information to make initial decisions, monitoring the results of those decisions, and using the data collected through monitoring to revise decisions in the future. In many situations, the hydrologic connection of NC dataset polygons will not initially be clearly understood if site-specific groundwater monitoring data are not available. If sufficient data are not available in time for the 2020/2022 plan, The Nature Conservancy strongly advises that questionable polygons from the NC dataset be included in the GSP until data gaps are reconciled in the monitoring network. Erring on the side of caution will help minimize inadvertent impacts to GDEs as a result of groundwater use and management actions during SGMA implementation.

### KEY DEFINITIONS

Groundwater basin is an aquifer or stacked series of aquifers with reasonably well-defined boundaries in a lateral direction, based on features that significantly impede groundwater flow, and a definable bottom. *23 CCR §341(g)(1)*

Groundwater dependent ecosystem (GDE) are ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface. *23 CCR §351(m)*

Interconnected surface water (ISW) surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted. *23 CCR §351(o)*

Principal aquifers are aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems. *23 CCR §351(aa)*

### ABOUT US

The Nature Conservancy is a science-based nonprofit organization whose mission is *to conserve the lands and waters on which all life depends*. To support successful SGMA implementation that meets the future needs of people, the economy, and the environment, TNC has developed tools and resources (www.groundwaterresourcehub.org) intended to reduce costs, shorten timelines, and increase benefits for both people and nature.

18 April 2019

**MEMORANDUM**

To: Gary Peterson, Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA)
Derrik Williams, P.G., C.Hg., Montgomery & Associates

From: Keith Van Der Maaten, P.E., Marina Coast Water District (MCWD)
Patrick Breen, MCWD
Vera Nelson, P.E., EKI Environment and Water, Inc. (EKI)
Tina Wang, P.E., EKI

**Subject: Preliminary Comments Regarding Salinas Valley Basin Groundwater Sustainability Agency Draft Groundwater Sustainability Plan Chapter 5 (EKI B60094.03)**

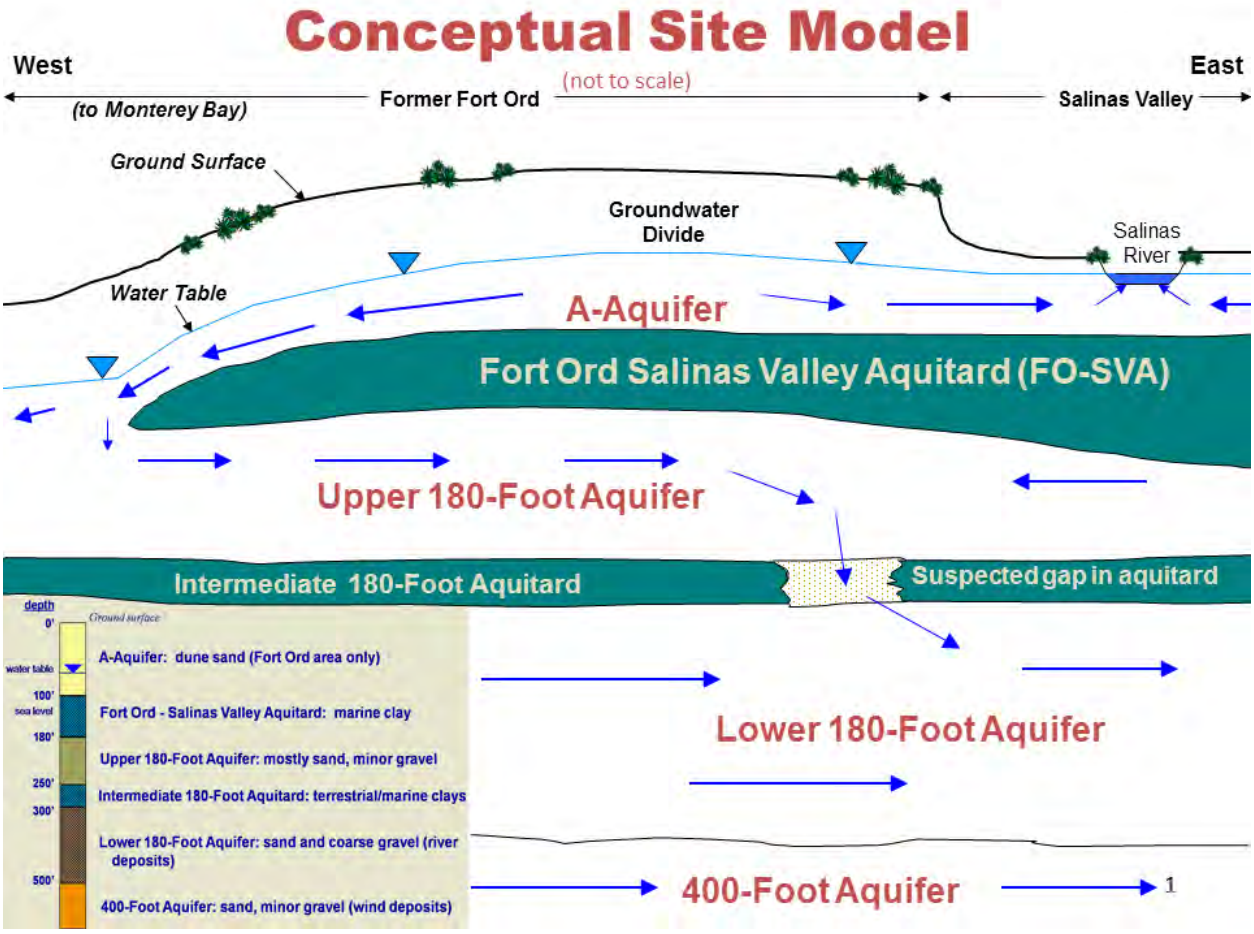
On behalf of the Marina Coast Water District Groundwater Sustainability Agency (MCWD GSA), EKI has reviewed and prepared preliminary comments on the SVBGSA draft 180/400 Foot Aquifer Subbasin and Salinas Valley Integrated Groundwater Sustainability Plans (GSPs) Chapter 5, released January 2019 and updated February 2019.

1. General Comment

We understand that SVBGSA has solicitated input during its February 7 Planning Committee regarding the inclusion of the Dune Sand Aquifer in its GSPs. Although the Dune Sand Aquifer exists only south of the river and thus encompasses a small portion of the 180/400 Foot Aquifer Subbasin, we request that the 180/400 Foot Aquifer Subbasin GSP characterize the Dune Sand Aquifer for the following reasons.

(1) The Dune Sand Aquifer is an important source of freshwater and recharge to deeper aquifers south of the Salinas River.

- Groundwater level data and groundwater quality data obtained from Fort Ord indicate that groundwater with low TDS concentrations from the Dune Sand Aquifer seeps down into the upper portion of the 180-Foot Aquifer, upgradient of the coast and then "U-turns" and flows back into the basin. This process is illustrated in figures presented on Fort Ord's website:



Source: http://fortordcleanup.com/programs/groundwater

- Recent airborne electromagnetic (AEM) data collected in the northern Salinas Valley (see Attachment A) has confirmed that freshwater exists in the Dune Sand Aquifer and underlying portions of the Upper 180-Foot Aquifer in 180/400-Foot Aquifer Subbasin.

(2) The Dune Sand Aquifer is likely a water source for shallow wells in the Corral de Tierra area in the adjacent Monterey Subbasin, which should be further confirmed by SVBGSA in its preparation of GSP components of the Corral de Tierra area.

(3) Chemical impacts exist within the Dune Sand Aquifer, which could impact other underlying aquifers.

- Volatile organic compounds (VOCs) and other constituents have been detected in groundwater within the Dune Sand Aquifer at the Monterey Peninsula Landfill (Geotracker ID L10005501051).

- Groundwater quality data obtained from Monterey Peninsula Water Supply Project (MPWSP) shallow monitoring wells suggest that nitrate impacts may exist in the Dune Sand Aquifer.

(4) Multiple Projects have been proposed within the Dune Sand Aquifer in the 180/400-Foot Aquifer Subbasin.
   - Several studies have been completed by MCWD and Fort Ord Reuse Authority (FORA) to evaluate the potential infiltration and storage of Advanced Treated wastewater or excess surface water from the Salinas River within the Dune Sand Aquifer at Armstrong Ranch.
   - MPWSP slant wells are screened across and will draw water from the Dune Sand Aquifer.

Therefore, the 180/400 Foot Aquifer Subbasin GSP should characterize the Dune Sand Aquifer and develop a plan to manage current as well as planned groundwater activities in the Dune Sand Aquifer. Moreover, MCWD will coordinate with SVBGSA to develop Sustainable Management Criteria (SMCs) for Dune Sand Aquifer in the Monterey Subbasin GSP, given the Dune Sand Aquifer's importance in water source and groundwater recharge. It is important that the Dune Sand Aquifer is properly characterized in both the 180/400 Foot Aquifer Subbasin GSP and the Monterey Subbasin GSP, so that a coordinated set of SMCs are developed for the Dune Sand Aquifer in both GSPs.

2. Section 5.1 – Groundwater Elevations

Draft chapter 5 of the 180/400 Foot Aquifer Subbasin GSP states that "Insufficient data currently exist to map flow directions and groundwater elevations in the deep aquifer" (Page 17) and "Hydrographs are not available for wells completed in the Deep Aquifer" (Page 18). However, MCWRA's 2017 *Recommendations to Address the Expansion of Seawater Intrusion in the Salinas Valley Groundwater Basin* states that there are 32 active productions wells and eight monitoring wells screened in the deep aquifers, and that MCWRA monitors groundwater levels at thirteen locations in the Deep Aquifers "with varying frequency", a majority of which are located in the 180/400 Foot Aquifer Subbasin. Figure 21 of the document showed average groundwater level changes in the deep aquifers from 1986 to 2016. We suggest that the SVBGSA obtain this information from MCWRA and provide groundwater elevation and/or elevation trend information in the Deep Aquifer.

3. Section 5.2 – Seawater Intrusion

Per GSP Regulations Section 354.16 (c), a GSP should provide "seawater intrusion conditions in the basin, including maps and cross sections of the seawater intrusion front for each

principal aquifer". The GSPs should address this requirement and provide cross-sections. AEM data collected by MCWD should be incorporated into these cross-sections[1].

**Attachments**

Attachment A. Selected Figures from Gottschalk et al. Interpretation of Hydrostratigraphy and Water Quality from AEM Data Collected in the Northern Salinas Valley, CA, dated 15 March 2018.

[1] Gottschalk et al. Interpretation of Hydrostratigraphy and Water Quality from AEM Data Collected in the Northern Salinas Valley, CA, dated 15 March 2018.

**Attachment A**

Selected Figures from Gottschalk et al. Interpretation of Hydrostratigraphy and Water Quality from AEM Data Collected in the Northern Salinas Valley, CA, dated 15 March 2018.

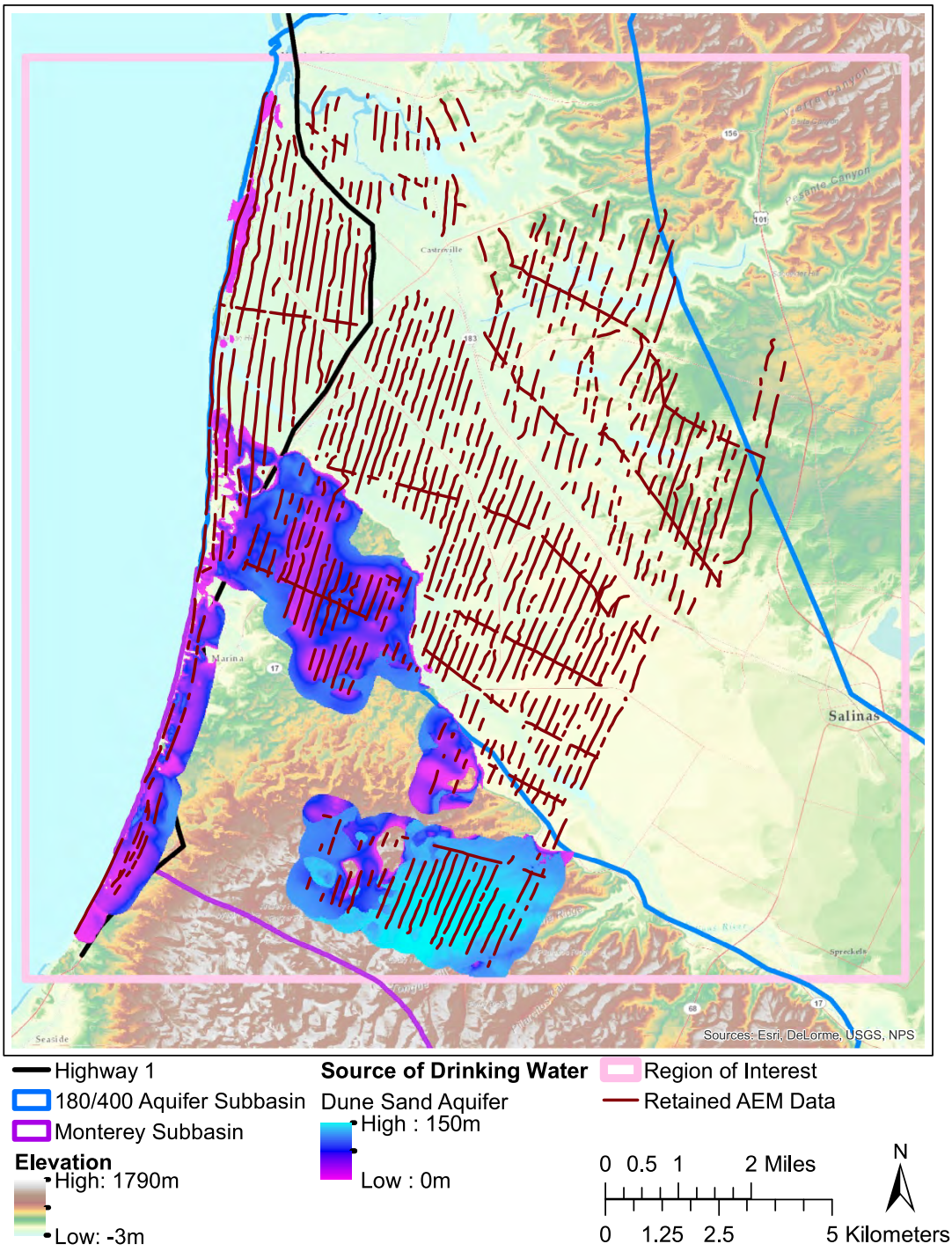



Figure 22: Interpreted thickness of the subsurface containing sources of drinking water within the Dune Sand Aquifer in the region of interest, shown in a color scale ranging from purple to light blue, representing 0 m to 150 integrated meters of the source drinking water, respectively. Overlaying the thickness of sources of drinking water are the locations where AEM data were collected and retained for processing, shown as red lines. The Dune Sand Aquifer lies south of the Salinas River, aside from the dune sand deposits along the coast within the Salinas Valley basin, which are also treated as part of the Dune Sand Aquifer here. The boundaries used in calculating the regions containing sources of drinking water, Highway 1, the 180/400 Aquifer Subbasin, and the Monterey Subbasin, are shown as black, blue, and purple lines, respectively.

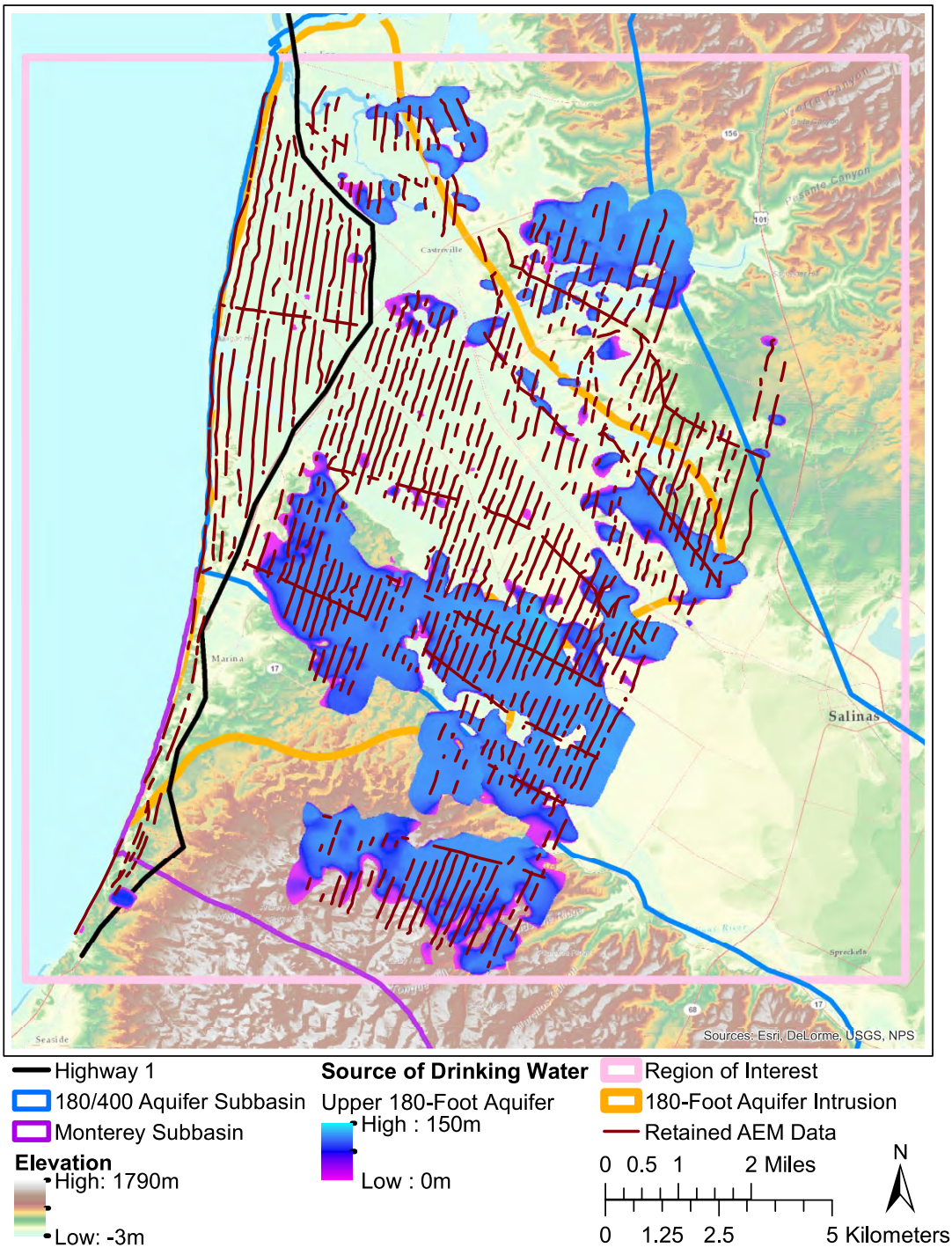



Figure 23: Interpreted thickness of the subsurface containing sources of drinking water within the Upper 180-Foot Aquifer in the region of interest, shown in a color scale ranging from purple to light blue, representing 0 m to 150 integrated meters of the source of drinking water, respectively. Overlaying the thickness of sources of drinking water are the locations where AEM data were collected and retained for processing, shown as red lines. The extent of saltwater intrusion in the 400-Foot Aquifer, as measured by the Monterey County Water Resources Agency, is shown as an orange line. The boundaries used in calculating the regions containing sources of drinking water, Highway 1, the 180/400 Aquifer Subbasin, and the Monterey Subbasin, are shown as black, blue, and purple lines, respectively.

April 12, 2019

Gary Petersen
General Manager
Salinas Valley Basin Groundwater Sustainability Agency
peterseng@svbgsa.org

Dear Mr. Petersen:

**CENTRAL COAST WATER BOARD COMMENTS ON THE SALINAS VALLEY BASIN INTEGRATED GROUNDWATER SUSTAINABILITY PLAN DRAFT: CHAPTER 5, GROUNDWATER CONDITIONS**

The Central Coast Regional Water Quality Control Board (Central Coast Water Board) is a state agency that implements state and federal water quality laws within the Central Coast region. The Salinas Valley groundwater basin falls within the jurisdictional area of the Central Coast region and as such, the Central Coast Water Board has an interest in monitoring, preserving, and restoring water quality within the basin. The Central Coast Water Board has reviewed the draft Chapter 5 of the Salinas Valley Basin Integrated Groundwater Sustainability Plan (GSP) on *Groundwater Conditions* and would like to provide comments on the groundwater quality-related portions of this draft chapter.

**Nitrate**

Item 8 in our May 2018 Central Coast Water Board Meeting agenda package included a staff report[1] that summarized nitrate concentrations throughout the Central Coast Region, including the Salinas Valley. This staff report includes more recent data (2008 – 2018) and data from a greater number of wells (2,235 wells) in the Salinas Valley than the 2015 Central Coast Groundwater Coalition report that is referenced in your Chapter 5. Our May 2018 staff report provides summary statistics for each of the subbasins within the Salinas Valley. Central Coast Water Board staff recommends that this report be utilized as an additional source for assessing current groundwater conditions. In addition, the staff report includes analysis of nitrate concentration trends through time in individual wells, which provides information on the rates at which groundwater is being degraded by nitrate in the Salinas Valley. This supports characterization of groundwater conditions and potentially informs development of the

[1] Central Coast Water Board staff report on groundwater quality conditions in Central Coast Groundwater basins: https://www.waterboards.ca.gov/centralcoast/board_info/agendas/2018/may/item8/item8_stfrpt.pdf

monitoring network that will be evaluating groundwater quality trends. We recommend this additional information be included in the groundwater conditions chapter.

The extent and rate of nitrate migration into the deeper parts of the Salinas Valley basin is a data gap that is not acknowledged by this draft chapter. Because nitrate pollution in the Salinas Valley basin is among the worst in the state[2], the Central Coast Water Board recommends establishing current groundwater quality conditions for different depth-discrete zones in the subbasins of the Salinas Valley. Establishing this "baseline" will allow the Salinas Valley Basin Groundwater Sustainability Agency (GSA) to assess vertical nitrate migration through time and the rate at which that migration is occurring. In addition, characterizing baseline vertical water quality conditions will be useful for assessing if the substantial pumping-induced vertical hydraulic gradients in the Salinas Valley subbasins contribute to water quality degradation. This information would be useful for implementing GSA management decisions (i.e., groundwater pumping scenarios) that accommodate sustainable water resources without negatively impacting water quality.

On page 60 of the draft report, it says that Luhdorf and Scalmanini Engineers (LSCE) mapped nitrate distributions using 758 domestic wells in the Salinas Valley. The 758 wells were not necessarily domestic wells; they were any type of well less than 400 feet deep. The Central Coast Water Board therefore recommends removing the *domestic* qualifier from this sentence and making it clear than all well types were included.

**Salinity**

The draft chapter has little discussion of salinity problems unrelated to seawater intrusion in the Salinas Valley. Mean total dissolved solids (TDS) concentrations in the Salinas Valley Upper Valley, East Side, and Forebay subbasins, where seawater intrusion is not occurring, exceed levels at which salt-sensitive crops begin to experience a decrease in yield. The Central Coast Water Board recommends including a discussion and characterization of groundwater salinity that is unrelated to seawater intrusion in the draft chapter, as it affects numerous users of groundwater, including agricultural and domestic needs. Staff at the Central Coast Water Board can provide further consultation or data on this issue if needed.

**Hexavalent Chromium**

Page 63 of the draft chapter says that hexavalent chromium does not pose a health risk and is only an aesthetic concern. On the contrary, numerous studies have demonstrated that hexavalent chromium poses a health risk. The San Francisco Bay Water Board's Environmental Screening Level (ESL) for hexavalent chromium is 0.02 micrograms per liter (µg/L) and based on the human health risk it poses. The Central Coast Water Board recommends removing all language that indicates that hexavalent chromium poses "only aesthetic concerns."

[2] Harter et al., 2012. Addressing nitrate in California's Drinking Water with a Focus on Tulare Lake Basin and Salinas Valley Groundwater. http://groundwaternitrate.ucdavis.edu/files/138956.pdf

**Major Dissolved Ions**

The Central Coast Water Board recommends that analysis of major dissolved ions be added to the GSP or its implementation. Major dissolved cation and anion composition in groundwater reflects the source of recharge water, lithological and hydrological properties of the aquifer, groundwater residence time, and chemical processes within the aquifer. As such, major dissolved ions are valuable for identifying different groundwater types (via Piper or Stiff diagrams) and for "fingerprinting" source water from individual wells. In addition, ionic charge balance provides quality assurance that all the major ions are included in the analysis and that TDS concentrations are accurate. These considerations are important to developing a hydrogeologic conceptual model and describing groundwater conditions.

**Groundwater Quality Monitoring Constituents**

Regional groundwater quality monitoring is currently being discussed with the Board, and to the extent practicable, the Central Coast Water Board staff would like to coordinate agriculture-related monitoring with SGMA monitoring requirements in order to minimize duplication, maximize resources, and provide mutually beneficial data. This will benefit everyone within the Salinas Valley basin, particularly agricultural operators. The Central Coast Water Board would like to provide comments on the draft sections outlining monitoring program details and is happy to share information during preparation of those sections to help coordinate monitoring programs.

The Central Coast Water Board thanks the GSA for the work being done to sustainably manage groundwater resources in the Salinas Valley and appreciates this opportunity to provide comments. If you have questions or would like to discuss these comments in greater detail, please feel free to reach out to James Bishop, Daniel Pelikan, or Diane Kukol at the Central Coast Water Board:

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Sincerely,

*for* John M. Robertson
Executive Officer

cc:

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TODD GROUNDWATER

April 8, 2019

## MEMORANDUM

**To:** Curtis Weeks, Arroyo Seco Groundwater Management Agency

**From:** Gus Yates, Senior Hydrologist

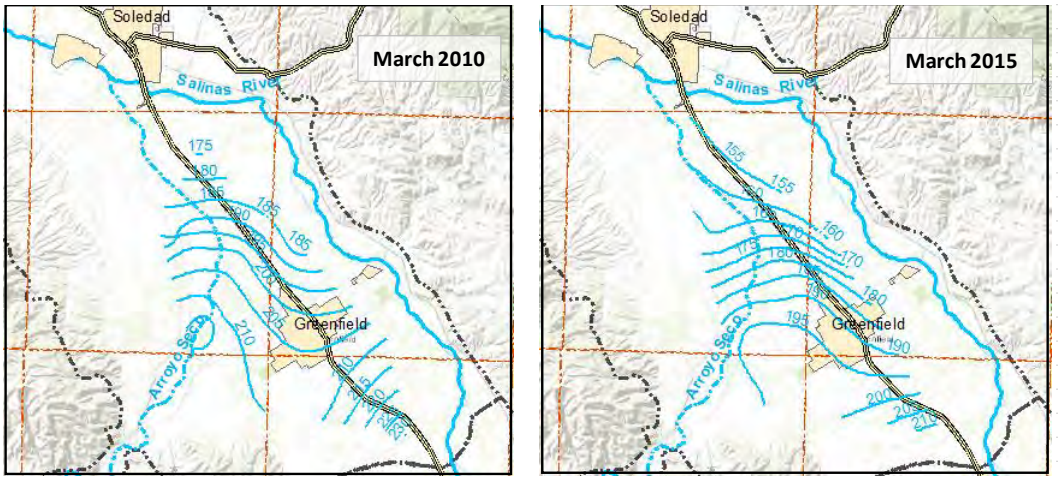
**Re:** Comments on SVBGSA's draft Chapter 5 "Groundwater Conditions" of Salinas Valley Integrated Water Management Plan

I have reviewed the draft of Chapter 5 "Groundwater Conditions" of the Salinas Valley Integrated Water Management Plan released by the Salinas Valley Basin Groundwater Sustainability Agency on March 14, 2019. Overall, the chapter is a good start toward characterizing groundwater conditions. In a number of instances, important local variations to the generalized patterns described in the chapter are overlooked. In other cases, the information presented is misleading or not correct, or editorial changes would improve the presentation. And finally, two important topics are not included in the chapter.

The specific comments below identify areas where improvements are needed. They are organized from beginning to end of the chapter. They are followed by a few comments on topics that were not covered in the report but should be.

### COMMENTS ON ITEMS IN CHAPTER 5

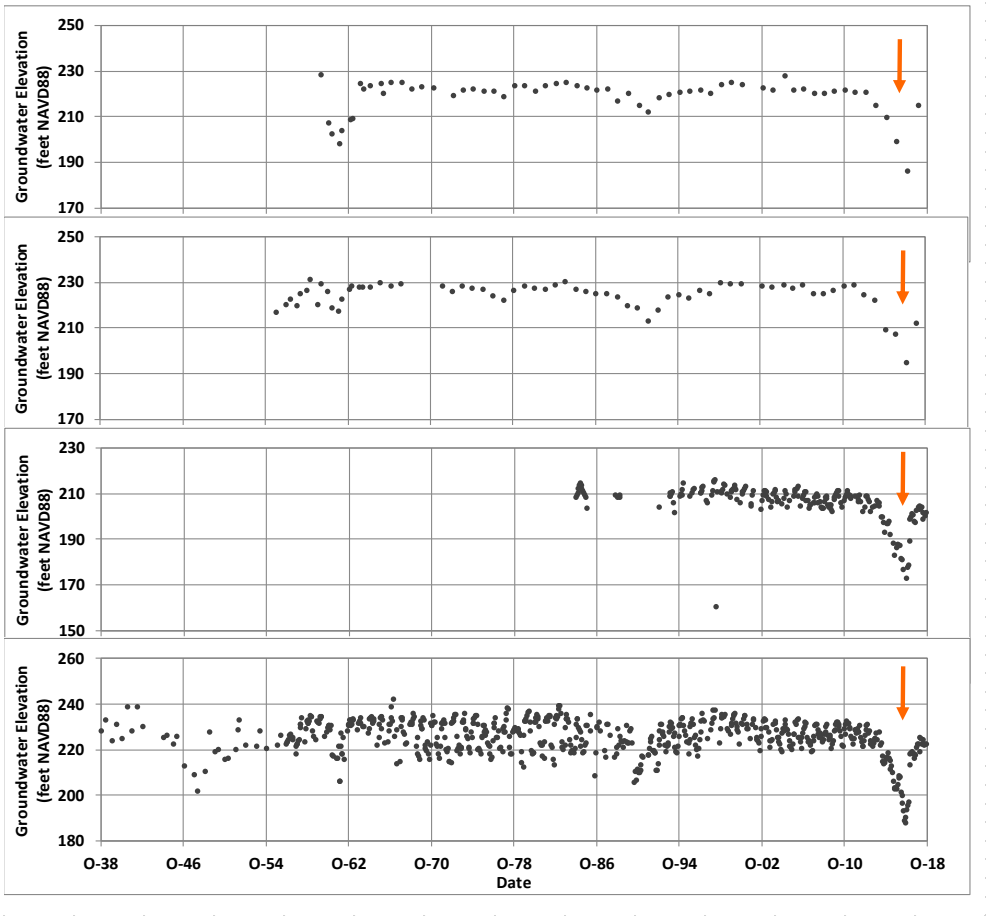
**Page 9 and Figure 5-4. December 1995 groundwater contours.** How was 1995 selected to represent the full spectrum of historical groundwater contours? Especially considering the last 24 years and the variation in climate we have seen over that period. These climate changes will affect the future sustainability planning of the groundwater basin in the Salinas Valley. At a minimum, high and low conditions for wet and dry years, respectively, should be shown, and also seasonal high and low water levels. Seasonal variations are important because they reveal sources of recharge that are not apparent in the December water levels. Shown below, for example, are contours of March water levels in 2010 and 2015 in the southern half of the Forebay Subbasin.



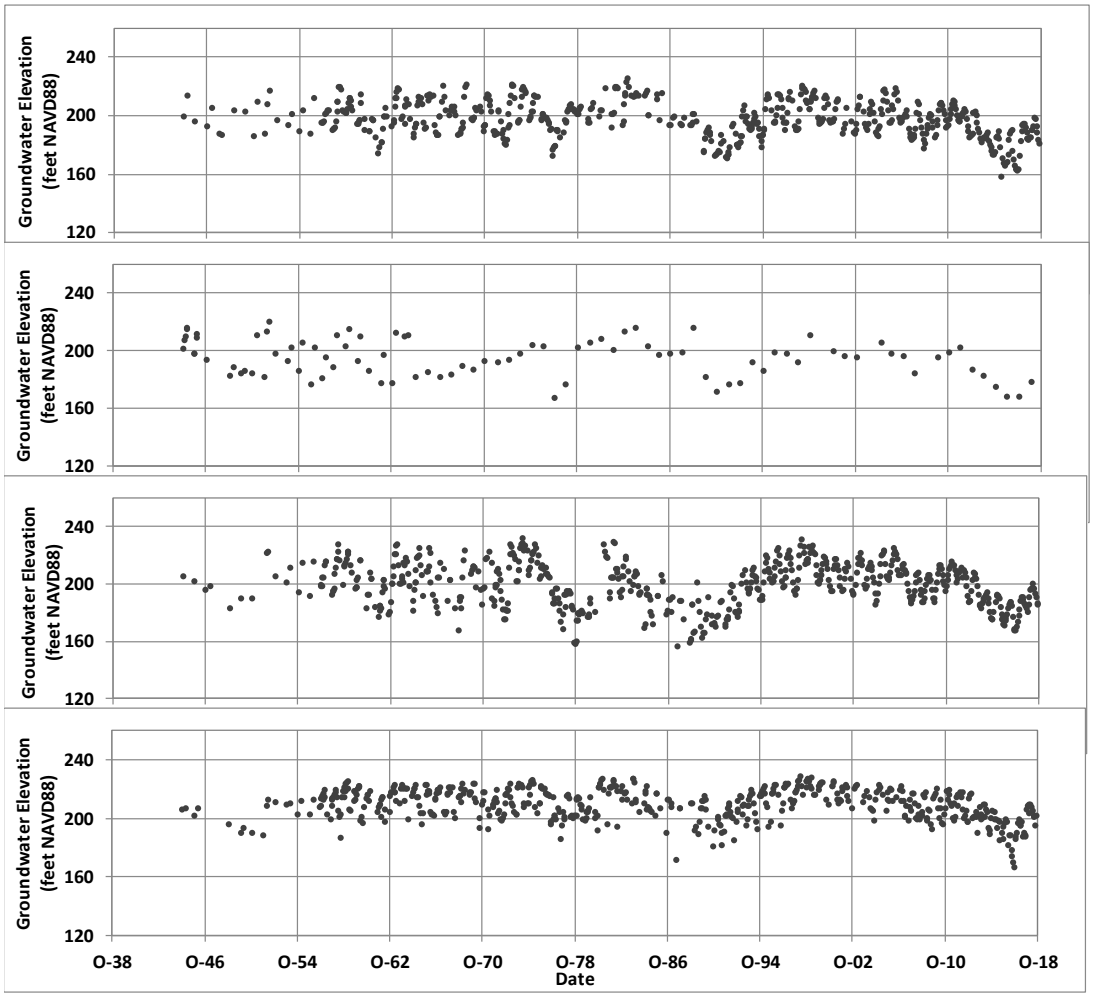

In these spring contours, the effect of Arroyo Seco recharge is prominent. This is particularly noteworthy in spring 2015 when Nacimiento and San Antonio Reservoir releases had been withheld for over two years and Arroyo Seco recharge was critical to sustaining local beneficial uses of groundwater.

**Page 14, Figure 5-6, Figure 5-11 and Appendix 5A: hydrograph confidentiality.**
Confidentiality does not preclude presenting hydrographs in reports, provided the well is not exactly identified. By limiting the presentation of data and discussion to only eight wells (Figure 5-6) or 55 wells (Figure 5-11 and Appendix 5-A) out of the 760 locations where MCWRA has collected water levels is unnecessarily selective excluding the data. In particular, the Forebay and Upper Valley Subbasins are underrepresented in the figures and discussion. Groundwater conditions in the Forebay Subbasin cannot be represented by a single hydrograph, as Figure 5-6 implies. By selectively excluding the data, the report fails to identify and disclose local variations in hydrograph patterns that provide important understanding of the relative influence of various recharge sources and, hence, which variables are important for groundwater management. In general terms, the report does not provide adequate granularity of data analysis, and hence may not correctly reflect groundwater conditions in these subbasins.

Groundwater conditions in the Forebay Subbasin are not homogeneous, as the draft chapter implies. Wells close to the Salinas River have hydrographs with pronounced declines during 2013-2016, as illustrated by these four hydrographs:



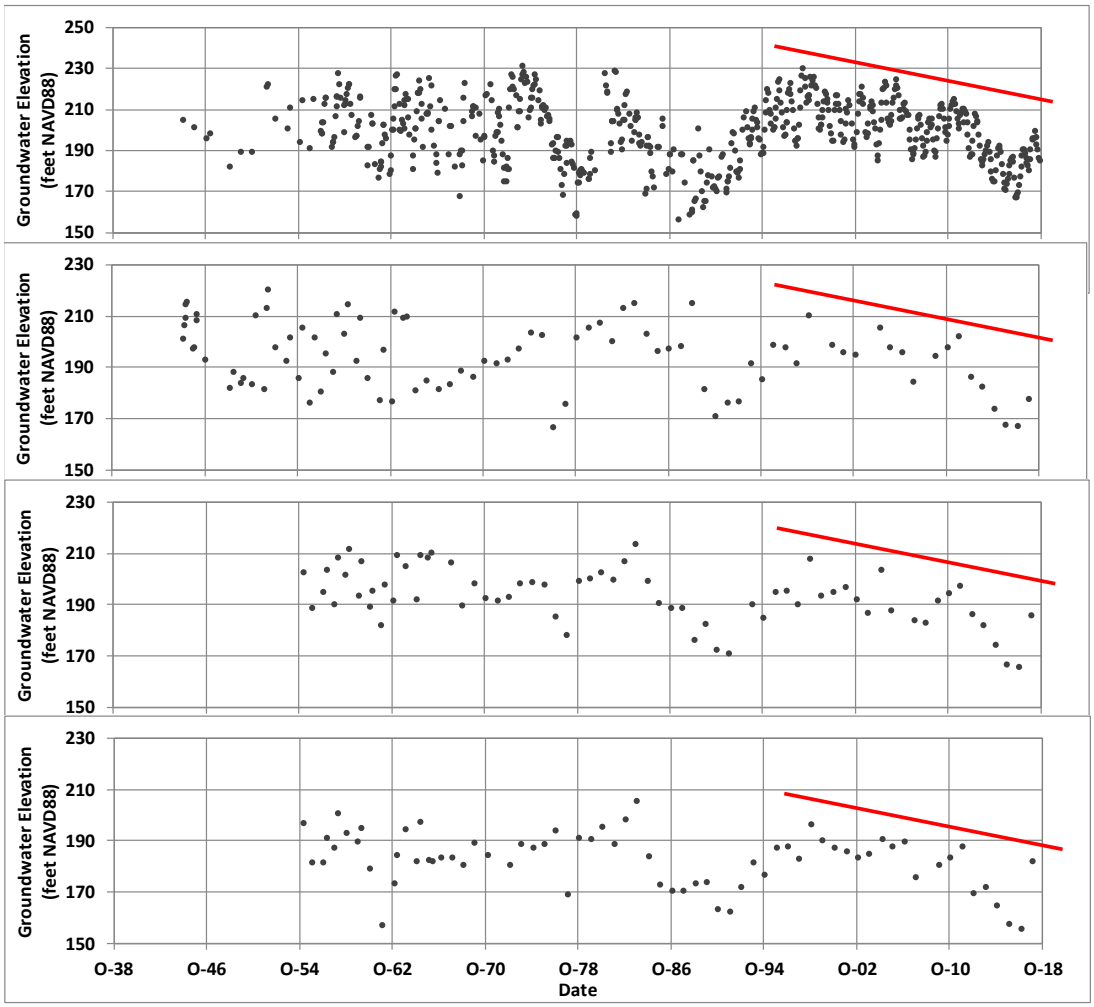

In contrast, water levels in the following set of four wells higher up on the Arroyo Seco Cone show greater seasonal variability but little cumulative decline during 2013-2016:



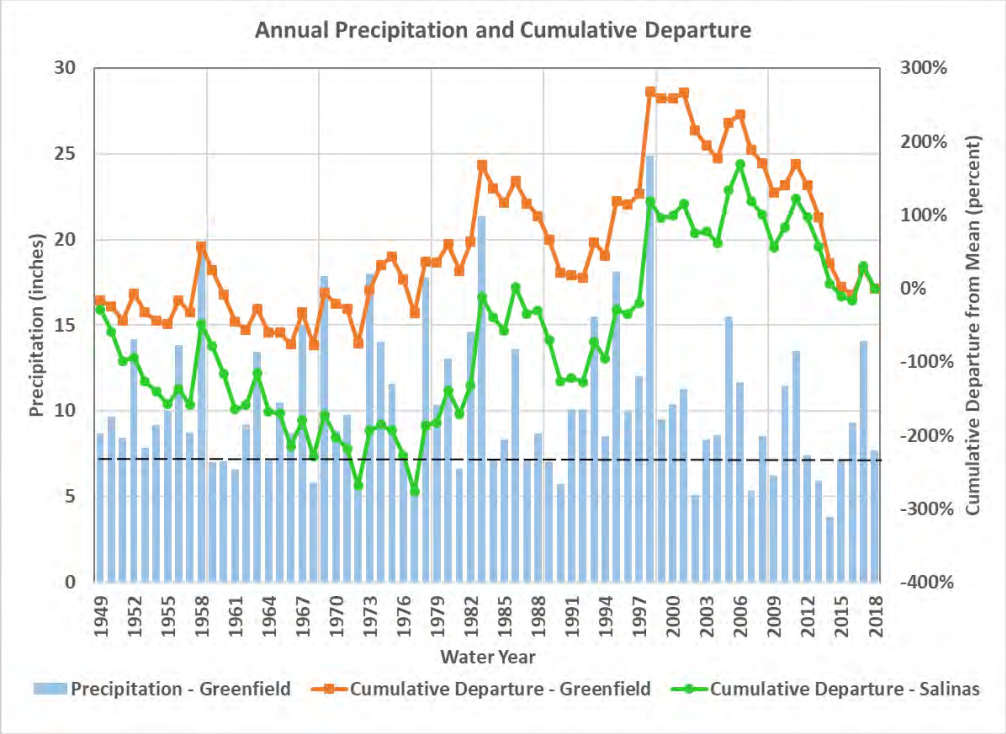

Finally, several wells on the northwestern flank of the Arroyo Seco Cone have declining trends since 1990 that are probably related to intensified local pumping to supply new vineyards in the hills to the west where well yields are poor (see hydrographs, below).

These details matter. The broad brush presentation of water levels in the draft chapter conceals local variability that is relevant to sustainability and management actions.

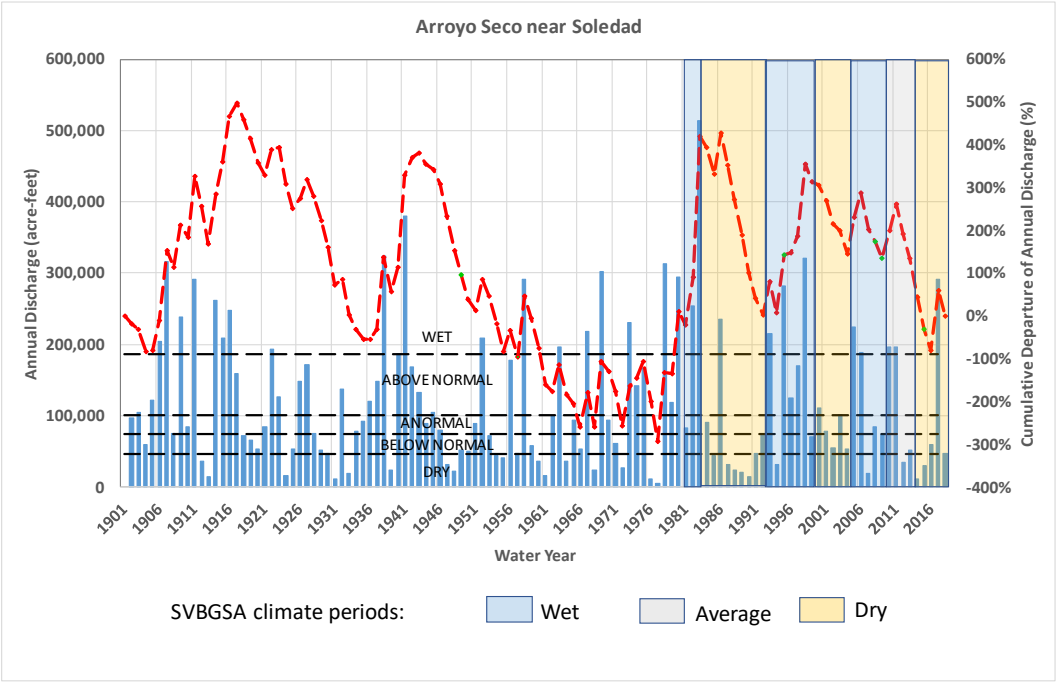
**Figures 5-8 through 5-10. Hydrographs of selected wells.** These hydrographs are duplicates of the ones shown on Figure 5-6. The repetition is unnecessary.




**Page 21, 1st paragraph. Water year types.** The water year types shown as background in Figures 5-7 through 5-10 are based on a Standardized Precipitation Index methodology that this report does not document but that is described in the 180/400 Foot Aquifer and Paso Robles Subbasin draft GSPs. The SPI method using a 5-year backward average of annual precipitation does not adequately represent wet and dry periods related to groundwater for two reasons. First, groundwater levels correlate more closely with runoff than with rainfall. The standard practice for hydrologic analysis in California is to identify wet and dry periods on the basis of cumulative departure plots. The SPI method is seldom, if ever, used. For example, cumulative departure of annual rainfall at Greenfield and Salinas are shown in the graph below. For both stations, missing data were filled by correlation with nearby gauges to ensure a complete record. Both stations show that the wet period culminating in 1998 was a larger event than the wet period culminating in 1983.




However, groundwater levels in almost all Forebay wells were higher in 1983 than in 1998. This suggests that recharge was greater during the earlier event. A cumulative departure of annual discharge in Arroyo Seco—which is unregulated—reveals that with respect to streamflow the 1983 event was bigger than the 1998 event, as shown in the plot below.



The stronger correlation between runoff and groundwater levels means that cumulative departure of annual Arroyo Seco discharge represents climatic periods better than cumulative departure of rainfall and should therefore be preferred for use in groundwater analysis and planning.

The second weakness of the SPI method is that the 5-year averaging method misses the correct starting and ending years of wet and dry periods. To illustrate, the wet, dry and average (or fluctuating) periods shown in Figures 5-7 through 5-10 of draft Chapter 5 are transcribed onto the cumulative departure of Arroyo Seco discharge, above. The 1984-1992 dry period starts two years too early (1987 was the first dry year of that drought). Similarly, the first two years and the last year of 1993-1999 were not wet. The wet period would more accurately be identified as 1995-1998. 2005 and 2006 were wet, but they did not amount to a large wet period. It might be more useful to simply classify 2005-2011 as variable. The Arroyo Seco cumulative departure plot shows the recent drought as comprised of 2012-2016. The SPI approach adds 2011 and omits 2014-2016 from that sequence, thereby significantly underrepresenting the actual duration and severity of dry conditions.

**Page 21, 2nd bullet. Forebay water-level declines.** The statement "Since 1983, groundwater levels in the Forebay have slowly declined, punctuated by two significant declines during the 1989 to 1991 drought and the 2012 to 2016 drought" over-generalizes hydrograph trends in the Forebay Subbasin and needs to be revised. Many hydrographs in the southern half of the Forebay Subbasin (in and near the ASGSA area) do not exhibit a declining trend. In one small area identified above, declining trends can specifically be linked to an increase in local pumping (see third set of hydrographs, above). At the northern end of the Forebay Subbasin, wells would also likely exhibit declines due to the spread of declining trends in the adjacent 180/400 Foot Aquifer and East Side Subbasins. Finally, there is an optical illusion in many hydrographs related to the "since 1983" period, because that period began at the peak of one of the wettest periods on record and ended shortly after a major drought. Thus, the apparent decline from 1983 water levels to 2017 water levels does not represent average annual conditions. Looking at net change from, say, 1986 to 2011 would be more representative of long-term average conditions. During that period, almost no wells in the southern part of the Forebay Subbasin show signs of a declining trend.

**Page 22, 1st bullet. 180/400 and East Side drought declines.** Smaller storage coefficients due to confined conditions would also tend to increase water-level declines during droughts. Some analysis would be needed to differentiate the effects of recharge and storage coefficient on the magnitude and duration of drought declines.

**Figure 5-14. Vertical gradients.** The well pair at the southern end of the Upper Valley area is not representative of the generally unconfined conditions in that area. The text acknowledges that the very large gradient is "unusual". While there may be some value in illustrating local variability, it would be better to show a more typical gradient for the purpose of this summary figure.

**Page 27, Section 5.2, 1st paragraph. Seawater intrusion.** Describing seawater intrusion as a "threat" suggests that it hasn't yet occurred. Rewording such as: "Although those actions

have managed to slow the advance of intrusion and reduce its impacts, seawater intrusion continues to advance" would better characterize reality.

**Page 28 and Figure 5-15. Closed contour.** The description of the figure states that the closed contour at the inland edge of the intruded area in the 180 Foot Aquifer is a local pumping trough. As labeled in the figure (-20 ft msl), it is a local mound, not a trough. Please check whether that is actually a -30 foot contour. Otherwise, the mechanism of repulsion might be due to mounding rather than a trough.

**Page 33, 3rd paragraph. Intrusion and pumping depressions.** The text states that intrusion will slow down and stop when it reaches a pumping depression. This presumes that the well owners will continue to pump when saltwater arrives. Given that as little as 10 percent seawater in a well will render it unusable for irrigation, it is unlikely that the wells that created the water-level depression will continue to operate.

**Figure 5-19 and page 37, 2nd bullet. Forebay storage trends**. Please see the above comments regarding the discussion of water level trends on page 21, 2nd bullet. The same issue is repeated here in the discussion of storage. First, the large declines during the 2012-2016 drought occurred primarily at wells near the Salinas River. Wells on the Arroyo Seco Cone showed much smaller declines. Second, the supposed declining trend from 1983-2017 may be an illusory result of selecting a period that began very wet and ended very dry. A more representative period should be selected for trend analysis. Finally, the storage declines during 1944-1950 were likely due in part to the exceptionally dry runoff conditions that prevailed during those years (see Arroyo Seco cumulative departure graph, above) rather than to the presence or absence of reservoirs.

**Page 38, 3rd sub-bullet. Storage declines 1998-2017.** Again, the selection of an analysis period that starts very wet and ends just after a major drought exaggerates the amount of storage decline. The estimate of 460,000 AF of storage decline is not representative of current average annual conditions.

**Page 39, Section 5.4, 1st sentence. Subsidence monitoring.** Stating that subsidence "is not closely monitored" conflicts with the subsequent material describing two ongoing monitoring programs: InSar and UNAVCO. The former provides detailed spatial coverage (although it excludes the 180/400 Foot Aquifer area and most of the East Side Area—which can be viewed as a data gap), and the UNAVCO stations provide detailed temporal coverage. The two sources of information are being combined to evaluate subsidence in the southern part of the Forebay Subbasin for the ASGSA GSP.

Also, the subsidence discussion would be improved by differentiating elastic subsidence—which is very evident in the UNAVCO data—from inelastic subsidence, because only the latter is of significant concern.

**Page 43, 1st paragraph. Recharge through the Salinas Valley Aquiclude.** The text perpetuates the out-of-date and oversimplified hypothesis that no recharge to the 180-Foot Aquifer occurs from percolation through the Salinas Valley Aquiclude. More recent evidence

from hydrostratigraphy, geochemistry and groundwater modeling have de-bunked that myth. The following analysis of those data were presented in a technical memorandum to support environmental analysis of percolation from the Salinas Industrial Wastewater Treatment Facility (Todd Groundwater, February 2015; accessible on-line as Appendix N in Volume 2 of the Pure Water Monterey Consolidated Final EIR at http://purewatermonterey.org/reports-docs/cfeir/ ):

> "To reach the 180-Foot aquifer, groundwater in the shallow aquifer must flow downward through the Salinas Valley Aquitard (SVA). The SVA is a shallow fine-grained layer that has traditionally been viewed as an extensive, continuous, impermeable clay cap that restricts direct downward recharge to the 180-Foot aquifer. Water levels in the 180-Foot aquifer are much lower than shallow groundwater levels, which suggests that overall vertical permeability is low but not necessarily zero. In 2011, groundwater elevation in the 180-Foot aquifer near Salinas Treatment Facility was -18 ft (i.e., below sea level), while water levels in shallow wells near the ponds were 12-33 ft above sea level. This substantial downward gradient will induce downward flow if permeable pathways are present.
>
> Evidence that recharge occurs through the SVA comes from detailed stratigraphic analyses and groundwater model calibration. One of the most detailed evaluations of aquifer stratigraphy in the vicinity of the Salinas Treatment Facility focused on the area encompassed by Alisal Slough, Highway 68 and the Salinas River, which includes the Salinas Treatment Facility (Heard, 1992). Texture descriptions from 117 cable-tool driller's logs were classified into coarse and fine categories and mapped at 20-foot depth intervals from the ground surface down to 340 feet. Overlaying these maps reveals vertical continuity of coarse deposits through all but one of the top seven layers (a total vertical interval of 140 feet) in several locations, each covering about 1 square mile:
>
> - Near the Salinas Treatment Facility across South Davis Road
> - Near the intersection of Blanco Road and Highway 68, about 2.5 miles east of the Salinas Treatment Facility
> - Along Davis Road between Blanco Road and Castroville Road, about 2.5 miles northeast of the Salinas Treatment Facility
>
> A small amount of horizontal flow within the remaining depth interval would allow groundwater flow to link up gaps between clay lenses and continue moving downward.
>
> Heard also evaluated groundwater quality patterns and discovered that groundwater in the 180-Foot aquifer in the study area was slightly enriched in sulfur relative to other dissolved minerals. The only geochemically plausible source of the enrichment was determined to be gypsum, which is commonly applied to heavy soils in the area to maintain soil texture. To arrive

at the 180-Foot aquifer, the dissolved gypsum would have had to percolate downward through the SVA. Nitrate is also elevated in some 180-Foot aquifer wells in the area and also derives from fertilizers applied at the land surface.

Another detailed stratigraphic study of the region between Spreckels and the coast included cross sections showing the SVA missing at various locations (Kennedy/Jenks Consultants, 2004). The cross sections were developed from geologic logs prepared by well drillers, and most of the logs were from irrigation wells. Although often close to other wells where the SVA is present, wells that show gaps in the SVA include several near the Salinas Treatment Facility in the region between Salinas and the Salinas River (at wells APN-414021010, 15S/03E-04T50, 15S/03E-17B3, and 15S/03E-17M1). The description of SVA hydrogeology in the Monterey County Groundwater Management Plan reiterates the concept of local discontinuity (MCWRA 2006).

A groundwater flow model of the Salinas Valley, called the Salinas Valley Integrated Surface and Groundwater Model (SVISGM), has been used extensively by Monterey County Water Resources Agency (MCWRA) for water planning studies over nearly 20 years. The calibrated model includes recharge from the ground surface to the 180-Foot aquifer. The 180-Foot aquifer is present only in the Pressure Area, which occupies the southwestern half of Salinas Valley between Gonzales and Monterey Bay. In most parts of the Pressure Area, recharge to the 180-Foot aquifer from the ground surface would have to pass through the SVA (MWH, 1997). The shallow aquifer and SVA are not explicitly represented in the model, but their effects are reflected in the amount of downward recharge that accrues to the 180-Foot aquifer. During the 1970-1994 calibration period, there was an average of 54,000 AFY of recharge to the 180-Foot aquifer in the Pressure Area from deep percolation of rainfall and applied irrigation water and 60,000 AFY of recharge from Salinas River infiltration, some of which must also pass through the SVA. Together, these recharge sources accounted for 79% of total recharge to the 180-Foot aquifer in the Pressure Area. However, much of the downward recharge to the 180-Foot aquifer in the model could have been in the southern part of the Pressure Area (between Gonzales and Chualar), where the SVA is known to be discontinuous or absent.

The above lines of evidence lead to a conclusion that Salinas Treatment Facility percolation that does not seep into the river very likely becomes recharge to the 180-Foot aquifer. During 2013, this recharge amounted to 550 AF, or 20% of total Salinas Treatment Facility percolation."

**Page 43, 1st paragraph. SFEI reference.** The list of references at the end of the chapter does not include the 2009 San Francisco Estuary Institute report.

**Page 43, 4th paragraph. GW/SW hydraulic connection.** Mapping places where groundwater levels in wells are within 20 feet of the land surface is a reasonable first-cut screening tool for identifying locations where surface water and groundwater might be hydraulically coupled, but a depth to water of 20 feet is insufficient to demonstrate that coupling is present. Unless groundwater levels are **above** the river elevation—in which case coupling is very likely—the presence of coupling depends on the amount of mounding of the water table beneath the river and on vertical gradients within the aquifer system between the well screen and the true water table. In addition, few of MCWRA's water-level monitoring wells are next to the Salinas River channel, so there is additional uncertainty related to horizontal gradients between the well location and the river. This uncertainty in the local three-dimensional head pattern must be treated as a data gap that needs to be filled by measuring water levels in shallow piezometers in or adjacent to the river channel.

Two studies by Martin Feeney in 1994 specifically address water table mounding and surface water/groundwater hydraulic coupling (Feeney, 1994a and 1994b). The first study focused on the Arroyo Seco and found that in the relatively coarse-grained sediments beneath the river channel the water table beneath the river was 4-5 feet higher than the water level in wells 2,000 feet away during periods of active river recharge. At that location (Hudson Road), the seasonal high water table was still 20 feet below the river bed and there was no hydraulic coupling. The second study attempted to confirm and measure hydraulic connection between the Salinas River and groundwater at a location downstream of the Arroyo Seco confluence by means of an aquifer test. Interpretation of the data proved to be more difficult than expected. The report concluded "insufficient data currently exist documenting the nature of the hydraulic connection between the river and aquifer system….Water level data will be required to assess the nature of the hydraulic connection of the river and aquifer, both seasonally and areally….. Water level data near the river are considered essential for understanding the interaction between the river and aquifer."

Based on those studies, the mere presence of water levels in wells somewhat close to the Salinas River that are 20 feet below the river bed is insufficient evidence to conclude that hydraulic connection is present. Furthermore, flow losses simulated by groundwater models are also not confirmation of hydraulic connection. The surface water routing packages in those models (MODFLOW, IGSM, FEMFLOW3D) simulate percolation as coupled or uncoupled, depending on whether the groundwater level at the river node is above or below the river bed elevation, but none of the models had data to confirm whether unsaturated decoupling is present nor the fine-scale vertical and horizontal discretization that would be needed to accurately simulated the local mounding and vertical gradients involved. The models could have obtained good results for simulated stream flow losses and groundwater levels with coupled or decoupled river percolation.

The lack of shallow water level data along rivers is an important data gap, as Feeney emphasized back in 1994. The presence or absence of hydraulic connection has significant implications for groundwater management and protection of riparian and aquatic habitats. If river percolation becomes decoupled as groundwater levels decline, for example, then further decreases in groundwater levels have no additional impact on percolation losses,

and the habitats are then almost entirely dependent on surface flow supplied by reservoir releases.

**Page 43-44. Recharge to 180 Foot Aquifer through SVA.** Please see the previous comment on this topic. The statement that the A aquifer above the Salinas Valley Aquiclude "is not an important water-supply source" incorrectly characterizes the situation, and dismissing that source of recharge from further discussion is unjustified.

**Page 44, 1st full paragraph. Vertical water level differences.** The differences in water levels between wells and an overlying river does not necessarily prove hydraulic decoupling. In coarse-grained materials (such as described along the Arroyo Seco in a previous comment), a well water level 20 feet below the river might be associated with decoupling. In fine-grained sediments that are more common near the coast, a water-level difference that was uncoupled at the Arroyo Seco might be accommodated within a fully saturated flow system. For example, the fall 2017 water levels in the 180 Foot Aquifer as contoured by MCWRA (see Figure 5-2) are at lowest 10 feet below sea level. The Salinas River bed elevation at the same location is perhaps 20 feet above sea level. Dividing this water level difference of 30 feet into a vertical distance of 180 feet produces a gradient of 0.17, which is easily plausible for a fully saturated system (gradients of up to 1.00 can be present under saturated conditions). Large vertical gradients certainly demonstrate resistance to vertical flow, but do not necessarily demonstrate decoupling.

**Figure 5-23 and page 43 Section 5.5.1 1st paragraph. Depth to water contours.** The detail shown in this figure is misleading. Depth to water was not measured at that level of detail, as the text implies. Instead, high-resolution ground elevation data were combined with very poor depth to water data (interpolated between sparse wells far from the river using measurements that are not the true water table). This limitation needs to be communicated in the text.

**Page 47, Section 5.5.2. "Surface Water Depletion Rates".** The word "depletion" in the heading should be replaced with "percolation". The stream flow data presented in the discussion do not demonstrate hydraulic connection, which is a prerequisite for active depletion of surface water by pumping from a nearby well. All of the observed losses could have occurred under decoupled conditions. The report needs to be accurate and precise in all discussions of river percolation and state whether we know for certain that it is coupled or decoupled. That difference has important implications for the potential impacts of pumping on groundwater dependent ecosystems.

**Page 51, 4th bullet. Vertical recharge to 180/400 Foot Aquifer.** The wording here is much better than in prior passages on this topic. Stating that "the presence of aquitards restricts the vertical migration of groundwater downward into the more productive 180/400 Foot Aquifers" describes the situation well.

**Page 53, Table 5-4. River infiltration losses.** It seems counterintuitive that the average flow loss for Salinas River flows of 5,000-10,000 cfs is larger than the average loss when flows are 10,000 – 100,000 cfs. Please explain.

**Page 53, 2nd bullet. Arundo donax ET.** Arundo is an aggressive invader, but studies of its ET rate have produced highly variable results. It may or may not be greater than cottonwood/willow ET. A study of Mojave River riparian vegetation found that cottonwood/willow consistently had highr ET rates than Arundo, saltcedar and several other vegetation categories (Mojave Water Agency, 2011). However, a recently released review of scientific literature on Arundo water use by The Nature Conservancy (2019) found widely disparate results (1 ft/yr to 48 ft/yr of ET) that correlated strongly with the method used for measurement.

**Figure 5-27. Salinas River flow loss.** Is the lower bound of the Y axis clipped in this plot, or are all data points visible? This graph shows that the net change in flow along the Salinas River is sometimes positive and sometimes negative. However, its usefulness is greatly limited by the lack of data on tributary inflows other than from the Arroyo Seco. Are flow gains up to 500 cfs from groundwater discharge realistic?

**Figure 5-28 and Table 5-5. Active cleanup sites.** The list of sites should be pared down to include only ones where groundwater has been contaminated. Geotracker lists many sites where only soil is contaminated and the likelihood of subsequent groundwater contamination is negligible. For example, the site in Greenfield identified as "Reconstrution of Mary Chapa and El Camino Real School Sites" involves slight soil contamination from old land uses (more than 25 years ago). The contamination may be an issue with respect to direct exposure of school children to the soil, but not with respect to groundwater.

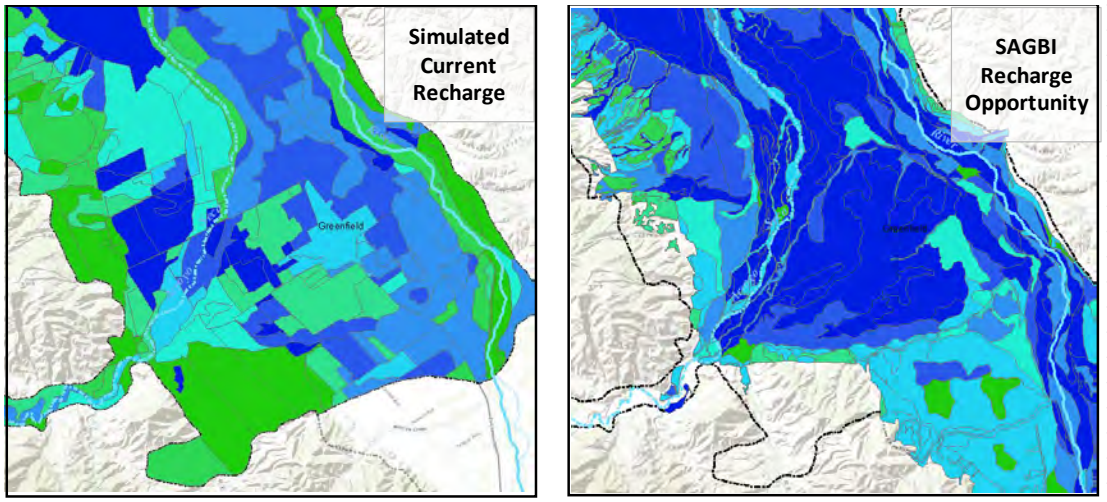
**Figure 5-30. Historical nitrate maps.** These maps are great but quite grainy. Is it possible to obtain higher-quality images?

**Page 65, Section 5.6.3. List of monitoring constituents.** Iron, manganese molybdenum, NDMA, sulfate and TDS are all listed twice.

## COMMENTS ON TOPICS THAT SHOULD BE INCLUDED IN CHAPTER 5

**Locations of Recharge.** GSPs are required to include maps of recharge locations, and such a map should also be included in the Valleywide Plan. Based on draft materials for the Paso Robles and 180/400 Foot Aquifer GSPs (prepared by the same consultant team), it is likely that the SAGBI map of recharge opportunity would be used for that purpose. However, the SAGBI map is not a map of where recharge currently occurs. It is a map of favorable locations for percolating water at high rates through the soil zone only. The two are not the same. Dispersed recharge through soils typically occurs at rates well below soil permeability and is determined more by the water balance of the root zone than by permeability. If infiltration of rainfall or applied irrigation water raise the water content in the root zone to above its storage capacity (root depth x available water capacity), then excess water will percolate downward and eventually reach the water table. Thus, dispersed recharge occurs wherever rainfall or irrigation occur, which is essentially the entire land surface overlying the Basin. The maps below compare current recharge in the southern part of the Forebay Subbasin simulated using a recharge-runoff-rainfall model (continuous, daily soil moisture budget simulation averaged over 1997-2008) with the SAGBI recharge opportunity map.

Both maps are color scaled so that green is low and dark blue is high. The simulation of current conditions shows the large differences between non-irrigated vegetation, truck crops, vineyards and urban areas. The SAGBI map reflects primarily soil characteristics. The two are very different.




**Role of Reservoir Operation on Groundwater Conditions.** The Valleywide Plan must include a thorough discussion of the conjunctive linkage between reservoir operation and groundwater conditions. Any effort to manage groundwater must start with that knowledge. The most important aspect of the system is that Nacimiento and San Antonio Reservoirs delay the impacts of groundwater pumping to droughts. Under current operation, conservation releases from the reservoirs are managed primarily to achieve a target flow at the Salinas River Diversion Facility near the downstream end of the Valley. Releases are adjusted to overcome whatever percolation losses occur en route. If groundwater pumping goes up and induces additional percolation, the release rate is increased to overcome the additional losses. By the same token, the river percolation prevents groundwater levels from declining in spite of the increased pumping. However, the compensatory increase in release rate depletes reservoir storage at a faster rate and hastens the date at which storage is so depleted that conservation releases simply cannot be made. Releases are then curtailed until the next wet year arrives to replenish reservoir storage. Curtailment of releases—particularly for multiple years in a row—causes sharp declines in groundwater levels and mortality of riparian vegetation.

Current reservoir operating rules do not appear to manage carry-over storage as a means of delaying and possibly shortening periods of curtailed releases. The February 2018 Nacimiento Dam Operation Policy expresses an intent to develop a Drought Contingency Plan (which would presumably address carry-over storage needs), but 60 years after the reservoir was built there still is no such plan.

The accumulation of groundwater pumping effects in reservoir storage can also be viewed as an indirect “depletion of surface water”. Even if percolation along the river were

hydraulically decoupled, the amount of depleted groundwater storage space that needs to be filled would depend on the amount of prior groundwater pumping. Thus, the reservoirs can serve to shift the depletion to a later date.

The impacts of reservoir flow curtailment are not just on groundwater levels, but also on riparian vegetation. In normal and wet years, the Salinas River channel functions as an irrigation furrow supplying water to riparian vegetation nearly continuously throughout the dry season. The vegetation thrives regardless of groundwater levels. When releases are curtailed, groundwater levels also drop and vegetation loses access to both sources of water. There was widespread mortality of mature cottonwood trees along the river as a result of the 3-year flow curtailment during 2013-2015, for example. The relative importance of surface flow and water table depth for survival of the vegetation is unknown and is a notable data gap.

These aspects of interrelationship between groundwater conditions and reservoir operation should be included in Chapter 5.

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COMMUNITY WATER CENTER
EL CENTRO COMUNITARIO POR EL AGUA

UC Davis Aoki
Water Justice Clinic

July 10, 2019

Salinas Valley Basin Groundwater Sustainability Agency
Attn: Gary Peterson, General Manager
peterseng@svbgsa.org
*VIA ELECTRONIC MAIL*

**Re: Comments on Draft Chapter 6 ("Water Budgets") for the 180/400-Foot Aquifer Subbasin Groundwater Sustainability Plan**

Dear Salinas Valley Groundwater Sustainability Agency Board Directors, General Manager Peterson, and Advisory Committee:

We thank you for the opportunity to comment on draft chapters of the Groundwater Sustainability Plan ("GSP") for the 180/400-Foot Aquifer Subbasin of the Salinas Valley Basin.

**Recommendation 1: For both practical and legal reasons, we strongly encourage you to revise your calculations of sustainable yield to include and abate all six undesirable results enumerated in the Sustainable Groundwater Management Act (SGMA).**

As currently written, Chapter 6's definition of sustainable yield fails to comport with the statutory definition. SGMA defines sustainable yield as "the maximum quantity of water . . . that can be withdrawn annually from a groundwater supply without causing an undesirable result." Water Code § 10721(w). SGMA explicitly requires that groundwater be managed in a way that avoids negative impacts to beneficial users *and* all six undesirable results. Those undesirable results include: (1) chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon; (2) significant and unreasonable reduction of groundwater storage; (3) significant and unreasonable seawater intrusion; (4) significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies; (5) significant and unreasonable land subsidence that substantially interferes with surface land uses; and (6) depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of that surface water. *Id.* § 10721(x). The undesirable results are cumulative, not disjunctive. GSPs must evaluate all six undesirable results, and any interactions between those results, to satisfy SGMA.

Despite SGMA's clear definition of sustainable yield and sustainable groundwater management, the current draft of Chapter 6 relies on only one indicator of sustainability and one undesirable result. The proposed draft defines sustainable yield as "an estimate of the quantity of groundwater that can be pumped on a long-term average annual basis without causing a net decrease in storage." *See* Draft Chapter 6 180/400-Foot Aquifer Subbasin GSP page 24, section 6.8.4 (June 17, 2019, included in advisory committee meeting packet). There is no legal or scientific basis for that definition of sustainable yield.

We are concerned that the current sustainable yield calculation fails to inform the public and GSA of the actual net amount of water that can be extracted from the subbasin while avoiding all six undesirable results. Establishing a sustainable yield that adequately takes into consideration all undesirable results is a foundational step for developing appropriate sustainable management criteria and for accurately planning for the management actions and projects necessary to meet sustainable management criteria. For example, during the project development phase, the GSA will need to understand the scale and size of recharge or other projects required to stop seawater intrusion. At a minimum, the sustainable yield calculation must adequately consider all undesirable results in order to provide a reliable foundation for setting and meeting minimum thresholds and measurable objectives, determining extraction and recharge levels, and monitoring.

The Department of Water Resources' (DWR) Draft Best Management Practices for Sustainable Management Criteria ("Draft BMP")[1] states that "[s]ustainable yield can only be reached if the basin is not experiencing undesirable results . . . [u]ndesirable results must be eliminated through the implementation of projects and management actions, and progress toward their elimination will be demonstrated with empirical data (e.g., measurements of groundwater levels or subsidence)." From a practical perspective, the 180/400-foot aquifer subbasin GSP already faces several undesirable results, and it will need to develop projects and regulations that rely on the sustainable yield measure to avoid exacerbating all six undesirable results. As currently drafted, the sustainable yield calculation does not provide the GSA with the information it needs to be able to prevent or improve groundwater conditions that cause those undesirable results.

Moreover, the Groundwater Sustainability Plan Regulations ("Regulations") do not recognize change in storage as an acceptable proxy for the other sustainability indicators or undesirable results. The Regulations clearly state that only groundwater elevation may be used as a proxy

[1]https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-6-Sustainable-Management-Criteria-DRAFT.pdf





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metric for the sustainability indicators for minimum thresholds and measurable objectives. 23 CCR §§ 354.28(d) & 354.30(d). Groundwater elevation can only be used as a proxy metric if both of the following conditions are met:

> (1) Significant correlation exists between groundwater elevations and the sustainability indicators for which groundwater elevation measurements serve as a proxy. (2) Measurable objectives established for groundwater elevation shall include a reasonable margin of operational flexibility taking into consideration the basin setting to avoid undesirable results for the sustainability indicators for which groundwater elevation measurements serve as a proxy. 23 CCR § 354.36(b)).

By focusing solely on groundwater storage, draft Chapter 6 fails to identify the relationship between the water budget, current undesirable results, and the possibility of worsening all six undesirable results if the water budget is improperly calculated. As a result, the draft water budget reinforces current unsustainable groundwater uses, risks further degradation of groundwater supplies, and fails to adequately prioritize beneficial uses and protect groundwater stakeholders' interests.

The calculation of sustainable yield is at the heart of all Groundwater Sustainability Plans, and those Plans derive all other components from this important determination. Because the draft GSP ties sustainable yield to an improper metric that is not recognized by statute or regulation as acceptable, it is likely that DWR will find the draft 180/400-Foot Aquifer Subbasin GSP to be inadequate, creating the risk that the Basin will fall under probationary status.

**Recommendation 2: We request that you release the data and assumptions underlying Chapter 6's sustainable yield calculations, water budget calculations, and groundwater model. We encourage the GSA to ensure compliance with SGMA and California administrative law by releasing the data, methodologies, technical appendices, model assumptions, model inputs/outputs, sources, and all other relevant model parameters when draft chapters are released to the public for review and comment. We request that the GSA ensure that all relevant data is released concurrently with draft chapters for all future draft chapters.**

SGMA, California administrative law, and the Brown Act require GSAs to release to the public all data, research, sources, assumptions and inputs, outputs, the formulae applied to those inputs, and the ultimate results of a formula or model as part of the public comment process.





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23 CCR §§ 352.4(f) & 354.14. DWR's Draft BMP also encourages transparency in the use and disclosure of models used to support SGMA's requirements.

In the context of GSPs, the purpose of public comment is to allow the public to engage meaningfully in the public decision making process, which in turn will strengthen the reliability and accuracy of GSPs. That data must be publicly accessible and is a critical factor in gaining consensus on groundwater projects, groundwater pumping restrictions, potential groundwater fees, prioritization of beneficial uses, and other groundwater regulations. Draft Chapter 6 currently fails to provide the GSA and the public with sufficient background information to support the chapter's sustainable yield calculations and the groundwater model itself.

Timely disclosing source material and key assumptions is necessary to ensure the GSP is accurate and that the public is able to ground truth those assumptions. For example, during the June 20, 2019, advisory committee meeting, the GSA's consultant informed the public that the proposed "sustainable yield" calculation assumes that the Castroville Seawater Intrusion Project (CSIP) will function "perfectly." Many of those in attendance questioned that assumption, as it is impossible to ensure a project will operate perfectly. Failure to account for the reality that the project will not always operate "perfectly" introduces unquantified uncertainty into the sustainable yield calculation. As a result, the proposed calculation may be inaccurate, which may exacerbate undesirable results—including seawater intrusion—in the subbasin. At a minimum, the GSP must consider alternative calculations that account for the reasonable and foreseeable possibility that the project may operate below "perfect" performance in order to create an accurate accounting of sustainable yield. In fact, in its Draft BMP, DWR explicitly notes that GSPs must acknowledge uncertainty and address how the plan will address that uncertainty. By failing to disclose to the public the assumptions incorporated in draft Chapter 6, the GSP may rely on any number of faulty assumptions that undermine the reliability, reality, and accuracy of the sustainable yield calculation and groundwater model.

We are asking the GSA to make all assumptions transparent and clear in the plan itself, to engage stakeholders and the public in discussion of those parameters and assumptions, and to make decisions with knowledge of the limitations of whatever formulae or models are adopted. When DWR reviews plans, it will assess "[w]hether the projects and management actions are feasible and likely to prevent undesirable results and ensure that the basin is operated within its sustainable yield." 23 CCR § 355.4(b)(5). Failure to account for and disclose the assumptions in the sustainable yield calculation places the basin at substantial risk of failing to pass DWR's evaluation or to ensure sustainable yield is met.





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It is challenging to provide feedback regarding Chapter 6's models and its sustainable yield calculation without publicly available supporting documentation on how calculations have been made. We request that the GSA immediately:

1. Disclose the technical appendix, supporting documentation and research, groundwater model,, sustainable yield formula, methodologies for the groundwater model and sustainable yield formula, and model assumptions and limitations at the time it releases draft Chapter 6 for public review and comment. Disclosure should be made by posting this information to the GSA website and contacting all interested parties.
2. Update its timeline to ensure technical appendices, supporting data and research, and all related information are released when public comment opens for each draft chapter and the final draft GSP;
3. Distribute a revised draft Chapter 6 that includes the Advisory Committee and stakeholders' requested changes.

We look forward to working with the Salinas Valley Basin GSA to ensure that the GSP complies with its legal obligations, that the GSP adequately addresses drinking water needs, and that stakeholders and the public have access to the information necessary to be able to engage in this process.

Sincerely,

Heather Lukacs
Community Water Center

Camille Pannu
Founding Director, UC Davis Aoki Water Justice Clinic

Thomas S. Virsik
ATTORNEY AT LAW

10 July 2019

To: Salinas Valley Basin Groundwater Sustainability Agency (GSA) Board of Directors

Re: July 11, 2019 meeting

Agenda Item 4.a
ASGSA coordination

Agenda Item 4.b
Chapter 6 of 180/400 GSP

ASGSA Coordination

On behalf of the Orradre and Scheid interests -- both of which have interests and/or lands in or near the Arroyo Seco area, a coordination agreement for a management area under the jurisdiction of the Arroyo Seco GSA (ASGSA) appears premature. Any concern is borne of ignorance, not animosity. Several maps exist of the current, projected, and other configuration of the lands that may be the management area of the ASGSA, e.g., at the DWR portal and in ASGSA public documents. The maps tend to appear "ragged" or riddled with "holes." Such maps may not pass the "straight face" test with the public or DWR irrespective of whose/which lands constitute the holes or peculiar edges. If the "holes" or "ragged edges" impact a client, then there may be further reasons for concern around inconsistent approaches to overall management.

The public discussions and materials -- mostly from the ASGSA -- reflect that the ASGSA desires the input of the landowners that may be affected and would seek it out. "The Subcommittee suggested meetings be held with property owners that have not been included in the set of properties presented to DWR." ASGSA Advisory Committee minutes (draft) for June 2019. While (1) I have had discussions to set a time/place for meetings and (2) informal, i.e., not subject to public disclosure or verification, overtures have been made to my clients by individuals, the ASGSA has yet to present its proposal(s) to my clients. On behalf of my clients, I urge the SVBGSA to take no action on the ASGSA coordination agreement and allow further time for the ASGSA[1] to initiate and conclude discussion or negotiation with landowners with whom it chooses to

[1] I am aware of the subcommittees and staff at both the ASGSA and GSA that are working on coordination. Those subcommittees are the obvious vector for discussions, at least initially, rather than the full Boards of either entity.

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engage. As the ASGSA and/or GSA Plan for (parts of) the Forebay is not due until 2022, there appears is ample time for a thorough process.

Chapter 6 draft

Many commenters have provided input on the iterations of Chapter 6 that were before the Planning Committee and the Advisory Committee. The agenda packet contains a matrix of such comments. Pages 58-59. I have included my prior two letters for the sake of transparency and consistency, but also provide the below comments on (1) what has changed in the draft and (2) what should have changed, but has not.

NOTE ON REFERENCES
For ease of tracking (given the content will eventually be in other agenda packets), the following format is used: xx/yy, in which xx is the page of the Chapter and yy is the page of the paginated packet. Both numbers are found on the right-hand corner of the page.

CHAPTER STILL LACKS CURRENT SUSTAINABLE YIELD CALCULATION
The current sustainable yield calculation is still absent. That has not changed in any iteration to date. At 6.8.4 the draft Chapter purports to address "sustainable yield" but the text confines itself to the historical sustainable yield, being 95,700 AFY. Table 6-20 at 25/42. (Note that the text right above the table uses a different figure of 97,300 AFY.)

The sustainable yield calculation is achieved by subtracting the sum of seawater intrusion and change in storage from the total pumping. 25/42[2]. Applying the same formula as that used to calculate historical sustainable yield to calculate current sustainable yield from the parallel values Table 6-19 (23/40), the current sustainable yield appears to be 40,600 AFY for the 180/400 (109,300 - 68,700 = 40,600). The reduction in pumping needed to achieve current sustainable yield based on the data in Chapter 6 through section 6.8.4, is over 50%. While sustainable yield is not "sustainability" itself, the omission of the current sustainable yield is troubling, pointing to a failure to meet a core regulatory requirement. Emergency GSP Reg. 354.18(b)(5) (the historic, current, and projected water budgets must include quantification of overdraft when basin deemed in overdraft per Bulletin 118).[3]

Also, whether the historical sustainable yield is itself accurate is undermined by the text which recites a total pumping figure of 86,5500 AFY but uses 108,300 in Tables 6-20 and 6-31. Cf 25/42 with 37/54 and 38/55.

[2] Seawater intrusion and groundwater level changes are apparently lumped together as "change in storage" when calculating historical sustainable yield in Table 6-20 on 25/42.
[3] That "overdraft" may be calculated from the figures and values presented does not obviate the GSP regulatory requirement of quantifying "overdraft" for the several water budgets.

FUTURE SUSTAINABLE YIELD STILL BASED ON QUESTIONABLE ASSUMPTIONS

The latter portion of draft Chapter 6 -- using the SVIHM, not reported data -- calculates the future sustainable yield. The assumptions include a two-thirds reduction in seawater intrusion from 10,500 to around 3,500 AFY. Cf. Table 6-30 with Table 6-15. 37/54 and 18/35. Consultant Williams explained that the difference arose from the CSIP projects coming online, i.e., the projects were built and started performing during the historical period while the future projections assumed the projects were preforming at full capacity. My follow-up comment after the explanation was that it was unrealistic to assume the projects would perform perfectly (now and) in the future and not founded on the "best available" data. I and others noted that the Monterey County Resources Agency (MCWRA) has substantial data on the real-world efficiency/performance of the projects. The GSA can obtain that data, (1) disclose and (2) use it in its future projections of water needs. As it stands, the future projections of Chapter 6 are at best aspirational, when ready data exists that could support realistic projections.

On the ground reality is not simply preferable, but required under SGMA. As my March 2017 letter noted early on, for a basin in overdraft like the 180/400, SGMA requires calculating the "demand reduction" or other methods to mitigate overdraft.

> If overdraft is an issue (i.e., overdraft that causes seawater intrusion near the coast), then SGMA requires projecting a reduction of water use that mitigates overdraft. § 354.44(b)(2). For the Salinas Valley, the projection would entail a reduction of localized pumping (the 180/400 sub basin), as reduction of pumping in the other areas have little or no effect. . . . That option must be explored for the GSP to meet SGMA standards. Whether that simple and tailored approach is preferable to other potential ones (given political, fiscal, economic, environmental, etc. factors) is unknown, but SGMA mandates such an approach be included in the GSP.

March 2017 letter, pages 6-7. The current iterations of Chapter 6 may not be a sufficient basis for later chapters that address how much pumping reductions, in what areas and at what times, mitigates overdraft (a must-be-included potential "management action" in SGMA nomenclature).

SURFACE WATER EXTRACTIONS STILL UNRELIABLE

"Surface" water reports to the State are public, unlike "groundwater" reports to the MCWRA. Total surface water diversions are quantified but have not been cross-checked to eliminate double-counting. My letter of June 4, 2019 provided a real-world example of a state report from the 180/400 area that the GSA -- but not the public -- can check against the MCWRA data to find out if there is double-counting. Appendix 6A contains the data used to calculate the surface water diversions in draft Chapter 6, but the data is a mere aggregation. There is

no reason for the GSA to withhold the public data it obtained from the state database, eWRIMS, that it then aggregated.

The order of magnitude of surface pumping reported is not trivial, being around 7,900 AFY on average. 10/27. Changes of similar orders of magnitude have occurred between the initial version of Chapter 6 seen by the Planning Committee to the one before the Board. Updating the draft Chapter because of better data and analyses is good, but it begs the question of why those data command renewed attention while others, e.g., the real-world performance of the CSIP projects and the double-counting of surface/groundwater, do not. By way of example, Table 6-19 is set forth below as it appeared in the initial draft and as it appears now, with highlighting added to illustrate changes.

Table 6-19: Summary of Current Groundwater Budget

| Inflow | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
|---|---|---|---|---|
| | Net Percolation of Streamflow to Groundwater | 31,100 | 3,300 | 80,000 |
| | Precipitation Percolation to Groundwater | 11,600 | 5,000 | 6 |
| | Irrigation Percolation to Groundwater | 4,500 | -9,500 | 15,500 |
| | Subsurface Inflows from Adjacent Subbasins | 20,000 | 20,000 | 20,000 |
| TOTAL INFLOW | | 67,200 | 43,800 | 105,700 |
| | | | | |
| Outflow | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
| | Pumping -Total Subbasin | 109,300 | 108,400 | 111,000 |
| | Agricultural | 91,900 | 89,000 | 97,700 |
| | Urban | 17,000 | 12,900 | 19,000 |
| | Rural Domestic | 400 | 400 | 400 |
| | Riparian Evapotranspiration | 12,000 | 12,000 | 12,000 |
| | Subsurface Outflows to Adjacent Subbasins/Basin | 3,200 | -9,500 | 9,500 |
| TOTAL OUTFLOW | | 124,400 | 110,900 | 132,500 |
| | | | | |
| Storage | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
| | Change in Storage | -57,300 | -88,700 | -5,200 |

Table 6-19: Summary of Current Groundwater Budget

| Inflow | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
|---|---|---|---|---|
| | Net Percolation of Streamflow to Groundwater | 31,100 | 3,300 | 80,000 |
| | Precipitation Percolation to Groundwater | 6,500 | 0 | 10,800 |
| | Irrigation Percolation to Groundwater | 4,500 | -94001 | 15,500 |
| | Subsurface Inflows from Adjacent Subbasins | 20,000 | 20,000 | 20,000 |
| TOTAL INFLOW | | 62,100 | 38,700 | 101,400 |
| | | | | |
| Outflow | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
| | Pumping -Total Subbasin | 109,300 | 108,400 | 111,000 |
| | Agricultural | 91,900 | 89,000 | 97,700 |
| | Urban | 17,000 | 12,900 | 19,000 |
| | Rural Domestic | 400 | 400 | 400 |
| | Riparian Evapotranspiration | 12,000 | 12,000 | 12,000 |
| | Subsurface Outflows to Adjacent Subbasins/Basin | 9,500 | 9,500 | 9,500 |
| TOTAL OUTFLOW | | 130,800 | 129,900 | 132,600 |
| | | | | |
| Storage | | Average (AF/yr.) | Minimum (AF/yr.) | Maximum (AF/yr.) |
| | Change in Storage | -68,700 | -28,500 | -93,800 |

Similar order of magnitude of changes or corrections can be seen in other data, e.g., Tables 6-18 and 6-29 (of questionable addition). But no similar updates exist about the surface/groundwater double-counting risk or the actual performance/efficiency of the CSIP projects.

CONCLUSION

Iterating the data and analyses is good in general, but not when the effort is selectively applied. In its third iteration, draft Chapter 6 still fails (1) to address a key regulatory requirement (explicitly calculating and disclosing overdraft and the current sustainable yield), (2) report and use MCWRA data about the CSIP projects' on-the-ground efficiency and performance, and (3) address double-counting from surface and groundwater reports.

Very truly yours,

*Thomas S. Virsik*

Thomas S. Virsik

Encl.

6 June 2019 comment letter to GSA Planning Committee
18 June 2019 comment letter to GSA Advisory Committee

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4 June 2019

To: Salinas Valley Basin Groundwater Sustainability Agency (GSA) Planning Committee

Re: Agenda Item 4.b
Chapter 6 of 180/400 GSP

The below are comments and suggestions for the draft Chapter 6 of the 180/400 GSP. As presented, the draft Chapter fails to meet the minimum requirements of SGMA, lacking literally the word "overdraft" in its text. Emergency GSP Reg. 354.18(b)(5) (the historic, current, and projected water budgets must include quantification of overdraft when basin deemed in overdraft per Bulletin 118).[1]

NOTE ON REFERENCES
For ease of tracking (given the content will eventually be in other agenda packets), the following format is used: xx/yy, in which xx is the page of the Chapter and yy is the page of the paginated packet. Both numbers are found on the right-hand corner of the page.

CHAPTER SKIRTS AROUND IMPORTANT SUSTAINABLE YIELD CALCULATION
Chapter 8 revealed that the future sustainable yield of the entire Valley is estimated at 494,000 AFY. Chapter 8 19/196 (at Planning Committee). What is the current sustainable yield for the 180/400? That specific query does not appear addressed in draft Chapter 6. At 8.6.4 the draft Chapter purports to address "sustainable yield" but the text confines itself to the historical sustainable yield, being 95,700 AFY. 22/41. The text equates that to a 10% reduction in pumping from the historical average.

The sustainable yield calculation is achieved by subtracting the sum of seawater intrusion and change in storage from the total pumping. Those values come from the chart for the historical groundwater budget. 19/38[2]. Applying the same formula as that used to calculate historical sustainable yield to calculate current sustainable yield from the parallel values in the parallel summary chart (20/39), the current sustainable yield appears to be 52,000 AFY for the 180/400. I.e., delta between inflows and outflows at Tables 6-18, 6-19, and 6-20 (109,300 - 57,300 = 52,000). The reduction in pumping needed to achieve current sustainable yield based on the data in Chapter 6 through section 6.8.4, is near 50%. While sustainable yield is not "sustainability" itself, the

[1] That "overdraft" may be calculated from the figures and values presented does not obviate the GSP regulatory requirement of quantifying "overdraft" for the several water budgets. Whether the next Chapter revision is one of editing (e.g., a change of terminology) or of arithmetic (e.g., add an extra calculation labelled "overdraft" in certain tables) is a matter for the GSA and its consultant.
[2] Seawater intrusion and groundwater level changes are apparently lumped together as "change in storage" in the charts on 19/38 and 20/39 (last entry in both).

omission of the current sustainable yield is troubling, pointing to a failure to meet a core regulatory requirement. Reg. 354.18(b)(5).

FUTURE SUSTAINABLE YIELD BASED ON QUESTIONABLE ASSUMPTIONS

The latter portion of draft Chapter 6 -- using the SVIHM, not reported data -- calculates the future sustainable yield. The assumptions include a two-thirds reduction in seawater intrusion from 10,500 to around 3,500 AFY. Cf. Table 6-30 with Table 6-15. 34/53 and 15/34. How that significant reduction occurs while projected pumping increases beyond historical levels is not explained. 34/53 (pumping of 86,500 AFY for historical sustainable yield v. pumping of 115,300 to 120,600 AFY for projected). Moreover, the calculated historical sustainable yield in Chapter 6 did not use a total pumping value of 86,500 AFY, but 108,300. Table 6-20 at 22/41. Clearly the two halves of Chapter 6 have not been checked against each other.

The "black box" quality of the SVIHM -- at least in its current state when it cannot be publicly peer reviewed by third parties -- undermines the credibility of the 180/400 GSP. A GSP based on assuming seawater intrusion radically decreases while pumping increases strains credulity. It is possible that the model is "correct" per its myriad assumptions and interconnections used to project results, if only one could review and reality test all of them. But at least as recited in draft Chapter 6, its calculation of a 7% reduction in pumping to balance the 180/400 comes across as far-fetched and unrealistic.

On the ground reality is not simply preferable, but required under SGMA. As my March 2017 letter noted early on, for a basin in overdraft like the 180/400, SGMA requires calculating the "demand reduction" or other methods to mitigate overdraft.

> If overdraft is an issue (i.e., overdraft that causes seawater intrusion near the coast), then SGMA requires projecting a reduction of water use that mitigates overdraft. § 354.44(b)(2). For the Salinas Valley, the projection would entail a reduction of localized pumping (the 180/400 sub basin), as reduction of pumping in the other areas have little or no effect. . . . That option must be explored for the GSP to meet SGMA standards. Whether that simple and tailored approach is preferable to other potential ones (given political, fiscal, economic, environmental, etc. factors) is unknown, but SGMA mandates such an approach be included in the GSP.

March 2017 letter, pages 6-7. Lacking specific quantification of overdraft in the several water budgets, draft Chapter 6 may not be a sufficient basis for later chapters that address how much pumping reductions, in what areas and at what times, mitigates overdraft (a must-be-included potential "management action" in SGMA nomenclature).

DATA REFERENCES CONFUSING

Draft Chapter 6 states that the 180/400 basin accounts for 7% of the surface water extractions per eWRIMS. 7/26 The data relied upon is listed in Appendix 6-A. ??/58, 62. Data on eWRIMS has always been public and in the current era can be downloaded. 7/26 Yet, the Appendix does not contain the public information on who, where, and

when the diversions are occurring. If the omission is due to convenience or time pressures, the next iteration of the chapter should make such data available in the sprit (if not requirement) of transparency. The relevance of the data from eWRIMS is less "who," but where (the intruded area?) and when (winter rains or parched river?), which may impact the mandatory demand reduction analysis, i.e., assuming a 7% reduction, when and in what areas of the 180/400 does one curtail pumping?

CONCLUSION
As noted above, prior to any further review, the draft Chapter requires revisions to (1) track regulatory requirements and (2) harmonize the SVIHM projections with data-based reality.

Very truly yours,

Thomas S. Virsik
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18 June 2019

To: Salinas Valley Basin Groundwater Sustainability Agency (GSA) Advisory Committee

Re: Agenda Item 4.c
Chapter 6 of 180/400 GSP

Enclosed are: (1) the June 4, 2019 letter to the Planning Committee on Chapter 6 and (2) a copy of an email to the SVBGSA of June 11, 2019, including its enclosures. This letter supplements the prior comment letter based on comments and feedback from the consultant and others at the June 6 and June 10 Planning and Board of Directors meetings, respectively. *Page references are to the internal numbering of the Chapter as posted on June 17, 2019 [a different version of the Chapter was posted on June 14, 2019]*.

EWRIMS (SURFACE WATER DIVERSION) DATA NOT VETTED

The enclosed email explains the simple process the GSA has available to it to determine if the surface water diversions used in the water budgets are "double counting" water. To put it starkly, the publically available statements of water diversion near Speckles sent along with the email claims that the surface water diversion reported to the State is -- in the view of the filer -- actually groundwater. See response to "Additional Remarks" of the State form (enclosed with email). Presumably, the filer (an affiliate/proxy for the well-regarded local ag interest Tanimura & Antle) is also following local requirements and providing the exact same water extraction numbers to the MCWRA per local Ordinance.

Unless the GSA compares the (limited) set of eWRIMS data for the 180/400 with the MCWRA groundwater pumping reports for the nearly identical zone (the "Pressure"), the water budget numbers will erroneously assume water users in the 180/400 draw from two separate sources and hence their reduction to meet "sustainable yield" may be inaccurate. SGMA requires the "best available" data and transparency, which would not be met and the Plan may fail at DWR if the GSA continues to ignore the data and simple analytical approach[1] at its fingertips.

[1] The MCWRA reports are tied to wells while the State reports are tied to land, but both require monthly extraction numbers, which can be directly compared. For example, a diversion for water use near Speckles that reports surface water diversions in succeeding calendar months of 115.2, 229.4, and 425.7 AF and a MCWRA report for a well near Speckles that reports groundwater extractions in succeeding calendar months of 115.2, 229.4, and 425.7 AF must be the same water. It should not be included twice in the water budget analyses.

The historical water budget reports surface water diversions on the order of nearly 10,000 AFY, which is a magnitude material to projecting a reliable sustainable yield. Chapter 6 at Tables 6-5 and 6-16, pages 10 and 18.

FUTURE SUSTAINABLE YIELD BASED ON QUESTIONABLE ASSUMPTIONS ABOUT CURRENT PROJECTS

The latter portion of draft Chapter 6 -- using the SVIHM, not reported data -- calculates the future sustainable yield. The assumptions include a two-thirds reduction in seawater intrusion from 10,500 to around 3,500 AFY. Cf. Table 6-30 with Table 6-15, pages 36 and 17. Consultant Williams explained that the delta is due (1) to the seawater intrusion projects (CSIP, SRDF) coming online during the historical period and (2) an assumed current and future "100%" level of performance of the. Again, what does the "best available" data show about the efficiency or performance of the MCWRA projects? If the data compiled by the MCWRA for its projects reflect a 50% or a 25% level of efficiency, then the model should use that metric instead of assuming the projects will magically perform far better than they have to date.

CONCLUSION

As noted in my prior letter and email and above, prior to further review, the draft Chapter requires revisions to (1) track regulatory requirements and (2) harmonize the SVIHM projections with data-based reality such as surface water diversions and project performance reality. The real danger for the Salinas Valley lies not in whether DWR accepts or approves the GSP, but in intelligently considering and selecting programs and management actions (a later chapter of the GSP) based on factious assumptions and projections about current project efficiency and wet water use/availability (whether labeled ground or surface). It is preferable to proceed with care than risk committing to projects or management actions that will either not lead to or perhaps even make the attainment of sustainability less likely.

Very truly yours,

*Thomas S. Virsik*

Thomas S. Virsik

Encl.
June 4, 2019 letter to GSA Planning Committee
June 11, 2019 email to GSA re eWRIMS and MCWRA

Thomas S. Virsik
ATTORNEY AT LAW
510-508-1530 | thomasvirsiklaw@gmail.com

4 June 2019

To: Salinas Valley Basin Groundwater Sustainability Agency (GSA) Planning Committee

Re: Agenda Item 4.b
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Very truly yours,

Thomas S. Virsik
Thomas S. Virsik

# EWRIMS and MCWRA reports

**Thomas S. Virsik** <thomasvirsiklaw@gmail.com> Tue, Jun 11, 2019 at 2:10 PM
To: Gary Petersen <peterseng@svbgsa.org>

Gary,

For Williams' attention per his remarks yesterday that the nature of the reporting to (1) eWRIMS and (2) the MCWRA on water extractions was dissimilar (and hence could not be readily cross-checked for double counting). I vehemently disagree.

I have attached a T&A state report (three years, including the map showing location -- all from eWRIMS). I selected it at random. It claims to be using groundwater, by the way, at "Additional Comments." [I think the word "fights" is supposed to be "rights"]

One can make a direct comparison of the monthly amounts reported in the MCWRA and State databases. If any two reports (one from eWRIMS and the other from MCWRA) arguably within the same sub-basin reflect the exact same amounts for 1/17, 2/17, 3/17 etc. then there is double counting that skews (Ms. Isakson's word) the calculation of sustainable yield and pumping reductions. One need not correlate precise APN's or well codes. I can -- for my own clients whose MCWRA reports I possess-- do such a month by month comparison (none of which relate to the 180/400). I have made this comment in public before, but perhaps it was not understood.

Given the GSA has access to the MCWRA records, it can and must do the same comparison for the limited number of 180/400 eWRIMS statements. Chapter 8 draft Table 8-9. It's simple, yet necessary to meet the "best available" standard. And it leads to a better and more reliable real-world outcome based on accurate water use / yield numbers. No part of the comparison involves determining any "water right" or claim thereto.

--
Thomas S. Virsik
Attorney at Law



**4 attachments**

**S014885 T&A SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE 2015.pdf**
73K

**S014885 T&A SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE 2016.pdf**
80K

**S014885 T&A SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE 2017.pdf**
80K

**Maps from S014885.pdf**
85K

## [SUMMARY OF FINAL SUBMITTED VERSION]

# SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FOR 2015

Primary Owner: TANIMURA LAND COMPANY LLC
Statement Number: S014885
Date Submitted: 05/31/2016

| | |
|---|---|
| 1. Water is used under | Riparian Claim<br>Pre-1914 Claim |
| 2. Year diversion commenced | 1984 |

**3-4. Maximum Rate of Diversion for each Month and Amount of Water Diverted and Used**

| Month | Rate of diversion | Amount directly diverted (Acre-Feet) | Amount diverted or collected to storage (Acre-Feet) | Amount beneficially used (Acre-Feet) |
|---|---|---|---|---|
| January | | 3.017 | 0 | 3.017 |
| February | | 2.637 | 0 | 2.637 |
| March | | 14.177 | 0 | 14.177 |
| April | | 9.469 | 0 | 9.469 |
| May | | 8.465 | 0 | 8.465 |
| June | | 13.554 | 0 | 13.554 |
| July | | 14.954 | 0 | 14.954 |
| August | | 4.292 | 0 | 4.292 |
| September | | 0 | 0 | 0 |
| October | | 0 | 0 | 0 |
| November | | 0 | 0 | 0 |
| December | | 0 | 0 | 0 |
| Total | | 70.565 | 0 | 70.565 |
| Type of Diversion | Direct Diversion Only | | | |
| Comments | | | | |

| Water Transfers | |
|---|---|
| 8e. Water transfered | No |
| 8f. Quantity transfered (Acre-Feet) | |
| 8g. Dates which transfer occurred | / to / |
| 8h. Transfer approved by | |

**Water Supply Contracts**

| | |
|---|---|
| 8i. Water supply contract | No |
| 8j. Contract with | |
| 8k. Other provider | |
| 8l. Contract number | |
| 8m. Source from which contract water was diverted | |
| 8n. Point of diversion same as identified water right | |
| 8o. Amount (Acre-Feet) authorized to divert under this contract | |
| 8p. Amount (Acre-Feet) authorized to be diverted in 2015 | |
| 8q. Amount (Acre-Feet) projected for 2016 | |
| 8r. Exchange or settlement of prior rights | |
| 8s. All monthly reported diversion claimed under the prior rights | |
| 8t. Amount (Acre-Feet) of reported diversion solely under contract | |

| **5. Water Diversion Measurement** | | |
|---|---|---|
| a. | Measurement | Water directly diverted and/or diverted to storage was measured |
| b. | Types of measuring devices used | Propeller Meter |
| c. | Additional technology used | Flow Totalizer |
| | Description of additional technology used | |
| d. | Who installed your measuring device(s) | Representative using manufacturer's recommendations |
| e. | Make, model number, and last calibration date of your measuring device(s) | Water Specialties, Propeller meter |
| f. | Why direct measurement using a device listed in Section 1 is "not locally cost effective" | |
| | Explanation of why use of devices and technologies listed in Section 1 are "not locally cost effective" | |
| g. | Method(s) used as an alternative to direct measurement | |
| | Explanation of method(s) used as an alternative to direct measurement | |

| **6. Purpose of Use** | |
|---|---|
| Irrigation | 661.90 Acres Vegetables |

| **7. Changes in Method of Diversion** |
|---|
| |

| **8. Conservation of Water** | | |
|---|---|---|
| a. | Are you now employing water conservation efforts? | Yes |