SANTA CRUZ MID-COUNTY GROUNDWATER AGENCY

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Meeting Summary

Santa Cruz Mid-County Groundwater Sustainability Planning (GSP) Advisory Committee Meeting #10

August 22, 2018, 5:00 – 8:30 pm

This meeting was the tenth convening of the Groundwater Sustainability Planning (GSP) Advisory Committee. It took place on August 22, 2018 from 5:00-8:30 p.m. at the Simpkins Family Swim Center in Santa Cruz. This document summarizes key outcomes from Advisory Committee and staff discussions on the following topics: project updates; initial presentation on the role of groundwater modeling, describing the Santa Cruz Mid-County Basin model; groundwater model predictive simulations and relevant Committee questions and feedback on additional questions the model needs to address; and Committee review of draft Sustainable Management Criteria proposals for Subsidence and Groundwater Quality. It also provides an overview of public comment received. It is not intended to serve as a detailed transcript of the meeting.

Meeting Objectives

The primary objectives for the meeting were to:

- Build Advisory Committee familiarity with and understanding of:
  - the role of groundwater modeling in the GSP;
  - the use of groundwater models to explain complex local hydrogeology;
  - model data input, assumptions, and calibration;
  - assumptions used in predictive modeling;
  - predictive model scenarios developed to date and what is still to be modeled; and
  - the types of model results and how they will be used to evaluate Sustainable Management Criteria.
- Provide Advisory Committee input on questions to address through the groundwater model.

Action Items

Key action items from the meeting include the following:

- Ms. Darcy Pruitt to re-distribute the draft Seawater Intrusion management criteria proposal to the Committee members for their review.

- Regional Water Management Foundation (RWMF) to post the draft model data calibration report on the Mid-County Groundwater Agency (MGA) website once submitted to the MGA Board.
- Committee members to propose additional scenarios/questions to be incorporated into the groundwater modeling, and share with Ms. Pruitt.
- Committee members to review the Seawater Intrusion management criteria proposal by the end of August.
- Committee members to review the Subsidence and Groundwater Quality management criteria proposals by the September 26 Committee meeting.
  - Committee members to consider role of the MGA Board in addressing Groundwater Quality regulations and oversight already provided by state agencies).
- Kearns & West (K&W) to make edits to the June 27 and July 19 meeting summaries as directed by the Committee and forward to RWMF/MGA.
- Executive Team to forward June and July meeting summaries to the MGA Board for consideration.
- K&W to prepare meeting summary for August 22 Advisory Committee meeting.
- Ms. Georgina King to provide Committee members with a spreadsheet containing the underlying data representing the cumulative change in groundwater in storage for the entire Basin.
  - Also, provide members with a simplified version of data.

Meeting attendance

Committee members in attendance included:

1. Kate Anderton, Environmental Representative
2. John Bargetto, Agricultural Representative
3. David Baskin, City of Santa Cruz
4. Rich Casale, Small Water System Management
5. Keith Gudger, At-Large Representative
6. Dana Katofsky McCarthy, Water Utility Rate Payer
7. Jonathan Lear, At-Large Representative
8. Charlie Rous, At-Large Representative
9. Allyson Violante, County of Santa Cruz
10. Thomas Wyner for Cabrillo College, Institutional Representative

Committee members who were absent included:

1. Bruce Jaffe, Soquel Creek Water District
2. Jon Kennedy, Private Well Representative
3. Douglas P. Ley, Business Representative
4. Marco Romanini, Central Water District

Meeting Key Outcomes (linked to agenda items)

1. Introduction and Discussion of GSP Process Timeline and Project Updates

Ralph Bracamonte, Central Water District, opened the meeting and welcomed participants. Mr. Bracamonte asked the GSP Advisory Committee members, Santa Cruz Mid-County Groundwater Agency (MGA) Executive Team, and the consultant support team around the room to introduce themselves. He also addressed members of the public in attendance and asked them for self-introductions.

Eric Poncelet, Facilitator, reviewed the agenda, meeting objectives, and the updated GSP process timeline, and asked staff to provide the following project updates:

- **Advisory Committee Field Trip**
  Darcy Pruitt, RWMF, gave a brief update on the field trip and requested that the Committee members hold open both October 23rd and 24th from 9:00 AM to 1:00 PM. Ms. Pruitt indicated that she will confirm the date and details with the Committee in short order.

- **December 2018 Advisory Committee Meeting**
  Ms. Pruitt confirmed that the December 2018 Advisory Committee Meeting has been rescheduled from its original date, December 26, 2018 to December 12, 2018, due to the holiday schedule.

2. Oral Communications (for items *not* on the agenda)

Members of the public provided comments on non-agenda items during this session.

One speaker asked whether the field trip is open to the public. The same speaker also requested that Advisory Committee members review the written communication she submitted in advance of the meeting, encouraging the Committee members to invite Dr. Andrew Fisher to a future meeting to speak on the topic of groundwater recharge. Further, the speaker encouraged Committee members to use a water transfer model that limits restrictions on stream diversions, that reduces groundwater pumping, and transfers water from outside of the Basin. Finally, the speaker reminded the Committee and other members of the public that the public comment period for Pure Water Soquel ended on August 13 and that an extension was requested, but denied.

3. Role of Groundwater Modeling and Description of the Mid-County Model

Georgina King, Montgomery & Associates, presented on: the role of groundwater modeling in Basin management as well as for the groundwater sustainability plan (GSP), how it works in calculating water budgets and predicting change in storage, and using model data inputs and outputs and calibrations as

predictors. Ms. King emphasized that modeling is a critical tool for making better management decisions for the Basin, which can be complex and constantly changing.

Following Ms. King's presentation, Committee members and staff discussed clarifying questions on the following topics:

- Participants discussed the role of return flow from irrigation in modeling groundwater levels, considering the many other variables. The key takeaway from this discussion is that return flow from irrigation does not result in a total loss of water.
- Participants discussed whether horizontal and vertical hydraulic conductivity figures are informed by geology and whether the model modifications due to the geology in various locations turned up any unexpected results other than the fault leakage that Ms. King discussed in her presentation.
- The surface water flow component is complex, and staff is working on how best to characterize and understand stream/groundwater interactions better.
- What is the margin of error for the model and the risks involved in using models to develop management decisions in groundwater sustainability planning? Staff noted that there is a section in the Department of Water Resources' (DWR) GSP guidelines dedicated to the issue of uncertainty. The final GSP can address risk by explaining the application of an iterative process to adaptively address likely scenarios in a range of management actions, and by doing all this with the consideration of best available information at a given point in time.
- Isotope studies may help identify sources of water and linkages between injections and extractions with flows, and the model can be adapted to reflect these linkages.
- The groundwater flow model is a predictive model and therefore does not model pumping in other areas (e.g., Pajaro Valley). However, the model does extend into the Pajaro Valley and thus can take some factors into account. Staff noted that Pajaro Valley is an area that needs to be addressed in collaboration with Pajaro Valley Water Management Agency (PV Water); there is regular communication amongst the MGA member agency managers and PV Water.
- Committee members asked staff about their level of confidence in the model. Staff members responded that, given the level of expertise of the staff members and Technical Advisory Team members working on the model and its use of modeling standards, they have a relatively high level of confidence with the groundwater flow model.

Members of the public had the opportunity at the end of this session to ask questions regarding the role of the groundwater model. Their questions and staff responses are summarized below:

- A member of the public asked whether the groundwater model is available on the MGA website.

  - Ms. King explained that the model is still under MGA review and is not yet available to the public.
- Another member of the public asked how the groundwater model represents lower levels of the aquifer and whether it can show sea level interactions. Further, the participant asked whether SkyTem data is being used in the model.
  - Ms. King indicated that groundwater flows only go (one way) out to the sea, and those areas that have been intruded by seawater will be represented by denser seawater indicators. Ms. King explained that although inflow data tie in well with SkyTem data, the model uses only well data for calibration at this point.
- A member of the public asked whether the groundwater flow model and calibration methods are acceptable with DWR and whether DWR has suggested specific types of model or information to use. Further, the participant asked whether DWR is looking at other GSP development processes for other examples of models being used.
  - Ms. King said that DWR will only review the model report that will be included as a section in the GSP and that the modeling software is industry standard and is universally accepted. Ms. King noted that in some cases, DWR is providing the model to use.
  - Ron Duncan, Soquel Creek Water District, emphasized that the groundwater flow model is a premier model developed by USGS and is used internationally.
  - Ben Gooding, DWR, indicated that DWR will be conducted its review upon submittal of the GSP, at that time it, could request supporting documentation and data in the course of DWR's review of the GSP.
  - Rosemary Menard, City of Santa Cruz, confirmed that those working on the models are very actively engaged with DWR throughout the GSP process, and this working relationship is the conduit through which DWR receives modeling-related information.
  - In 2016, DWR issued Best Management Practice (BMP) guidance document on the use and development of groundwater and surface water models and MGA's approach is in line with the BMPs.
- A participant asked for the frequency at which the model is updated and whether there is a percentage level for the uncertainty factor.
  - Ms. King indicated that DWR requires that the model be updated every five (5) years and that decision on the frequency of future updates lies with the MGA. With respect to the percentage level of uncertainty of the model, Ms. King explained that it is within industry standard; this is also explained in the calibration report. This draft report is currently being vetted with the technical advisory committee and will be available on the MGA website in the next couple of months.

4. Public Comment

During this segment, Mr. Poncelet invited members of the public to comment on the Committee's discussions on the role of groundwater modeling and the Mid-County groundwater model, and any other Advisory Committee work.

One participant requested that the PowerPoint slides be numbered for reference ease. Staff noted this request.

5. Groundwater Model Predictive Simulations

In this segment of the meeting, Ms. King presented on the assumptions used in groundwater model predictive simulations--including assumptions on climate change, sea level rise, groundwater demand, and projects and management actions--and the types of results from such predictive simulations--including water budget, groundwater levels, and groundwater travel time. Throughout her presentation, Ms. King described key items currently planned for analysis, including:

1. Existing conditions to model baseline conditions (current demand and climate change scenarios from Urban Water Management Plans) as a starting point for comparisons.
2. Reduction of municipal pumping to evaluate impacts on basin-wide groundwater levels.
3. Basin replenishment through injection with a 20-year project horizon (Soquel Creek Water District's Pure Water Soquel, Groundwater Replenishment and Seawater Intrusion Prevention Project) currently in the Environmental Impact Report (EIR) review phase.
4. Aquifer Storage and Recovery feasibility (City of Santa Cruz project feasibility).
5. Changes in non-municipal pumping and return flow assumptions to test for basin impacts (to understand influence of private pumping on groundwater levels and streamflow).
6. Modification of municipal pumping to understand influence on streamflow.

Following her presentation, Ms. King addressed Committee member clarifying questions and provided them with the opportunity to give input on additional questions they would like addressed by the model. Below are key additional questions that the Committee members shared during this discussion:

- Population impacts on future basin water use (demand forecasting and basin recovery).
- In-lieu recharge sensitivity analysis (location and timing of decreased pumping) for basin recovery (related to items 2, 3, 4 & 6 above).
- Injection analysis (location and timing) for basin recovery (related to items 3 & 4 above).
- Sea level rise impacts on basin recovery.

Additionally, a few Committee members requested that staff provide them with a spreadsheet containing the underlying data representing the cumulative change in groundwater in storage for the entire Basin, as well as a simplified version containing only the sums of the data.

6. Public Comment

During this last public comment session, Mr. Poncelet invited members of the public to focus comments on the Committee's recent discussions on the groundwater model or on any other Advisory Committee work.

A participant asked for more details on the City of Santa Cruz Aquifer Storage and Recovery project and whether the project considers modeling at various pumping levels. Further, the participant asked what pumping level would be needed for the Basin to replenish its own water supply.

- Ms. Menard responded that the City is currently projecting pumping at a level of 160 million gallons, and up to 210 million gallons in a drought period, and is not contemplating expanding on these numbers. Ms. Menard noted that the pilot test injection in the Beltz 12 area would provide a better sense of losses and operational needs.

7. Confirm Various Project Documents

- **June 27, 2018 Advisory Committee Meeting Summary**

  The Advisory Committee did not have any edits or comments on the draft June 27, 2018 Advisory Committee meeting summary. Mr. Poncelet confirmed it for submission to the MGA Board.

- **July 19, 2018 Advisory Committee Meeting Summary**
  The Committee members requested that the MGA Board participants be listed on this summary and noted a small edit to a presenter's name. Mr. Poncelet confirmed that this summary will be submitted to the MGA Board once these edits have been incorporated.

- **Draft Sustainable Management Criteria Proposals for Subsidence and Groundwater Quality**

  Staff distributed draft sustainable management criteria proposals for both Subsidence and Groundwater Quality and invited Committee members to review them and provide feedback to Ms. Pruitt by the September 26th Advisory Committee meeting. Staff also requested that the Committee review the Seawater Intrusion Minimum Threshold proposal (distributed at the May 23, 2018 meeting) by the end of August. Ms. Pruitt will resend the Seawater Intrusion Minimum Threshold proposal to the Committee.

Ms. King also asked the Committee to consider the role of the MGA Board related to Water Quality regulations, which are already established and implemented by the State and Regional Water Quality Control Boards. She explained that this topic is relevant now as the MGA is in the beginning stages of discussing its authority related to water quality regulations under the Sustainable Groundwater Management Act (SGMA).

8. Next Steps

In closing, Mr. Poncelet provided an overview of the GSP process timeline from September through December 2018. Executive Team members closed the meeting by thanking the attendees for their participation.