SLO Valley Basin Groundwater Sustainability (GSP) Public Comments

Last Updated: 7/26/21

Name	Comment Subject	Comment	Date/Time
James Waldsmith	GSP Chapters 1 & 2 - DRAFT	Could you send me a copy of the presentations presented on 9-11-19 in PDF format? In reviewing the available download of chapters 1 and 2 I do not find any of the Hydrology data presented. Please confirm receipt of this communication.	9/14/2019 13:24
Toby Moore	GSP Chapters 1 & 2 - DRAFT - Agency Information	Golden State Water Company is of the opinion that an advisory body, similar or with the same structure of the current Groundwater Sustainability Commission (GSC), may be beneficial and perhaps necessary for GSP implementation. The MOU establishing the GSC contemplates this and does have language stating the following, "Depending on the content of the GSP the Parties may decide to enter into a new agreement to coordinate implementation." Inclusion of this language in Section 2.3.2 is recommended.Please consider the addition of the following text before the last sentence in Section 2.3.2. "The Parties may decide to enter into a new agreement to coordinate GSP implementation."	10/31/2019 9:17
George Donati	SLO Basin GSP Chapters 3 & 4 - DRAFT	3.1 SLO Bain Introduction - We need to include the history of the Edna Valley Basin. In the 1950's - 1960's the East branch of the Corral de Piedra creek was dammed to install a 500 acre foot reservoir. In the 1970's, this dam was raised for a 1000 acre foot reservoir. This dam removed all flow of water into the Edna Valley Basin as the water was used for crop irrigation outside of the Edna Valley Basin. The flow downstream of the dam is not properly managed by the owner of the dam and the state water board. This has greatly reduced the re-charge of the Edna Valley Basin for the past 50 years. 3.4.1 Water Source Types - This states " Excluding the Edna Valley Golf Course, all water demand in the SLO Basin are met with groundwater" - This needs to be clarified. The Golf course uses ground water to irrigate the course, and the golf course sells groundwater water to Golden State Water Company for residential use. 3.4.2 Water Use Sectors - Industrial - The ground water wells that supply water to the Price Canyon Oil Field are just outside of the basin boundary. Why are these wells not considered to use groundwater from the Edna Valley Basin since a natural flow from the creek passes adjacent to these wells? 3.6.1.3 We are monitoring the flow of San Luis Obispo Creek as surface water leaves the San Luis Basin. Why not monitor the flow of the other major creeks, east and west Corral de Piedra at the edge of the Edna Valley Basin to determine the flow that is leaving the Basin? Or better yet, the flow that could be coming into the basin below the Dam on the East side of the valley.	1/30/2020 8:10
Toby Moore	Communication and Engagement Plan	Appendix B of the plan describes the Groundwater Communication Portal's functionality which includes a repository of comments provided by stakeholders. However, it does not indicate whether the comments submitted will be visible or available via other means for stakeholders to review. Currently there appears to not be such functionality. As a member of the Groundwater Sustainability Commission, I feel this functionality is helpful and would encourage its implementation.	8/29/2019 9:20

Sally Kruger	General Comments	Hi there, saw you on the GSP call yesterday and don't know if you know that we used to live on Righetti Road just down from the Righetti dam and had a creek (WCDPC) running through our property that used to have lots of steelhead in it. Unfortunately, between climate change, droughts and the dam, the steelhead have pretty much disappeared. I found yesterday's meeting to have a very interesting figure in it. The one that estimates a sustainable basin for the SLO Valley is estimated to be 5600 AF. The Righetti dam has State water right permits to hold back 991 AF. (The largest private reservoir in the State) Of course, their property and the dam are not within the boundaries of the watershed for which the plan is being developed. But I couldn't help but be astonished that the permits allow them almost 20% of the water needed to maintain the whole slo water basin and all the vineyards and ag as well as residents contained in it. I've spent a great deal of my time and energy working with Creeklands conservation, CDFW and SWRCB over the last 15 years to try to restore the water and the fish. I'm sure you would know as many of the city's projects have very long time lines. We now live in town, but I continue to work on "my" creek. Just some interesting info for you. Again, thanks, Sally	6/29/2020 12:53
Mark Capeli	SLO GSP Chapter 5 -- DRAFT - 5.8 Potential Groundwater Dependent Ecosystems	Enclosed with this letter are NOAA's National Marine Fisheries Service (NMFS) comments on Chapter 5: Groundwater Conditions of the San Luis Obispo Valley Groundwater Basin (SLO Valley Basin) Groundwater Sustainability Plan (GSP).	5/29/2020 14:59
Steph Wald	General Comments	Ch 5 commentsThank you for the opportunity to comment on Chapter 5 Groundwater Conditions of the SLO Basin Groundwater Sustainability Plan. We previously provided comments dated January 7, 2018, in the earlier phases of the development of the SLO Valley Basin. Those comments provided direction on a framework for addressing Groundwater Dependent Ecosystems (GDE) under SGMA by The Nature Conservancy. Thank you for utilizing the framework and careful consideration of GDE's in Chapter 5.Regarding the integration of technical datasets on GDE's, Figure 5-15 identifies potential GDEs and that those identified are not yet verified. While a monitoring network for future planning efforts may verify GDEs through subsequent field reconnaissance, I would suggest that project development could be informed by having GDE verification sooner rather than later. If this is not possible, and there isn't enough data to label them unlikely GDE different language to label them might be appropriate such as less likely GDEs.Page 25, second paragraph, second sentence, add The Stillwater study identifies much of the drainage area of East and West Corral de Piedras Creeks, as well as area of alluvium of smaller streams to the southeast, as having high recharge potential. Thank you.	6/1/2020 14:24
Toby Moore	DRAFT_SLOGSP_Modeling_TM No.1.pdf - Section 5. MODFLOW: Groundwater Flow Model	In section 5.1.5 "Well Pumpage", the memo identifies that the model will estimate well extractions for all wells except those owned and used for "municipal pumpage by the City will be represented in the specific wells owned and operated by the City". Golden State Water Company (GSWC) also owns and operates a public water system (GSWC - Edna System) and their municipal well extractions are metered and should be inputs into the model as opposed to estimates. Suggested text: "CHG estimates of historical well pumpage developed for the water budget analysis will be incorporated into the historical calibration of the groundwater model. Municipal pumpage by the City and Golden State Water Company (GSWC) will be represented in the specific wells owned and operated by the City and GSWC, respectively."	6/15/2020 16:41

Jean-Pierre Wolff	General Comments	Dave, Sometime ago I mentioned to you that within the Edna Valley watershed there are several permitted reservoirs diverting surface water flow from the creeks flowing into the basin. As such these diversions impact the ecosystem and groundwater recharge through percolation. The largest of these privately owned reservoirs is the Righetti reservoir which in 1990 was granted a 4th SWRCB permit which nearly doubled the allowable capacity from 552 AF to 951 AF. The four permits are 20496, 15444, 14086 and 12887 West Corral de Piedra Creek. These permits are regularly reviewed by the SWRCB when expiring and part of the permit extension/renewal process includes an evaluation of potential impact on the downstream hydrology and ecosystem, in this case the threaded steelhead trout habitat is mentioned in previous studies and reports. Additionally, since the SLO Basin and Edna Valley is now a DWR designated high priority basin this additional information needs to be part of the record. When comparing and contrasting the annual basin recharge deficit versus upstream surface water diversion, the impact of a 951 AF reservoir and to a smaller extent the cumulative effect of other smaller reservoirs should not be ignored in the sustainability plan. As an example, the groundwater basin study being currently performed for the Arroyo Grande Basin does include the impact of Lopez Lake discharge flow rates for basin recharge and its ecosystem. I respectfully suggest that this consideration and evaluation be made part of the Sustainability Plan. Feel free to circulate my input to your colleagues collaborating on the work product. Regards, Jean-Pierre Jean-Pierre Wolff Ph.D. Grower and Vintner	6/29/2020 12:56
Howard Carroll	Draft_SLO_GSP_Chapter_6.pdf	Groundwater Sustainability Plan SLO Basin have reviewed the exhibits and participated in your video presentations, but as a small farmer in the Edna Valley (25 acres) I do not possess the technical information nor the practical insight of my neighboring agricultural operations. Mr. George Donati, General Manager of Pacific Coast Farming, has farmed over two decades in the Edna Valley and during that period managed over 2,000 acres of irrigated crops. I value the science and broad overview of farming operations he brings to the group. Recently, I reviewed his comments to Chapter 6 and support his recommendations for investigation, analysis of points of conflict, clarification and study he has brought to your attention. With both the diversified population overlying the SLO Basin and the long-term impacts of the GSP, it becomes essential to devote time and resources to respond to questions and suggestions. Howard Carroll2175 Biddle Ranch Road San Luis Obispo, CA 93401	9/30/2020 12:40
Brent Burchett	Draft_SLO_GSP_Chapter_6.pdf — Part 1	Certainly the preparation of this Chapter 6: Groundwater Budget is a complex task, and we remain willing to partner with staff and stakeholders in the SLO Basin to improve the current draft that is presented for comment. San Luis Obispo County Farm Bureau respectfully submits several suggestions and questions here for further discussion. We caution there is still insufficient data to paint a fully accurate picture of what is occurring in the Basin and what policies will actually achieve our mutual goal of achieving groundwater sustainability. Absent critical data that we all might wish existed, we should use a more robust monitoring network going forward to learn from actual outcomes of different management decisions across the Basin. Our groundwater challenges were not created overnight, and we have to be realistic about what we know is occurring, and what is simply our best guess today in 2020. This Groundwater Sustainability Plan will require long-term cooperation and open communication among the agriculture community, and the more realistic and forthright we can be about our current data strengths and weaknesses, the better we can find a path forward that works for everyone. The conclusion that the Edna Valley Subbasin is in 1,100 AFY overdraft is not fully supported by this document. We are disappointed that there appears to be a general presumption that over-pumping in Edna Valley is occurring and a partial narrative is presented here to support that presumption. For example, it is unclear why the Boyle analysis from 1991 is relied on for some areas but not in others. Look at Page 9, Table 6-2: Historical Water Budget -Edna Valley Subarea. This table is significant and will likely be a key reference point for the development of regulations for the Basin. Unfortunately, Table 6-2 currently suffers from a lack of data. We are concerned about the figures for precipitation versus stream inflows for 2010-2019. In 2011, 2016, 2017 and 2019, inflows are reported as less than outflows. This seems counter intuitive. It appears that there is only one stream for actual data for this period. It appears that a third of the years show stream outflows greater than inflows (1993, 1997, 2000, 2001, 2003, 2005, 2006, 2011, 2016 and 2019). All of these years except 2016 are wet or above-normal precipitation years. What factors might cause this difference between outflows and inflows, is it infiltration? Please explain how the of Precipitation figures were derived for Table 6-2.	9/30/2020 18:35

Brent Burchett	Draft_SLO_GSP_Chapter_6.pdf — Part 2	On Page 31, the use of Department of Water Resources assumptions on precipitation infiltration for the Arroyo Grande-Nipomo Mesa area of the Santa Maria groundwater Basin and reference to the Paso Robles groundwater Basin are troubling. Heavy clay soils (soils consisting of more than 50 percent clay) are the predominant soil type in the Edna Valley Subbasin. To use Arroyo Grande or Paso Robles average soil types (that are generally sandy or calcareous, respectively) to presume 11-13 inches of precipitation are required before percolation occurs into the Edna Valley is inaccurate. Another example of insufficient data is on the discussion of surface water diversions on Page 30. Reported annual surface water diversions ranged from 14 acre-feet to 900 acre-feet, with average annual diversion over the base period estimated at 350 acre-feet per year (AFY). What specific data points were used to derive this 350 AFY average? Was this data self-reported by the reservoir owner? This diversion is significant as it affects the largest stream coming into Edna Valley. The description on Page 22, Section 6.3.1 Historical Time Period, does not make sense. What was the basis for selecting certain years for groundwater storage calculations? The interval between those years is not consistent and excludes 2016. By excluding 2016, it suggests that the 2014 low point will not be the low point going forward, while an equally valid point could be made that the 2016-2019 trend indicates an upward trend in storage. If storage is increasing, is the Basin really in overdraft? On Page 49, Table 6-14, the exclusion of 2016 paints an inaccurate picture. If 2016 was included, the significant increase from 2016-2019 would be apparent, an increase that was likely due to greater rain coupled with conservation efforts. Since the SLO Subarea was stable from 2014-2016, the 5,970 acre-feet increase is in the Edna Subarea, probably rising from 10,000 acre-feet in 2016 to 105,630 in 2019. The absence of 2016 is problematic. On Page 26, Table 6-6: Land Cover Acreages, why are the totals for Irrigated Agriculture different than those presented in Table-5: Irrigated Agriculture Acreages? We look forward to continued dialogue with all of the stakeholders and appreciate consideration of our comments.	9/30/2020 18:35
Howard Carroll	Workshop #3 Sustainable Goal Setting	Sustainable Goal Setting Comments: I have reviewed the options for both the Minimum Thresholds (MT), the Measurable Objectives (MO) and the respective diagrams and charts. It appears some off the options are a step backwards in the management of our water. I endorse goals that will allow agricultural operations to continue in a sustainable envelop rather than force a reduction of agricultural operations when we are above the water levels in last year of the 2015 drought. Therefore, I support MT alternative #3 and MO alternative #4.I believe the long-term solution to the MT and MO of the Edna basin is by enhancing the water resources that are available. Importing recycled water from the City of San Luis Obispo, move the release point of reverse osmosis treated water from Sentinel Oil upstream and look carefully at the storage and releases of the Righetti Dam. Private and governmental cooperation could make these options a reality and really provide sustainability for our water basis.	10/27/2020 16:00
Fintan du Fresne	Workshop #3 Sustainable Goal Setting	Firstly, I greatly support efforts to collectively manage this very important resource. My background is in geology and I have been involved in grape growing the Edna Valley for 15 years now. As a geologist I have a deep concern with establishing thresholds and objectives on such a limited data set. Both the number of wells used and the limited length of most well data do not allow a scientifically rigorous record of the basin to be established. With this in mind, if MT and MO must be set to comply with SGMA, we should at this stage use those that allow the greatest flexibility: MT 3 and MO 4.	10/30/2020 9:00

Nathan Carlson	Workshop #3 Sustainable Goal Setting	As the manager of an agricultural business within the Edna Valley, the sustainability and livelihoods of many of my employees, vendors, and business partners rest upon our ability to continue to operate and farm securely into the future. We operate several water wells to support our business, and have put in place best practices to preserve and conserve our water resources. Our farming operations have been certified under an audited Sustainability program since 2014, and our production process and facility have just this year attained a Sustainability certification as well only the fourth winery to achieve this level of certification. What I have learned from our process of continuous improvement is that in order to make good decisions, it is necessary to measure consistently and accurately over a long period of time, in order to understand trends and priorities. In the process of seeing the water budgets in development, I have concerns that not enough data has been collected to lock the basin into restrictions based on estimates and questionable data. For this reason, I would urge adoption of the Minimum Threshold alternative #3, and the Measurable Objective Alternative #3 for the time being. Together with collection of data over the first five years, we will have a stronger basis to enact future guidelines for the basin. What does make sense today is for our basin to seek supplemental water sources that have been identified, such as recovered water from the city of San Luis Obispo, and to pursue mandated releases from reservoirs that trap and deprive the basin of its natural recharge. Meanwhile, we and other users will continue to pursue strategies of water use reduction, reclamation and storage, and reduction of landscape and crop demands as replanting decisions are made.	10/30/2020 11:18
Jeanne Blackwell	General Comments	Can you really have a discussion about groundwater protection without recognizing the constant threat of over a million gallons a day of toxic, radioactive waste, man made chemicals, hydrogen sulfide to mention just a few that is deposited each day at the Arroyo Grande Oil Field that sits on 3 active fault lines? This water could potentially reach any ground water in the county and contaminate it. Once the groundwater is contaminated and with the construct of the fault lines no water anywhere in the county is safe. And the reason for that is none of the wells at the Arroyo Grande Oil Field have been certified safe by the EPA Class I Underground Injection Control program mandated under CFR 144.11. So, the biggest threat to our water is the elephant in the room and I would like to know if you are going to address this issue. Every community and municipality's ground water in SLO County is threatened with irreversible and irreparable water damage because of the unlicensed, un permitted, illegal and unlawful dumping of toxic waste in the unincorporated areas of SLO county. The Board of Supervisors is the lead agency and responsible for allowing the Oil to operate without permit or license. It seems to be it would behoove every municipality that depends on clean, unencumbered groundwater would demand the Board of Supervisors get the proper and necessary certification and official verification that the Arroyo Grande Oil Field is safe to dispose of radioactive toxic and other hazardous waste without fear or threat of contamination for 10,000 years or until the toxic waste becomes inert, whichever comes first. I would like to know what you intend to do about the illegal dumping in our backyard. Thank you.	6/29/2020 14:15
George Donati	Draft_SLO_GSP_Chapter_6.pdf - 6.3.5 Total Groundwater in Storage	To: Dick Tzou and all Consultants — My biggest question for the Edna Valley Basin, how can these consultants come up with a Sustainable Yield of less than 3500 AFY in a basin, when the Basin contains Groundwater Storage Estimates of an average of 120,000 AF? This Sustainable yield is only 3% of the storage. If you read the paragraphs below table 6-14, they explain why they increased the groundwater storage to a much higher number in the Edna Basin than previous consultants. It used to be 34,000 AF of storage. However even with this 3.5X increase in storage, the sustainable yield did not increase at all. In fact it decreased. These numbers do not make sense at all to me.	9/28/2020 13:53
Chris Darway	General Comments	The graph for pumping does not have an accurate trajectory for two reasons: (1) the trajectory for 2007 to 2019 should be down and not up; and (2) the trajectory being down since 2015 is dramatic. Conservation measures after drought.	9/29/2020 16:48

Chris Darway	General Comments	Why is 2016 data being excluded? I keep rereading the Water Budget material and came across the reasoning for those years at p 22: "These years include the beginning and ending years in the base period, along with sufficient intervening years to characterize change in storage trends through the base period". This is highly discretionary. Look at the intervals between the years chosen: 4,5,3,7,6,3 and 5 years. More important, by excluding 2016, they allow the argument that the 2014 low point will not be the low point going forward, when an equally valid point is that the 2016-19 trend indicates an upward trend in storage. If increasing storage, where is the overdraft?	9/29/2020 16:49
Chris Darway	General Comments	On page 44 why did you choose the years shown in table 6-14? There were 21 representative wells (note some of our wells weren't developed until the early 1990s and then select the years for water levels without any explanation as to why those years?	9/29/2020 16:50
Earl Darway	General Comments	How can consultants come up with a Sustainable Yield of less than 4000 AFY in a basin, when the Basin contains Groundwater Storage Estimates of an average of 120,000 AF? This Sustainable yield is only 3% of the storage.	9/29/2020 16:51
George Donati	Draft_SLO_GSP_Chapter_6.pdf - 6.3.4 Historical Groundwater Budget — Part 1	To Dick Tzou and all Consultants, Again in the Groundwater Budget, I find estimated and incorrect Data. Or, I do not understand the Data. My questions are below: Groundwater: 1. I do not see where streambed infiltration is counted here? Why not if over 5000 AFY flows through our streams? 2. Explain all these inflow and outflow numbers? Are they estimates? • Page 5. This map may need to be updated. This map shows irrigated acres inside and outside the basin. How is this going to be managed by SGMA? Wells outside of the basin DO affect the basin. How are these wells going to be managed by SGMA? • Page 26. Table 6.6. Land Cover. Why is Irrigated AG in the Edna Valley, 2001 2016, a different total in this table than the subtotal of irrigated AF in Table 6.5? 237 acres of Developed Urban. Is this homes and businesses? • Page 27. Stream inflow to Basin. No mention here of the Dam preventing stream inflow to the Edna Basin. • Page 30. Stream inflow was adjusted due to the Dam. However you used 2010 to 2018 as an average for the entire 33 years. Maximum diversion of 900 AFY does not make sense in the big rain years with over 5000 AFY flowing out of the creeks. And this includes ET? According to your water budget ET of precipitation amounts to a 58% - 90% loss. Please check these numbers. • Page 31. ET of Precipitation. You are using Arroyo Grande/Nipomo Mesa (Sandy Soils) and Paso Robles to estimate how much rain we need to have before infiltration starts. Edna is mainly heavy clay soils and is no comparison to sandy/ calcareous soils. Using 11-13 rain before percolation is not correct. • Page 36. Table 6-8. This data does not make logical sense. Lots of Assumptions here. We need real Data! • Page 40. Urban groundwater extractions. Are the individual homeowner wells being counted here? Does the septic leach field counter the extraction? How much ground water does the golf course use? • Page 41. Agricultural Groundwater Extractions. These are all Estimated! Why not get real data and then use real data to determine groundwater extractions. • Page 43. Table 6-11. Consumptive Water use. Are you using the low, med or High to estimate water use?	9/30/2020 11:50

George Donati	Draft_SLO_GSP_Chapter_6.pdf - 6.3.4 Historical Groundwater Budget — Part 2	• Page 49. Table 6-14. Groundwater storage. This is our reservoir to use when in drought years and this can be replenished in large rainfall years. If this is truly groundwater storage, then we can re-fill this reservoir in the wet years, and use it in the drought years. Correct? How did 3300 AF sustainable yield get calculated from a 120,000 AF reservoir? • Page 50. Change in Storage 1987-2019. The Edna Valley shows a 27,000 AF decline over these 33 years, which is less than 100 AF/year. They state this is reasonable. However they again omit the fact that the 1000AF dam does not let water into our basin. If they calculate this loss, the Edna Valley actually has gained storage over the past 33 years. • Page 53. Table 6-17. Estimated Overdraft. These numbers are not real data. They cannot use the Boyle study for some of their data, and then not use the Boyle study for the conclusion of available water at 4,000 AF/year. • Page 56. Current Water Budget. 1. Current years (2016-2019), Rain increased by 1500 AFY. 2. Stream flow INTO our basin decreased by 140 AFY. How can this be? 3. Groundwater extractions. Where do they get these numbers. They are not reasonable to go higher in wet years of 2016-2019 when Ag Irrigation is much less. 4. Streamflow OUT of the Basin. In the 33 year total of 3580 is only 50 AFY less than the inflow into the Basin. This would mean that there is only 50 AFY of infiltration into the basin???? However the Groundwater Budget shows 1890 AFY infiltration.??? Thank you, George Donati	9/30/2020 11:50

Keith Watkins	Draft_SLO_GSP_Chapter_6.pdf - Part 1	Draft SLO GSP Chapter 6 Comments: • Page 7, first paragraph SLO Basin fills quicker and basin becomes full, preventing further recharge. When this occurs does some water flow back into the Edna basin if it is still not full? This would provide additional credits in wet years to the Edna basin. • Page 17, 6.1.1 Is the Base Period truly representative of the basins? Prior to 1987 was a very wet period, followed by a very dry period (1987 through 1991). The period chosen contains two extended droughts with individual wet years between. Wouldn't it make sense to have a wet period to balance the two extended droughts? • Page 19, 6.1.1 Rainfall totals are based on Cal Poly records with an attempt to balance with data from the gas company. This information slights the Edna basin where growers have historical data showing an average of 20% more rainfall than the numbers being used. Shouldn't we balance these number with additional data from south of the Edna basin? Possibly Arroyo Grande or Lopez Lake? • Page 31, Evapotranspiration of Precipitation Assumption that no water infiltrates when precipitation is below 11 inches. This does not account for heavy rain events early in the season that do penetrate below the crop root zone. Nor does it account for the fact that the crop is potentially already saturated from an irrigation allowing precipitation to penetrate much quicker. Basing this data from the Nipomo Mesa, which has much more wind than the Edna basin, also lowers the reliability of the numbers. • Page 33, Stream Outflow from Basin - Outflow on Pismo Creek is all based on data from two years at the end of a drought period (91). These years are not representative due to the lower water levels in the basin after a drought. So much of stream outflow is dependent on the intensity of the rain event. Actual data needs to be collected to determine when flows happen and at what volume in correlation with storm events. • Page 34, Infiltration These infiltration numbers do not take into account cultural practices that enhance infiltration and minimize runoff, such at soil chiseling, ground cover between rows, contouring of rows to catch water flow, and drains to catch flows and recycle to reservoir storage. Also, assumptions that no water infiltrates after 30of rainfall does not consider the timing and intensity of rain events • Page 37, Subsurface inflow. Water flows down gradient from the south end of the Edna basin, through the basin and out either Pismo Creek or into the SLO Basin. The model has flows out of Edna basin even during drought periods when the gradient should be reduced. Does the model consider this fact and reduce outflows to compensate for lower groundwater levels in the Edna basin?	9/29/2020 10:52
Keith Watkins	Draft_SLO_GSP_Chapter_6.pdf - Part 2	• Page 49, Table 6-14 Groundwater Storage. From 1986 to 2005 (19 years) the average annual change was -349 ac-ft per year. Are we putting too much of an emphasis on the lowering of levels during the drought with this current evaluation? With Edna basin storage of over 105,000 ac-ft, setting target water levels lower than current pumping levels seems prudent to allow for sustainable agricultural operations and protection of the basins. • Page 53, 6.3.8 Utilizing Et to establish groundwater usage is not accurate when many growers utilize various methods to determine crop water demand. Many permanent crop growers utilize deficit irrigation to improve crop set, improve fruit quality, or meet winery demands. • Page 56, Table 6-19 - The current model assumes higher ag extractions, even with more acreage coming out of production? Stream inflows decrease even with an increase in precipitation. Stream outflows increasing, even with decreasing inflows. For the last four years, the model still shows a reduction in groundwater, even though we are showing a rise in the water levels (Table 6-14)? With so much contrary information, we need to build good data base to build our program on. We should take the next five years to build good information and use it to make the correct decisions on whether the basin is truly in a deficit position. Using data developed to substantiate the hypothesis does not create good policy.	9/29/2020 10:52

George Christensen	General Comments	Comments on Chapter 6 of SLO Valley Basin GSP1) • Table 6-4: Historical Base Period Rainfall. This table causes me to challenge the credibility of the entire GSP. What kind of farmer, engineer, doctor, banker or venture capitalist is going to make critical decisions when more than 25% of the foundational data supporting the proposal is manufactured? Furthermore, to apply a simple constant value of 90% to all categories of the data seems like a bit of a "short cut" and a tad irresponsible. If we must follow this example of "creating datum", then I suggest doing an extrapolation for each of the year categories, e.g., dry, wet, Above Normal, Below Normal. I did a simple regression between Cal Poly and the Gas Co and sure enough it was close to a 90% relationship in the "wet" years. However, other years had lesser values with "dry" years having the lowest relationship of only 83%. Another oddity is all of the years are categorized into one of four categories: wet, dry, above normal or below normal. This states that a "normal" year does not exist where the measured rainfall fell within an expected range. Lack of a "normal" group will skew the data such that EVERY datum is abnormal and normalcy can never be observed or measured. Lack of a normal range immediately causes bias in the analysis of the data. To summarize, this table causes me to be skeptical of other data and conclusions set forth in this chapter. 2) For the Edna Valley subarea, several streams that provide critical recharge via percolation are impacted by private reservoirs totaling more than 900AF. While I believe that these reservoirs are permitted and well-maintained by the owners, data is not presented regarding the outflow from those reservoirs/dams which could impact the recharge of the Edna Valley subarea. I would like to see "credible data" be included into this model reflecting the effect these private water storage facilities are or are not having on the Edna Valley subarea. 3) While "the estimated average specific yield value for the Edna Valley subarea is also close to 30 percent greater for GSP storage calculations." (Section 6.3.5), where is the updated/revised sustainable yield for this newly sized subarea? Respectfully, George Christensen Vegetable grower	9/29/2020 17:11
Thomas Murrell	Workshop #3 Sustainable Goal Setting	We need to have accurate data before making decisions. Are there plans to install monitoring wells? if so, how much time is needed to get accurate information from those wells? Seems like we are using a lot of guesswork to create a very impactful policy. I don't think it is wise or fair to make policies that end up being too drastic. Proposed Monitoring Level No. 2 (Higher than drought levels) is too drastic. The goal should be to adopt reasonable polices and resource management so that the Edna Valley reaches a level of sustainability for all stakeholders. Agriculture is precious to the Edna Valley and San Luis Obispo. Let's help sustain it, not destroy it.	10/29/2020 10:28

George Donati	Workshop #3 Sustainable Goal Setting	1. Since 2008 the Edna Valley Growers have been asking the City of SLO to sell to us some of their tertiary treated water since we had heard that they are dumping it down the SLO creek to the ocean. We have gone through 1 long period of drought recently and we could have used that water during the drought rather than lowering our water table. The City continues to put up road blocks to sell us water. If we had this water available, we would not be in an overdraft of our basin . 2. The Righetti Dam releases into the creek need to be enforced. This is over 600 acre feet of water that should be flowing into the creek and into the basin. 3. Golden State Water needs to look into purchasing water from the State Water Pipeline so that they are not using water from the Edna Valley Basin. Golden State currently has a Selenium issue with their water. This could alleviate this Selenium issue to all other Domestic water users in the Basin. 4. We need to Augment Water storage in the basin with Sentinel Peak Resources R.O. water. This RO water is currently dumped into the Pismo Creek and flows to the ocean due to little to no percolation in this area. We propose to move the discharge point of this RO water further up the Corral de Piedra Creek so that this helps to maintain a live stream for fish and at the same time recharge the basin.	10/30/2020 9:21

Brian Talley	Workshop #3 Sustainable Goal Setting	As we consider setting key goals and targets for management of the SLO Basin, goals that will likely have huge impacts on our future sustainability, I think two key issues are not receiving enough consideration. First, much of the data that forms the basis for decision making is incomplete, erroneous or contradictory. Second, not enough consideration is given potential supply enhancements that could materially affect the safe yield of the basin. Because of this, I favor a moderate approach to goal setting in the near term to learn more about how our basin responds to adaptive management practices over the longer term. For instance, much of Chapter 6 of the draft GSP is composed of estimated values. More significantly, it appears that the saturated thickness for well 31S/13E-27MO3 is dramatically understated at 60 feet when in fact it is 280 feet. This data is then interpolated to conclude that the saturated thickness for all wells in the Edna Valley is much less than it is. This in turn leads to a recommendation of drastic reduction in pumping in the Edna Valley, potentially to the MT2 level, which could be insufficient to support existing agricultural operations. Representative monitoring wells need to be selected and accurate drilling logs need to be reviewed so that we have a more accurate data and can base management decisions on that data. Meanwhile, there are a number of opportunities to enhance water supply in the basin that haven't received enough consideration. A group of Edna Valley growers has tried to purchase tertiary treated water from the City of San Luis Obispo since 2008. This could add 600-1000 AF to the basin supply. The same Edna Valley growers are in discussions with Sentinel Power to move their discharge point for RO treated water, a byproduct of their petroleum operations, further up the Corral de Piedra creek and adding as much as 1000 AF to the basin. The Righetti dam has operated inconsistently with the permit issued by Department of Water Resources. Ensuring that their releases comply with the permit would add 600 AF to the basin and enhance the Corral de Piedra creek fish habitat. Golden State Water is struggling with elevated Selenium in their wells: they should purchase the State Water they are entitled to, which would both alleviate their Selenium issue and enhance the supply of the basin. Farmers have adopted conservation measures including pressure compensating drip irrigation and the use of highly efficient micro sprinklers. Let's make sure that domestic users are as focused on conservation as farmers. True sustainability is a long game, with a horizon of 20 years as opposed to 5. We shouldn't make critical decisions now based on incomplete or erroneous data. At the same time, we need to explore every viable opportunity to enhance the water supply of the basin. Making bad decisions now could have devastating impacts on agriculture in the Edna Valley, one of our county's critical industries, as well as the foundation of San Luis Obispo's green belt, which is a defining characteristic of the city.	10/30/2020 9:40
Jim McGarry	Draft_SLO_GSP_Chapter_6.pdf - 6.3 HISTORICAL WATER BUDGET	I do not see where streambed infiltration is counted here? Why not if over 5000 AFY flows through our streams? In aerial images for this small valley. Irrigated Ag acres. This page needs to be checked for accuracy. We do not want to rely on aerial images for this small valley. Urban groundwater extractions. Are the individual wells factored here? Does the septic leach field counter the extraction? How much ground water does the golf course use?	9/28/2020 14:08
Chris Darway	Draft_SLO_GSP_Chapter_6.pdf	Why is 2016 data being excluded? I keep rereading the Water Budget material and came across the reasoning for those years at p 22: "These years include the beginning and ending years in the base period, along with sufficient intervening years to characterize change in storage trends through the base period". This is highly discretionary. Look at the intervals between the years chosen: 4,5,3,7,6,3 and 5 years.	9/29/2020 16:47

James McGarry	General Comments	1. Since 2008 the Edna Valley Growers have been asking the City of SLO (using Rob Miller with the Wallace Group) to sell to us some of their tertiary treated water since we had heard that they are dumping it down the SLO creek to the ocean. We have gone through 1 long period of drought recently and we could have used that water during the drought rather than lowering our water table. The City continues to put up road blocks to sell us water. If we had this water available, we would not be in an overdraft of our basin (if we are at all). 2. The Righetti Dam releases into the creek need to be enforced. This is over 600 acre feet of water that should be flowing into the creek and into the basin.3.Golden State Water needs to start purchasing water from the State Water Pipeline so that they are not using water from the Edna Valley Basin. Golden State currently has a Selenium issue with their water as brought up by Toby Moore in the Workshop. This could alleviate this Selenium issue to all other Domestic water users in the Basin. 4. We need to Augment Water storage with Sentinel Peak Resources R.O. water by discharging the water that is currently going out to the ocean, further up the Corral de Piedra Creek. 7. Corral de Piedra creek needs to be brought back to life to save the fish. If this were done using surface water, then our basin would be in a plus balance. 8. During the last drought, very few domestic wells went dry (these were old wells that were not drilled to a sustainable level). Those unsustainable wells have been replaced. We can get through the next drought with MT's below the last drought levels.	10/30/2020 11:47
Andy Mangano	Workshop #3 Sustainable Goal Setting - Part 1	Edna Ranch Mutual Water company (East) / Public Comment SLO Basin GSP — Stakeholders Workshop #3 — 10/01/2020 Edna Ranch Mutual Water Company (East) appreciates the opportunity to provide the following comments. We recognize the Basin faces challenges and we encourage a collaborative process whereby SGMA employs science and up to date accurate information to best determine a sustainable plan for all users. Observations: 1) in our initial review, there appears to be incomplete data which requires the consultant to base their conclusions on estimates, For example: A) There is a lack of data for stream inflows and outflows B) A lack of well drilling logs C) A lack of monitoring wells to accurately measure water levels D) The representative well most relevant to our MWC is 315/13E-27M03, which is depicted on page 26 of the workshop #3 materials. We understand the actual drilling logs show saturated thickness of 280 feet rather then 60 feet mentioned Suggestions: 2) Robust stream gauges, procurement of all well drilling logs for all representative wells, robust well metering locations and strategically located monitoring wells. 3) In the first 5 years, we should fully develop all revenant scientific data and at the same time, proceed cautiously given the lack of data, and the necessary reliance or guesses and estimates, that could be considered unreliable.4) In reviewing the Paso Robles GSP, we note there is a 5 year period of improved monitoring and fact gathering before any policies are implemented. We encourage Edna Valley adopt the same approach during the first 5 year period. We also recommend during this period to fully explore all augmentation opportunities and conservation measures.	10/31/2020 9:45

Andy Mangano	Workshop #3 Sustainable Goal Setting - Part 2	5) SGMA requires a minimum of 10 years for the historical analysis. If the 10 year period had been adopted, the trend for groundwater pumping would be decreasing rather than increasing when using the 33 year model as depicted on Page 29 of 127 in Chapter 6 of the water budget. 6) Actual City of SLO greenbelt extends out to Edna Ranch. The City in 2014 adopted a policy in support of providing recycled water use within the City's Greenbelt. What is the status of this policy implementation? 7) The last page of the Workshop #3 materials projects an augmentation of 500 AFY that would raise the water levels by 33 feet. If the City could provide up to 1000 AFY of recycled water, it appears the water levels would increase for our representative (MO3) to 1995-99 levels as depicted in the graph on page 26. 8) Chapter 6 of the water budget, page 25 (70 of 127) shows there are 453 acres of row crops. Page 43 (88 of 127) indicates row crops (overhead sprinklers) use a median of 1.6 AFY and vineyards (drip irrigation) use 0.6 AFY. Does this mean that if row crops converted to drip irrigation there would be a corresponding reduction of 453 AFY? If row crops converted from overhead sprinklers to drip, would this not achieve a savings of 453 AFY? It appears a lot of water could be saved by converting overhead sprinklers to drip irrigation. Respectively Submitted By Edna Ranch Mutual Water Company (east) Board Of Directors	10/31/2020 9:45
Earl Darway	General Comments	There are two lines of numbers that are curious. 1/3 of the years show stream outflow exceeds inflow: 1993, 1997, 2000, 2001, 2003, 2005, 2006, 2011, 2016, and 2019. All these years are Wet of Above Normal, except 2016 Below Normal. Is this due to infiltration and / or GW/SW intersection? Does this make sense to you? Similar question regarding ET evaporation: In 8 Dry years, the evaporation essentially equaled the precipitation: Precip ET Evaporation1987 6780 66101990 5960 58602007 3810 38002009 5170 51002013 4640 46002014 4590 45502015 5230 51602018 6130 6020 The numbers above don't make sense.	9/30/2020 19:01
Earl Darway	General Comments	Page 29 shows a gain of 5970 AFT for years 2016 -2019. The graph shows an upward trajectory for Edna. Table 6-14 should show the amount of storage for 2016. By not doing so, we miss the great increase from 2016-2019--most likely due to greater rain plus conservation efforts. Since the SLO subarea was stable during 2014-2016, the 5970 increase is in Edna--probably rising from about 100,000 AFT in 2016 to 105, 630 in 2019. Impressive and not apparent because 2016 numbers are not shown.	9/30/2020 19:01
Robert Schiebelhut	Workshop #3 Sustainable Goal Setting	Revision Needed For Representative Well 31S/13E-27MO3: Page 22 of the materials presented at Workshop #3 depicts a graph of the Baggett Main Well--31S/13E-27MO3--a well at Edna Ranch. I believe the well log for this well was made available several years ago but in any event, I have recently forwarded the drilling log to David O' Rourke. In fact, the drilling log shows an actual depth of 400 feet with sands all the way to 400 feet. Bedrock was not encountered. Please revise the graph to show the well depth at 400 feet and al least 280 feet of Saturated Thickness--- instead of 60 feet. Thank you	10/26/2020 13:48
Brian Bertelsen	Workshop #3 Sustainable Goal Setting	As a property owner in the Edna Valley, I fully support MT-3 and MO-4. Additionally, I am in favor of a 5 year period of collecting good, reliable data of the water basin and exploring all options to utilize recycled SLO water for farm irrigation purposes which helps this basin as well as allows the city of SLO to sustainably discharge its treated water.	10/30/2020 10:44

Brian Talley	Draft_SLO_GSP_Chapter_6.pdf	My family has farmed wine grapes and vegetables in the Edna Valley for more than 30 years. During this time, we've made numerous changes to reduce our water consumption and preserve this most precious resource. As I've reviewed the various documents in the Water Budget Chapter of the Groundwater Sustainability Plan for the SLO Basin, I'm struck by the complex and often contradictory nature of the data that underpins many of the findings and likely future decisions. My concern is that significant changes are contemplated based on erroneous or missing data, and this could have potentially devastating impacts on agriculture in our region. I encourage you to slow down and adopt a more adaptive approach that relies on better data to guide decision making. This should start with a robust and accurate monitoring system where stakeholders can monitor progress and agree on best practices to achieve mutually agreed upon objectives. The consequences of getting this wrong could not only destroy the livelihood of those of us farming in the Edna Valley, but have lasting negative impacts on land use in the valley. Just as my family has relied on an adaptive and evolving approach to manage our resources, so should we all as a group going forward.	9/29/2020 15:23
George Donati	Draft_SLO_GSP_Chapter_6.pdf - 6.3.3 Historical Surface Water Budget	To: Dick Tzou and all Consultants George Donati comments: I have reviewed the data in the Water Budget (Chapter 6). I find that much of the date is estimated, inaccurate, contradictory, and possibly manufactured. Many of my findings are outlined below. I have farmed in this valley since 1996 using ground water on permanent crops. We need to slow down our Sustainability Plan process so that we can gather accurate data to be able to make the correct long-lasting decisions. We need to have time to gather accurate data as the basis for our Sustainable plan. This will protect all homeowners, landowners, Farmers and residents while we accurately sustain the Edna Valley Basin. Again, below are my findings of data that I am questioning. Page 6. SLO subarea surface inflow watershed is 28,823 acres. Edna subarea inflow watershed is 10,145 acres. Edna is only 35% as big as SLO. Page 9. Figure 6-2. Surface Water: 1. Is the stream inflow above the Righetti dam or below? If below, then this cuts a lot of our watershed out of the equation. 2. What is ET of Precipitation? Why is this number almost always about 90% of total precipitation? This means that 90% of rainwater is evaporated during cloudy and rainy weather? Please explain. 3. Where is the stream inflow measured? Stream Inflow of 5480 AFY (2019) calculates into 3400 gallons per minute of water flowing into our basin below the dam in the creek for 365 days, 24 hours per day??? Or is this above the Dam? Can this be correct when we see no water flowing in these creeks? 4. Stream Outflow is higher than stream inflow? Where is this additional water coming from? 5. Riparian ET. How can this be the same number every year when we had long years of drought and no streamflow for many years? Thank You, George Donati	9/30/2020 12:09

Rick Rogers	Workshop #3 Sustainable Goal Setting - Part 1	NOAA's National Marine Fisheries Service respectfully submits the following comments regarding the "Draft Options for Basin Sustainability Goals Workshop Presentation Slides" presented to the public via webinar on October 1, 2020. We previously relayed these concerns via public comment during the September 9, 2020, SLO Groundwater Sustainability Meeting. Specifically, we are concerned that the SLO GSA continues to promote sustainable management criteria for streamflow depletion impacts that may be insufficiently protective of South-Central California Coast steelhead, listed as threatened under the federal Endangered Species Act. Per SGMA regulations, the required metric for the undesirable result of interconnected surface water (ISW) depletion is the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results (California water code 23 CCR 354.28(c)(6)). SGMA requires that if a proxy metric is used, then significant correlation must be established between the two metrics (CCR 354.36(b). Unfortunately, the October 1 Workshop Presentation ("Draft Options for Basin Sustainability Goals") continues to propose utilizing groundwater elevations experienced during our recent historical drought as a proxy for ISW depletion, despite there being no identified correlation between those groundwater elevation and "adverse impacts on beneficial uses of the surface water". Identified beneficial uses of San Luis Creek, Pismo Creek, and many other streams traversing the basin are designated by the Central Coast Regional Water Quality Control Board (CCRWQCB) 2017 Basin Plan, and include preserving cold water habitat (COLD), steelhead migration (MIGR), steelhead spawning and rearing (SPAWN), and protecting threatened and endangered species (RARE).The proposed sustainable management criteria neither analyzes nor establishes any ecologically-meaningful relationship between groundwater levels and impacts to these beneficial uses of surface water.	10/28/2020 11:02
Rick Rogers	Workshop #3 Sustainable Goal Setting - Part 2	ISW depletion impacts instream aquatic habitat primarily by reducing groundwater accretion to a gaining stream, or accelerating ISW depletion from a losing stream. The impacts can be both physical (e.g., pool volume shrinks as water surface elevation declines) and chemical (e.g., water quality can suffer as pools and riffles lose connectivity). Thus, the appropriate method to determine whether pumping is having significant and unreasonable adverse impacts on beneficial uses of surface water and setting protective management criteria is to understand the level of impact (i.e., volume of ISW depletion) and how habitat quality and functionality change because of that impact, all evaluated on an ecologically pertinent time-scale. Further analysis is required throughout the SLO groundwater basin to establish localized relationships between ISW depletion and the instream habitat characteristics that result. Addressing these impacts will require data and analytical tools that the SLO GSA may not possess at this time. Thus, NMFS recommends the developing Groundwater Sustainability Plan elaborate sufficiently as to when, where, and how data informing streamflow depletion impacts will be collected during the first few years of GSP implementation, and clearly commit to developing a detailed analysis plan with interested stakeholders at a later date. The sustainable yield presented at the workshop is fatally flawed. Per SGMA regulations and guidance, sustainable yield can only be achieved if the basin is sustainable (i.e., avoiding all undesirable results, including depletion of ISW). As explained above, the proposed sustainable management criteria for ISW depletion (i.e., groundwater elevations consistent with extreme drought conditions) likely will not avoid adverse impacts on beneficial uses of surface water; thus, the presented sustained yield estimates are likely invalid and inconsistent with SGMA regulations. Finally, excluding streams as "disconnected from groundwater" based upon a one-time 30-foot depth to groundwater measurement is a concept developed for discerning impacts to riparian vegetation (rooting depth for oak trees), and is not appropriate for analyzing threats to ESA-listed steelhead and their habitat.	10/28/2020 11:02

James Lokey	Workshop #3 Sustainable Goal Setting	These comments are in regard to the October 1st Stakeholder Workshop #3 presentation slides on Minimum Thresholds (MTs) and Measurable Objectives (MOs):We note on Slides 22 through 27 that the MT(1) for most of the representative wells is set at or near the lowest recorded water level for each well. However, on slide 27 for VRMWC Well #1 your team has recognized that this well has historically shown no ability to recover (other than seasonal partial recovery) over the long term. The MT for this well on slide 27 is set at 160 feet. Thus, in theory, we assume this setting would provide time for the GSA to take actions per the GSP that would reverse the long-term declining trend at this end of the aquifer. At our current rate of long-term decline, a Minimum Threshold of 160 feet for VRMWC Well #1 provides approximately 5 years of continued decline before reaching this MT. While we would prefer to halt this negative trend much sooner than 5 years from now, we understand the reality of the situation and it will take time to implement actions and fund projects to turn this around. We therefore concur with 160 fee as an acceptable MT for VRMWC Well #1, as long as the GSP sets a Measurable Objective that is at least 20 feet above the MT for this well. The MO2 for this well, to incorporate some recovery over the drought years, appears to be in an appropriate range to help provide a sustainable source of water for the long term at this far end of the basin. As shown in the attached chart of our Well #1 water table, as recorded at the lowest level each year since 1988, our water table was declining at an average annual rate of 1.4 feet per year. But since 2003, and over the last 17 years, that decline increased to over 4.24 feet per year on average, which is a 300% increase. The Varian Ranch Mutual Water Company and the residents of the Varian Ranch Development undertook a conscientious water conservation effort over those years which has resulted in the average water use per connection at Varian Ranch declining by over 40% compared to the years prior to 2003.Therefore, we would also ask the GSA to study if the steady decline in the water table at this well may be the result of heavier water use over the last 17 years with the increased number of vineyards and citrus groves that have been developed in the Edna Valley. While we recognize the economic vitality of the agricultural industry to our community and we certainly wish to work with our Agricultural neighbors in maintaining their operations, the water use of the 48 homes at the Varian Ranch development is deminimis when compared to all other uses in the basin and this fact needs to be addressed as the GSP is developed to bring the entire valley into a sustainable condition. We also encourage the GSA to fully explore all augmentation opportunities that may be available from within and outside the basin.	10/30/2020 17:57
Peter Orradre	Workshop #3 Sustainable Goal Setting	I am a property owner in Edna Valley and have a serious interest in how our water will be handled in the future. Please see my comments below. I am in support of the MT #3 which addresses the lower water levels than recent low droughts and MO #4 which addresses the Edna Valley wells the best. It is in everyone's best interest to adopt a water conservation program for all domestic and ag wells within the first 5 years of the GSP. This would be equitable for all users to use the most efficient practices. The most sensible approach to coming up with a successful long term plan starts with collecting accurate data versus using estimates or skewed models. I appreciate all your energy throughout this most important task. Sincerely, Peter Orradre	11/1/2020 14:19
Barbara Baggett	Workshop #3 Sustainable Goal Setting	Thank you the opportunity to comment. I have lived in the Edna Valley for 40 years. I appreciate the hard work of the consultants and staffs to develop the data on which we are to make decisions. But they had a disadvantage due to lack of data. For example, no real stream gauges or monitoring wells. Just production wells; and for those, incomplete drilling logs.. Incomplete rain records for this Valley. Not their fault but we need more information. As with the Paso Basin we need to use the first 5 years to develop full and complete data, especially reliable water level data. I have offered one of my inactive wells for monitoring. I join my neighbors in advocating for MT-3 and MO-4 for the first 5 years. I also applaud the efforts of those actively working on bringing in new water, especially recycled water from the City of San Luis Obispo, This will benefit all of us. I also support identifying and implementing all feasible conservations measures. Working together we can reach sustainability. Barbara Baggett	11/1/2020 11:02

Sarah Hinrichs	Workshop #3 Sustainable Goal Setting	As the CFO for an agricultural business, I oversee several Commercial, Industrial, Agricultural and Residential properties which depend upon water security for their ability to operate and as a large portion of their real estate value. We are careful and aware users of our water resources, and have put into place many conservation measures such as conversion to low-water use landscaping, calibration of our crop irrigation systems, and improving water storage and distribution systems to maximize efficiency. As the Edna Valley Basin begins to build a structure to regulate and manage our shared resources, I think is important to proceed with caution and seek robust data over the next several years. In considering the options laid out, I support the adoption of the Minimum Threshold alternative #3, and the Measurable Objective Alternative #4, in order to allow users security in their operations as this information is collected. Additionally, it makes sense to identify and pursue outside supplemental water sources, many of which have been identified already, to improve the water security of our basin. Together with conservation, storage, and distribution improvements, we can work together to preserve our property values and agricultural traditions into the future.	10/30/2020 14:32
Bruce Falkenhagen	Workshop #3 Sustainable Goal Setting	Gentlemen: I have been following this issue for a while and very pleased that this seems to be moving ahead. I am a resident of the Edna Valley for 20 years with a 40 acre parcel just outside of the SLO Greenbelt. The property has little water beneath it down 500' to well below sea level, because it is all Monterey formation and holds water only in the limited fractures. I have three comments on the work to date: 1) I believe that the City of SLO needs to be much more active in giving it's reclaimed sewage water to help the Edna Valley basin. After all, it has declared almost the entire length of the Valley as IT'S greenbelt. So it would follow that the city should help keep it green and in agricultural crops. It doesn't, directionally it will push or even force landowners to convert their flat land to a higher and better use, like higher home density or industrial projects. And despite SLO making objections at that time that it is part of "their" greenbelt and that use should not be allowed suddenly has little basis or foundation. The argument by the developer would be very simple. SLO kept the water and would not allow it to be used to keep the Valley green and in agriculture, so SLO not only has lost the right to object, but by its actions or lack thereof, have in fact endorsed the project. They, the City, has done nothing to help hold the Greenbelt as a green belt. 2) We know the story of the Righetti dam. The owners/controllers must require and enforce the requirement for it to release the water that it is required to release which was part of it's building/development permit. I can not understand that the regulators have not enforced this permit requirement or whatever the document was that made the release requirement. 3) The backup data being relied upon to justify these actions and projections are filled with assumptions. Since so much is at stake here, and if the assumptions are wrong, the underpinnings of the program are gone and much money has been wasted. I agree with the concept that everything should be held in abeyance for 5 years, to see how accurate those projections were, and then discard the ideas found to be based on events/situations that did not occur, and focus on those that predicted properly and accurately. Thank you very much for your time, and thank everyone involved for donating so much of their time to move this forward.	11/1/2020 16:35
George Christensen	Workshop #3 Sustainable Goal Setting	There are four main points which I would like to make. 1) Credibility of data. Today's models are not based on observed or collected data. A significant portion of the data has been generated and interpolated from "similar" sites. I strongly urge the team to prioritize the collection of credible data from the monitoring wells for the next 5-7 years. After that date is analyzed and added into the models, we will need to re-evaluate. 2) Aggressive, regular replenishment of the Edna Valley aquifer. Over the next 5-7 years, I would like to see the team focus on these 3 initiatives that could significantly recharge the Edna Valley aquifer: (a) reach an agreement with the City of SLO for the discharge from the waste water treatment plant; (b) engage with Sentinel and land owners to move the Sentinel discharge location to a more advantageous location; (c) work with the Righetti ranch to release sufficient water to have a year-round steady flow in the Corral de Piedra Creek. 3) Agricultural Conservation. Provide seminars and information about new/modern water conservation equipment and process for the growers in the Edna Valley. 4) Based upon the points I have outlined above, I strongly support MT-3 and MO-4 for the next 5-7 years when we can re-evaluate AFTER we have gathered actual data. Respectfully, George Christensen Vegetable Grower	11/2/2020 11:56

June McIvor	Workshop #3 Sustainable Goal Setting	Dear SLO Water Basin GSC: Phase 2 Cellars, LLC dba Tolosa Winery appreciates the opportunity to provide input on the SLO Basin Groundwater Sustainability Plan. As we acutely feel the encroachment of commercial development right up against our surrounding vineyards, it is more important than ever to take steps which allow agriculture in Edna Valley to thrive as well as to protect the city'ss defining green belt. Setting the key goals and targets for management of the SLO Basin is the essential foundation of sustainability of the basin and of our critical agriculture industry. It must not be done on incomplete or erroneous data, and time should be taken to make sure data is accurate upon which to base management decisions. We are in favor of taking the first 5 years to gather good data, including improved monitoring that includes: stream gauges, strategically located monitoring wells, review of the drilling logs of each monitoring well, and ideally, robust monitoring of water levels in all wells every month of the year. While this data is collected and analyzed, we need to proceed cautiously with no required reduction in pumping; MT-3 is the most appropriate threshold. We also believe there is more that can be done to augment our basin. Opportunities include: Obtaining tertiary treated water from the City of SLO, rather than that valuable water being dumped to the ocean; Adoption of water conservation measures by all users in the Basin, not just by agriculture; Releases from the Righetti Dam into the West Corral de Piedra Creek, as required; Golden State Water purchasing water from the State Water Pipeline instead of using water from the Edna Valley Basin; Sentinel Peak Resources could discharge their R.O. water further up Corral de Piedra Creek, rather than the current discharge that goes out to the ocean. With all of these opportunities for augmenting the basin, we believe that MO-4 is the logical objective. Thank you for your consideration. June R. McIvor President & CEO Phase 2 Cellars, LLC dba Tolosa Winery	11/2/2020 12:05
Brent Burchett	Workshop #3 Sustainable Goal Setting	These comments are submitted on behalf of the San Luis Obispo County Farm Bureau to provide additional stakeholder input on the Draft Options for Basin Sustainability Goals Stakeholder Workshop #3 (October 1, 2020) Presentation Slides. Based on feedback from farmers in the SLO Valley Basin, we recommend Minimum Threshold 3 and Measurable Objective 4. We share the goal of all basin stakeholders to achieve sustainability for all users, whether residential, municipal, or agricultural. As we detailed in comments submitted on September 30, 2020 regarding Chapter 6-Groundwater Budget, there are currently too many significant data deficiencies to proceed down a path of immediate cuts to farmers in the Basin. The current reliance on production wells as a data source creates inaccurate information for GSA decision-makers, and should be replaced over the next five years with monitoring wells. Our initial priority needs to be building a monitoring network to guide our actions in the decade to come. As we have not exhausted opportunities to supplement our existing water resources with sources like tertiary treated water from the City of San Luis Obispo, State Water, or water being released into the ocean, it would be reckless to balance the Basin solely on the backs of our farmers. Adopting Minimum Threshold 2 (Higher Water Levels than Recent Low Drought Water Levels) for any or all wells may be politically expedient, but such an approach could fail to actually achieve sustainability if assumptions about groundwater impact from specific farms or areas in the Basin are miscalculated. We do not want additional data monitoring for the sake of delaying negative impacts to agriculture. Rather, our Farm Bureau wants farming in the Edna Valley to remain viable for the next generation, and our City and County leaders have an obligation to sustain Edna Valley agriculture's essential contributions to our City and County's economy and quality of life. We know farmers will have to participate in a more robust well monitoring network, and we may have to make changes that affect agriculture, but let's equip our GSA to do so armed with better information than we have today.	11/2/2020 12:10

Robert Schiebelhut	Workshop #3 Sustainable Goal Setting	Some Additional Water Augmentation Suggestions: The ag community has been and continues to be committed to pursuing various feasible water augmentation projects. In addition to those that are under discussion, I would like the consultants and staff to consider the area under the Edna sub basin--the bedrock--as a potential source of water for our sub basin. Our sub basin does have active faults and may have water flows in the bedrock with enhanced recharge--or even a large captured pool of water. Can we initiate surface reconnaissance employing geophysics--e.g. seismic, magnetic, ground penetrating radar etc? Favorable indicators would justify deep drilling in the hope of locating important additional water sources. Also, the written materials presented to date show a good number of wells that extend into the bedrock, and in some cases, quite deep. Can we evaluate the drilling logs and production records of these wells to develop information to supplement our reconnaissance efforts? Additionally, would it make sense to explore potential important water sources not yet tapped up in our watersheds? I would appreciate our consultants and staff views on this as well. Thank you for you consideration. Bob Schiebelhut	11/2/2020 16:29
Jena Wilson	Workshop #3 Sustainable Goal Setting	The Righetti Dam releases into the creek need to be enforced. This is over 600 acre feet of water that should be flowing into the creek and into the basin. Golden State Water needs to start purchasing water from the State Water Pipeline so that they are not using water from the Edna Valley Basin. Golden State currently has a Selenium issue with their water as brought up by Toby Moore in the Workshop. This could alleviate this Selenium issue to all other Domestic water users in the Basin. We need to Augment Water storage with Sentinel Peak Resources R.O. water by discharging the water that is currently going out to the ocean, further up the Corral de Piedra Creek. Corral de Piedra creek needs to be brought back to life to save the fish. If this were done using surface water, then our basin would be in a plus balance.	11/2/2020 17:42
Jean-Pierre W	Workshop #3 Su	I would like to take this opportunity to express my appreciation for the significant effort put forward by the County of San Luis Obispo, the City of San Luis Obispo, the representatives of the Edna Valley, the consultants and the numerous volunteers who have contributed to this GSP thus far. When addressing water, the history of California has shown that it is at times challenging to decouple emotions and personal interest from science. In addition, the accurate projections of drought impact to hydrological models requires allowances for margin of error due to unknowns. Based on the various scenarios presented at the GSP workshop of October 1, 2020 I suggest that the Minimum Threshold alternative should be MT-1 based on the most recent significant drought. The Measurable Objective alternative should be based on M-4 allowing time to address and implement water conservation measures, water augmentation alternatives and applied innovation in water technology. During this ongoing GSP development, I suggest that a refresher evaluation be made in the Edna Valley agricultural land use and its associated ground water extraction to validate the various models assumptions. The successful implementation of the GSP will require three distinct efforts and course of action. Firstly, water conservation will need to become an integral part of the solution in order to meet the MO and MT. The agriculturists of the Edna Valley have already demonstrated some of these initiatives with ongoing implementations. Secondly, water augmentation must be addressed sooner than later. This year, our Governor has made a priority for California to reduce the impact of droughts and climate change through water portfolio diversification. The San Luis Obispo and Edna Valley Basin is in a unique position to address this issue. A good example are the opportunities for recycled water from the City of San Luis Obispo recently upgraded water treatment plant with its emphasis on recycled water and the nearby Price Canyon oil fields high quality recycled water production through reversed osmosis technology. Another opportunity of water augmentation is improved management of the upstream reservoir permittee to leverage conjunctive benefits of West Coral de Piedra Creek such as the downstream public trust surface water aquatic environmental benefits and ground water recharge through percolation. Lastly, technology innovation will need to become part of the long-term solutions such as precision farming utilizing soil moisture sensors, local weather stations, accurate well monitoring to name a few.	11/2/2020 17:49

Chris Darway	General Comme	1. Page 29 shows a gain of 5970 AFT for years 2016 -2019. The graph shows an upward trajectory for Edna. Table 6-14 should show the amount of storage for 2016. By not doing so, we miss the great increase from 2016-2019--most likely due to greater rain plus conservation efforts. Since the SLO subarea was stable during 2014-2016, the 5970 increase is in Edna--probably rising from about 100,000 AFT in 2016 to 105, 630 in 2019. Impressive and not apparent because 2016 numbers are not shown. 2. There are two lines of numbers that are curious. 1/3 of the years show stream outflow exceeds inflow: 1993, 1997, 2000,2001,2003 , 2005, 2006, 2011, 2016, and 2019. All these years are Wet of Above Normal, except 2016 Below Normal. Is this due to infiltration and / or GW/SW intersection? Does this make sense to you? Similar question regarding ET evaporation: In 8 Dry years, the evaporation essentially equaled the precipitation: Precip ET Evaporation 1987 6780 6610 1990 5960 5860 2007 3810 3800 2009 5170 5100 2013 4640 4600 2014 4590 4550 2015 5230 5160 2018 6130 6020 The numbers above don't make sense.	11/3/2020 13:39
Chris Darway	General Comme	How can consultants come up with a Sustainable Yield of less than 4000 AFY in a basin, when the Basin contains Groundwater Storage Estimates of an average of 120,000 AF? This Sustainable yield is only 3% of the storage.	11/3/2020 13:40
Earl Darway	General Comme	Why is 2016 data being excluded? I keep rereading the Water Budget material and came across the reasoning for those years at p 22: "These years include the beginning and ending years in the base period, along with sufficient intervening years to characterize change in storage trends through the base period". This is highly discretionary. Look at the intervals between the years chosen: 4,5,3,7,6,3 and 5 years. More important, by excluding 2016, they allow the argument that the 2014 low point will not be the low point going forward, when an equally valid point is that the 2016-19 trend indicates an upward trend in storage. If increasing storage, where is the overdraft?	11/3/2020 13:40
Earl Darway	General Comme	The graph for pumping does not have an accurate trajectory for two reasons: (1) the trajectory for 2007 to 2019 should be down and not up; and (2) the trajectory being down since 2015 is dramatic. Conservation measures after the drought.	11/3/2020 13:41
Earl Darway	General Comme	On page 44 why did you choose the years shown in table 6-14? There were 21 representative wells (note some of our wells weren't developed until the early 1990's) and then select the years for water levels without any explanation as to why those years?	11/3/2020 13:43
Chris Darway	General Comme	Additional comment: Page 29 shows a gain of 5970 AFT for years 2016 -2019. The graph shows an upward trajectory for Edna. Table 6-14 should show the amount of storage for 2016. By not doing so, we miss the great increase from 2016-2019--most likely due to greater rain plus conservation efforts. Since the SLO subarea was stable during 2014-2016, the 5970 increase is in Edna--probably rising from about 100,000 AFT in 2016 to 105, 630 in 2019. Impressive and not apparent because 2016 numbers are not shown.	11/3/2020 13:43

Karen Merriam	General comments	I am directly affected by the sustainable groundwater planning underway for the Edna Valley. I purchased 10 acres on Tiffany Ranch Road at the south end of the Edna Valley in 1996. There was no vegetation or structures on the land. There was a well that was drilled in 1989 to 115 ft. This well yielded fresh, abundant water from 60+ ft. below the surface when I began pumping in 1997 when I built my home on the property. In 2016 my well ran dry. It cannot be recharged and no further drilling is possible in that location. When I bought my property in '96, most of the land was dry land farming and cattle ranching. As documented, there has been exponential growth of irrigated agriculture on most of the land now surrounding my 10 acres and throughout Edna Valley. (I should note that I know of at least two neighboring wells that have also gone dry.) In 2016, after consultation with Tim Cleath, I was fortunate to find potable water after drilling to 300 ft in the corner of my property farthest from the original well. My understanding is that this is the only area on my property where a productive well can be placed. The cost of drilling, laying new water and electric pipes, etc. exceeded $30,000 four years ago. I am concerned that if present levels of demand for drawing on the Edna Valley water continue to expand, even my new well will not be sustainable. If the new well should fail, then my property will lose all value and will not be habitable. The excellent and thorough hydrogeologic mapping of the Edna Valley clearly shows that in the south end of the valley where my property is located, there is poor recharge available compared to other areas such as Coral de Piedra. Therefore, I strongly urge those who represent individual property owners such as me to support sustainability goals based on the data provided, and on consideration of drought resilience and equitable distribution of risk and cost. Minimum Water Levels should go no lower than levels observed at the 2015 drought culmination. According to all projections from climate scientists, the extremes of heat and drought we are now experiencing will likely only increase. It would be foolish to ignore this data. For this reason, I believe that we should plan for minimum higher water levels than recent recorded low drought water levels: Minimum Threshold Alternative #2. Thank you for your consideration of these comments.	11/17/2020

George Christensen	DRAFT Chapter 7 - Monitoring Networks	January 22, 2021Comments on Chapter 7 - Monitory Networks for the SLO Basin GSPGeorge ChristensenVegetable grower and resident - Edna ValleyA successful groundwater sustainability plan needs to include ALL consumers of the SLO basin.It has been brought to my attention that the currently proposed SGMA regulations only apply to MOST consumers of water in the SLO water basin, not ALL consumers. I believe that there are several hundred residential/domestic consumers who are not included in the scope of the SGMA. This is unreasonable as those unregulated consumers can and will certainly impact the basin's performance. If the SGMA is to be equitable, it must encompass all consumers including domestic/residential, commercial, industrial and agricultural in the SLO basin. Not representing all members from each group is unfair to both the regulated and unregulated groups. All consumers, regardless of size/capacity must be considered and included in the GSP.The challenge of shallow domestic wellsIt has been said many times that one of the major goals of the GSP is to protect/prevent residential wells from going dry in drought conditions. While this is important, it cannot be the primary overriding goal of the GSP. Shallow residential wells have always been a concern during drought conditions in the Edna Valley. Homeowners with shallow wells are victims of poor decisions usually due to lack of information. 'Right sizing a residential well is the responsibility of the homeowner similar to ensuring the main electrical panel is sized large enough to support normal household operation. Just like upgrading the electrical panel on older homes is sometimes required to support changes in the home/lifestyle, so is upgrading the well to ensure an adequate water supply. The onus to remove the risk of residential wells going dry is solely on the homeowner, not on the homeowner's neighbors. It would be unfair to penalize the homeowner's neighbors simply because they failed to'right size their well. I suggest that official guidelines/recommendations be generated for both new and existing homeowners in the Edna Valley to help them right size their residential well.he Righetti reservoir: Edna Valley basin's single biggest influencer. The Righetti reservoir has been around for 50+ years and in that time it has had a significant impact on the Edna Valley basin. The challenge is to understand what kind of impact, the size of the impact and mechanics of the impact. There are many theories and postulations, but none that I have found based upon actual hard facts. I believe that the reservoir has a significant impact on the Edna Valley basin but I lack data to substantiate that belief.I strongly encourage the GSP to include streamflow meters both in the watershed area above the reservoir and in the West Corral de Piedra creek immediately below the reservoir to improve our understanding of the impact of the Richetti Reservoir. Only then can we include the reservoir in the GSP. Good Data enables Good decisionsAnd of course the corollary to the above statement is that poor or incomplete data will drive bad decisions. This is evidenced in several places in Chapter 7, but I will specifically focus upon Table 7-1.There are 18 wells listed for the Edna Valley. 9 of the 18 wells (50%!!) are missing either well depth, screen intervals or both. How can we expect good decisions when 50% of the critical data is missing? There isn't any way a credible prediction of wells going dry can be made with these critical pieces of data missing. EV-10 is indicated to have a State Well Completion Report. If that is true, then why isn't First Data Year, Last Data Year, Data period and Data count included? Is this just a simple oversight or a sign of a less than thorough inspection of data presented to the public?The summary is simple: We do not have enough high fidelity, accurate data today to drive major decisions.	1/22/2021 14:50
Keith Watkins	General Comments	Developing an adequate monitoring plan is crucial to developing operational plans for maintaining our basin. To develop good information, we need to invest in several new monitoring wells and track them for multiple years to be able to really know what our groundwater levels are doing.Chapter 7.1.2--The list of criteria is in many respects too vague. What does "proximity and frequency of nearby pumping wells" mean? Specifically, what is the minimum distance from other wells? How much "frequency" of nearby wells mean is allowed? What does "spatial distribution relative to the applicable sustainability indicators" mean? Same questions for "Groundwater use" and "impacts on beneficial uses and Basin users." In other words, how are we to know how to apply these criteria to evaluate the selection of the Representative Wells?	1/26/2021 8:43
Chris Darway	General Comments	Chapter 7.1.2--The list of criteria is in many respects too vague. What does "proximity and frequency of nearby pumping wells" mean? Specifically, what is the minimum distance from other wells? How much "frequency" of nearby wells mean is allowed? What does " spatial distribution relative to the applicable sustainability indicators" mean? Same questions for "Groundwater use" and "impacts on beneficial uses and Basin users." In other words, how are we to know how to apply these criteria to evaluate the selection of the Representative Wells?	1/27/2021 13:03
Chris Darway	General Comments	Table 7.1 -- Why monitor a well outside the Basin in Arroyo Grande water basin -- EV-18? 52 years of records and no depth of monitoring info.	1/27/2021 13:06

Earl Darway	General Comments	7.2.1 Groundwater monitoring. This states there are a total of 40 monitoring wells in both basins. This states that there are 18 monitoring wells in the Edna basin, however, when I look at the detailed information in table 7-1, of the 18 "monitoring wells", only 6 of these wells are deep enough to be used to monitor our groundwater, 4 of these 6 wells are being used of Ag irrigation, and 1 is a public supply well for GSW. This leaves only 1 well that is an official monitoring well as described in 7.1.2. and this well does not meet the criteria outlined to be an official monitoring well. We need to establish official monitoring wells that meet the criteria before we move forward.	1/27/2021 13:11
George Donati	DRAFT Chapter 7 - Monitoring Networks	I have 3 comments and 1 question:1.Chapter 7.1.3. Scientific rational -SGMA regulations require that the GSP identify sites that do not meet BMPs. Also, if wells lack construction info, the GSP shall include a schedule to acquire monitoring wells with all the necessary information. As Table 7-1 shows, there are many wells that do not have BMP's and lack construction information. We need this data on the individual wells please.2.Table 7-1. San Luis valley has 11 monitoring wells that are not being used for other purposes. All of these wells are less than 100 ft deep. Not sure if this is deep enough to qualify the criteria. Edna Valley area has only 2 monitoring wells that are not being used for other purposes. One of these wells is very shallow at only 150 ft deep. EV 14 is a monitoring well and is the only well that meets the criteria in the entire Edna basin. Many wells outlined in table 7-1 are missing information which is required, or they are being pumped for Ag or Domestic purposes and will not give accurate data for monitoring the Edna basin. Should we have more proper monitoring wells so that we can monitor our ground water properly? Can we use the first 5 years to set this up?3.Table 7-2. They are asking for a monitoring well east of Crestmont road. John Silva's property, just east of the intersection of Crestmont and Hwy 227 has 4 wells and one of these could work. Please contact me if you are interested in one of these wells.Question - Just below this comment box on your web site there is a statement -While attachments (e.g., letters) will be read and considered, individual comments entered using the form will receive a response for each comment.I have never received a written response to any of my previous comments. Is there a plan to do this?Thank you,George Donati	1/27/2021 13:53
Robert Schiebelhut	DRAFT Chapter 7 - Monitoring Networks	Many in the Edna Valley believe that the SGMA process should include consideration of the actual impact of the Righetti reservoir on the Edna sub basin. There has never been a hydrology connecting the two. The State recognizes the nexus between the two. On February 21, 1991, the State Water Resources Control Board expressly reserved jurisdiction to modify the terms of the Righetti permits based on "the findings of the hydrology study now in progress of the Pismo Ground Water Basin and the Edna Valley. The study will include a safe yield estimate of the basin" (State Water Resources Control Board Order WR 91-02, page 8). The referenced study was never completed even though 30 years has passed. SGMA requires an appropriate study of the relevant factors to determine safe yield, and therefore our process should include a complete review of the impact of the Righetti reservoir on the Edna sub basin. In Chapter 7, page 119, the chart states that the Righetti Reservoir (one of the largest privately owned in California) is a beneficiary of about 21% of the Pismo watershed. The important watershed for determining the actual impact of the Reservoir is the West Corral de Piedra watershed. The State Water Resources Board's Decision 1672 (dated November 27, 1990 found that the Righetti Reservoir captures the stream flow of approximately 3000 acres of the 5300 acre West Corral de Piedra watershed--57%, not just 21%. This higher percentage reflects the substantial impact of the reservoir. Chapter 7.2.3.1 recommends two gauges for West and East Corral de Piedra at Orcutt Road. Why not a gauge above the Righetti Reservoir to better determine the actual stream diversion, rather just "estimating"? If we are to pay for measuring well #EV-18 which is outside the Basin, why not pay for a new gauge above the Basin, in the watershed for West Corral de Piedra?	1/28/2021 16:32

Brian Talley	DRAFT Chapter 7 - Monitoring Networks - 7.2 MONITORING NETWORKS	A consistent concern for me is that we don't have enough data to make informed decisions about pumping restrictions. Let's take the prudent approach of studying our basin over the next 5 years to insure that we don't make rash decisions that threaten the sustainability of agriculture in the basin. In particular, we need representative monitoring wells. Landowners, myself included, are willing to provide locations for these wells. We also need a better understanding of the amount of diversion that is occurring as a result of the Righetti Reservoir. In-stream gauges should be installed both above and below the dam to quantify the diversion and ensure compliance with state permits.	1/30/2021 8:50
Mark Capelli	Draft_SLO_GSP_Chapter_8_SMC.pdf	Submitted are comments and recommendations that are intended to assist the County of San Luis Obispo.	6/3/2021 13:57
Keith Watkins	General Comments	Chapter 9: Projects & Management ActionsEdna Valley Growers are willing to take the excess water that now flows to the ocean with no quantity guarantees from the City of San Luis Obispo. Edna Valley Growers are focused on beneficially utilizing excess water which is currently being wasted to the ocean for crop irrigation. The Growers can utilize San Luis Obispo's recycled water in the winter months when City demand is at its lowest. Water can be applied to dormant vineyards to build the soil moisture profile for the spring and summer. Deep rooted grape vines can utilize the water through the spring and summer lowering well water demand through out the valley. Citrus also can be irrigated in the winter months to offset later irrigation demand in drier periods. While we acknowledge that the available amount of water may decrease over time as the City develops additional internal programs, we recommend that grower deliveries not be characterized as a short term program, but a project that will continue to utilize excess water supplies whenever they may be available.The City acknowledges that it has excess capacity in the winter months and can not utilize all the recycled water it produces. Edna Valley Growers are willing to pay the cost to connect to the City recycled water system with no obligation by the City to deliver a guaranteed amount. Edna Valley growers want to partner with the City to maintain the City's greenbelt for the benefit of all in the area.Connecting to the City's current 8" waterline system will provide acceptable capacity to the Edna Valley with no need for infrastructure improvements. Again, we will take what the system can provide. If water need to be boosted from the delivery point, Edna Valley Growers will install a booster pump and cover the costs of operation.Edna Valley Growers are willing to pay for the water supply which now flows to the ocean, including some level of profit to the City above the cost of pumping and electricity are covered. Based on some of our initial pricing concepts, up to $200,000 could be recouped annually by the City to provide lower costs to city customers.Edna Valley Growers want to work collaboratively with the City of San Luis Obispo to provide supplemental water to the City's Greenbelt. The current assumed water deficiency threatens not only the agricultural production and residential use in the Edna Valley but also the viability of the City's Greenbelt., as well as the City's economy which benefits from ag tourism, tasting rooms and event centers in the Edna Valley. I believe these comments should be incorporated into Chapter 9, Projects & Management Actions to show the potential more clearly for utilizing recycled water to offset agricultural demand and reduce assumed basin over-draft.	6/30/2021 14:05
Dan Dooley	Draft_SLO_GSP_Chapters_9_10.pdf - 9.5 Management Actions	See attached file submitted on behalf of Edna Ranch East.	7/21/2021 12:34
Timothy Delany	Final Draft TechMemo_GDE_Assessment_SLO.pdf	Note: Please refer to attachment for proper line and page numbers, as well as formatting.	7/22/2021 17:15
tim walters	Draft_SLO_GSP_Chapters_9_10.pdf	I understand the objective of managing the basin in a manner that sustains the existing water use patterns, however the objectives and goals ignore potential for agricultural, residential or commercial expansion in the future. In my opinion, it is naive to expect that the basin development whether ag or otherwise will remain static over time. the sustainable goals should recognize and include goals for sustaining existing conditionsÂ and forecast future growth within the basin.	6/24/2021 8:39

Helenmub Helenmub	Final Draft TechMemo_GDE_Assessment_SLO.pdf - 3 GDE EVALUATION AND SUSTAINABLE INDICATORS	Yes	6/22/2021 11:12

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

May 29, 2020

John Diodati
Interim Director, Public Works Department
County of San Luis Obispo County
976 Osos St #207
San Luis Obispo, California 93408

Re: NOAA's National Marine Fisheries Service comments on the draft Groundwater Sustainability Plan (Chapter 5) for the San Luis Obispo Valley Groundwater Basin

Dear Mr. Diodati:

Enclosed with this letter are NOAA's National Marine Fisheries Service's (NMFS) comments on "Chapter 5: Groundwater Conditions" of the San Luis Obispo Valley Groundwater Basin (SLO Valley Basin) Groundwater Sustainability Plan (GSP).

The GSP is intended to meet the requirement of the California Sustainability Groundwater Management Act (SGMA). The SMGA includes specific requirements to identify and consider impacts to Groundwater Dependent Ecosystems (GDE) that have significant and unreasonable adverse impacts on all recognized beneficial uses of groundwater and related surface waters (Water Section 10720), including fish and wildlife and botanical resources.

As explained more fully in the enclosed comments, the draft Chapter 5 does not adequately address the recognized instream beneficial uses of the SLO Valley Basin, which underlies San Luis Obispo Creek and Pismo Creek, or other GDE, potentially affected by the management of groundwater within the SLO Valley Basin. In particular, the draft Chapter 5 does not adequately recognize or analyze the important relationship between the groundwater extractions and potential adverse effects on the federally threatened South-Central California Coast steelhead (*Oncorhynchus mykiss*). The reasons for this assessment are set forth in the enclosure. NMFS recommends that the revised draft Chapter 5 be re-circulated to give interested parties an opportunity to review and comment before it is finalized.

NMFS appreciates the opportunity to provide the enclosed comments on the draft Chapter 5. If you have a question regarding this letter or enclosure, please contact Mr. Mark H. Capelli in our Santa Barbara Office (805) 963-6478 or mark.capelli@noaa.gov. Mr. Rick Rogers (707-578-8552; rick.rogers@noaa.gov) in our Santa Rosa Office.

Sincerely,

Anthony P. Spina
Chief, Southern California Branch
California Coastal Office

cc:

Natalie Stork, Chief, DWR, Groundwater Management Program
Mark Nordberg, DWR
Trevor Joseph, CDWR, Senior Engineering Geologist
James Nachbaur, SWRCB
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Don Baldwin, CDFW
Robert Holmes, CDFW
Mary Ngo, CDFW
Roger Root, USFWS
Chris Dellith, USFWS
Kristie Klose, USFS
Ronnie Glick, CDP&R
Fred Otte, City of San Luis Obispo

Enclosure

NOAA's National Marine Fisheries Service's Comments on the draft Groundwater Sustainability Plan (Chapter 5) for the San Luis Obispo Valley Groundwater Basin (March 2020)

May 29, 2020

Introduction

NOAA's National Marine Fisheries Service (NMFS) is responsible for protecting and conserving anadromous fish species listed under the Endangered Species Act, including the federally threatened South-Central California Coast (SC-CCS) Distinct Population Segment (DPS) of Steelhead (*Oncorhynchus mykiss*) which utilize San Luis Obispo Creek and Pismo Creek. NMFS listed SC-CCS, including the populations in the Santa San Luis Obispo Creek and Pismo Creek watersheds (which overlies a portion of the SLO Valley Basin), as threatened in 1997 (62 FR 43937), and reaffirmed the threatened listing in 2006 (71 FR 5248).

On March 12, 2020, the California Department of Water Resources (DWR) has designated the SLO Valley Basin a "Medium" priority for groundwater management, requiring the development of a final Groundwater Sustainability Plan (GSP) by January 31, 2022, pursuant to the 2014 SGMA. Several watercourses that overlie portions of the SLO Valley Basin, including San Luis Obispo Creek and the headwaters of Pismo Creek, support federally threatened SC-CCS DPS of steelhead.

Surface water and groundwater are hydraulically linked in the SLO Valley Basin, and this linkage is critically important in creating seasonal habitat for threatened SC-CCS steelhead. Where the groundwater aquifer supplements streamflow, the influx of cold, clean water is essential for maintaining suitable water temperature and surface flow. Pumping from these aquifer-stream complexes can adversely affect freshwater rearing areas for juvenile steelhead by lowering groundwater levels and interrupting the hyporheic flow between the aquifer and the stream, particularly during the naturally low flow summer and fall months. Thus, groundwater extraction in the SLO Valley Basin can and is expected to adversely affect threatened S-CCC steelhead through a reduction in the amount and extent of freshwater rearing sites for this species.

Steelhead Life History: Habitat Requirements

While adult steelhead spend a majority of their adult life in the marine environment, much of this species' life history phase (migration to and from spawning areas, spawning, incubation of eggs and the rearing of juveniles) occurs in the freshwater environment, including in the main stem and tributaries. Many of the natural limiting factors (such as seasonal variation in rainfall, runoff, and ambient air and water temperatures) are exacerbated by the artificial modification of these freshwater habitats. This includes both surface and sub-surface extractions that lower the water table and can, in turn, affect the timing, duration, and magnitude of surface flows essential for steelhead migration, spawning and rearing, based on NMFS' extensive experience assessing the influence of surface and groundwater withdrawals on this species.

Seasonal instream conditions can prevent the species from completing its life cycle. In particular, the over-summering period can be challenging to juvenile steelhead survival and growth. Lowered water tables that are hydrologically connected to surface flows and subjected to groundwater pumping during the dry season can affect rearing individuals by reducing vegetative cover, and directly by reducing or eliminating the summertime surface flows. (Barlow and Leake 2012, Heath 1983).

Groundwater inputs to surface flows can buffer daily temperature fluctuations in a stream (Hebert 2016, Barlow and Leake 2012, Brunke et al. 1996, Heath 1983). Artificially reducing the groundwater inputs would likely expand or shrink the amount of fish habitat and feeding opportunities for rearing juvenile steelhead, and reduce the likelihood that juvenile steelhead would survive the low-flow period and successfully emigrate to the estuary and the ocean (CBEC and Podlech 2015, Croyle 2009, Glasser et al. 2007, Sophocleous 2002, Fetter 1997).

NMFS' South-Central California Steelhead Recovery Plan identifies groundwater extraction from San Luis Obispo Creek and Pismo Creek as likely caused by both surface water diversions and pumping hydraulically connected groundwater, and is ranked as a "Very High Threat" to steelhead survival in San Luis Obispo Creek and Pismo Creek (NMFS 2013. Table 12-2. Threat source rankings in the San Luis Obispo Terrace Biogeographic Population Subgroup. p. 12-17).

San Luis Obispo Creek and Pismo Creek: Steelhead Recovery

NMFS' South-Central California Steelhead Recovery Plan (2013) designated both San Luis Obispo Creek and Pismo Creek as Core 1 populations within the San Luis Obispo Terrace Biogeographic Population Group. Core 1 populations are populations identified as having the highest priority for recovery based on a variety of factors, including:

- the intrinsic potential of the population in an unimpaired condition;
- the role of the population in meeting the spatial and/or redundancy viability criteria;
- the current condition of the populations;
- the severity of the threats facing the populations;
- the potential ecological or genetic diversity the watershed and population could provide to the species; and,
- the capacity of the watershed and population to respond to the critical recovery actions needed to abate those threats.

(NMFS 2013, Table 7.1 Core 1, 2, and 3 *O. mykiss* populations within the South-Central California Steelhead Recovery Planning Area. pp. 7-7 – 7-8.)

As part of NMFS' recovery planning for the threatened SC-CCS DPS of steelhead, the intrinsic potential of individual watersheds to support a viable population of steelhead in an unimpaired state is assessed and ranked. The intrinsic potential habitat for San Luis Obispo Creek and Pismo Creek ranked in the upper half of all the watersheds within the threatened SC-CCS DPS of

steelhead based on the amount of potential habitat (in an unimpaired state) in each watershed within the SC-CCS DPS. See Figure 1 and 2, "Intrinsic Potential Steelhead Spawning and Rearing Habitat maps for San Luis Obispo Creek and Pismo Creek included as part of Enclosure

NMFS also designated critical habitat for the threatened SC-CCS DPS of steelhead in 2005 (70 FR 52488). This designation included the main stem and tributaries of San Luis Obispo Creek and Pismo Creek, portions of which traverse the SLO Valley Basin. Critical habitat provides: 1) freshwater spawning habitat with water quality and quantity conditions and substrate supporting spawning, incubation, and larval development, 2) freshwater rearing sites with water quality and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility, water quality and forage supporting juvenile development, and natural cover such as shade, submerged and overhanging vegetation, and 3) freshwater migration corridors free of passage obstructions to promote adult and juvenile mobility and survival.

Critical habitat throughout the threatened SC-CCS DPS of steelhead has been adversely affected by loss and modification of primary constituent elements (substrate, water quality and quantity, water temperature, channel morphology and complexity, riparian vegetation, passage conditions, etc.) through activities such as groundwater extractions and related surface-water diversions (NMFS 2013). Thus many of the constituent elements of critical habitats have been significantly degraded (and in some cases lost) in ways detrimental to the biological needs of steelhead. These habitat modifications have hindered the ability of designated critical habitat to provide for the survival and ultimately recovery of the threatened SC-CCS DPS of steelhead. See Figures 3 and 4, "Critical Steelhead Habitat maps for San Luis Obispo Creek and Pismo Creek included as part of this Enclosure.

NMFS has developed a South-Central California Steelhead Recovery Plan (NMFS 2013) that provides a strategy for the recovery of the species (including a threats assessment, recovery actions, and recovery criteria). Among the threats to the steelhead habitats in the San Luis Obispo Creek and Pismo Creek watersheds identified in this recovery plan are surface-water diversions for groundwater replenishment, and related groundwater extractions, to support agricultural and urban developments that utilize groundwater resources (NMFS 2013. pp. 12-1 through 12-20) .

NMFS has also issued a 5-Year Status Review: Summary and Evaluation of the South-Central California Coast Steelhead Distinct Population Segment (NMFS 2016). This Status Review noted that the ". . . SWRCB generally lacks the oversight and regulatory authority over groundwater development comparable to surface water developments for out-of-stream beneficial uses, though SGMA in 2014 partially addresses this inadequacy for some water basins." (p. 38). The Status Review further noted that:

> "The below normal precipitation and reduced runoff has adversely affected aquatic habitat for steelhead in a variety of other ways, resulting in: 1) depleted groundwater basins which provide base flows that support critical over-summering habitat for rearing *O. mykiss*; 2) reduced hydrological connectivity between seasonally wet and dry stream sections in interrupted streams; 3) restricted instream movement of rearing *O. mykiss*; 4) delayed or reduced breaching time of sandbars at the mouth of coastal estuaries, affecting water quality, and limiting both the upstream migration of adult *O. mykiss* and the

> downstream emigration of juveniles and kelts. Riparian habitat has also been adversely affected by the reduction in groundwater levels and the reduction of surface flows, affecting water temperatures and food availability." (p. 48).

To address the identified threats to threatened steelhead in the San Luis Obispo Creek and Pismo Creek watersheds NMFS' South-Central California Steelhead Recovery Plan identifies a number of recovery actions targeting surface diversions and groundwater extraction (NMFS 2013, Table 8-1. Recovery Actions Glossary. pp. 8-7 – 8-8).

These include for San Luis Obispo Creek:

> SLO-SCCCS-6.1 Conduct groundwater extraction analysis and assessment. Conduct hydrological analysis to identify groundwater extraction rates, effects on the natural stream pattern (timing, duration and magnitude) of surface flows in the mainstem and tributaries, and the estuary, and effects on all *O. mykiss* life history stages, including adult and juvenile *O. mykiss* migration, spawning, incubation, and rearing habitats.
>
> SLO-SCCCS-6.1 Develop and implement groundwater monitoring and management program. Develop and implement groundwater monitoring program to guide management of groundwater extractions to ensure surface flows provide essential support for all *O. mykiss* life history stages, including adult and juvenile *O. mykiss* spawning, incubation and rearing habitats.
>
> Table 12-12. South-Central California Steelhead DPS Recovery Action Table for San Luis Obispo Creek, p 12-58.

Similarly for Pismo Creek:

> Pis-SCCCS-6.1 Conduct groundwater extraction analysis and assessment. Conduct hydrological analysis to identify groundwater extraction rates, effects on the natural stream pattern (timing, duration and magnitude) of surface flows in the mainstem and tributaries, and the estuary, and effects on all *O. mykiss* life history stages, including adult and juvenile *O. mykiss* migration, spawning, incubation, and rearing habitats.
>
> Pis-SCCCS-6.1 Develop and implement groundwater monitoring and management program. Develop and implement groundwater monitoring program to guide management of groundwater extractions to ensure surface flows provide essential support for all *O. mykiss* life history stages, including adult and juvenile *O. mykiss* spawning, incubation and rearing habitats.
>
> Table 12-13. South-Central California Steelhead DPS Recovery Action Table for Pismo Creek, p. 12-63.

Both San Luis Obispo Creek and Pismo Creek currently supports a threatened population of steelhead that is critical to the future survival and recovery of the broader threatened SCCCS DPS of Steelhead.

Management of the groundwater of the SLO Valley Basin has affected the water resources and other related natural resources throughout the San Luis Obispo Creek and Pismo Creek watersheds. When analyzing impacts on steelhead or other aquatic organisms resulting from groundwater and related streamflow diversions, identifying flow levels that effectively support essential life functions of this organism is critical (Barlow and Leake 2012). Specifically, it is essential to explicitly provide for the protection of habitats, including those recognized instream beneficial uses that are dependent on groundwater such as fish migration, spawning and rearing, as well as other Groundwater Dependent Ecosystems GDE (California Department of Water Resources 2016, Heath 1983).

Specific Comments

On page 21, the draft Chapter 5 states the following with regard to decreasing groundwater storage in the northern portion of the basin:

> *"The long-term stability of groundwater elevations in these hydrographs indicates that groundwater extractions and natural discharge in the areas of these wells are in approximate equilibrium with natural recharge and subsurface capture, and that no trends of decreasing groundwater storage are evident."*

However, in Figure 5-11, three of the graphs depicting groundwater trends over time for the northern basin do not include data from the last few decades (e.g., graphs #1, #3, and #4 present data up to 1995, 2005, and 2012, respectively). Relying on data that has gaps ranging from several years to a few decades limits their utility in describing recent or current trends in groundwater storage. The revised draft should recognize and address this limitation. In addition, to improve the utility of the graphs, each should include the respective ground-surface elevation at the well location. Finally, it appears that data collection at some wells was not systematically collected on a set time schedule. This limitation should recognized and addressed as well.

On page 24, the draft Chapter 5 states:

> "The Percolation Zone Study of Pilot-Study Groundwater Basins in San Luis Obispo County, California identified areas with relatively high natural percolation potential that, through management actions, could enhance local groundwater supplies for human and ecological benefits to the aquatic environment for steelhead habitat."

However, it not clear what specific management actions are referred to here. If the management actions involve diversion of flows from either San Luis Obispo Creek or Pismo Creek, the effects of these diversions must be assessed on steelhead use, as well as other GDE.

On page 30, the draft Chapter 5 references a 30-foot difference in surface water and groundwater elevation as a determinant for evaluating hydraulic disconnection between the two. The 30-foot metric, as referenced in Rohde *et al.* (2019), is based upon rooting depths of oak trees. How groundwater supports oak tree ecology is very different from how groundwater accretion to surface flow supports stream-dwelling organisms for other GDE (explained below), and the former should not be used to inform the latter.

This same issue arises in Section 5.8.2 in a discussion of GDE impacts within East and West Corral de Piedras creeks. Finally, the draft Chapter 5 recognizes that oak rooting depths can be

up to 70 feet (page 34), which would appear to contradict the basis for using 30 feet within their GDE analysis.

The life-cycle of steelhead often requires occupying seasonal habitat that may only have flowing water during wetter periods of the year (Quinn 2015, Boughton et al. 2009), especially in more arid regions at the southern extent of their range (e.g., central and southern California). The extent of connection is seasonally transient, and changes in the water table and river flow can and do alter the state of connection (Cook et al. 2010, Brunner et al. 2011). In short, whether a stream or river reach is gaining or losing, or whether 30 feet separates groundwater/surface water at a specific time of year, is not; what is important is how groundwater use influences the seasonal duration and quality of surface water and, by extension, instream habitat.

The mechanism by which stream-dwelling organisms are impacted by groundwater pumping is habitat degradation caused by the draw-down of surface flows (Barlow and Leake 2012), and can occur in both "gaining" and "losing" stream reaches. The impacts can be both physical (e.g., pool volume shrinks as water surface elevation declines) and physicochemical (e.g., water quality can suffer as pools and riffles lose connectivity). Thus, the appropriate method to determine whether pumping is having "significant and unreasonable adverse impacts" on beneficial uses of surface water is to understand the level of impact (i.e., volume of streamflow depletion) and how habitat quality and functionality change because of that impact. Further data is required throughout the 180/400-foot sub-basin to establish localized relationships between streamflow depletion and the resulting instream habitat characteristics.

The final GSP should address this data gap by including studies that develop an appropriate threshold preventing significant and unreasonable impacts to beneficial users of surface water. The final GSP should also elaborate sufficiently as to when, where, and how this data will be collected during the first few years of GSP implementation, or at the very least, clearly commit to developing a detailed data collection plan with interested stakeholders at a later date.

NMFS recommends the final GSP follow guidance from California Department of Fish and Wildlife (2019) and develop conservative streamflow depletion thresholds as a precautionary approach until the surface flow/groundwater dynamic in the 180/400 foot sub-basin is better studied and understood.

Page 30 of the draft chapter 5 states "…*s*ince, as presented in the discussion of hydrographs in the San Luis Valley in Section 5.2, there has been no long- term water level declines in this area, there is no evidence of long-term depletion of interconnected surface water in this area.*"*

This statement is not consistent with basic principles of groundwater hydrology or SGMA regulations. First, as noted above, several of the groundwater elevation plots referenced in Section 5.2 do not contain full records, and are thus inappropriate for discerning recent trends and concluding water levels have not been declining in the area. Second, whether or not groundwater levels are steady over time has no probative value informing streamflow depletion impacts – the proper method for determining potential streamflow depletion is developing and using an analytical groundwater/surface water, as required by SGMA regulations.

Page 31 of the draft Chapter 5 notes that:

> "Observations of stream conditions indicate a perennial reach of Pismo Creek that flows through Price Canyon and supports year-round critical habitat for threatened steelhead just south of the Basin Boundary."

A recent study of instream flows of Pismo Creek also indicates, "Groundwater discharge into the channel (gaining reaches) tends to occur within localized areas in the steep Franciscan Mélange formations, and within localized areas of Price Canyon, while stream reaches tend to lose water as they cross the Quaternary sedimentary deposits of Edna Valley (Stillwater 2016).

Rearing juvenile steelhead (as well a resident O. *mykiss*) respond to changing water conditions (including seasonal desiccation of stream reaches) by moving to areas with more suitable habitat conditions, including surface flow conditions. This behavioral response is common in streams that naturally exhibit diverse flow regimes such as ephemeral, intermittent, or interrupted flow (i.e., alternating reaches of surface and non-surface flow). In some situations, *this* situation can create enhanced feeding and growing conditions for juvenile *O. mykiss when they re-occupy previously desiccated stream reaches.* See, Boughton, et al. 2009. Spatial patterning of habitat for *Oncorhynchus mykiss* in a system of intermittent and perennial stream. *Ecology of Freshwater Fishes* 18:92-105.

Page 47 of the draft Chapter 5 provides references, which appear incomplete. For instance, Bennett (2015) does not appear in the reference list.

Finally, DWR's analysis suggests streamflow depletion are potentially influencing GDEs in the SLO Valley Basin, as evidenced by their updated basin prioritization work (DWR 2018). The SLO Valley Basin received extra priority points for water quality and streamflow/habitat impacts during the 2018 basin prioritization process[1]. The DWR prioritization handbook (DWR 2018) makes clear that those points reflect potential impacts to GDEs and their habitat, noting that:

> "…habitat and/or streamflow point(s) were not applied to basin prioritization until it was determined that one or more of the habitats and/or streamflows were potentially being adversely impacted."

NMFS suggests that the final GSP develop conclusions regarding streamflow depletion impacts based on reliably estimating streamflow-depletion rates or volumes using the required groundwater/surface water model, and relating those depletions to instream habitat impacts that limit steelhead survival. See for example, Sophocleous 2002, Mercer and Faust 1980.

[1] See the SGMA Basin Prioritization Dashboard tool at https://gis.water.ca.gov/app/bp-dashboard/final/ Also, The Nature Conservancy. 2018. Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act. Guidance for Preparing Groundwater Sustainability Plans.

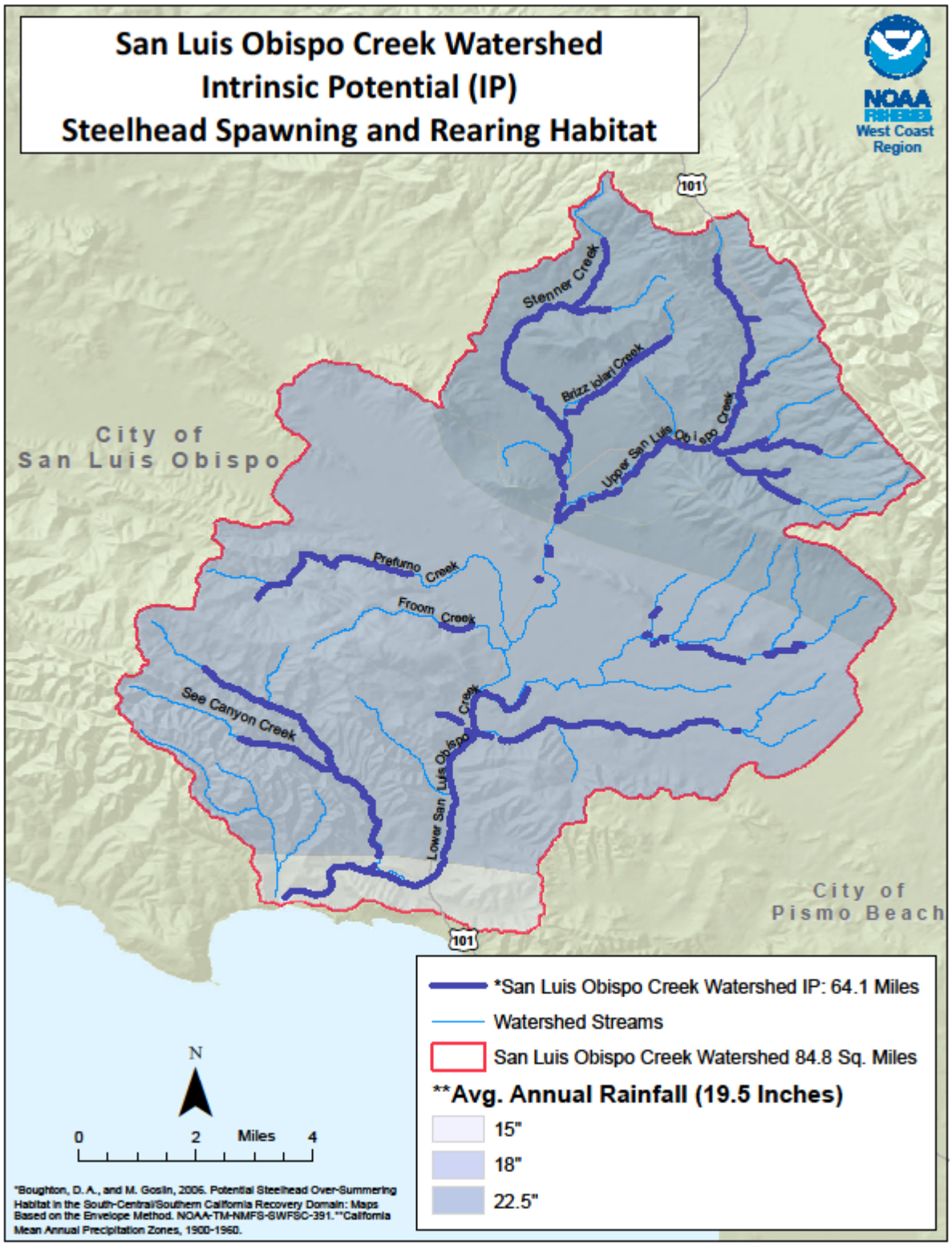

Figure 1. San Luis Obispo Creek Intrinsic Potential Steelhead Spawning and Rearing Habitat.

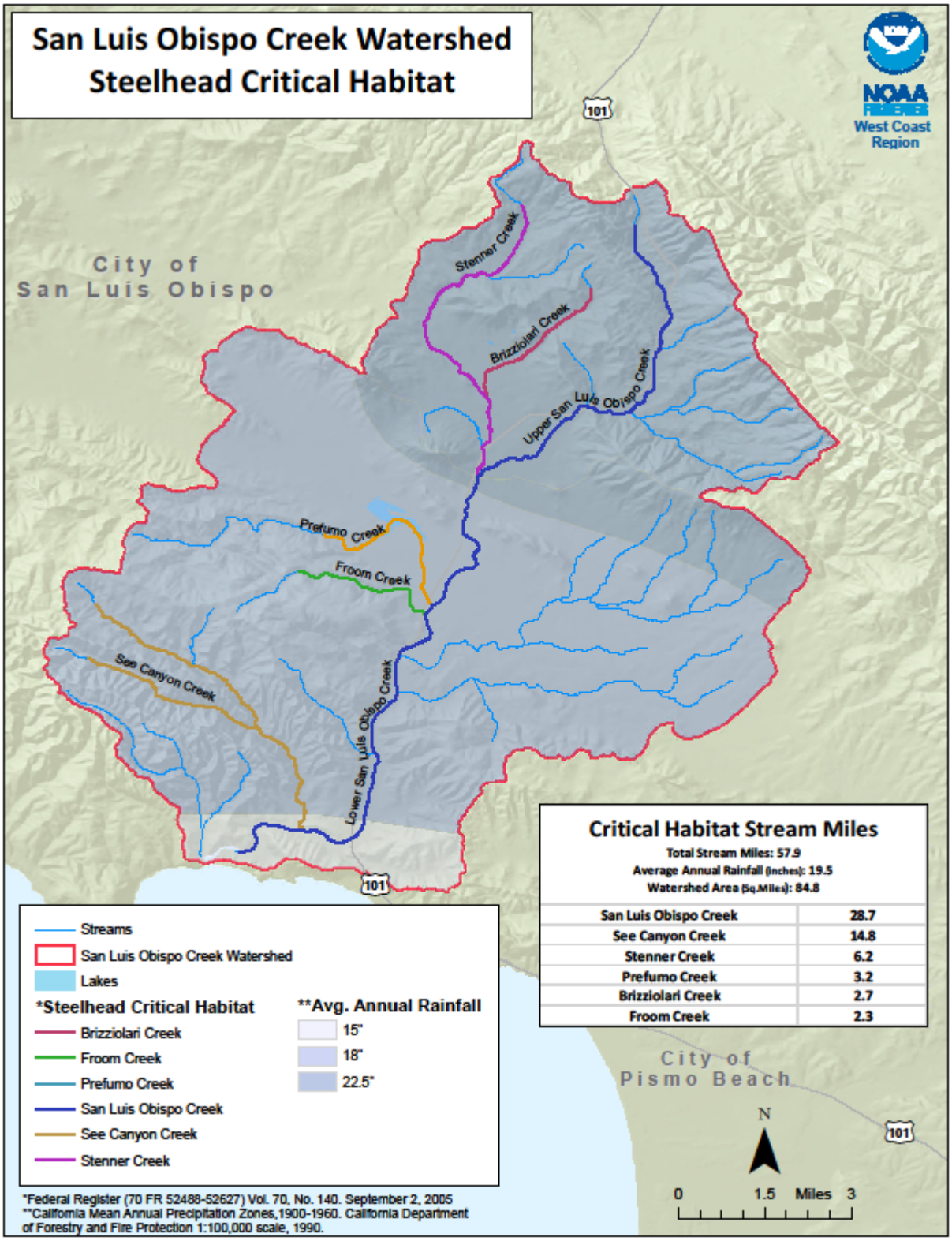

Figure 2. San Luis Obispo Creek Critical Steelhead Habitat.

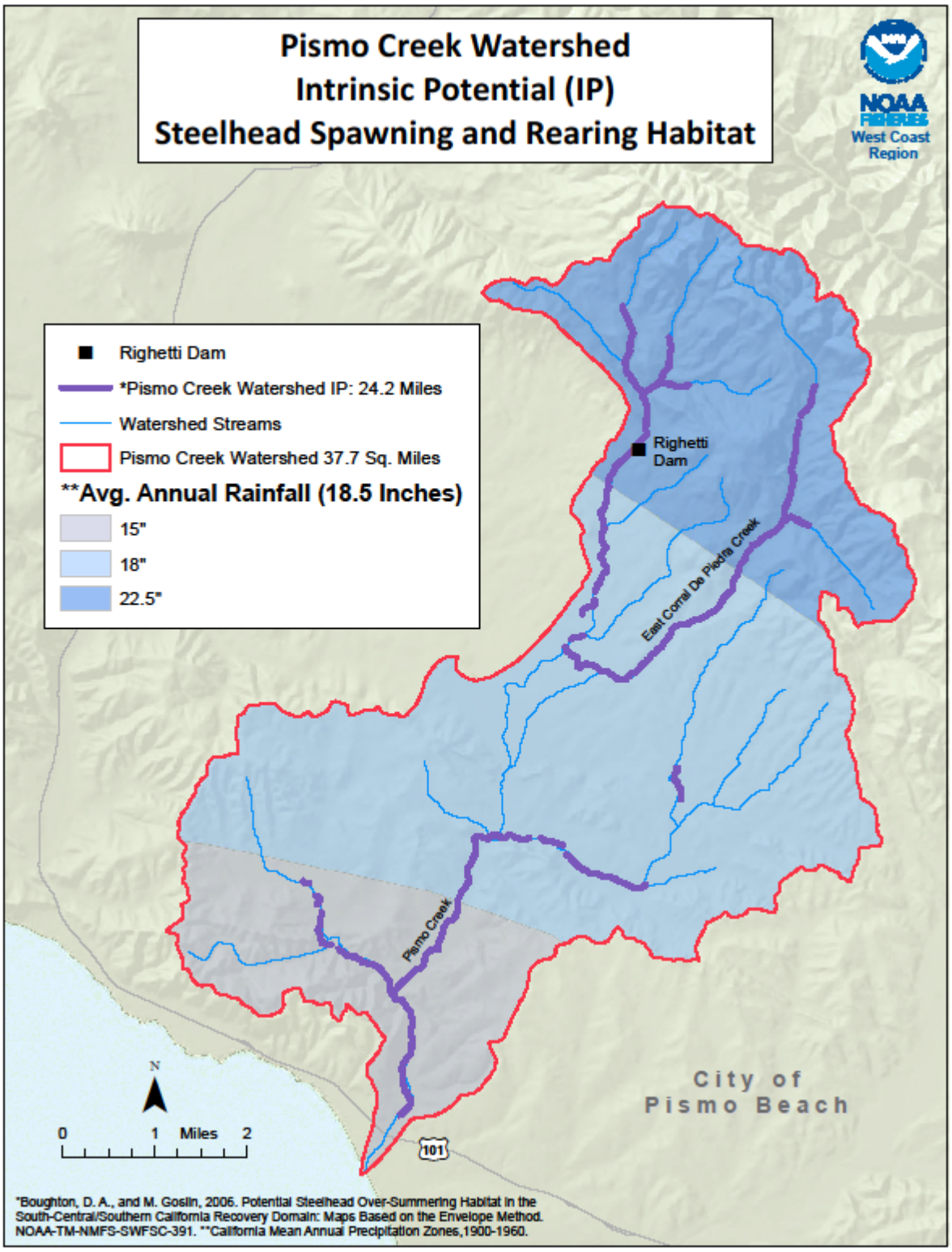

Figure 3.Pismo Creek Intrinsic Potential Steelhead Spawning and Rearing Habitat.

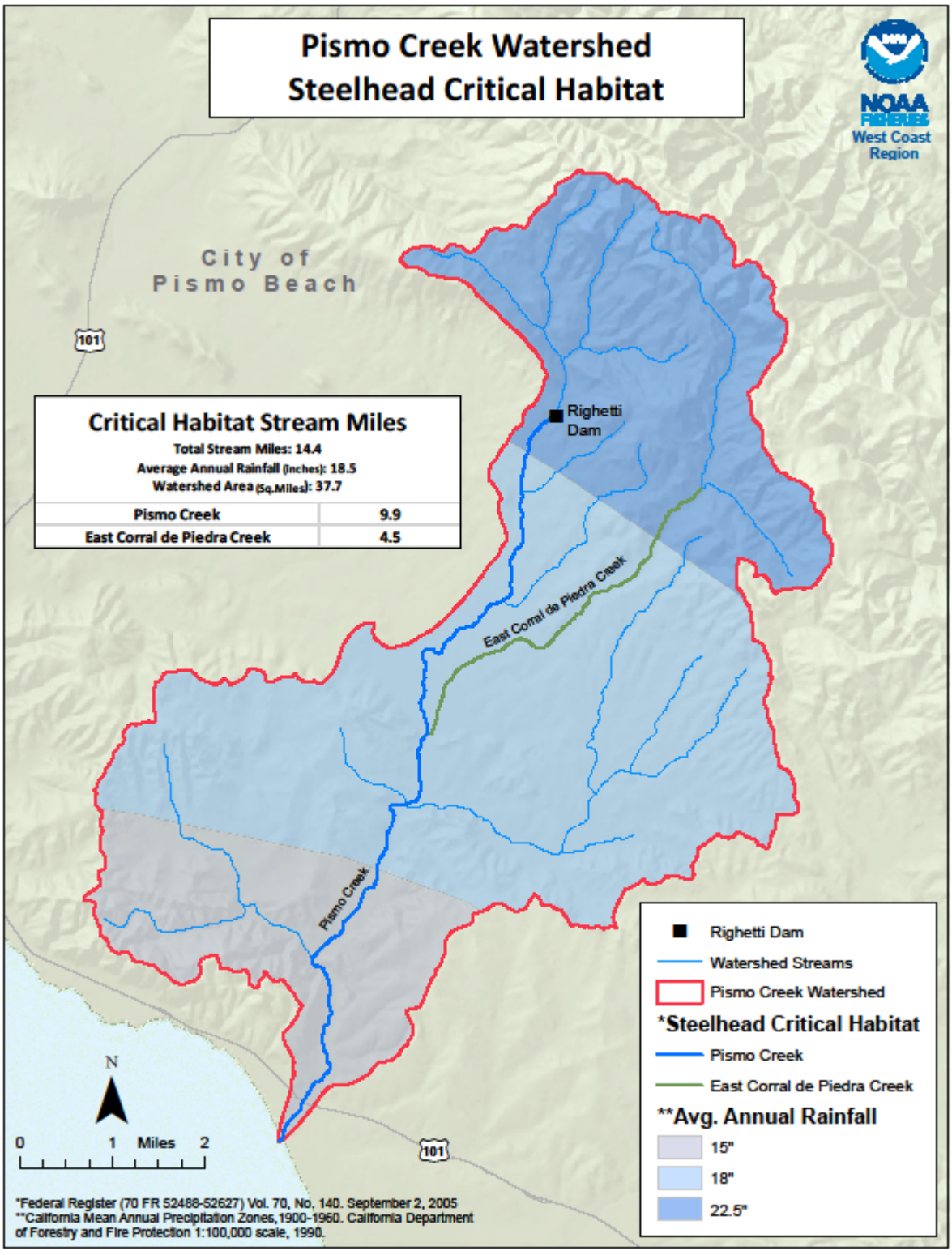

Figure 4. Pismo Creek Critical Steelhead Habitat.

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UNITED STATES DEPARTMENT OF COMMERCE
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West Coast Region
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Long Beach, California 90802-4213

June 3, 2021

John Diodati
Interim Director, Public Works Department
County of San Luis Obispo
976 Osos St #207
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Re: NOAA's National Marine Fisheries Service comments on the May 6, 2021, draft Groundwater Sustainability Plan for the San Luis Obispo Valley Groundwater Basin

Dear Mr. Diodati:

Enclosed with this letter are NOAA's National Marine Fisheries Service's (NMFS) comments on "Chapter 8: Groundwater Conditions" of the draft Groundwater Sustainability Plan (GSP) for the San Luis Obispo (SLO) Valley Groundwater Basin.

The GSP is intended to meet the requirements of the California Sustainability Groundwater Management Act (SGMA). The SMGA includes specific requirements to identify and consider impacts to Groundwater Dependent Ecosystems (GDE) that have significant and unreasonable adverse impacts on all recognized beneficial uses of groundwater and related surface waters (Water Section 10720), including fish and wildlife and botanical resources.

As explained more fully in the enclosed comments, the draft Chapter 8 does not adequately address the recognized instream beneficial uses of the SLO Valley Basin, which underlies San Luis Obispo Creek and Pismo Creek, or other GDE, potentially affected by the management of groundwater within the SLO Valley Basin. In particular, the draft Chapter 8 does not adequately analyze or identify Sustainable Management Criteria that have the potential to affect the federally threatened South-Central California Coast steelhead (*Oncorhynchus mykiss*). This information is necessary because management of the SLO Valley Basin has consequences for the amount and extent of surface flows in San Luis Obispo Creek and Pismo Creek, both of which support populations of threatened steelhead.

Our enclosed comments include recommendations for revisions that are intended to assist the County of San Luis Obispo develop a final GSP that meets the requirements of the SGMA. To this end, NMFS recommends that the revised draft Chapter 8 be re-circulated to give interested parties an opportunity to review and comment before it is finalized.

NMFS appreciates the opportunity to provide the enclosed comments on the draft Chapter 8. If you have a question regarding this letter or enclosure, please contact Mr. Mark H. Capelli in our Santa Barbara Office (805) 963-6478 or mark.capelli@noaa.gov, or Mr. Andres Ticlavilca in our Santa Rosa Office (707-575-6054) andres.ticlavilca@noaa.gov.

Sincerely,

Anthony P. Spina
Chief, Southern California Branch
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Enclosure

NOAA's National Marine Fisheries Service's Comments on the draft Groundwater Sustainability Plan (Chapter 8: Sustainable Management Criteria) for the San Luis Obispo Valley Groundwater Basin (May 6, 2021)

June 3, 2021

Background

NOAA's National Marine Fisheries Service (NMFS) is responsible for protecting and conserving anadromous fish species listed under the U.S. Endangered Species Act (ESA), including the federally threatened South-Central California Coast (SCCC) Distinct Population Segment (DPS) of Steelhead (*Oncorhynchus mykiss*), which utilize San Luis Obispo Creek and Pismo Creek. NMFS listed SCCC, including the populations in the San Luis Obispo Creek and Pismo Creek watersheds (which overlies a portion of the SLO Valley Basin), as "threatened" in 1997 (62 FR 43937), and reaffirmed the threatened status of the species in 2006 (71 FR 5248).

On March 12, 2020, the California Department of Water Resources (DWR) designated the SLO Valley Basin a "Medium" priority for groundwater management, requiring the development of a final Groundwater Sustainability Plan (GSP) by January 31, 2022, pursuant to the 2014 SGMA. Several watercourses that overlie portions of the SLO Valley Basin, including San Luis Obispo Creek and the headwaters of Pismo Creek, support federally threatened steelhead.

The available information establishes that surface water and groundwater are hydraulically linked in the SLO Valley Basin, and this linkage is critically important in creating seasonal habitat for threatened SCCC steelhead. Where the groundwater aquifer supplements streamflow, the influx of cold, clean water is essential for maintaining suitable water temperature and surface flow (Brunke and Gosmer 1997). Pumping from these aquifer-stream complexes can adversely affect freshwater rearing areas for juvenile steelhead by lowering groundwater levels and interrupting the hyporheic flow between the aquifer and the stream, particularly during summer and fall months when streamflow is already low. Thus, groundwater extraction in the SLO Valley Basin has the potential to adversely affect threatened SCCC steelhead through a reduction in the amount and extent of freshwater rearing sites for this species.

NMFS has previously commented on Chapter 5: Groundwater Conditions of the SLO Valley Basin GSP and provided background information on steelhead life history habitat requirements, and the role of both Pismo Creek and San Luis Obispo Creek in NMFS' South-Central Steelhead Recovery Plan (2013). See NMFS' May 29, 2020 letter to John Diodati, Interim Director, Public Works Department County of San Luis Obispo County).

Specific Comments

Page 29: The draft Chapter 8 indicates the basin will be considered to have experienced undesirable results if any of the monitoring wells exceed the minimum threshold for two consecutive fall measurements. The standard of failing two consecutive fall measurements is not explained, and thus appears arbitrarily. Steelhead migration, spawning and rearing (beneficial uses of surface water as set by the Regional Water Quality Control Board[1]) are biological processes that can be impacted by a single streamflow depletion event. SGMA regulations require a minimum threshold be used to define an undesirable result, in this case streamflow depletion resulting in significant and unreasonable impact to beneficial uses of surface water. For a beneficial use such as steelhead rearing, a depletion of adequate streamflow can result in steelhead mortality, and is therefore irreversible. We therefore recommend that the standard for determining undesirable results be expressed in terms of minimum pool depth and/or surface flow during the summer and fall base flow periods.

Page 29: Groundwater elevations may be necessary as a proxy for streamflow depletion due to a lack of data gathered to this point. However, there appears to be no attempt at correlating groundwater elevation thresholds with impacts to beneficial uses of surface water. In fact, many of the groundwater elevation minimum thresholds are set at the lowest (or below the lowest) groundwater elevations ever recorded within the basin. These thresholds are likely associated with severe groundwater over-pumping during dry periods, when groundwater depletion was greatest, and surface water discharge the lowest. Managing streamflow depletion conditions comparable with the severest drought conditions is not protective of surface water beneficial uses that support ESA-listed steelhead, and likely would result in adversely affecting steelhead and its identified critical habitat (see enclosed steelhead critical habitat and intrinsic potential maps for San Luis Obispo Creek and Pismo Creek). If the GSAs uses groundwater levels as a proxy for streamflow depletion, it should explain how the chosen minimum thresholds and measurable objectives adequately avoid adversely impacting surface water beneficial uses that support steelhead survival throughout the SLO Basin. If that effort proves problematic due to a lack of data at the present time, the GSAs should follow guidance by the California Department of Fish and Wildlife that recommends a conservative approach to groundwater dependent ecosystem protection in those situations (CDFW 2019).

Page 29, Section 8.9.2: The draft includes the following statement:

> *To avoid management conditions that allow for lower groundwater elevations than those historically observed, MTs* [Minimum Thresholds]f*or these wells were set at the historic low water levels indicated on the hydrographs, which occur with regularity during every extended dry period evident in the record (Figures 8-9, 8-10).*

As noted above, managing to perpetuate historically low groundwater elevations is not appropriate as a management threshold, since it does not adequately define the undesirable result of streamflow depletion on aquatic biological resources such as federally threatened South-Central Coast steelhead. Based upon fundamental hydrogeologic principles where the depletion

rate is proportional to the difference between the water table and surface water, the amount of streamflow depletion associated with the proposed minimum thresholds would be the greatest on record (Sophocleous 2002, Bruner *et al*. 2011, Barlow and Leake 2012). This level of streamflow depletion would likely impact surface water beneficial uses to the extent that threatened steelhead would experience "harm" under the ESA as well as result in adverse impacts to Groundwater Dependent Ecosystems (GDE) supporting a variety of native aquatic species.

Page 30: Following the discussion on the relation between flow conditions in San Luis Obispo Creek and the underlying aquifer, the draft Chapter 8 asserts, "in both cases the amount of flux between the surface water and the groundwater system is small compared to the volume of water flowing down the creek." The point of this statement is unclear but seems to suggest that groundwater levels are not significantly influenced by the volume (including duration) of stream flow. However, this implication is contradicted by the statement, "In wetter years, when flows in the San Luis Obispo Creek are high there is [sic] greater amounts of discharge from the creek to the groundwater system." In general, higher and longer the duration flows in SLO Creek will increase the area of wetted stream bottom (i.e., the area of infiltration) as well as the duration of the infiltration of surface flows to the underlying groundwater basin. Furthermore, the assertion that stable groundwater levels at a specific well "suggest that the mechanisms of surface water/groundwater interaction have not been negatively impacted since the early 1990's" does not address the question of whether these stable conditions have had and are resulting in streamflow depletion impacts as defined under SGMA. Currently stable groundwater levels are not an indicator of sustainable groundwater conditions, or, more specifically, avoidance of significant and unreasonable effects on streamflow. The revised draft Chapter 8 should address this issue and clearly indicate how existing stable groundwater conditions are protective of GDE, such as rearing habitat for juvenile steelhead.

Page 31: The draft Chapter 8 states that, "by defining minimum thresholds in terms of groundwater elevations….the GSA will….manage potential changes in depletion of interconnected surface (sic [flows?])." The draft Chapter 8, however, has not established the required correlation between groundwater elevations and surface flows that would justify groundwater levels as a proxy for streamflow depletion, and has not quantified what level of streamflow depletion represents significant and unreasonable impacts to GDE, including but not limited to rearing habitat for juvenile steelhead. The draft Chapter 8 should identify the data needed to analyze the relationship of groundwater levels, streamflow depletion rates, and impacts to GDE, specifically spawning, rearing and migration of ESA-listed steelhead.

Page 31: The draft Chapter 8 establishes minimum thresholds for streamflow depletions as "the lowest water levels observed in the period of record" for the chosen monitoring wells. As noted earlier, according to SGMA regulations a minimum threshold is used to define an undesirable result, in this case streamflow depletion resulting in significant and unreasonable impact to GDE, including, but not limited to rearing juvenile steelhead. The use of a streamflow depletion thresholds associated with the lowest recorded groundwater levels are inappropriate because they will not avoid significant and unreasonable impacts to GDE. The thresholds are inappropriate for avoiding impacts to ESA-listed steelhead resulting from streamflow depletion. To be consistent with the requirements of SGMA, the GSAs must develop thresholds that are likely to avoid adversely impacting steelhead, as well as other GDE.

Page 32: The draft Chapter 8 includes no information or analysis that supports the assertion that "maintaining groundwater levels close to historically observed ranges will continue to support groundwater dependent ecosystems." As noted above, there is an assumption embedded within the assertion that current groundwater levels support groundwater dependent ecosystems; this has not been supported by any data or analysis because such information is not presented in the draft document. Managing groundwater levels at historical lows is likely to adversely affect ESA-listed steelhead, and designated critical habitat for this species. To be consistent with the requirements of SGMA, the GSAs must develop minimum thresholds that are likely to avoid adversely impacting steelhead, as well as other GDE.

Finally, it is unclear if the reference in the draft Chapter 8 to the Water Budget is to Chapter 5 and/or Chapter 6. If the draft Chapter 8 is referring to Table 6-20 (Current Water Budget – Basin Total), the comparison between the annual groundwater/ surface water interaction with an annual outflow volume of the watershed does not provide an indication of aquatic habitat conditions during low flow periods. We would note that intermittent stream reaches can provide seasonally important rearing habitat for juvenile steelhead. Reaches that temporarily lose surface flow through the natural seasonal reduction in groundwater levels can be re-occupied by fish rearing in other parts of the stream system as groundwater levels rebound and surface flows are reinitiated in the temporarily desiccated reaches (Boughton *et al.* 2009). However, artificially reduced groundwater levels can accelerate the temporary cessation of surface flows, and then delay the re-initiation of surface flows, thus reducing the amount and quality of rearing habitat with the stream system and adversely affect GDE.

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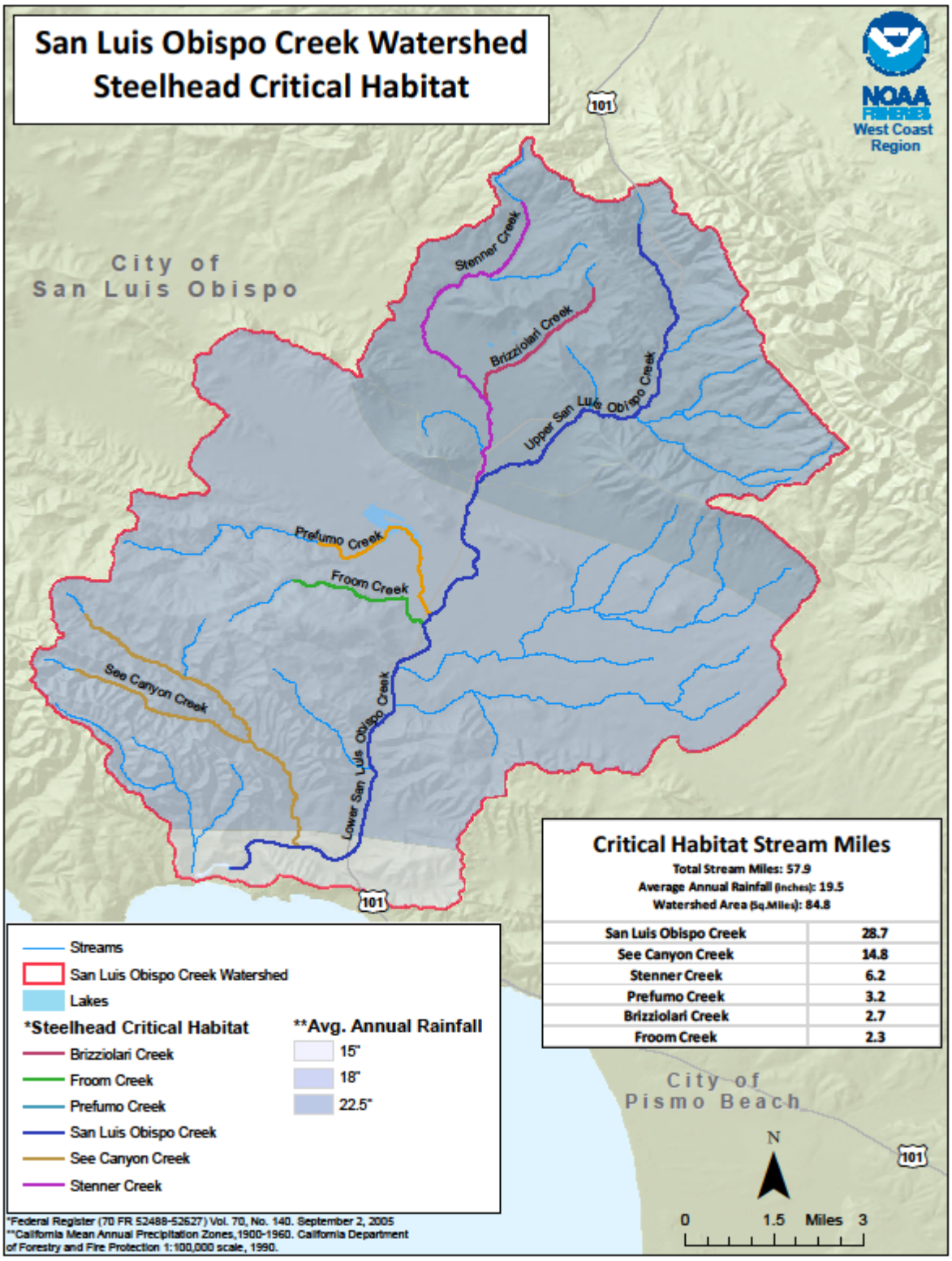
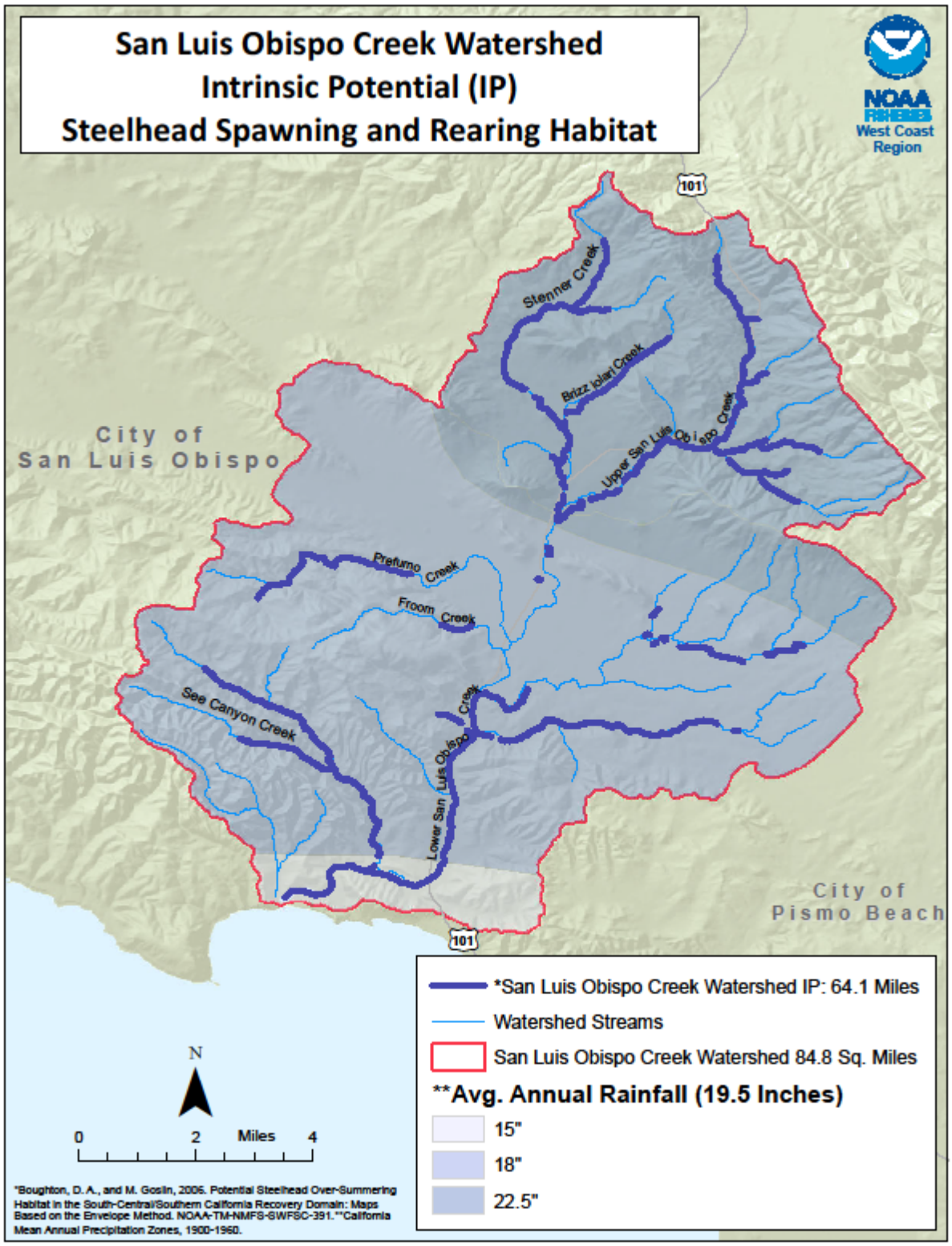
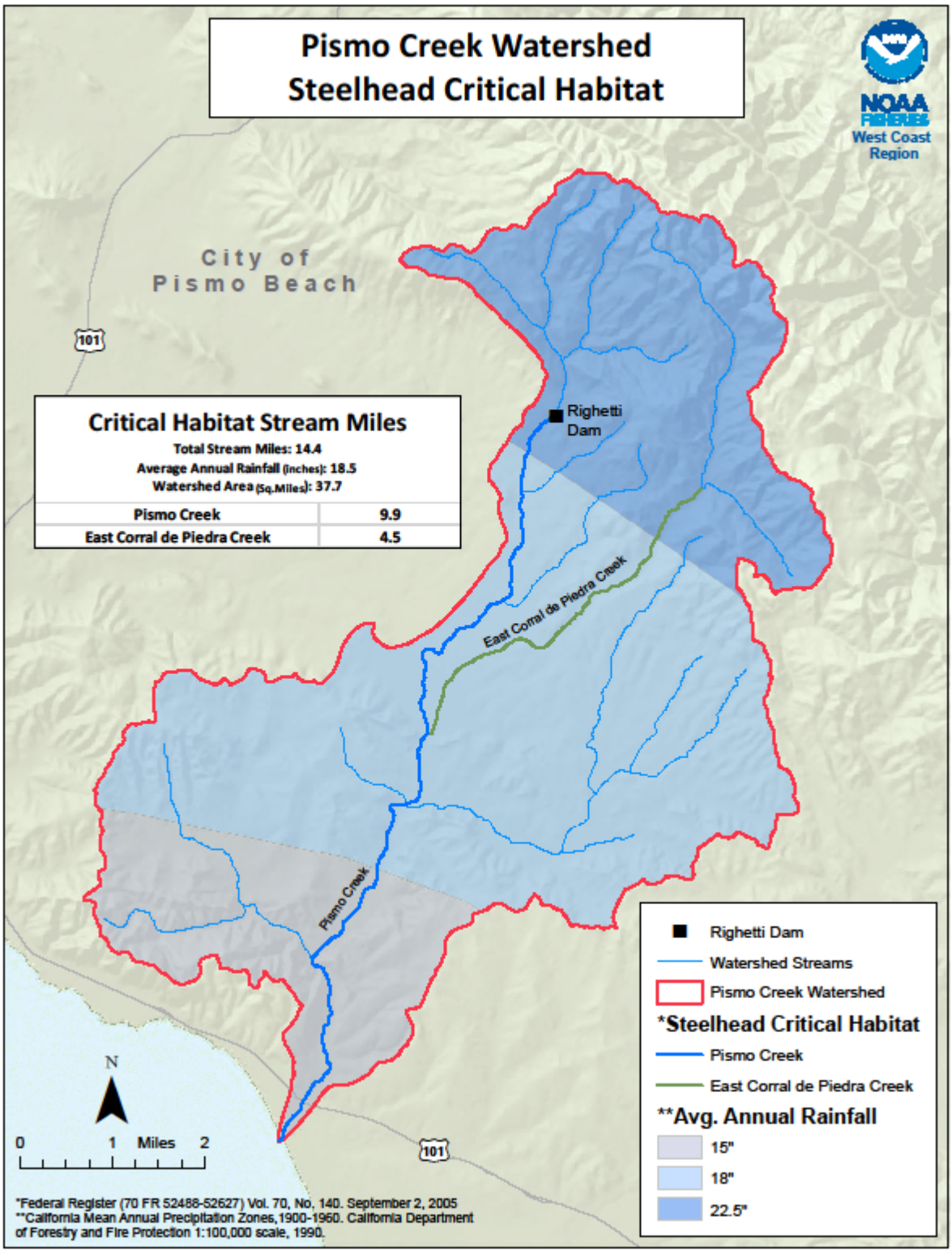
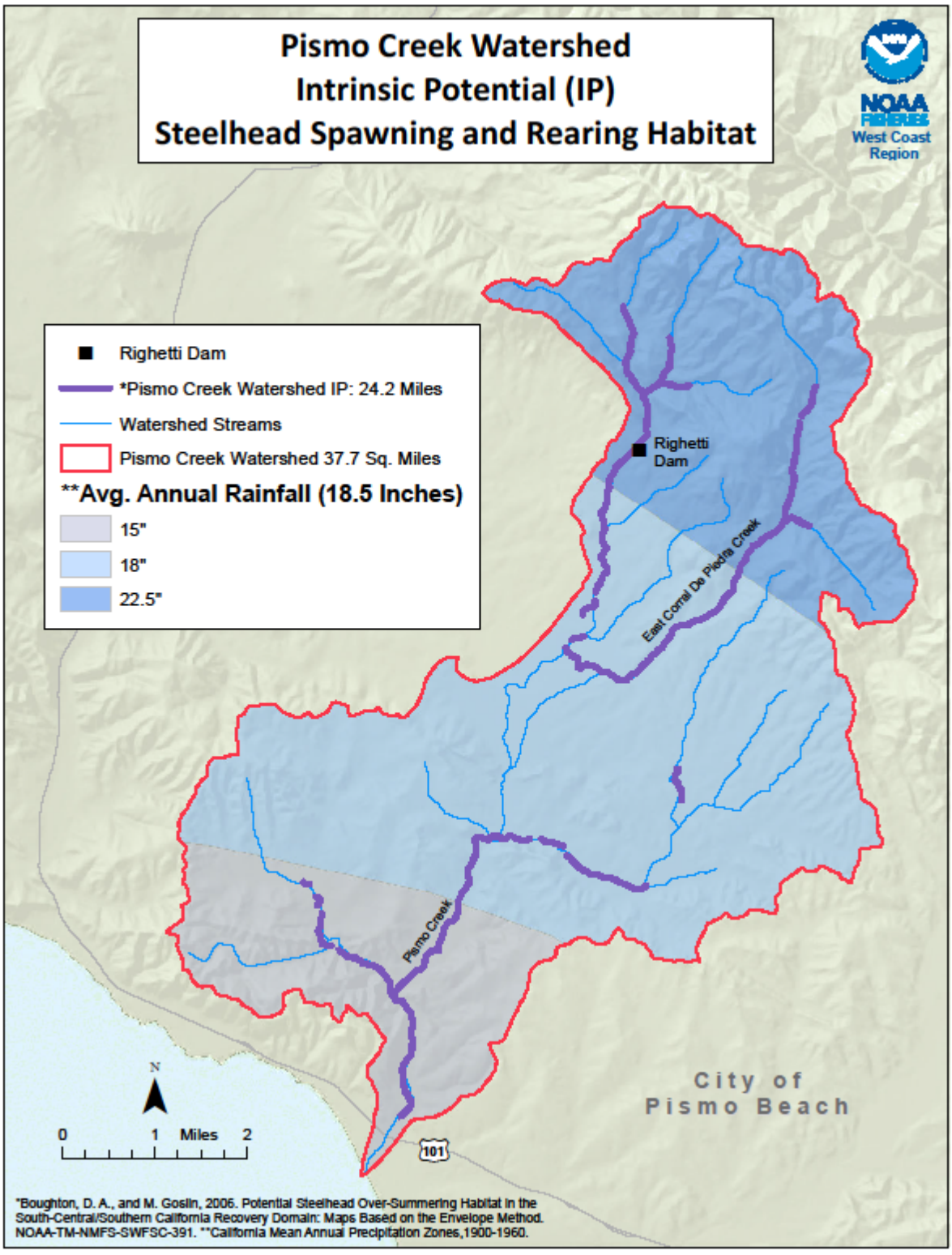

San Luis Obispo Creek Watershed
Steelhead Critical Habitat
NOAA FISHERIES
West Coast Region
City of San Luis Obispo
Stenner Creek
Brizziolari Creek
Upper San Luis Obispo Creek
Prefumo Creek
Froom Creek
See Canyon Creek
Lower San Luis Obispo Creek
101
Critical Habitat Stream Miles
Total Stream Miles: 57.9
Average Annual Rainfall (inches): 19.5
Watershed Area (Sq.Miles): 84.8
San Luis Obispo Creek 28.7
See Canyon Creek 14.8
Stenner Creek 6.2
Prefumo Creek 3.2
Brizziolari Creek 2.7
Froom Creek 2.3
Streams
San Luis Obispo Creek Watershed
Lakes
*Steelhead Critical Habitat
Brizziolari Creek
Froom Creek
Prefumo Creek
San Luis Obispo Creek
See Canyon Creek
Stenner Creek
**Avg. Annual Rainfall
15"
18"
22.5"
City of Pismo Beach
N
0 1.5 Miles 3
*Federal Register (70 FR 52488-52627) Vol. 70, No. 140. September 2, 2005
**California Mean Annual Precipitation Zones,1900-1960. California Department of Forestry and Fire Protection 1:100,000 scale, 1990.


San Luis Obispo Creek Watershed
Intrinsic Potential (IP)
Steelhead Spawning and Rearing Habitat
NOAA
Fisheries
West Coast
Region
101
Stenner Creek
Brizzolari Creek
Upper San Luis Obispo Creek
City of
San Luis Obispo
Prefumo Creek
Froom Creek
See Canyon Creek
Lower San Luis Obispo Creek
City of
Pismo Beach
101
*San Luis Obispo Creek Watershed IP: 64.1 Miles
Watershed Streams
San Luis Obispo Creek Watershed 84.8 Sq. Miles
**Avg. Annual Rainfall (19.5 Inches)
15"
18"
22.5"
N
0
2
Miles
4
*Boughton, D. A., and M. Goslin, 2006. Potential Steelhead Over-Summering Habitat in the South-Central/Southern California Recovery Domain: Maps Based on the Envelope Method. NOAA-TM-NMFS-SWFSC-391. **California Mean Annual Precipitation Zones, 1900-1960.


Pismo Creek Watershed
Steelhead Critical Habitat
NOAA FISHERIES
West Coast Region
City of Pismo Beach
101
Critical Habitat Stream Miles
Total Stream Miles: 14.4
Average Annual Rainfall (Inches): 18.5
Watershed Area (Sq.Miles): 37.7
Pismo Creek 9.9
East Corral de Piedra Creek 4.5
Righetti Dam
East Corral de Piedra Creek
Pismo Creek
N
0 1 Miles 2
101
Righetti Dam
Watershed Streams
Pismo Creek Watershed
*Steelhead Critical Habitat
Pismo Creek
East Corral de Piedra Creek
**Avg. Annual Rainfall
15"
18"
22.5"
*Federal Register (70 FR 52488-52627) Vol. 70, No. 140. September 2, 2005
**California Mean Annual Precipitation Zones,1900-1960. California Department of Forestry and Fire Protection 1:100,000 scale, 1990.


Pismo Creek Watershed
Intrinsic Potential (IP)
Steelhead Spawning and Rearing Habitat
NOAA FISHERIES
West Coast Region
Righetti Dam
*Pismo Creek Watershed IP: 24.2 Miles
Watershed Streams
Pismo Creek Watershed 37.7 Sq. Miles
**Avg. Annual Rainfall (18.5 Inches)
15"
18"
22.5"
Righetti Dam
East Corral De Piedra Creek
Pismo Creek
City of Pismo Beach
N
0 1 Miles 2
101
*Boughton, D. A., and M. Goslin, 2006. Potential Steelhead Over-Summering Habitat in the South-Central/Southern California Recovery Domain: Maps Based on the Envelope Method. NOAA-TM-NMFS-SWFSC-391. **California Mean Annual Precipitation Zones,1900-1960.

NewCurrent
WATER AND LAND

July 21, 2021

San Luis Valley Groundwater Sustainability Agency

Re: Comments to Chapter 9 and 10

Dear GSA:

These comments are submitted by New Current Water and Land, LLC (NCWL) on behalf of Edna Ranch East and the Edna Ranch East Mutual Water Company (collectively "Edna Ranch East").

NCWL is an experienced water consulting company composed of 4 principals with a combined experience in California water matters of over 140 years. Some of the principals were engaged on behalf of the Association of California Water Agencies and the Governor's Office in negotiating the language of the Sustainable Groundwater Management Act (SGMA).

These comments cover three critical issues. First, they address the question of de minimis use. Second, they address the baseline period and the conservation of groundwater that has occurred since. Finally, they address the question of sustainable yield and how the Groundwater Sustainability Agency (GSA) intends to allocate management actions among various groundwater uses within the basin.

Edna Ranch East is located in the Edna Valley portion of the San Luis Obispo subbasin. It is comprised of a number of homesites with stock in a mutual water company for the purpose of providing domestic water to the homesites. In other words, each homeowner owns an interest in the mutual water company for the purpose of providing water to their home. No homesite extracts more than 2 acre feet of water per year through the mutual water company. California Water Code section 10721(e) defines a De minimis extractor as a person who extracts, for domestic purposes, two acre-feet or less per year. California Water Code section 10725.8 authorizes GSAs to require measuring methodologies of groundwater extractions for the purpose of achieving groundwater sustainability. Section 10725.8(e) states that the provisions of the section do not apply to de minimis extractors. Thus, Edna Ranch East asserts that SGMA does not apply to the homeowners at Edna Ranch East.

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California Water Code section 10720.5(a) states that extractions after January 1, 2015 cannot be used as evidence of any claim of prescription. The effect of this section is to establish a base line of rights on January 1, 2015. In the case of Edna Ranch East, several actions have been taken since that date, which have had the effect of reducing homeowner water use. Such actions have included installation of an automated water metering system, tripling of excessive water use penalties, providing water audits to homeowners to reduce water use, installation of an enhanced water leak detection system, and direct engagement of the Board of Directors of the mutual water company with homeowners with high usage (on a weekly basis). Edna Ranch East asserts that the GSA should credit it with the efficiencies achieved through these and other measures undertaken by the mutual water company.

As noted above, Edna Ranch East believes homeowner extractions are de minimis and that it has undertaken several actions that have reduced average homeowner use. Further, we can find no determination that existing uses exceed the sustainable yield. If they do not, further management actions should not be necessary. Legally, the mutual is extracting water for use by homeowners on land overlying the subbasin. Their rights should be based upon the extraction of water as compared to sustainable yield. If the mutual water company extraction for homeowners is not determined to be as an overlying right holder, then they have prescribed against overlying right holders and could have a senior right.

Edna Ranch East is submitting these comments for the record. It fully intends to stay actively engaged in the process and support reasonable and equitable solutions to achieve a sustainably managed groundwater basin. In doing so, it requests the GSA recognize the nature of its rights, actions it has taken to more efficiently manage water.

Sincerely

Daniel M. Dooley

DMD:dt

NewCurrent
WATER AND LAND, LLC

CREEK LANDS
Conservation

Central Coast Salmon
Enhancement, Inc. dba Creek
Lands Conservation

7-22-2021

To whom it may concern:

Thank you for accepting my comments regarding the document titled "Groundwater-Dependent Ecosystems in the San Luis Obispo Valley Groundwater Basin Technical Memorandum" (SLO Valley GDE Technical Memo), as well as chapters from the Draft San Luis Obispo Valley Basin Groundwater Sustainability Plan. Creek Lands Conservation (CLC) works collaboratively with non-profits and local agencies to protect and enhance groundwater dependent ecosystems (GDEs) in SLO County on behalf of all freshwater aquatic species including but not limited to federally threatened steelhead trout (*Onchorychus mykiss*). GDEs are those ecosystems that rely on groundwater to supply surface water. When groundwater is in an overdraft condition, these systems suffer. Overdraft can result in the loss of plants and animals in a basin, or in the worst case, extinction. Groundwater dependent ecosystems in the San Luis Obispo Valley Basin include San Luis Obispo Creek and all its tributaries, Pismo Creek and all its tributaries, Laguna Lake, and various seeps, springs, and wetlands associated with these systems.

The Sustainable Groundwater Management Act (SGMA) contains numerous provisions to consider and address the environment in groundwater sustainability plans and actions. SGMA requires that all beneficial uses and users be considered in the development and implementation of Groundwater Sustainability Plans. GDE's are one type of beneficial user of groundwater. CLC hopes to continue to work with other non-profits, local, and state agencies to ensure that GDE's are clearly identified and mapped, to improve our understanding of surface-groundwater interactions, to identify potential adverse impacts on GDE's, and to help set appropriate minimum thresholds and measurable objectives for GDE's under SGMA.

The comments on the SLO Valley GDE Technical Memo and applicable Draft GSP Chapters herein are provided with the understanding that the SLO Valley GDE Technical Memo provides the most recent and most detailed study of GDEs within the groundwater basin as they relate to the SGMA process. With that understanding, CLC is commenting not only on the recently released SLO Valley GDE Technical Memo but also on Draft GSP Chapters 7 and 8, Monitoring Networks and Sustainable Management Criteria, respectively. Because the SLO Valley GDE Technical Memo was referenced in Chapter 7 prior to its release, and because sustainable management criteria (SMC) described in Chapter 8 rely on the monitoring network described in Chapter 7, CLC finds that the content of the GDE Memo is fundamentally tied to language within Chapter's 7 and 8. Thus, to provide meaningful comments on the GDE memo, CLC also provides comments on these draft chapters within this comment period.

General Comments

1. Using the best available science and expert review that includes water agencies, state agencies, academics, technical consultants, and NGO's, a framework on how to address GDE's under SGMA has been developed. This framework is titled "Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act (TNC 2018)". The framework is based on the structure provided by the Department of Water Resources (DWR) and proposes seven steps as follows:

1. Identify Groundwater Dependent Ecosystems (GDEs)
2. Determine Potential Effects on GDEs
3. Determine the Sustainability Goal
4. Set Minimum Thresholds
5. Establish Measurable Objectives and 5-year Interim Milestones
6. Incorporate GDEs into the Monitoring Network
7. Identify Projects and Management Actions

In the context of this framework, we interpret the SLO Valley GDE Technical Memo to be a supporting document for the achievement of these steps. We respectfully request that the information and recommendations provided within the SLO Valley GDE Technical Memo be consistently incorporated into the Draft GSP Chapters to a greater degree than currently exists. To our knowledge, there are no other publicly available studies on GDEs in the San Luis Obispo Valley Groundwater Basin that identify sustainable GDE indicators, nor any studies other than the technical memo that describe a monitoring network specifically suited to tracking GDE indicators and indicator target values. Therefore, we find that the SLO Valley GDE Technical Memo is a part of the best available science that the GSC has at its disposal for creating a GSP that describes both a monitoring network and SMC that sufficiently protects GDEs under SGMA.

Specific Comments on Chapter 7

2. Chapter 7, Page 3, Paragraph 2 and bulleted list, under heading 7.1.2 Representative Monitoring Sites

> *"Representative monitoring sites are the locations at which sustainability indicators are monitored, and for which quantitative values for minimum thresholds, measurable objectives, and interim milestones are defined. The criteria that were used to determine which wells to utilize are as follows:*
>
> - *A minimum 10-year period of record of historical measurements spanning wet and dry periods.*
> - *Available well information (well depth, screened interval).*
> - *Access considerations.*
> - *Proximity and frequency of nearby pumping wells.*
> - *Spatial distribution relative to the applicable sustainability indicators.*
> - *Groundwater use.*
> - *Impacts on beneficial uses and Basin users."*

Groundwater levels and GDEs should have different representative monitoring site (RMS) selection criteria. Whereas groundwater RMSs require a longer historical record to establish the definition for

undesirable results, GDE undesirable results are straight-forward and actionable without 10 prior years of data for whatever given SMC and MT that is defined. For example, if a relationship between groundwater pumping at Well "A" can be correlated with critical habitat impairment using a nearby stream gage at Site "X", There is no need for Site X to have multiple years of data to establish a trend. Rather, undesirable effects correlated with Site X can be sufficiently defined using a relatively short data record. To expand on this example: we can know the stage at which Site X goes dry (an undesirable result) and, to the extent that this can be correlated to groundwater extraction, the stage or discharge data at Site X can be used immediately to set MTs for the interconnected surface flows.

Another limitation of the Draft GSP can be highlighted here. The RMSs do not appear to anticipate the eventual inclusion of the stream gage network in future revisions of the GSP. Although the exact criteria for determining undesirable results for interconnected surface water and GDEs has yet to be determined through scientific analysis, the Draft GSP should already be considering which surface water monitoring network components will become RMSs. If separate RMS selection criteria for interconnected surface water indicators are not developed now, groundwater managers will be delayed in properly protecting GDEs because the GSP will not provide a framework for the future studies that are referenced in chapters 7 and 8.

Specific Comments on Chapter 8

3. Chapter 8, Page 28, Paragraph 3 under heading 8.9 DEPLETION OF INTERCONNECTED SURFACE WATER SUSTAINABILITY INDICATOR § 354.28(C)(6)

> *"Direct measurement of flux between an aquifer and an interconnected stream is not feasible using currently available data."*

We find no explanation earlier in Chapter 8, nor in Chapter 7, for why the flux between the aquifer and the interconnected stream must be measured to create a minimum threshold that is protective of GDEs. Language cited under section 8.9.2 Minimum Thresholds (page 29) restates the following SGMA regulation language:

> *"…'The minimum threshold for depletions of interconnected surface water shall be the **rate or volume** of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results.'"* (emphasis added)

The next paragraph then continues:

> *"Current data are insufficient to determine the **rate or volume** of surface water [depletions] in the creeks. Therefore, groundwater elevations in the RMSs intended to monitor surface water/groundwater interaction (SLV-12, EV-01, EV-11) are used as a proxy for the Depletion of Interconnected Surface Water Sustainability Indicator."* (emphasis added)

The rate or volume of surface water depletions do not need to be synonymous with the flux measurement presently described in Chapter 8. A rate of flow depletion can be correlated with changes in stage and does not necessarily require a rating curve to draw a correlation between groundwater and surface water fluctuations. We do agree that the eventual development of rating curves for all existing and proposed stream gages is a wise step in creating the monitoring network, however.

Although the precise fluxes of groundwater in a given interconnected reach of these creeks have not yet been determined, the existing stream stage monitoring network, combined with existing low flow

measurements (e.g. Stillwater Sciences 2014, Creek Lands Conservation 2019) and/or additional manual flow measurements in the dry season that could be collected in a few days of work effort would provide a basic, minimum supplement to the groundwater level indicator that is currently proposed.

4. Chapter 8, Page 28, Paragraph 1 under heading 8.9.1 Undesirable Results § 354.26(a)-(d)

> *"The undesirable result for Depletions of Interconnected Surface Water is a result that causes significant and unreasonable adverse effects on beneficial uses of interconnected surface water within the Basin over the planning and implementation horizon of this GSP. As discussed in Section 8.9, measurement of the fluxes between the aquifer and Basin creeks is not feasible with currently available data. Therefore, water level measurements at the RMSs designated for the Depletion of Interconnected Surface Water Sustainability Indicator will be used as the basis MTs and Undesirable Results until better data becomes available under future monitoring activities."*

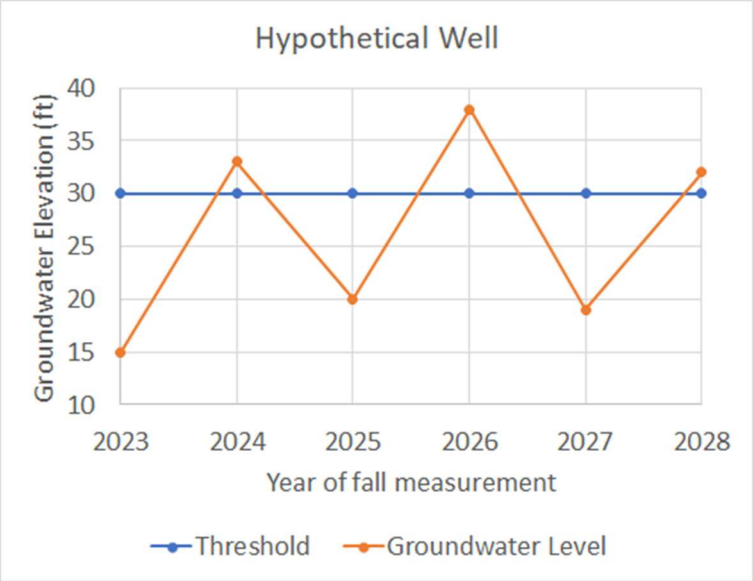
This section does not adequately address how groundwater level measurements at the RMSs will be indicative of undesirable results to depletions of interconnected surface water. In other words, there is no language that qualifies well level measurements at the selected RMSs as useful indicators for harm that could be done to GDEs that rely on interconnected surface water or groundwater.

5. Chapter 8, Page 29, Paragraph 2 under heading 8.9.1 Undesirable Results § 354.26(a)-(d)

> *"The Basin will be considered to have undesirable results if any of the representative wells monitoring groundwater/surface water interaction display exceedances of the minimum threshold values for two consecutive Fall measurements."*

Groundwater levels intermittently measured at the proposed wells (SLV-12, EV-01, EV-11) will not necessarily alert groundwater managers to imminent risks to instream habitat that is reliant on interconnected streamflow. As stated in the quoted section above, at least two sequential years of exceedances will be required to generate an undesirable result. However, this does not properly address the life cycle constraints of organisms that make up our local GDEs.

For example, if the selected representative wells exceeded the minimum threshold value in the fall of year 1, leading to the stranding of some steelhead trout or desiccation of some California red-legged frog (CRLF) eggs, but then was not exceeding this threshold in the fall of year 2, the MT would indicate no problems with the groundwater extraction regime. Furthermore, we could see some hypothetical cycle such as this:



Where the indicator well oscillates around the minimum threshold value, but never triggers the two consecutive fall measurements rule for the MT. If the years where fall measurements fell below the minimum threshold value caused greater GDE species mortality, this MT would never correct for that. This is, of course, a hypothetical situation, but nonetheless shows a potential blind spot that could be mitigated with simple surface water monitoring that is less rigorous than the measurement of groundwater flux into the interconnected stream.

To expand on why this MT type is a weak indicator for the protection of GDEs, please consider this excerpt from Stanford's Water in the West document titled "Guide to Compliance with California's Sustainable Groundwater Management Act" by Alleta Belin:

> **1. Federal and/or State Endangered Species Act (ESA) surface flow or other surface water-dependent requirements are currently not being met at least partially due to groundwater diversions**
>
> - If it is determined that groundwater diversions are causing or contributing to unauthorized "take"[46] of listed species, that is an explicit violation of the ESA that needs to be addressed;
> - Even where there is no direct violation of the ESA, the following situations are problematic because of the high likelihood of unlawful take of the species:
>   - Where a federal Biological Opinion specifies minimum instream flows that are currently not being met;[47] or
>   - Where critical habitat[48] has been designated for a listed species[49] and features in the critical habitat considered essential for survival of the species are currently being destroyed or adversely modified; or
>   - Where groundwater diversions are causing or contributing to low instream flows that are likely to jeopardize the continued existence of listed species. This should be assumed to be a problem even where violations may be rare, or very sporadic.[50]
>
> 50 Even a single day of river-drying or mortally high water temperatures can kill a large number of fish, thereby causing longterm harm to the survivability of the species.

Source: Belin 2018, excerpt from page 9.

It is our opinion that the current SMCs will create a risk that groundwater managers will inadvertently cause or contribute to take of listed species or adversely affect critical habitat. As noted in footnote #50

from the excerpt above, even a single day of drying or mortally high water temperatures in our creeks can harm the long term survivability of listed species. The current MT for undesirable results defined in Section 8.9.1 relies solely on a metric that is only monitored once each year and is only actionable after a minimum of two years. The MT in this draft of Chapter 8 will not provide the appropriate temporal resolution for protecting listed species.

Although future revisions of the GSP might include better indicators that use a higher temporal resolution, the protection of endangered and threatened species cannot be subordinated to the timelines that govern those future revisions. Those administrative timelines are even slower to respond to the immediate needs of GDEs than the currently proposed MT. This should be especially salient when there is an opportunity in the current process to avoid that.

General Comments on Chapter 7 and Chapter 8

- Although the importance of monitoring the gaining and losing reaches of streams within the groundwater basin is highlighted in Chapter 7, and referenced in Chapter 8, neither of these chapters give concrete or consequential future steps toward integrating the monitoring of these features with SMCs or MTs.

  Furthermore, none of the SMCs or MTs properly address GDEs that may be directly reliant on groundwater. The SLO Valley GDE Technical Memo highlights riparian and oak woodland GDEs in Table 2 of that document and suggests that groundwater levels could be used to determine sustainability indicators for them. More work will need to be done to find the appropriate thresholds for GDEs that are directly reliant on groundwater levels, but the current draft only discusses GDEs in the context of interconnected surface water and does not lay the foundation for GDEs that do not rely directly on surface water depletion.

- The authors of the SLO Valley GDE Technical Memo note (on page 5, paragraph 2) that several monitoring wells are screened at unknown depths.

  "...however, the screening depth is known only for 6 of the 17 wells. Wells where the screened depth is unknown may be measuring groundwater levels for deeper aquifers that are unconnected to the shallow groundwater system and thus ***groundwater deeper than 30 ft for a given well may not reflect the absence of shallow groundwater, but instead reflects the absence of data.****"* (emphasis added)

  Creek Lands has not evaluated the veracity of this particular statement but, if it is true, the potential use of these wells for establishing an indicator of interconnected surface water SMCs or other GDE indicators is cast in doubt until the exact screening depths are determined.

- Although they may not be able to establish numerical MTs for particular interconnected surface water undesirable results or GDE impacts, what is preventing the GSP from incorporating tentative or placeholder MTs? It would be much more promising to have an interconnected surface water MT that stated how the monitoring network would be used to monitor GDE impacts, without necessarily committing to a numerical value.

    - For example: "Discharge changes between the Andrews Street Gage and the Marsh Street Gage will be used to establish a minimum threshold when better data becomes available"

- or “Minimum surface water elevations dependent on interconnected groundwater in Stenner Creek will be established when a correlation between near-stream groundwater elevations and the stream gage monitoring network are established.”

- These examples do not hold groundwater managers accountable to any thresholds that are not supported by good science, but create the necessary impetus for future research to address data gaps that are directly applicable to creating MTs that meet SGMA requirements for the proper consideration of GDEs. More specificity at this stage of the GSP development will benefit everyone in the future.

- As it stands, the current Draft GSP does not create a catalyst for future research or GSP revisions that achieve the proper level of protection for GDEs. The current drafts only list the types of data and analyses that may be sought in the future, without enough actionable language that will hold the GSC accountable for implementing effective research in pursuit of a monitoring network that protects GDEs.

Creek Lands Conservation appreciates the opportunity to comment on this document and participate in the SGMA process. We also value the public process and the willingness of the other participants to consider our comments. We hope that these comments will inspire more conversation about how our groundwater resources support critical habitat within the SLO Valley Groundwater Basin. Responses or questions about these comments are welcome, and you may reach out to us using the contact information below.

Sincerely,

Timothy Delany
Hydrologist
tim@creeklands.org
Office: (805) 473-8221

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