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Petaluma Valley 5.25.21 Community Meeting

Questions and Answers / Poll Results

1. **A question regarding the y axis scale on the groundwater graphs labeled elevation. How does that relate to the level of the water table itself?**

   Trotta - When we develop those graphs, we generally place them into context with the elevation relative to mean sea level. We also show on some graphs the ground surface elevation, which can be helpful. That gives you the depth-to-water below your well and that can be very important in terms of understanding where your groundwater level is in your well in relation to the bottom of your well or your pump.

2. **In follow-up: Is it the opposite if it says, plus 160? Does that mean the water table is at 160 feet below ground level? (Ref. slide 26 on projected change)**

   Trotta - This is not showing the groundwater level. This is the total amount of groundwater storage within the entire basin. This shows the groundwater level elevation which is calculated by taking that depth-to-water measurement and subtracting it from either surveyed or estimated elevation of the wellhead or ground surface and so, for example, if the ground surface or wellhead here was at 200 feet, then that means the depth-of-water in this well is about 40 feet.

3. **A participant notes that, on the chart there was an extreme dip in the groundwater levels around 1975, and that was at the same time as this individual's well went dry and collapsed. They also note that around that time is when wineries started planting large areas on the North side of Petaluma and asked, "is data or research available to review when large operations moved into areas and started using more groundwater"?**

   Trotta - In developing these historic and current groundwater budgets and in the data sets that the model uses to calculate those, we look at land-use maps available from different time periods going back to, in this case 1969 to the present. There's been different time periods when land uses were mapped in the basin that's allowed us to incorporate the changes where vineyards have gone in or any other land use changes that the county's assessor database was used to estimate, so that information is incorporated into the model and into our GSP.

4. **How would a resident get their well water level checked? Can their well be included in voluntary monitoring programs?**

   Trotta - There is a program that the GSA is helping fund that includes some voluntary groundwater monitoring. Sonoma Resource Conservation District is doing that work on behalf of the GSA. Some of the criteria that we're looking for would be wells that help fill some of our data gaps as well as those that have known information on the construction and depth of the well. The best way to monitor groundwater levels is by constructing dedicated monitoring wells, and we got a million dollar grant last year, from California Department of Water Resources to install four 500-foot monitoring wells within the basin. Right now, we are filling data gaps with wells that people have volunteered to be monitored.

5. **Is there a cost to the well owner to participate in the program?**

   Trotta – No, there is no cost to the well owner, but I believe there would be an access agreement that would allow someone to enter their property to measure the water level in their well. The data would be available for the well owner to look at so they understand groundwater level changes in their well, and it would be used by the GSA for understanding the groundwater conditions in the basin.
   Valerie Quinto - If you'd like to share an email address people can reach out to for voluntary monitoring: kcullinen@sonomarcd.org.

6. **The basin has been in pretty good shape for the last 30 years, the largest change to the basin is the drought. How is the City of Petaluma pumping from the basin?**

   Trotta – Since 2009, the City of Petaluma, hasn't been pumping much groundwater from the basin, but historically before that, did pump larger volumes of groundwater that represented a larger portion of the overall water budget.

7. **Why are the assumptions of agricultural water use going down given possible increasing vineyards and cannabis?**

   Trotta - We had a work group of practitioners that helped us develop future agricultural land use projections in all three basins. In Petaluma Valley, the thinking was that it was likely that pastureland and dairies would contract over the next 50 years. Generally, those can be higher water use crops in comparison with vineyards. For pastureland, there's an overall decrease in water use that's projected in the future. And then related to cannabis, for our current GSP that will be submitted in January 2022, we're going to document the existing amount of permitted cannabis use in the Plan along with water use information we've gotten from the county. This information indicates the total amount of estimated water use for cannabis in the basin, which is currently about 20 to 30 acre-feet per year -- so very small in comparison with overall water budget. However, there's a lot of uncertainty in terms of its potential future growth. Because SGMA is meant to be adaptive and we are required to reassess our plans every five years, we're building into our implementation plan, a plan to track cannabis use within the basin over time and re-evaluate, how we incorporate and project it into our future water budgets.

8. **Why is the position on future climate conditions so positive given decreasing rain and less use of groundwater, how do you arrive at the conclusions that there could be more rain, and less you use of groundwater?**

   Trotta – In terms of the future climate that was the climate scenario that was selected. We did simulate just one future climate for all the GSPs, so we had a consistent baseline to compare potential future projects and actions with. The climate scenario was selected based on consultation with the advisory committees in all three basins and ultimately selected by the GSA Boards. It does show that wetter time period for the first 20 to 30 years in comparison with some of the other climate scenarios, however, the last 20 years shows a very significant 20-year drought, essentially, which provides, a stress test for us to look at and utilize, for contingency plans for the basin. It's less important to look at what that 50-year projection is showing in terms of the overall storage change and a little more insightful to look at how the basin responds during both the extended wet periods, as well as the severe dry periods to help inform how we plan for the future.

9. **If sea levels are anticipated to rise the next few decades, what can be expected from an intrusion standpoint of brackish or bay water for the Petaluma basin and aquifer?**

   Trotta - That highlights the need to develop some monitoring infrastructure near the Baylands area. The GSA can't control sea level rise and is not responsible for addressing any undesirable results that occur related to sea level rise, however, it is responsible for addressing sea water intrusion that's caused by groundwater pumping.
   We have incorporated a projection of sea level rise into our model, so we do have that as a tool to look at what those impacts may be in the future. Developing some monitoring wells in that southern portion of the basin is going to be important for us to help tease out the differences between the changes in salinity that could be caused by sea level rise versus groundwater pumping. In addition, we're also looking at restoration projects that are being proposed.

10. **What controls will be needed for the City of Petaluma?**

    Trotta - In terms of groundwater use, we've included projections of their future use which are higher than their current and historical just to be conservative in our future projections. They've indicated that they really don't plan to pump groundwater generally unless it's needed based on drought or dry year conditions.

11. **Should Petaluma consider building a large groundwater extraction well as sort of a safety measure for extreme long-term droughts?**

    Trotta – It's probably a question more for the City, but I would say that they have a well field that has historically been used and do have a number of wells available. I don't know what the total capacity of that well field is but they have a number of municipal supply wells that are available when needed.

12. **As wells either go dry or there's potential seawater intrusion or quality declines, what can the GSA do to help individual well owners?**

    Trotta - The GSA is required to set sustainable management criteria for groundwater levels, sea water intrusion, and water quality. If these problems are caused by something that the GSA has the authority to manage such as groundwater pumping, it is the responsibility of the GSA to address those problems and have projects and management actions to mitigate those uh those problems. I would say if it's down at the individual well owner and there is a problem with wells going dry, I would think that they would first need to do some level of kind of investigation on the cause of that to make sure that the cause is related to groundwater levels. It is common for someone to have problems because of the age of a well over time. Wells generally start failing either from being corroded or getting plugged up with some sort of scaling. That's not the responsibility of the GSA to address.

13. **At the end of the day, who's likely to pay for all these projects and is cross agency coordination and cooperation a part of that?**

    Trotta – There are different options for paying for projects. The near-term cost may be more related to better studying the feasibility of some of those projects as contingency projects. I in terms of funding options, looking for grant opportunities. The state is committing significant resources to providing funding for it for GSAs. We've gotten $2

million so far for each of the basins to help with the GSP development and our monitoring network improvements.

14. **Is it possible that we could face a similar situation to what's occurring in the Klamath River area where there is little to no water going to agriculture? Can you can speak at all to the authority of the GSA, especially when you talk about the charge that other agencies such as the State Water Board have and how some of their decisions might come into play when we talk about implementation of the GSP?**

    Trotta - We have been coordinating with many of the resource agencies that are responsible for fisheries and other habitat. There is a lot of uncertainty associated with the surface water depletion sustainable management criteria and are planning to coordinate that something will be built into our implementation, as well as routine coordination with those agencies that have other mandates in terms of surface water rights. Coordination with those agencies is something that will be part of the Plan.

POLL 1

Do you have a well?
9 of 24 have a well.

What do you use it for?
Everything and home. Some mentioned that they use their wells for lawn and garden irrigation.

What part of the basin do you live in? City of Petaluma, North, East, West, or South of Petaluma? Other?
Quite evenly split.

Has the water level in your well gone up, down, stayed the same, or don't know?
A number of participants said they aren't sure of the water level, one person mentioned that their levels have done down a little bit, and others mentioned that overall, it has stayed the same.

Has your well ever one dry?
A few of the wells have gone dry, some said it never had, some weren't sure.

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POLL 2

Which Sustainability Indicators are of the greatest concern to you or which are the most important from your perspective? Rank the six sustainability indicators, with 1 being the greatest concern and six being the least concern:

Groundwater levels
Groundwater storage
Water quality
Subsidence
Seawater intrusion
Surface water depletion

Greatest number of people were concerned about groundwater levels.

Which Project Management actions might be the most effective and best in the near term in the basin (1 being the best)?

Voluntary conservation
Stormwater recharge
Aquifer storage and recovery
Mandatory conservation

Voluntary conservation is a great place to start. Also, support for items like stormwater and aquifer storage and recovery, and ultimately, potentially mandatory conservation as well.

Are there projects or management actions that concern you?
Mandatory conservation, stormwater recharge also listed.