San Pasqual Valley (SPV) Groundwater Sustainability Plan (GSP)
Stakeholder Workshop
Meeting Summary

The following is a summary of the Stakeholder Workshop, comments, and questions. This summary reflects the general content and spirit of each discussion point, but is not a verbatim recording.

Date: Wednesday June 8, 2022 from 1:00 pm to 2:55 pm

Location: GoToMeeting

Purpose: Stakeholder Workshop

Attendees:	Public	City of San Diego (City)
	• Matt Witman, Witman Ranch • Rikki Schroeder (RS), Ranch Guejito • Andre Monette (AM), Best Best & Krieger, on behalf of Ranch Guejito • Peter Quinlan (PQ), Ranch Guejito • Marissa Potter (MP), Santa Fe Irrigation District • Pat McTigue, San Diego Zoo Global • Frank Konyn, Konyn Dairy • Lani Lutar, on behalf of Rancho Guejito • Joseph Rivera (JR), San Dieguito River Valley Conservancy • Marc Lindshield • Raj Brown, San Diego Zoo Global	• Staci Domasco • Julie Marlett • Sandra Carlson • Keli Balo • Jensen Lee **County of San Diego (County)** • Jim Bennett • Leanne Crow **Consultant Team** • Rosalyn Prickett (RP), Woodard & Curran • Amber Ritchie, Woodard & Curran • Nate Brown (NB), Jacobs • Paula Silva, Jacobs

Welcome and Introductions

Rosalyn Prickett, Consultant Team, greeted participants as they signed onto GoToMeeting.

Rosalyn welcomed stakeholders to the meeting. She covered the agenda for the meeting and briefly touched on the purpose of the evaluation criteria and the introduction of preliminary concepts to define recharge strategies. She noted that each criterion would be reviewed one by one and introduced the Menti activity and that the platform is intended to create an open discussion and comment period of the presentation.

Scope of Initial Surface Water Recharge Evaluation

Rosalyn explained that there are six tasks in the surface water recharge evaluation. The draft technical memorandum (TM) circulated to stakeholders prior to this workshop covers Task 1. The field work for Task 2 is currently being planned to kick off in a few weeks. The next workshop in September will cover the findings from Tasks 2 and 3. The lists of tasks was reviewed:

- Task 1: Development of Evaluation Criteria
- Task 2: Streambed Characteristics

- Task 3: Water Sources for Recharge
- Task 4: Potential Recharge Strategies
- Task 5: Model Simulations and Results
- Task 6: Evaluation of Benefits to GDEs

A *Preliminary Feasibility Study* will be developed to summarize surface water recharge opportunities in San Pasqual Valley. Rosalyn showed a project timeline with Task 1 as an ongoing task, running through the final Feasibility Study Report, which will be completed in late 2023. Rosalyn then asks if there are any further questions or comments on the project timeline. There are none at this time.

Potential Recharge Strategies

Rosalyn then introduced the potential recharge strategies being considered. Rosalyn highlighted that these strategies are *anticipated*, meaning this is what they might look like and that there is a whole task that will be implemented (Task 4) to define the strategies. The list presented here are the preliminary thoughts.

Nate Brown, Consultant Team, reviewed the anticipated recharge strategies:

1. Forecast-informed releases from Sutherland Reservoir: This strategy is to forecast larger storm events with more deliberate focus on maximizing recharge during these events. This strategy would utilize historical data, simulations, operations, releases, and FIRO data to evaluate.

2. Stormwater detention in small drainages: Stormwater detention will be done by developing spreading grounds in flat areas by constructing or utilizing catchments. This strategy would involve looking at what the benefits could be if this is done and what size events would be needed to capture more water (smaller events capture recharge anyway).

3. Check dams in selected tributary creeks: Check dams can be used to decrease flow velocity, thus providing more opportunity for recharge.

4. Stream channel modifications to increase infiltration: These methods could include channel scouring, replacing lower permeability materials with higher permeability sands and gravels, slowing streamflow, and taking advantage of existing stream meanders either by widening or extending them.

Nate explained that strategies 2-4 are all similar goals- to enhance retainment of streams for maximum groundwater recharge. The USGS stream gauge data acquired in Task 2 will be used in the updated model.

Stakeholder questions and comments followed:

- AM: In strategy 4, how many permits would be needed to modify streams and what agencies? CEQA, Army Corps of Engineers, etc? I'm worried it may be too cost prohibitive to worry about.
  - RP: The feasibility and cost criterion that will evaluate this, but exploring these concepts is still important.
- AM: With creating holding areas, we need to make sure the holding areas are maintained and do not become a growing ground for non-native species and that offset water saved for new plant growth.
  - RP: That's a good point, not just construction related, but operation of the projects needs to be considered.

Proposed Evaluation Criteria

Rosalyn reviewed the eight (8) proposed evaluation criteria and data sources for each. She explained that she will go through each criterion one by one and she will pause after each for questions/discussion on each and welcomes any input. Most criteria will use the SPV GSP Model and that Nate's team will run each

strategy through the model. Some information will have to be collected from GSAs, Woodard & Curran, Jacobs, etc. to look at data, infrastructure, and cost estimates.

Rosalyn explained what CWASim and GDE Pulse will be used. CWASim is a systems model developed by Jacobs for regional scale projects. We anticipate using some information to get at the metrics for Criterion 4 (Efficiency of Recharge). GDE Pulse is a Nature Conservancy tool that looks at different vegetation communities in GDEs to understand species types and rooting depths to help better refine the assessment of benefits to GDE's to be used in Criterion 6 (Benefits to GDEs).

Rosalyn then introduced the forced rank vs. category rank systems. The forced rank system is a relatively simple, similar distribution that puts the options in order, with the example of 1 = smallest, 4= largest. The category rank systems are when categories are very different, often orders of magnitude apart.

Rosalyn then moved through the Criteria, described below along with stakeholder questions and comments on each:

1. *Criteria 1: Reduction of Modeled Deficit.* Cumulative change in storage will be modeled for each strategy using the SPV GSP Model and then compared to the GSP baseline.

   - PQ: When talking about how to score each criterion, how do you combine the ranks all together for all eight criteria?

     o RP: Both ranking systems will rank 1–4, so each of the criterion will have a ranking that will be added to a sum and a weighting will be applied. The weighting will be decided after discussion on which criteria are the most important (weighting % TBD, will be based on input from today).

2. *Criteria 2: Maintenance of Shallow Groundwater Levels.* Groundwater levels will be modeled after recharge to assess how each strategy affects representative water level network wells.

   - RS: With the goal in past to keep groundwater levels within 20 feet of ground surface, would you approve the 20 feet below ground surface as a target?

     o RP: We had not considered that as a goal in the GSP, but we can use the model to look at groundwater levels in any well and compare their elevations to that depth.

3. *Criteria 3: Reduction of Projected Groundwater Declines to Minimum Thresholds (MTs).* This criterion evaluates the number of times groundwater levels drop below the MT's.

4. *Criteria 4: Efficiency of Recharge.* We will calculate the ratio of cumulative change in groundwater storage to cumulative volume of surface water used for recharge. Essentially, this will show how much water you put into the system and how much is lost in the process to illustrate how much actually translates to improving groundwater storage. This will estimate how much water applied increased groundwater stored in the Basin.

5. *Criteria 5: Improvements in Groundwater Quality.* The intent is to understand how the different recharge strategies potentially change groundwater quality at the representative groundwater quality monitoring wells. Sources of recharge, volume of surface water coming in, and concentrations of TDS and nitrate will be used to see how mass balance is affected.

   - PQ: Earlier we said this would be evaluated using the groundwater model, but you are not doing solute transport simulations, right? You are using the model to calculate how much you're releasing?

     o RP: Correct. The model is used on the volume (i.e., flow) side and we will use estimated or measured concentrations from the source waters to calculate a flow-rated average.

- JP: I wanted more clarification as to how you are calculating the amount of water that is not contained within the basin (outflow)?

  - RP: Outflow to Hodges Reservoir is one of the model components and ET will be calculated using either CWASim or Nate's BCM portion of the integrated model.

  - NB: The model is a physically based flow model and we can get all types of flow related information you would pair with groundwater quality data to look at mass fluxes.

  - JR: Do you take into account the lack of rainwater?

  - RP: Yes, absolutely. The hydrologic year and precipitation and future climate change projections are all incorporated.

- PQ: You are looking at the TDS of the source water whether precipitation or from Sutherland. Are you factoring in as the rainfall goes through the field and picks up TDS/nitrate, carrying it to groundwater?

  - RP: We have surface water data we have collected as part of the GSP, with the intent of using data from USGS for surface flows.

  - NB: The idea is to start with WY 2005–2019 and run baseline and look at what source water would be different going into basin and attach a concentration to it in a general sense to see if there would be an opportunity for improvement in groundwater quality. It's very big picture at the Basin scale, not individual field scale.

  - PQ: One potential issue is that there is probably a difference in the amount of TDS/nitrate in vadose zone below creek versus below fields and orchards and that this is more complicated than what you are doing.

  - NB: It will be more complicated, but the methodology would be adequate for criteria we are looking at. This is a qualitative, high-level check.

- JR: Are you taking into account from local agriculture as to how much fertilizer is added onto private land or are you just measuring the output of nutrients from area?

  - RP: We have farmers in these workshops and involved in GSP, but I don't think we have ever done a polling of the specific amount of fertilizers applied. There are some calculations of volume in the 2014 SNMP, but we as a group have not done that separately for the GSP and are depending on the surface water and groundwater quality sampling that's been done to understand the characteristics of those sources.

6. *Criteria 6: Potential benefits to GDEs*. The presence/absence of GDEs will be refined as part of GSP implementation; a desktop study will be done before the modeling of recharge strategies so the groundwater levels can be compared to GDE rooting depths.

7. *Criteria 7: Cost of implementation and maintenance.* This criterion will evaluate capital and maintenance costs of the alternative strategies.

- PQ: There is cost and then cost benefit. Should the GSA take action if basin falls below minimum thresholds? If ag pumping is curtailed, the economic impact of decreased ag output should be considered. Benefit often offsets a loss of economic revenue.

- RS: How would you evaluate the cost of releasing water from Sutherland?

  - RP: That will be tricky and something we need to work through as we are developing the strategy itself in Task 4. Once we get a better handle on the institutional arrangements, we can figure out how to cost that out.

- RS: My second question is that there are also environmental benefits. How are you going to include those rather intangible things?
  - RP: we often look at ecosystem services in projects and what is provided. Maybe there's a way for us to expand the GDE's criteria or develop one specific to ecosystem services.
- PQ: Some things with high value are not quantitative.
  - RP: With criteria weighting, we are not just looking at the whole list and dividing up the 100%, but looking at what is more important between factors to formulate a weighting that values the intangibles.

8. *Criteria 8: Feasibility of Implementation and Maintenance.* This aligns with the comment about the permitting. Each project will require permits and so we must look at the challenges and feasibility of acquiring these along with the schedule and timeline.

- PQ: I'm not sure where to make this comment... but I think it's critical that when the data about stream infiltration is collected and incorporated into the model and the model is recalibrated to those data, a TM should go out to show how model is performing now so that there can be public review and comment before we undertake the evaluations.
  - RP: We will consider this, thanks for your input.

Criterion Values Activity

Rosalyn gave a brief explanation of the Criterion Values Activity. She explained how to access Menti and Amber Richie, Consultant Team, shared the access code in the chat. Rosalyn explained that we want to understand what is important to stakeholders and why, so that we can determine what criteria to focus on most. She encouraged questions, comments, and further conversation of each evaluation criterion. Nate asked if the results are anonymous, and Rosalyn confirmed they are.

Below are the results of the voting activity for each criterion:

Criterion	Important	Neutral	Not Important
Criteria 1: Reduction of Modeled Deficit in Storage	12	2	0
Criteria 2: Maintenance of Shallower Groundwater Levels	4	8	1
Criteria 3: Reduction of Projected Groundwater Declines to MTs	13	0	0
Criteria 4: Efficiency of Recharge	9	1	3
Criteria 5: Improvements in Groundwater Quality	5	8	0
Criteria 6: Potential Benefits to GDE's	4	5	3
Criteria 7: Cost of Implementation and Maintenance	4	4	5
Criteria 8: Feasibility of Implementation and Maintenance	9	3	1

Stakeholder questions and comments included the following:

- MP: Criterion 5 (Improvements in Groundwater Quality) – I think sustainability is the key, that you are not contaminating soil. If its sustainable and you can treat it, that's more important.

- MP: Criterion 6 (Potential Benefits to GDE's) – These are all important, but if plants can get to water and continue to get to water, that's the most important.

Public Comment

Public comments included the following:

- RS: Looking at the cost benefit, sustainability, and people directly affected. One thing we are concerned about is the cost being the reason water is not released from Sutherland, when sustainability is so important. I hope that is expanded on.

- PQ: On page 7 of the TM, there is a statement that the model will be run with daily stress periods to better capture infiltration of surface water. This could lead to long run times when doing simulations in the future, so simulations will be moved to one month. I think it's important if you're doing the 15-year period with daily time steps, you also run with monthly stress periods so you can compare the results so that you're capturing both to confirm you're getting the same results in terms of cumulative change in storage.
  - NB: We will need to do longer (monthly) stress periods when there is little to no streamflow and daily stress periods when there is enough streamflow. This strategy attempts to mitigate long modeo run times.

Next Steps and Closing Remarks

Nate outlined Task 2 and how streambed transects will be conducted during the fieldwork beginning at the end of the month. Each location will include a transect perpendicular to river flow with survey points along transect. Three points will be chosen to do infiltration testing with double ring infiltrometer to relate back to assumptions of infiltration capacity in model. Photographic surveys will be done to see terminus of downstream flow during wet weather events.

Nate briefly reviewed Task 3, explaining that CWASim is being used for much of this analysis, which is focused not on absolutes but on differences. Paula Silvia, Consultant Team, explained that CWASim scenario planning will be used in the establishment of recharge strategies.

- PQ: To consider downstream extent of wet weather events, you might pump a known volume of water from wells into creek instead of waiting for rain event.

Rosalyn provided an overview on the status of the SPV GSP implementation management actions. Six are currently ongoing/underway. Three of these are continuous. Rosalyn reviewed the GSP resources and pointed to links in the PowerPoint. Rosalyn also reminded all stakeholders that data used in the Annual Report is available through the SPV Data Management System (DMS) or "Opti".

Rosalyn asked if this time works for everyone for the next workshop in September and there were no requests to change the time. The next Stakeholder Workshop is scheduled for September 22, 2022, at 1-3pm so please mark your calendars.

Comments should be sent directly to Staci Domasco at SDomasco@sandiego.gov.

Stakeholder workshop ended at 2:55 pm.

GoToMeeting Chat Log from Workshop

Peter Quinlan (to Everyone): 1:28 PM: yes i have a question

Rikki (to Everyone): 1:53 PM: Question? Rikki

Amber Ritchie, Woodard & Curran (to Everyone): 2:05 PM: www.menti.com

Amber Ritchie, Woodard & Curran (to Everyone): 2:05 PM: Code 1316 5271

Keli Balo, Asst Deputy Director PUD (to Everyone): 2:53 PM: Do daytime workshops work for everyone?

Peter Quinlan (to Everyone): 2:53 PM: thank you!

Rikki (to Everyone): 2:54 PM: Yes, daytime workshops work for me

Peter Quinlan (to Everyone): 2:54 PM: time and platform are fine

Marc Lindshield (to Everyone): 2:54 PM: Thank you. See you in September - Daytime is fine as well as platform

Pat McTigue (to Everyone): 2:54 PM: daytime works