



MEETING MINUTES – Merced GSP

SUBJECT: Merced GSP Stakeholder Committee Meeting #12

DATE/TIME: April 22, 2019 at 9:30 AM

LOCATION: Castle Conference Center, 1900 Airdrome Entry, Atwater, CA

Stakeholder Committee Members In Attendance:

	Representative	Community Aspect Representation
<input type="checkbox"/>	Alex McCabe	City of Livingston
<input type="checkbox"/>	Arlan Thomas	Merced Irrigation District Advisory Committee (MIDAC), growers
<input type="checkbox"/>	Ben Migliazzo	Live Oak Farms, growers
<input checked="" type="checkbox"/>	Bill Spriggs	City of Merced, Merced Irrigation District
<input checked="" type="checkbox"/>	Bob Salles	Leap Carpenter Kemps Insurance, insurance industry and natural resources
<input checked="" type="checkbox"/>	Brad Robson	Buchanan Hollow Nut Co. Le Grand-Athlone Water District, growers
<input checked="" type="checkbox"/>	Breanne Ramos	Merced County Farm Bureau
<input type="checkbox"/>	Brian Carter	D&S Farms, growers
<input checked="" type="checkbox"/>	Carol Bonin	Winton M.A.C.
<input checked="" type="checkbox"/>	Daniel Machado	Machado Backhoe Inc., construction industry
<input checked="" type="checkbox"/>	Darren Olguin	McSwain MAC
<input type="checkbox"/>	Frenchy Meissonnier	Rice Farmer, rice growers
<input type="checkbox"/>	Galen Miyamoto	Miyamoto Farms
<input checked="" type="checkbox"/>	Gino Pedretti III	Sandy Mush Mutual Water Company
<input type="checkbox"/>	James (Jim) Marshall	City of Merced
<input checked="" type="checkbox"/>	Joe Scoto	Scoto Bros Farms / McSwain Union School District
<input checked="" type="checkbox"/>	Ladi Asgill*	East Merced Resource Conservation District / Sustainable Conservation
<input type="checkbox"/>	Maria Herrera	Self-Help Enterprises
<input type="checkbox"/>	Mark Maxwell	University of California, Merced
<input checked="" type="checkbox"/>	Maxwell Norton	Retired agricultural researcher
<input checked="" type="checkbox"/>	Parry Klassen	East San Joaquin Water Quality Coalition, growers
<input checked="" type="checkbox"/>	Rick Drayer	Drayer Ranch, Merced cattlemen
<input checked="" type="checkbox"/>	Simon Vander Woude	Sandy Mush Mutual Water Company, dairies
	*Jean Okuye attended as alternate for Ladi Asgill	

Meeting Minutes



1. Welcome, Introductions, and Agenda Review
 - a. Charles Gardiner (Catalyst) welcomed the group and reviewed the agenda items for the meeting.
2. Presentation by Woodard & Curran on GSP development
 - a. Climate Change Analysis
 - i. Alyson Watson (W&C) described the regulations that apply for the climate change analysis and described the overall process used for Merced GSP.
 - ii. The approach is consistent with the Department of Water Resources (DWR) recommended approach. A change factor from DWR is applied to the Projected Data Baseline to simulate the impact of climate change. This creates the Climate Change Baseline, which is put into the Merced model. The output is the Climate Change Water Budget. The change (or perturbed) variables include streamflow, precipitation, and evapotranspiration (ET).
 - iii. Alyson Watson (W&C) provided an example of precipitation using the Climate Change Analysis. The dark line is the regional average baseline. The blue line is the changed, or perturbed precipitation using factors from DWR. Generally, precipitation during a typical event is projected to be similar to the baseline conditions, but under climate change peak rain events are projected to be higher.
 - iv. Similar DWR factors are used for ET. An example for orchards shows a seasonal pattern of peaking in the summer months and a projected average increase in these months of 8%.
 - v. For surface water supplies, projections indicate that in wetter years (wetter season) there would be greater surface water, and in drier years (drier seasons) there would be less surface water.
 - vi. For groundwater production, the graph shows the difference in groundwater pumping with the climate change scenario. In general, there is an increase in groundwater demand as result of climate change conditions.
 - vii. Summary of climate change scenario: Changed storage reduction is projected to increase from 82K AFY to 130K AFY. This analysis did not rerun the MIDH2O model to see how operations would change. The purpose of analysis was to get an order of magnitude understanding of how climate change might affect the basin.
 - viii. Comment: Suggestion to use the same units as some units for precipitation and ET are in mm and others are in inches.
 - ix. Question: Regarding the precipitation example, is this the actual data and climate change is applied to this? Answer (W&C): We are taking the baseline and applying the DWR change (or perturbation) factors. What is visualized is a snapshot of 20 years. We have looked at the historical streamflow and actual deliveries to calibrate the model to gain an order of magnitude analysis for climate change. Analysis based on DWR guidance and DWR factors applied to see what this looks like for the basin and to help us understand in the future if the basin is trending a certain way.
 - b. Undesirable Results & Minimum Thresholds
 - i. Alyson Watson (W&C) explained Undesirable Results (URs) and Minimum Thresholds (MTs), provided definitions and reviewed what was discussed in previous meetings.



- ii. The GSP goal is to try to bring the basin into balance. The GSP will need to define what is significant and unreasonable for URs. It is important to prevent these URs, because if they are violated there can be state intervention.
- iii. Sustainable Management Criteria Definitions: There may be a specific groundwater condition where wells went dry and enough wells went dry that we determine this should not happen again. This could be defined as an UR. An MT can be set at a depth at which this is not going to happen. Our Measurable Objective (MO) will be set at a shallower depth (this is a depth we are trying to reach). We want to work between these two (the MO and the MT) within the Margin of Operational Flexibility. There are no triggers for meeting the MOs. A violation occurs if URs occur. MTs are set to avoid URs. One well being in violation once is not significant and unreasonable, but a certain percentage going dry could be. Specifications can be established for dry years. The goal is to identify a way to prevent URs.
- iv. Alyson (W&C) explained each well has its own location and levels. There are 20 locations we are looking at for establishing wells with MTs, but when are there significant and unreasonable URs? Alyson asked the group for input on what is significant and unreasonable. Comments for this are provided after further presentation of slide content.
- v. Chronic Lowering of Groundwater Levels: This was discussed qualitatively for URs and needs to be quantified. MTs will be established for a representative subset of wells that are part of the monitoring network. CASGEM wells were used as a starting point for these monitoring wells because they follow closely to SGMA requirements. There should be monitoring wells in all three aquifers (above, below and outside Corcoran Clay). W&C looked at domestic wells and used the Merced County database. W&C looked at the depth of the shallowest domestic well and removed statistical outliers. The shallowest domestic well within a 2-mile radius buffer from each CASGEM well was compared against MTs. An example hydrograph was provided to show MTs, observed data, and a run from 2040 with 50 years of hydrology get to 2090 for Sustainable Yield.
- vi. Question: Was the process described conducted for all CASGEM wells? Answer (W&C): Yes.
- vii. Question: The wells are all different. If some are dry, does that throw the entire basin out of compliance. Answer (W&C): Good question. The basin (GSAs) have to decide first how this should be approached. The basin can decide if one well goes dry that this is significant and unreasonable. If the basin violates whatever it has self-defined, then there can be state intervention. There is no trigger for violating Measurable Objectives. However, if URs are violated this triggers state intervention.
- viii. Alyson Watson (W&C) explained there is an area (identified by a red circle) on the slide with a high level of uncertainty for determining MTs. Some CASGEM wells are new, some do not have enough historical data to calibrate for the model. Alyson asks the group what are there issues in this area? Are you aware of areas where wells are not deep enough? Or have been dug deeper?
- ix. Comments from the SC group and public:
 - 1. Comment (MSGSA staff): The current status for the wells in the Trucked Water Program is uncertain. There are about six wells that did not have a solution for how to move forward at the end of the program. They are looking into what has happened in these cases.
 - 2. Comment (SC): Member is currently decommissioning a 300ft well, and is now punching through a 1000ft well.



3. Input from W&C: In looking at the distribution of the domestic well depths, the ones driving the issues are the 125ft depth wells.
 4. Alyson (W&C) asks the group: Are there a significant number of wells in this area that are dry or cannot access groundwater? And is this significant and unreasonable?
 5. Comment (SC): Member states in his area have had five wells that have gone dry and been replaced.
 6. Comment (SC): There are many folks who are helping their neighbors and connecting to their neighbors water sources. Some areas to consider for this are Planada and Le Grand.
 7. General response from SC group: Yes, there are wells that have gone dry. There are issues in the highlighted red area on the map.
 8. Alyson (W&C) asks group: Are these issues described significant and unreasonable?
 9. Comment (public): There could be a management area set up for this area. We could gather data now and get data from locals as we figure out who has gone dry and who is connected to their neighbors or Community Service Districts.
 10. Comment (SC): We could identify the data gaps and what we are doing in lead up to our five year plan update.
 11. Question: How flexible can this language be? Answer (W&C): We have seen flexibility with other basins. For example, with the use of a percentage of wells to indicate an URs. However, we need to be able to justify and make a case for why this is significant and unreasonable up to this point (or when this percentage of wells is reached). We have also seen exceptions for dry years from other basins.
 12. Alyson (W&C) explained that this area could be carved out as a management area. However, there will still be similar challenges. It is possible to say that more monitoring is needed. Some basins use a twice a year frequency, which is a potential minimum because SGMA requires consideration of seasonal variability.
 13. Comment (public): Some areas in the Subbasin will have potentially more, or easier, access to gravity flow source while other areas might require more pumping. This is something to consider in future planning and implementation.
 14. General understanding from SC group: This area needs to be addressed and identified as a gap area in the GSP. More investigation is required, which will likely need to take place during GSP implementation due to current time constraints.
 15. Alyson (W&C) suggested that the pathway forward is to still use the CASGEM wells, and to set thresholds for those that are appropriate (not all CASGEM wells would require setting MTs at this moment).
 16. Comment (MID): There is a need for more monitoring wells on the ground. Response (W&C): We expect to have a broader monitoring network than the subset of wells we are currently focusing on.
- x. Storage: Alyson (W&C) explained change in storage is about 0.3% per year. In terms of total water available, we do not anticipate significant and unreasonable URs occurring in the future. Therefore, no MTs are needed. Another approach is to take groundwater elevation (GWE) levels as a proxy and state that GWE levels are protective. A third



approach is to say URs do not occur until a reduction by 10MAF is reached, and then report on this over time. W&C has suggested not to set thresholds and to provide an explanation for this. We are still waiting to hear back from DWR on this approach.

- xi. Comment: Thinks that this approach might not be approved by DWR.
- xii. Comment: If the science is sound, this approach should be fine.
- xiii. Clarification (W&C): For each sustainability indicator, including storage, the basin has to determine if URs are not an issue.
- xiv. Seawater Intrusion: Alyson (W&C) explained that this indicator is not applicable for the Merced GSP, as it is not present and not likely to occur for the subbasin. Salinity is addressed as an MT under “Degraded Water Quality”.
- xv. Degraded Water Quality: Thresholds should be based on our actions, where groundwater extractions effect groundwater quality. Existing cleanup sites have been previously mapped, which can ensure that new recharge sites are not put in these places and potentially cause water quality issues (e.g. extension of plumes). Where contaminants are regulated under existing programs, communication will be established with these programs. It is not necessary to take responsibility for these contaminants when they are regulated under existing mechanisms and frameworks. However, the Merced GSP will be addressing salinity.
- xvi. Alyson (W&C) requested input from the group on proposed MTs for salinity. A current limit of 1000mg/L TDS is proposed for discussion. Does this sound reasonable? From a crop perspective is using this limit appropriate?
 1. Feedback from SC group:
 - a. Comment: For pistachio's this would be fine, but for peaches and almonds this could be an issue over a long time period.
 - b. Question (MID): How is this managed currently for almonds? Response (SC): In the western parts of the Subbasin they use blending to manage salinity levels.
 - c. Comment: Generally for 90% of the group this would not be a problem.
- xvii. Subsidence: Alyson (W&C) explained the current approach for subsidence. The approach has been to not measure land subsidence directly, but to measure using groundwater levels as a proxy for future subsidence.
- xviii. Comment: There is another basin who tried to use groundwater levels for all sustainability indicators, but have to change this after discussions with DWR. This basin also had more issues with subsidence than Merced Subbasin.
- xix. Question: Why not have prevention of further subsidence as a goal? Answer (W&C): We would not want to set this as a goal because even if pumping stopped, there would still be further subsidence from prior pumping.
- xx. Depletion of Interconnected Surface Water: URs, MTs for this indicator are challenging. What can be measured or estimated in the modeling is streamlosses. The greatest losses actually occur in wet years because there is a lot more water in the stream channel. There is also not a clear UR. The consulting team has tried to come up with a threshold that would keep within the historical range of depletions. We have taken out wet years, looked at historical losses, and considered the 5-year average within this range. The goal is to not exceed historical losses.



- xxi. Comment: Commentator is hesitant to bring in rivers with fisheries with major reservoirs into the analysis.
- c. Next Steps in GSP Development
 - i. Alyson Watson (W&C) reviewed the anticipated timeline and release of chapters for the Merced Subbasin GSP.
 - ii. Question: Where are the GSAs at with approving these parts? Answer (W&C): Major sections and particularly the water budget has been sent out to the GSA staff for review and comment as technical memos.
- d. Other Updates
 - i. No additional updates at this time.
- 3. Public Outreach Update
 - a. The next public workshop will take place May 29th at the Atwater Community Center. Notices and additional information will be posted on the Merced SGMA website.
- 4. Interbasin Coordination Update
 - a. For interbasin agreements, W&C team has been reaching out to Delta-Mendota and has been looking at Chowchilla and the Turlock agreements as models for potential agreement structure and content.
- 5. Public Comment on Items not on the Agenda
 - a. Comment provided: There is still some money available for disadvantaged communities through government funds. These should be taken advantage of.
 - b. Comment from SC member: It would be good for the SC group to receive an update of what occurred in the most recent CC meetings to stay up to date.
- 6. Next Steps and Next Meeting
 - a. Focus for May will be on Minimum Thresholds and Measurable Objectives and Implementation Planning.

Next Regular Meeting

May 29, 2019 at 9:30 a.m.

Castle Conference Center, 1900 Airdrome Entry, Atwater, CA

Information also available online at mercedsgma.org

Note: If you need disability-related modification or accommodation to participate in this meeting, please contact Merced County, Community and Economic Development staff at 209-385-7654 at least 48 hours prior to the start of the meeting.