

SUMMARY | Mid-County Groundwater Stakeholder Meeting

June 30, 2015, Soquel, CA

Background and Action Items

The Mid-County Groundwater Stakeholder Meetings support community discussions among private well owners and other community stakeholders within the Soquel-Aptos Groundwater Management Area. The County of Santa Cruz (County), Soquel Creek Water District (SqCWD), and the Central Water District (CWD) have sponsored a series of these meetings since May 2014, covering a broad spectrum of issues such as groundwater studies, groundwater management, and the Sustainable Groundwater Management Act (SGMA).

The objectives for this particular meeting were to:

- Update attendees and answer questions on:
 - Drought response, State-mandated water restrictions and what these mean locally to private well pumpers and small water systems;
 - The Sustainable Groundwater Management Act of 2014 and progress in forming a Groundwater Sustainability Agency for the Mid-County area; and
 - Progress in developing a hydrologic model for the Soquel-Aptos Groundwater Basin;
- Invite feedback on how to involve stakeholders in development of the Groundwater Sustainability Plan; and
- Learn about participant values that will inform a Groundwater Sustainability Plan.

Presenters' slides are included as Appendix A, and a handout on SGMA requirements and conservation tips can be found at Appendix B. A map of the Soquel-Aptos groundwater basin can be found at Appendix C, and a chart presenting relative consumptive use can be found at Appendix D.

1. Welcoming Remarks

John Ricker, Santa Cruz County Water Resources Division Director, welcomed attendees, explained the above meeting objectives, and provided context. He said much of the past groundwater management efforts in the Mid-County area operated under the Basin Implementation Group (BIG) as a partnership between SqCWD, CWD, the City of Santa Cruz and the County. The BIG is now transitioning into the Soquel-Aptos Groundwater Management Committee (S-AGMC). The S-AGMC consists of three private well-owners and representatives of SqCWD, CWD, the City of Santa Cruz, and the County.

2. Key Updates

Drought

Mr. Ricker provided an update on the drought and its effect on Mid-County groundwater levels. He said the continued drought provided virtually no recharge to the groundwater in 2014 and 2015; however, groundwater levels recovered slightly in the coastal area. This is partly due to a 25% reduction in groundwater pumping in the SqWCD area. The groundwater levels inland are still lower than previous years that had higher rainfall. Streamflow and water quality continue to decline, Mid-County will still have overdraft issues once the drought ends, and many experts predict more severe droughts in the future. Therefore, Mid-County needs to proactively plan for future droughts.

Mr. Ricker reviewed several of the conservation efforts and water use restrictions set in place by State agencies and the County. He also noted available assistance from the County, including groundwater level measurements, technical assistance, and water waste enforcement. He recommended interested parties contact Sierra Ryan (813-454-3133) for additional information regarding County assistance.

Questions – Drought

Attendees asked the following clarifying questions:

- What areas are considered as “inland?”
 - County Response: No defined boundary exists between inland and coastal areas. Generally, inland areas are locations where the groundwater is well above sea level.
- How did groundwater levels recover if no recharge occurred in 2014-15?
 - County Response: The groundwater recovered only slightly near the coastal areas (approximately 2-3 feet in height), because the groundwater from the inland areas moves downslope towards the coast. This movement takes years; therefore the groundwater level increase near the coast is due to rainfall from years prior to 2014.
- If the groundwater moves downslope towards the coast, then the coastal community benefits from the groundwater lost uphill?
 - County Response: That is true to some extent. Overall, groundwater users pump water out as it moves towards the ocean; the challenge is to ensure sufficient groundwater supply to support that movement.
- Do the water use restrictions apply to private well owners?
 - County Response: Yes. County Code Section 7.69 sets restrictions to achieve efficient water use that are applicable throughout the county, including to private well owners.
- What does the County’s technical assistance entail?
 - County Response: The County provides advice for conserving water. SqCWD also provides that service.

- The groundwater level contours are based on how many wells?
 - SqCWD Response: SqCWD has 80 monitoring wells.
 - County Response: The County monitors 20 to 30 wells in the inland areas. Additionally, if a well owner asks the County to measure his/her groundwater level, we add that information to our monitoring data.
- What is the southern boundary for the County's groundwater level monitoring?
 - County Response: The southern boundary is near La Selva Beach.
- Will the State adopt additional well restrictions?
 - County Response: The State will likely pass additional restrictions on water use practices avoid wasting water. SGMA requires certain actions. Meters on larger wells may be required, but SGMA exempts de minimis users (i.e., those who pump less than 2 acre feet of groundwater per year).

Sea Water Intrusion

Ron Duncan, Soquel Creek Water District Interim General Manager, presented an update on sea water intrusion in the area due to over-pumping of the Soquel-Aptos aquifer. He emphasized the need to prevent sea water intrusion as an essential component of long term groundwater sustainability. He reviewed the causes and stages of sea water intrusion and presented examples of sea water intrusion in other areas worldwide and locally. Once sea water intrusion occurs, the impacts are dramatic and nearly impossible to reverse quickly. He indicated where sea water intrusion was detected in monitoring wells in 2011, and the possible risk for sea water intrusion in the Soquel area. He also provided an update on development of the groundwater model currently under development, which will help local experts make better predictions to prevent sea water intrusion.

Questions – Sea Water Intrusion

Attendees asked the following clarifying questions and comments:

- Does agriculture-related intense groundwater pumping contribute to sea water intrusion?
 - SqWCD Response: Yes, it does, as would any other type of intense groundwater use.
 - Comment: Areas of sea water intrusion appear to correlate with major agriculture areas.
- The groundwater levels near New Brighton Beach have remained constantly low since 1980; why would hydrologists predict sea water intrusion as imminent?
 - SqWCD Response: If the groundwater levels are below sea level, sea water intrusion will occur. However, we do not know on what timescale.

- Why does the presentation show wells in both the Purisima aquifer and Aromas Red Sands aquifer if the two have very different groundwater composition and pumping intensity? Sea water intrusion in the Aromas aquifer does not mean that Soquel will have sea water intrusion.
 - SqWCD Response: SqWCD oversees groundwater in both the Purisima and Aromas Red Sands aquifers. The proposed Soquel-Aptos Groundwater Basin boundaries in compliance with SGMA regulations will incorporate both aquifers.
 - Comment: The aquifers also overlap along the general boundary - a well may be in the Purisima aquifer region at the surface, but it pumps water from the Aromas aquifer below.
- Once sea water intrusion occurs, is it reversible?
 - SqWCD Response: It is very difficult to reverse sea water intrusion. It can take upwards of a hundred years to remove the salt.
- What do hydrologists envision as sustainable water use, and is that livable?
 - SqWCD Response: Our hydrologist estimated that residents in the SqWCD area would need to reduce pumping by 30% of 2013 water usage. However, variables such as climate change may exacerbate those estimates. Since our customers have reduced by 25%, we would only need to decrease by another 5% to achieve the 30% reduction. That said, past trends indicate that voluntary conservation efforts tend to be temporary – i.e., once significant rainfall returns, people tend to ease up on water conservation.
- Can SqWCD move wells further from the coastline to avoid well contamination?
 - SqWCD Response: We have done that for several wells.
 - Comment: Moving wells is only a temporary strategy.

3. Thinking Ahead About a Groundwater Sustainability Plan: Seeking Your Views

Brief refresher on basin management requirements under SGMA

Mr. Ricker provided a general overview of the SGMA basin management requirements. SGMA requires formation of a Groundwater Sustainability Agency (GSA) and Groundwater Sustainability Plan (GSP). The S-AGMC (previously BIG) is not currently the GSA, but it could potentially evolve into the basin's GSA. SGMA requires GSA formation by June 2017 and GSP development by 2020 or 2022 (depending on whether DWR designates the basin as in "critical overdraft").

The GSA must develop and implement a GSP to prevent various undesirable effects such as water quality degradation (e.g., sea water intrusion). The overall goal is that the basin achieves sustainability 20 years after GSP adoption. Mr. Ricker said that SGMA grants GSAs several authorities such as monitoring groundwater extraction, managing groundwater extraction, and imposing management fees. SGMA also requires stakeholder engagement and coordination

with land use agencies regarding land use plans. The State can provide funding and technical assistance (e.g., via Prop 1 funds) to help implement the GSP.

Mr. Ricker explained that SGMA tasked the California Department of Water Resources (DWR) with overseeing GSA and GSP development and implementation. In January 2016, DWR will adopt criteria for modifying the basin boundaries, and Mr. Ricker said the S-AGMC will submit a request for basin boundary modifications that it believes more accurately reflects the hydrogeologic morphology of the basin. Mr. Ricker said he believes the basin's groundwater management work is well ahead of the SGMA target dates due to the BIG/S-AGMC efforts.

Questions - SGMA requirements

Attendees asked the following clarifying questions:

- Why do the proposed basin boundaries exclude the area near the summit?
 - County Response: The area near the summit differs geologically from the area further downhill. The hydrogeological monitoring does extend to the summit, but the focal management area lies within the Purisima and Aromas formations.
- What is the definition for high or medium priority basins and critical overdraft? This basin is designated as what priority and level of overdraft?
 - County Response: DWR already designated which basins are high or medium priority basins: Soquel Valley is “high” and Purisima is “medium.” Neither are considered as in critical overdraft. (Pajaro Valley is designated as in critical overdraft.) If DWR accepts the proposed basin boundary modifications, DWR will re-examine the basin for risk of critical overdraft. However, DWR has not clearly defined the distinction between “overdraft” and “critical overdraft.”
- What is the State's perspective regarding what groundwater management needs to occur?
 - County Response: SGMA outlines the general criteria. DWR is currently developing the specific requirements for GSPs.

Facilitated plenary discussion

Dr. Marci DuPraw, Managing Senior Facilitator and Mediator with California State University Sacramento's Center for Collaborative Policy (CCP), asked attendees for their input on several questions regarding possible groundwater management strategies, related cost allocation considerations, and information needs. See Appendix E for the list of discussion questions.

Attendees raised the following questions, issues, and suggestions:

Recycled/Reclaimed Water and Water Storage

- Proactively develop/enhance the recycled water and water storage infrastructure (e.g., provide secondary treatment water for landscaping and golf courses).
- Store reclaimed water in abandoned wells near the coast to help combat sea water intrusion.
- Start preparing now for water capture and storage in case the upcoming years bring El Nino conditions.

- Consider actively injecting water into the aquifer to increase groundwater storage faster.
- Consider recapturing water that is used to clean out domestic water service lines.

Sources for water

- Consider other sources of water besides rainfall, recycled water, and groundwater.
- Question: Which agency would negotiate water transfers for the basin?
 - City of Santa Cruz Response: We have not determined that role yet. We welcome the community's input regarding whether the GSA should have a role in negotiating those types of activities.
 - County Response: The City of Santa Cruz and SqCWD are currently discussing potential water transfers.

Management Agencies' Responsiveness

- Many of the problems raised at this meeting are the same issues raised a decade ago. In general, the governing/management entities need to adopt more immediate, proactive roles.
- Groundwater management has improved greatly since the 1990s, partly due to adjustments made to SqCWD water policies in the early 2000s.

Conservation

- A sustained 30% water use reduction is possible; the water management agencies should help secure Soquel's current 25% conservation gains and strive to achieve the extra 5% reduction.
- Require new developments and agriculture to incorporate more conservation strategies in their operations.

Water rates

- Water rates should be immediately increased to reflect the true costs of water.
- Water rates need to apply to everyone who uses groundwater. Water rates also need to fairly reflect the direct and indirect costs to develop and maintain the infrastructure of the various groundwater delivery systems and water usage (e.g., municipal versus private, rural wells).

Land use and interagency coordination

- Consider issuing a moratorium on new connections to the municipal system to slow growth in demand due to population growth.
- Address land use decisions conflicting with water management goals (e.g., new housing requirements).

Funding

- Question: What are the available State funds to assist groundwater management efforts?
 - SWRCB Response: Prop 1 provides \$900 million statewide specifically for groundwater management. \$800 million of the \$900 million will primarily focus on groundwater quality issues (e.g., underground storage tank issues) under the SWRCB jurisdiction. DWR will distribute the remaining \$100 million to assist local agencies to develop their GSPs.
 - SqCWD Response: SWRCB provided approximately \$36,000 to fund this current stakeholder engagement effort.

Additional information

- Conduct a cost-benefit analysis of different management strategies. Determine the costs and increased water supply associated with each option. Determine whether where we'd get the most "bang for the buck" (e.g., more conservation or more water supply).
- Conduct a cost-benefit analysis of helping those in the agriculture industry switch to water-saving methods (e.g., drip irrigation).
- Look for case studies to see how other areas have approached drought and groundwater issues (e.g., Australia, Israel, Santa Barbara, Yolo County, and Colusa County) and consider which options (including governance structure) are appropriate for our basin.
- Research available models to predict the effectiveness of different management strategies (e.g., how fee increases change public behavior).

4. Next Steps to Manage our Groundwater Sustainably

Progress in forming a GSA for the Mid-County area

Jon Kennedy, Chair of the S-AGMC's GSA Formation Subcommittee (Subcommittee), overviewed the S-AGMC's efforts to form a GSA for the Mid-County area. The Subcommittee consists of well owners and representatives from the County, SqCWD, CWD, and the City of Santa Cruz. The Subcommittee is tasked with exploring GSA formation options, identifying areas of consensus and potential bottlenecks, incorporating stakeholder input and basin boundary modification efforts, and developing a framework and bylaws for the GSA. The Subcommittee has met five times for thirteen hours since April, reviewing options for the GSA governance framework and the appropriate scope for the GSA's responsibilities and powers. The Subcommittee is working on a recommendation to the S-AGMC on how to structure the GSA with included Advisory Committee input, especially on the Sustainability Plan. The GSA structure needs to take into account water usage estimates by stakeholder grouping, climate change effects, inter-agency coordination, and stakeholder community input. The Subcommittee projects a timeline of formation by January and an initial plan by summer of 2016.

Questions - GSA Formation

- Has the Subcommittee examined the governance structure of other GSAs?
 - Subcommittee Response: There are no official GSAs under SGMA yet; however, we have reviewed several governance models similar to the BIG/S-AGMC framework.
 - SqCWD Comment: SWRCB provided funding for our stakeholder engagement partly because our region is unique (e.g., long engagement history, coastal region, several small water agencies, and many private wells). Others are curious about the governance model that we will develop.
- Does the S-AGMC have general background information to educate the public regarding SGMA requirements and groundwater management?
 - Subcommittee Response: We do not have that information in a condensed format yet. However, the SqCWD website contains that type of educational materials. The committee will work on building out a website with information on pertinent issues surrounding basin history and GSA formation. (See also the handout on SGMA requirements at Appendix B.)
- Are the water management agencies considering other water supply alternatives besides groundwater?
 - Subcommittee Response: Yes. We need to develop an effective GSA/GSP in conjunction with other supply alternatives to address the overall challenge of ensuring a sustainable water supply.

Summary of stakeholder input on how best to involve community members in developing a GSP

Dr. DuPrav provided an overview on the Subcommittee's efforts to develop a community engagement plan for eliciting stakeholder advice on GSA and GSP development. The SWRCB provided funds to enable CCP to develop and recommend a community engagement approach based on 20 stakeholder interviews and input from community meetings such as this one. Emergent themes from the interviews included satisfaction with periodic meetings such as this one during GSA formation, but a desire for more involvement during GSP development; offering different types of forums for differing levels of time and interest; proactively engaging independent pumpers; engaging the whole community in meeting this challenge; emphasizing help and incentives for desired behavior changes rather than enforcement actions; and celebrating progress.

Dr. DuPrav then oriented attendees to three general models for community engagement during GSP development: 1) an advisory committee (which may consist of subject matter experts and other stakeholder representatives) that provides input to the GSA; 2) an advisory committee that includes some or all GSA members; or 3) expanded community input opportunities, but no advisory committee. Dr. DuPrav invited attendees to provide their input on the three engagement models (see Appendix F).

Discussion - Community engagement models

Overall, attendees said community engagement should include some form of an advisory committee. They raised the following questions and issues:

Select an effective and efficient model

- Consider conducting a cost-benefit analysis of the different engagement models. Select the one that will best contribute to achieving groundwater sustainability.

Limits of model with community meetings only

- Community meetings will likely be unable to support substantive discussions due to varied subject-knowledge and experience.

Benefits of the advisory committee

- GSP development requires a body of experts from various fields who are engaged in a process in which they work together and generate concrete results.

Cost to support engagement

- The drawback to greater collaboration is the increased cost and effort.

Frame do-able community role

- The approach should be tailored to what community members are able to do, relative to what technical experts are able to do. For example, community members may not have the capacity to evaluate progress in GSP implementation and identify necessary modifications.

Past community stakeholder involvement

- Build on past methods for involving stakeholders with varying levels of subject matter expertise; SqCWD has past experience with this (e.g., the stakeholder advisory panel used to help develop its integrated water plan).

5. Wrap-Up/Adjourn

Mr. Duncan thanked attendees for their input and encouraged them to continue to provide feedback. He said attendees provided valuable input that the S-AGMC, GSA Formation Subcommittee, and CCP will factor into their proposals. The water agencies want to support and maintain this excellent dialogue with community members going forward.

6. Appendices

A - Presentation Slides

B - SGMA Information and Conservation Tips Handout

C - Map of the Proposed Soquel-Aptos Groundwater Basin

D - Consumptive Use Handout

E - Discussion Questions Handout

F - Possible Community Engagement Approaches During GSP Development