

Sonoma Valley Groundwater Sustainability Agency

Advisory Committee Meeting

Meeting Summary

Date/time: Tuesday, September 8, 2020; 2:30 p.m. – 5:30 p.m.

Meeting Location: Zoom

Contact: Ann DuBay, Sonoma Valley Groundwater Sustainability Agency (GSA), Administrator

Email: AnnDubay@scwa.ca.gov | Phone: 707.524-8378

Next meeting: October 13, 2020, 3:00 p.m. – 5:30 p.m.

MEETING SUMMARY

Welcome, Introductions and Agenda Review

Tim Parker, Advisory Committee Facilitator, welcomed the group at 2:30 p.m. then Fred Allebach called the meeting to order and asked Ann DuBay to conduct roll call.

General Public Comment Period

None.

Agenda Review and 2020 Meeting Schedule Planning and Review

Tim Parker reviewed the agenda and meeting calendar and reminded the Advisory Committee members there are two remaining Advisory Committee meetings this year; the next meeting is October 13. We have 12 meetings after this one to complete the draft Plan.

Review Action Items and Approval of Previous Meeting Summary

Greg Carr made a motion to approve the previous meeting summary as drafted, seconded by Jane Whitsett. The July summary was approved by the Advisory Committee.

At the last meeting Fred Allebach requested an advance copy of the water budget.

- ✓ It was sent out last Friday.
- ✓ The June meeting summary was posted.

No public comments.

Sonoma Valley Groundwater Basin Water Budget

Objective: Review detailed water budget and discuss additional considerations and next steps.

Tim Parker introduced Andy Rich, Technical staff, who gave an outline of his presentation to cover general water budget components and SGMA requirements for the water budget, describe Sonoma Valley Integrated Groundwater Flow Model (SVIFM) covering simulation processes, the revised model, revised surface water and groundwater budgets, and projected water budget development.

There are three water budgets for the Groundwater Sustainability Plan:

1. Historical conditions
2. Current conditions
3. Projected conditions over the 50-year planning and implementation horizon

The Water budget must include:

- Inventory of all inflows (supply) and outflows (demand)
- Summary of both surface water and groundwater budgets
- Evaluation of changes of groundwater in storage
- Estimation of groundwater overdraft (if applicable)
- Estimation of sustainable yield

After the May Advisory Committee meeting the Technical Team performed model updates that affected the model calibration and model budgets.

SGMA requires we project groundwater conditions 50 years into the future. To do that, we need to incorporate projections of land use change, climate change, and other changes in groundwater demands (such as population increase). If undesirable results are simulated to occur, the GSP will need to plan for projects and management actions that respond to the undesirable results.

Questions/Comments

Carr (chat) – How does the model account for groundwater inflow from, or outflow to, other watersheds? One of the potential recharge areas for the deep aquifer was a geologic opening at the top of Sonoma Mountain. It appears recharge was coming from the Petaluma side and flow eastward. Is it something we need to accept as a variable assuming inflow and outflow are equal?

Rich – For all the watershed boundaries we assume a no flow boundary – no surface water discharge into the basin nor groundwater discharge from under the boundaries. If there was inflow coming in the watershed divide, the rates of inflow would be low.

Allebach (chat) – For mountain front recharge, will the model account for out-of-basin well clusters in wealthy foothold areas that may intercept potential recharge?

Rich – Yes, the way the model is set up, it accounts for the density of the wells in the depletion areas.

Allebach – I meant out of the basin proper, in the Arroyo Secco foothills. I can't tell from the model if they are in the model or how they would be accounted for in the model.

Rich – They do account for out of basin groundwater pumping in the sub areas by diminishing the amount of mountain front recharge that comes into the model.

Johnson (chat) – In the grey zones, if you are accounting for rural users, aren't there wells that the recharge would actually reach to or how do you decide how much of that water actually never makes it down to a wells depth?

Rich – The recharge into those sub areas will be supplying the deeper water that those wells are using.

Caitlin Cornwall (chat) – What does inadequate pumping capacity mean? That is, what parameter was inadequate?

Rich – The FMP is the package that estimates agricultural groundwater pumpage. It looks at each crop in each cell and it determines how much water will have to be supplied to the cell to satisfy

the evapotranspiration. It looks at the total amount of water needed to supply that evapotranspiration by the soil already. We didn't notice in Version 1 that some of the farms didn't have enough pumping capacity and had to add wells to the farms so they could pump more water. I can clarify in further detail offline.

Trotta (chat) – I think in general, the issue was that the Farm package was requiring a certain amount of pumping based on climate conditions in order to maintain needed irrigation, which exceeded the capacity of simulated wells which were originally used to simulate pumping in those areas. The model team needed to add additional wells to the model in order to capture this additional pumping which was not previously simulated. If I mischaracterized this at all or there are additional questions, Andy Rich and I can describe in a follow up to this meeting.

Carr (chat) – It's easier to think about the adjustment to calibrate the model to real conditions on the ground (I think).

Cornwall (chat) – Model v2 streamflow is consistently lower than real stream flow in April through July, worse fit than model v1.

Allebach (chat) – Does the model discriminate between surface and deep aquifer systems? The reason I ask is that natural recharge seems to go all to the surface aquifer system, but our basin depletion issues are in the deep aquifer water is older than the 50-year GSP time frame, so it looks like natural recharge will not go to the deep aquifer system for our purposes, for natural recharge.

Trotta (chat) – If you are asking whether the model simulates both the shallow and deep aquifer system the answer is yes. The model has multiple layers in the vertical dimension, which simulates both these principal aquifers in addition to confining units. The numbers that Andy Rich is presenting are for the entire basin (inclusive of the shallow and deep aquifer systems).

Allebach – Very good, thank you.

Jim Bundschu – Overland run off and surface water outflows – what is the difference?

Rich – Overland run off is rain that runs off cement. Surface water outflows – where Sonoma creek leaves the model sub area is the surface water outflows (which would also include the overland runoff).

Questions/Comments (about current and historical water budgets)

Carr – It sounded like the increased pumpage especially from the agricultural pumping adjustment was made because of pumping capacity. It is important to note the adjustment was made in pumping capacity was necessary to reflect the actual pumping on the ground. I can see there could be some debate about that input.

Cornwall – When you say you added wells to the model, what does it mean in real life?

Rich – The model looks at how much water the crops need in a small area, once calculated, it tries to pump water through the wells associated with that area.

Cornwall – So you know where the wells are, but you don't know how much they are pumping.

Rich – The model estimates the total pumping volume on the crop evapotranspiration.

Cornwall – We don't have the data from ag wells, are those models or real data?

Rich – Almost everything I presented except M&I models need to be estimated.

Cornwall – So you need to estimate the stream flow?

Rich – We use stream flow to calibrate the model but, it doesn't tell us stream flow discharge to streams. We can't use it directly as a model input.

Vicki Hill (sent question earlier) – How do you estimate rural domestic pumping?

Rich – We use the parcel database from the county and look at parcels that aren't served by water providers. Parcels that fall outside of those, we assume they pump groundwater enough to satisfy indoor and outdoor usage. There are domestic wells that fall in the water service provider areas; for those wells only, we assume they are using groundwater for outdoor water use because we assume indoor water use is provided from water service providers.

Hill – It is still not clear to me what is included in small water systems and public water systems, it needs clarification for the public.

Rich – Regarding small and public water systems, we are trying to use all the data we can in the model. When they report groundwater use, we use that data, small water systems are areas with more than 14 connections (including wineries, state parks, trailer parks, etc.)

Hill – How are we addressing the SDC site? Are we assuming it has its own water system and we don't have to worry about it? What about the whole projections for rural residential parcels for future growth? Accessory dwellings on rural residential parcels double the density, how will all the above be factored into the projections?

Trotta – We have an update on the workgroups that are working on some of the future projections. We plan to cover this at the next Advisory Committee meeting.

Hill – Fine, thank you, happy to cover it at the next meeting.

Allebach – In terms of accounting for rural residential groundwater use, I hope the GSA will use satellite information as proxy. As demographics change with COVID and wealthy folks are coming into the area, water use could go up in the future even if the population doesn't grow.

Rich – We account for outdoor water use in current and historical model but parcel size differences and wealth of owner is difficult to incorporate.

Allebach – Keep an eye on calibrating that with aerial views.

Rich – There are some remote monitoring techniques. We will keep an eye out for other methods for the future budget to incorporate more detail.

Climate Change Futures

Marcus Trotta provided the review process and assumptions for selecting appropriate future climate models for developing the Groundwater Sustainability Plan groundwater models. He described differences between two emissions scenarios and how they may affect the development of the GSP modelling. Trotta said he would like to get feedback from Advisory Committee on the two potential emission scenarios to move forward on the groundwater modeling for future water budgets.

Andy Rich walked through the modeling approach and options for the emissions scenarios. He covered the two steps to choose the future climate for the subbasin: 1) choose General Circulation Model (GCM) with specific Greenhouse Gas Emission scenario (done); then 2) choose the representative concentration pathway. The Modeling team chose one emission scenario that best represents projected median conditions for Russian River watershed and Sonoma County basins. They recommend HadGEM2-ES for use in all three Groundwater Sustainability Plans. With HadGEM-ES, staff compared two scenarios used by DWR – RCP 4.5 (more optimistic) and 8.5 (more pessimistic) using the Santa Rosa Plain hydrologic model.

Johnson (chat) – By saying “middle” are you meaning a probability distribution mean?

Allebach (chat) – The HadGEM2-ES GCM (“middle” but warm/dry option) seems like a reasonable choice by staff. I made written comments and stated a preference to staff for the 8.5 RCP emissions scenario. I would be happy to share that with Advisory Committee members.

Ann DuBay – We will post Fred Allebach’s comments on the website, so everyone has access (after making it ADA accessible).

Allebach – I am not convinced we won’t end up in the worst-case scenario. By when do we have to decide this?

Allebach – We are a high priority basin. Lisa Porta said all three basins had to have the same Representative Concentration Pathway, is this true? We aren’t all the same. I would prefer 8.5.

Rich/Trotta – Our preference is to have all the same (for consistency within the county, cost, timing/scheduling reasons, etc.). However, if the GSA Boards direct the use of different RCPs, we could apply different RCPs in the basins.

Allebach (chat) – Why not run the Sonoma Valley Basin for us, we aren’t in the Santa Rosa Plain basin (referring to examples from SRP).

Rich – For conducting this example scenario showing the differences between 4.5 and 8.5, the SRP model is built such that it is easier to perform the extra simulations, the Sonoma Valley model would require swapping out many files and be a more labor and time-intensive process.

Bundschu – I think it will take us about five years to get to a path of groundwater sustainability. I don’t agree with going with such a pessimistic outlook if we can change it as we go along.

Carr – Seems there is some value in running both scenarios and seeing implications of the two scenarios. After seeing the implications, we can decide which way to go. I lean towards 8.5 but hear Jim Bundschu’s perspective and the possibility to revisit in five years is meaningful. I would prefer using both.

Taylor Serres – I completely agree with Jim Bundschu.

Jane Whitsett – Going forward with RCP, we should know how well it is working after five years. Then we can change to 8.5 if needed.

Hill – I am OK with either RCP.

Johnson – I haven’t heard anything uplifting, I don’t think society has their hands on this, I prefer 8.5. I am OK with either as well knowing we will revisit in the future.

Allebach – I appreciate what others are saying. I think the five-year timeframe is going to give some leeway. Why not 6.5?

Cornwall – I am in favor of using 8.5. Things to think about, how long are we stuck with one if we choose one? Given climate changes and trying to manage resources, using a hotter future makes sense.

Rich – We have 5-year updates. We will review data during those periods and make changes if needed.

Allebach – Then we wait for the five-year milestone to run another RCP?

Roger Peters – It would be good to know what other GSAs are modeling. Given the length of time to actual implementation, I would start with caution and then go to more relaxed option if good news is warranted.

Peters – What have you heard from your consultants? Have they heard of anyone using more than one model?

Rich – I haven't heard of anyone using two models.

Trotta – DWR has developed different models for our region. We are relying heavily on the more local data. DWR gives the option to use their downscale futures or locally derived futures.

POLL for 8.5 - Total 4

Carr, Allebach, Cornwall, Gilroy

POLL for 4.5 - Total 5

Carr, Whitsett, Taylor, Stornetta, Bundschu

EITHER MODEL OK

Johnson, Wolf, Hill

NOTE: Greg Carr expressed that he wants both the 4.5 and 8.5 emissions models

Introduction to Water Quality Degradation Sustainable Management Criteria

Objective: Review initial water quality SMC and discuss additional considerations and next steps

Marcus Trotta covered background information, data availability, and considerations and recommendations. The packet includes a document on recommendations for this Sustainability Management Criteria; it is one of the more complicated SMCs. Of note, GSAs are not responsible for enforcing existing water quality standards or collecting data to support existing water quality programs, however, they are responsible for avoiding “significant and unreasonable” degradation of water quality in their basins.

The seven steps for development (recommendations *italicized* in brackets) of Sustainable Management Criteria for Water Quality are:

1. Define level of groundwater quality management and coordination (*Propose “do no harm” approach*).
2. Determine type of metric to use. (*Propose “number of affected supply wells”*).
3. Determine and identify beneficial users. (*Propose drinking water users and agricultural users*).
4. Define Constituents of Concern (COC) for identified beneficial users. (*Propose Arsenic, Boron, Nitrate, salts be categorized as Constituents of Concern*).
5. Determine the limits and concentrations for each COC and category of beneficial user. (*For drinking water, recommend using MCLs and SMCLs and crop toxicity thresholds for irrigation*).
6. Identify existing water quality monitoring programs that can be used for setting SMCs. (*Propose to identify sets of supply wells that are currently monitored for various groundwater constituents and supply uses such as drinking water and irrigation water*).
7. Establish SMC.

Questions/Comments Advisory Committee

Allebach (chat) – Why not a representative set of domestic wells too?

Carr (chat) – Would we add monitoring points specifically targeted for water quality parameters?

Hill (chat) – Would wildlife/habitats be considered a beneficial use?

Cornwall (chat) – I am not aware of groundwater quality affecting wildlife. Could be wrong. If there are groundwater problems known to affect more than a few domestic wells, then it seems we need to add domestic wells to the definition of “supply wells” that are monitored.

Allebach (chat) – Is lack of GSP action an action. too?

Whitsett (chat) – Please clarify “salts” for SMC application.

Trotta – Salts would include TDS (Total Dissolved Solids), primarily. We are also looking at chloride for seawater intrusion.

Allebach (chat) – Lots of domestic wells on the east side fault with arsenic and boron, like mine.

Whitsett (chat) – I believe boron is a naturally occurring element. How can GSP address levels >700 ug/L?

Cornwall (chat) – In draft SMC, I suggest we insert “directly or indirectly” before “*cause* an increase in the concentrations”.

Hill (chat) – I like Caitlin Cornwall’s suggestion – that would address lack of action.

Johnson (chat) – I agree.

Cornwall – I am a little concerned about the lack of tracking domestic wells so they could be part of this. Well water quality could worsen, and we wouldn’t even know. Where else in the GSA can we put domestic wells as part of the monitoring network?

Trotta – The other place for promoting future monitoring of domestic wells would be in the implementation plan. In addition, Projects and Actions would need to prioritize data gaps, etc.

Cornwall – But even if they were added as part of the monitoring metric, we would still need to do something to get them added to this Sustainable Management Criteria.

Allebach – Representative Point Monitoring supply wells should be around 8th street east, up and down, to catch the domestic wells that have more arsenic, in this east side fault area.

Carr – It does seem to me that we should be looking at adding some monitoring wells, domestic or public, in areas with higher levels of constituents of concern. I am wondering how we reconcile the difference with this approach and the seawater intrusion SMC.

Trotta – We are planning to come back with a draft GSP section for Water Quality SMC that will include a map with the location of wells and compare the data; we are still working on for the next meeting.

Carr – There will be some sort of cross referencing of the two SMCs to make sure one doesn’t conflict with the other?

Trotta – Yes, it is a requirement of SGMA.

Marcus Trotta asked that the Advisory Committee review the slides and document in the packet and provide and additional comments to staff by September 22.

No public comment.

Introduction to Projects and Management Actions

Objective: Review approach to projects and management actions and discuss additional considerations and next steps

Because of time constraints, this topic was put on hold until the next meeting.

Updates

Objective: Provide relevant updates that inform the Advisory Committee and for AC to ask questions if needed.

Ann DuBay – The Board met in July. Thank you to Ken Johnson and Fred Allebach for attending. Because of budget hearings, Susan Gorin and David Rabbitt, nor their alternates, were able to attend. Some questions were raised about the error rate with InSAR; the Board decided not to take action and considered it as an information update. We are bringing a couple of outstanding questions back to you for discussion.

Trotta – Tim Parker sent an email to the Advisory Committee about four weeks ago; it laid out options and adjustments we want to bring to the Board. For land subsidence – asked for input and received clarity and helped folks be more comfortable with the approach. Had discussions with the Dept. of Water Resources about both the SMCs. Included options for the size of the area. We took these recommendations to the Petaluma Valley AC and Board, and there was almost unanimous agreement for 50 acres.

Tim Parker conducted a poll on Land Subsidence minimum sized area , and Seawater Intrusion Measurable Objective. Six of the AC members had previously responded, three provided their input at the AC meeting, and three did not respond. Results are summarized in the table below.

| Requested Input on Land Subsidence UR | |
|---|---|
| (A) What is your recommendation for minimum-sized area over which subsidence occurs that would lead to an Undesirable Result? | |
| 1. 2.5 acres (1 InSAR pixel) | 4 |
| 2. 25-contiguous acres (10 InSAR pixels) | 2 |
| 3. 50-contiguous acres (20 InSAR pixels) | 1 |
| 4. Other (please specify)>50 contiguous acres | 2 |
| Requested Input on Seawater Intrusion Measurable Objective | |
| (B) What is your recommendation for the initial measurable objective? | |
| 1. Same location and same concentration as MT (eg, 250 mg/l inland of baseline isocontour) | 3 |
| 2. Same location and concentration as 250 mg/l baseline isocontour (eg, maintain existing line where it is) | 4 |
| 3. Same location and lower concentration as MT (eg, 150 mg/l) | |
| 4. Other - Flexible with all three | 1 |

No Public Comment.

Review Action Items and ask for any Closing Comments

Tim Parker thanked everyone for attending and for their comments.

- We will post Fred Allebach's comments on RCP 4.5 and 8.5 online once made accessible.
- The Advisory Committee to review land subsidence and send feedback to staff by September 22nd.
- Consider Caitlin Cornwall's suggestion to insert in draft SMC, "directly or indirectly" before "cause" by September 22nd.
- Post July meeting summary without changes.

Carr – I wonder about the status of the Permit Sonoma effort to modify the well application form and procedures (for which we received the grant). My second question is if the current well monitoring program in the valley based on the existing groundwater plan is being carried out. I wonder about the status of that.

Parker – We will follow up on that and include responses in an email to the Advisory Committee.

The meeting adjourned at 5:32 pm.

Attendees:

Advisory Committee Members (present)

Fred Allebach
Greg Carr
Jane Whitsett
Jim Bundschu
Kenneth Johnson – joined a few minutes late
Norman Gilroy – joined late
Steve Wolf
Vicki Hill
Caitlin Cornwall
Matt Stornetta – joined a few minutes late
Taylor Serres

Advisory Committee Members (absent)

Craig Lichty

Staff/Presenters

Ann DuBay, Sonoma Valley GSA Administrator
Jay Jasperse, Plan Manager
Marcus Trotta, Sonoma Water, Technical Staff
Andy Rich, Sonoma Water, Technical Staff
Simone Peters, GSA Administrative Aide, (recorder of meeting notes)

Facilitator

Tim Parker

Other Attendees

Roger Peters