Michele King

From: D. Muirhead <doug.muirhead@stanfordalumni.org>
Sent: Sunday, November 7, 2021 8:33 AM
To: Vanessa De La Piedra
Cc: Jason Gurdak
Subject: 2021 GWMP Comments

Hello Vanessa and Jason,
Thank you for your responses to my comments at the Demand Management Committee on October 25. I will use some of the material from that meeting to augment my comments on your draft 2021 Groundwater Management Plan. I know I am not the target audience for this exhaustively comprehensive plan, but I just cannot resist commenting. Buried in this overly-long and occasionally rambling message are perhaps a few opportunities to educate me.

Thank you for your consideration, Doug Muirhead, Morgan Hill

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[1. hydrogeological composition resistant to subsidence]
Thank you for noting in the presentation that seawater intrusion and subsidence are of concern in North County but not South County. But Llagas Subbasin Description Land Subsidence [3-12] says
"Inelastic land subsidence has not been observed in the Llagas Subbasin."
and goes on to say that
U.C. Berkeley researchers used satellite imagery to evaluate the potential for subsidence and concluded that there was no evidence of long-term subsidence.
Missing from this evaluation is what was found in the past in other District publications. Which I can no longer find. :-(
You used to describe the "hydrogeological" (if that is the word) composition in South County as being resistant to subsidence.

And George Cook confirmed that in some post-meeting conversation several years ago..
My interest in this is that I have repeatedly quoted the "resistant to subsidence" in correcting people who describe subsidence as a County-wide issue to instead consider this only for North County.

[2. asymmetric relationship Water Retailers vs opaque Stakeholders]
I want to provide my view of the asymmetry of your relationship with the Water Retailers compared to everyone else as opaque Stakeholders.
From Overview Water Retailers [1-19]
"Valley Water and water retailers collaborate closely on operations as well as long-term planning and meet quarterly through the Water Retailers Committee."
In the Drought Emergency Response Report, September 2021, under Collaboration with the County, Retailers, and Cities, you say
"Valley Water continues to meet with retailers at numerous Subcommittee meetings to provide drought updates, track progress towards drought response efforts, and ensure consistent messaging. Valley Water has also initiated a monthly Ad Hoc Retailer Drought Subcommittee, and a monthly Subcommittee meeting for drought-related operational updates."
The public is not allowed to observe any of these District-Retailer interactions nor do we see report-outs from these meetings.
When you had the SGMA plan development meetings, the investor-owned utilities sent their lawyers.
When it comes to "stakeholders", you mention environmental advocates, and sometimes the list for other programs mentions "members of the public" but other times there is no mention of us.
Vanessa did mention notices sent to well owners as an attempt to increase engagement. But there is no broad attempt to include all of us who live on the ground above the basin and depend on the basin for our very lifeblood. I know you think Groundwater Week is a big deal, and perhaps it is in schools, but it passes unnoticed in Morgan Hill.

[3. Framework Flowchart for dealing with undesirable conditions]
In OVERVIEW Authorities Provided by SGMA [1-14]
"SGMA allows a GSA with an adopted Plan to ..."
but then backpedals with
"SGMA also acknowledges limitations related to the regulations of pumping",
Vanessa mentioned that the framework has multiple off-ramps. These show up in the textual descriptions of the stages as options.
A Note to the Flow Chart alludes to this:
"Depending on the severity and challenges of the issue identified, the implementation of any step could be elevated to the Committee and/or Board."
I see a lack of clarity as to how these would be invoked. My previously-stated concern is that I see no place where increasing severity requires shorter response times. You have chosen a different approach.
"the process ... avoids prescriptive triggers and requirements ...and avoid unnecessary or ineffective actions".
If you did allocations, you might be able to use a local groundwater trading program as a management mechanism. This was the subject of a recent webinar

California Water Commission Groundwater Trading Safeguards
for Vulnerable Water Users Workshop [October 2021]

[4. shallow domestic wells and aquifer zones]
You use basin capacity as an outcome measure.
My previously-stated concern is about equity for domestic wells.
But my mental model may incorrectly have shallow domestic wells drawing from the same aquifer as deeper wells for agricultural, municipal, and industrial uses.
In Water Supplies, Demands and Budget [Chapter 4], Groundwater Pumping,

> "Groundwater use in the Llagas Subbasin is nearly evenly split between agricultural uses (52%) and municipal and industrial uses (43%), with 5% used for domestic purposes. Pumping by water retailers accounts for about 36% of pumping in the Llagas Subbasin." [Figure 4-5]

In describing the Llagas Subbasin, you say [3-2]

> "Within the confined area, low permeability units restrict the vertical flow of groundwater and divide the subbasin into shallow and principal aquifer zones."

I do appreciate Water Supply Well Depth by Well Use Type [Figure 3 D-8].
Perhaps shallow domestic wells draw from a shallow aquifer and are not affected by drawdown in the principal aquifer?

[5. limited well depth information]
Although you provide a number of statistics about wells, I was surprised on the limited number of wells with depth information. Can you determine the depth of an existing well? At what cost? Should this be a gap-filling activity? It would help if you said clearly that only 1,427 supply wells in the Llagas subbasin have well depth information out of 3,989 total wells.

In Evaluation of Dry Supply Wells (Appendix D, 2. Methods), you say [D-10]

> "The observed depth to groundwater readings (groundwater levels) and supply well completion depths were compiled from Valley Water databases. It should be noted that Valley Water does not have completion depths for many wells that were installed prior to well permitting regulations, which took effect in the 1970s."

You go on to say in 2.1.2. Well Depth that

> "Of the 6,189 supply wells in the Santa Clara and Llagas subbasins, only 2,303, or 37%, have available completed well depth information. Of these wells, the majority (62%, 1,427) are in the Llagas Subbasin and 38% (876) are in the Santa Clara Subbasin."

and in 2.1.3. Well Use Type

> "for all 6,198 supply wells in the Santa Clara and Llagas subbasins ... Most active wells are domestic (4,001), followed by M&I (1,062) and agricultural (780). Most standby wells are also domestic (75), followed by agricultural (37) and M&I (14)."

and

> "The Santa Clara Plain has the majority (67%, 310) of the M&I supply wells and the Llagas Subbasin has the majority of the agricultural (61%, 171) and domestic (73%, 1,128) supply wells with completed depth information."

I found the fragmentation of information above to be confusing. Combine in one section for readability.

[6. impacts to well users]
In Sustainable Management Criteria [Chapter 5], Outcome Measures [5-6],
"during 2014 and 2015 ... there were very limited impacts to well users, with fewer than 15 reports of wells going dry for domestic wells along the basin margins where well yield is more uncertain (Appendix D)."
In Evaluation of Dry Supply Wells (Appendix D), you say
"Figure 8 supports the prior conclusion that most water supply wells likely had a substantial height of groundwater above the completed well depth and were not vulnerable to going dry during the 20122016."
I am not sure that this proves that we will not have a larger number of dry wells in a future worst-case drought draw-down. But if this conclusion satisfies your team and the professionals at DWR, so be it.

[7. reporting Dry Domestic Wells]
In Evaluation of Dry Supply Wells (Appendix D, 2.3 Reported Dry Domestic Wells During the 20122016 Drought), you say [D-10]
"[water supply wells] were reported by well owners to Valley Water as having gone dry"
Department of Water Resources has a Household Water Supply Shortage Reporting System <https://mydrywell.water.ca.gov/report/>, described as
"This site is for Californians experiencing problems with their private (self-managed) household water supply".
Do you forward dry well reports you receive to DWR? Do you also look at their dry-well reports? Is the mechanism for reporting dry wells one of the things you put in your notices to well owners?

[8. principles and strategies for drinking water wells]
Do you expect that the definition of undesirable conditions will be modified as a result of California Department of Water Resources (DWR), in coordination with the State Water Resources Control Board, developing principles and strategies related to groundwater management and drinking water well impacts? They hosted Listening Sessions (June 29-30) and a Public Workshop (July 22).

[9. better aquifer/aquitard summary]
I particularly liked the narrative in Appendix H Seawater Intrusion [H-10].
"Below the regional aquitard is the principal aquifer that is used as a public water supply. The shallow multi-layered aquifer zone is generally not used as a public water supply.
The shallow aquifer zone has relatively small seasonal fluctuations in water levels because this zone has limited groundwater pumping.
The principal aquifer zone has relatively larger seasonal fluctuations in water levels because of substantial groundwater pumping.
Perhaps similar wording could be added to
3.1.3 Principal Aquifers and Aquitards
preceding
Cross-sections of the Llagas Subbasin are presented in Figures 3-3 - 3-6.

[10. criteria for high-priority basins]
Both Executive Summary [ES-1] and Introduction [1-1] say
"DWR has identified the Santa Clara and Llagas subbasins

as high-priority basins"
but I would include in ES-1 the remainder of the statement in 1-1
"based on criteria that include overlying population, projected growth, number of wells, irrigation acreage, groundwater reliance, and groundwater impacts. Neither subbasin has been identified as being critically overdrafted."
since a common misperception is that "high/medium" priority equates to "troubled".

[11. where are the 102 groundwater recharge ponds]
The Water Supply and Groundwater Overview [ES-2] claims
102 groundwater recharge ponds covering 277 acres
but Overview Figure 1-4 [1-8] shows only 17 Recharge Ponds not 102.
Maybe [number of ponds] notation next to triangle?

[12. 2 Regional Water Boards and SCVURPPP]
In both CHAPTER 6 BASIN MANAGEMENT PROGRAMS AND ACTIVITIES
and CHAPTER 7 GROUNDWATER MONITORING AND MODELING
you describe the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) without mentioning that this is under the authority of the SF Bay Regional Water Board and that there is not a counterpart for South County under the authority of the Central Coast Regional Water Board.
Contrast this with a section in Chapter 7 that refers to a Central Coast Ambient Monitoring Program (7.4.3.1) and then refers to the North County counterpart as SCVURPPP.

[13. contaminating activities should include wildfire impacts]
In 6.3.4 Watershed Management you say
"protect the water quality and water supply ... from potentially contaminating activities."
Although Erosion, Debris Flow, and Flooding are surface water issues, they can affect groundwater. I remember an exchange several years ago with a senior staff member who said that the Madrone Channel was empty because there was too much sediment in the water available for recharge.
I do not know how Groundwater Management interfaces with Watersheds.
I do not know what came of a January 2017 Joint Meeting of the Santa Clara Valley Water District Board of Directors and the Santa Clara Valley Open Space Authority Board of Directors to discuss the potential for collaboration regarding watershed management following the Loma Fire.
If you have the time, I found the Loma Fire Watershed Emergency Response Team Final Report (CA-SCU-006912 October 25, 2016) a fun read.
The burn area was predominantly located within two watersheds, the Upper Llagas Creek and the Upper Uvas Creek watersheds. Approximately 35% of the burn area was in the Uvas Creek basin and 63% in the Llagas Creek watershed. Llagas Creek flows into Chesbro Reservoir and Uvas Creek flows into Uvas Reservoir.

[14. statewide airborne electromagnetic (AEM) surveys]
In NEXT STEPS [CHAPTER 8], 8.3 GROUNDWATER MANAGEMENT PLAN RECOMMENDATIONS
one topic is to

"Maintain adequate monitoring programs and modeling tools."
The upcoming statewide airborne electromagnetic (AEM) surveys do not list Santa Clara County and especially the Llagas subbasin as candidates, even though the Department of Water Resources (DWR) webinar on June 8, 2021 claimed that AEM data will be collected in all high- and medium-priority groundwater basins, where data collection is feasible, and will start Summer 2021 and continue over the next several years.

[15. spelling and glossary]
[spelling] ES-4 "this subbasins is"
[spelling] 1-1 "Alternative Pan"
[define] H-2 "semiperched groundwater" not defined until H-10 in text; not defined in glossary