Public Utilities

San Pasqual Valley Groundwater Sustainability Plan
Technical Peer Review Meeting July 9, 2020
Comment Tracking Table

Commenter Name	Commenter Organization	Comment Received	Subject	Line #s or Figure #	Comment
Frank Konyn	Frank Konyn Dairy, Inc.	7/9/2020	Follow up to the "Smoking Gun" comment		In the Technical Peer Review Meeting this morning, and again this afternoon in the Advisory Committee Meeting there were references made to the nitrate and TDS levels in the groundwater of the San Pasqual Valley. An individual by the name of Andrei took some language out of context. I called him out for misrepresenting the information, however, I could not provide the correct language as I did not have it in front of me. Specifically he was attempting to quote from the September 2015, San Pasqual Groundwater Management State of the Basin Report Update, Page 2-6. https://www.sandiego.gov/sites/default/files/state_of_the_basin_report_september_2015.pdf This document was developed to comply with a mandate found in the San Pasqual Valley Groundwater Basin Salt and Nutrient Management Plan of 2014 also produced by CH2MHill. https://www.sandiego.gov/sites/default/files/final_snmp_may_2014.pdf As a Member of the Advisory Committee that helped author this document, I am very familiar with the background information that went into the Basin Update. I would like to correct the record for not only Andrei, but also for everyone else that was present. Andrei suggested that manure from animals (and I do believe that he was inferring to my dairy cows specifically) contributed to 90 percent of the total nitrogen contribution to the basin. The actual language in the original report (found on page 3-18 and attached to this email) reads as follows, “With over 90 percent of the total nitrogen contributions to the Basin coming from fertilizer and manure use…..” Had Andrei read the first sentence of that same paragraph, he would have come to a different conclusion and better understood the facts. The first sentence reads “The single largest contributing source of nitrogen is commercial crop fertilizer use at 56% of the Basin total followed by landscape fertilizer use at 14 percent.” By further delving into the document, Andrei would have found on page 3-11 the following statement. “The largest source of nitrogen contribution from fertilizer use was from avocado production due to the large area in production on hillsides surrounding the Basin but within the study area subcatchment.”
Frank Konyn	Frank Konyn Dairy, Inc.	7/9/2020	Follow up to the "Smoking Gun" comment		I clearly understand that water has a value and that is why people fight over it. Here is the important part: The largest land use overlying this basin is agriculture. When anyone points a finger, you are pointing three fingers back at you at the same moment. Let that really sink in. We are all in agriculture and there are enough outside forces tearing us down that we do not need to tear each other down. Unfortunately, personal agendas will only cloud our ability to look at the actual facts that go into the Groundwater Sustainability Plan. Hopefully, we can set our personal differences aside, and come together on a plan that is great for the Valley; not one sided for one party. Thank you for allowing me to clear the air. I specifically request that these corrections be included into the minutes of this afternoon’s meeting.
Matt Wiedlin	Weidlin Assoc.	7/22/2020	GW Depth to Water Map, GW Dependent Ecosystems	Pg 54 of Power Pt. Presentation	Does this map represent high gw conditions or low? What data set was used?
Matt Wiedlin	Weidlin Assoc.	7/22/2020	GW Depth to Water Map, GW Dependent Ecosystems	Pgs 50-54	See notations I provided on page 51 & 54 of the Power Pt. Presentation. Groundwater depth in the tributary drainage in the NW boundary of the basin can be from 0-10 feet and probably greater than 20 feet in dry conditions. Phreatophytes in the drainage. This was an area that was inspected during the field visit.
Matt Wiedlin	Weidlin Assoc.	7/22/2020	SMC; Potential Minimum Thresholds	Pgs 36-37 of Power Pt. Presentation.	Considering the limited information we will inevitably be constrained by, the proposed approach seems reasonable. As discussed and acknowledged by John a more thorough review of theWCRs are appropriate to help make the SMC for DTW most practical.
Matt Wiedlin	Weidlin Assoc.	7/22/2020	GDEs		I have measured groundwater depths at several hand dug wells in this area and have prepared groundwater elevation and groundwater depth maps, based on topography. Under summer conditions following unremarkable winters, the depth to water in the drainage is likely 15 to 20 feet. Following an above average winter, the depth to groundwater in the drainage is likely 5 to 10 feet, or higher. There are phreatophytes in the drainage and surface water flow from a small watershed less than 1 sq mile. **W&C Note: This comment was made on a GDEs map of the Basin provided on slide 50 of the meeting presentation. A PDF of the map and comment is saved in the comment folder in the pdf called "gw dependent areas mpw notes-7-22-20.pdf"
Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		Dear Members of the Advisory Committee: I am responding to the email sent out by member Frank Konyn on July 9. There are technical inaccuracies and omissions in that email that I would like to correct. In the interests of being completely accurate, it would have been more appropriate for Mr. Konyn to have included all information, including the fact that the Salt and Nutrient Management Plan (SNMP 2014) stated that Konyn Dairy contributes 12% of the nitrogen load and 1% of salt load to basin. The record should include the entire study referenced, not just the excerpts attached to his email.

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Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		It is also important to remember that the SNMP is forward looking and aims to mitigate future loading. It does not seek to directly improve historical impacts. Section 3.1.1 of the Plan states as much: "The approach taken in this SNMP was to evaluate a recent baseline land use condition that could be supported with available data and to develop a plan for managing the Basin moving forward."
Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		The problem is that legacy contributions of nitrogen and TDS continue to haunt the basin. The SNMP is not addressing that issue. For example, the plan mentions the former Verger dairy that ceased operations in 2011, but does not include the historical, cumulative impact associated with the Verger or Konyn operations. The Verger operation could have generated approximately 270,000 lbs N per year, but that does not get included in the SNMP as an issue to be mitigated even though there is a historical, cumulative impact. Legacy contributions from other diaries in the Basin are not mitigated. Avocado and citrus fertilization are assigned approximately 37.5% of the N loading in the SNMP. Again, this ignores historical contributions. When those are taken into account, the dairy loading goes up to 29.8% and the avocado and citrus loading goes down to 21.1%.
Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		While groundwater quality is the purview of the Regional Water Quality Control Board (RWQCB), it is also the responsibility of the Groundwater Sustainability Agency (GSA). The GSP must also meet the requirements of state law. Currently there are at least two major lawsuits involving cities in San Diego County and in Kings County where nitrate contamination of groundwater alleged to be caused by dairies are being litigated. The cases are about current and legacy contributions of nitrogen and phosphorous from dairy operations. The potential for millions of dollars in damages awards should be alarming to all stakeholders in the San Pasqual Basin as well as the taxpayers in the City of San Diego. An appropriate, lawful GSP can help avoid that kind of outcome.
Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		If the City is to make Mr. Konyn's requested corrections as part of the minutes of the Advisory Committee meeting of July 9, then they should include the information above, as well as the entire 2014 SNMP and its supporting documents. For the record, we request that they do so. There have been many accusations against various members of the Advisory Committee regarding release of information and transparency that are at best, not helpful to this effort, and at worst, simply wrong and meant to sow distrust. Rancho Guejito has indicated many times and reiterate again that we support a SGMA Groundwater Sustainability Plan (GSP) that complies with State law, does not over-regulate the Basin, and that recognizes the uses and needs of ALL members of the Advisory Committee.
Rikki Schroeder	Advisory Committee	7/21/2020	Response to Frank Konyn email		We also respectfully request that the staff and facilitator maintain order in the Technical and Advisory meetings. Public comments should be limited to 3 minutes and be limited to facts regarding studies and policy direction that have been requested by the Core Team. There should be no back and forth discussions. The eventual GSP must be a document based on fact, not argument. It should be transparent and fair to all. Basic ground rules will help make sure that is what happens. We reiterate again that we support a GSP which complies with State law, does not over-regulate the Basin, and recognizes the uses and needs of ALL members of the Advisory Committee.
Will Halligan	LSCE	7/16/2020	Attachment 2		If possible, I would recommend that the "grapevine" classificaon and mapping be further segregated into Table Grapes or Vineyards. The reason is that table grapes often have a much higher water demand than grapes grown for either bulk or varietal wine purposes. It seems as if the local landowners or your own site visits should easily be able to segregate the types of grapevines.
Will Halligan	LSCE	7/16/2020	Attachment 2		Your last bullet point on page 2 (and it was mentioned in the meeting last week as well) you are requesting feedback on when crops in the 2005 land use may have changed to 2018 or when 2018 crops first appeared prior to 2018. The perception I got from this is that you think that there is generally a 2005 footprint that at some point after 2005 changes to 2018. How do you know that there is not a different land use variant that is a transition between 2005 and 2018 data? Or have you generally received information from local farmers that crops generally have not changed much since 2005 except for some subtle variations?
Will Halligan	LSCE	7/16/2020	Attachment 2		On the Well to Parcel memo and map I am concerned that you may have situations where you have a well that serves a very small parcel (and hence a likely low discharge simulated by MFOWHM) to wells that end up serving a large area/parcel(s) which will likely result in a very large pumping rate by the numerical model. I realize that metered pumping was only recently implemented, however, are there historical utility pump efficiency tests that include useful well yield data that are available to cross check this well to parcel approach and related pumping amounts that the model will eventually simulate?
Will Halligan	LSCE	7/24/2020	Handout 3	Fig WF4-1	What is the rationale for having both SP070 and SP071 in the netowrk when they are so close to each other and at the margin of the basin boundary. Also, is the well construction of the wells different because the gw level data for each is very different. I have a concern that the use of both of these wells for annual report gw level contouring may be challenging.
Will Halligan	LSCE	7/24/2020	Handout 3	Fig WF4-1	Why include all three Rockwood monitoring wells when they each show simialr historical gw levels and variability and are all very close to each other?
Will Halligan	LSCE	7/24/2020	Handout 3	Slide 32	Temporary surplus should be considered in the development of SMCs. The western half of the basin exhibits gw levels that are relatively shallow with little variation seasonally or due to climate variations. This conditions conveys that the western half of the basin has not been fully developed to allow for the capture of recharge due to the lack of vacated storage space (temporary surplus) that allows recharge to be captured witout significant and unreasonable undesirable results. Per SGMA, temporary surplus should be accounted for in devleopment of SMCs. The current methodology in essence will results in an underprediction of sustable yield potentially and devleopment of MTs that may be overly restrictive in allowing future development of gw resources, expecially in the western half of the basin.
Will Halligan	LSCE	7/24/2020	Handout 3	Slide 32	Having well construction information for the selected monitoring wells is very important in well selection, especially for SP070 and SP071.
Will Halligan	LSCE	7/24/2020	Handout 3	Slide 32	The considerations for GW Elevation undesirable reuslts should remove no. "c" "need to deepen or construct new wells" since that is a project or management action, not an undesirable result. In essence, the remaining Urs that are listed are essentially impacts to benefical uses of all types. No. "a" is somewhat vague as to what is meant by "viability of ag"? Under MT considerations, I would suggest including temporary surplus as a consideration.
Will Halligan	LSCE	7/24/2020	Handout 3	Slide 34	I would suggest that you focus on the WCRs that are dated over the last 30 years as being most indicative of which wellls may currently be in service if you lack local information/verification. Wells older than that, especially ag wells may either be out of service or on thier last legs. You could also go back a bit further in time as well.

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Will Halligan	LSCE	7/24/2020	Presentation	Slide 9	Under comment 1, I am concerned that some parties may interpret the basin boundary and bottom of basin approach/definition as also meaning that the technical analysis is not going to consider or evaluate the influence pumping stresses (from fractured bedrock) may have on groundwater conditions in the "defined" basin. We had this discussion earlier this year and I get the sense that some lay people do not understand the difference still.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 14	Which version of One Water is being used?Version 1 is full of bugs so hopefully you have access to the most recent version released in April 2020 by Boyce et al. (MF-OWHM2).
Will Halligan	LSCE	7/24/2020	Presentation	Slide 16	As mentioned in the meeting, plesae account for any water demands/applications that are not related to ET. This is important since the Farm Process functions primarily on water demands associated with ET only and not other farming cultural practices.. Also when you show us land surface and groundwater budgets let us know if you have the Farm Process "magic water" activiated or not. I am hoping that you will provide historical land and gw budgets for review at some point to the TPR.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 18	As mentioned in my comments on Handout 2, grapevines needs to be evaluated and segrated further as some grapevine water demands are much higher than others. Also, an understanding of defict irrigation practices (someone else mentioned this in the meeting) needs to be accounted for in the Farm Process.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 21	If you will be transitioning from 2005 to 2018 land use between the 2010 and 2011 water year, are you expecting a large difference in water demands in some areas of the basin that is supported by observations of changes in gw elevations? Or is the gw elevation data not of high enouth spatial resolution in teh basin to get a sense of whether transitioning between the two land uses for modeling purposes is supported by observed changes in gw elevations?
Will Halligan	LSCE	7/24/2020	Presentation	Slide 22	The root water uptake aspact of the Farm Process can have a large influence on what may be needed from groundwater pumping. Please provide crop rooting depths that you will be using in the Farm Process. This is an important component especially in the western half of the basin where gw levels are often shallow and close to the land surface at times. Rooting depth values may be a sensitive parameter and it may be helpful to get a sense of the sensitivity of that parameter if that is in your budget/scope.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 24	Could you remind me what gw quality parameters you will be monitoring for?
Will Halligan	LSCE	7/24/2020	Presentation	Slide 24	Which wells are you planning to use to assess depletion of interconnected surface water? Are you going to couple the monitoring for this SI with any surface water flow monitoring?
Will Halligan	LSCE	7/24/2020	Presentation	Slide 30	See comments above on Handout 3. Temporary surplus should be a consideration for setting Mos and MTs, especially in the western half of the basin where historic gw development has not depleted aquifer storage to avoid recharge being rejected.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 30	Not sure I am a fan of using the percentile approach throughout the basin as it does not work well in the western half of the basin. Need to come up with an additional factor which accounts for temporary surplus which may be more approriate in the western half of the basin versus the eastern half.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 36	The concept of operatoinal flexibility sort of includes elements of temporary surplus, however, it should also be used to set the MO as well as the "buffer" between the MT and MO. The MO could be lower in some areas if temporary surplus was partially or fully removed which would result in a lower gw elevation fo rthe MO in relation to historical gw levels.
Will Halligan	LSCE	7/24/2020	Presentation	Slides 36 through 39	The selection of 5 years of storage works only in those areas that have had a decline in historical gw levels and storage (removal of temporary surplus) on the path to sustainable gw elevations. However, in many parts of the basin, this approach does not work since gw elevations and storage have been very stable historically. I would suggest that the historical water budget and specifically the recharge terms be evaluated to gain an understanding of how much "recharge" is rejected and leaves teh basin. Then a calculation of how much gw storage would need to be removed (temporary surplus) and resultant gw elevations should be extimated. At this point you can then establish MOs, a sustainable yield to maintain stable gw elevations at lower eelevations, introduce the concept of "operational flexibility" and the 5 years of storage and then establishment of MTs. I hope that does not sound too confusing. This approach can then be used with equal effect throughout the basin.
Will Halligan	LSCE	7/24/2020	Presentation	Slide 43	When comparing the 2005 throuhg 2019 or 2020 period (slides 42 and 43 are confusing as I am not sure if you are calibrating 2005 to 2020 or 2005 to 2019 for your historical water budget period), the use of water year types foes not always balance out and can provide an appearance of a long term annual average condition over that period. The cumulative departure plot indicates that the selected period is generally dry due to the overall downward sloope to the curve. This is important when devleoping a sustainable yield or evaluating gw conditions over that time frame as the resutls will be impacted by the overly dry conditions during this 2005 to 2019 period.
Will Halligan	LSCE	7/24/2020	Presentation	Slides 49 to 53	This information and effort is interesting, however, is there going to be interest by environmental groups to expand the monitorig network and criteria (gw levels) for interconnected sfc water and GDEs to include field surveys as part of future monitoring for GSP implmentation. Why didn't you just use the existing TNC potential GDE maps/tools and cross reference with local depth to water measurements usign the 30 foot criteria?
Will Halligan	LSCE	7/24/2020	Presentation	Slide 56	Suggest not over thinking how vegetation reportedly identified as GDEs in areas wherer the water table is greater than 30 feet in depth obtain water. That is not a GSP requirement. I would also avoid the use of including the word "aquifer" when refering to perched water conditions. Perched water is not an aquifer and is excluded from being considered for the interconnected surface water SI.

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Peter Quinlan	Dudek, Rancho Guejito		Modeling approach	pages 13-15 of the 7/9/2020 TRP meeting power point presentation	Jacobs proposes using BCM to compute stream and groundwater inflows to GSP flow model domain from watershed areas tributary to GSP flow model domain. This area is approximately 4 to 5 times larger than the One-Water/MODFLOW domain. Stream gauge data are available for about 80% of the area that BCM is proposed for. It would be reasonable to just use the gauge data to estimate surface water inflow to the basin. The BCM does not calculate stream flow. The "runoff" calculated by BCM is the water balance remaining after estimated evapotranspiration, soil moisture deficit (based uncertain soil thicknesses), and estimated infiltration into bedrock (based on uncertain bedrock permeability) are subtracted from precipitation. The authors wrote the following in *Fine-scale hydrologic modeling for regional landscape applications: the California Basin Characterization Model development and performance* , Flint et al. 2013. (underline emphasis added). "A highly valuable application of the BCM beyond the estimates of spatially distributed recharge and runoff would be to estimate basin discharge for ungaged basins. We attempted to correlate equation coefficients (scaling factors and exponents in Equations 1 to 7) developed in gaged basins to landscape variables such as geology, soil properties, slope, basin area, or aridity to provide an empirical basis for estimating discharge in ungaged basins. <u>This endeavor was unsuccessful on a statistically significant basis across all calibration basins, possibly due to potential errors in the soils or geology maps, or in the PRISM climate data, or due to human activities that are affecting basin hydrology at the watershed scale."</u> <u>"The estimate of spatially distributed runoff does not equal basin discharge as measured at a streamgage without post-processing to determine the components of runoff and recharge that contribute to stream channel gains and losses, which must be done using some measured data for a given basin.</u> The resultant parameters corresponding to the gains and losses generally reflect climatic conditions and geologic setting, but at the scale of California have not been determined to a degree that allows for the direct extrapolation of basin discharge to all ungaged basins." For example the total water flowing by the Guejito Creek gauge in 2005 was 2,648 AF. "Runoff" from the BCM for the Guejito Creek watershed calculated by BCM was approximately 9,710 AF. All of the BCM runoff occurred in January and February, whereas there was flow at the gauge all months except July, August, and September. Extensive post-processing including applying a routing package to the entire model grid and accounting for subsurface lateral flow will be necessary to modify/calibrate the BCM output. Application of the BCM model is unlikely to reduce uncertainty regarding surface water inflows to the basin. Given how much of the watershed is covered by actual gauge data, I question whether the effort is worthwhile.
Peter Quinlan	Dudek, Rancho Guejito		Modeling approach	pages 13-15 of the 7/9/2020 TRP meeting power point presentation	Recharge in the BCM is also uncertain and may also be overstated. For precipitation that fell in January and February 2005, the BCM partitioned 65% of the available water to runoff and recharge. Recharge for the Guejito Creek watershed is based on an assumed hydraulic conductivity of 1.5 mm/d (1.7E-06 cm/s) for the granite. The BCM output for recharge in the Guejito watershed for 2011 was a mean of 42.6 mm per cell or 2,000 AF. Water levels in observation wells completed in the granite on Rancho Guejito located 5 to 7 miles north of the SPB only rose approximately 8 feet in response to rainfall between November 2010 and March 2011. Dividing 42.6 mm (0.14 ft) by 8 feet yields an estimated specific storage coefficient of 0.0175. This is well outside the expected 2.1e-05 to 1e-06 range for jointed rock (Batu, V., 1998. *Aquifer Hydraulics: A Comprehensive Guide to Hydrogeologic Data Analysis* , John Wiley & Sons, New York, 727p.). This example indicates that the BCM likely overestimates recharge to bedrock in the vicinity of the San Pasqual Basin. Again, application of the BCM to estimate recharge to granitic bedrock outside the domain of the MODFLOW model is not likely to reduce uncertainty regarding groundwater inflow into the model domain. As is the case for runoff, BCM calculated recharge also does not represent subsurface discharge from a watershed. Relying on the BCM for recharge to the granite does not decrease uncertainty regarding subsurface inflow to the basin. Finally, the BCM output that we have located on line only extends through 2016.
Peter Quinlan	Dudek, Rancho Guejito		Modeling approach	pages 13-15 of the 7/9/2020 TRP meeting power point presentation	As is the case for runoff, BCM calculated recharge also does not represent subsurface discharge from a watershed. Relying on the BCM for recharge to the granite does not decrease uncertainty regarding subsurface inflow to the basin.
Peter Quinlan	Dudek, Rancho Guejito		Modeling approach	pages 13-15 of the 7/9/2020 TRP meeting power point presentation	Using OWHM may not reduce uncertainty about surface water inflows either. In Guidance for determining applicability of the USGS GSFLOW and OWHM models for hydrologic simulation and analysis, the USGS describes the capabilities of One Water Hydrologic Model (OWHM) for estimating surface runoff. The ability of OWHM to do this is limited (again, highlighted emphasis added): "Both models have limitations in how they simulate real-world hydrologic systems, but the watershed-simulation processes and daily time-step discretization available in GSFLOW make it possible to simulate hydrologic processes such as overland runoff, snowpack dynamics, soil-zone processes, recharge, surface-depression storage, and streamflow more comprehensively and in a more physically-based manner than those available in OWHM. <u>Because of this, GSFLOW is more appropriate for application to environmental-flow, streamflow-generation, and other watershed-process issues than is OWHM.</u> • Both codes have been applied to field settings. GSFLOW has been applied to several types of hydrologic-process and water-management studies, including irrigated agriculture, in a range of climate and hydrogeologic settings. A benefit of GSFLOW is that both headwater and valley settings can be simulated simultaneously, so that flows throughout a watershed can be simulated comprehensively. <u>OWHM also has been applied to a similar range of climate and hydrogeologic settings, but more typically in the lower watershed areas of arid to semi-arid settings where agricultural processes associated with alluvial-aquifer systems are relatively important and natural rates of runoff and snowmelt are small or nonexistent. Flows from headwaters to the lower valleys can be simulated externally from OWHM.…"</u>