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TECHNICAL MEMORANDUM

DATE: November 12, 2021 **PROJECT #:** 9090.0201

TO: Brian Lockwood, P.G., C.Hg. and Casey Meusel, Pajaro Valley Water Management Agency (PV Water)

CC: Rural Residents for Water (RRW)
Community Water Center (CWC)
Ad Hoc Sustainable Groundwater Planning Advisory Committee (GSU22 Committee)

FROM: Cameron Tana, P.E. and Patrick Wickham

PROJECT: Basin Management Plan: Groundwater Sustainability Update 2022 (GSU22)

SUBJECT: Response to Public Comments on GSU22 Public Draft and Subsequent Public Comments

INTRODUCTION

The Pajaro Valley Water Management Agency (PV Water) is preparing the first 5-year update to its Department of Water Resources (DWR) approved Groundwater Sustainability Plan Alternative (PV GSP Alternative) for the Pajaro Valley Subbasin (Basin). The 5-year update document is referred to as the Basin Management Plan: Groundwater Sustainability Update 2022 (GSU22). Funding for this approximately 16-month long, stakeholder driven effort is provided in part through a $500,000 Proposition 68 Round 3 planning grant provided by DWR. PV Water posted a public review draft of the GSU22 document online on September 21st, 2021. Comments on the public review draft GSU22 were received through October 8th, 2021.

The following sections summarize comments received from Community Water Center (CWC) and Rural Residents for Water (RRW) and PV Water's responses. The comments and responses are organized by topic, following the order each item is presented in the GSU22. In some cases, comments have been paraphrased from the original text for brevity, or colons have been inserted to indicate breaks in the comment text. These are indicated using brackets.

The original version of this technical memorandum dated October 15, 2021, was published in the agenda packet for the October 20, 2021, PV Water Board of Directors meeting packet as part of informational item 9C. Subsequent to this publication, Brian Sparling, a resident of Royal Oaks, and RRW submitted additional comments on October 17 and 18, 2021, respectively. The

technical memorandum has been updated to include these comments and additional responses. The comments have been grouped with previous comments where applicable.

Some responses refer to parts of the GSU22; these references have been updated to reference the GSU22 published on November 12, 2021, for Board adoption on November 17, 2021.

COMMENTS AND RESPONSES

Seawater Intrusion Sustainable Management Criteria

Comment 2.1: RRW - Past and current SWI should be better quantified and identified in the draft plan. How will PV Water have the ability to determine the extent of incremental reductions in SWI rate if past and current have not been quantified? Increasing the chloride limit like was done this time to 250 mg/L, then again to a higher level in 2027, and then again at the end of each subsequent plan update interval is not a long-term solution and does not translate to quantifiable reduction in SWI rates.

Response: The Basin Management Plan Update 2014 (BMP 2014) submitted as the primary document of the PV GSP Alternative includes extent of seawater intrusion over time as shown in Figure 2-18 based on a chloride concentration isocontour of 100 mg/L. The GSU22 sets the measurable objective as a 100 mg/L isocontour to "allow PV Water to track seawater intrusion consistent with historical evaluations" (Section 2.6). The GSU22 develops criteria that is based on the extent of seawater intrusion defined by a chloride concentration isocontour as opposed to reduction of the rate of seawater intrusion described in BMP 2014 to meet DWR's Recommended Actions 6 and 7 and SGMA guidelines. 250 mg/L is the minimum threshold based on the secondary maximum contaminant drinking water standard and salt tolerance for crops grown in the Basin (Section 2.4.3). Only new information about effects on beneficial uses should lead to a change in this minimum threshold concentration.

10/18/21 Comment #1: RRW - Consultant response does not respond to our request for historical data that documents incremental advances in seawater intrusion regardless of its redefinition from 100 mg/L to 250 mg/L. Apples need to be compared with apples in order for meaningful tracking and identification of trends to occur. Quantifiable historical incremental advances in SWI need to be put into the GSU 22 plan to show advances on an annual basis from year 2000 through present.

Response: Appendix 2A includes the chemographs that provide historical data for evaluation of seawater intrusion. The chemographs show that the primary area where seawater intrusion has advanced over the last 10 years is at the Hudson Shallow well where chloride concentrations have risen above 100 mg/L, then 250 mg/L.

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Comment 2.2: RRW - This comment makes no sense in Section 2.6 of the draft plan and needs to be revised. "The measurable objective is currently being achieved and the goal is to maintain that status. Therefore, interim milestones are equal to the measurable objective."

Response: To clarify, we have revised the text in Section 2.6 as follows:

> As seawater intrusion has not been observed at chloride concentrations above 100 mg/L inland of the measurable objective and minimum threshold isocontour, the measurable objective is currently being achieved and the goal is to maintain that status throughout the planning horizon. Therefore, interim milestones for 2025, 2030, and 2035 are equal to the measurable objective. In other words, the management goal is to prevent seawater intrusion from causing chloride concentrations above 100 mg/L inland of the SMC isocontour in any year.

10/18/21 Comment #2: RRW - Consultant response does not address this comment. The measurable objective is already being exceeded outside of the sea water intrusion zone in several areas. Without chloride interim milestones the exceedances how can future efforts to reduce SWI rates be evaluated? The measurable objective is NOT BEING ACHIEVED because there are several areas outside of the SWI that are already well over 100 mg/L!!

Response: As described in Section 2.4.1 of the GSU22, there are inland areas with concentrations above 100 mg/L that are not connected to seawater intrusion as there are inland sources of salt.

> There are areas (G and I on Figure 2 and Figure 3) with concentrations above 100 mg/L inland of any chloride isocontour defining seawater intrusion. Areas G and I are not connected to seawater intrusion as there are areas (C and D on Figure 2 and Figure 3) with chloride concentrations lower than 100 mg/L between areas G and I and any seawater intrusion isocontour. Chloride concentrations higher than 100 mg/L may occur due to reasons unrelated to seawater intrusion. For example, Area G is in the Murphy Crossing area and is impacted by high streambed infiltration rates from the Pajaro River. Especially during the summer, the Pajaro River transports high concentrations of salts from out of Basin upstream sources.

Because these chloride concentrations above 100 mg/L are not a result of seawater intrusion, they are not exceedances of measurable objectives for seawater intrusion.

10/18/21 Comment #3: RRW - Data from the State Water Boards geo tracker data base show the information below provided by consultants to be 100% false. The draft plan needs to be corrected

to show the several areas in which chlorides levels are being exceeded inland of the SWI zone. The high chlorides levels in these areas need to be recognized and addressed in the GSU 22 plan.

Response: The inland clusters 7-12 are not connected to seawater intrusion similar to areas G and I described in Section 2.4.1 of the GSU22. Chloride concentrations above 100 mg/L are likely related to inland sources of salt. Wells in cluster 6 will be evaluated for inclusion in the GSP Alternative monitoring network for ongoing monitoring of the advancement of seawater intrusion.

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Chronic Lowering of Groundwater Levels Sustainable Management Criteria

Comment 3.1: RRW – The new RMP plan exacerbates the disparity in monitoring for each water use sector by adding several RMPs in alluvial plains while adding less in rural residential well areas outside of the alluvial plains. This skews the calculation of "undesirable results" even more to the benefit of certain water use sectors but to the detriment of the domestic water use sector.

Response: Our understanding is that this comment is referring to Figure 10 (now Figure 13). Figure 13 does not show additional wells to be added as RMPs. Rather it shows wells that were considered as RMP but not included in the final network.

Section 10.6.3.1.2 'PV GSP Alternative Monitoring Network Data Gaps' does describe 3 areas recommended for additional representative monitoring points for chronic lowering of groundwater levels. Many of the wells in the Los Lomas Hills recommended area have a ground surface elevation higher than 200 feet. In addition, PV Water is in the process of seeking additional private well owners to participate in the agency's groundwater monitoring network across the entire basin to increase the overall spatial coverage of the network and increase the number of wells with information that can shared publicly. PV Water has sent letters and notices to all well owners in the Basin including rural residential and small water system customers located above the 200 feet elevation band.

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Comment 3.2: RRW – The draft does not address hundreds of domestic wells located in the upper elevations where the above map suggests no one lives.

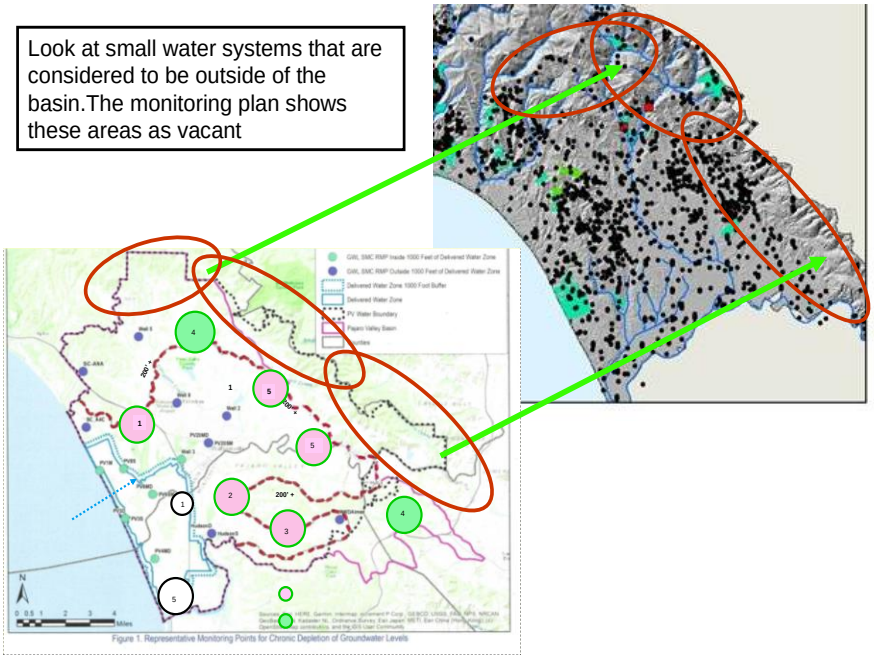

Figure 1. Small Water Systems and PV Water Chronic Lowering of Groundawater Level SMC [From RRW Response to GSU22]

Response: The primary aquifer for the Basin is the Aromas aquifer and therefore the focus of management under SGMA is the Aromas aquifer. The lack of Aromas aquifer monitoring wells in the far upland areas of the Basin precludes the establishment of RMP there. The current plan to address data gaps as described in section 3.11 and section 10.6 is to identify wells in these areas for monitoring and evaluate data from those wells for the need for additional RMPs. Please also see page 14 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addressed this concern. The GSU22 does not suggest that there are no domestic wells in those areas; domestic wells are shown on Figure 82 of the GSU22.

The two eastern areas circled by RRW on the above map are within PV Water's jurisdiction but outside of the Pajaro Valley Basin. This area is not considered part of a groundwater basin by DWR. GSU22 is a document created to address the Basin, and therefore is not meant to address areas that are not considered groundwater basins. The Basin's northern boundary exists where the Pliocene Purisima Formation outcrops at surface and defines the extent of the continuous Aromas aquifer.

10/18/21 Comment #5: RRW - Consultant response talks about more monitoring wells planned to be added at specific locations. These locations still do not monitor the several hundred domestic

wells and small water systems located above the 200 ft. elevation level. Well owners in these areas will be impacted even if they are tapping into the Purisima aquifer or into pockets when GWL are allowed to drop to a historical low level and stay below that level for an additional 4 years.

Consultants state that SGMA only requires consideration of the "primary" aquifer. It's likely that these upper level areas draw from smaller sub-aquifers. However, these smaller aquifers are 100% impacted by chronic lowering of groundwater level in "downhill" aquifers. Not to include these areas within a sustainability plan for groundwater is not consistent with the "Human Right to Water" or principles of sound planning for all water use sectors as wells in upper elevation "Cracks" are the first to go when alluvial GWLs go too low.

Response: Only the DWR defined basin is to be managed under SGMA. As described in GSU22 Section 1.3, PV Water's designation of the Aromas aquifer as the principal aquifer of the Basin for focus of management is consistent with SGMA.

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Comment 3.3: RRW - We disagree with the draft plan and Technical Memorandum that the RMP network is justified for the three RMPs areas that are clearly near domestic wells. Aimee Well- 4 of 51 nearby wells used as justification- NOT ENOUGH WELLS. Well 5- 4 of 33 nearby wells used as justification- NOT ENOUBH WELLS. SCA 9A- 4 out of 51- Justification wells all showed exact same groundwater level so they are likely near or near alluvial plains- NOT JUSTIFICATION.

Response: The selection and justification of RMPs is based on best available information and the nearby wells used are the wells that have been monitored to provide data. In any groundwater basin, the vast majority of private wells are typically not monitored. The number and percentage of domestic wells included in PV Water's monitoring network is relatively high, but PV Water is performing outreach to add wells to the network to monitor.

The available data do show that proposed RMP are representative of trends in nearby wells as shown in the figures in appendix 3B of GSU22. The wells shown on these figures (e.g., 4/51 nearby wells for AWD_Aimee) are nearby wells with groundwater monitoring data in the Aromas aquifer. The remaining wells (e.g., 47/51 wells near AWD_Aimee) do not have historical groundwater elevation monitoring data to compare to trends at the RMP. Please also see the section starting on Page 3 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addresses this concern.

One additional confidential well near AWD_Aimee with groundwater elevation data was located and added to the figure in Appendix 3B and in the GSU22 as Figure 14 (Figure 2). Data from this well labeled "Nearby Well 4" also shows a trend consistent with the trend observed at AWD _Aimee.

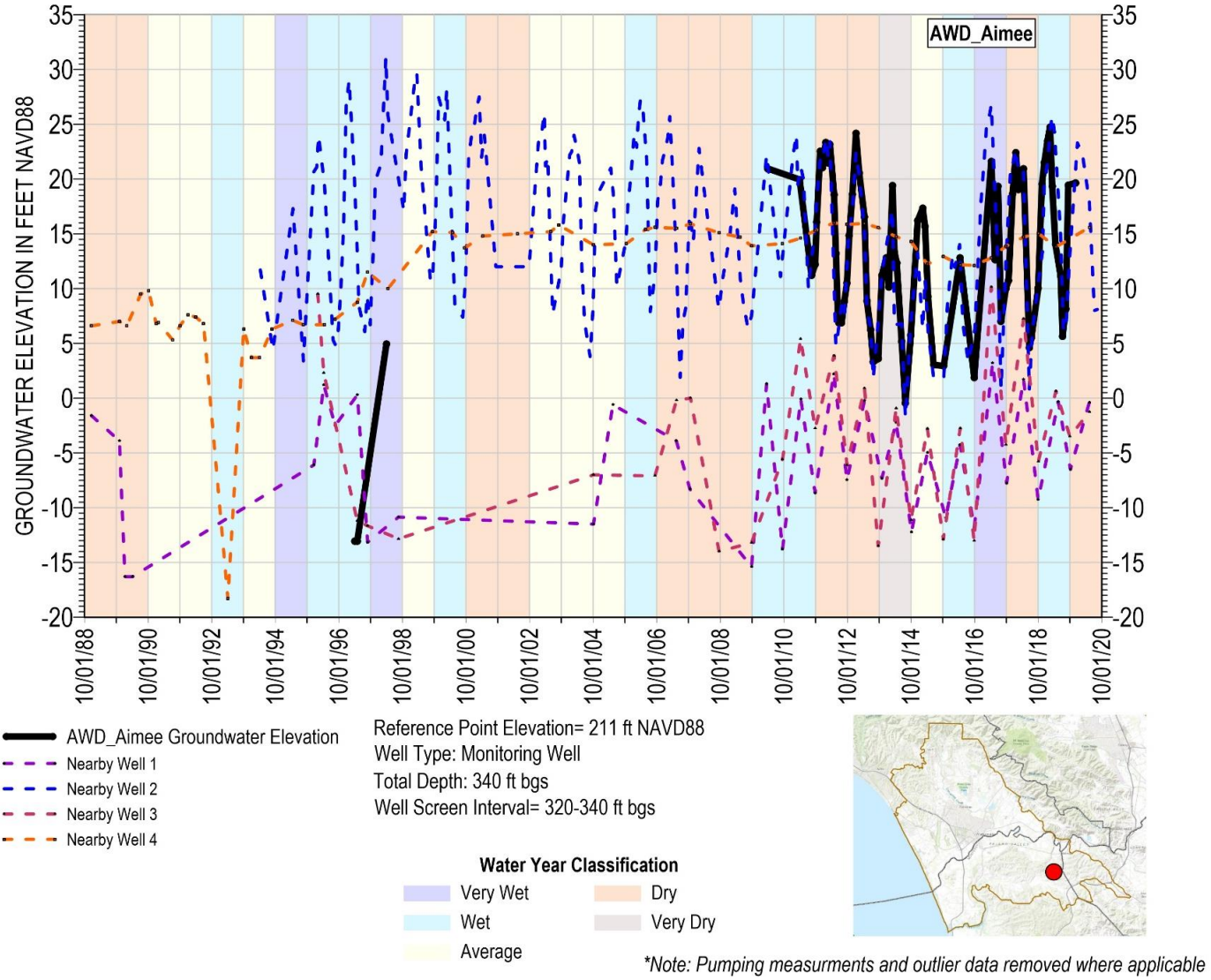

Figure 2. RMP Justification Graph, AWD_Aimee [Figure 14 in GSU22]

10/18/21 Comment #7: RRW - The best available data is not sufficient to show justification. The claim of justification in 3.5 is not based on adequate data.

Response: SGMA requires that GSAs base plans on best available information. The RMPs are representative of nearby groundwater level trends based on best available information.

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Comment 3.4: CWC - There is considerable concern around the status of the Aimee Well as a Representative Monitoring Point for nearby rural residential wells. PV Water has expressed that they feel the well is representative of the trends in water levels in nearby wells (e.g., a 10-foot decline in the Aimee well would result in a 10-foot decline in nearby wells), but not representative of the water levels in these same nearby wells. However, PV Water has shown very limited data (three isolated data points) to establish this well as representative. This lack of justification and evidence to use the Aimee Well as a representative monitoring point should be remedied before relying on it to protect drinking water users in the Basin. Similar concerns apply to Well #5.

Response: Available data do show that the AWD_Aimee well is representative of trends observed at all of the 4 nearby wells with available data (Figure 2; see above response to RRW). However, the statement that PV Water has expressed that "a 10-foot decline in the AWD_Aimee well would result in a 10-foot decline in nearby wells" is not accurate. It is not expected that changes in groundwater elevations in an RMP well and a non-RMP well will be exactly the same. However, analysis does indicate that groundwater elevations at RMP wells and nearby non-RMP wells are correlated and respond similarly to changes in climate and groundwater management. Given the consistency in trends, if groundwater level AWD_Aimee remains above minimum threshold, best available information indicates that groundwater levels in nearby wells will remain above groundwater levels occurring at those wells from 2000 to 2020 and supported the available supply for the area over that time.

Comment 3.5: RRW – The draft plan proposed to allow exceedances that are out of line with other GSAs in the Central Coast region.

Response: The definition of undesirable results is consistent with the significant and unreasonable conditions defined for the Basin by the GSU22 Committee, the basin-wide focus of SGMA and DWR guidance, and is within the range of what other GSAs are proposing. Please see page 10 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addressed this concern

> The definition of undesirable results based on multiple years of minimum threshold exceedances at multiple wells is consistent with both the definition of significant and unreasonable conditions and SGMA requirements. Defining undesirable results based on minimum threshold exceedances at multiple wells is also supported by the basin-wide focus of SGMA as demonstrated by DWR's description of undesirable results in its regulations: "Undesirable results occur when significant and unreasonable effects for any

of the sustainability indicators are caused by groundwater conditions occurring throughout the basin (354.26(a)).”

Additional text describing the consistency of the definition of undesirable results with DWR regulations and guidance has been added to Section 3.8 of the GSU22.

10/17/21 Comment #2: Brian Sparling- I am concerned that the exceedances in the GSU22, are not close to GSA’s on all sides of PVWMD. I read the consultant’s response to this concern, it fails to explain in any fashion why the exceedances are so different. As we appear to be heading into another year or two of drought, I am alarmed that the exceedances and definition for Undesirable results are set so low.

10/18/21 Comment #10: RRW - Consultant states that PV Water's Best Management Practice for SMC (DWR, 2017) states an example of an exceedance level as high as 37.5%. This is JUST AN ILLUSTRATIVE NOT A STATEMENT OF BEST MANAGEMENT PRACTICES. PVWATER'S EXCEEDANCE LEVELS ARE MUCH HIGHER AND LAST MUCH LONGER THAN ANY OTHER GSA IN THE CENTRAL COAST REGION.

We have requested on numerous occasions for the exceedances below the minimum threshold to be reduced to 20% for 1 year and 10% for 2 years. So far, there has been no willingness to compromise on the part of PV Water's various decision makers. The claim of "stakeholder" representation is dramatically skewed towards those stakeholders who have or facilitate the interests of the deep well owners and high use water pumpers rather than people who depend on groundwater for everyday living.

Response: As described in GSU22 Section 3.8, the definition of undesirable results covers 3 potential conditions: “(1) long-term declines occurring in specific portions of the Basin, (2) intermediate-term declines occurring over a more substantial portion of the Basin, and (3) shorter-term declines occurring over a large portion of the Basin. The first condition accounts for local declines affecting one area for an extended period, while the second and third conditions account for regional declines affecting wider areas or across the entire Basin over shorter periods.”

With its illustrative example in its 2017 Best Management Practice guidance document, DWR shows an undesirable result that could be implemented consistent with requirements of SGMA. In our September 7, 2021, technical memorandum responding to RRW’s materials presented at the July 28, 2021, meeting, Table 1 shows the wide variety of undesirable results defined by GSAs for this sustainability indicator. While PV Water’s definition of undesirable results are not as conservative as some basins, the definition does fit within the range shown on Table 1 in the September 7, 2021, technical memorandum.

PV Water's minimum thresholds for this indicator that are set to maintain groundwater levels observed over the last 20 years reflect a different condition than a number of basins in the Central Coast. In Salinas Valley 180/400 Foot Aquifer Subbasin, Salinas Valley Langley Subbasin, and Santa Margarita Basin, minimum thresholds have been set at recent groundwater levels that have occurred after multi-year declines at some or more RMPs. As groundwater levels have been relatively stable in the Pajaro Valley Basin, it is reasonable for PV Water to define undesirable results based on a higher number of minimum threshold exceedances than these other basins.

Please see response to Comment 12.2 regarding concerns about stakeholder input. After submittal of the GSU22, there will be a 75-day comment period to submit comments to DWR for its consideration in its review of GSU22 including these SMC.

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Comment 3.5: CWC - The proposed definition for an Undesirable Result for water levels are that:

i. >15% of RMPs with MT exceedances during 4 out of 5 consecutive years, or
ii. >20% of RMPs wells with MT exceedances during 3 out of 5 consecutive years, or
iii. >25% of RMPs with MT exceedances during 2 out of 5 consecutive years.

Response: The undesirable results for chronic lowering of groundwater level listed above by CWC omit the distinction that the occurrence of those minimum threshold exceedances either inside or outside 1,000 feet of the delivered water zone will constitute an undesirable result. This distinction was included in response to comments by Committee Member Anderson and approved by the GSU22 Committee on May 13th, 2021.

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Comment 3.6: CWC - Adjust the SMCs for water levels to be more protective of drinking water beneficial users. As has been raised by Committee Member Anderson, there is concern that the 3 RMPs that would consistently fail over the years are those in areas with significant numbers of domestic wells. There is a risk of disproportionate impact to drinking water beneficial users, particularly rural residents, based on the most vulnerable wells being underrepresented in the monitoring network, and URs hinging on the percentage of wells that experience MTs over multiple years. This is especially concerning when the UR is based on percentages of RMPs that go dry for up to 4 out of 5 years. For example, at the Aimee Representative Monitoring Point, the Minimum Threshold is set below 24% of the Top of Screens of surrounding domestic wells, which is the point at which wells begin to be impacted and drinking water access is no longer

reliable. Thus, a considerable percentage of the surrounding wells could incur impacts to drinking water access for multiple years before registering as a UR.

Response: The statement "the UR is based on percentages of RMPs that go dry for up to 4 out of 5 years" is false. The undesirable result is based on RMPs exceeding their minimum thresholds, which is set at seasonal minimum levels that have supported groundwater supply over the past 20 years, not the bottom of well screens where wells dry up.

The direct comparison of the minimum threshold to the top of screens at nearby wells does not recognize available information that groundwater levels and screen intervals vary greatly in the areas around these RMPs as previously shared with CWC in the Response to Rural Residents for Water technical memorandum (9/7/2021; page 4) and the July Committee Meeting. We have added the following Section 3.7 of the GSU22 to reinforce this point:

> RMPs are selected based on the availability of a relatively long groundwater level record and because they are representative of groundwater level trends in nearby wells. It is important to note that the minimum threshold elevation applies to only the RMP and not to the nearby wells. As an example, Figure 14 shows the hydrograph for the AWD_Aimee RMP, along with 4 nearby private wells monitored by PV Water. Nearby wells 1 and 3 have groundwater levels 15 feet lower than AWD_Aimee RMP. If one of these nearby wells had been used as an RMP in place of the AWD_Aimee well, the minimum threshold would be approximately 15 feet deeper, but that minimum threshold set at nearby well 1 or 3 would not mean that the minimum threshold could be met while groundwater elevations at AWD_Aimee well or nearby wells 2 and 4 decline 15 feet from historical lows. Groundwater elevations at unmonitored wells near RMPs likely also have different groundwater elevations from what is observed at the RMP because of local differences in aquifer properties, topographic variability, and well screen depth. As described in the Response to Rural Residents for Water technical memorandum (9/7/2021), groundwater elevations in the AWD_Aimee well have been largely stable over the past 20 years. The post-2000 range in annual minimum elevations at this well, which has varied in response to wet periods and the 2014 drought, is less than 10 feet. In every year since 2000 with available data on seasonal lows, groundwater elevations at the AWD_Aimee well have been below 21% of nearby wells' Top of Screen. Therefore, it is likely that groundwater elevations at nearby wells providing supply over the last 20 years have either been higher than at AWD_Aimee or supply has been provided despite groundwater elevations being consistently below the Top of Screen.

As described in response to previous comment, the groundwater level trend observed at the AWD_Aimee well is representative of trends observed at nearby wells that are monitored. Based on this correlation, if groundwater levels at AWD_Aimee remain above the minimum threshold,

best available information indicates that groundwater levels in nearby wells will also remain above groundwater levels occurring at those wells from 2000 to 2020. This will continue to support the available supply for the area that has been supported from 2000 to 2020.

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Comment 3.7: RRW - Inadequate RMP Justification- data missing; important figures conspicuously missing in the draft plan that show TOS and BOS for nearby domestic wells. [Ground surface figures were not included for select wells in appendix 3D]

Response: The omission of the figures for wells where the minimum threshold is below the 95th percentile top of screens for nearby wells, displaying ground surface elevations, top of screens, bottom of screens, and average of 2 lowest groundwater elevations since 2000 where available (equivalent to a minimum threshold), was an error that occurred during compilation of GSU22. This has been rectified in a new version of the appendix 3D to be submitted with the final GSU22.

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Comment 3.8: RRW - Sea Water Intrusion is not admitted to in propping up GWLs in hydrographs used to justify minimum thresholds. The appearance of groundwater level "recovery" occurring consistently despite rain shortfalls is not a demonstration of "groundwater level stability" but of sea water intrusion [....] RMPs show consistent up and down groundwater level patterns despite several drought periods. This is clear evidence that sea water creeping [...] Not groundwater level stability. This argument is bolstered by personal well records of a member of RRW that show chlorides increasing by 85% between mid-1985 and 2018.

Response: While seawater intrusion does limit groundwater level declines, it has not caused the Basin-wide increases in groundwater levels that have been observed, including in areas where seawater intrusion has not been observed. While there is seasonal variation in groundwater levels, observed increases in groundwater levels can best be attributed to reductions in Basin groundwater pumping as a result of BMP 2014 implemented even under different climatic conditions (see Section 7.7 and Figure 52).

It should also be noted that inland chloride concentrations are not necessarily a result of seawater intrusion. There are other sources of salt in the Basin, including from the Pajaro River and irrigation return flows. This is described in Section 2.4.1 of GSU22. The magnitude of chloride concentrations must be provided to evaluate chloride concentrations with the seawater intrusion minimum threshold of 250 mg/L and measurable objective of 100 mg/L.

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Comment 3.9: CWC – CWC would also support PV Water's establishment of specific Management Areas for domestic wells that would be more responsive to their needs. […] 15% of impacted wells creates a disproportionate impact on drinking water beneficial users if all three of the RMPs impacted are those representing domestic well areas. By separating out the most vulnerable domestic well areas from the rest of the basin, SMCs could be set in a way that would prevent disproportionate impacts.

Response: Management areas are not required under SGMA. The GSU22 Committee Rural Residential Well Owner Representative alternate from CWC did not express this comment when groundwater level SMC were considered. However, Committee Member Anderson, the Rural Residential Well Owner Representative, did propose adding the distinction that a combination of minimum threshold exceedances either inside or outside 1,000 feet of the delivered water zone constitute an undesirable result that has been incorporated into the SMC approved by the GSU22 Committee and PV Water Board on May 13th, 2021. This qualification does incorporate some distinction between the upland and lowland areas of the Basin regarding determination of undesirable results.

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Comment 3.10: RRW - The statement in the draft that the minimum threshold is set at GWL that are higher than previous droughts is not true and needs to be deleted. The minimum threshold which is roughly equal to the 2014 groundwater level IS NOT HIGHER THAN GW LEVELS DURING PRIOR DROUGHTS!!

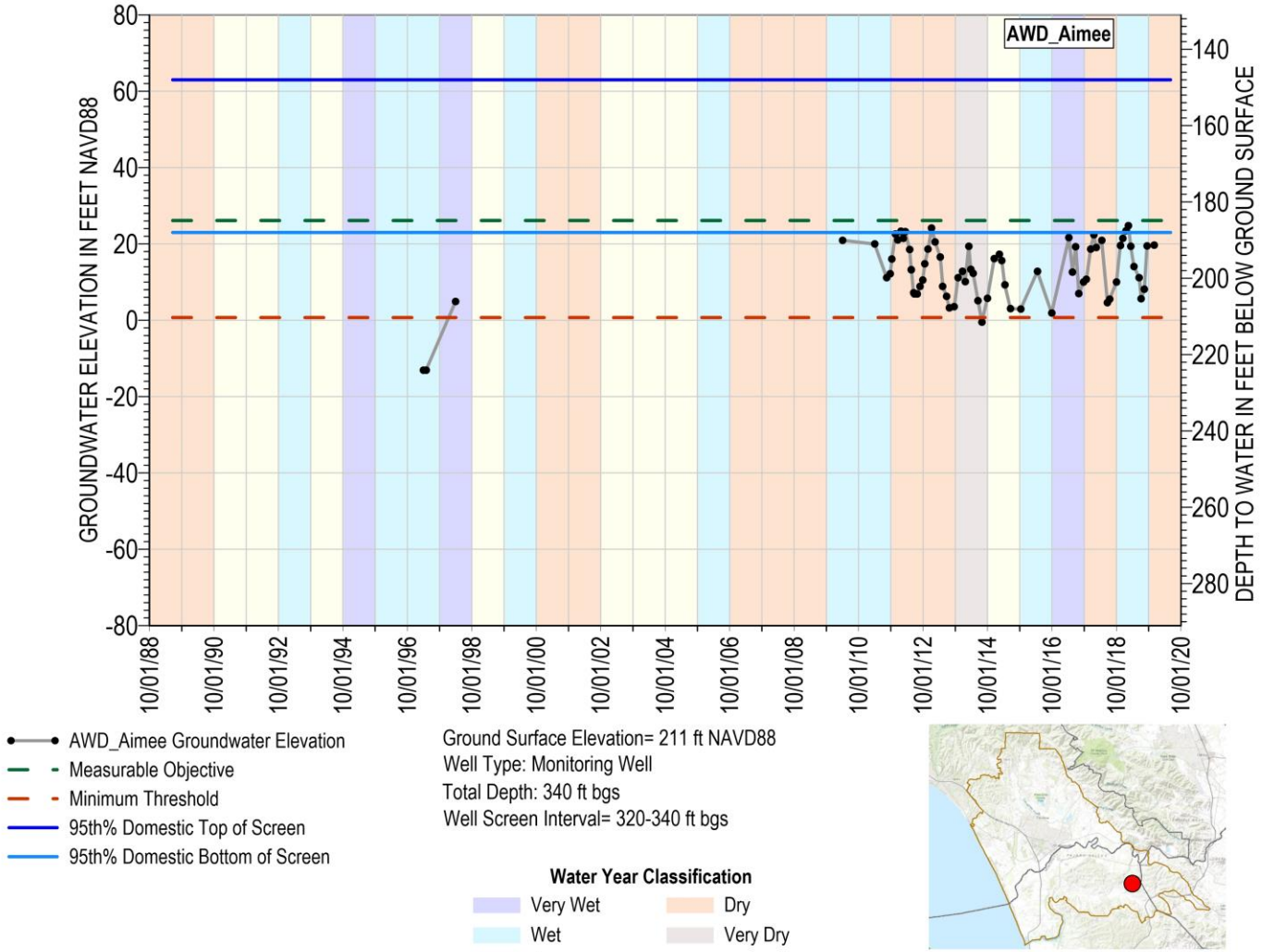
Response: Please re-examine the hydrographs in Appendix 3D. In many wells, prior droughts resulted in lower groundwater elevations than the 2014 drought (Figure 3; Figure 4). The hydrographs for PV6SM and AWD_Aimee are provided below as examples; annual minimum groundwater elevations have risen over the historical period in response to improved groundwater management. Of note, groundwater elevations were lower in the late 1980s. Just over half (58% or 7/12) of RMP wells with data available prior to WY 2000 experienced lower elevations prior to WY 2000. Similarly, 92% (11/12) RMP wells with data available prior to WY 2014 experienced lower elevations prior to WY 2014. In these cases, the minimum threshold is lower than the 2014 groundwater level as it is meant to support the groundwater supply that has been provided over the last 20 years.

In the broader PV Water Monitoring Network, which includes private wells that have been monitored as far back as the 1940s, the drought of the late 1980s and early 1990s is most commonly the period with the lowest water level in the historical record.

The map included on page 11 of the RRW comments on the GSU22 does show that groundwater elevations were more depressed in some areas in prior droughts when compared to the 2014 drought.

10/18/21 Comment #9: RRW - Consultant claims that the proposed minimum thresholds, roughly equal to 2014 level, is higher than previous drought periods. This is not substantiated by figures contained in the 2014 Basin Management Plan shown below. Look at the footprint of groundwater below sea water in 2014. This is a larger footprint than the two prior droughts years.

Response: Minimum thresholds are set at RMPs. Evaluation of hydrographs at the RMPs as described in the above response shows that a high percentage of RMPs with available data had lower groundwater levels prior to 2014. The majority of long-term monitoring wells monitored by the agency reflect water levels approximately 5-10 feet lower at the end of the early 1990s drought than the lowest groundwater conditions observed during 2000-2020.



*Note: Pumping measurements and outlier data removed where applicable
Land surface and screening for nearby domestic wells shown on following figure
Screening ranges from -321 to 122 ft amsl
MT higher than 76% of domestic well TOS and 86% of domestic well BOS

Figure 3. Chronic Lowering of Groundwater Levels Minimum Threshold, Measurable Objective, and Top of Screen for AWD_Aimee [Figure 22 in GSU22]

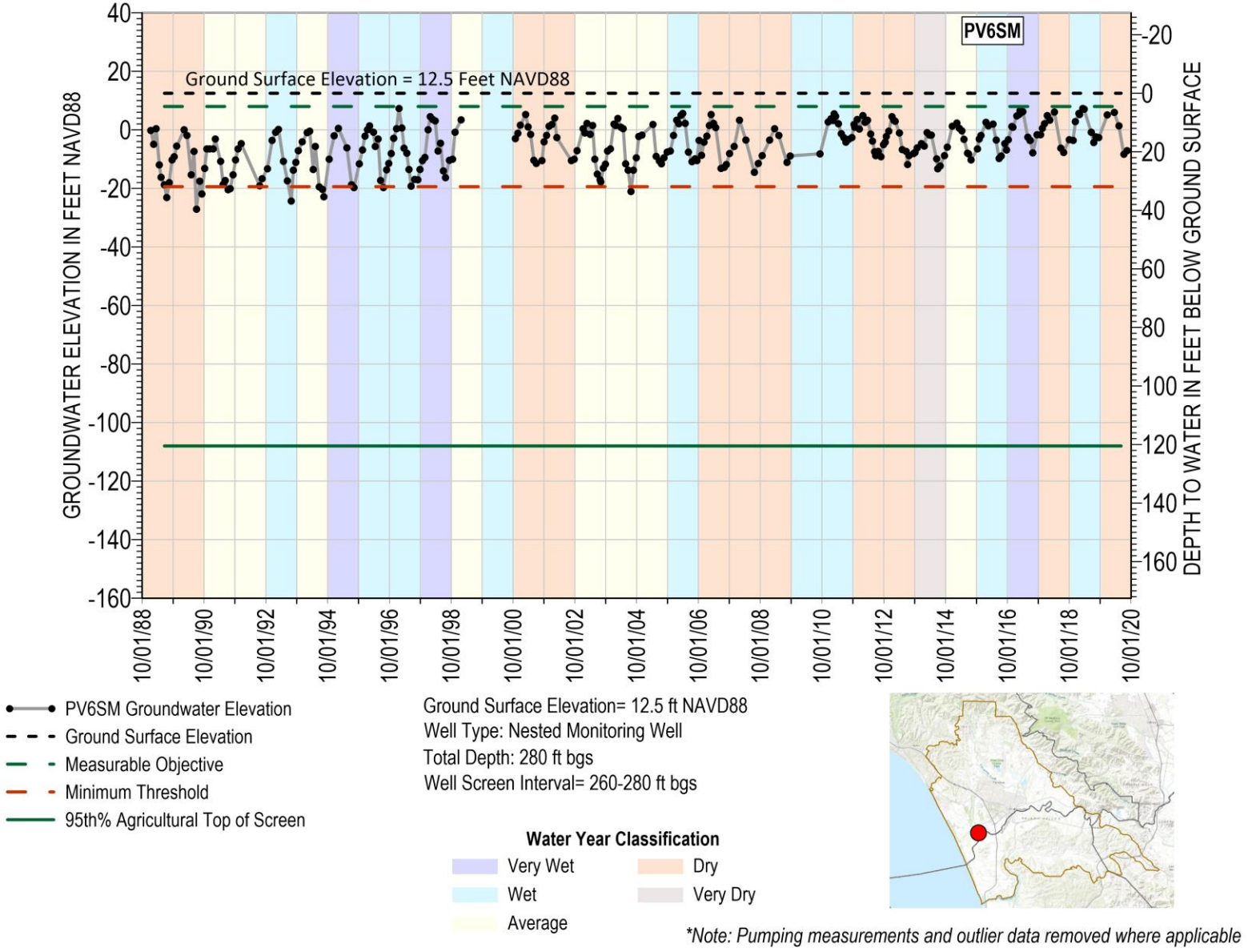


Figure 4. Chronic Lowering of Groundwater Levels Minimum Threshold, Measurable Objective, and Top of Screen for PV6SM [Appendix 3D

Comment 3.11: RRW – The draft plan proposes to allow exceedances to go below the minimum threshold for as many as 4 years when the minimum threshold is already set at a 3-year drought period low. This creates a situation similar to a 7-year drought which has not even occurred in recorded history in the Watsonville area. Low groundwater levels cause chlorides to move inland rapidly. Historical droughts last typically 3 years. Why are exceedances set at levels that are based on 7 years of drought?

Response: The minimum threshold is not necessarily set by a 3-year drought period. It is based on the average of the 2 annual minimum groundwater elevations at RMPs observed, which have occurred during dry and wet years. For example, the AWD_Aimee RMP minimum threshold is the average of water levels observed after Water Year 2014 at the end of the cited 3-year drought and a little over 2 years later following a wet and average year. A period of declining groundwater levels over 7 years has not been observed but would likely result in groundwater levels well below the minimum threshold.

10/18/21 Comment #11: RRW - We disagree with the Consultant's statement that the exceedances do not constitute a scenario equal to a 7 year drought. The criteria that requires 15% of RMPs to go below the minimum threshold for an additional 4 years before an undesirable result occurs creates equal to a 7 year for people living in those 15% of RMP areas. the other 85% of RMP areas. This creates a disproportionate hardship for people living in areas where shallower wells tend to be located, typical for domestic wells and small water systems. People can bring in trucked water, they can put up with slow filling water tanks, etc., for a year or two. Four years is too long for even one RMP to go below a minimum threshold.

Response: We maintain our original response. Please also note that GSU22 Section 3.8 cites the SGMA definition of an undesirable result for chronic lowering of groundwater levels as follows (Water Code Section 10721):

> Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

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Comment 3.12: RRW - There is conflicting information about the number of wells to be in the revised RMP network. Figure 10 shows 14 RMPs and an additional 6 wells to be considered as RMPs for a total of 20 RMPs. Figure 26 shows 8 additional RMPs are recommended to be added

to the above scenario which could raise the RMP number to 28. Of the 8 additional wells in Fig. 26, 6 of them are located in the alluvial plain areas.

Response: Figure 10 (now Figure 13) does not show additional RMP locations. These (pink dots) were wells which were considered to be RMPs but were not included in the final RMP network. RMPs in the same spatial location but at different depths provide vertical representation of the Aromas aquifer, such as the HudsonS and HudsonD wells.

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10/18/21 Comment #8: RRW - The proposed minimum threshold levels are not based on sound historical data, especially outside of the DWZ zone.

Historical data does not support the claims of justification for minimum thresholds in Section 3.7 of the draft GSU 22 plan. Consultant claims that hydrographs listed in Appendix 3B and 3D justify minimum threshold levels at RMPs. Table 11 provides a summary of historical groundwater levels for 18 RMPs. Of the 18 hydrographs shown, 9 are located in or near the delivered water zone (Hudson S, Hudson D, PV1M PV3D, PV3S, PV4MD, PV6SM, PV6MD, PV8S) so the graphs are representational for inland RMPS due to receipt of delivered water. For 6 of the remaining wells, NO DATA FOR YEARS PRECEDING 2000 IS AVAILABLE. The remaining 3 wells (well 5, well 9, Aimee) also have significant data gaps exist during various periods implying the wells were either deepened to capture more of the surrounding area's groundwater, more screen height was added or water users were diverted to a city water line. Out of 18 wells, there are no reliable wells with sufficient data to justify the proposed minimum thresholds over time for inland wells.

Response: The minimum thresholds shown on what is now Table 10 are set at the average of the 2 lowest annual minimum groundwater elevations from WY 2000-2020. Groundwater level data at the RMPs prior to 2000 are not needed to calculate minimum thresholds. Groundwater levels in the Basin prior to 2000 were generally lower than groundwater levels after 2000 so inclusion of those data in the definition would result in lower minimum thresholds. At RMPs without data prior to 2010, the minimum thresholds are likely set higher than they would be if data prior to 2010 were available due to higher groundwater levels in the Basin since 2010. If groundwater levels at these RMPs were higher prior to 2010 than after 2010, the minimum thresholds would not change.

Seawater Intrusion Sustainability Status

Comment 7.6.1: RRW - SECTION 7.5 NEEDS TO RECOGNIZE AND PROVIDE MANAGEMENT ACTIONS FOR SWI ALREADY OCCURRING AND THAT IS NOT BEING ADDRESSED. A STRATEGY FOR DEALING THE INTRUSION IN SPECIFIC AREAS THAT ARE NOT PROTECTED BY DELIVERED WATER NEEDS TO BE INCLUDED IN THE DRAFT PLAN[...]The following two chemographs for Hudsen Landing and SCA9A (Appendix 2A) show significant SWI to the north and the south of the delivered water zone. The draft plan states that more monitoring wells are needed. However, SWI occurring here SHOULD BE ADDRESSED IN THE DRAFT PLAN. The draft plan also needs to address potential management actions for sea water intrusion Areas B, E and F. Firsthand observations of massive intensification in agricultural practices in south of the delivered water zone in the Carnerous Creek sub-basin occurred 2009 thru 2019 likely contributed to this 850% increase in chlorides [at Hudson S].

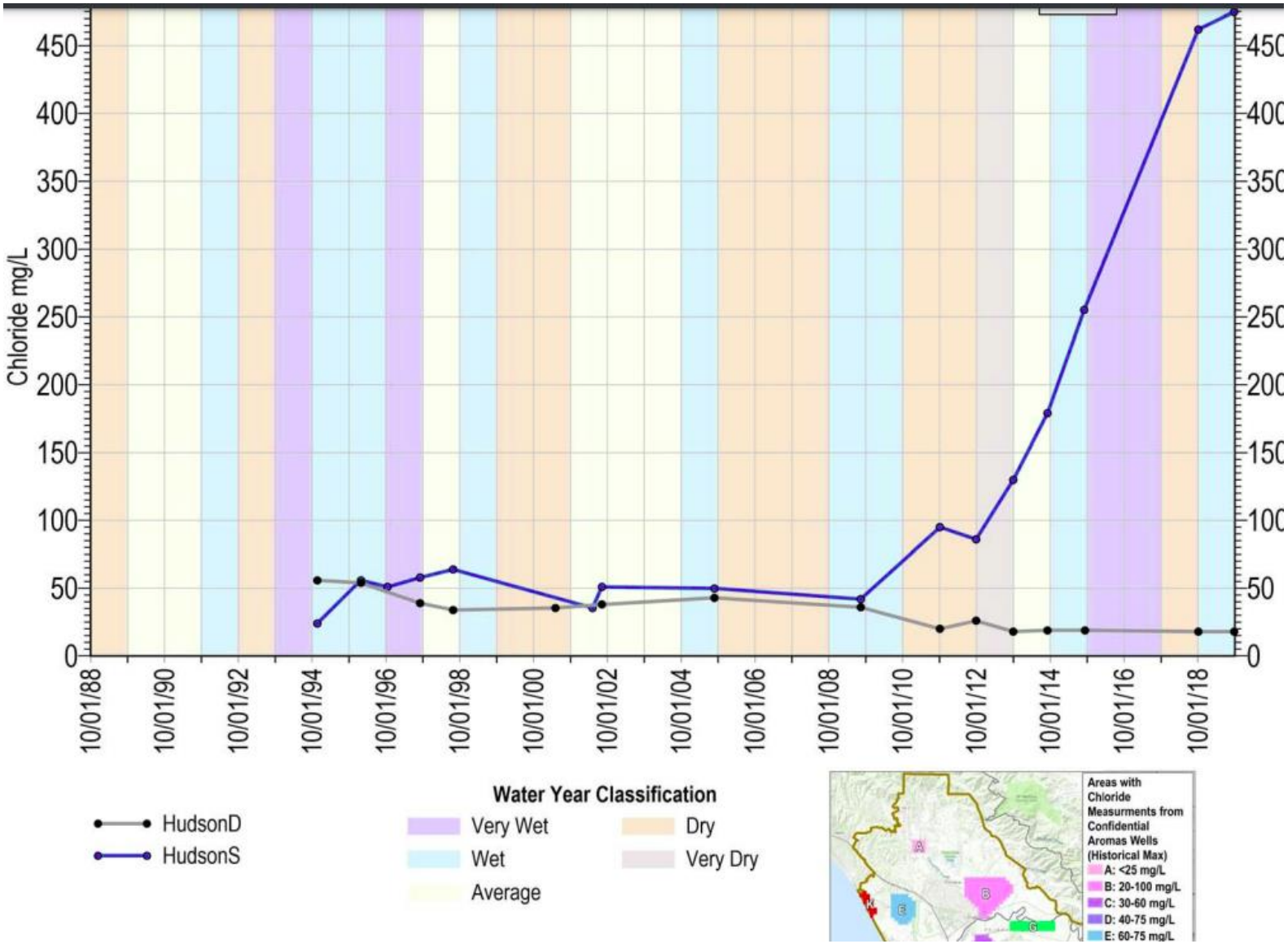

Figure 5. Hudson Wells Chloride Chemographs [From RRW Response to GSU22;Originally from Appendix 2A of GSU22]

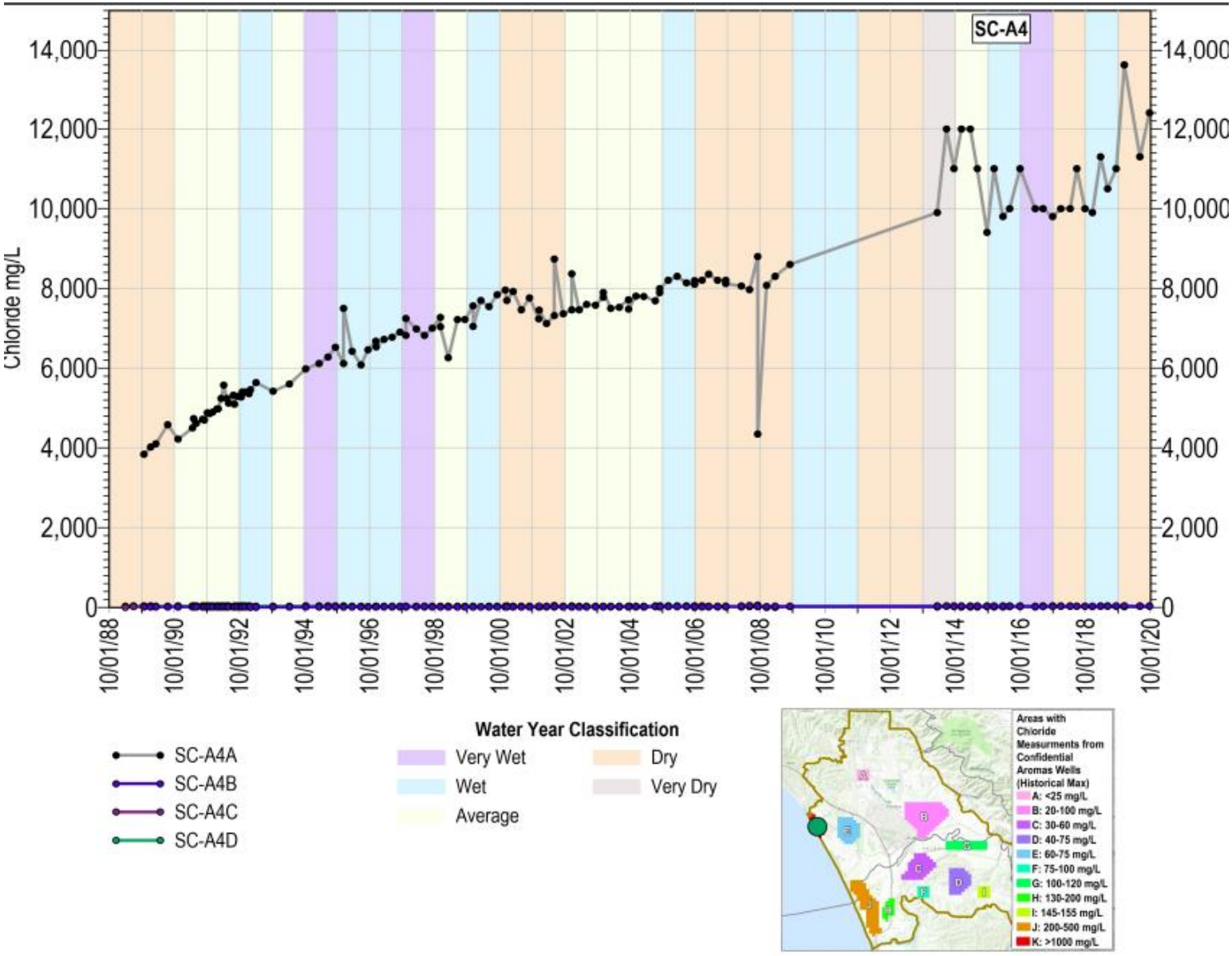

Figure 6. SC-A4 Chloride Chemographs [From RRW Response to GSU22; Originally from Appendix 2A of GSU22]

Response: Consistent with SGMA, the seawater intrusion SMC define a chloride concentration isocontour as the extent "to which additional seawater intrusion would not be significant and unreasonable" as stated in DWR Recommended Action 7. SGMA does not require reducing seawater intrusion where it has already occurred. However, the BMP 2014 projects and management actions are designed to reduce the rate of seawater intrusion where it has occurred to prevent seawater intrusion from advancing beyond the SMC isocontour. Reducing groundwater pumping in the delivered water zone should also raise groundwater levels in adjacent areas such as the areas around the Hudson well series and SC-A9A and reduce the rate of seawater intrusion in those areas as well. The efficacy of BMP 2014 projects and management actions in preventing significant and unreasonable seawater intrusion will be evaluated based on implementation of BMP 2014 Phase 1 by 2025.

The measurable objective will also be used as a management goal to prevent seawater intrusion causing chloride concentrations above 100 mg/L inland of the measurable objective isocontour. As such, the following has been added to Section 2.6 of GSU22: "If the measurable objective is not being met in the future, PV Water will evaluate its projects and management actions and consider new strategies to prevent undesirable results."

The HudsonS (shallow) well and SC-A4A have chloride concentrations indicating seawater intrusion and the seawater intrusion SMC isocontour is inland of those locations. The other 3 areas do not show seawater intrusion as described below. Chemographs for all areas are available in GSU22 Appendix 2A.

Area B: There is no evidence of seawater intrusion in this inland area. Chloride concentrations have been largely stable over the historical record and remain below the measurable objective of 100 mg/L (see GSU22 Appendix 2A).

Area E: Chloride concentrations in this area do not indicate seawater intrusion and have been largely stable over the historical record and remain below the measurable objective of 100 mg/L (see GSU22 Appendix 2A).

Area F: Chloride at the confidential well available in area F has increased from roughly 50 mg/L to just under the measurable objective of 100 mg/L over the historical period but has stabilized since 2014 (see GSU22 Appendix 2A). Continued monitoring at this area will ensure that any increases of chloride concentrations above the measurable objective are evaluated.

10/18/21 Comment #4: RRW - The measurable objective is ALREADY NOT BEING ACHIEVED IN SEVERAL AREAS OUTSIDE OF THE SWI ZONE. So why are there no projects or management actions written into the draft NOW to deal with these identified undesirable results that have already occurred?

Chloride increase in the Las Lomas Area from 60 to 100 mg/L 2008 - 2018 shows steady seawater intrusion into the area. "Leveling off" 2016 - 2018 likely due to very good rain years in 2017-2018 not due to success of nearby Delivered Water Projects. If delivered water was helping here, the Hudsen Well would not have increased in chlorides by 850% from 2009 to 2019.

Response: Undesirable results are based on the significant and unreasonable condition of seawater intrusion advancing 1,000 feet beyond intrusion as of WY 2020. The measurable objective will not be met if chloride concentrations beyond the isocontour rise above 100 mg/L due to seawater intrusion. As described in the response to Comment 2.2 and 10/18/21 Comment #2, chloride concentrations in inland areas such as Las Lomas are not a result of seawater intrusion. Seawater intrusion at the Hudson Shallow well is included within the seawater intrusion SMC isocontour. Intrusion advancing beyond this area would lead PV Water to evaluate its projects and management actions as described in Section 2.6.

Groundwater in Storage Sustainability Status

Comment 7.7.1: RRW – [Why does figure 7-27 display an increase in groundwater in storage from the previous year while figure 7-28 displays an increase in pumping from the previous year? A dry year with an increase in pumping should not display an increase in groundwater in storage]

Response: The change in storage presented on Figure 51 (pg. 7-26) is calculated using interpolated measured groundwater elevations. The methodology for this calculation is described in the text on pg. 7-24 and in previous Basin annual reports. While it is true that 2020 was a dry year and pumping was up from the previous year, there are many factors which contribute to change in groundwater elevations and storage in the hydrologic system so year to year changes may not have clear explanations. In WY 2020, groundwater elevations across the Basin increased an average of approximately 2 feet. ~~primarily due to the reduced pumping~~ This increase is atypical for a dry year because pumping was lower than the previous dry year of WY 2018 when groundwater elevations declined and groundwater in storage decreased. This lower pumping in WY 2020 compared to WY 2018 is associated with impacts from the COVID-19 pandemic on agriculture product demand and production. The conclusion that groundwater in storage has increased over multiple years can be explained by consistent reductions of groundwater pumping compared to baseline. This conclusion is based on best available data and corroborated by trends in groundwater elevation hydrographs.

10/18/21 Comment #13: RRW - The Consultants response has conflicting information and fails to address our concern /comment regarding data integrity: … So which is it? Was pumping up or down in 2020? It can't be both. The consultants response to our comment did not address our concern about conflicting data contained in the groundwater storage status. This one of many examples of inconsistent data in the draft plan.

Response: Thank you for pointing out this inconsistency. As shown in Figure 52 of the GSU22, pumping was up in WY 2020 compared to WY 2019. The above response has been revised. The increase of groundwater in storage over 5 years as described in the GSU22 is consistent with the increase of groundwater elevations rising over that time period, reduced groundwater pumping compared to baseline, and the period including more wet years than dry years.

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Comment 7.7.2: RRW - The statement that GW storage reduction of 12,100 has already been achieved "despite less than 50% of overall yield goal of projects being achieved" is not true.

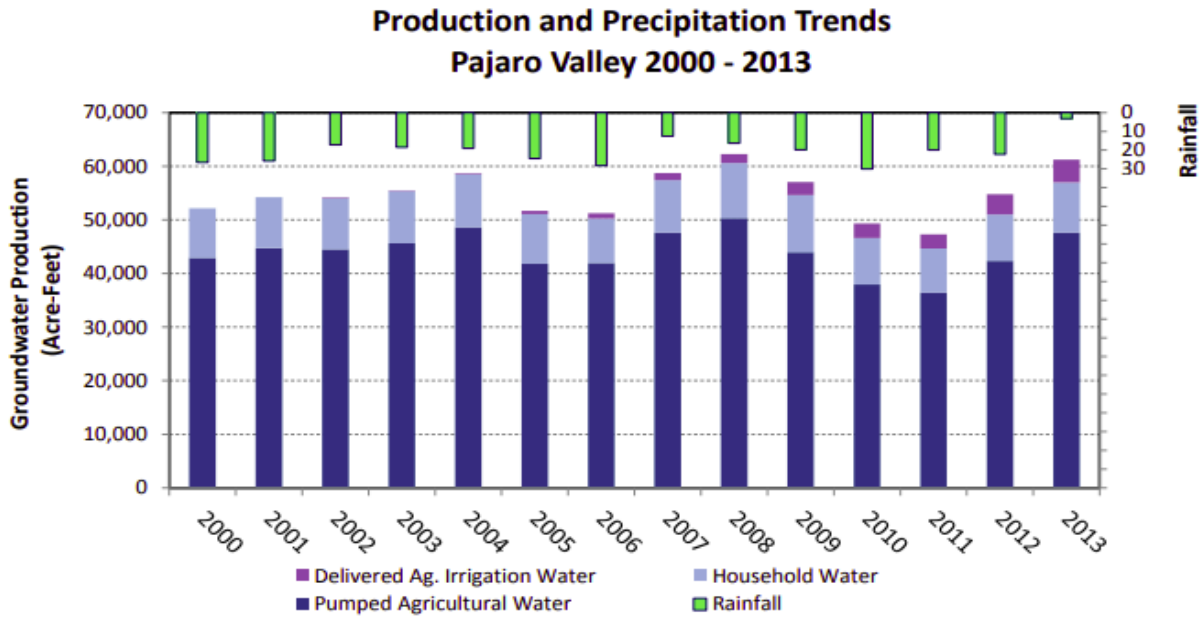

Figure 7. Production and Precipitation Trends; Pajaro Valley 2000 – 2013 [From RRW Response to GSU22; Originally Figure 2-20 in PV Water's BMP 2014]

Response: The figure provided by RRW (re-presented above) does show that 2016-2020 pumping is lower than 2006-2010 pumping.

The draft GSU22 does not state that the 12,100-acre-foot project yield goals have been met. Rather, it explicitly states that they have not been met. Meanwhile, the measurable objective for 100% reduction in the rate of groundwater in storage depletion has been achieved because groundwater change in storage has been positive in recent years based on rising groundwater levels. This is described in Section 7.7 of the GSU22:

> The measurable objective can be considered elimination of annual overdraft or 100% reduction in the rate of groundwater in storage depletion. […] The measurable objective for reduction of groundwater in storage has been achieved despite BMP 2014 projects and management actions in operation not meeting their planned yields (Table 10) and operational yields of 5,700 AFY less than 50% of the overall yield goal of 12,100 AFY. However, groundwater pumping has decreased 10,900 from average pumping for 2006-2010 to 2016-2020 (Figure 52). This number approaches the 12,100 AFY goal for the total volume of water needed to make up the average annual shortfall in the Basin even if only just over half can be attributed to BMP 2014 projects and management actions. This large decline in groundwater pumping helps explain why SMC for reduction of storage are met.

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10/18/21 Comment #13: RRW - Section 7.7 of the GSU plan needs to be revised. Sea Water Intrusion needs to be admitted to and quantified as propping up Groundwater levels and skewing groundwater storage lost when chloride limits were redefined from 100 mg/L to 250 mg/L

Consultant states that there has not been significant increase in chlorides monitoring wells outside of the SWI zone. First hand results for a RRW member's well is that chlorides have almost doubled since it was first tested. Other data ignored includes data contained in the draft GSU 22 plan. See following figures that show significant chloride increases from 2002-2011 to 2016-2020.

THE ABOVE SHOWS CLEAR EVIDENCE THAT SWI HAS HELPED TO PROP UP GWLS. THIS NEEDS TO BE ADMITTED TO IN BOTH SECTIONS 3 AND SECTIONS 7.7 IN THE GSU 22 PLAN

Response: As described in responses to Comment 2.1 and 10/18/21 Comment #2, inland chloride concentrations are not a result of seawater intrusion. In addition, Section 7.7 compares calculation of change of groundwater in storage versus the GSP Alternative's SMC for groundwater in storage approved by DWR that is based on physical change of groundwater in storage.

Chronic Lowering of Groundwater Levels Sustainability Status

Comment 7.8.1: RRW - Figure 50 (now 53) should differentiate wells inside and outside of the delivered water zone (DWZ)

Response: The figure has been edited to differentiate wells inside and outside of the DWZ.

Water Quality Sustainability Status

Comment 7.10.1: CWC - Public water supply wells regulated by the State Water Resources Control Board and state and local small water system wells (serving 2-14 connections) regulated by the Monterey County Environmental Health Bureau should be included in the Water Quality Monitoring Network as RMPs.

Response: The water quality monitoring network does not have RMP. Rather, it uses assimilative capacity calculated using all wells in the PV Water Monitoring Network and Basin well sites accessible through the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System which includes domestic drinking water wells. PV Water will consider incorporating water quality data from small water systems in Monterey and Santa Cruz County in assimilative capacity calculations in future updates of the GSU22, provided the data are available at least annually.

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Comment 7.10.2: CWC - Please clarify in the text whether ALL representative monitoring will be monitored for chloride, nitrate, AND TDS. It would be helpful if PV Water could add this information to Table 30 (or create new tables for each monitoring parameter to clarify which wells will be monitored for which parameters - the footnote is not clear) and clarify the monitoring frequency of each water quality parameter, if different than what is listed in Table 30.

Response: The water quality monitoring network does not have RMP. As noted above, it uses assimilative capacity calculated using all wells in the PV Water Monitoring Network and Basin well sites accessible through the GAMA Groundwater Information System. Chloride, TDS, and nitrate are routinely sampled at all wells monitored by PV Water. These constituents are generally sampled by other agencies as well and are incorporated into PV Water's databases when available. The note on what is now Table 29 has been edited to reflect this.

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Comment 7.10.3: CWC - It is also imperative that PV Water add into the water quality monitoring network all water quality parameters that have been identified in the Pajaro Valley Basin above drinking water standards (Maximum Contaminant Levels). This would include 123-

trichloropropane (1,2,3-TCP) and arsenic in addition to nitrate. Hexavalent chromium should also be included as a state-determined MCL is anticipated in the next year or two, and it is present in the basin. 123-TCP, arsenic, and nitrate are all monitored in public drinking water wells according to their monitoring schedules.

Response: Currently, PV Water is monitoring based on the existing water quality SMC which were approved by DWR. These are set only for TDS, nitrate, and chloride.

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Comment 7.10.4: CWC - It is important that the PV GSP include the same wells in the water quality network from year to year. In the "Sustainability Status in Pajaro Valley Subbasin: Water Quality," PV Water commented that they have "increased the total number of wells used [in the water quality monitoring network] from ~300 in the SNMP to over 630 wells in the 2016-2020 analysis." It will be important to compare water quality parameters in the same network of wells in order to determine whether water quality is degrading.

Response: The incorporation of new groundwater quality data strengthens the understanding of groundwater quality in the Basin as best available information. Ongoing evaluations are expected to use more similar network of wells, but changes in well access and data availability in such a large network will make it unlikely the exact same wells will be used every year.

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Comment 7.10.5: CWC - Take immediate actions to address the current nitrate UR present in the coastal zone. PV Water reports that the coastal zone of the Basin is currently experiencing a "theoretical" nitrate Undesirable Result. However, they have not proposed new actions to remedy this problem and instead assert that projects currently underway will remedy the issue by 2040. Current management should be adjusted to show that it is able to reach and maintain sustainability.

Response: The word 'theoretical' has been removed from the text. Text describing nitrate management projects in the Basin has also been added to Section 7.10.6.

> PV Water's Agricultural Conservation/Irrigation Efficiency Program works with growers to improve irrigation efficiency and by extension, fertigation practices. As part of PV Water's Master Reclamation Permit, nitrogen inputs in the coastal zone are monitored through delivered water and by grower application. PV Water performs an annual analysis assessing if nutrient application exceeds estimated crop demands based on land use survey. The assessments have demonstrated that current practices in the Delivered Water Zone are not adding excessive nitrogen into the system. Further, high nitrate may not

necessarily be a result of current land and water use and may be a result of previously high nitrate applications leaching through the soil and reaching groundwater. The Agricultural Order is also an important tool that requires growers to monitor and report on nutrient application with the goal of reducing nitrate loading to groundwater. In part due to the programs described above, coupled with continued monitoring and evaluation, nitrate management should continue to improve in the Basin.

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Comment 7.10.6: RRW - Rural Residents for Water has voiced concerns on a number of occasions about the unacceptable groundwater quality objectives, pro-degradation and assimilation policies that were used to in both the Salt and Nutrient Plan and the Central Coast Groundwater Quality Plan. Now these errors are being continued in this draft GSU22 plan. The objectives and the assimilation policies are not in keeping with the directives of State Water Board and Resolution No. 68-16. Our concerns were voiced in writing through a letter dated June 20, 2021, a memo dated August 10, 2021 and in two emails sent to Central Coast Water Boards between April and August. To date, no government agency has stepped up to take responsibility for allowing these pro-degradatory objectives and policies to exist. DWR stated on p.19 of the "Alternative Assessment Staff Report", July 2019, that "the Salt and Nutrient Plan is responsible for identifying at-risk areas for groundwater quality degradation and mitigation strategies." In our letter, we pointed out that at-risk areas had not been identified in the Salt and Nutrient Plan. The current draft of GSU 22 update still does not identify or state where the at-risk areas are which DWR presumed to exist in their July 2019 staff report. The Draft GSU22 needs to clearly show where the at-risk areas are and how PV Water will coordinate with other agencies towards facilitating joint strategies that minimize further risk in or near these areas.

ASSIMILATION CAPACITY POLICY NEEDS TO BE CHANGED TO COMPLY WITH ANTI-DEGRADATORY INSTEAD OF PRO-DEGRADATORY POLICY IN THE CENTRAL COAST GROUNDWATER QUALITY PLAN. The Assimilative Capacity that is in the "Salt and Nutrient Plan" and now in the draft plan is not consistent with anti-degradation policy contained in the Central Coast Groundwater Quality Plan.

The definitions for assimilative capacity in the SNP Plan do not comply with its own SNP guidelines. Page 90 of the SNP Plan states, "For the purpose of this SNMP, assimilative capacity is defined as the amount of loading the groundwater basin can receive from salts and nutrients without resulting in damage to aquatic life or humans who utilize and consume the water. How can nitrate loading that doubles in areas where nitrate levels are already much higher than safe drinking water standards not be considered as damage to aquatic life or humans.”

Assimilative capacity has not been defined to comply with the "Human Right to Water" Act.

The current assimilative capacity policy for the PV Basin . . . and for GSAs in general. . . needs to be revised so that the average 2020 concentration level for any constituent does not exceed 20% in order to be more protective of drinking water and irrigation water quality standards.

Response: The current groundwater quality SMC were developed in the salt and nutrient management plan in response to regulations put forth by the Central Coast Region of the State Water Resources Control Board (SWRCB). These were accepted by DWR in its review of PV Water's GSP Alternative submittal. Ongoing monitoring will continue to evaluate trends in groundwater quality. Please see page 17 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addressed these concerns.

10/18/21 Comment #14: RRW - The GSU 22 plan needs to be amended to correct errors and better address groundwater quality objectives and assimilative policies that are pro-degradatory instead of anti-degradatory. Policies of the Central Coast Region Water Quality Control Board (SWRCB) have not been consistent in our dealings regarding this issue. We have received conflicting information about how the State has guided local GSAs in these areas. We have been guided to links that summarize State law regarding the maintenance of the highest quality of water as possible as measured against current median levels. If the rules are in flux, we maintain that if an assimilation policy exists that allows a basin average for a contaminant to double, as is the case for both chlorides and nitrates in the PV Basin, those policies need to be changed at both the State and the local levels. Doubling of nitrates creates nitrate levels so high, that reverse osmosis filters will not be able to make drinking water safe. Doubling of chlorides renders thousands of acre-feet of groundwater unsuitable for agriculture. Doubling of TDS also renders thousands of acre feet of groundwater as unsuitable for agriculture.

The State and local "assimilation" policies are creating a de facto land use planning mechanism that can result when groundwater is no longer suitable for agriculture and creates an urban conversion pressure.

Rural Residents requested in two different letters with two additional follow-up phone calls to the Central Regional Water Quality Control Board to explain why pro-degradation policies are being allowed to set groundwater quality objectives at levels more than double the current median level for constituents. We have not received a response to our request for this information.

10/18/21 Comment #15: RRW - In our Oct. 3 comment letter to PVWater regarding the GSU22 plan, we requested the standards for assimilation policy be changed to be more protective of groundwater quality so as not to allow a doubling of contamination. Our request was to limit concentrations to no more than the following incremental percentages between now and 2039. We did not receive a response to our comment

- by 2027- average concentration not to increase above the 2020 level by more than 10%

- by 2033- average concentration not to increase above the 2027 level by more than 5%

- by 2039- average concentration not to increase above the 2033 level by more than 5%

PV Water can set an example of a much better assimilation policy by adopting a reasonable assimilative policy such as shown above. . . . . an assimilation policy that provides better protection of groundwater quality. They can set an example for DWR to consider in evaluating other GSU plans.

Response: As described in the response above, DWR accepted PV Water's water quality SMC as described for in the GSP Alternative submittal. As a result, addressing the water quality SMC was not included in DWR's recommended actions for this 5-year update and was not part of the scope of GSU22. After submittal of the GSU22, there will be a 75-day comment period to submit comments to DWR for its consideration in its review of GSU22 and the GSP Alternative.

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Comment 7.10.7: CCW - Discontinue the use of "assimilative capacity" as a water quality management strategy.

Response: The current groundwater quality SMC were developed in the Salt and Nutrient Management Plan in response to regulations put forth by the Central Coast Region of the State Water Resources Control Board (SWRCB). These were accepted by DWR in its review of PV Water's GSP Alternative submittal. Ongoing monitoring will continue to evaluate trends in groundwater quality. Please see page 17 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addressed these concerns.

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Comment 7.10.8: CWC - GSU22 states that the chloride water quality minimum threshold exceedance in zone 2 is not an exceedance because the concentrations are a result of SWI. This is still an exceedance and needs to be acknowledged as such.

RRW - The draft plan needs to recognize exceedance of chloride of assimilative capacity in Zone 2.

Response: Chloride as a result of seawater intrusion is evaluated by the seawater intrusion SMC, therefore this level of chloride in zone 2 is not an exceedance of water quality SMC. The note to Table 14 has been edited to clarify this point. ***10/18/21 Comment #16:*** RRW - In our prior

comment letter, we pointed out that the average chloride level in the Coastal zone if 273 mg/L is higher than the 250 mg/L isocontour line shown for sea water intrusion. According the Salt and Nutrient Plan's current Assimilation Policy, this constitutes an undesirable result. We asked that this fact be written into the GSU 22 section for Groundwater Quality.

The consultant responded that because the average level of chloride is in the SWI zone, it is not an exceedance or an undesirable result. This is conflicting information. Our concern is worthy of being addressed in a more meaningful way in the GSU22 plan.

Response: We maintain our original response, with clarification that it is the table note not caption that has been edited

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10/17/21 Comment #2: Brian Sparling - I am concerned that problems with water quality in the Royal Oaks area are being minimalized. The GSU22 states in the Discussion section, Statement on Sustainability of Groundwater: "there is no undesirable result for nitrate in the Basin inland of the SNMP coastal zone…" Royal Oaks is considered inland according to the report map, and our well's Nitrate concentrations hit the state limit of 10ppm in 2011 and has been steadily increasing to 13.3ppm in 2019. The report adds: "There is no undesirable results for TDS and chloride in the basin." But even if the higher MT of 250mg/l is adopted for the coastal zone, Table 2 2016-2020 values, shows that Zone 2 is already over that value. Hudson landing, which is part of the coastal Zone, has a Chloride concentration of over a 150% the MT.

Response: PV Water's water quality SMC approved by DWR are based on average concentrations over zones not concentrations in specific wells. Chloride concentrations resulting from seawater intrusion are evaluated with the seawater intrusion SMC; please see the above response to Comment 7.10.8.

Water Budgets

Comment 9.1: RRW -The historical groundwater budget for rural residential use is not realistic and needs to be reduced to a realistic number. What are the assumptions used in the hydrological model that support such high numbers for rural residential water use?

Response: Best available data are input to the groundwater model, developed by PV Water and USGS. The model will be continuously updated and improved as new data become available. Rural residential pumping is a data input to the model and the observed pumping data is used to verify simulated pumping of the water balance subregions.

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Comment 9.2: RRW - It is not clear in the groundwater budget if "flows to shore" include runoff from creeks and rivers. The budget should make it clear how much of the "outflows" are from surface water which should not be used in the calculation of "net inflow-outflow" in the groundwater budget

Response: Flows to/from offshore are all groundwater flows. Surface water flows departing to the ocean are not considered in groundwater budgets

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Comment 9.3: RRW - Only one of three water budget scenarios that was presented to the advisory committee in the September meeting is included in the Water Budget section of the draft plan. The budget that is included is considered to be the "average" rainfall scenario which actually represents a 22% increase in annual rainfall during the 2022 through 2039 period. I do not [see] in the draft where the sea level rise options are discussed. The 22% increase shown for the "average" water budget is not realistic considering the increasing disparity in climate zone patterns. The "average" scenario IS NOT CONSERVATIVE ENOUGH. The water budget scenario that should be used is the "dry" budget which does not assume significant increases in rainfall through 2039.The "dry" scenario, which is not in the draft, assumes a 3 % increase in average annual rainfall which is slightly above the historical average. The members of Rural Residents are hopeful that the Board will not adopt the "average" water budget shown in the draft plan but will instead adopt the "dry" scenario, which still projects a 3% increase in annual rainfall. We believe that it is better to be more in line with "historical" data for rainfall, especially as many climatologists project rainfall to be less than average in the future as warmer weather tends to create higher pressure zones that can keep moisture fronts from moving into an area.

Response: The USGS developed the Average CCSM4 climate scenario based on best available data from global circulation models as described in section 9.3.5 and in appendix 9A. DWR has provided central tendency climate datasets for recommended use in SGMA, which predict

increased precipitation along in the Central Coast in 2030 and 2070 as compared to historical. See Figure 8 below for a statewide illustration of average precipitation and temperature changes from historical in the DWR central tendency 2070 climate datasets. DWR guidance does allow use of locally developed climate scenarios and use of the Average CCSM4 climate scenario for projected water budget is consistent with guidance to use a scenario representing a central tendency. The Average CCSM4 scenario includes conditions drier than historical conditions for the 2040-2070 period. Projected water budget during that period shows that PV Water may need to modify its projects and management actions to counter the effects of climate change.

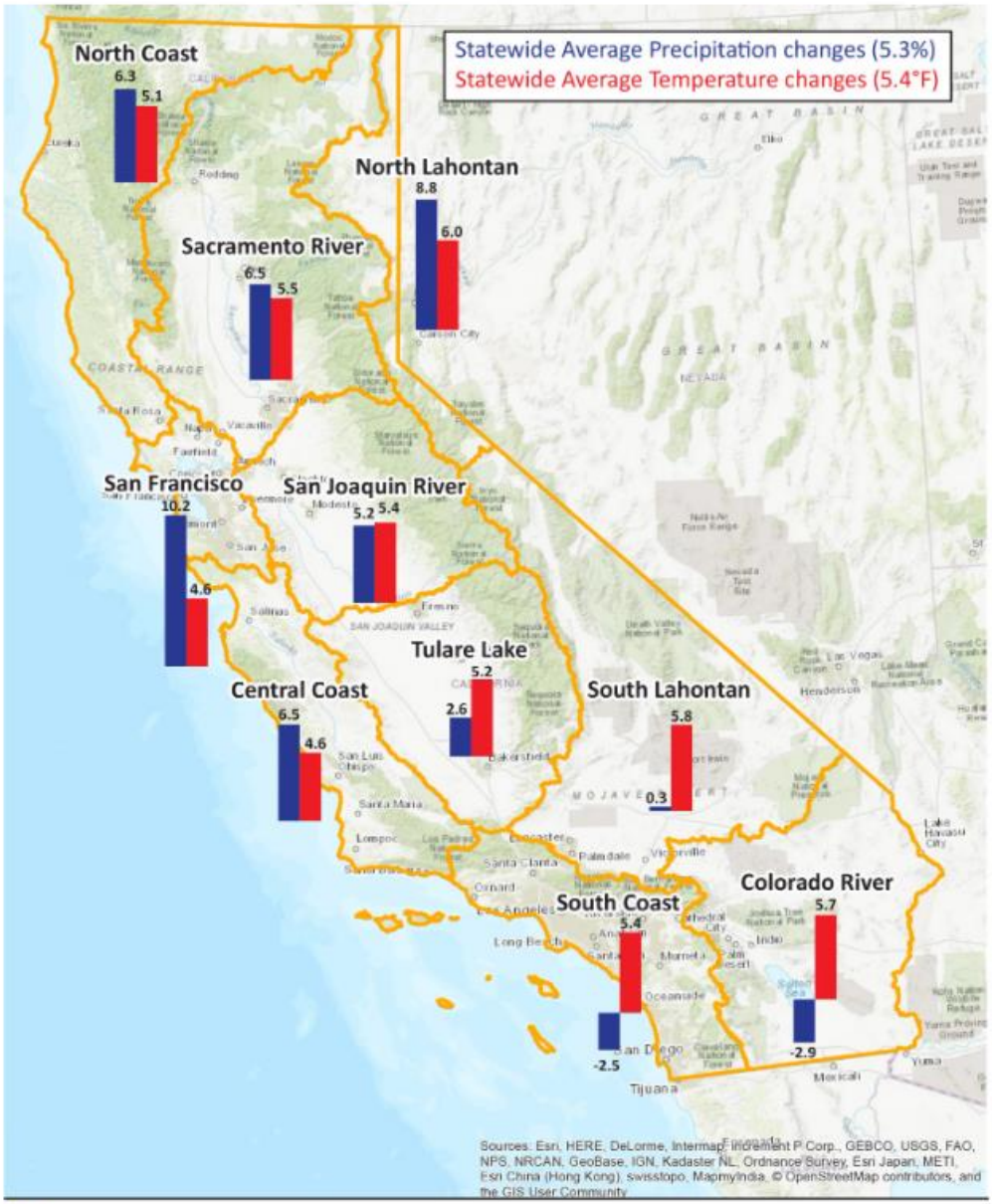

Figure A-14. Projected Changes in Climate Conditions for 2070
Source: California Water Commission, 2016

Figure 8. Projected Changes in Climate Conditions for 2070 [Extracted from DWR's Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development, July 2018]

Appendix 9A and Section 9.5 'Climate Change and Sea Level Rise Uncertainty Analysis' describe and present budgets for the additional dry scenario and high sea level rise scenarios. As presented on Figure 66 and 67 of the GSU22, the average and dry scenario both present a hotter and drier climate compared to historical observations. These concerns were previously addressed in the September Committee meeting. It is acknowledged in the GSU22 that uncertainty in climate change projections (highlighted by differences between the average and dry scenarios, and average and high sea level rise scenarios) will likely present sustainability challenges. Both the average and dry climate scenarios present dry periods that can be evaluated for planning purposes.

Comment 9.4: CWC - Based on comments made during various meetings and the consultant's response, there appears to be a discrepancy in accounting for seawater intrusion in water storage versus in the water budget. The reasoning behind such a difference remains unclear and adds unnecessary confusion. Seawater intrusion should be accounted for in calculations for both water storage and the water budget.

Response: As described in section 9.4.1, net offshore inflows (flows from offshore into the Basin) are incorporated into the storage calculations as a very approximate estimate of the loss of usable groundwater in storage due to intruded seawater. This estimate is considered very approximate because flows from offshore may not raise concentrations in groundwater to become unusable and was incorporated at the request of RRW and CWC input at the July Committee and Board meetings. This calculation is included alongside absolute change in groundwater in storage for all Basinwide water budgets presented in the GSU22. Sustainability status for groundwater in storage (Section 7.7) utilizes change of physical groundwater in storage based on changes of groundwater levels consistent with SMC approved by DWR in its assessment of the Basin's GSP alternative.

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Comment 9.5: CWC - According to PV Water's models presented during GSU22 Committee meetings, the rate of seawater intrusion is expected to decrease for a limited period of time and then drastically increase around 2040. This indicates that the PV Water's plan as currently written will be unable to maintain sustainability. PV Water should adjust its plans to prevent and manage seawater intrusion to account for the predicted effects of climate change.

Response: As described in Section 9.6:

> *"BMP 2014 projects and management actions result in net flow towards the coastline across the seawater intrusion minimum threshold isocontour for approximately 15 years past the sustainability deadline of 2040. The direction of this net flow would likely prevent seawater intrusion inland of the seawater intrusion minimum threshold isocontour and seawater intrusion undesirable results. After 2040, the efficacy of BMP 2014 projects in maintaining sustainability reduces net offshore inflows into the Basin and reductions of*

> *groundwater in storage begin to increase back to historical levels. After 2055, flows across the seawater intrusion minimum threshold isocontour again flow inland, increasing the risk of seawater intrusion undesirable results. Continued investment in implementing current and planned BMP 2014 projects, and potentially the addition of new groundwater sustainability projects or project improvements, may be required to maintain Basin sustainability through 2070."*

The Basin's GSP Alternative will be continually evaluated while the plan is implemented, with the potential for project modification or implementation of additional projects if sustainability goals are not met. As stated in BMP2014, Basin projects and management actions will be evaluated after 2025.

Monitoring Networks

Comment 10.1: RRW - Section 10.4.2.2 Seawater Intrusion Monitoring Network does not provide an adequate description of how sea water intrusion will be tracked, reported and how the public will be notified…. More information needs to be added to describe how sea water intrusion will be tracked. It needs to describe in what form(s) and at what intervals the information will be provided. It needs to describe in what way the public will be notified and have access to the information. See B. The Monitoring Plan does not commit to frequency of reporting being provided to PV Water Board, other agencies and to the public (above). It does not commit to how interested parties will be notified. More information needs to be added in monitoring protocol to describe how groundwater quality reporting will be done. It needs to describe in at what intervals the information will be provided. It needs to describe in what way the public will be notified and have access to the information

Response: Text has been added to the monitoring network background stating that the public will have access to the monitoring network results as presented in the Annual reports.

Table 30 provides the monitoring agency and frequency of monitoring for wells in the groundwater quality monitoring network. SGMA requires that up-to-date groundwater conditions, including groundwater quality and seawater intrusion, are presented in the annual reports. The public will have access to these annual reports, as they have had access to historical PV Water annual reports.

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Comment 10.2: RRW - RMPs planned in non- alluvial areas are low priority. This further exacerbates the inadequacy of the RMP network and the further skews the calculation of exceedances for GWL-SMCs to the detriment of rural residents

Response: This is not the case. As presented in section 10.6.3:

> *"The category with the highest priority to address is where additional RMPs are recommended. The next highest priority to address is where there are spatial data gaps within the full PV Water monitoring network. The lowest priority to address are spatial data gaps that only occur within the PV GSP Alternative monitoring network."*

The text states that data gaps where there are no Aromas monitoring wells (confidential or otherwise) are medium priority (areas 7 and 8 on Figure 9). Groundwater monitoring in these areas need to be established first before evaluating need to add RMPs for these areas. As described in Section 10.6.3.1.3, existing RMPs may be representative of these areas. The highest priority areas are where additional RMPs are recommended (areas 2, 3, and 4 on Figure 9) with

areas 2 and 3 identified to establish RMPs near domestic water users. Appendix 3E displays data to inform chronic lowering of groundwater levels SMC for these RMPs when they are established.

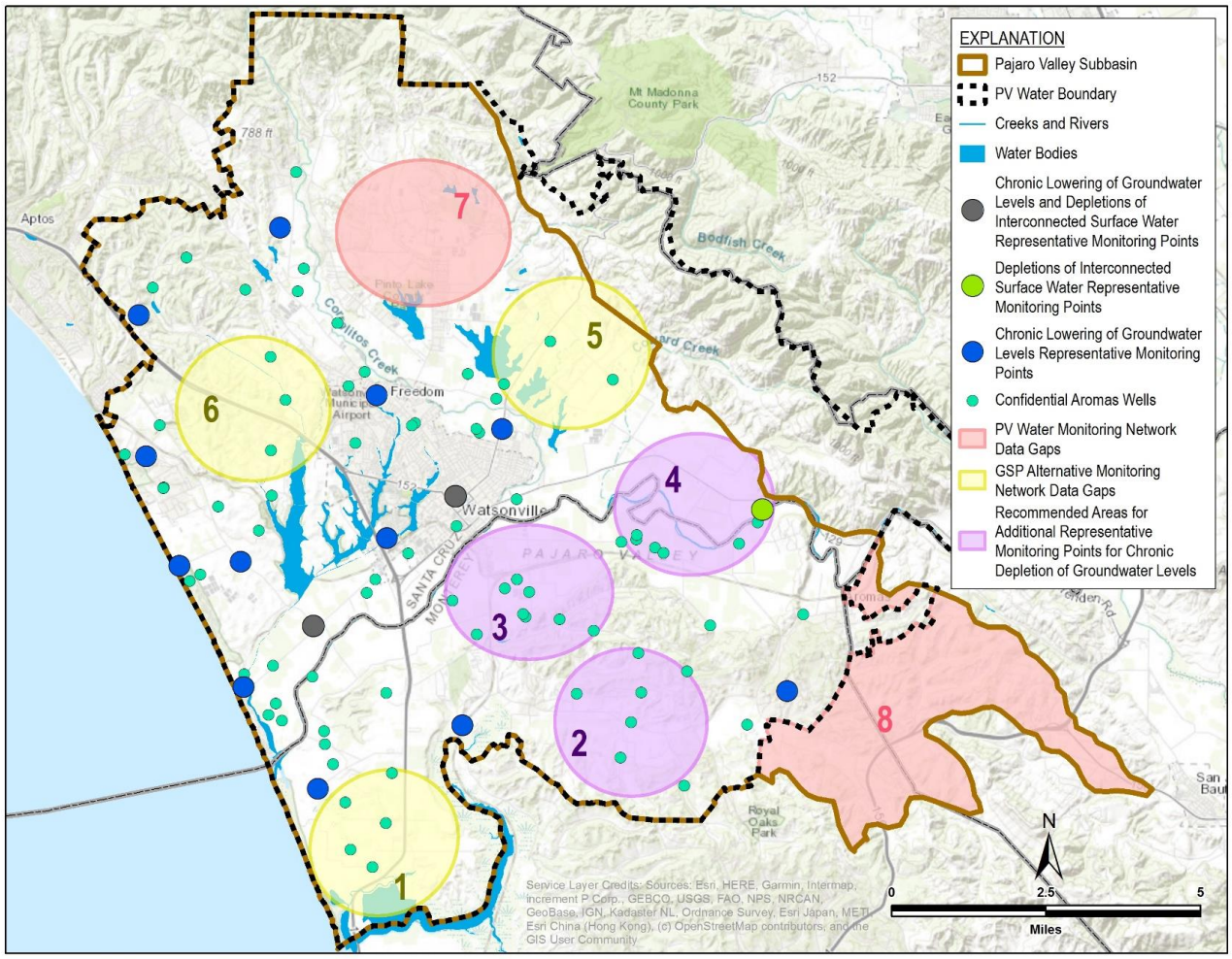

Figure 9. Groundwater Level Monitoring Networks and Identified Data Gaps [Figure 86 in GSU22]

10/18/21 Comment #6: RRW - RMPs planned in non- alluvial areas are low priority. This further exacerbates the inadequacy of the RMP network and the further skews the calculation of exceedances for GWL-SMCs to the detriment of rural residents. This makes is even more important for exceedances to be revised so that GWLs and RMPs do not go below the minimum threshold for more than 2 years. . . not 4 years.

Response: Please see response above and response to Comment 3.5.

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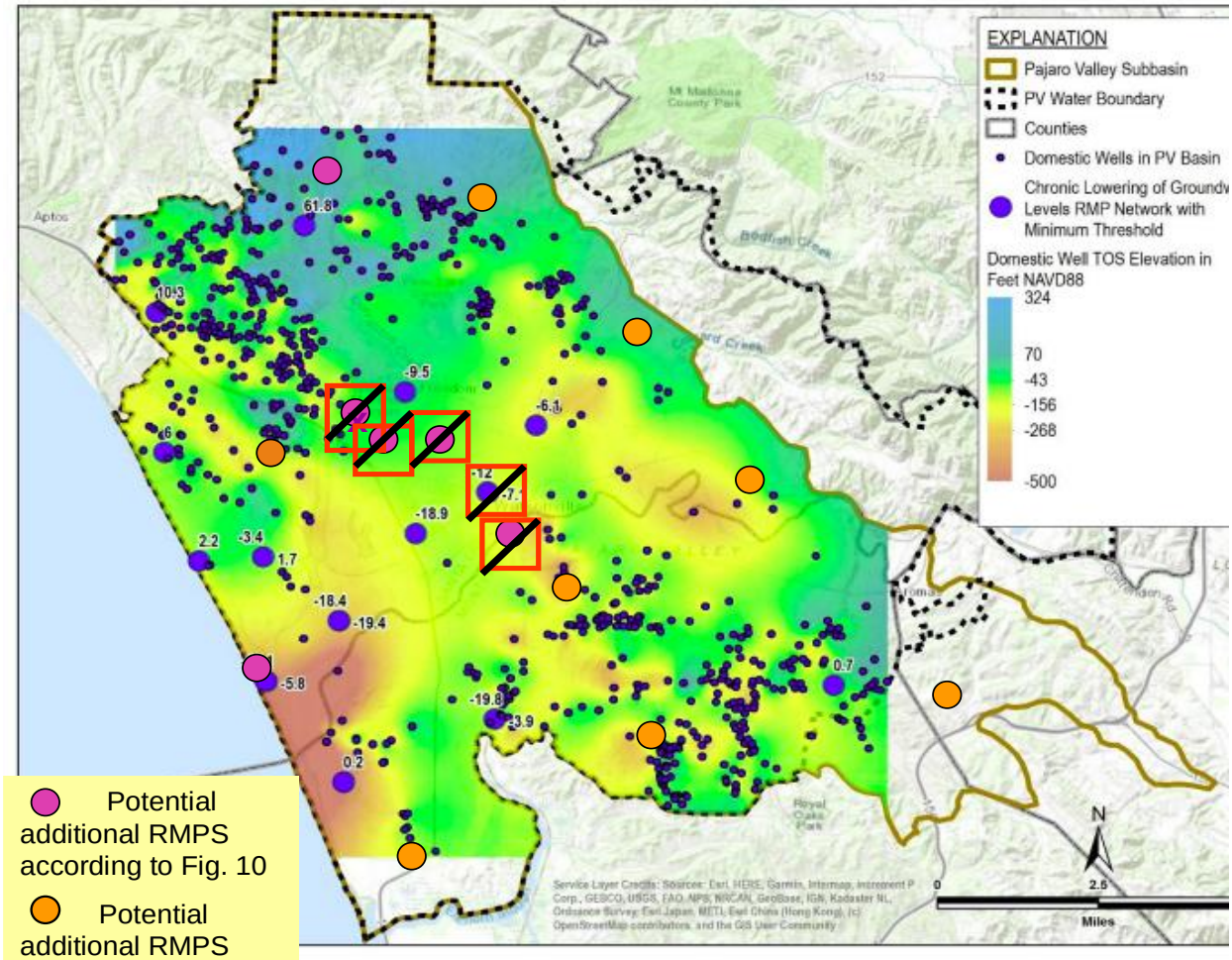
Comment 10.3: RRW - Duplicatory RMPs need to be eliminated to make RMP network more representational

Recommended RMP network. Delete 5 duplicatory RMPs in alluvial plan. Add additional RMPs near rural residential areas.



Potential additional RMPS according to Fig. 10

Potential additional RMPS according to Fig. 26

Delete these RMPs. Duplicatory in alluvial plain areas

Figure 10. RRW Chronic Lowering of Groundwater Level Data Gap Analysis [From RRW Response to GSU22]

Response: The wells shown on Figure 10, and copied onto this map created by RRW, are not additional wells to be added as RMP. Rather these are wells that were considered as RMP but not included in the final network. Therefore, the revision requested here is already part of GSU22.

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Comment 10.4: RRW - There are unacceptable groundwater elevation data gaps in the upland areas with elevations greater than 200 feet.

Response: The focus of GSU22 is on the Aromas aquifer as the primary aquifer. The lack of Aromas aquifer monitoring wells in the far upland areas of the Basin precludes the current establishment of RMP there. Adding monitoring in these areas has been identified as a data gap to address. The current plan to address data gaps is described in section 3.11 and section 10.6. Please also see page 14 of the Response to Rural Residents for Water technical memorandum (9/7/2021) which addressed this concern. These concerns were also addressed at the May and September Committee meetings.

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Comment 10.5: RRW - Groundwater Extraction Protocols, 10.5.2, states that agricultural operations that extract less than 10 acre/feet per year of groundwater are exempt from metering. It is not clear if non-metered agricultural pumping has been in annual reports, water budgets, groundwater storage estimates, and other projections and if it has been, where is it shown. PV Water has estimates for non-metered rural residential water usage. If so, how and where is non-metered ag water use reflected in important charts and graphs. If not included, non-metered agricultural water usage needs to be included in every aspect of PV Water's sustainability planning and every aspect of the GSU22 plan development.

Response: Non-metered pumping is incorporated in PV Water's model inputs to the PVHM and in annual reporting pumping estimates. As described in Section 10.5.2 of the GSU22, non-metered pumping estimates are based on the size and type of land use where the non-metered pumping takes place.

Estimated water use both for the Rural Residential user category and the non-metered ag pumping are included in the annual water use totals in PV Water annual reports. In the model, rural residential pumping is a data input and the observed pumping data is used to verify simulated pumping of the water balance subregions. Large scale purveyor wells are modeled based on actual pumping and agricultural wells are used as water extraction points to meet simulated crop water demand.

Outreach and Engagement

Comment 12.1: CWC - More materials should have been provided in a bilingual format (Spanish and English) and there should have been bilingual committee members or staff available to participate in bilingual outreach efforts.

Response: PV Water appreciates your comments and recommendations as provided in CWC's October 4, 2021, Comment Letter. Per comments regarding #7 Outreach & Engagement: We will take these comments into future consideration. We want to reiterate our comments from Committee Meeting #12 (September 9, 2021) that our Communication & Engagement Plan was published, presented, and invited comments at Committee Meeting #1 (October 14, 2020). No comments were provided from CWC, Committee Members, or any stakeholder. As such, the Committee accepted the Communication & Engagement Plan and the GSU22 outreach approach proceeded. All 12 Committee Meetings had a specific Communication & Engagement discussion on the agenda. At no time were recommendations made by any stakeholder, including Alternate Committee Member Mayra Hernandez of CWC, to improve the outreach. CWC did ask for a Spanish translator to be present at the September 28, 2021, Community Meeting and PV Water provided a translator. At all meetings, Ellen Cross, Strategy Driver, Inc. was available to speak Spanish, but translation was not requested. Being conscientious of improvement and lessons learned, a GSU22 Survey was presented at all 12 Committee Meetings and Community meetings. We received three completed surveys and responded accordingly. None of the Surveys requested Spanish translation or additional outreach. We appreciate the reflection on how to approach Communication & Engagement and will take that into future consideration; real-time feedback would have afforded the process the benefit of real-time recalibration.

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Comment 12.2: RRW - Decision makers have minimalized Rural Resident requests to apply a more conservative and protective SMCs for groundwater level and have not accepted our testimonials as valid concerns [….] GWL Exceedances need to be more protective because it is not always feasible for an RMP network to proportionally detect groundwater levels for all water use sectors, especially domestic wells located above 200 ft elevation.

Response: PV Water provided the Response to Rural Residents for Water technical memorandum (9/7/2021) , which addressed concerns listed by RRW. The petition provided by RRW was also reviewed publicly at the May Committee meeting and mentioned at Board Meeting #1.

All comments, including those provided by RRW and CWC, were taken seriously. In addition to formal meetings that were open to the broader beneficial users of water, informal meetings were

conducted between Committee meetings. PowerPoint presentations presented by both RRW and CWC were also accommodated during public meetings and the Committee Meetings. Committee Member Marla Anderson (RRW) and Alternate Mayra Hernandez (CWC) were given ample time to speak during all open meetings and were provided time in between meetings to speak with staff and consultants. The GSU22 Committee heard input by all stakeholders and they had the ultimate decision to incorporate comments. Some comments were accepted and some were not. The Committee Members voted on recommendations to PV Water Board and were submitted based on majority vote.

PV Water advanced all correspondence requested to be shared to the GSU22 Committee from all parties. Opportunities for comment by GSU22 Committee and public attendees was afforded following each discussion item and during Question/Answer sessions. GSU22 Committee members and the public at large were afforded ample opportunity to express their perspective as members of RRW and CWC elected to utilize this frequently during discussion and votes. The GSU22 Committee was established to provide a collective body that represented an array of interests and groups in the Basin to provide recommendations to the Board of Directors for approval. While unanimity would be ideal, with a diverse group of perspectives it is reasonable that not all parties would agree on every matter. Most Committee votes passed with only one or two of the 15 members voting against any given recommendation.

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Comment 12.3: RRW - Several of RRW's communications were ignored and personal testimony regarding known occurrences of well distress by Rural Residents at Advisory Committee meetings were discounted. the GSU22 process did not facilitate participation by RRW. No changes were made to chronic lowering of groundwater level SMC as a result of RRW testimony.

Response: PV Water provided the Response to Rural Residents for Water technical memorandum (9/7/2021), which addressed concerns listed by RRW. PV Water also held meetings with RRW to address their concerns as well as meetings prior to and after every Committee meeting. The petition provided by RRW was shared publicly and fully responded to in the May Committee meeting. Further, chronic lowering of groundwater level SMC were changed based on comments from Committee Member Anderson, the Rural Residential Well Owner Representative on the Committee. Committee Member Anderson also agreed to share her well data and which will contribute to monitoring data.

Best available data were used to develop all SMC, including for chronic lowering of groundwater level. The definition and determination of occurrence for significant and

unreasonable conditions for all indicators was based on feedback provided by the GSU22 Committee.

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Comment 12.4: CWC - CWC presented to both the GSU22 Committee and the PV Water Board regarding the incorporation of a Drinking Water Well Impact Mitigation Program into PV Water's groundwater management. We offer more detailed recommendations here for further consideration.

Response: Thank you for your comments. The incorporation of a Drinking Water Well Impact Mitigation Program is not within the scope of GSU22. CWC was given a platform to present information regarding a Drinking Water Well Impact Mitigation Program at a GSU22 Committee meeting as well at the PV Water Board of Directors meeting in September.

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Comment 12.5: RRW - Please correct line item in chart on page 12-4 "Rural Residents for Water" January 2021- December 2021, 'One on One meetings with Committee Member Marla' to 'Clarifications provided via telephone meetings with Committee Member Marla Anderson, Provided opportunity for questions and comments during zoom meetings'

Response: This text has been edited accordingly without reference to Zoom (or GoToMeeting) meetings because this entry refers to meetings beyond the 12 monthly Committee meetings.

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Comment 12.6: RRW - If funding is not in place to cover the costs to construct new or deepen existing wells that fail due to groundwater quality or groundwater level problems based on approved RMP plans, the RMP plan may not be sufficient to protect a GSA from liability for loss of human right to water.

Response: Thank you for your comments. The incorporation of this type of funding is not within the scope of GSU22.

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