CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

BOARD OF DIRECTORS MEETING

Board of Directors

Cory Bantilan Chair, Santa Barbara County Water Agency
Derek Yurosek Vice Chair, Cuyama Basin Water District
Matthew Young Secretary, Santa Barbara County Water Agency
Byron Albano Treasurer, Cuyama Basin Water District
Arne Anselm County of Ventura
Deborah Williams Cuyama Community Services District
Jane Wooster Cuyama Basin Water District
Jason Higbee Cuyama Basin Water District
Jimmy Paulding County of San Luis Obispo
Katelyn Zenger County of Kern
Steve Jackson Cuyama Basin Water District

AGENDA

September 3, 2025

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Board of Directors to be held on Wednesday, September 3, 2025, at 2:00 PM at the **Cuyama Valley Family Resource Center 4689 CA-166, New Cuyama, CA 93254.** Participate via computer at: https://msteams.link/4GXC or by going to Microsoft Teams, downloading the free application, then entering Meeting ID: 211 568 992 705 Passcode: et2fD66g or enter or telephonically at (469) 480-3918 Phone Conference ID: 839 596 065#.

Teleconference Locations:

4689 CA-166 New Cuyama, CA 93254	1115 Truxtun Avenue, 5th Floor Bakersfield, CA 93301

The order in which agenda items are discussed may be changed to accommodate scheduling or other needs of the Board or Committee, the public, or meeting participants. Members of the public are encouraged to arrive at the commencement of the meeting to ensure that they are present for discussion of all items in which they are interested.

In compliance with the Americans with Disabilities Act, if you need disability-related modifications or accommodations, including auxiliary aids or services, to participate in this meeting, please contact Taylor Blakslee at (661) 477-3385 by 4:00 p.m. on the Friday prior to this meeting. The Cuyama Basin Groundwater Sustainability Agency reserves the right to limit each speaker to three (3) minutes per subject or topic.

1. Call to Order (Bantilan) (1 min)
2. Roll Call (Blakslee) (1 min)
3. Pledge of Allegiance (Bantilan) (1 min)
4. Meeting Protocols (Blakslee) (2 min)
5. Standing Advisory Committee Meeting Report (Kelly) (3 min)

CONSENT AGENDA

Items listed on the Consent Agenda are considered routine and non-controversial by staff and will be approved by one motion if no member of the Board or public wishes to comment or ask questions. If comment or discussion is desired by anyone, the item will be removed from the Consent Agenda and will be considered in the listed sequence with an opportunity for any member of the public to address the Board concerning the item before action is taken.

6. Approve July 9, 2025, Meeting Minutes (Bantilan) (1 min)
7. Approve Payment of Bills for June and July 2025 (Blakslee) (1 min)
8. Approve Financial Reports for June and July 2025 (Blakslee) (1 min)

ACTION ITEMS

All action items require a simple majority vote by default (50% of the vote). Items that require a super majority vote (75% of the weighted total) will be noted as such at the end of the item.

9. Groundwater Sustainability Plan Implementation

    a) Discuss and Take Appropriate Action on the Plan and Timeline to Evaluate Allocations in the Ventucopa Management Area (Beck/Van Lienden/Ceyhan) (120 min)

    b) Discuss and Take Appropriate Action on the CMA Allocation Exchanges Policy (i.e. Water Market) (Beck) (45 min)

    c) Discuss and Take Appropriate Action on a Monitoring Network Consultant Contract for FY 25-26 (Blakslee) (5 min)

    d) Discuss and Take Appropriate Action on Standard Operating Procedures for Adaptive Management Process (Blakslee) (30 min)

    e) Discuss and Take Appropriate Action on Options to Address New Pumping Outside the Management Area (Blakslee/Dominguez) (30 min)

REPORT ITEMS

10. Administrative Updates

    a) Report of the Executive Director (Blakslee) (5 min)

    b) Report of the General Counsel (Hughes) (5 min)

11. Technical Updates

    a) Update on Groundwater Sustainability Plan Activities (Van Lienden) (5 min)

    b) Update on Grant-Funded Projects (Van Lienden) (5 min)

    c) Update on July 2025 Groundwater Conditions Report (Van Lienden) (5 min)

12. Report of Ad Hoc Committees (1 min)

13. Directors' Forum (1 min)

14. Public Comment for Items Not on the Agenda (5 min)

15. Correspondence (1 min)

CLOSED SESSION

16. Conference with Legal Counsel – Existing Litigation (15 min)

    Pursuant to Government Code section 54956.9(d)(1)

    (a) Bolthouse Land Company, LLC, et al v. All Persons Claiming a Right to Extract or Store Groundwater in the Cuyama Valley Groundwater Basin (BCV-21-101927)

17. Adjourn (6:25 p.m.)

2025 Board Ad hocs

1	**CIMIS Station Implementation Policy**	Burnes Bantilan Wooster
2	**Variance**	Albano Anselm Jackson Young
3	**Farm Unit Policy**	Albano Bantilan Yurosek
4	**Fiscal Year Budget**	Burnes Young Zenger
5	**Allocation Exchanges & Carryover**	Higbee Jackson Williams Wooster
6	**Expanding Allocations outside the Management Area and Ventucopa**	Bantilan Yurosek Reely Albano

Tech Forum Participants

Participants	Entity	Representing
Bob Abrams	Aquilogic	BBK
Matt Klinchuch	Provost & Pritchard	Cuyama Basin Water District
Jeff Shaw Macy Frost Wes Henson	EKI	Cuyama Basin Water District
Neil Currie	Cleath-Harris Geologists	Grapevine Capital
Matt Nafalty	Dudek	DWR Small Farmer Technical Assistance Program

Cuyama Basin Groundwater Sustainability Agency
Board of Directors Meeting

July 9, 2025

Draft Meeting Minutes

PRESENT:
Directors
Bantilan, Cory – Chair
Yurosek, Derek – Vice Chair
Albano, Byron – Treasurer
Jackson, Steve
Reely, Blaine – Alternate
Wooster, Jane
Young, Matthew
Zenger, Katelyn

Staff
Beck, Jim – Executive Director
Blakslee, Taylor – Assistant Executive Director
Dominguez, Alex – Legal Counsel
Van Lienden, Brian – Woodard & Curran

Absent
Williams, Debbie

1. **Call to Order**
   Cuyama Basin Groundwater Sustainability Agency (CBGSA) Chair Cory Bantilan called the meeting to order at 2:02 p.m.

2. **Roll Call**
   Mr. Blakslee called roll (shown above) and informed Chair Bantilan that there was a quorum of the Board.

3. **Pledge of Allegiance**
   The pledge of allegiance was led by Chair Bantilan.

4. **Meeting Protocols**
   Mr. Blakslee provided an overview of the meeting protocols.

5. **Standing Advisory Committee Meeting Report**
   Meeting Date: June 26th, 2025
   Submitted to the CBGSA Board of Directors on: July 9th, 2025
   By: Brenton Kelly, SAC Chair

Two weeks ago on June 26th, the Standing Advisory Committee met at the Family Resource Center in a hybrid format, with 5 members present, 3 in-person and two on the conference line from the remote locations that were posted on the agenda. GSA Staff Taylor Blakeslee was joined by Grace Bianchi in the room, with Brian Van Lienden and Alex Dominguez on the call. There were three public stakeholders present in the room, and several stakeholders were online. The meeting lasted just under 3.5 hours.

A Public Comment was made by Committee Member Dave Lewis regarding the GSA policy for the potential enforcement of penalty fees for pumping more groundwater than was allocated. In his case, he is allocated 12.39 AF for 2026. At the first tier of the penalties he would incur a $250.00/AF penalty for over pumping by <5% or just 0.62 AF, above which he would be fined $500/AF. And he would trigger legal action for pumping more than 2.5 AF (20% of 12.39) over his allocation. On the other hand, Bolthouse could over-pump by 720 AF and stay at the lower tier of enforcement (5% of a 14,402.51 AF allocation for 2026), and could potentially overpump 2880 AF before any legal action could be taken. Mr. Lewis asks what is the equity of that policy.

The SAC would like to express gratitude to Legal Counsel Alex Domingues for providing a brief update on the status of the Groundwater Adjudication lawsuit as we enter Phase III around Water Rights and Allocations. He said this is the time for 'Discovery Orders' to prove any property rights to groundwater. Mr. Domingues urged all property owners to engage with their legal representative and participate in the proceedings to protect any rights to groundwater.

Most of the meeting involved SAC feedback to Staff with some straw poll votes on ideas and concepts of ideas. I will endeavor to summarize the spectrum of opinions and viewpoints and I can bring those up as they are presented in this meeting.

11.b) Approve CIMIS Station Landowner Agreement
It was generally agreed that the Agreement looked good enough and that any further improvements would not be worth the time and effort to work through the process. Appreciation was expressed for the cooperative efforts made by all parties to this agreement, especially those landowners who have agreed to the installation of these important facilities that will benefit the whole basin.

11.c) Discuss and Take Appropriate Action on the Plan and Timeline to Evaluate Allocations in the Ventucopa Management Area
Committee Member Haslett asked how the "Analysis of GW Levels/Water Budget" would be performed and whether it involved any additional data collection. Brian Van Linden responded that the analysis would be done to determine if the Model is currently adequate or not and whether additional data would be needed to develop allocations in the Ventucopa Area. As expressed in the GSP, the need for greater understanding of the hydrology of the Ventucopa Management Area has been recognised for many years. The region responds dramatically with seasonal fluctuations, not seen in the CMA. The groundwater elevations fluctuate annually but have not experienced the 100's of feet of declines as seen in the CMA for decades.

11.d) Discuss and Take Appropriate Action on Identifying Regions to Use for Evaluating Expanded Allocations and Overview and Evaluation Plan and Schedule
Committee Member Haslett expressed that most areas outside the CMA are not in overdraft, and most areas don't even have much water to be developed anyway. He feels that the 5 regions approach is taking too broad of an approach and needs more distinction. He is in favor of 5 or more regions.

Committee Member Gaillard agreed, but stressed that other areas outside the CMA may well be overdrafting without limits. He referenced the new cannabis operation on Salisbury Canyon Ranch that is new large scale irrigation on former unirrigated rangeland. He felt that surely this would impact the CMA and the Sustainable Yield.

Committee Member Lewis asked how something like that could be permitted. Mr. Blakslee responded that previously there was a Governor's order that required permitting to be approved by GSA, but that order has been lifted. It was recognised that this is an example for how local regions could become out of balance and why the whole Basin needs regionally sensitive management. Gaillard is in favor of the 5 region approach.

Committee Member DeBranch stated that the data show that all subregion boundaries within the basin are interconnected as one single basin and should be managed that way. He stressed that cuts to the CMA alone will not get the basin to a Sustainable Yield and suggested that there is an "eyeopening" amount of overdraft outside the CMA.

Committee Member Lewis agreed with DeBranch that the Basin is one collective 'bucket', and should be managed without subregions.

Committee Chair Kelly is in favor of a regional nuanced approach to basin wide management. He pointed to the 2015 USGS Cuyama Study that used 9 sub-regions to address the unique characteristics of the Basin. Figure 2-19 on page 2-47 of the Basin Setting Chapter of our current GSP shows the value of these subregions. It recognises, for instance, that the Sierra Madre foothills on the south edge of the basin behave differently than the CMA. Now we have proof from the Aerial Magnetic Resonance data that the aquifer is thicker in some places and thinner in others, coarse grained in some places and fine grained in others. This helps to explain why groundwater production is limited regionally. This is also why only some regions are responsible for the overextraction of groundwater and other regions are in balance or even contributing to the groundwater in storage.

Stakeholder Tristan Zannon commented that in the Ventucopa area the aquifer was much thinner and it was difficult to overpump without the well going dry.

11.e) Discuss and Take Appropriate Action on the CMA Allocation Exchanges Policy (i.e. Water Market)

Committee Member Giallard believes that this is going to be a "big mess" if it is done poorly but shares the urgency to create the opportunity for someone like Dave Lewis to get the water they need to stay viable. He is in favor of a simple exchange policy among neighbors. He asked what tools are available for environmental protections. He is concerned that the GW monitoring network outside of the CMA is not robust enough to count on the Minimum Thresholds alone.

Committee Member Haslett was in favor of a simple "Free Market" approach, but was concerned that this was all premature and possibly irrelevant due to the adjudication proceedings.

Committee Member Lewis had concerns for the price of water and how it could be regulated or manipulated. Given the binary choice he was in favor of a 'Turnback Pool'.

Committee Member DeBranch thought that a water exchange policy would be an important tool moving forward from the Sustainable Yield in 2038, but thought it was premature at this point. He was in favor of a "Free Market" approach.

Chair Kelly shares Mr. Giallard's concern for how a trading policy would impact the Basin as a whole. Because there is not an irrigation district in this basin and water can not actually be transferred, this simply means moving the pumping around. We have learned recently that the groundwater moves very slowly through the aquifer. The biggest changes in the new Model outputs are due to the adjustment to transmissivity. Moving the pumping in the wrong direction could make the overdraft worse.

The straw poll for Trading System Types was Free Market for 4, and Turnback Pool for 1.

The Committee had many opinions regarding the details of some of the Trading Rules. For 3.b. How much can be traded; the SAC was split: 3 for only trading the SY and 2 for the entire allocation.

For 3.c. Trade Limitations; DeBranch thought there may be value in limiting exchanges within proven hydrogeologic areas (3,c,i). Chair Kelly was in favor of all the limitations especially concerning distance and gradient (3,c,ii & iii). The SAC was in favor of the GSA charging landowners for any staff time involved in the exchanges.

4 out of 5 committee members supported 4.a. Protections for Small Users. The technical details of this policy are not clear yet but the need for small user protections is.

Tracking/Transparency; It was noted that the GSA has previously given direction to develop a simple accounting system. Chair Kelly asked how this policy would be effected by the Farming Unit policy which was essentially already allowing for unregulated, untracked and non-transparent water exchanges among some property owners. This would appear to be problematic and the answer from Staff was

inconclusive.

11.f) Discuss and Take Appropriate Action on CMA Carryover Policy
Committee Member Giallard was not in favor of a carryover policy at this time. Committee Member Lewis was in favor of a carryover policy and thought it was a good way of rewarding those that stayed under their allotment. Committee Member DeBranch is in support of a carryover policy but, like the exchange policy, he thought it might be premature to do only in the CMA. Committee Member Haslett and Chair Kelly thought that for the sake of the health of the Basin, a carryover policy should only be considered once pumping has been reduced to a Sustainable Yield.

11.g) Discuss and Take Appropriate Action on Revising Sustainable Management Criteria at Opti Well No. 118
The SAC is in agreement that the nearby well (Opti well #12) is erroneous and the Minimum Threshold for the Representative Well Opti #118 should be revised to 72 feet below ground level.

11.h) Discuss and Take Appropriate Action on Replacing Well 608 in the Representative Monitoring Network
The SAC is in agreement that Representative Well Opti 608, which was destroyed last year, should be replaced in the Monitoring Network with the new nearby well and be given the same Sustainability Criteria that 608 had.

Respectfully submitted,
Brenton Kelly
SAC Chairperson

6. Elect a Secretary

Chair Bantilan provided an overview of this item and noted that since the Ventura director left, the GSA needs to appoint a new secretary.

MOTION
Director Young made a motion to elect Director Young to Secretary. The motion was seconded by Director Jackson. A roll call vote was made and the motion passed with 67%.

AYES:	Albano, Bantilan, Higbee, Jackson, Wooster, Young, Yurosek, Zenger
NOES:	None
ABSTAIN:	None
ABSENT:	Reely, Williams

CONSENT AGENDA

7-9. Consent Agenda

Chair Bantilan asked if any Directors wanted to move any of the consent items out to discuss in more detail.

MOTION
Director Jackson made a motion to approve the consent agenda item nos. 6-9. The motion was seconded by Director Albano. A roll call vote was made and the motion passed with 67%.

AYES:	Albano, Bantilan, Higbee, Jackson, Wooster, Young, Yurosek, Zenger
NOES:	None
ABSTAIN:	None
ABSENT:	Reely, Williams

ACTION ITEMS

10. Director Participation at SAC Meetings

Chair Bantilan provided background on director participation at SAC meetings.

Director Wooster commented that attending SAC meetings is an opportunity to hear community perspectives, and correct errors.

Director Higbee agreed and noted that he had attended the last SAC meeting to provide clarification on the non-reported pumpers item in which some of his land was included under.

Legal Counsel Alex Dominguez explained that directors may ask clarifying questions at SAC meetings but must avoid extended discussions that could create a quorum and trigger Brown Act concerns.

Director Jackson noted that clarifying questions had been helpful in the past and that his attendance has been more informal participation.

Director Young suggested identifying when a quorum of board members is present at SAC meetings to ensure compliance.

Director Albano emphasized distinguishing between Brown Act compliance and informal etiquette.

11. Groundwater Sustainability Plan Implementation

a. Approve CIMIS Station Setup Costs Presented by Sunridge Farms

Mr. Blakslee presented a proposal to install a CIMIS station at Sunridge Nursery with an estimated cost under $63,000, which would be fully funded by a grant.

Sunridge Nurseries Representative, Adam Lovgren, provided a brief overview of the quote.

Director Albano added that there are plans for two stations, one at his property and one at Sunridge Nursery, and emphasized the value of having both for basin coverage.

MOTION
Director Jackson made a motion to approve the CIMIS Station Setup Costs Presented by

Sunridge Farms. Director Young seconded, a roll call vote was made and passed with 78%.

AYES:	Albano, Bantilan, Higbee, Jackson, Reely, Young, Yurosek, Wooster, Zenger
NOES:	None
ABSTAIN:	None
ABSENT:	Williams

b. Approve CIMIS Station Landowner Agreement

Mr. Blakslee presented the standard CIMIS agreement provided by the Department of Water Resources (DWR), explaining that execution of the agreement is required for installation of CIMIS stations. He noted that legal counsel had reviewed the agreement and recommended approval.

Legal Counsel Alex Dominguez asked Director Albano to abstain from voting due to conflict of interest. He added that legal feels comfortable moving forward with this agreement.

Director Wooster asked if the landowner has approved of the agreement. Mr. Blakslee responded that the agreement hasn't approved of the agreement yet, however there is limited ability to change the agreements from DWR.

Legal Counsel Alex Dominguez responded that landowners would need to sign access agreements and that DWR may accept minor changes. Any substantive modifications would need to return to the Board for approval.

Director Young commented that in his experience, DWR rarely changes terms in these types of agreements, so he did not anticipate issues.

MOTION

Director Young made a motion to approve execution of the CIMIS Station Landowner Agreement. Director Wooster seconded, a roll call vote was made and passed with 71%.

AYES:	Bantilan, Higbee, Jackson, Reely, Young, Yurosek, Wooster, Zenger
NOES:	None
ABSTAIN:	Albano
ABSENT:	Williams

c. Discuss and Take Appropriate Action on the Plan and Timeline to Evaluate Allocations in the Ventucopa Management Area

Mr. Beck reviewed prior Board budget direction from March and May 2025 to evaluate expanding allocations into the Ventucopa Management Area (VMA). He emphasized this is a multi-step process and the purpose of today's item was to outline the approach.

Mr. Van Lienden outlined proposed process: (1) review and analyze existing groundwater

data, (2) evaluate the adequacy of the model in Ventucopa, and (3) compare measured and modeled water levels.

Mr. Blakslee highlighted November Board meeting where the Board will need to provide recommendations as to whether the allocations need to take place based on the analysis and information, or do they recommend additional data gathering.

Director Young asked how allocation decisions would be reflected in the Annual Report timeline.

Mr. Beck clarified that the Board could approve allocations, and annual report could outline the progress on Ventucopa separately and that the Board's direction in November would inform us what is included.

Director Wooster asked whether existing data had already been analyzed and expressed concern about relying too heavily on a model that has known limitations in Ventucopa. Mr. Van Lienden responded that while data has been reviewed, the next step is a formal adequacy check.

Mr. Beck explained that Woodard & Curran will compile existing data in Ventucopa to help the Board decide by November whether conditions are sufficient for an allocation decision or if a different approach is needed.

Director Jackson questioned whether the basin is being managed to sustainable yield, noting that only the Central Management Area has strict allocations while other areas continue higher pumping, creating an uneven approach to sustainability.

SAC Chair Brenton Kelly provided the SAC report on this item.

Stakeholder Jim Wegis commented that the model is faulty, and it does not capture how water really moves in Ventucopa. He added that the GSA shouldn't make decisions until the Santa Barbara Canyon Fault study is finished.

Stakeholder Marvin Rayhe commented that past agricultural expansion and water quality issues should be acknowledged but argued that pumping in Ventucopa has little effect on the CMA because no water crosses the Santa Barbara Canyon Fault.

Stakeholder Andrew Wright expressed concern about fairness and long-term impacts of allocations on small landowners and residents.

Stakeholder Adam Lovgren emphasized that further study is needed, particularly in Ventucopa, to validate local observations with data and clarify uncertainties about groundwater flows and pumping impacts.

Director Albano questioned Land IQ's data in Ventucopa, noting past heavy irrigation and recent hydrographs that suggest long-term declines, unlike the clear overdraft shown in the

Central Management Area. He referenced the hydrograph for Well 62, which shows steep recent declines and questioned whether cuts are needed.

Mr. Blakslee explained that the GSP found the model inadequate for implementing pumping reductions in Ventucopa due to limited data, but new monitoring wells, stream gauges, and meters are now being added to improve information.

Director Jackson emphasized that the basin must be managed as one interconnected system, raising concerns about how much water from Ventucopa recharges the CMA and emphasizing the need for the model to quantify that connection rather than treating areas as isolated.

Director Wooster suggested that any evaluation of Ventucopa should include all irrigated acres rather than focusing only on a portion of the area.

Director Higbee commented that the discussion exemplifies that more information is needed.

Director Young reminded the group that the Ventucopa area identified is a starting point and the final management area will be defined through broader analysis of wells, parcels, and regional groundwater conditions.

Stakeholder Ann Myhre compared Ventucopa to Salinas, questioning whether stopping farming would meaningfully recharge groundwater, noting it could take centuries for water to move across the fault and still not resolve the problem.

Mr. Blakslee agreed that there needs to be more specific timeline/ schedule for delivering and delving into data.

The Board directed staff to proceed with the proposed process to assess data and model adequacy in Ventucopa. Staff will return in September with a schedule that incorporates the Santa Barbara Canyon Fault results.

d. Discuss and Take Appropriate Action on Identifying Regions to Use for Evaluating Expanded Allocations and Overview and Evaluation Plan and Schedule

Mr. Blakslee introduced the item, explaining that the GSP currently includes allocations only for the Central Management Area (CMA) and Ventucopa. Staff were directed in July to present options for addressing pumping in other parts of the basin. Mr. Van Lienden presented three possible approaches.

Director Wooster expressed confusion over differing management area maps and questioned why the focus isn't placed solely on irrigated lands, since non-irrigated property is not contributing to the problem.

SAC Chair Kelly provided the SAC report on this item.

Chair Bantilan opened the floor for public comments.

Stakeholder Robbie Jaffe emphasized focusing on irrigated areas, noted past detailed geological analyses, and recommended adopting option three.

Chair Bantilan closed the floor for public comment.

Director Wooster objected to including farming units together with the CMA, stating that farming units already have allocations and should be treated separately.

Director Young expressed support for including farming units in the analysis, reasoning that because they already have allocations, their inclusion ensures consistency in management.

Director Albano noted that management area boundaries may shift as the model is updated and cautioned against locking into a structure too early. He suggested focusing on major pumping areas critical to basin sustainability, using a hydrologic approach and applying adaptive management only where local issues arise.

Chair Bantilan supported the analysis but stressed that Ventucopa must be addressed first, as it is the next logical candidate for management before considering other areas.

Director Jackson emphasized that the basin must be managed as a whole and the need to prevent new irrigation on previously unirrigated land in this critically over drafted basin.

Mr. Blakslee states that there would be a need to describe the Impacts to beneficial uses and users to take policy action against a user outside of the basin.

Director Young commented that broader policy analysis could be useful but best to have a tighter focus on Ventucopa at least for the short-term technical analysis.

e. Discuss and Take Appropriate Action on the CMA Allocation Exchanges Policy

Mr. Blakslee provides background on Board direction to explore the potential for an allocation exchange (water market) within the Central Management Area (CMA). He noted that staff are looking for feedback on policy points for the potential allocations exchanges**.**

SAC Chair Kelly provided the SAC report on this item.

Chair Bantilan opened the floor for public comment.

Stakeholder Adam Lovgren sked questions about eligible areas and urged that trading remain within each party's allocation to ensure basic compliance before expanding features; he cautioned that grouping unlike areas could mask localized effects.

Stakeholder Robbie Jaffe brings up concerns about defining what protection for small users means. She noted that Fox Canyon water market closed because trading was happening outside of the market. She expressed concerns that this could occur if this water market is based on it.

Stakeholder Tristan Zannon from Tri County Pistachio supported a common pool system to ease trades, citing problems with long-term yield calculations and upstream purchase limits. As a perennial grower with a major investment already facing a 32% cut, he stressed the need to secure water now rather than wait for perfect policy. He added that he could not file request for allocation variance.

Director Albano asked if a variance request can be brought to the board for next year's allocation.

The Board then worked through the draft policy considerations:

- Trade Volumes (3b): Director Albano proposed allowing trades up to 200 AF of a landowner's allocation. Other Directors discussed the role of the Board in approving trades, noting that a standard transfer form could be applied for all participants.
- Free-Market Approach: Directors generally agreed that simple, no-cap free-market trades are preferable at this stage, rather than adding complex restrictions.
- Trade Timing (3d): There was general support for the idea of approving trades up to five years in advance.
- Administrative Fee (3e): Directors agreed to defer discussion of administrative fees.
- Protections for Small Users (4): Directors noted this is primarily a buyer's market; no cap on trades was proposed unless extenuating circumstances arise.
- Tracking and Transparency (5): Directors agreed to use the existing allocation spreadsheet, with trades summarized for public reporting.
- Approval Process (6): Directors supported requiring a basic transfer form signed by both parties, with little or no Board approval required for individual trades.

f. Discuss and Take Appropriate Action on CMA Carryover Policy

Mr. Blakslee provides background regarding interest in considering the carryover policy elements of interest.

SAC Chair Brenton Kelly gives SAC committee report on this item.

There were no public comments on this item.

Board goes through each element to discuss and decide on way forward:

- Director Albano: Not ready for carryover policy.
- Director Jackson: On the fence; could see both pros and cons.
- Director Young: Not hearing a big need for this policy.
- Director Wooster: Agree, not big need.
- Director Yurosek: Need a policy, but basin-wide through the adjudication process.

Stakeholder Tristan Zannon commented that if there is a carryover policy, then he is interested in buying.

The Board decided not to adopt a carryover policy at this time and to reconsider the issue in the next fiscal year.

g. Discuss and Take Appropriate Action on Revising Sustainable Management Criteria at Opti Well No. 118

Mr. Van Lienden provides background and overview on Well No. 118 violating Minimum Threshold. He recommended removing this well, which would bring the MT to 72 feet DTW based on deepest historical value.

There were no public comments on this item.

MOTION

Director Young made a motion to remove the shallow well and readjust the MT to 72 ft. Director Jackson seconded, a roll call vote was made and passed with 60%.

AYES: Albano, Bantilan, Jackson, Young, Yurosek, Wooster, Zenger
NOES: None
ABSTAIN: None
ABSENT: Higbee, Reely, Williams

h. Discuss and Take Appropriate Action on Replacing Well 608 in the Representative Monitoring Network

Mr. Van Lienden provides background and overview of well 608, which was destroyed in early 2024.

There was no public comment on this item.

MOTION

Director Albano made a motion to replace well 608 with a nearby monitoring well to continue groundwater level measurements. Director Jackson seconded, a roll call vote was made and passed with 60%.

AYES: Albano, Bantilan, Jackson, Young, Yurosek, Wooster, Zenger
NOES: None
ABSTAIN: None
ABSENT: Higbee, Reely, Williams

REPORT ITEMS

12. Administrative Updates

a. Report of the Executive Director

Mr. Blakslee provided an overview of the budget to actuals through June 2025 and reported that the program overall is on budget through end of the year.

b. Report of the General Counsel

Nothing to report.

13. Technical Updates

a. **Update on Groundwater Sustainability Plan Activities**
Mr. Van Lienden noted that the finalized Fault Investigation Report is complete and posted on the Cuyama Basin website.

b. **Update on Grant-Funded Projects**
Mr. Van Lienden briefly provided an overview on grant-funded projects, which is provided in the board packet.

c. **Quarterly Groundwater Conditions Report**
Mr. Van Lienden briefly provided an overview of the groundwater conditions. Well 618 and well 610 under MT. MT for 618 will be adjusted as approved by the Board, while Mr. Blakslee mentions that they will come back to the Board with SOP or next steps regarding an ad-hoc to investigate Well 610.

14. **Report of Ad Hoc Committees**
Nothing to report.

15. **Directors' Forum**
Director Albano suggested following up with Jim Strandberg regarding Director Higbee's comments about Santa Barbara/Kern cooperation.

16. **Public comment for Items Not on the Agenda**
Stakeholder Adam Lovgren raised equity concerns for future allocation expansions, asking whether the Board will wait until then to create protections or begin developing adaptable policies now. He asked if the board would wait until then to figure out what works or work up a policy now that can be adapted as the expansion takes place.

17. **Correspondence**
There was no correspondence received.

CLOSED SESSION

18. **Conference with Legal Counsel- Existing Litigation**
At 5:45 PM, the Board adjourned to closed session. At 5:53 PM, the Board returned from closed session at which time Legal Counsel reported to the public that there was no reportable action.

19. **Adjourn**
Chair Bantilan adjourned the meeting at 5:53 PM.

BOARD OF DIRECTORS OF THE
CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

Chair: _____

ATTEST:

Secretary: _____

TO: Board of Directors
Agenda Item No. 7

FROM: Taylor Blakslee, Hallmark Group

DATE: September 3, 2025

SUBJECT: Approve Payment of Bills for June and July 2025

Recommended Motion
Approve payment of the bills for June and July 2025 in the amount of $151,180

Discussion
Consultant invoices for the months of June and July 2025 are summarized below for consideration of Board approval.

Expense	June	July	Totals
Woodard & Curran – Technical Services	$33,482	$39,776	$ 73,258
Hallmark – Executive Director services	$17,028	$16,696	$ 33,724
Klein DeNatale Goldner – Legal services	$9,650	$8,511	$ 18,161
U.S. Geological Survey	$13,150	$0	$ 13,150
Provost & Pritchard – Quarterly groundwater levels	$596	$12,290	$ 12,886
TOTALS	$73,906	$ 77,273	$151,180

TO: Board of Directors
Agenda Item No. 8

FROM: Taylor Blakslee, Hallmark Group

DATE: September 3, 2025

SUBJECT: Approve Financial Reports for June and July 2025

Recommended Motion
Approve financial reports for June and July 2025.

Discussion
The Cuyama Basin Groundwater Sustainability Agency's financial report for June 2025 is provided as **Attachment 1** and the financial report for July 2025 is provided as **Attachment 2**.

The reports include:

- Statement of Financial Position
- Receipts and Disbursements
- A/R Aging Summary
- A/P Aging Summary
- Statement of Operations with Budget Variance
- 2024/2025 Operating Budget

Cuyama Basin GSA

Financial Statements

June 2025

CUYAMA BASIN GSA
Statement of Financial Position
As of June 30, 2025

	Jun 30, 25	Jun 30, 24	$ Change	% Change
ASSETS				
Current Assets				
Checking/Savings				
Chase - General Checking	1,687,745	187,287	1,500,458	801%
Total Checking/Savings	1,687,745	187,287	1,500,458	801%
Accounts Receivable				
Accounts Receivable	0	3,849,898	-3,849,898	-100%
Total Accounts Receivable	0	3,849,898	-3,849,898	-100%
Other Current Assets				
Grant Retention Receivable	687,664	0	687,664	100%
Total Other Current Assets	687,664	0	687,664	100%
Total Current Assets	2,375,408	4,037,185	-1,661,777	-41%
TOTAL ASSETS	**2,375,408**	**4,037,185**	**-1,661,777**	**-41%**
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
Accounts Payable	247,673	1,648,390	-1,400,717	-85%
Total Accounts Payable	247,673	1,648,390	-1,400,717	-85%
Other Current Liabilities				
New/Repl Well Deposits	0	1,900	-1,900	-100%
Deferred Revenue - GWE Fees	103,473	40,779	62,694	154%
Accrued Expenses	2,168	0	2,168	100%
Total Other Current Liabilities	105,640	42,679	62,961	148%
Total Current Liabilities	353,314	1,691,070	-1,337,756	-79%
Total Liabilities	353,314	1,691,070	-1,337,756	-79%
Equity				
Unrestricted Net Assets	2,346,115	2,080,948	265,167	13%
Net Income	-324,020	265,167	-589,187	-222%
Total Equity	2,022,095	2,346,115	-324,020	-14%
TOTAL LIABILITIES & EQUITY	**2,375,408**	**4,037,185**	**-1,661,777**	**-41%**

CUYAMA BASIN GSA
Receipts and Disbursements
As of June 30, 2025

Type	Date	Num	Name	Debit	Credit
Chase - General Checking					
Payment	07/10/2024	21016	Groundwater Extraction Fees:Apache Canyon Ranch, Inc	1,639.80	
Payment	07/10/2024	6585029	Groundwater Extraction Fees:Karam Pistachio Farm	2,401.90	
Payment	07/10/2024	2723	Groundwater Extraction Fees:CCSH Farms	497.00	
Payment	07/10/2024	1529	Groundwater Extraction Fees:Brodiaea, Inc	3,991.73	
Payment	07/10/2024	438	Groundwater Extraction Fees:Bosma and Ricci	122.55	
Payment	07/10/2024	1002	Groundwater Extraction Fees:Boyajian, Tanner	40.00	
Payment	07/10/2024	556946	Groundwater Extraction Fees:Perkins Ranch	566.48	
Payment	07/10/2024	556946	Groundwater Extraction Fees:Bolthouse Land Co, LLC	39,047.19	
Payment	07/10/2024	252	Groundwater Extraction Fees:Anderson Development	10.35	
Payment	07/10/2024	22783	Groundwater Extraction Fees:Cuyama Orchards, Inc	4,376.09	
Payment	07/10/2024	8418	Groundwater Extraction Fees:Buck, Ann	522.00	
Payment	07/10/2024	2251	Groundwater Extraction Fees:Highlands Vineyard SB, LLC	9,160.00	
Payment	07/10/2024	525138	Groundwater Extraction Fees:E & B Natural Resources Mgmt ...	121.75	
Payment	07/24/2024	806	Groundwater Extraction Fees:Lewis, David	177.06	
Payment	07/24/2024	511533	Groundwater Extraction Fees:Grimmway Enterprises, Inc	61,259.40	
Payment	07/24/2024	1739	Groundwater Extraction Fees:Caliente Ranch	22.38	
Deposit	07/24/2024	134526	Farm Pump and Irrigation Co.	1,200.00	
Payment	07/24/2024	2776	Groundwater Extraction Fees:Adam Family	16.94	
Payment	07/24/2024	10332	Groundwater Extraction Fees:JHP Global, Inc	1,826.40	
Bill Pmt -Check	07/31/2024	1183	BC2 Environmental		237,303.32
Payment	08/13/2024	84237	Groundwater Extraction Fees:H Lima Company	12.38	
Payment	08/13/2024	808	Groundwater Extraction Fees:Lewis, David	10.00	
Payment	08/13/2024	557015	Groundwater Extraction Fees:Lear Real Estate Ent LLC	2,841.05	
Payment	08/13/2024	10364	Groundwater Extraction Fees:JHP Global, Inc	182.64	
Bill Pmt -Check	08/21/2024		Klein DeNatale Goldner	0.00	
Payment	09/06/2024	53066	Groundwater Extraction Fees:Cuyama Dairy Farm	1,153.63	
Payment	09/30/2024	557682	Groundwater Extraction Fees:Lear Real Estate Ent LLC	284.11	
Payment	09/30/2024	53134	Groundwater Extraction Fees:Cuyama Dairy Farm	115.37	
Payment	09/30/2024	05-523675	Department of Water Resources	531,145.52	
Check	10/03/2024	Svc Fee	Chase Bank		95.00
Bill Pmt -Check	10/09/2024	1184	BC2 Environmental		315,353.70
Bill Pmt -Check	10/09/2024	1185	HGCPM, Inc.		22,670.41
Bill Pmt -Check	10/09/2024	1186	Klein DeNatale Goldner		13,846.42
Bill Pmt -Check	10/09/2024	1187	Provost & Pritchard Consulting Group		728.00
Bill Pmt -Check	10/09/2024	1188	U.S. Geological Survey		13,150.00
Bill Pmt -Check	10/09/2024	1189	Woodard & Curran Inc		187,468.18
Payment	11/27/2024	05-579377	Department of Water Resources	1,430,117.16	
Bill Pmt -Check	11/27/2024	1190	BC2 Environmental		443,384.91
Bill Pmt -Check	11/27/2024	1191	Daniells Phillips Vaughan & Bock		9,000.00
Bill Pmt -Check	11/27/2024	1192	HGCPM, Inc.		79,444.30
Bill Pmt -Check	11/27/2024	1193	Klein DeNatale Goldner		45,136.44
Bill Pmt -Check	11/27/2024	1194	Provost & Pritchard Consulting Group		17,850.50
Bill Pmt -Check	11/27/2024	1195	U.S. Geological Survey		13,150.00
Bill Pmt -Check	11/27/2024	1196	Woodard & Curran Inc		783,998.61
Payment	12/31/2024	05-606910	Department of Water Resources	2,528,410.54	
Bill Pmt -Check	01/15/2025	1197	BC2 Environmental		339,952.50
Bill Pmt -Check	01/15/2025	1198	HGCPM, Inc.		100,558.88
Bill Pmt -Check	01/15/2025	1199	Klein DeNatale Goldner		70,744.09
Bill Pmt -Check	01/15/2025	1200	Provost & Pritchard Consulting Group		6,535.20
Bill Pmt -Check	01/15/2025	1201	Woodard & Curran Inc		534,800.15
Bill Pmt -Check	03/05/2025	1202	CA Assoc of Mutual Water Companies		100.00
Bill Pmt -Check	03/05/2025	1203	Daniells Phillips Vaughan & Bock		500.00
Bill Pmt -Check	03/05/2025	1204	HGCPM, Inc.		40,444.89
Bill Pmt -Check	03/05/2025	1205	Klein DeNatale Goldner		24,097.40
Bill Pmt -Check	03/05/2025	1206	Provost & Pritchard Consulting Group		40,656.75
Bill Pmt -Check	03/05/2025	1207	U.S. Geological Survey		13,150.00
Bill Pmt -Check	03/05/2025	1208	Woodard & Curran Inc		162,791.68
Bill Pmt -Check	03/24/2025	1209	In-Situ, Inc.	0.00	
Bill Pmt -Check	03/24/2025	1210	Insurica		21,420.00
Bill Pmt -Check	04/14/2025	1211	In-Situ, Inc.		29,909.26
Payment	04/29/2025	SB County Direct Dep	Groundwater Extraction Fees:Duncan Family Farms	382,423.82	
Bill Pmt -Check	05/07/2025	1212	HGCPM, Inc.		45,592.32
Bill Pmt -Check	05/07/2025	1213	Klein DeNatale Goldner		20,991.50
Bill Pmt -Check	05/07/2025	1214	Provost & Pritchard Consulting Group		312.00
Bill Pmt -Check	05/07/2025	1215	U.S. Geological Survey		13,150.00
Bill Pmt -Check	05/07/2025	1216	Woodard & Curran Inc		112,941.25
Bill Pmt -Check	05/07/2025	1217	Provost & Pritchard Consulting Group		2,368.90
Bill Pmt -Check	05/07/2025	1218	Woodard & Curran Inc		81,638.75
Payment	06/12/2025	Wire #896487	Groundwater Extraction Fees:Duncan Family Farms	42,485.53	
Payment	06/13/2025	699	Groundwater Extraction Fees:The Ranch	92.50	
Payment	06/13/2025	503	Groundwater Extraction Fees:Bosma and Ricci	122.53	
Payment	06/13/2025	3627	Groundwater Extraction Fees:Harrington Farms	813.40	

CUYAMA BASIN GSA
Receipts and Disbursements
As of June 30, 2025

Type	Date	Num	Name	Debit	Credit
Payment	06/13/2025	373	Groundwater Extraction Fees:Lucky Dog Ranch, LLC	1,750.00	
Payment	06/13/2025	887209557	Groundwater Extraction Fees:Cheng, Ceferino	658.00	
Payment	06/13/2025	177014	Groundwater Extraction Fees:Kern Ridge Growers, LLC	7,751.00	
Payment	06/13/2025	390	Groundwater Extraction Fees:Anderson Development	204.15	
Payment	06/13/2025	111730	Groundwater Extraction Fees:Sunridge Nurseries, Inc	2,314.45	
Payment	06/13/2025	63673	Groundwater Extraction Fees:Feinstein Investments	2,724.35	
Payment	06/16/2025	25238	Groundwater Extraction Fees:Cuyama Orchards, Inc	5,603.00	
Payment	06/16/2025	888132100	Groundwater Extraction Fees:Buck, Ann	557.50	
Payment	06/16/2025	661	Groundwater Extraction Fees:Lee, Jennifer	159.05	
Payment	06/24/2025	0034700692	Groundwater Extraction Fees:Karam Pistachio Farm	2,559.10	
Payment	06/24/2025	5050	Groundwater Extraction Fees:CCSH Farms	535.00	
Check	06/24/2025	1219	Farm Pump and Irrigation Co.		1,200.00
Check	06/24/2025	1220	Grimmway		1,900.00
Check	06/24/2025	1221	County of Santa Barbara		50.00
Check	06/24/2025	1222	County of Ventura		50.00
Payment	06/25/2025	19635	Groundwater Extraction Fees:Triangle E. Farms	2,637.15	
Payment	06/25/2025	1094	Groundwater Extraction Fees:Highlands Vineyard SB, LLC	7,732.30	
Payment	06/25/2025	1549	Groundwater Extraction Fees:Brodiaea, Inc	4,769.80	
Payment	06/25/2025	561033	Groundwater Extraction Fees:Bolthouse Land Co, LLC	46,700.60	
Payment	06/25/2025	561033	Groundwater Extraction Fees:Perkins Ranch	1,746.45	
Payment	06/25/2025	561033	Groundwater Extraction Fees:Lear Real Estate Ent LLC	2,303.80	
Payment	06/25/2025	21204	Groundwater Extraction Fees:Apache Canyon Ranch, Inc	1,697.75	
Payment	06/25/2025	4621	Groundwater Extraction Fees:Sunrise Olive Ranch, LLC	9,125.85	
Payment	06/25/2025	05-734792	Department of Water Resources	198,777.36	
Payment	06/27/2025	511918	Groundwater Extraction Fees:E & B Natural Resources Mgmt ...	121.30	
Payment	06/27/2025	12866	Groundwater Extraction Fees:Cuyama Community Srvcs Dist	793.95	
Deposit	06/27/2025			461.94	
Total Chase - General Checking				5,348,893.05	3,848,435.31
TOTAL				**5,348,893.05**	**3,848,435.31**

CUYAMA BASIN GSA
A/P Aging Summary
As of June 30, 2025

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
HGCPM, Inc.	17,028	20,582	0	21,300	0	58,910
Klein DeNatale Goldner	9,650	22,701	0	11,378	0	43,728
Provost & Pritchard Consulting Group	596	705	0	10,526	0	11,827
U.S. Geological Survey	13,150	0	0	0	0	13,150
Woodard & Curran Inc	33,482	45,627	0	40,949	0	120,058
TOTAL	**73,906**	**89,615**	**0**	**84,152**	**0**	**247,673**

CUYAMA BASIN GSA
Statement of Operations with Budget Variance
July 2024 through June 2025

	Jul '24 - Jun 25	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
Direct Public Funds				
Groundwater Extraction Fees	171,177	175,000	-3,823	98%
Grant Reimbursements	1,950,523	1,670,000	280,523	117%
GWE Late Fees	602	0	602	100%
Total Direct Public Funds	2,122,303	1,845,000	277,303	115%
Other Income				
Interest Income	462			
Total Other Income	462			
Total Income	2,122,765	1,845,000	277,765	115%
Cost of Goods Sold				
Program Expenses				
Technical Consulting				
Adjudication Support	81,639	0	81,639	100%
Monitoring Network Enhancements	658,599	497,383	161,216	132%
GSP Implementation - W&C	115,474	215,250	-99,776	54%
Stakeholder Engagement	137,208	114,450	22,758	120%
Technical Support for DWR	8,786	21,000	-12,214	42%
Outreach	7,560	30,410	-22,850	25%
Grant Proposals	0	44,100	-44,100	0%
Grant Administration	105,086	105,000	86	100%
Improve Basin Water Use Info	54,717	75,600	-20,883	72%
Project & Mgmt Action Impl	186,982	134,400	52,582	139%
5 Year GSP Update - Technical	351,785	309,802	41,983	114%
Fault Investigation	122,341	121,867	474	100%
Well Permit Review - Technical	0	12,600	-12,600	0%
GSP Development	0	42,000	-42,000	0%
Total Technical Consulting	1,830,177	1,723,862	106,315	106%
Other Technical Consulting				
Monitoring Network	68,633	68,000	633	101%
Stream Gauge Maintenance (USGS)	52,600	56,650	-4,050	93%
Total Other Technical Consulting	121,233	124,650	-3,417	97%
Total Program Expenses	1,951,410	1,848,512	102,898	106%
Total COGS	1,951,410	1,848,512	102,898	106%
Gross Profit	171,355	-3,512	174,868	-4,879%
Expense				
General and Administrative				
Executive Director				
Board Meetings	139,831	110,990	28,841	126%
Consult Mgmt and GSP Devel	55,006	73,578	-18,572	75%
Financial Information Coor	51,894	47,587	4,307	109%
Funding - GWE Fees	7,750	5,830	1,920	133%
Outreach	18,463	11,847	6,616	156%
Adjudication Support	2,938	2,138	800	137%
Water Use Enforcement	88	25,400	-25,313	0%
Travel and Direct Costs	3,898	4,894	-996	80%
Management Area Admin	9,638	13,005	-3,368	74%
5-Year GSP Update - Admin	0	20,131	-20,131	0%
Well Permit Review - Admin	0	2,000	-2,000	0%
Total Executive Director	289,505	317,400	-27,895	91%

CUYAMA BASIN GSA
Statement of Operations with Budget Variance
July 2024 through June 2025

	Jul '24 - Jun 25	Budget	$ Over Budget	% of Budget
Other Administrative				
Legal	166,899	250,000	-83,101	67%
Insurance Policies	21,420	17,000	4,420	126%
Audit Fees	9,500	10,000	-500	95%
Bank Service Fees	95	0	95	100%
Printing and Copying	4,152	4,000	152	104%
Other Admin Expense	3,262	200	3,062	1,631%
Postage	543	0	543	100%
Contingency	0	20,000	-20,000	0%
Total Other Administrative	205,871	301,200	-95,329	68%
Total General and Administrative	495,376	618,600	-123,224	80%
Total Expense	495,376	618,600	-123,224	80%
Net Ordinary Income	-324,020	-622,112	298,092	52%
Net Income	**-324,020**	**-622,112**	**298,092**	**52%**

Cuyama Basin GSA

Financial Statements

July 2025

CUYAMA BASIN GSA
Statement of Financial Position
As of July 31, 2025

	Jul 31, 25	Jul 31, 24	$ Change	% Change
ASSETS				
Current Assets				
Checking/Savings				
Chase - General Checking	1,589,986	76,982	1,513,003	1,965%
Total Checking/Savings	1,589,986	76,982	1,513,003	1,965%
Accounts Receivable				
Accounts Receivable	1,047	3,855,101	-3,854,054	-100%
Total Accounts Receivable	1,047	3,855,101	-3,854,054	-100%
Other Current Assets				
Grant Retention Receivable	687,664	0	687,664	100%
Total Other Current Assets	687,664	0	687,664	100%
Total Current Assets	2,278,697	3,932,084	-1,653,387	-42%
TOTAL ASSETS	**2,278,697**	**3,932,084**	**-1,653,387**	**-42%**
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
Accounts Payable	151,180	1,798,643	-1,647,463	-92%
Total Accounts Payable	151,180	1,798,643	-1,647,463	-92%
Other Current Liabilities				
New/Repl Well Deposits	0	3,100	-3,100	-100%
Total Other Current Liabilities	0	3,100	-3,100	-100%
Total Current Liabilities	151,180	1,801,743	-1,650,563	-92%
Total Liabilities	151,180	1,801,743	-1,650,563	-92%
Equity				
Unrestricted Net Assets	2,022,095	2,346,115	-324,020	-14%
Net Income	105,422	-215,775	321,197	149%
Total Equity	2,127,517	2,130,340	-2,824	-0%
TOTAL LIABILITIES & EQUITY	**2,278,697**	**3,932,084**	**-1,653,387**	**-42%**

CUYAMA BASIN GSA
Receipts and Disbursements
As of July 31, 2025

Type	Date	Num	Name	Debit	Credit
Chase - General Checking					
Bill Pmt -Check	07/09/2025	1223	HGCPM, Inc.		41,881.43
Bill Pmt -Check	07/09/2025	1224	Klein DeNatale Goldner		34,078.41
Bill Pmt -Check	07/09/2025	1225	Provost & Pritchard Consulting Group		11,231.19
Bill Pmt -Check	07/09/2025	1226	Woodard & Curran Inc		86,576.03
Payment	07/18/2025	25335	Groundwater Extraction Fees:Yeguada Trujillo	165.25	
Payment	07/18/2025	542062	Groundwater Extraction Fees:Grimmway Enterprises, Inc	66,896.75	
Payment	07/18/2025	10608	Groundwater Extraction Fees:JHP Global, Inc	1,771.50	
Payment	07/18/2025	2616	Groundwater Extraction Fees:Tri-County Pistachios	5,450.00	
Payment	07/18/2025	53647	Groundwater Extraction Fees:Cuyama Dairy Farm	1,711.65	
Deposit	07/18/2025			13.20	
Total Chase - General Checking				76,008.35	173,767.06
TOTAL				**76,008.35**	**173,767.06**

CUYAMA BASIN GSA
A/R Aging Summary
As of July 31, 2025

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
Groundwater Extraction Fees						
Double H Farming, LLC	0	0	0	568	0	568
Duncan Family Farms	0	0	0	263	0	263
Lewis, David	0	0	0	216	0	216
Total Groundwater Extraction Fees	0	0	0	1,047	0	1,047
TOTAL	**0**	**0**	**0**	**1,047**	**0**	**1,047**

CUYAMA BASIN GSA
A/P Aging Summary
As of July 31, 2025

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
HGCPM, Inc.	16,696	0	17,028	0	0	33,725
Klein DeNatale Goldner	8,511	0	9,650	0	0	18,161
Provost & Pritchard Consulting Group	12,290	0	596	0	0	12,886
U.S. Geological Survey	0	0	13,150	0	0	13,150
Woodard & Curran Inc	39,776	0	33,482	0	0	73,258
TOTAL	**77,274**	**0**	**73,906**	**0**	**0**	**151,180**

CUYAMA BASIN GSA
Statement of Operations with Budget Variance
July 2025

	Jul 25	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
Direct Public Funds				
Groundwater Extraction Fees	180,515	180,000	515	100%
Total Direct Public Funds	180,515	180,000	515	100%
Other Income				
Interest Income	13	0	13	100%
Total Other Income	13	0	13	100%
Total Income	180,529	180,000	529	100%
Cost of Goods Sold				
Program Expenses				
Technical Consulting				
Adjudication Support	0	3,300	-3,300	0%
GSP Implementation - W&C	14,979	17,415	-2,436	86%
Stakeholder Engagement	4,201	8,100	-3,899	52%
Technical Support for DWR	0	834	-834	0%
Outreach	0	1,760	-1,760	0%
Grant Administration	3,435	5,000	-1,565	69%
Improve Basin Water Use Info	0	1,585	-1,585	0%
Fault Investigation	4,265	0	4,265	100%
Other Technical Tasks	12,896	22,000	-9,104	59%
Total Technical Consulting	39,776	59,994	-20,218	66%
Other Technical Consulting				
Monitoring Network	12,290	6,250	6,040	197%
CIMIS Station	0	10,000	-10,000	0%
Total Other Technical Consulting	12,290	16,250	-3,960	76%
Total Program Expenses	52,067	76,244	-24,177	68%
Total COGS	52,067	76,244	-24,177	68%
Gross Profit	128,462	103,756	24,706	124%
Expense				
General and Administrative				
Executive Director				
Board Meetings	9,407	11,400	-1,993	83%
Consult Mgmt and GSP Devel	3,695	4,170	-475	89%
Financial Information Coor	3,080	3,900	-820	79%
Support for DWR/Public Comments	0	1,175	-1,175	0%
CMA Policy and Allocations	0	3,000	-3,000	0%
Outreach	0	1,710	-1,710	0%
Adjudication Support	416	2,010	-1,594	21%
Water Use Enforcement	0	165	-165	0%
Travel and Direct Costs	98	0	98	100%
Total Executive Director	16,696	27,530	-10,834	61%
Other Administrative				
Legal	6,293	20,835	-14,543	30%
Printing and Copying	0	400	-400	0%
Other Admin Expense	51	0	51	100%
Contingency	0	1,665	-1,665	0%
Total Other Administrative	6,344	22,900	-16,557	28%
Total General and Administrative	23,040	50,430	-27,390	46%
Total Expense	23,040	50,430	-27,390	46%
Net Ordinary Income	105,422	53,326	52,096	198%
Net Income	**105,422**	**53,326**	**52,096**	**198%**

CUYAMA BASIN GSA
FY 25/26 Budget
July 2025 - June 2026

	Jul '25 - Jun 26
Ordinary Income/Expense	
Income	
Direct Public Funds	
Groundwater Extraction Fees	180,000
Grant Reimbursements	72,336
Total Direct Public Funds	252,336
Total Income	252,336
Cost of Goods Sold	
Program Expenses	
Technical Consulting	
Adjudication Support	38,500
GSP Implementation - W&C	209,000
Stakeholder Engagement	97,200
Technical Support for DWR	10,000
Outreach	21,100
Grant Proposals	45,100
Grant Administration	30,000
Improve Basin Water Use Info	19,000
Other Technical Tasks	262,100
Total Technical Consulting	732,000
Other Technical Consulting	
Monitoring Network	75,000
Stream Gauge Maintenance (USGS)	53,200
CIMIS Station	74,000
Total Other Technical Consulting	202,200
Total Program Expenses	934,200
Total COGS	934,200
Gross Profit	-681,864
Expense	
General and Administrative	
Executive Director	
Board Meetings	136,700
Consult Mgmt and GSP Devel	50,000
Financial Information Coor	46,800
Support for DWR/Public Comments	14,100
Funding - GWE Fees	12,000
CMA Policy and Allocations	24,500
Outreach	20,500
Adjudication Support	24,100
Water Use Enforcement	2,000
Total Executive Director	330,700
Other Administrative	
Legal	250,000
Insurance Policies	21,400
Audit Fees	10,000
Printing and Copying	5,000
Other Admin Expense	4,200
Contingency	20,000
Total Other Administrative	310,600
Total General and Administrative	641,300
Total Expense	641,300
Net Ordinary Income	-1,323,164
Net Income	**-1,323,164**

TO: Board of Directors
Agenda Item No. 9a

FROM: Taylor Blakslee

DATE: September 3, 2025

SUBJECT: Discuss and Take Appropriate Action on the Plan and Timeline to Evaluate Allocations in the Ventucopa Management Area

Recommended Motion
Board feedback requested.

Discussion
On May 7, 2025, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board adopted the Fiscal Year 2025-2026 budget, which included a project to evaluate potentially expanding allocations in the Ventucopa Management Area.

On July 9, 2025, staff presented a proposed plan outlining the technical tasks, coordination steps, and a draft schedule for evaluating if the current data and model is adequate to assess if allocations are required in the Ventucopa Management Area.

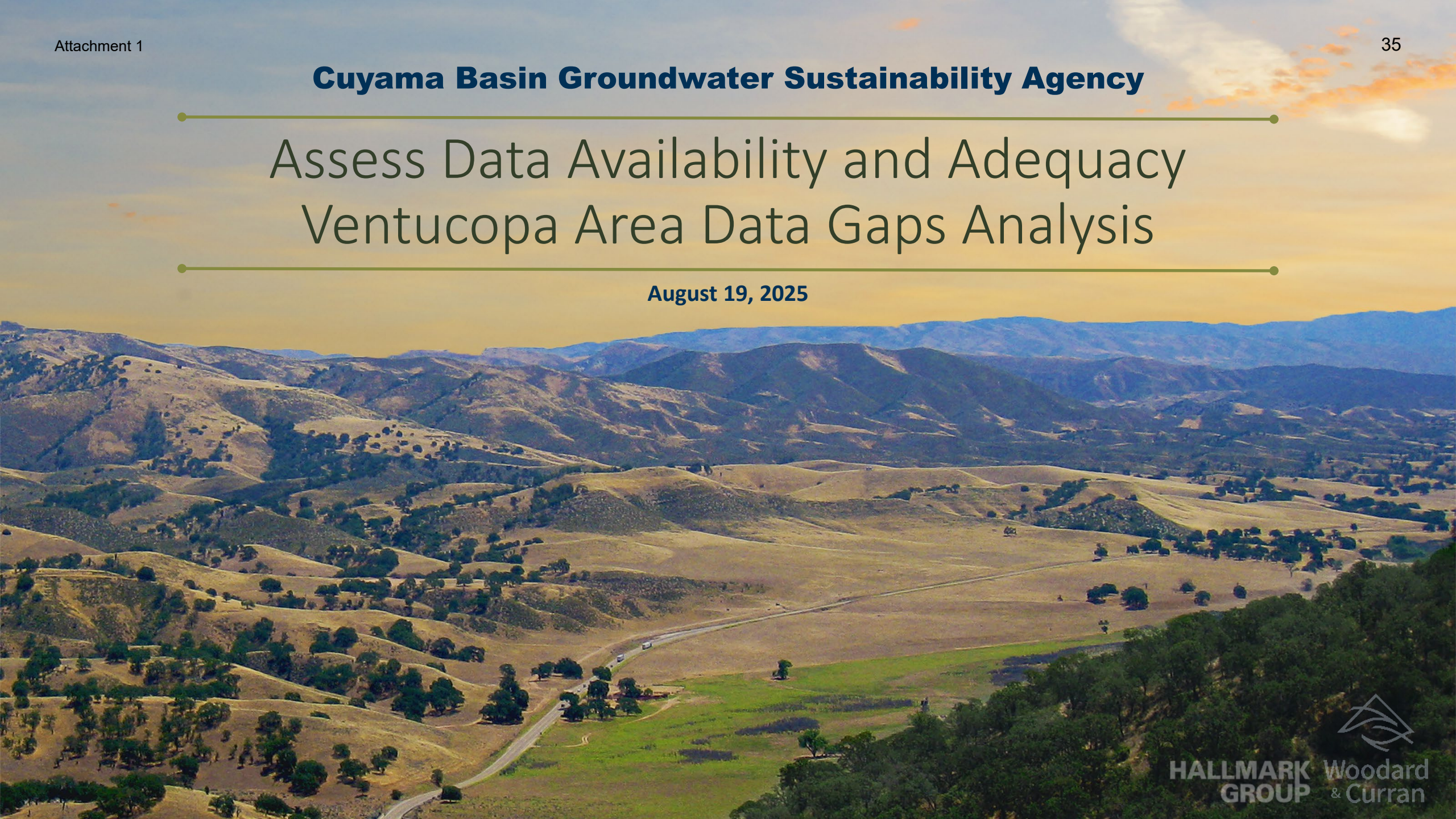
The technical approach to review the existing data and impact on the model was developed by basin technical consultant Woodard & Curran (W&C) and is provided as **Attachment 1**. This approach was reviewed with the basin Technical Forum on August 13, 2025 and the Ventucopa Board Ad hoc (Directors Albano, Bantilan, Reely, and Yurosek) on August 19, 2025.

W&C reported that field work to identify the extent of the Santa Barbara Canyon Fault (SBCF) along Highway 33 will not begin until October 2025. Since this investigation is a key component of the Ventucopa Management Area analysis, the staff recommendation on the ability to assess allocations in the Ventucopa Management Area will not be available until the January 14, 2026 Board meeting (was previously scheduled for the November 2025 Board meeting). An update on the SBCF investigation is provided as **Attachment 2.**

Cuyama Basin Groundwater Sustainability Agency

Assess Data Availability and Adequacy
Ventucopa Area Data Gaps Analysis

August 19, 2025



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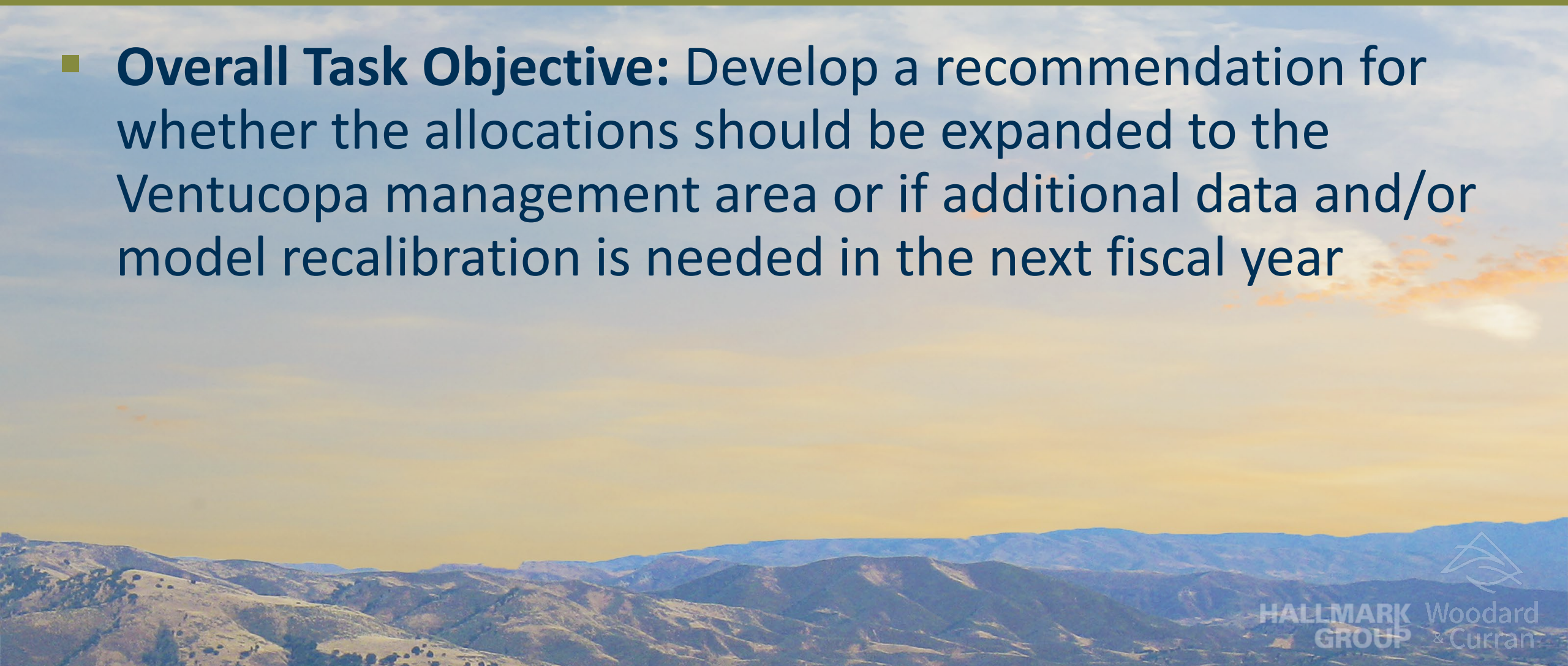
Woodard & Curran

Plan and Timeline to Evaluate Allocations in the Ventucopa Management Area

- **Overall Task Objective:** Develop a recommendation for whether the allocations should be expanded to the Ventucopa management area or if additional data and/or model recalibration is needed in the next fiscal year

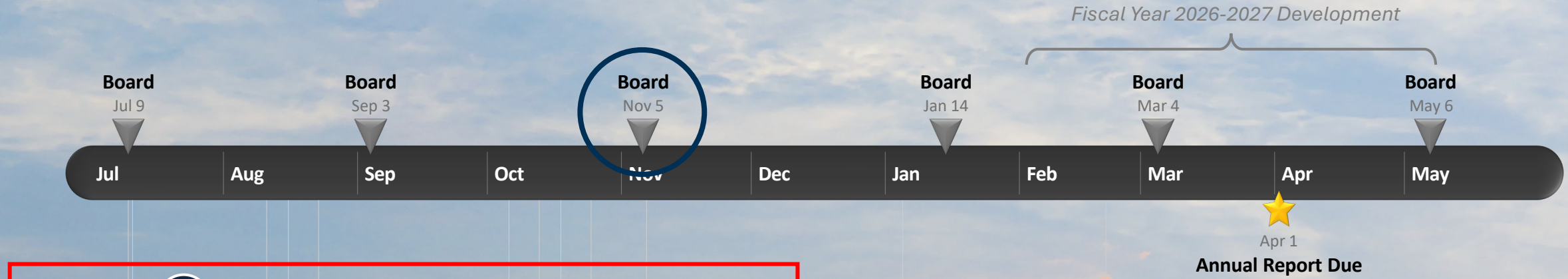


Proposed Process to Assess Available Data and Current Model

- Determine if current data and model are adequate to assess if allocations are needed:
  - **Assess data availability and adequacy:** develop a list of data needed and data available in the Ventucopa Management Area and identify data gaps and assess potential impact to model
  - **Assess model performance:** present and evaluate comparisons of modeled vs measured groundwater levels and modeled water budgets for the 1998-2024 water years
- Consider options for evaluation of potential allocations:
  - Use current data and model to evaluate potential allocations
  - Perform a model re-calibration with currently available data (including current SBCF study)
  - Develop additional data before performing a model re-calibration availability of data to perform model re-calibration

Ventucopa Management Area

Draft Plan/Timeline for Assessing the Implementation of Allocations



Tasks

Jul 10 - Aug 22 — 1 — Develop List of Data Needed for Ventucopa Analysis

Jul 10 - Oct 17 — 2 — Perform Analysis of GW Levels/Water Budget

Oct 6 - Oct 24 — 3 — Assess Data Needed for Model Recalibration

Jan 5 - Feb 20 — Develop Write-Up for Annual Report

Meetings

Aug 11 - Aug 15 — Tech Forum & Ad hoc

Oct 13 - Oct 17 — Tech Forum & Ad hoc

Nov 5 - Nov 6 — Board Direction on Approach and AR Write-Up

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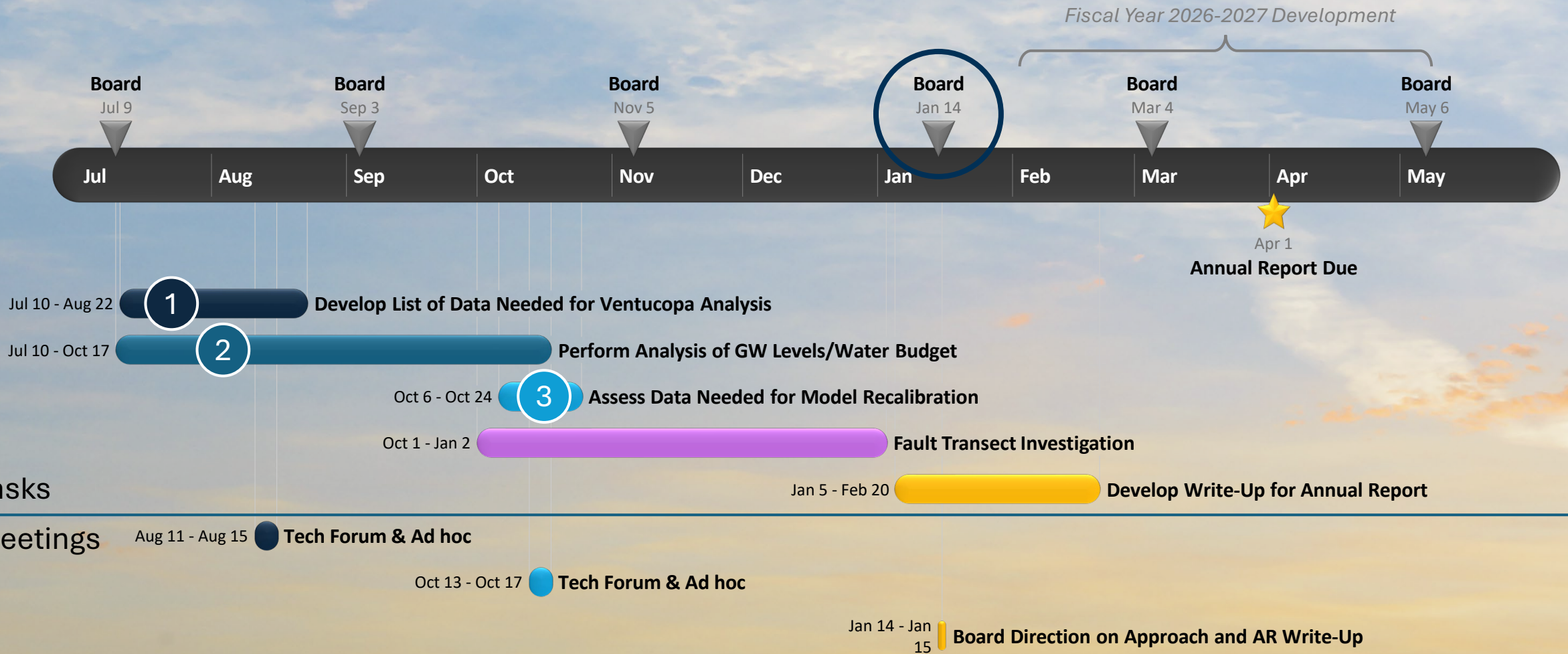
Ventucopa Management Area

Revised: Draft Plan/Timeline for Assessing the Implementation of Allocations



Allocations aim to balance inflows and outflows

Change in Storage = Inflows - Outflows

- Cannot measure the storage volume directly but we use GWLs as indicators.

Inflows

- Deep Percolation (Surface Recharge)
- Stream Seepage
- Subsurface Inflow

Outflows

- Pumping
- Stream Loss
- Subsurface Outflow

CBWRM is a tool that calculates this balance spatially and temporally.

Do the existing datasets give us confidence to estimate and validate the water balance?

Agenda

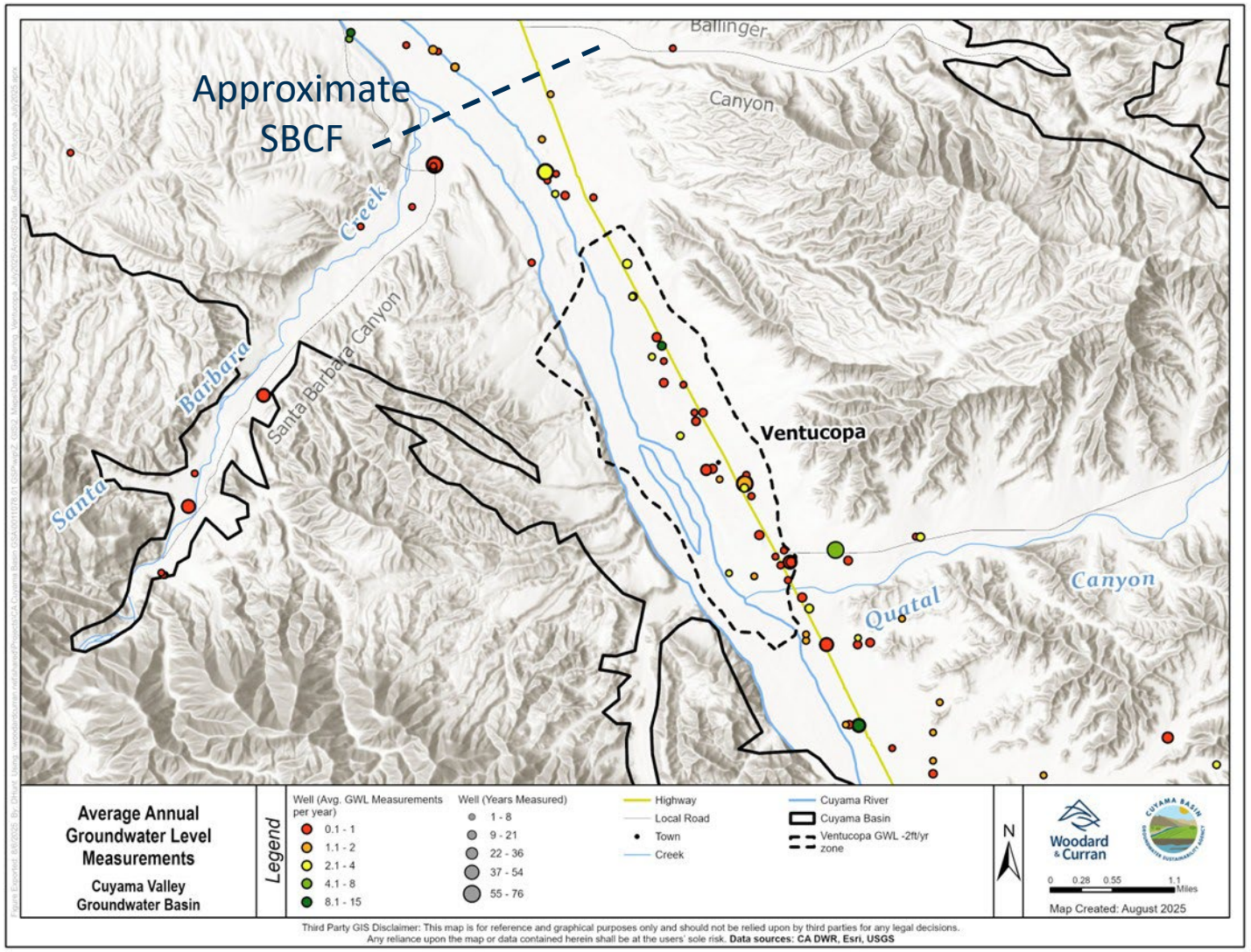
1. Datasets needed to calculate sustainable yield and allocations:
   - Groundwater Levels
   - Deep Percolation / Pumping
     - Precipitation, Applied Water, Runoff, ET, Land Use
   - Stream Seepage/Loss
   - Subsurface Inflow/Outflows
     - Including characterization of SBC Fault
   - CBWRM: Other datasets that can be beneficial
   - Summary & Conclusion
2. Discussion on the allocation calculations in Ventucopa:
   - Datasets, methodologies, potential challenges
   - Geographic area for water budget calculations

DATASETS
Groundwater Levels

Groundwater Levels as indicator of storage

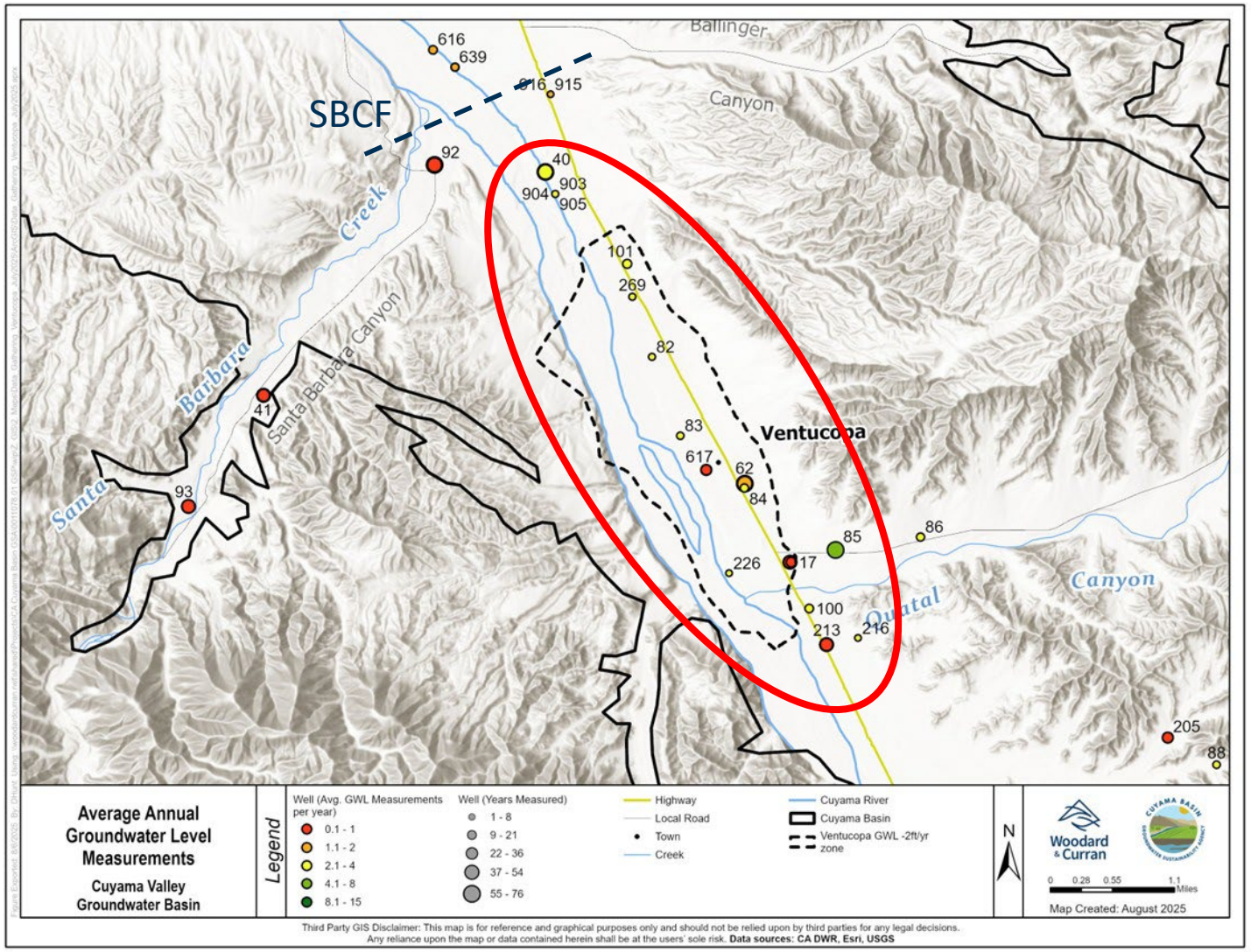
- Long-term and continuous GWLs are important to monitor the change in aquifer storage.
- GWLs:
  - Represent local conditions
  - Fluctuate seasonally
  - Influenced by BOTH hydrology AND human activities.

GWL Records Upstream of the SBC Fault



- 1950s to recent
- ~75 unique well locations
- Most have 1 measurement per year
- Most have less than 10 years of record
- Most located along HWY33

GWL Records Upstream of the SBC Fault past 1998



- Labels indicate OptiIDs.
- Red area is where we focus our efforts.

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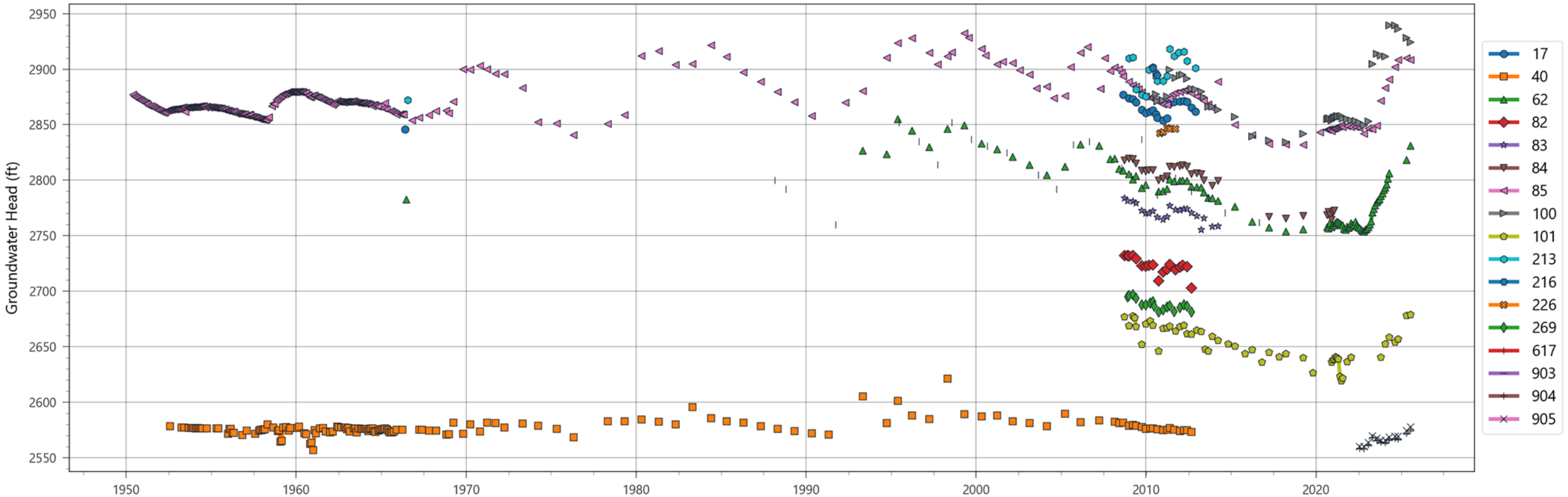
GWL Records in the vicinity of Ventucopa past 1998
Number of unique wells with data

USGS Study

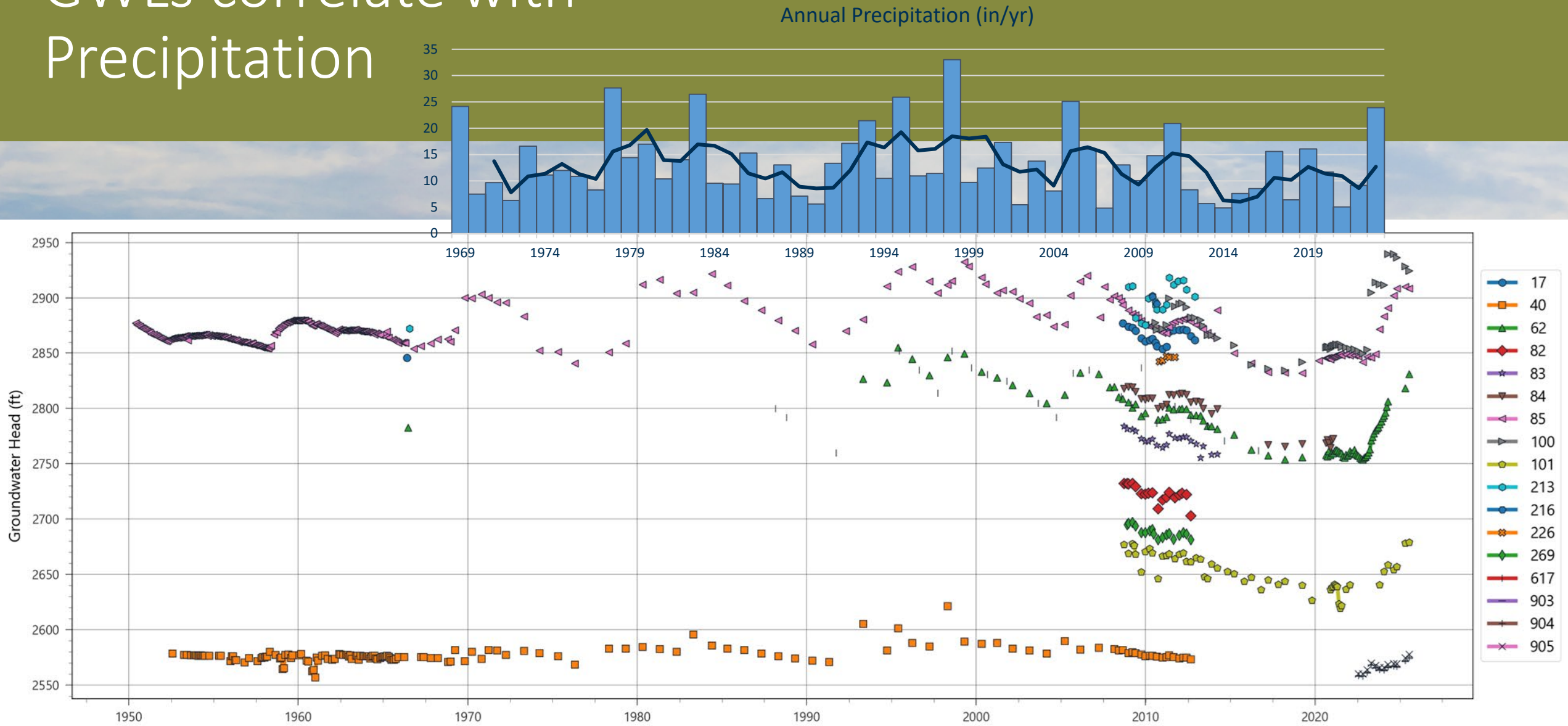
GSP Implementation

Calendar Year ->	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Years >0
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	6	7	0	3
Feb	0	0	0	0	3	3	3	0	3	0	3	1	4	0	4	0	0	0	0	0	0	0	0	4	1	1	1	0	11
Mar	0	0	0	3	0	0	0	3	0	2	0	10	5	12	7	6	6	4	4	5	5	5	1	4	1	1	1	0	18
Apr	3	3	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	3	6	7	7	8
May	0	0	0	0	0	0	0	0	0	0	3	10	10	12	11	5	0	0	0	0	0	0	0	4	1	1	0	0	9
Jun	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	4	1	1	0	0	5
Jul	2	1	1	1	1	1	1	1	1	1	2	1	5	1	0	0	0	0	0	0	0	0	0	4	6	6	0	7	17
Aug	0	0	1	0	0	1	0	0	1	0	4	0	8	6	11	5	1	0	1	0	0	0	4	1	1	1	6		14
Sep	0	1	0	0	0	0	1	1	0	0	4	11	5	7	0	0	0	0	0	0	0	0	4	1	1	1	0		11
Oct	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	4	4	6	7	6		11
Nov	0	0	0	0	0	0	0	0	0	2	3	0	0	1	3	6	0	0	0	0	0	0	5	1	1	1	0		9
Dec	0	0	0	0	0	0	0	0	0	0	9	10	12	10	5	0	0	0	0	0	0	0	5	1	1	1	0		9
Months >0	2	3	3	3	2	3	3	3	3	4	7	7	9	7	6	5	3	2	3	2	1	2	6	12	12	12	6	2	

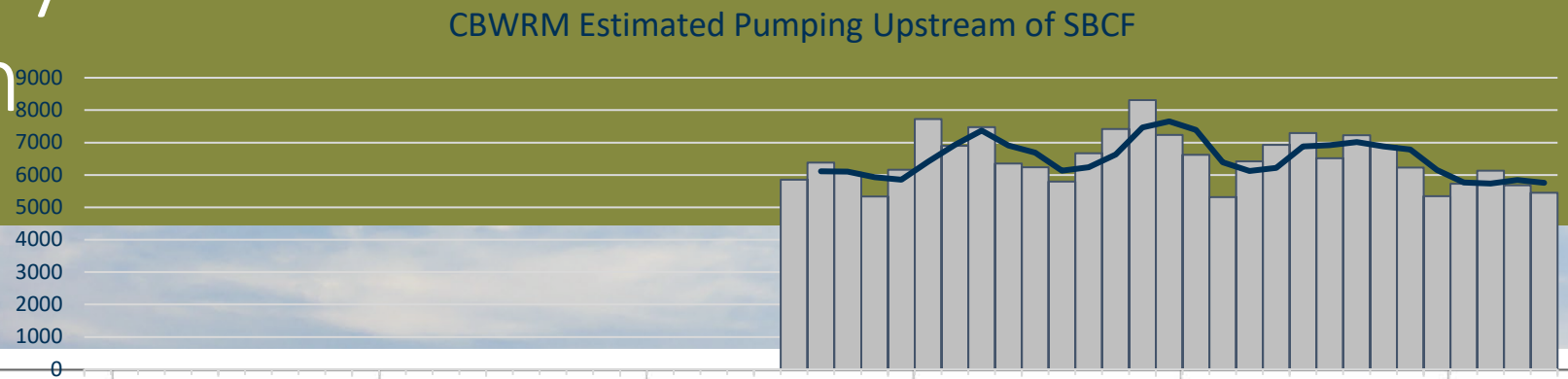
GWL Records in the vicinity of Ventucopa 1950s to recent, Monthly

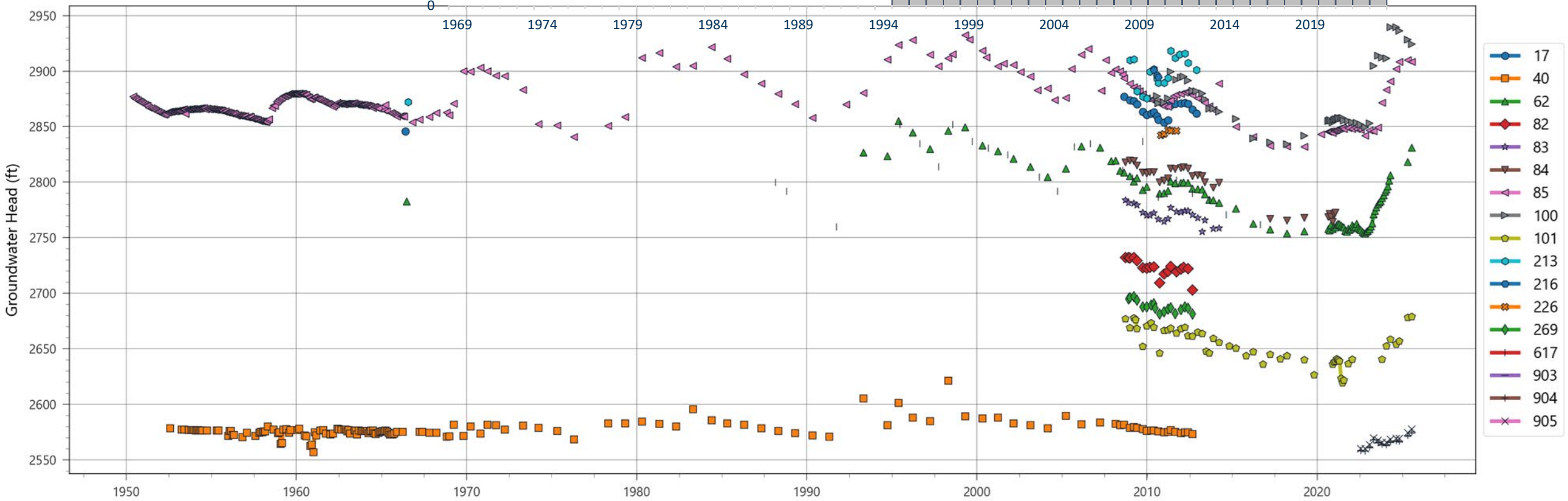


GWLs correlate with Precipitation

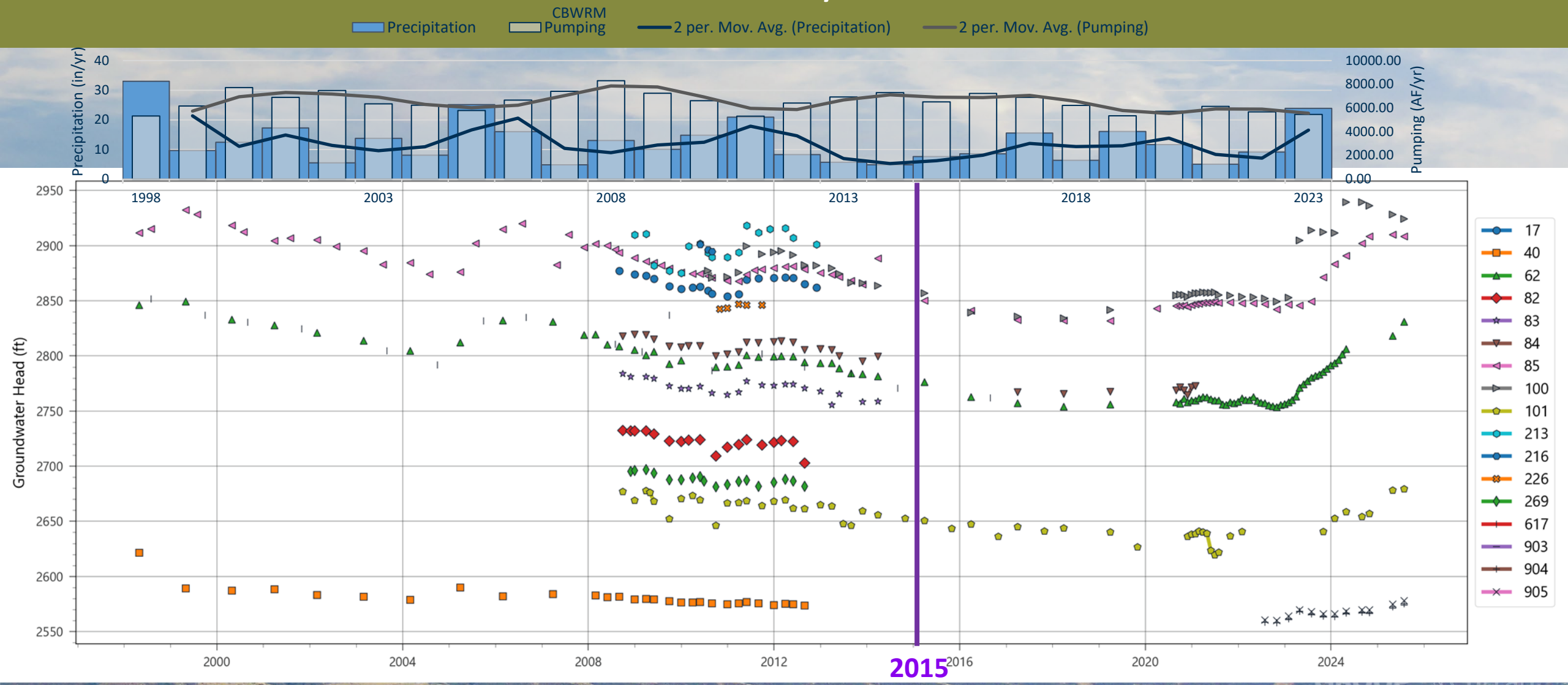


GWLs inversely correlate with Pumping

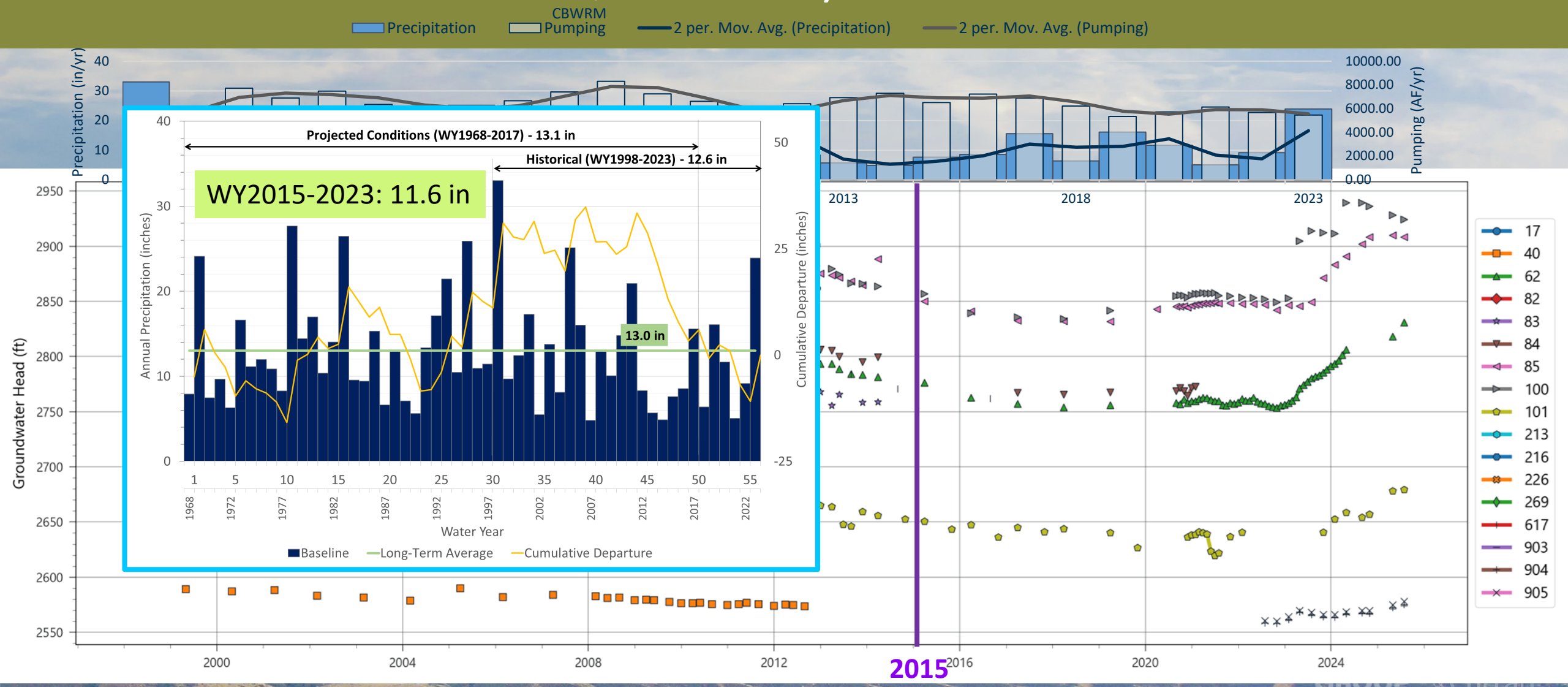




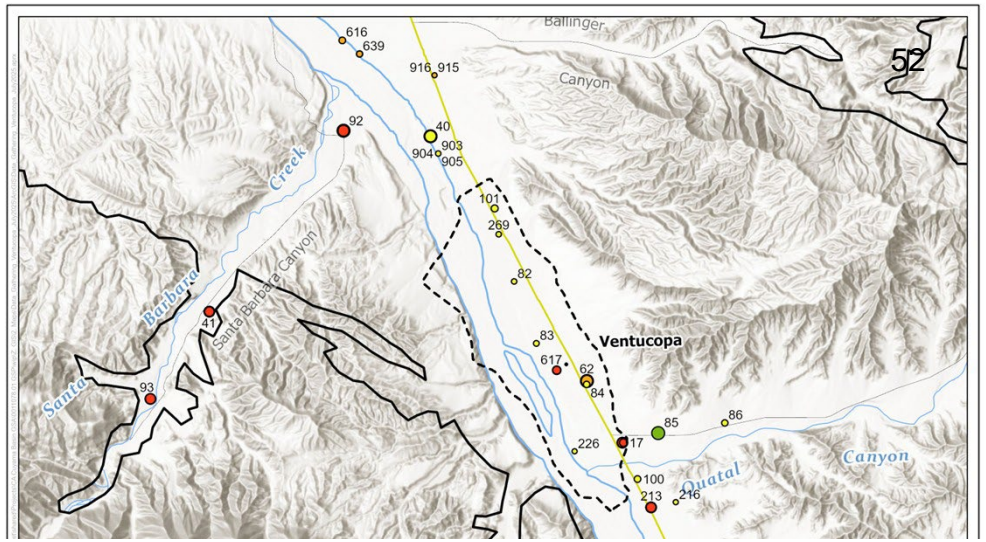
GWL Records in the vicinity of Ventucopa WY1998 to recent, Monthly

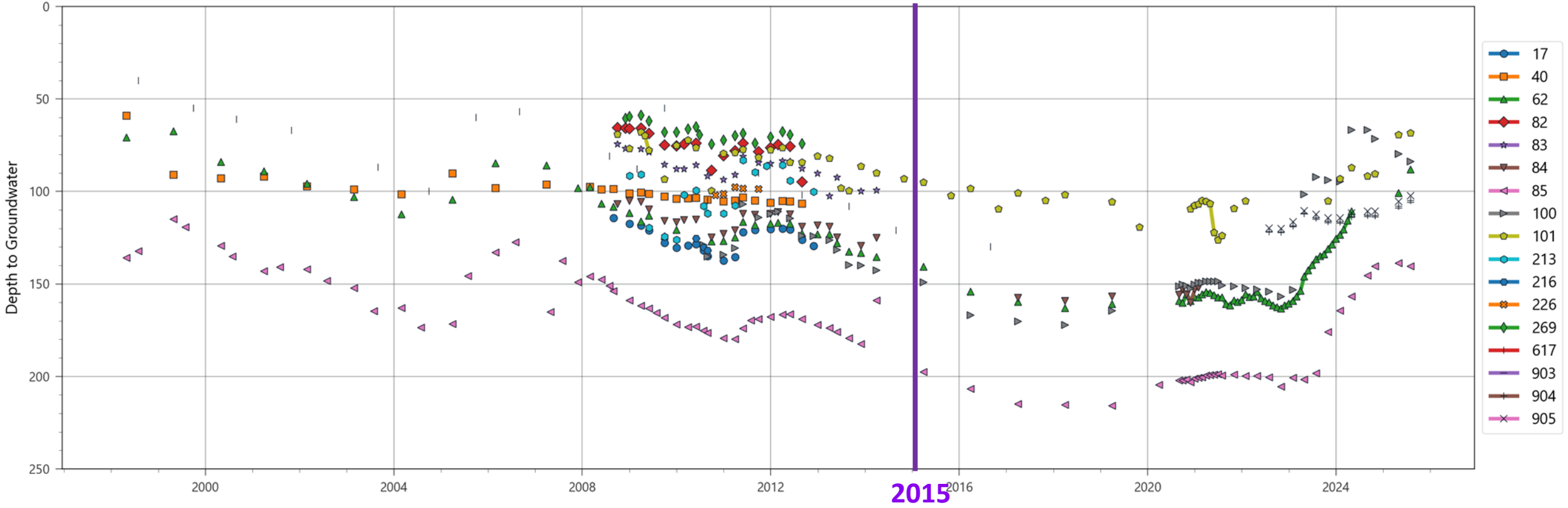


GWL Records in the vicinity of Ventucopa WY1998 to recent, Monthly

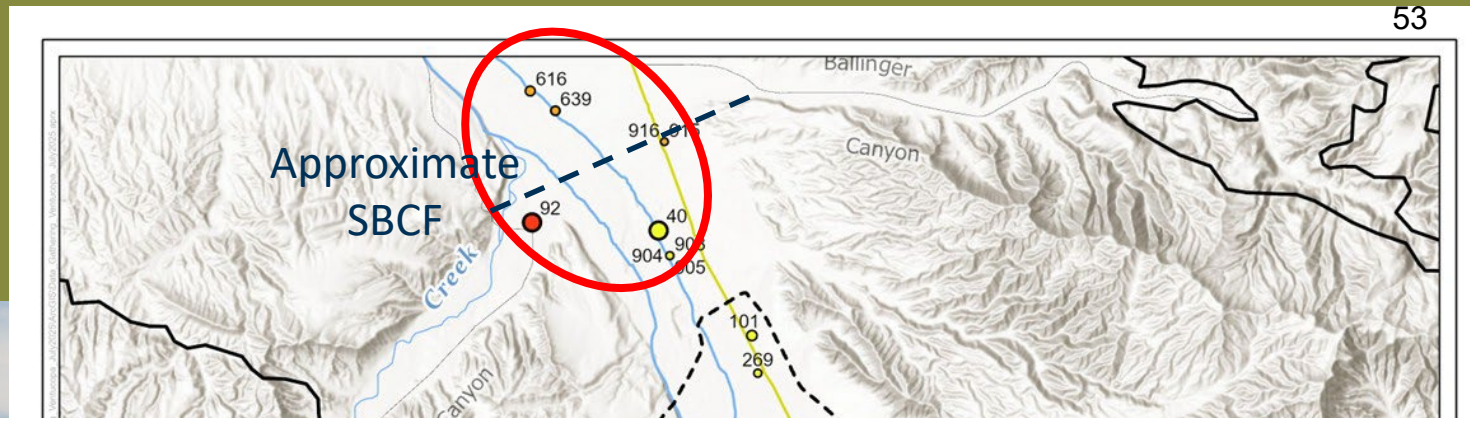


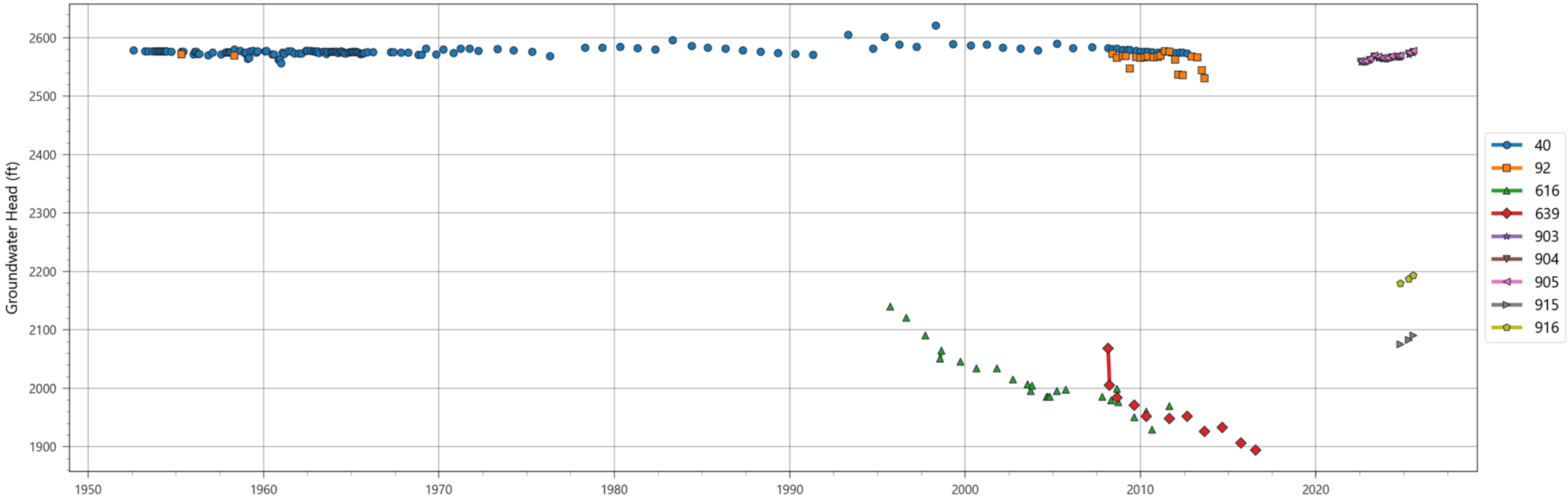
Depth to GW Records in the vicinity of Ventucopa WY1998 to recent, Monthly





GWLs around the SBCF



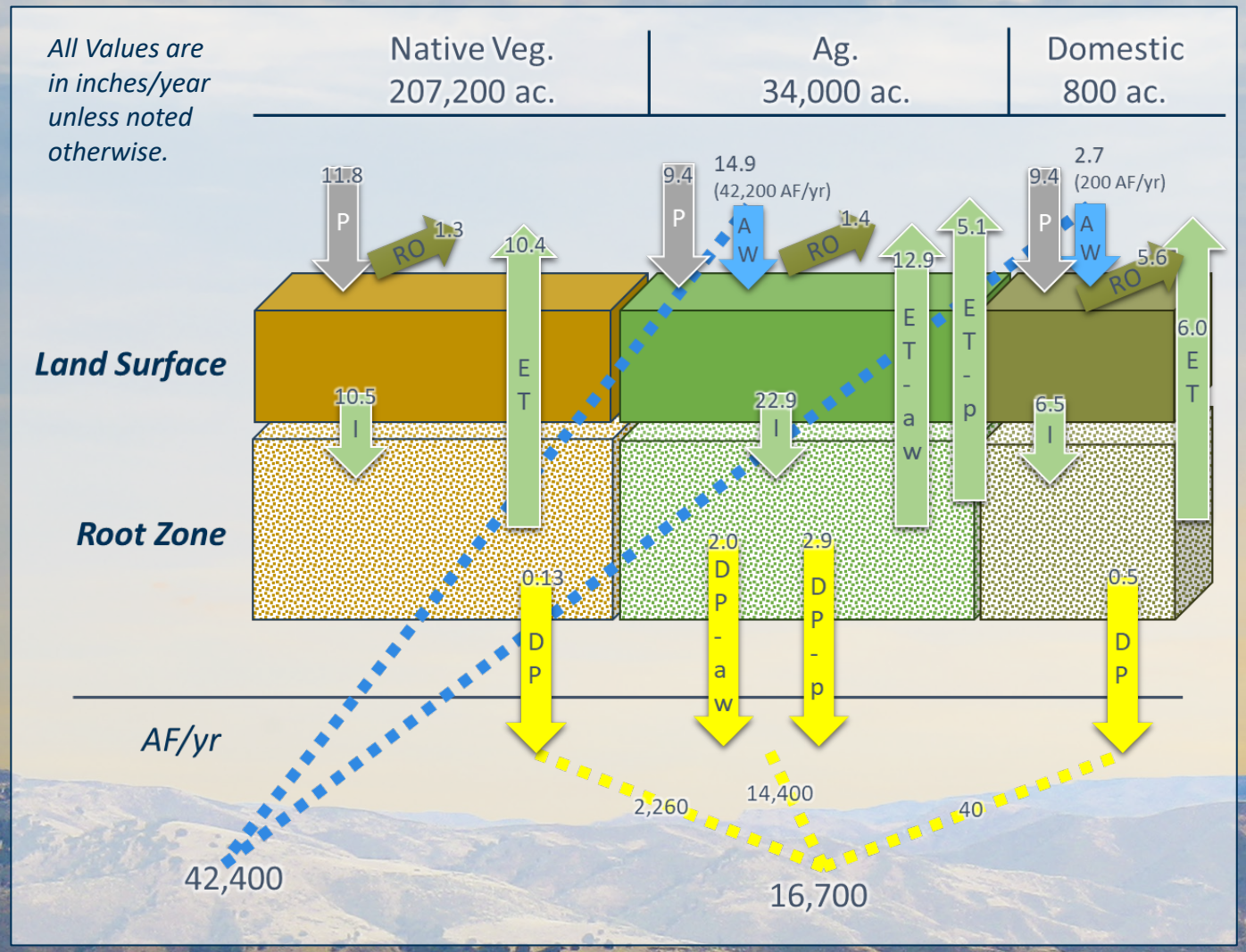


DATASETS
Deep Percolation and Pumping

Deep Percolation and Pumping

Land Surface and Root Zone Budget

Example shown is for the entire Cuyama Basin under Projected Conditions as calculated by the CBWRM v0.30d.



For the calculation of Deep Percolation, we need:

- Precipitation (PRISM, rain gauges)
- Runoff (Minor component)
- ET (OpenET) / Land Use (LandIQ)
  - ET crop x Crop Area
- Applied Water (Pumping, measured)

Acronym	Meaning
P	Precipitation
AW	Applied water
RO	Runoff of precipitation
ET	Evapotranspiration
ET – aw	Evapotranspiration of applied water
ET – p	Evapotranspiration of precipitation
I	Infiltration
DP	Deep percolation
DP – aw	Deep percolation of applied water
DP – p	Deep percolation of precipitation

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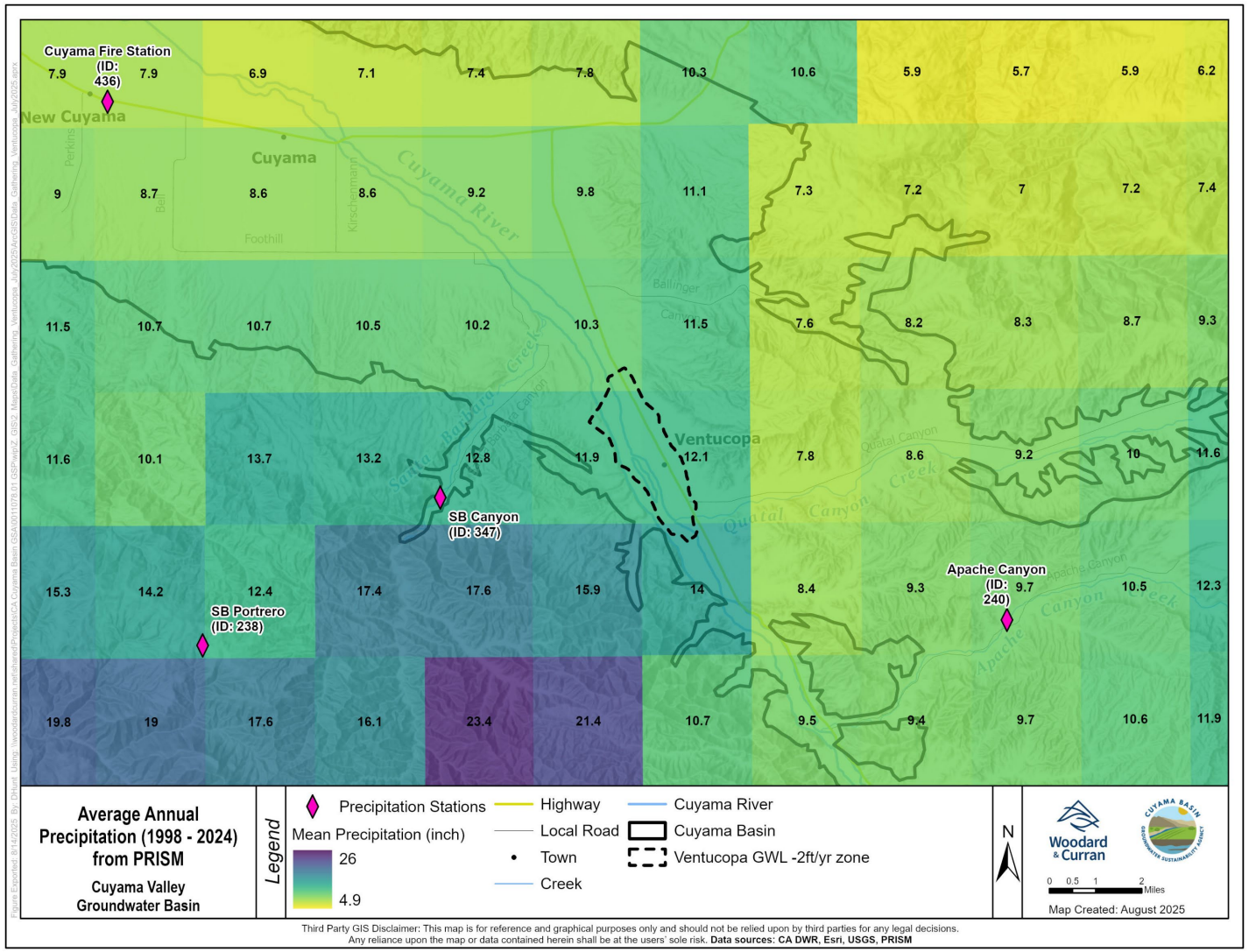
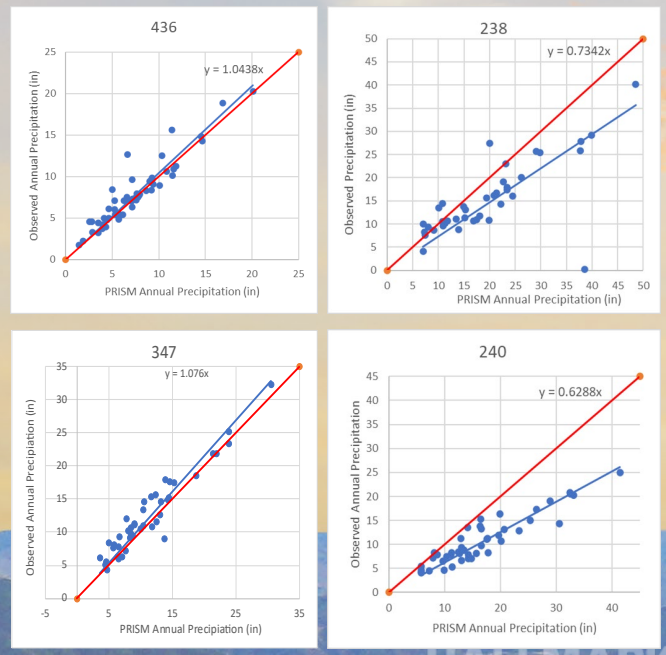
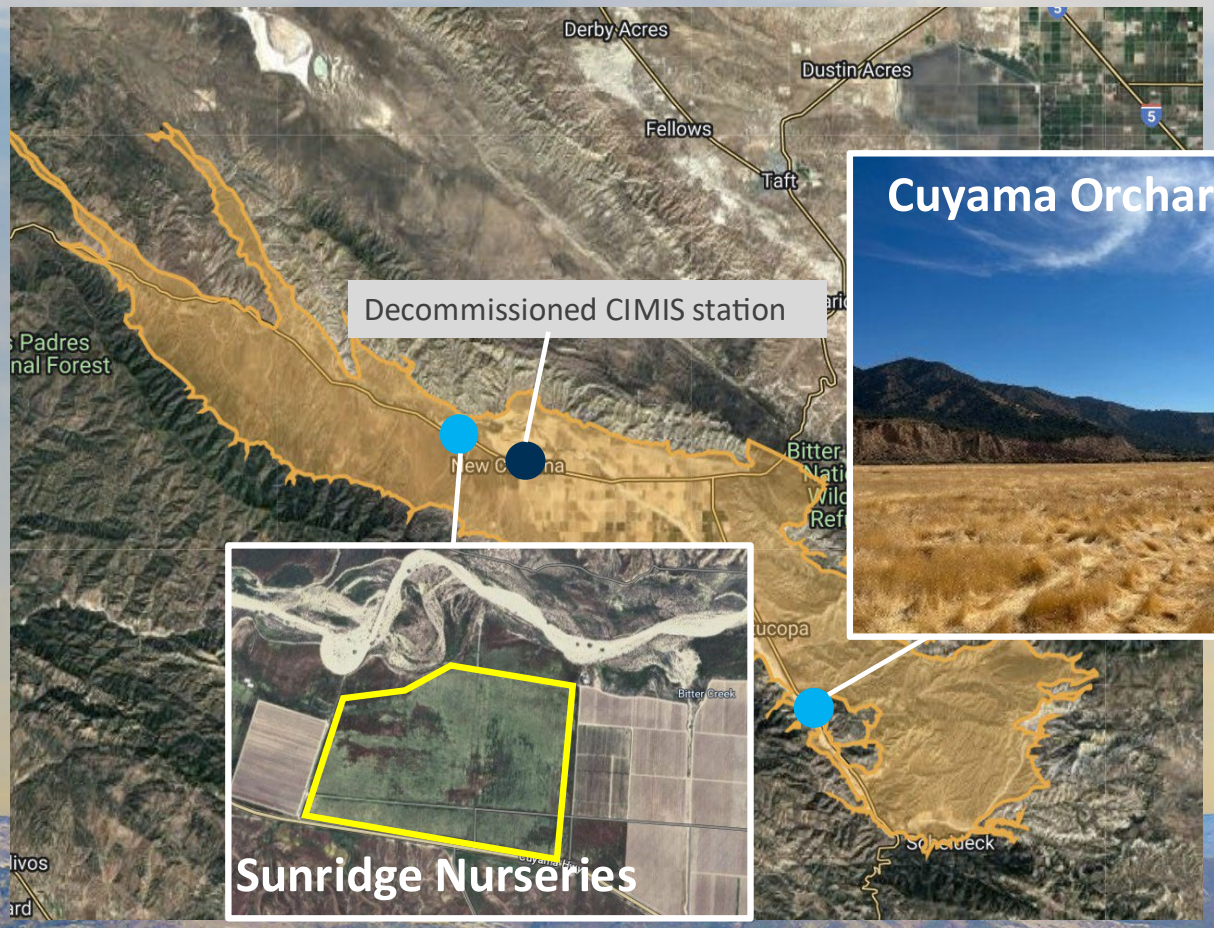
Precipitation



- PRISM Precipitation corrected by local data is available for the valley and the foothills.



Evapotranspiration – CBWRM ET Dataset



- Developed by Davids Engineering in 2018
- Extended to recent using CIMIS/OpenET reference ET data
- Covers 1994-2024 period
- Available by crop type, doesn't consider spatial differences
- Current CIMIS station is decommissioned, CBGSA is installing two new stations

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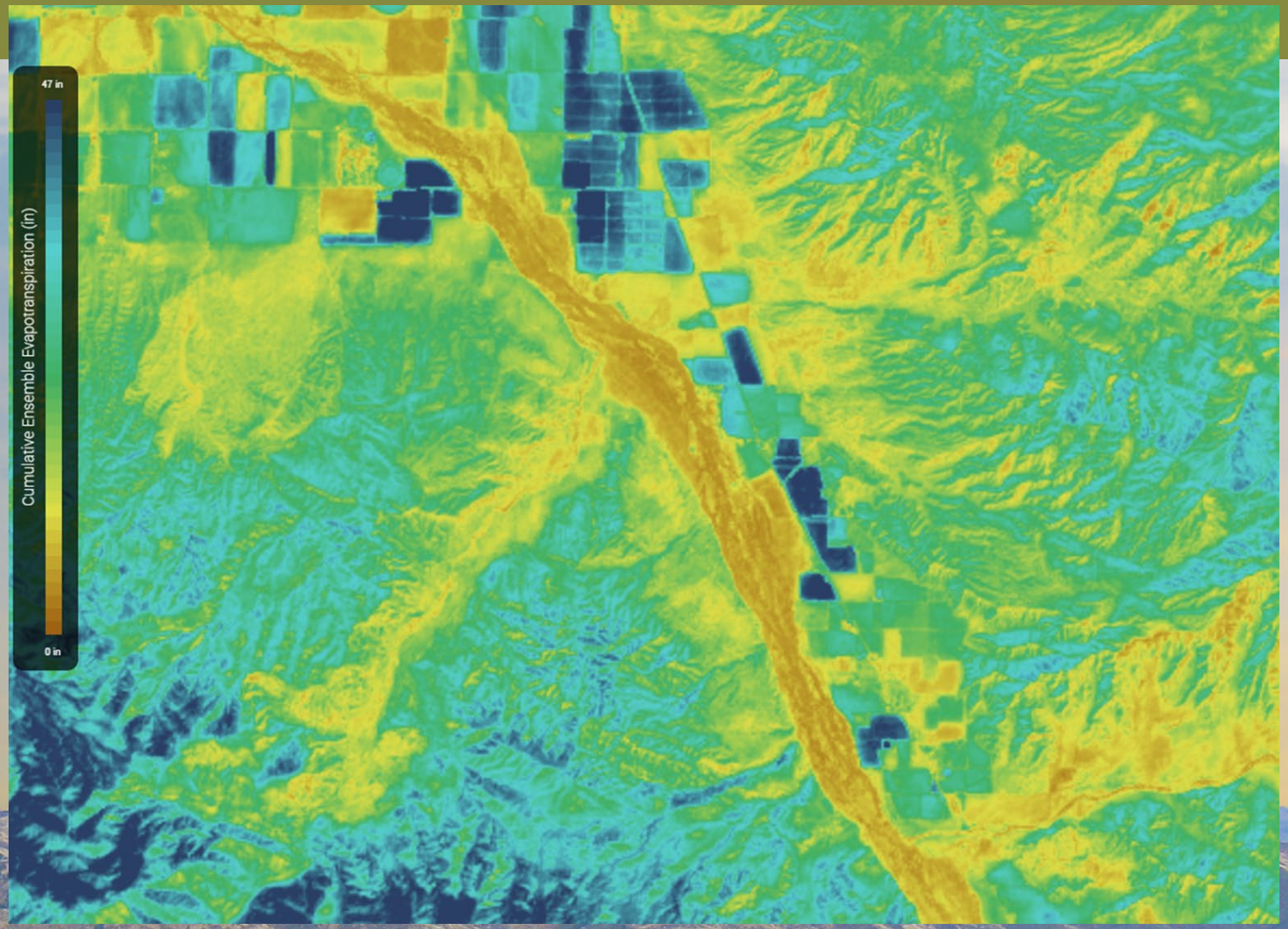
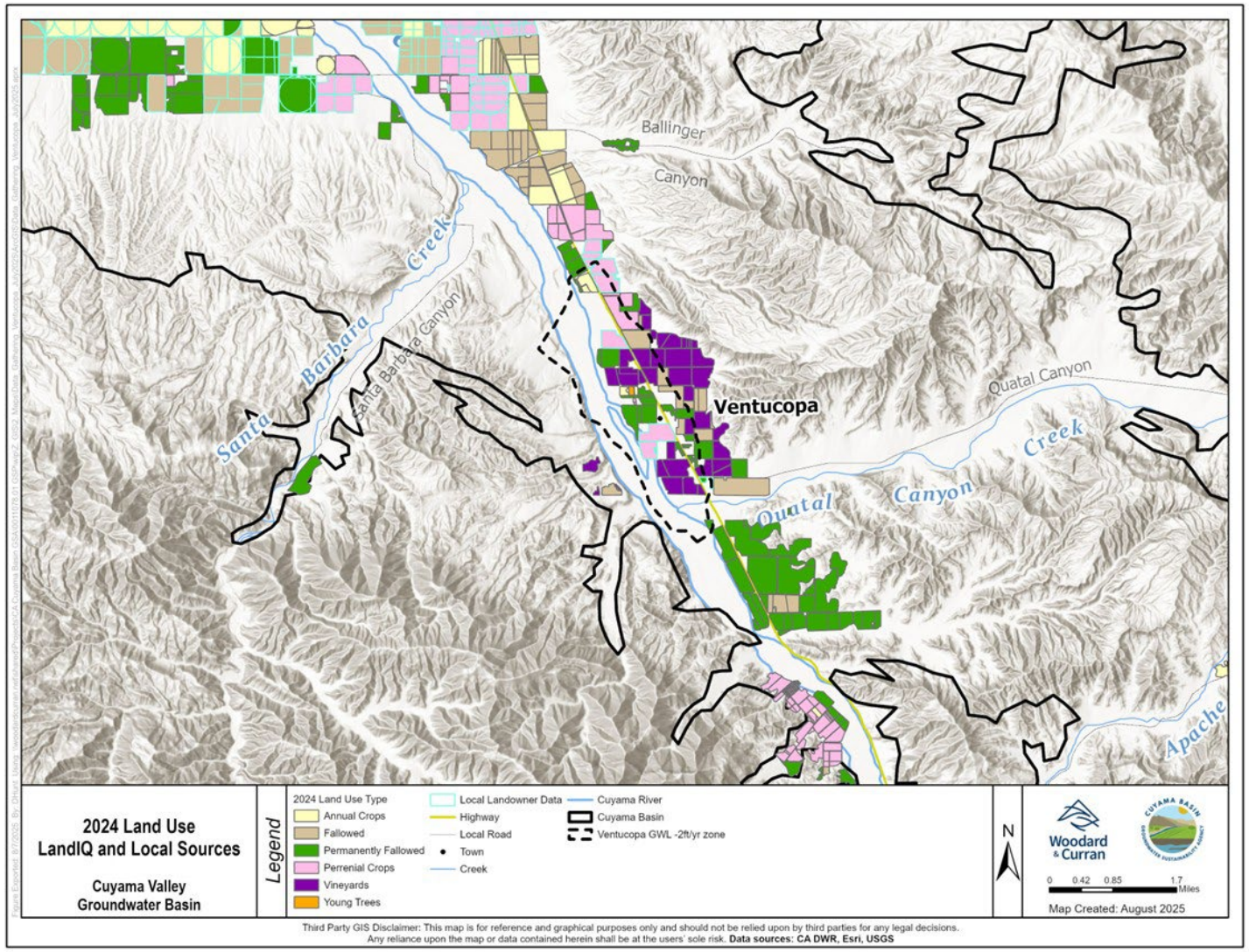
Evapotranspiration - OpenET



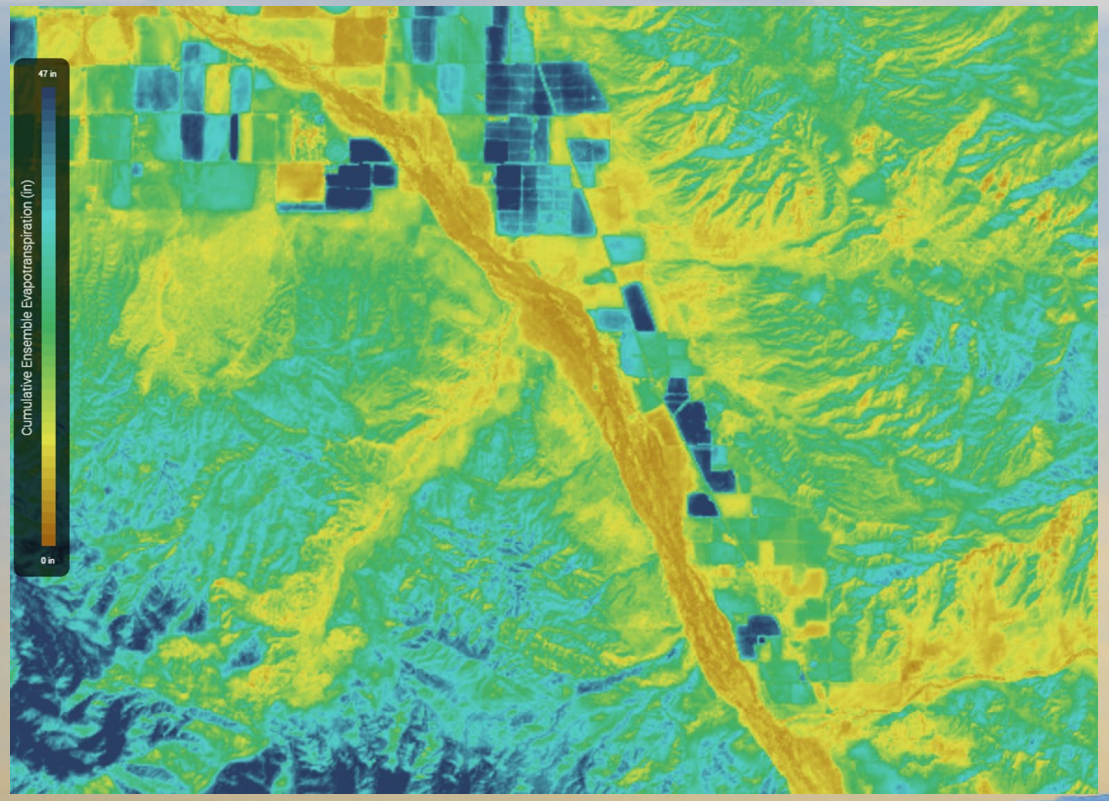
- OpenET evapotranspiration data (7 datasets) is available for the valley and the foothills.
- There is uncertainty about which dataset performs best in Cuyama.
- Data going back to 2003 is available through DWR.

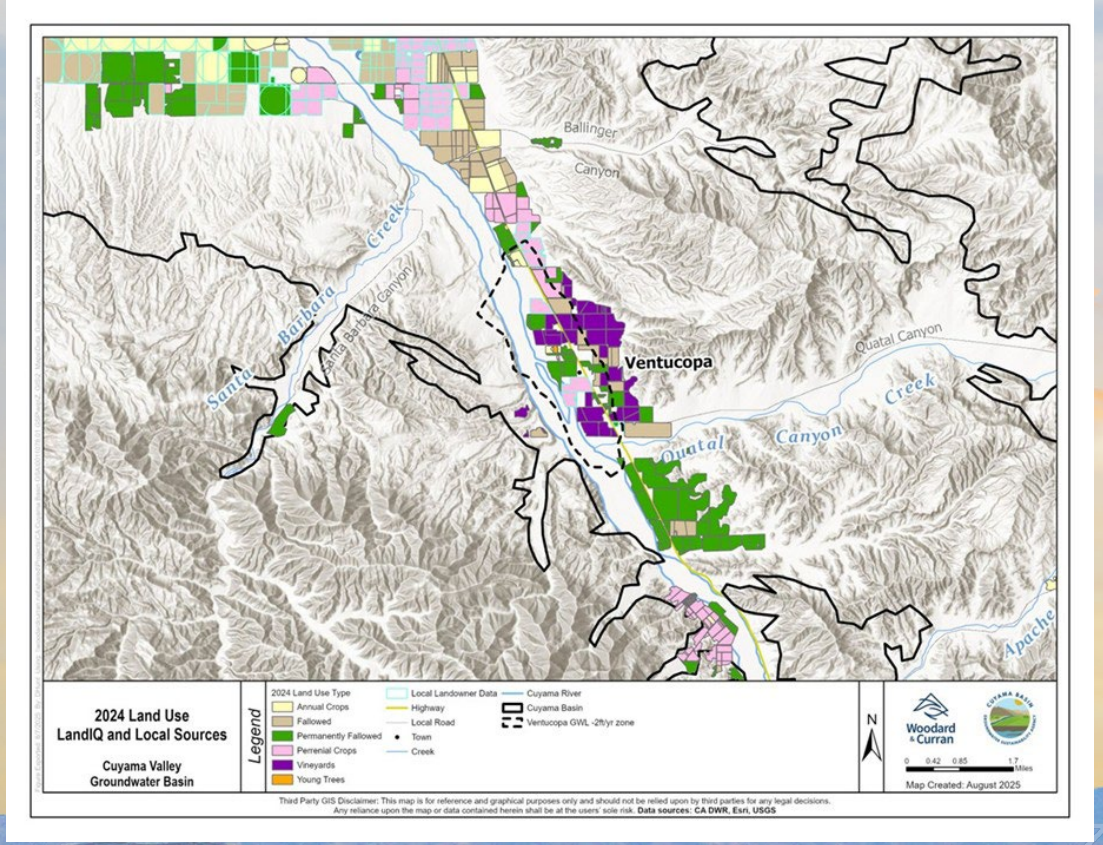
Evapotranspiration – Land Use



- 2024 LandIQ Land Use Dataset shows mostly perennial crops and permanently fallowed land in the vicinity of Ventucopa.
- Land use information should be verified with landowners and can be used to QC the ET datasets.

Spatial distribution of ET and Land Use are important for the distribution of allocations.





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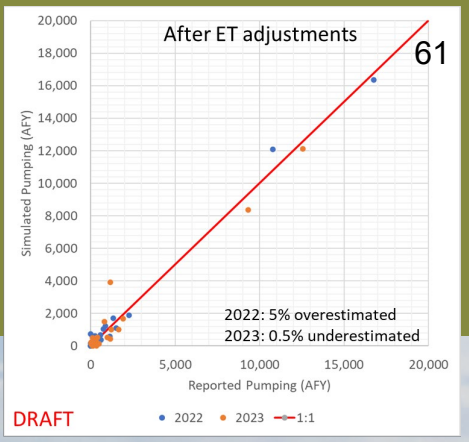
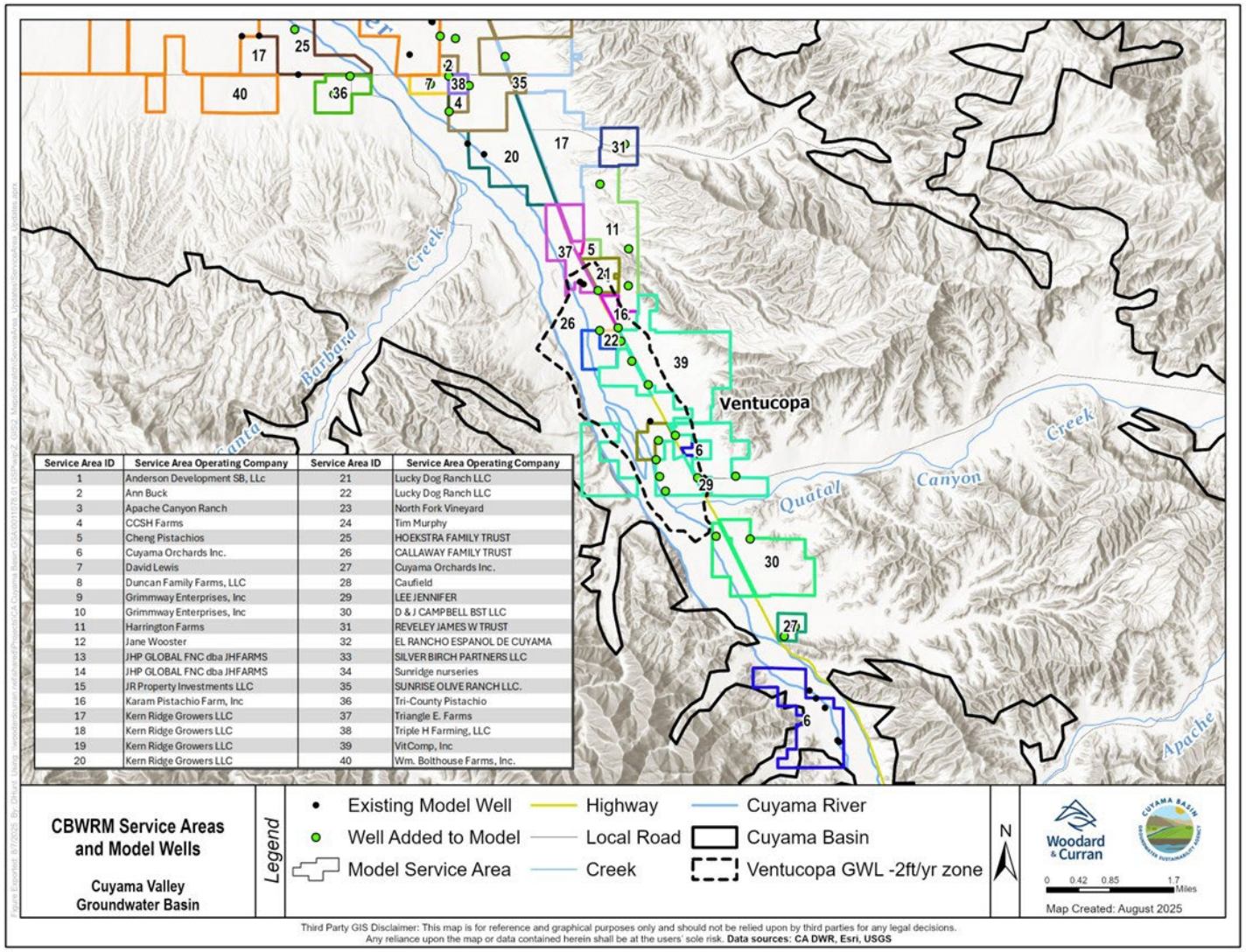
Pumping

Basin-wide Pumping Comparison





Service Area ID	Service Area Operating Company	Service Area ID	Service Area Operating Company
1	Anderson Development SB, Llc	21	Lucky Dog Ranch LLC
2	Ann Buck	22	Lucky Dog Ranch LLC
3	Apache Canyon Ranch	23	North Fork Vineyard
4	CCSH Farms	24	Tim Murphy
5	Cheng Pistachios	25	HOEKSTRA FAMILY TRUST
6	Cuyama Orchards Inc.	26	CALLAWAY FAMILY TRUST
7	David Lewis	27	Cuyama Orchards Inc.
8	Duncan Family Farms, LLC	28	Caufield
9	Grimmway Enterprises, Inc	29	LEE JENNIFER
10	Grimmway Enterprises, Inc	30	D & J CAMPBELL BST LLC
11	Harrington Farms	31	REVELEY JAMES W TRUST
12	Jane Wooster	32	EL RANCHO ESPANOL DE CUYAMA
13	JHP GLOBAL FNC dba JHFARMS	33	SILVER BIRCH PARTNERS LLC
14	JHP GLOBAL FNC dba JHFARMS	34	Sunridge nurseries
15	JR Property Investments LLC	35	SUNRISE OLIVE RANCH LLC.
16	Karam Pistachio Farm, Inc	36	Tri-County Pistachio
17	Kern Ridge Growers LLC	37	Triangle E. Farms
18	Kern Ridge Growers LLC	38	Triple H Farming, LLC
19	Kern Ridge Growers LLC	39	VitComp, Inc
20	Kern Ridge Growers LLC	40	Wm. Bolthouse Farms, Inc.

- Reported 2022, 2023, and 2024 pumping is available.
- Model estimated pumping is also available at the Service Area Level.
- Reported pumping should be compared to the simulated pumping for each Service Area.

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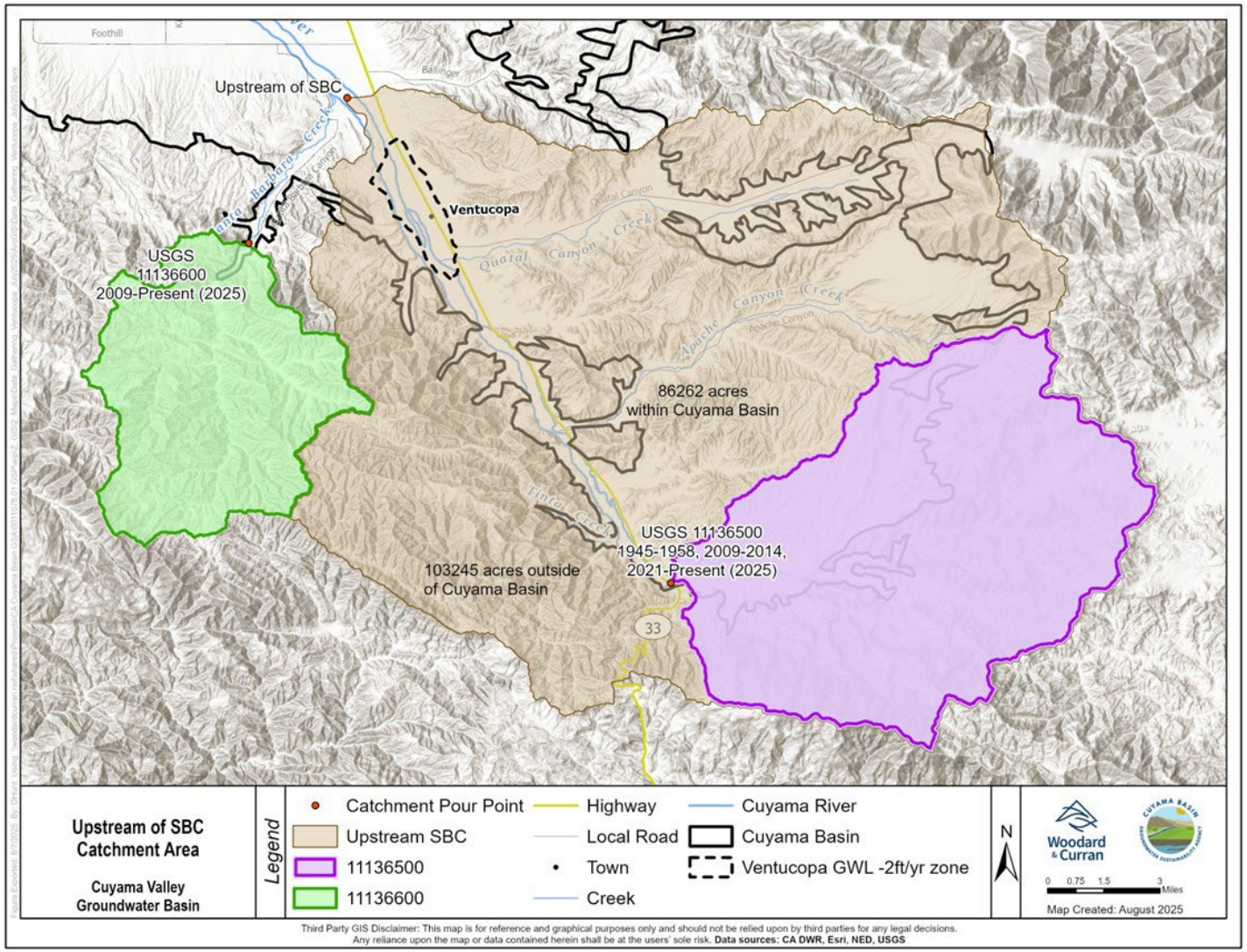
DATASETS
Stream Gain/Loss

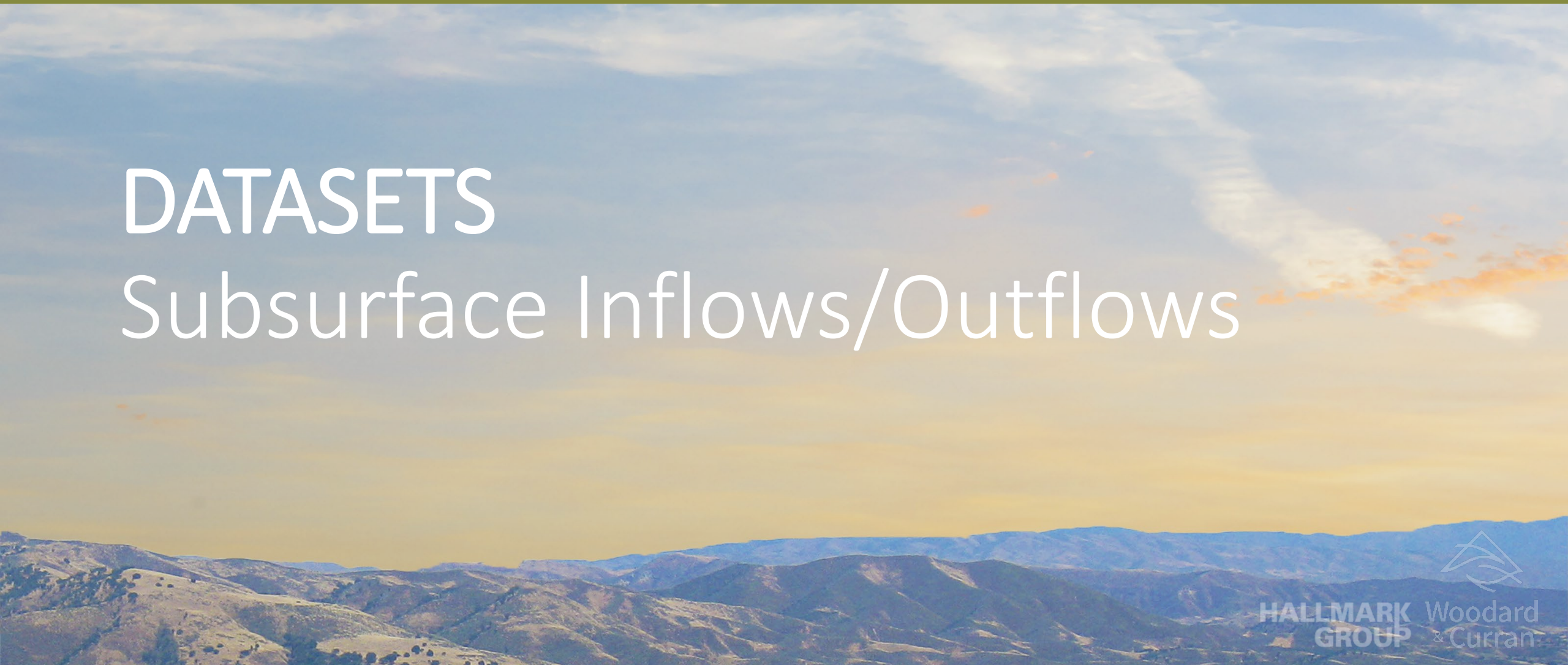
Streams



- There are streamflow measurements available near Ventucopa after 2009.
- However, due the location of these gauges and the catchment areas, these are not usable to create a stream water budget for the vicinity of Ventucopa without the CBWRM.

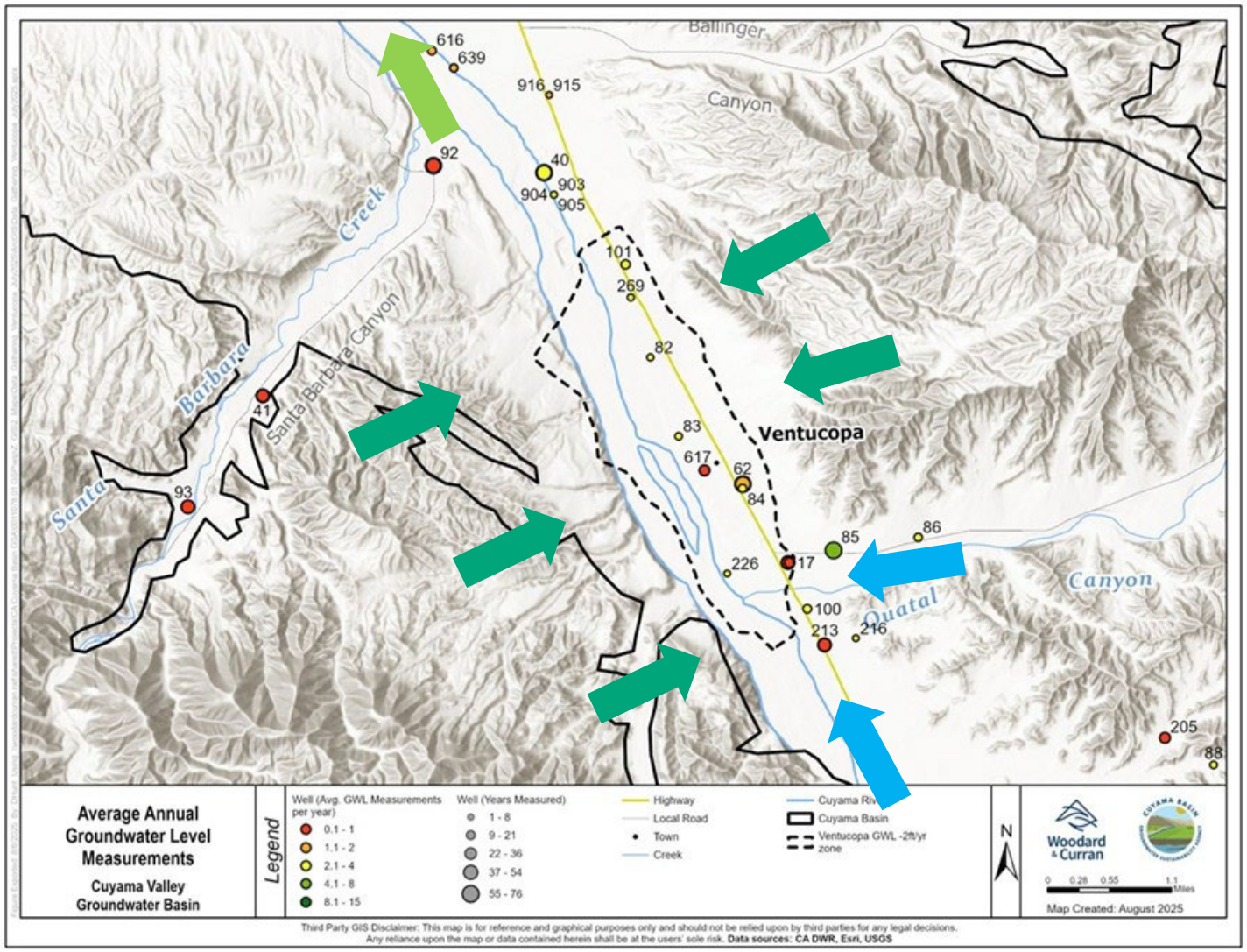
Streams – Representation in CBWRM

- The Invert Elevations and Rating Tables used in CBWRM were developed with simple open-channel hydraulic calculations, using the stream profiles measured from Google Earth.
- LiDAR survey of the Cuyama River was completed in 2024.
- The LiDAR information is currently not incorporated in the model due to the lack of compatible rating tables.



DATASETS
Subsurface Inflows/Outflows

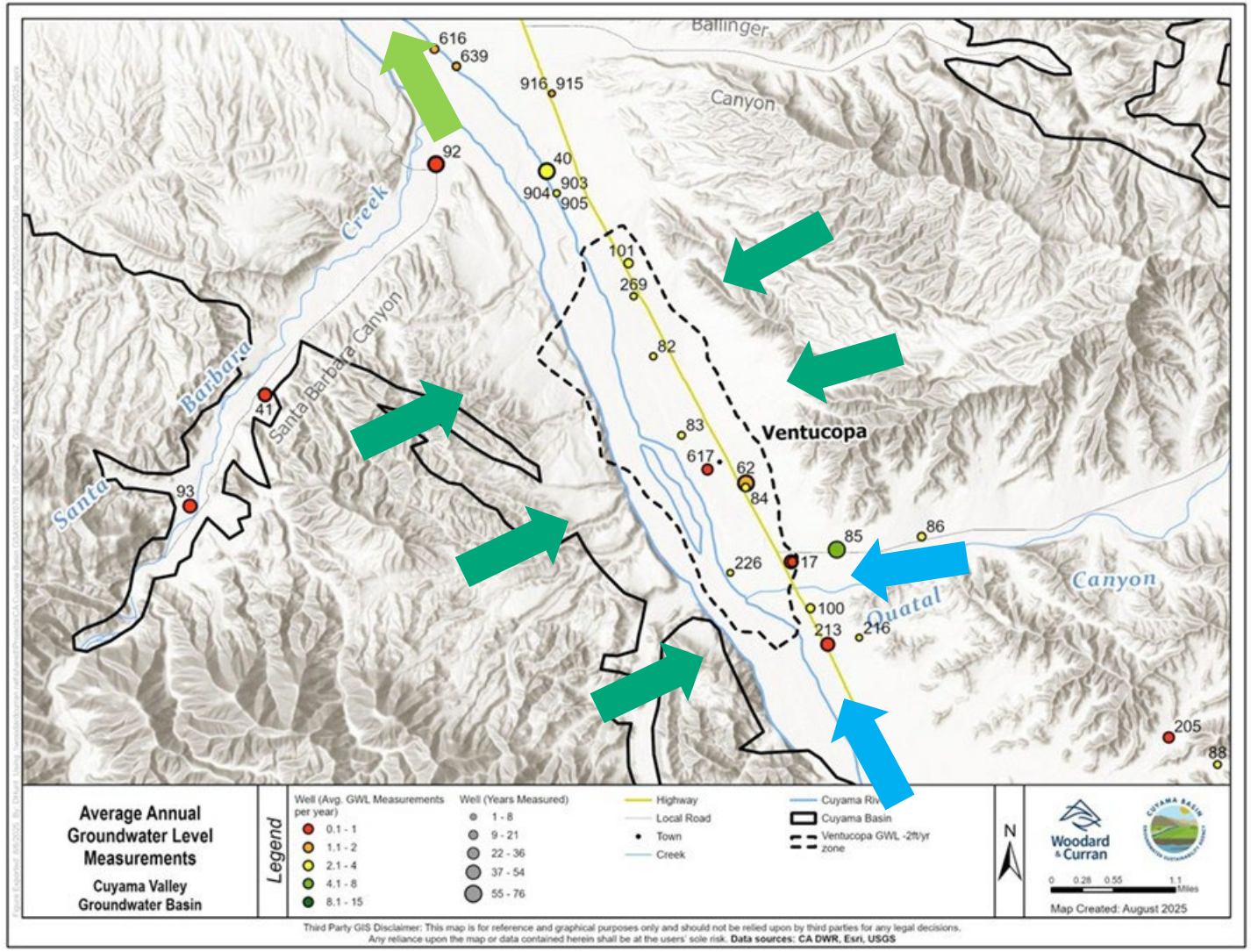
Subsurface Flows



Subsurface Flows include:

- Inflow coming from the Western Foothills and Badlands
- Inflow coming along the Cuyama River from upstream and Quatal Canyon
- Outflow going to Central region through the Santa Barbara Canyon Fault area

Subsurface Flows

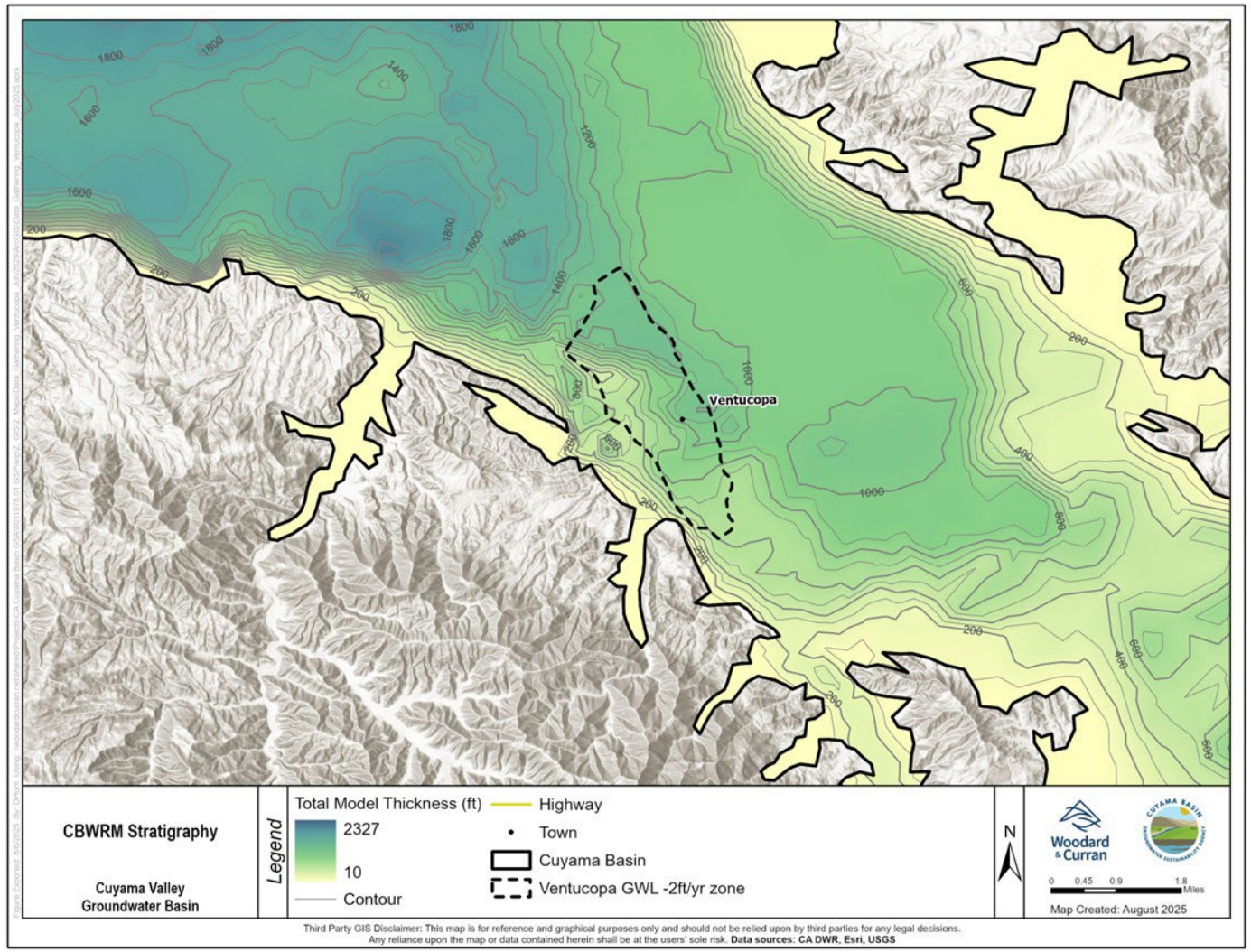


- There is partial information about the young alluvium, but not much information about the deeper layers.
- SBCF controls the outflow to the central region, need to determine the location and the extent to estimate the outflow.
- Most GWL records are parallel to HWY33 and Cuyama R., difficult to estimate the perpendicular gradient for the estimation of inflows from the foothills and badlands.

DATASETS
Other Data For CBWRM Refinement

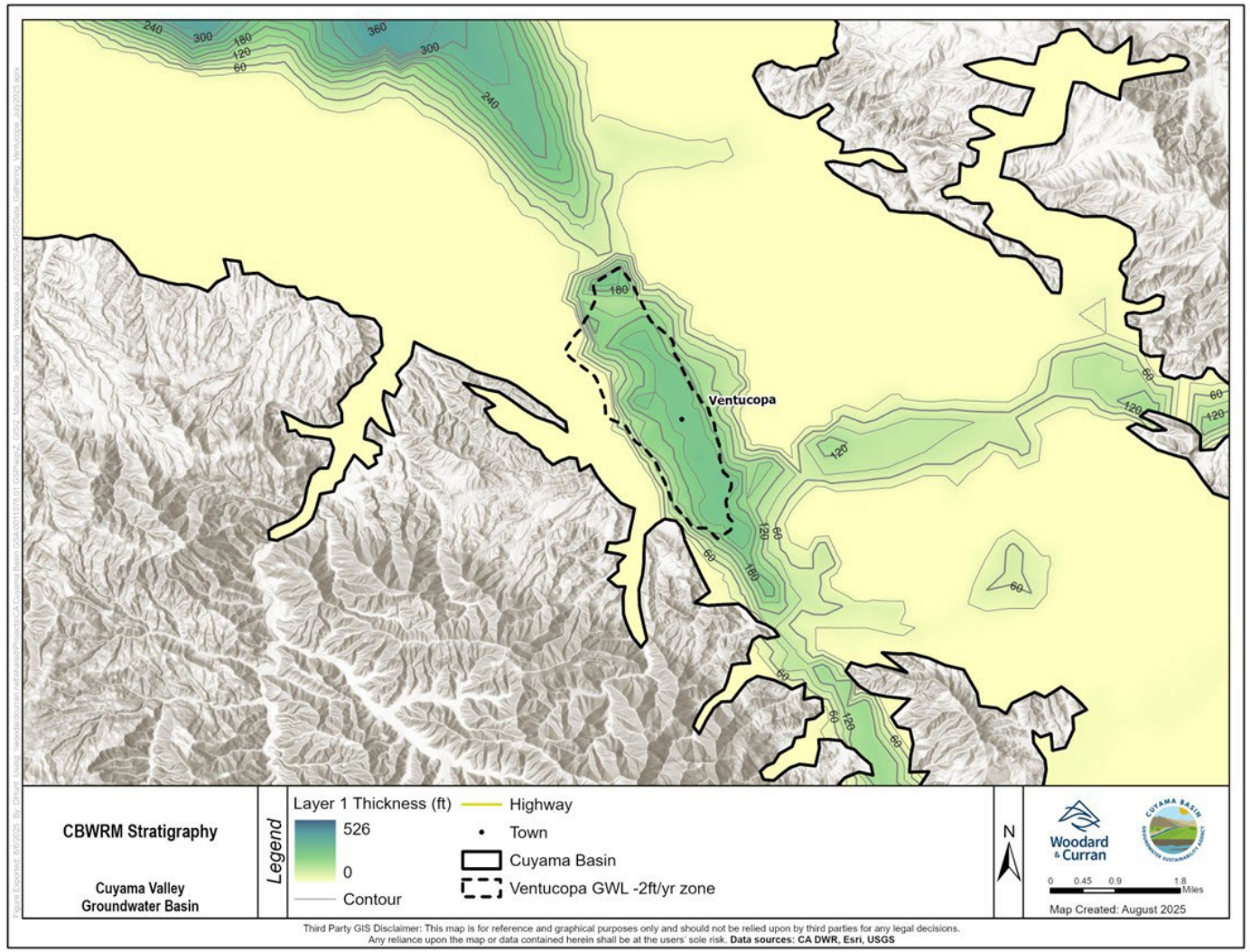
HALLMARK GROUP Woodard & Curran

Stratigraphy – Total Thickness, All Layers



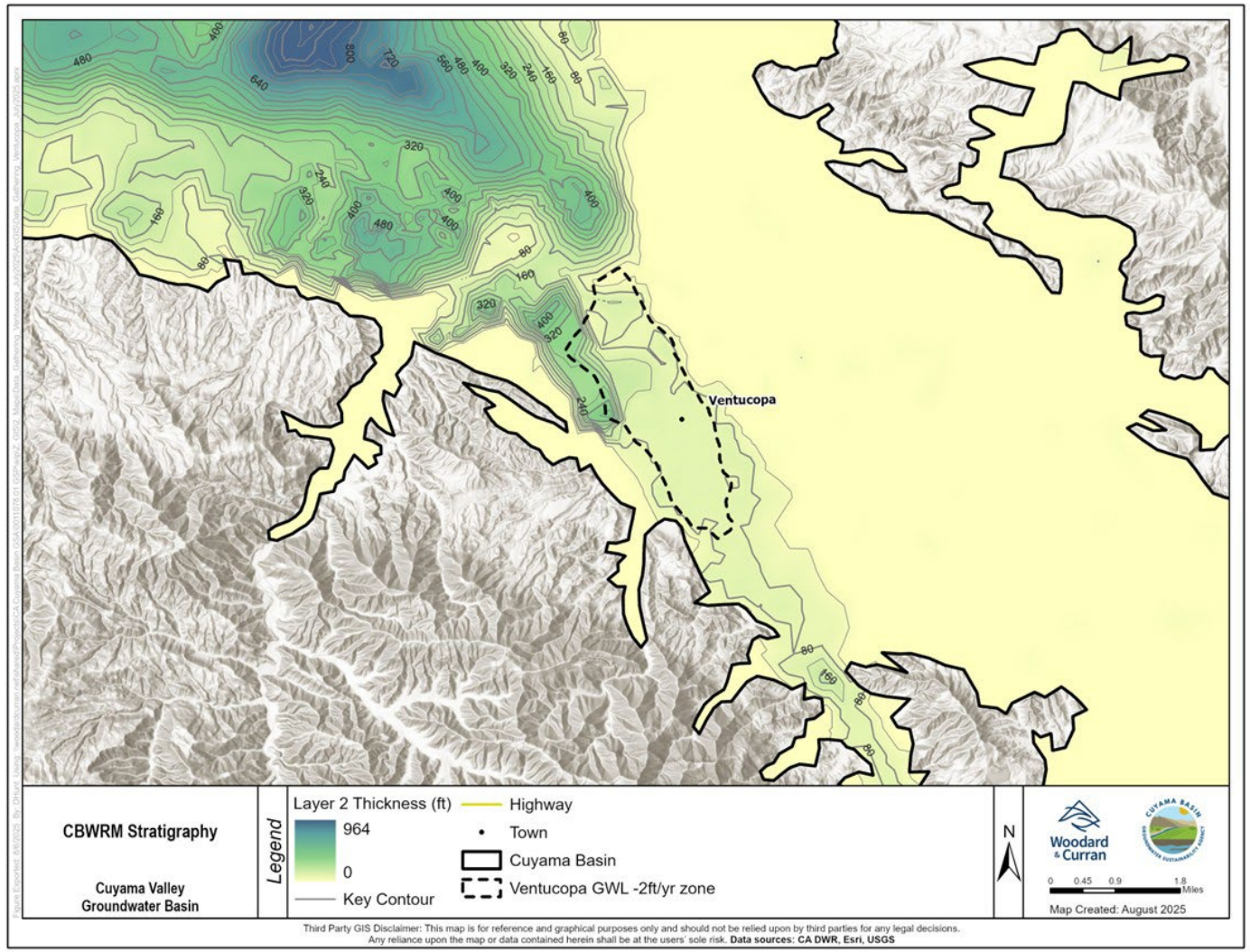
- Total thickness in the CBWRM is 200 – 1000 ft.

Stratigraphy – Layer 1 Thickness



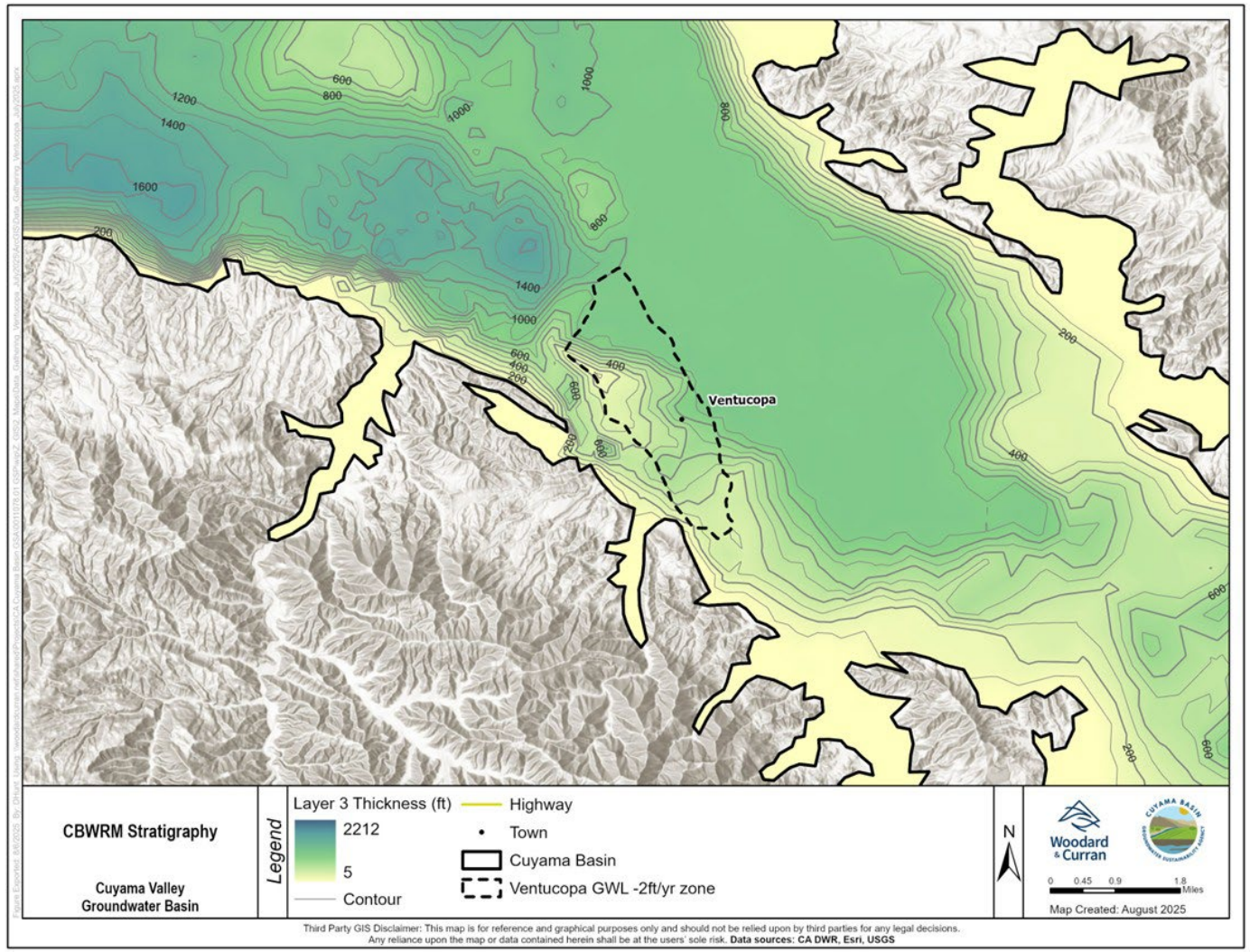
- Total thickness in the CBWRM is 200 – 1000 ft.
- Layer 1 (Young Alluvium) thickness in the CBWRM is <250 ft.

Stratigraphy – Layer 2 Thickness



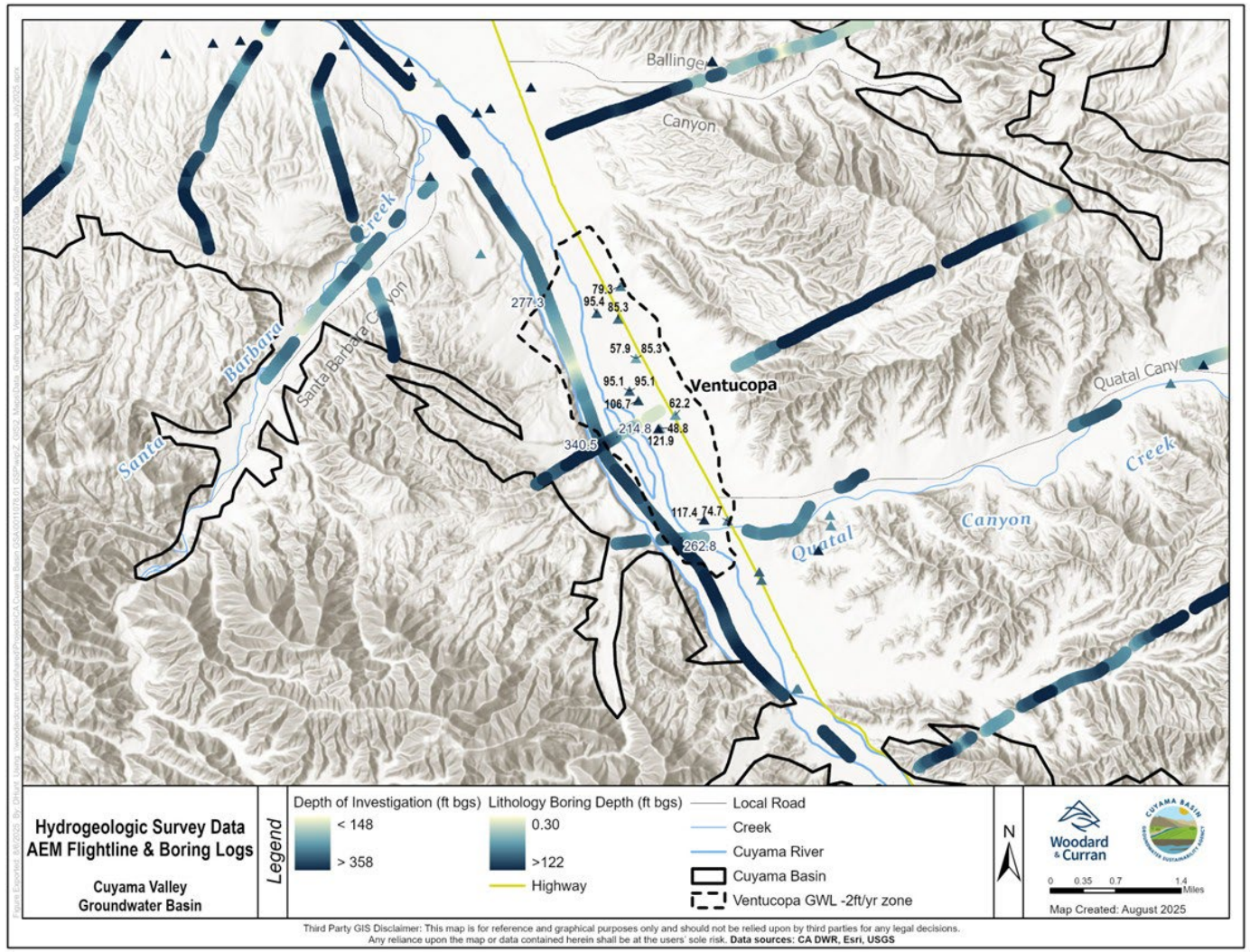
- Total thickness in the CBWRM is 200 – 1000 ft.
- Layer 1 (Young Alluvium) thickness in the CBWRM is <250 ft.
- Layer 2 (Old Alluvium) thickness in the CBWRM is <40 ft.

Stratigraphy – Layer 3 Thickness



- Total thickness in the CBWRM is 200 – 1000 ft.
- Layer 1 (Young Alluvium) thickness in the CBWRM is <250 ft.
- Layer 2 (Old Alluvium) thickness in the CBWRM is <40 ft.
- Layer 3 (Morales) was assigned most of the thickness in the CBWRM.

Stratigraphy - Depth of the AEM and Borehole Data



- Boreholes – Boring Depth
- AEM Data Points – Depth of Investigation

- Most boreholes seem to be in Layer 1.
- Layer 2 is too thin in the CBWRM.
- Not much information about Layer 3.

HALLMARK GROUP Woodard & Curran

DATASETS
Summary & Conclusion

HALLMARK GROUP Woodard & Curran

Recent Ventucopa Data Improvements

- Installation of new monitoring wells
- Quarterly GWL monitoring, installation of transducers in some wells
- AEM data from DWR
- SBCF Investigation Study
- Metered pumping data
- Cuyama River streambed survey
- New streamflow gauge upstream of Ventucopa
- New CIMIS station in the vicinity of Ventucopa (coming soon)

Summary of Findings

- Sustainability, that allocations aiming to reach, is a matter of balancing the water budget.
- Available GWLs near Ventucopa show:
  - Recoveries in the historical wet years,
  - Declining trend after 1998,
  - Stable between 2015-2023 at around 2015 levels,
  - Recent partial recovery after 2023 winter.
- A refined water balance and CBWRM will support the information provided by GWLs.
- Deep Percolation, Pumping, Net Stream Recharge, and Subsurface flows are the key components.

Potential Improvements to the Existing Datasets for CBWRM Enhancement

- Deep percolation and pumping rates:
  - Reassessment of the ET and Land Use datasets
- Stream recharge:
  - Update the rating tables for Cuyama River using a hydraulic model
- Subsurface flows:
  - Complete SBCF characterization
    - SBCF location and extent
    - Groundwater level measurements downstream of the SBC Fault
  - Reassessment of the stratigraphy in the Ventucopa region
  - Reassessment of subsurface flows coming in from Foothills and Badlands – Geochemical/Tracer/Isotope Analysis?

Next Steps

- Assess model performance as planned, evaluate simulated GWLs and water budgets.
- Attempt to evaluate the significance of the stream recharge and subsurface flows in the overall water budget.

DISCUSSION
Allocation Calculations in Ventucopa

Datasets, methodologies, potential challenges

Geographic area for water budget calculations

SUMMARY TABLE

Data Needed	Supporting Data	Available	Notes
Groundwater Levels	N/A	Partially	2 wells going back to 1950s, one is discontinued after 2011. Most have 1 measurements per year (March). Limited measurements near the SBCF.
Deep Percolation	Precipitation	Yes	PRISM Dataset available for 1998-2024, precipitation bias is corrected with local data.
	Evapotranspiration	Partially	OpenET Datasets available for 2003-2024. CBWRM CIMIS based ET dataset (1994-2018) can be reassessed. Two new CIMIS stations coming soon.
	Land Use	Yes	Historical LandIQ Datasets used in CBWRM are available for every few years. Some fields may need to be verified by the land owners.
	Pumping	Yes	Reported pumping is available for 2022,23,24. CBWRM estimate is available for 1998-2024 period. Service areas near Ventucopa should be validated.
Stream Gain/Loss	Streamflows	Partially	Two stream gauges near Ventucopa. One measure flow coming from SBC. The other measures inflow to Cuyama R. Not enough data to build a stream budget near Ventucopa but useful for CBWRM validation/refinement.
	Invert Elevations	Yes	Cuyama River was surveyed and channel bed elevations are available.
	Rating Tables	No	Rating tables in CBWRM are estimated by simple open-channel hydraulic calculations. A hydraulic model using the channel bed survey can be used to update rating tables and improve the stream representation in the model.
Subsurface Flows	Stratigraphy	Partially	AEM and Borehole datasets are available but there are data gaps in important areas. No data about Upper Morales (Layer 3) in this region.
	GWLs	Partially	Enough data points to calculate the head gradient along the Cuyama R., not enough points to calculate the gradient from Foothills and Badlands and through the SBCF.
	SBC Fault	Partially	Better characterization of the SBCF can improve the representation in the CBWRM.
	Foothill/Badlands	No	Geochemical/Tracer/Isotope analysis can be done to help quantify the flows.

Cuyama Basin Groundwater Sustainability Agency

Update on Santa Barbara Canyon Fault Investigation

Brian Van Lienden

August 28, 2025

Summary of Geophysical Analysis in 2024 Investigation

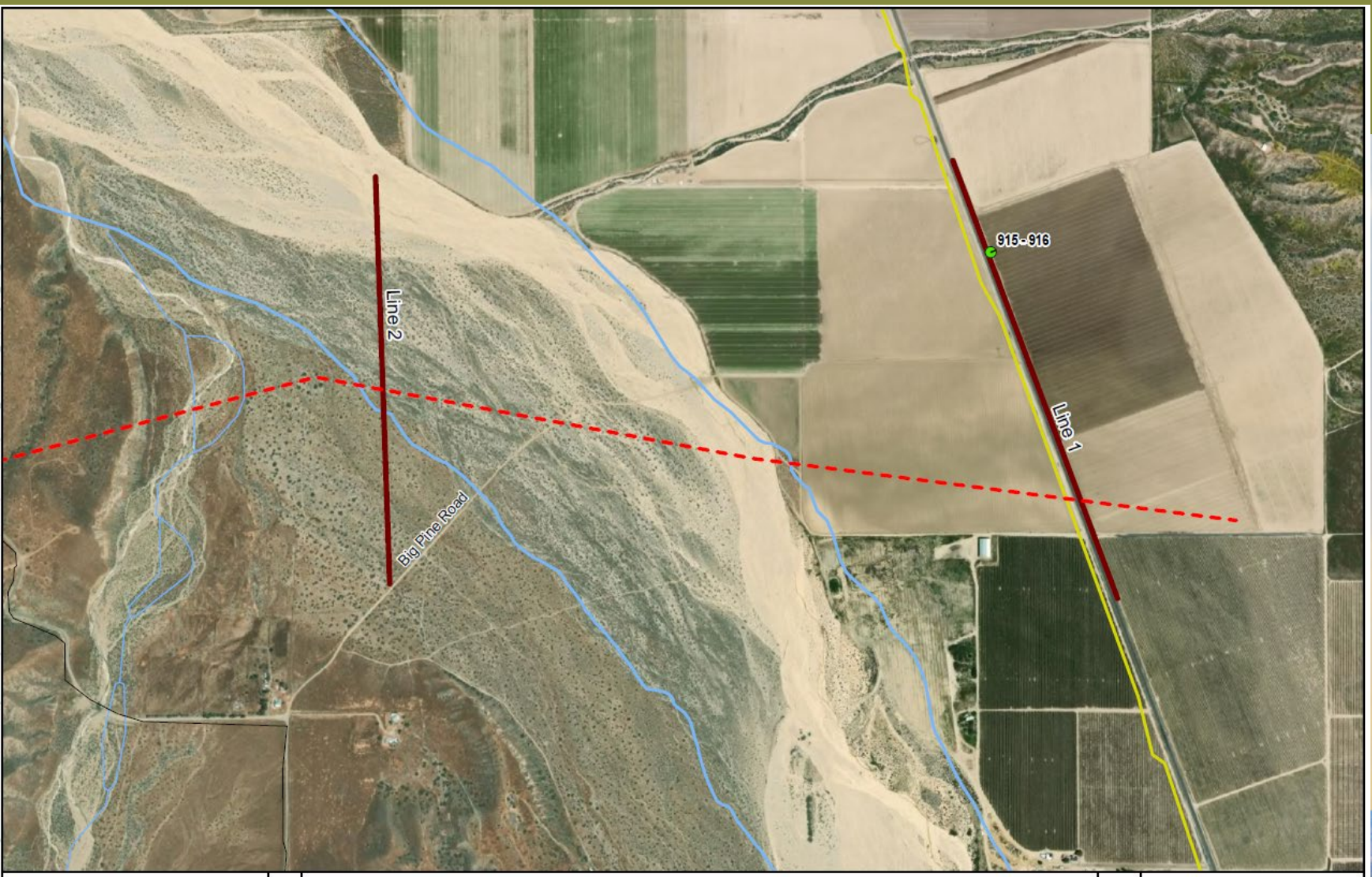


Figure 3-1: Santa Barbara Canyon Fault Transects

Cuyama Basin Groundwater

Legend

Fault (Dashed where Inferred by USGS)
Survey Transect
Opti Monitoring Well
Highway
Local Road
Creek
Cuyama River
Cuyama Basin

N

Woodard & Curran

0 0.05 0.1 0.2

- Line 1:
  - located in the Right-of-Way on west side of Highway 33
  - Depth of investigation was 600 to 800 feet
  - Fault was NOT identified
- Line 2:
  - located on a parcel of land owned by the U.S. BLM.
  - Depth of investigation was 600 to 800 feet
  - SBC Fault was identified where expected
  - A second fault was also identified

HALLMARK GROUP Woodard & Curran

Objectives of the 2025 Investigation

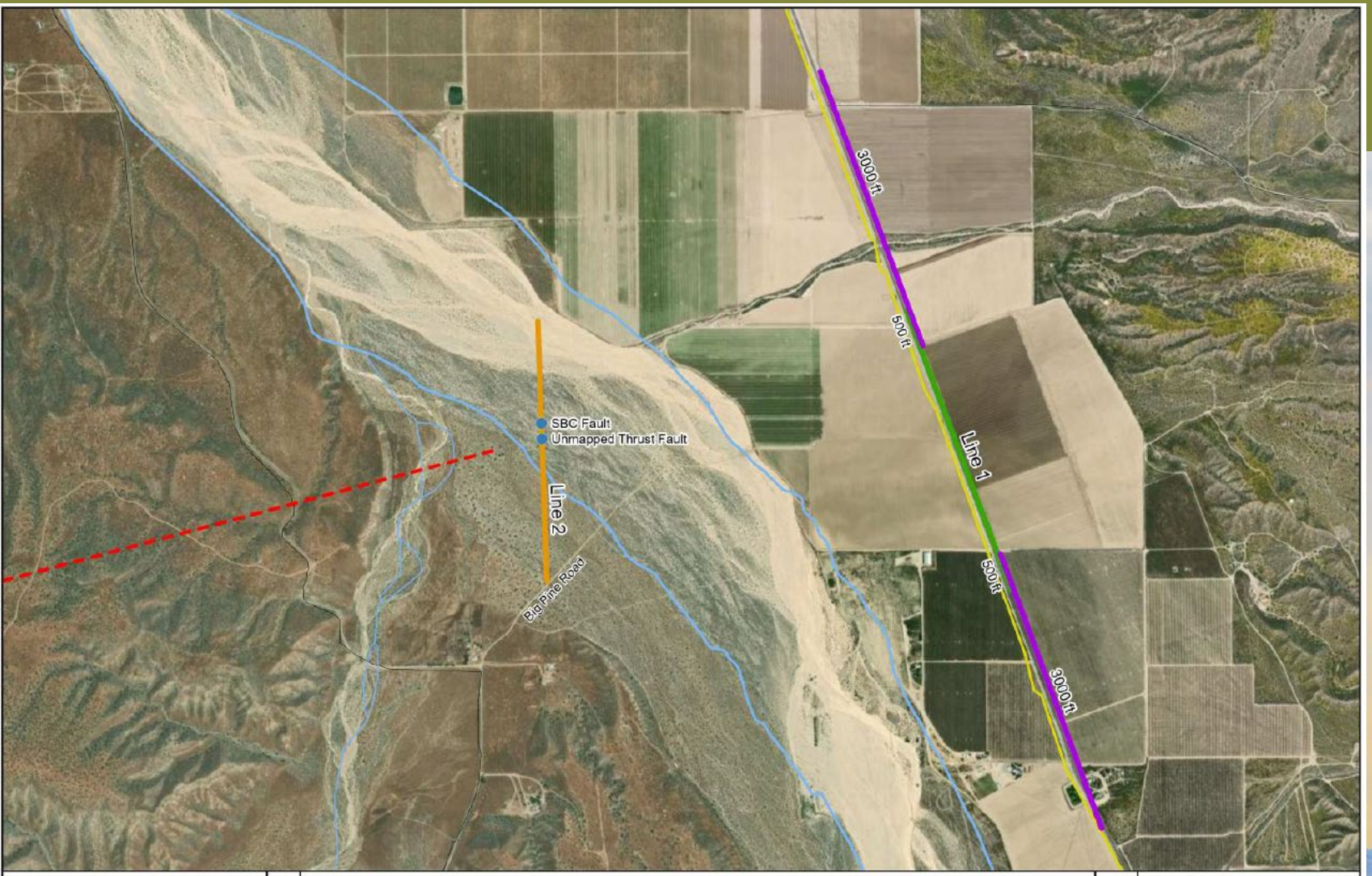


Figure 5-1: Recommended Transects for SBC Fault

Cuyama Basin Groundwater Fault Investigation Report

Legend

- Fault (Dashed where Inferred by USGS)
- Transect 1
- Transect 2 with Faults Identified
- Recommended Transects
- Cuyama Basin
- Highway
- Local Road
- Cuyama River
- Creek

N

Woodard & Curran

0 0.07 0.15 0.3 Miles

Map Created: May 2025

- Identify a second location of the SBCF to confirm its trend with a transect extending north of Line 1.
- Identify potential presence of second fault south of wells 915-916.
- Retain investigation depth of 800 feet with 3,600-foot-long transects.
- Coordinate with stakeholders to conduct the transects on private land.

HALLMARK GROUP Woodard & Curran

Tentative Schedule

- August 2025 - identification of preliminary transects and field schedule.
- August-September 2025- outreach to stakeholders and field confirmation of transects.
- October 2025– field investigation.
- October-November 2025– data analysis.
- December 2025 – draft report to W&C.
- January 2026 – revision of draft report.
- February 2026 – report to GSA.

TO: Board of Directors
Agenda Item No. 9b

FROM: Taylor Blakslee

DATE: September 3, 2025

SUBJECT: Discuss and Take Appropriate Action on the CMA Allocation Exchanges Policy (i.e. Water Market)

Recommended Motion
Board feedback requested.

Discussion
On March 5, 2025, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board provided direction on GSA project priorities to include in the fiscal year 2025-2026 budget. On May 7, 2025, the CBGSA Board adopted the fiscal year 2025-2026 budget, which included potentially developing and implementing an allocation exchange (i.e. water market) in the Central Management Area (CMA).

To advance this effort, an ad hoc committee (Directors Higbee, Jackson, Williams, and Wooster) convened on June 18, 2025, to develop draft policy considerations for an allocation exchange program. These considerations were presented to the Board on July 9, 2025, where the Board provided direction to guide preparation of a draft policy by legal counsel.

On August 18, 2025, the ad hoc reconvened to review the draft policy and recommended forwarding it to the full Board for approval. The revised draft policy, reflecting both Board direction and ad hoc committee feedback, is provided as **Attachment 1** for Board/SAC consideration.

RULES AND REGULATIONS FOR
THE TRANSFER OF GROUNDWATER ALLOCATIONS

Adopted: _____

ARTICLE I
GENERAL PROVISIONS

1.01 Authority. The Cuyama Basin Groundwater Sustainability Agency (**GSA**) may adopt rules, regulations, ordinances, and resolutions for the purpose of implementing the Sustainable Groundwater Management Act (**SGMA**), in compliance with any procedural requirements applicable to the adoption of such rule, regulation, ordinance, or resolution by the GSA. (Wat. Code, § 10725.2, subd. (b).)

1.02 Purpose. The purpose of these Rules and Regulations is to provide for the sustainable management of groundwater within the boundaries of the GSA.

1.03 Groundwater Sustainability Plan. The intent of these Rules and Regulations is to implement the provisions of the GSA's Groundwater Sustainability Plan (**GSP**). These Rules and Regulations may be amended at any time, as deemed necessary by the GSA's Board of Directors (**Board**), to achieve consistency with that GSP and groundwater sustainability within the GSA's boundaries.

1.04 Effective Date and Amendments Hereto. These Rules and Regulations shall become effective upon adoption by the Board, and may be added to, amended and/or repealed at any time by later resolution of the Board with any such additions, amendments, and/or repeals becoming effective upon adoption of the resolution, or as otherwise specified by the Board. However, adoption of these Rules and Regulations will not affect the effective date of any of the GSA's policies existing as of the date the Board adopts these Rules and Regulations.

1.05 Actions Against the GSA. Nothing contained in these Rules and Regulations may be deemed a waiver by the GSA or estop the GSA from asserting any defenses or immunities from liability as provided by law, including those provided in Division 3.6 of Title 1 of the Government Code.

1.06 Severability. If any provision of these Rules and Regulations, or the application thereof to any person or circumstance, is held invalid, the remainder of these Rules and Regulations, and the application of its provisions to other persons or circumstances, shall not be affected thereby.

ARTICLE II
TRANFER OF GROUNDWATER ALLOCATION

2.01 Transfer of Groundwater Allocation. A landowner may transfer its groundwater allocation to another landowner, subject to the following terms and conditions:

a. The transferring-landowner and the receiving-landowner shall each hold title to real property located within the 2025 – 2029 Central Management Area, as that area is depicted in the map attached hereto and incorporated herein as **Exhibit A**.

b. The transferring-landowner and the receiving-landowner shall each be in good standing with the GSA. "Good standing" means the landowner does not owe any outstanding fee or penalty to the GSA and is up to date with any and all applicable reporting requirements (e.g., groundwater extraction facility registration; groundwater extraction reporting; etc.).

c. The transferred groundwater allocation shall be used solely within the Central Management Area.

d. The transfer shall terminate on or before December 31, 2029.

e. The transfer shall not cause an exceedance of any Minimum Threshold, as that term is defined within the GSP (as may be amended from time to time) as determined by GSA staff.

f. The transfer shall be memorialized in writing using the Groundwater Allocation Transfer Form attached hereto and incorporated herein as **Exhibit B** and submitted to the GSA.

2.02 Process. Upon submission of the Groundwater Allocation Transfer Form, the GSA staff shall review the transfer to ensure compliance with these Rules and Regulations. Within 30 days of submission, the GSA staff shall inform the participating landowners of its findings approving the transfer, denying the transfer, or requesting additional information regarding the transfer. If the GSA staff denies the transfer, the participating landowners may appeal the decision to the Board. The Board's decision shall be final.

2.03 Carryover of Groundwater Allocation Prohibited. If a landowner uses less than its allocation, including any additional amounts received via transfer, during any particular year (i.e., January 1 through December 31), that landowner may not carryover any such unused portion to the next year.

ARTICLE III
ACKNOWLEDGMENT OF THE PARTICIPATING PARTIES

3.01 Acknowledgment of the GSA's Ongoing Authority. The Board has the authority to implement adaptive management actions at any time based on changing conditions within the Basin. The GSA will continue to monitor representative wells and Basin conditions. If data indicates that a previously approved transfer is contributing to one or more Undesirable Results including, but not limited to, the exceedance of Minimum Thresholds, the GSA may take corrective action. Such corrective actions include but not limited to restricting pumping, modifying allocations, or suspending future transfers as necessary to protect the sustainability of the Basin.

ARTICLE IV
PENALTIES AND FEES

4.01 Failure to Comply. The GSA shall not recognize or otherwise account for any transfer not memorialized using the GSA's Groundwater Allocation Transfer Form and approved by the GSA, as set forth herein.

4.02 SGMA Penalties. Upon violation of any provision of these Rules and Regulations by a landowner, the GSA shall impose a penalty of $1,000, plus $100 for each additional day upon which the violation continues if the landowner fails to comply within 30 days after being made aware of the violation by the GSA. Notwithstanding the foregoing, the GSA may petition the Superior Court for a temporary restraining order, preliminary or permanent injunction, or such other equitable relief as may be appropriate. The right to petition for injunctive relief is an additional right to those, which may be provided elsewhere in these Rules and Regulations or otherwise allowed by law.

EXHIBIT A

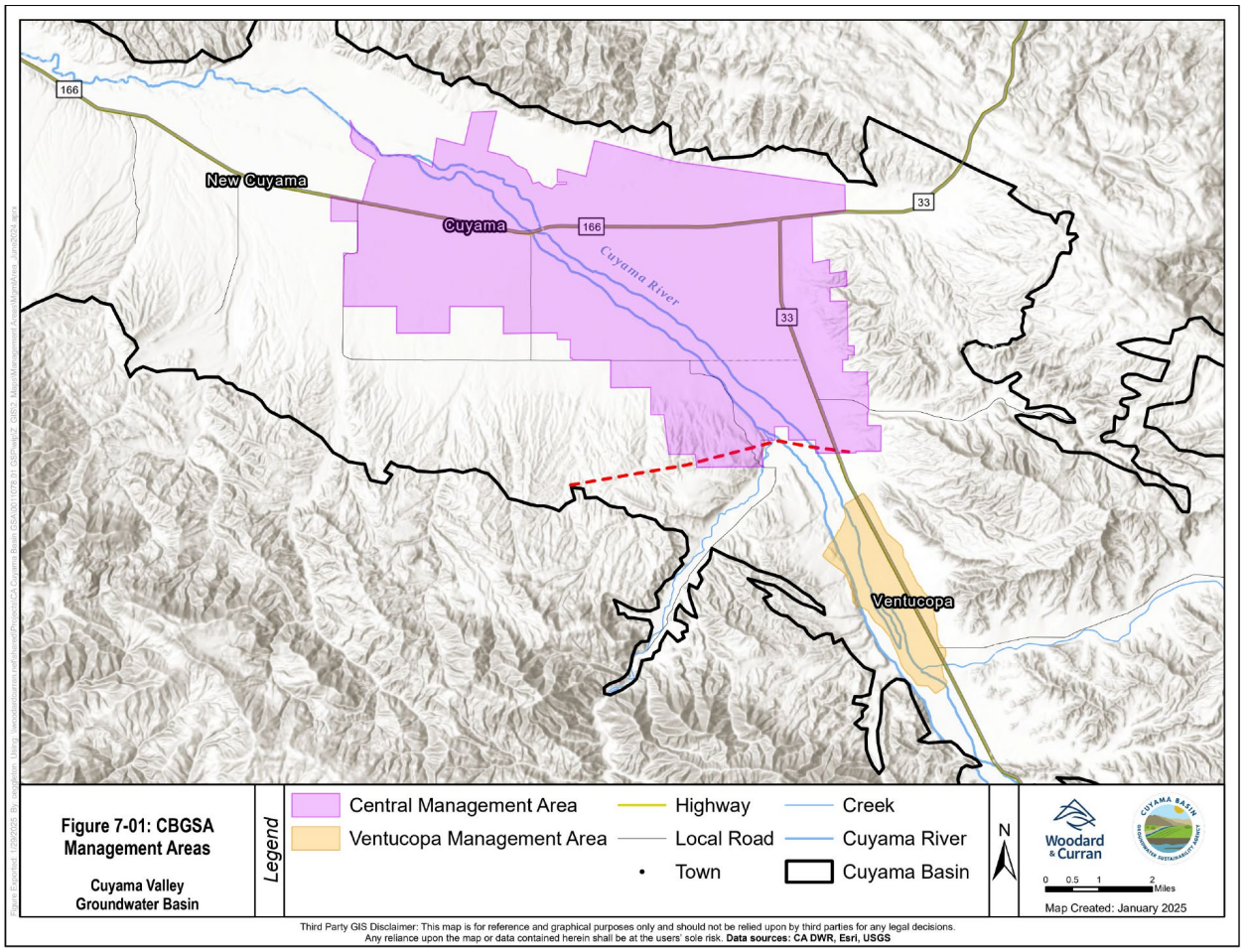

166
New Cuyama
Cuyama
166
Cuyama River
33
33
Ventucopa
Figure 7-01: CBGSA Management Areas
Cuyama Valley Groundwater Basin
Legend
Central Management Area
Ventucopa Management Area
Highway
Local Road
Town
Creek
Cuyama River
Cuyama Basin
N
Woodard & Curran
0 0.5 1 2 Miles
Map Created: January 2025
Third Party GIS Disclaimer: This map is for reference and graphical purposes only and should not be relied upon by third parties for any legal decisions.
Any reliance upon the map or data contained herein shall be at the users' sole risk. Data sources: CA DWR, Esri, USGS

EXHIBIT B

GROUNDWATER ALLOCATION TRANSFER FORM
(For Landowner Use)

Name of Transferring-Landowner: _____

Parcels from which the Allocation is Leaving: _____

_____

_____

_____

Name of Receiving-Landowner: _____

Parcels to which the Allocation is Going: _____

_____

_____

_____

Please refer to the map in Attachment 1 to indicate parcel locations.

Amount of Water Being Transferred: _____

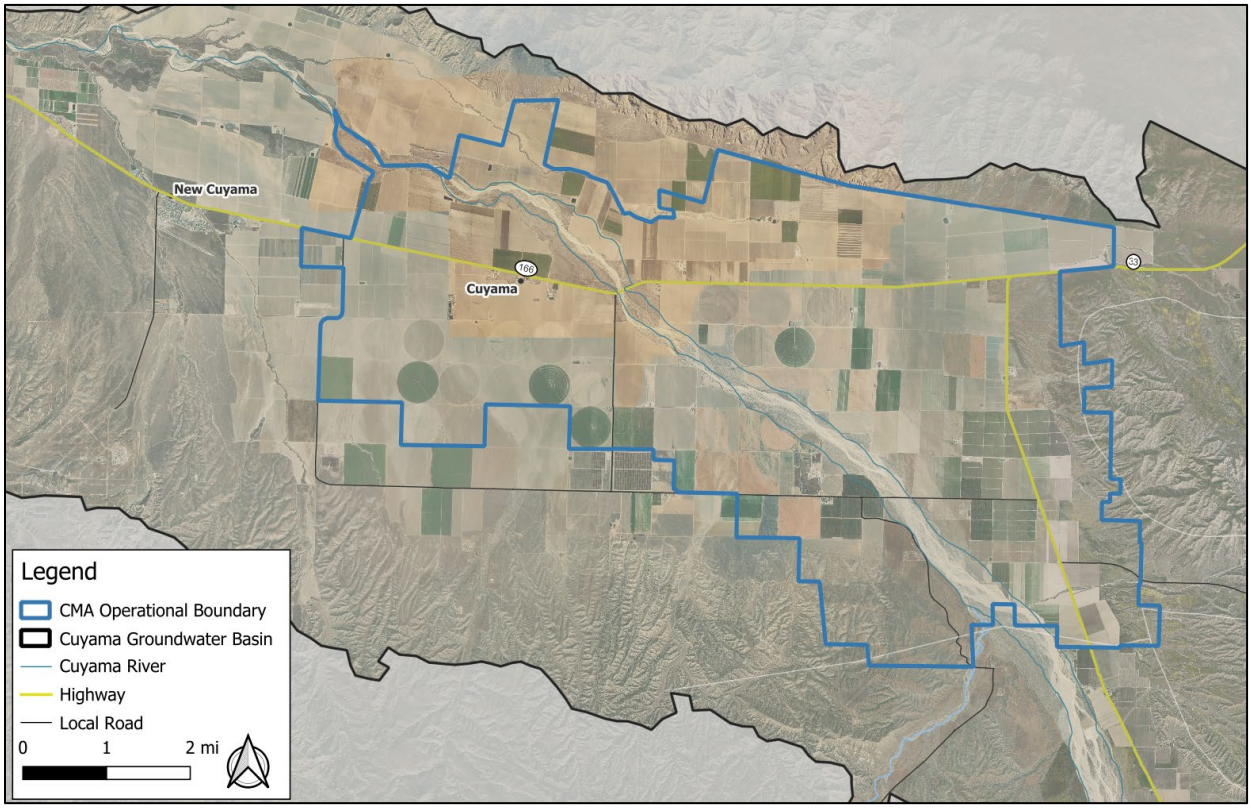
Term of Transfer: _____

Signature of Transferring-Landowner: _____

Signature of Receiving-Landowner: _____

ATTACHMENT 1

Map Instructions: Please indicate with an "X" where the transferred water is leaving and going.



GROUNDWATER ALLOCATION TRANSFER FORM, CONTINUED

(For Cuyama Basin GSA Staff Use)

Name of Transferring-Landowner: _____

Name of Receiving-Landowner: _____

Date Form Received: _____

1. Does the transferring-landowner hold title to real property within the CMA?
   ☐ YES ☐ NO

2. Does the receiving-landowner hold title to real property within the CMA?
   ☐ YES ☐ NO

3. Is the transferring-landowner in good standing with the GSA?
   ☐ YES ☐ NO

   If "NO," what corrective action is needed on part of the transferring-landowner?

   _____

   _____

4. Is the receiving-landowner in good standing with the GSA?
   ☐ YES ☐ NO

   If "NO," what corrective action is needed on part of the receiving-landowner?

   _____

   _____

5. Is the transferred groundwater allocation proposed for use solely within the CMA?
   ☐ YES ☐ NO

6. Does the transfer terminate on or before December 31, 2029?
   ☐ YES ☐ NO

7. Will the transfer cause any Undesirable Results?
   ☐ YES ☐ NO

   If "YES," please explain: _____

   _____

   _____

THIS TRANSFER IS HEREBY:

☐ APPROVED

☐ DENIED

☐ ADDITIONAL INFORMATION/CORRECTIVE ACTION NEEDED: _____

_____

_____

_____

_____

TO: Board of Directors
Agenda Item No. 9c

FROM: Provost & Pritchard

DATE: September 3, 2025

SUBJECT: Discuss and Take Appropriate Action on a Monitoring Network Consultant Contract for FY 25-26

Recommended Motion

Approve groundwater level and water quality monitoring contract with Provost & Pritchard for Fiscal Year 2025-2026 for an amount not to exceed of $80,000.

Discussion

Provost & Pritchard (P&P) was selected by the Board to monitor quarterly groundwater levels and water quality. A draft contract with P&P to continue these services in Fiscal Year (FY) 2025-2026 for an amount not to exceed of $80,000 is provided as **Attachment 1**. The adopted FY 2025-2026 budgeted amount was $75,000, however, staff are recommending contract approval.

PROVOST&PRITCHARD
CONSULTING GROUP

455 W Fir Ave, Clovis, CA 93611 • (559) 449-2700
www.provostandpritchard.com

July 22, 2025

Taylor Blakslee
Cuyama Basin Groundwater Sustainability Agency
4900 California Ave, Tower B, 2nd Floor
Bakersfield, CA 93309

Subject: CBGSA – Groundwater Monitoring (WY 2026)

Dear Mr. Blakslee:

Thank you for the opportunity to submit this proposal to provide consulting and monitoring services for the Cuyama Basin groundwater level monitoring network. This proposal discusses our understanding of the project, recommends a scope of services together with associated fees, deliverables, and approximate schedules, sets forth our assumptions and discusses other offered services that may be of interest as the project proceeds.

The dedicated and experienced team at Provost & Pritchard's Visalia and Bakersfield offices have extensive experience with the Sustainable Groundwater Management Act (**SGMA**), groundwater monitoring network development, groundwater level measurements, and coordinating with multiple agencies to unify efforts and accomplish varied goals.

Project Understanding

The Cuyama Basin Groundwater Sustainability Agency (**CBGSA**) developed a Groundwater Sustainability Plan (**GSP**) as required by SGMA.

For the 2026 water year, the CBGSA would like to continue monitoring groundwater levels quarterly. The 2026 network anticipates an approximate total of 73 wells at 52 locations.

The network will be monitored quarterly during the months of October, January, April, and July. The monitoring schedules may be adjusted to access wells outside of rain events or surface water flows.

Scope of Services

Provost & Pritchard will continue to be in contact the CBGSA to prepare for the work and ensure all requirements will be met. Our scope of work for this proposal will be completed in two phases, described below.

Phase LVL: Groundwater Level Monitoring

1. Project Administration and Management
    a. Provide consistent and available communications with CBGSA.
    a. Track project deliverables, budget, and schedule.

2. Quarterly groundwater level measurements for up to 72 wells at approximately 52 locations. Approximately 22 of these wells are currently equipped with transducers..
    a. Groundwater levels in excel format reporting groundwater surface elevation, reference point elevation, and depth to groundwater with measurement reference on a quarterly basis.
    b. Groundwater quality measurements in excel format reporting electroconductivity and water temperature on a quarterly basis for a preselected list of transducer-equipped wells

3. Technical Memo
    a. Summary memorandum to the CBGSA documenting work performed at the conclusion of the 12-month reporting period.

Deliverables:

- Signed access and monitoring agreement from landowners that require them.
- Technical memorandum summarizing work performed.
- Excel workbook including date, time, location, groundwater level, water quality metrics for qualifying wells and pertinent notes for each measurement.
- Individual well dossier sheets for each well with measurements and pertinent notes for any newly added wells.

Phase QLT: Groundwater Quality Monitoring

1. Project Administration and Management
    a. Provide consistent and available communications with CBGSA.
    b. Track project deliverables, budget, and schedule.

2. Annual groundwater quality measurements for approximately 29 wells.

3. Obtain Landowner Agreements
    a. Research missing contact information.
    b. Request access from landowners/managers to sample wells.
    c. Provide Access and Monitoring Agreements upon request and follow up.

4. Water quality measurements
    a. Review any new wells for suitability.
    b. Coordinate water quality testing with well owners.
    c. Measure salinity as EC and TDS at each well. Measurement will be taken with a Horiba multimeter according to Standard Operating Procedures, including meter calibration, well purging, and applicable site condition notes.
    d. Collect salinity as EC and TDS data at each well equipped with a transducer.

5. Data management and reporting
    a. Compile water quality data and complete data quality assurance and control measures.
    b. Develop technical memorandum documenting work performed.

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c. Complete Excel workbook with EC and TDS results.
d. Complete dossier sheets for each well.

Deliverables:

- Signed access and monitoring agreement from landowners that require them.
- Technical memorandum summarizing work performed.
- Excel workbook including date, time, location, EC, TDS, and pertinent notes for each measurement.
- Individual well dossier sheets for each well with measurements and pertinent notes.
- All analyses documents provided by the lab.

Professional Fees

Provost & Pritchard Consulting Group will perform the services on a time and materials basis, in accordance with our Standard Fee Schedule in effect at the time services are rendered. For budgeting purposes, our preliminary estimate is that our fees will be **$80,000**. Reimbursable expenses and professional fees are included in the estimate. These fees will be invoiced monthly as they are accrued, and our total fees, including reimbursable expenses, will not exceed our estimate without additional authorization.

Schedule

Provost & Pritchard is prepared to begin immediately upon authorization to proceed. Once we receive an executed copy of this Proposal along with the Consultant Services Agreement, and are authorized to proceed, we will work with the CBGSA to develop a mutually agreed upon schedule.

Assumptions

Phase LVL

- Survey by a CA State licensed surveyor is additional work and not included in the scope or fee estimate.
- Landowners are assumed to be amenable to monitoring and prompt in their communication. Landowners that require more than three (3) communication attempts to sign land access permissions and schedule a sample date are additional work and outside of the scope and fee estimate.
- Landowners are not required to be on premises for level measurements. Expecting field staff to communicate and meet discrete measurement appointments to allow landowner supervision is additional work, reduces the number of wells that can be measured within a day, and outside the scope of work and the fee estimate.
- Wells are in sufficient condition to be measured and modifications are not necessary.
- Additional wells for which landowner introductions and, site information forms, and/or access agreement can be added for additional scope and fee.

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Phase QLT

- If any of the proposed wells are not suitable for sampling, then upon CBGSA's prior approval, other wells can be added for additional scope and fee. Wells without pumps will be sampled with passive sampling equipment, if possible.
- Wells, equipped with transducers may require temporary removal of the transducer prior to sampling. The removal of transducers may be completed under a separate scope of work.
- Landowners are assumed to be amenable to sampling and prompt in their communication. Landowners that require more than three (3) communication attempts to sign land access permissions and schedule a sample date are additional work and outside of the scope and fee estimate.
- Landowners are not required to be on premises for well sampling if the well will be running. Expecting field staff to communicate and meet discrete sampling appointments to allow landowner supervision is additional work, reduces the number of wells that can be sampled within a day, and outside the scope of work and the fee estimate.
- Surveying (establishing elevations) will not be required for wells which are not included in the Groundwater Level Monitoring Network.
- Data is to be reported to Woodard & Curran via Excel spreadsheet.
- Wells are in sufficient condition to be sampled and modifications are not necessary.
- Well Completion Reports will not be needed at this time.
- Without Well Completion Reports, the volume of three well casings cannot be calculated. Therefore, a standard purge time and/or volume will be utilized, which will be based on purge requirements for similar water quality networks.
- Provost & Pritchard will not turn pumps on or off. The landowner or authorized manager will need to be present if a well is not in operation.
- Landowners will provide guidance regarding discharge locations for purged water.

Additional Services

The following services are not included in this proposal. However, these and others can be provided at additional cost, either directly by Provost & Pritchard Consulting Group or through subconsultants, upon request.

- Data management system.
- Expansion of the CBGSA's monitoring network if the original wells are not sufficient.
- Licensed survey of ground surface elevation and well reference point elevation.

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Terms and Conditions

If this proposal is acceptable, please sign the Consultant Services Agreement, and return a copy to our office. These documents will serve as our Notice to Proceed. This proposal is valid for 60 days from the date above.

Respectfully,

Provost & Pritchard Consulting Group

Jon Vander Schuur QSD/QSP CPESC
Project Manager

Soo Ho Park, RCE 89361
Director of Operations

Terms and Conditions Accepted

By: Cuyama Basin Groundwater Sustainability Agency

Signature

Taylor Blakslee

Printed Name

Title Date

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TO: Board of Directors
Agenda Item No. 9d

FROM: Taylor Blakslee

DATE: September 3, 2025

SUBJECT: Discuss and Take Appropriate Action on Standard Operating Procedures for Adaptive Management Process

Recommended Motion
Board feedback requested.

Discussion
During the July 9, 2025, Board of Directors meeting, it was brought to the Board's attention that Opti Well #610 exceeds the minimum threshold (MT). Per the Groundwater Sustainability Plan (GSP) guidelines, when a well exceeds the MT, an ad hoc committee should be formed to investigate the exceedance and develop appropriate adaptive management strategies to address it.

Staff have prepared a draft Standard Operating Procedure (SOP) outlining steps that staff would take to work with an ad hoc committee to investigate the cause of the changing conditions and to develop strategies for board consideration. Staff is requesting Board/SAC direction on finalizing the SOP, which is provided as **Attachment 1**.

Attachment 1

Implementation of Adaptive Management Strategies

STANDARD OPERATING PROCEDURES

Purpose:
The purpose of this document is to guide Cuyama Basin Groundwater Sustainability Agency (CBGSA) staff, Board members, and other partners through the process of assessing changes in Basin conditions and developing adaptive management strategies to address those changes. Procedures in this document reflect the guidance language outlined in the 2025 Groundwater Sustainability Plan (GSP).

What Triggers Adaptive Management?

1. If pumping reductions are more than 5 percent off the glide path identified in the pumping allocation plan.
2. If the Basin [well] is within the Margin of Operational Flexibility, but trending toward Undesirable Results, and within 10 percent of the Minimum Threshold (including a minimum threshold exceedance).
3. Reports by stakeholders of Basin conditions that have impacted beneficial uses or users.

GSP Guidance on Adaptive Management
Section 7.6 Adaptive Management:
"If an investigation based on monitoring data and/or stakeholder reporting indicates that groundwater management in the Basin may be adversely affecting beneficial users, the CBGSA Board will determine if a response by the CBGSA is required. This will include the formation of an ad hoc committee to investigate the cause(s) of changing Basin conditions, conducting data analysis, and discussion of potential adaptive management response strategies. If appropriate, the CBGSA will implement response strategies to correct the issue; these strategies could include localized pumping management plans, installation of additional monitoring, installation of replacement wells, potential changes to sustainability criteria or pumping reduction schedule included in the GSP, or other solutions to address specific concerns and Basin conditions."

Importantly, the Board should determine if changes in Basin conditions will impact *"beneficial uses or uses at any nearby active wells or potential groundwater-dependence ecosystems (GDEs)"* (GSP Chap 5, p. 5).

Procedural Steps

1. **Formation of an ad hoc Committee**
    a. Staff to present summary of monitoring data and or/ stakeholder report and recommendation to the full Board for direction on next steps.

b. If an Adaptive Management Trigger has been met, and the Board determines that additional investigations are appropriate, then an ad hoc committee will be formed to investigate the cause of the changes in basin conditions.
c. Otherwise, the adaptive management process will be concluded.

2. **Investigate**
    a. **Conduct data analysis**
        i. Confirm the underlying data is correct and reflects actual conditions.
    b. Determine the cause of the change in Basin conditions
    Potential causes of Minimum Threshold (MT) exceedances could include:
        i. Prolonged drought
        ii. Pumping nearby the representative sites and
        iii. Unreliable and non-representative data used to calculate the MT
        iv. External influences / other (e.g. water use to fight wildfires)
    c. Determine if the change in Basin conditions is impacting beneficial uses and users
        i. Evaluate potential impacts on nearby wells within the anticipated radius of influence.
        ii. Evaluate potential impacts to nearby groundwater dependent ecosystems.
        iii. Evaluate potential impacts to nearby interconnected surface water.
3. **Develop draft adaptive management response strategies**
    a. Staff to develop draft adaptive management response strategies, which may include:
        i. Perform additional groundwater level and/or quality monitoring.
        ii. Install replacement wells or deepen existing wells.
        iii. Implement a localized pumping management plan
        iv. Modify sustainability criteria.
    b. Ad hoc reviews draft strategies and develop recommendations for Board consideration.
    c. Board considers ad hoc recommendation.
4. **Implement response strategies to correct the change in Basin conditions.**
    a. Staff to implement Board strategy.
    b. Staff to provide regular updates to the Board.

TO: Board of Directors
Agenda Item No. 9e

FROM: Taylor Blakslee

DATE: September 3, 2025

SUBJECT: Discuss and Take Appropriate Action on Options to Address New Pumping Outside Management Areas

Recommended Motion
Board feedback requested.

Discussion
On July 9, 2025, the Cuyama Basin Groundwater Sustainability Agency Board directed staff to prepare a list of options to address new pumping outside the existing management areas. Legal counsel has developed these options for Board and SAC consideration, which are included in **Attachment 1**.

Managing the Use of Water Outside the Central Management Area

Alex N. Dominguez

Agenda

- **Purpose**: During the July Board of Directors meeting, Board directed staff to explore options regarding how to manage the use of water outside the Central Management Area (CMA).

- **Agenda**:
  - What does SGMA allow?
  - What are other GSAs doing?
  - What is CBGSA doing?
  - Suggestions/Options Going Forward

What does SGMA allow?

Water Code, section 10726.4 authorizes CBGSA to:

- Impose spacing requirements on new groundwater well construction.
- Impose operating regulations on existing groundwater wells (e.g., requiring extractors to operate on a rotation basis).
- Regulate, limit, or suspend:
  - Extractions from individual groundwater wells or from groundwater wells in the aggregate.
  - Construction of new groundwater wells, enlargement of existing groundwater wells, or reactivation of abandoned groundwater wells.
- Impose groundwater extraction allocations.

What does SGMA allow?

In addition, SGMA authorizes CBGSA to:

- Require the registration of all groundwater extraction facilities within a management zone. (Wat. Code, § 10725.6.)
- Require the installation and use of meters. (Wat. Code, § 10725.8.)
- Require the reporting of groundwater extractions. (Wat. Code, § 10725.8.)

What are other GSAs doing?

East Kaweah GSA

- No registration on groundwater wells.
- No metering of groundwater extractions (EKGSA relies solely on evapotranspiration data).
- Imposes basin-wide groundwater allocations.

Eastern Tule GSA

- Requires the registration of all non-de minimis groundwater wells.
- Imposes basin-wide groundwater allocations, with stricter regulations on groundwater use within its “Land Subsidence Management Zone” (i.e., more severe groundwater allocations; mandated use of meters, etc.).
- Creation of Penalty Tier Water.

What is CBGSA doing now?

Basin-wide, CBGSA requires the:

- Registration of all groundwater wells.
- Installation of meters on all non-de minimis groundwater wells.
- Reporting of groundwater extractions from all such wells.

Within the **CMA**, CBGSA requires the:

- Registration of all groundwater wells.
- Installation of meters on all non-de minimis groundwater wells.
- Reporting of groundwater extractions from all such wells.
- Imposition of groundwater allocations.

What options are available to CBGSA?

RE: Managing Groundwater Use Outside Management Areas

1. Continue Implementing GSP

- Implement adaptive management for any MT exceedances to ensure beneficial users are protected by local groundwater level declines.
- Continue implementation of groundwater allocations in the CMA and evaluate if expanding allocations to the Ventucopa MA is required to achieve sustainability.
- Continue to monitor basin conditions for potential areas that meet the criteria for a management area and address as appropriate.

2. Perform Additional Outreach

- Develop robust public outreach campaign for current and future groundwater users that explains MTs, MA allocations, the potential for future MA to develop and the impending adjudication regarding the potential impact on groundwater pumping.

3. Expand Groundwater Allocations Basin-Wide

4. Manage Basin Outside Existing Management Areas

- Establish new management area outside of existing MAs.
- Allow historic pumping to occur.
- For pumping over a historic use, or new groundwater use, require a technical study demonstrating the expanded, or new use would not impact the GSA's ability to achieve sustainability.

What options are available to CBGSA?

RE: Other Groundwater Management Tools

- Limit the enlargement of existing groundwater wells.
- Suspend the reactivation of abandoned groundwater wells.
- Prohibit the construction of groundwater new wells.
- Other?

TO: Board of Directors
Agenda Item No. 10a

FROM: Taylor Blakslee

DATE: September 3, 2025

SUBJECT: Report of the Executive Director

Recommended Motion
None – information only.

Discussion
Progress and next steps for the Hallmark Group for June and July 2025, and an overview of consultant budget-to-actuals are provided as **Attachment 1**.

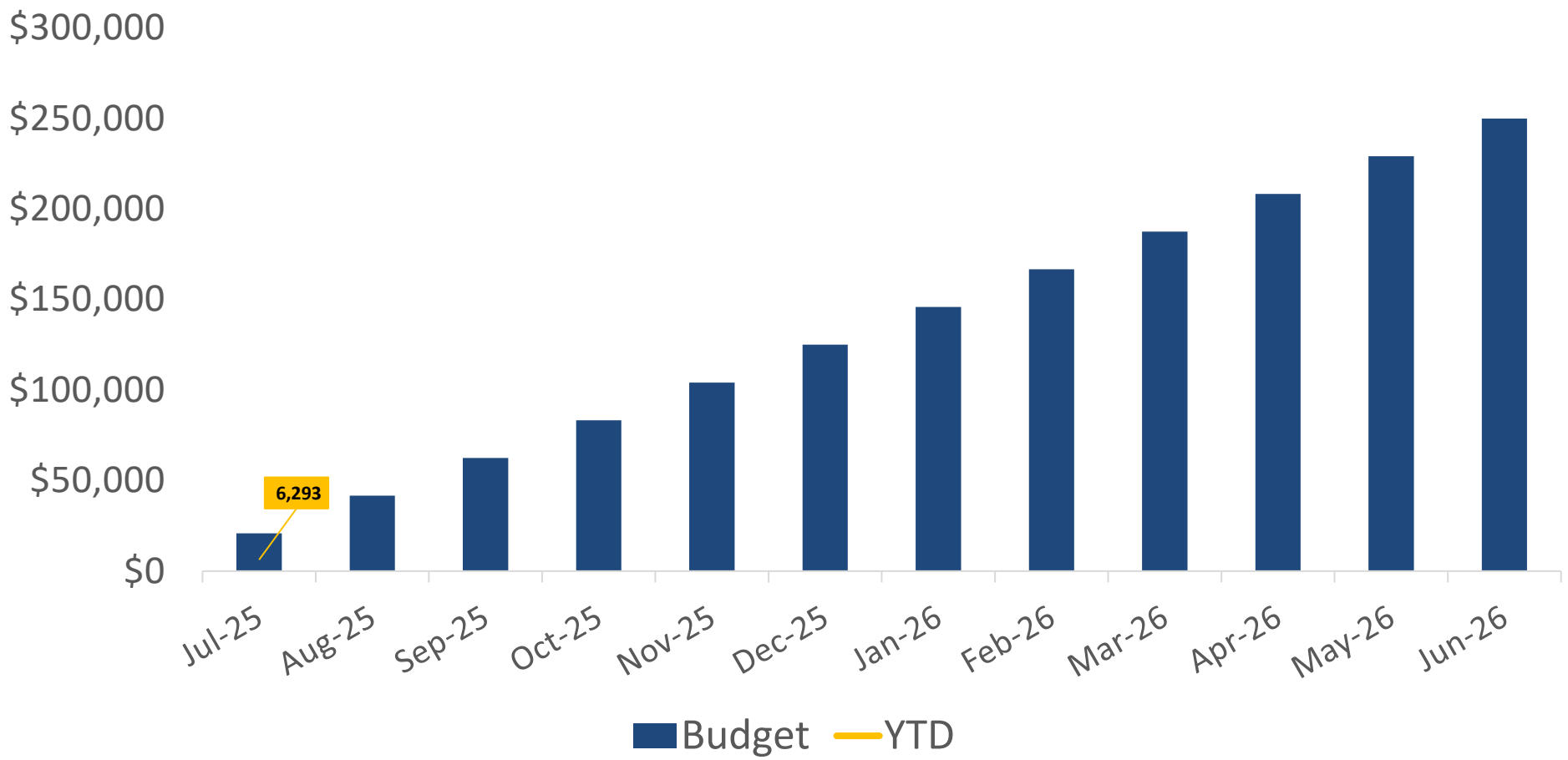
Cuyama Basin Groundwater Sustainability Agency

Financial Report

September 3, 2025

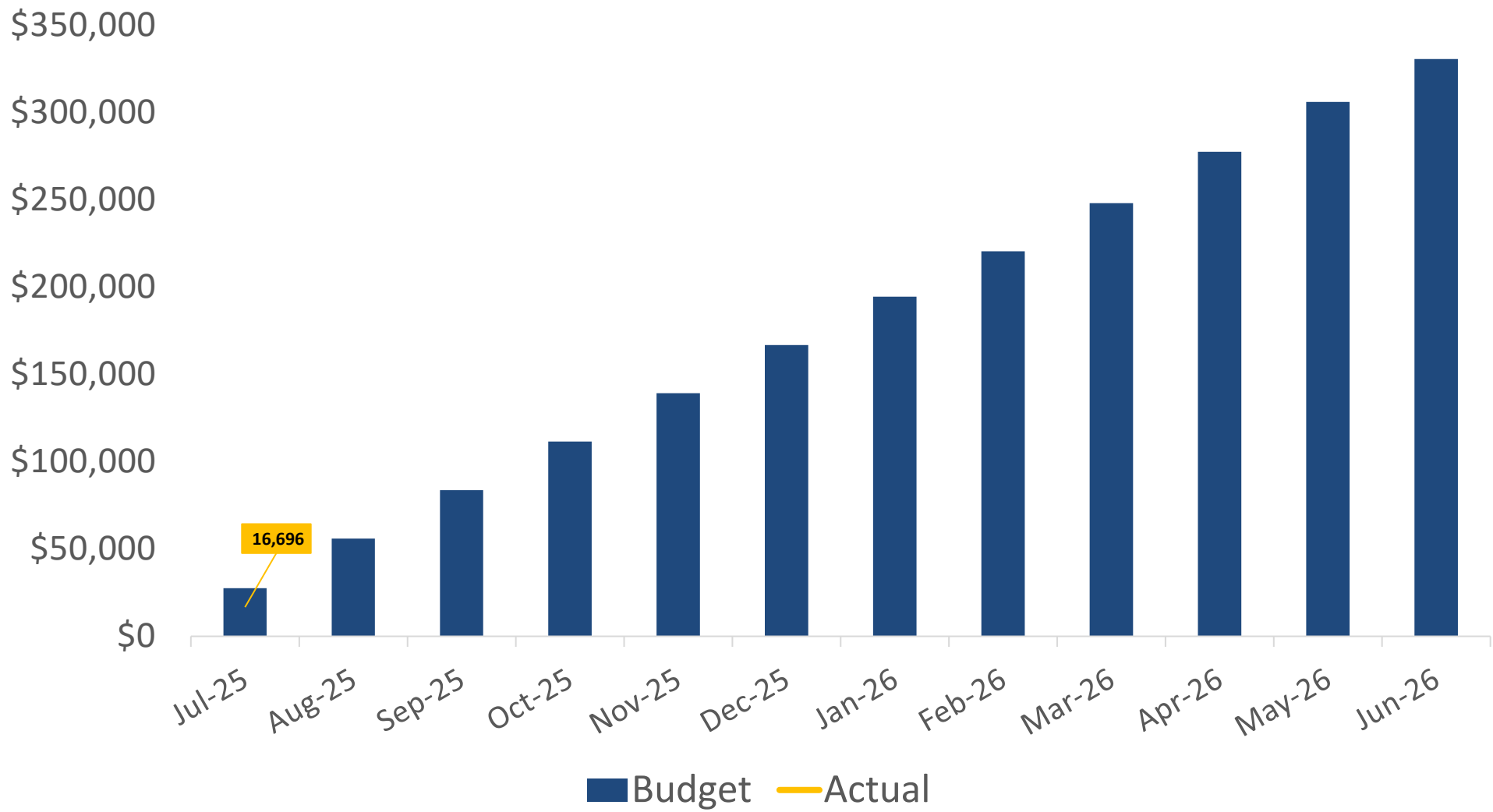
Legal Counsel – Budget-to-Actuals

FY 25/26



Hallmark Group – Budget-to-Actuals

FY 25/26



Provost & Pritchard – Budget-to-Actuals

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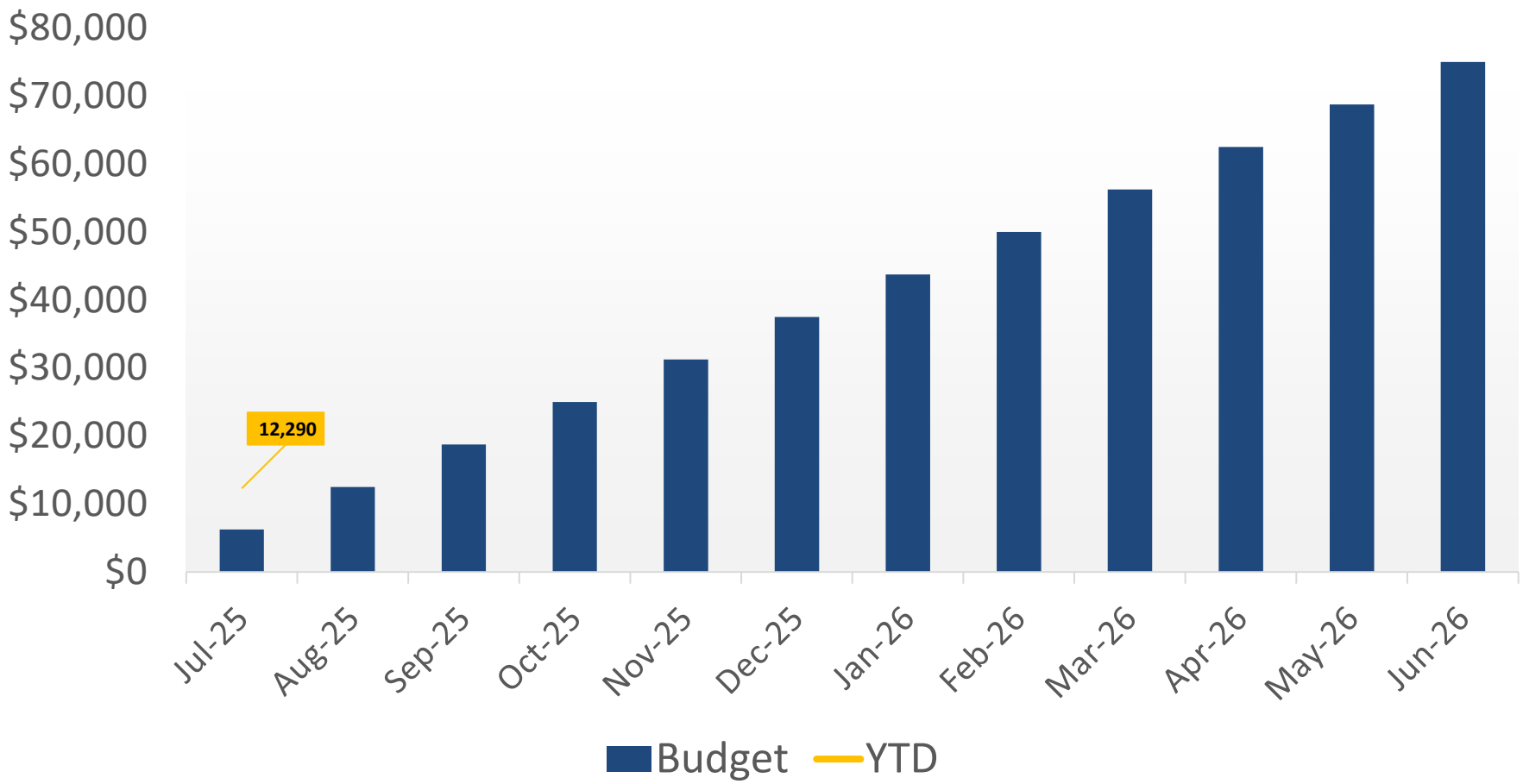
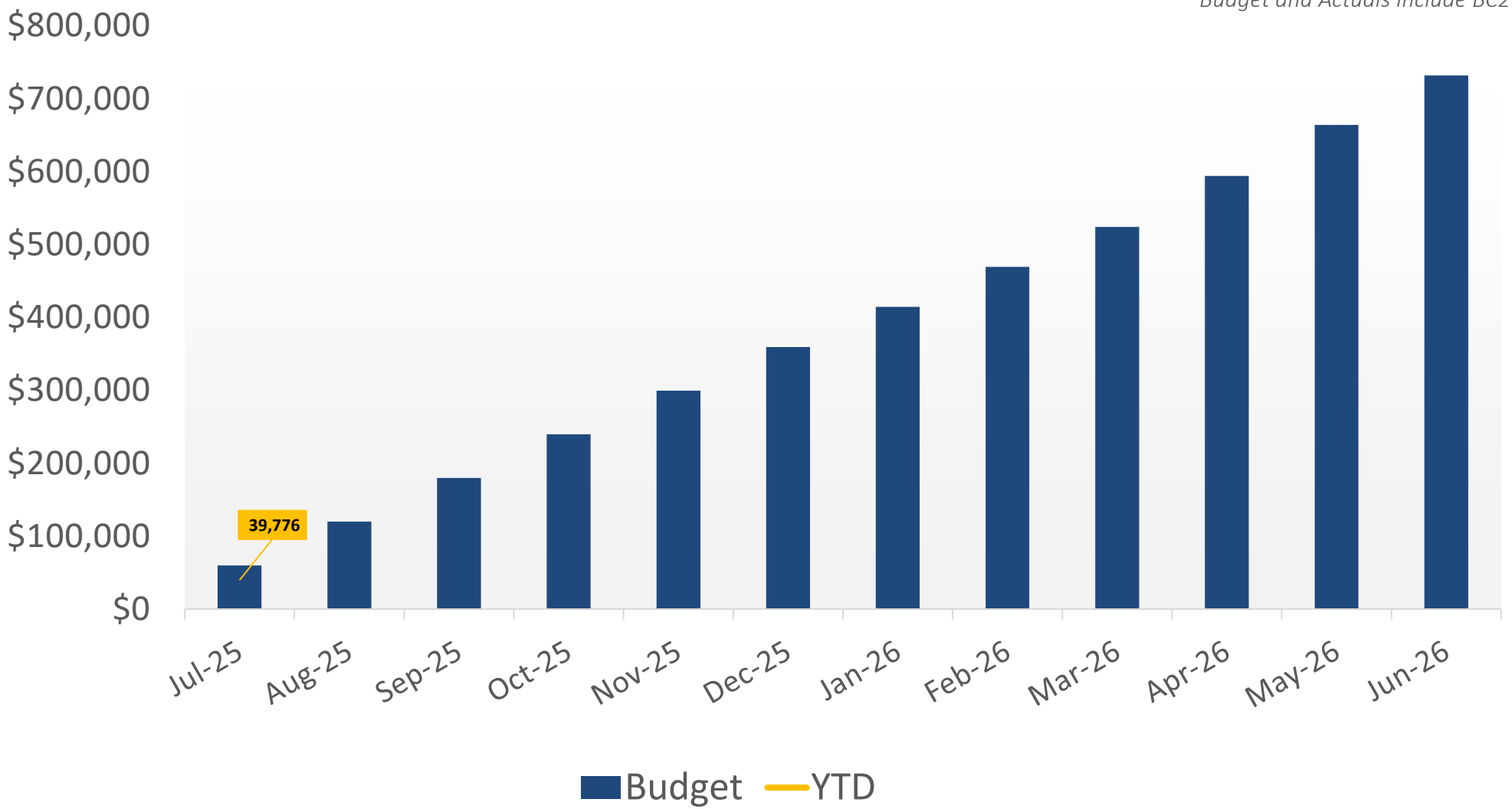


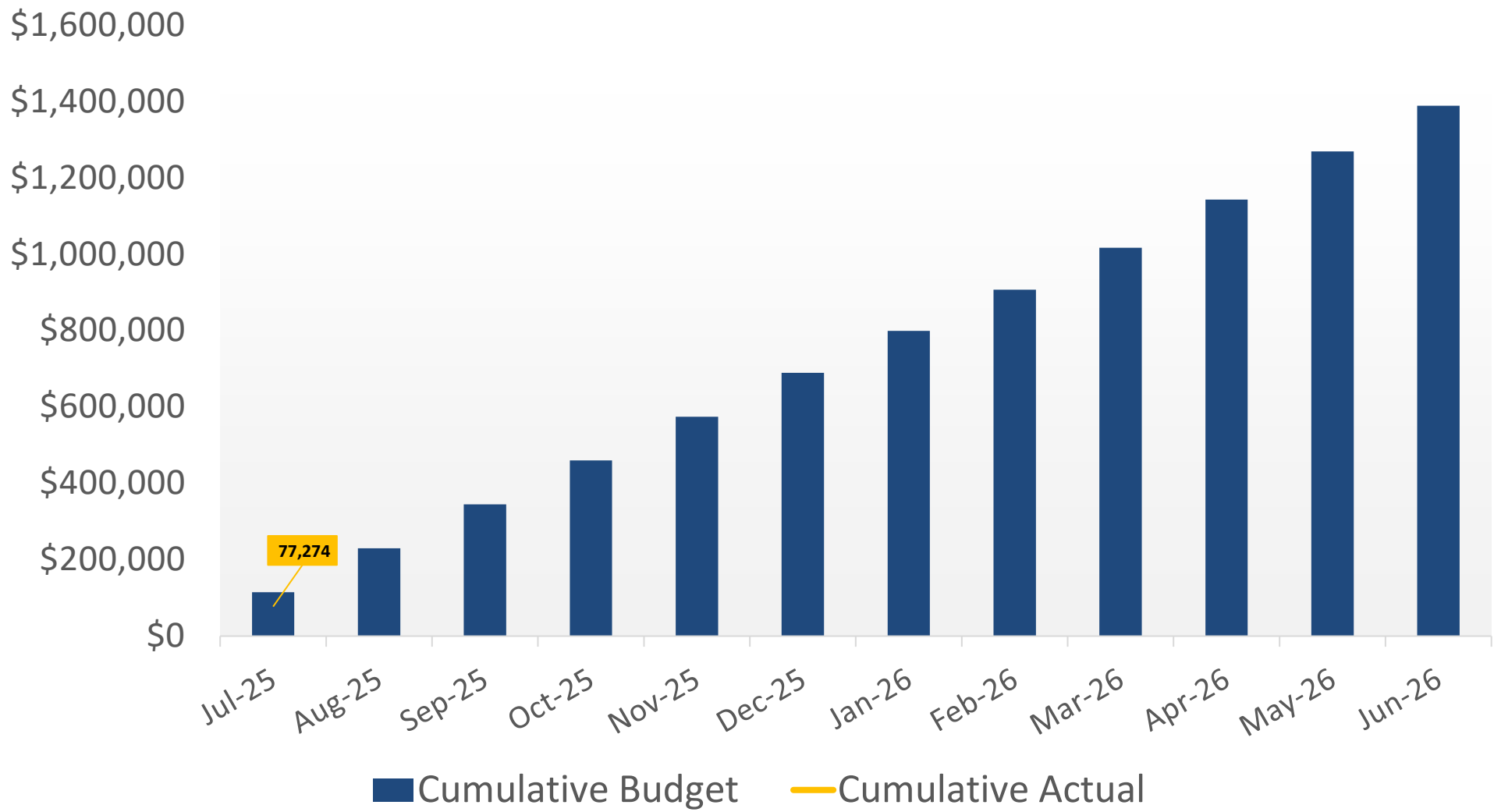
Woodard & Curran – Budget-to-Actuals

FY 25/26

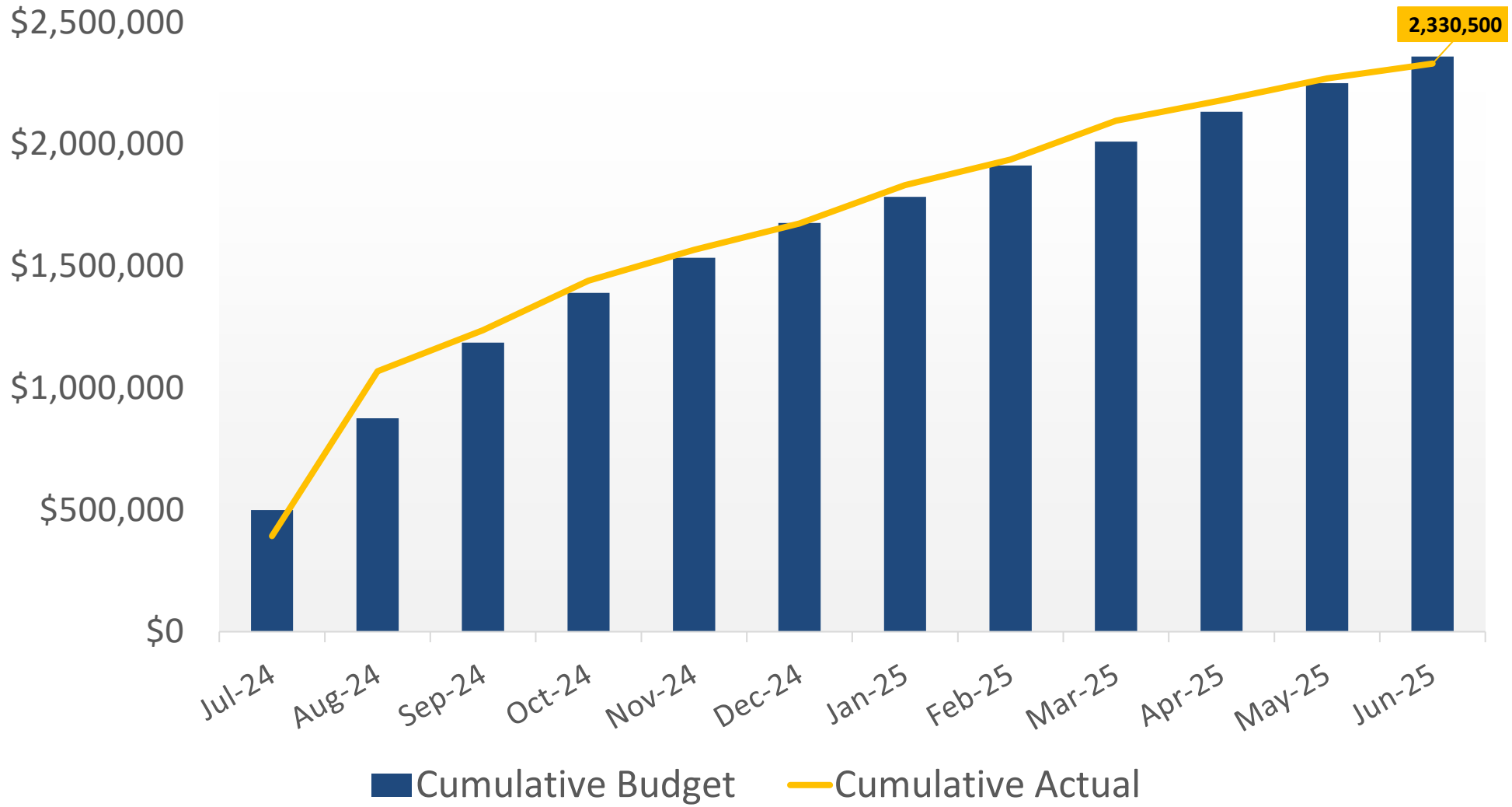
Budget and Actuals Include BC2 Environmental



CBGSA FY 25/26 – Budget-to-Actuals



CBGSA FY 24/25 – Budget-to-Actuals



TO: Board of Directors
Agenda Item No. 11a

FROM: Brian Van Lienden, Woodard & Curran

DATE: September 3, 2025

SUBJECT: Update on Groundwater Sustainability Plan Activities

Recommended Motion
None – information only.

Discussion
Cuyama Basin Groundwater Sustainability Agency (CBGSA) Groundwater Sustainability Plan (GSP) activities and consultant Woodard & Curran's (W&C) accomplishments are provided as **Attachment 1**.

Jul-Aug Accomplishments

- ✓ Performed an assessment of data availability and adequacy in the Ventucopa Management Area
- ✓ Developed July 2025 Groundwater Conditions Report
- ✓ Performed DMS data updates
- ✓ Developed a plan for the updated Santa Barbara Canyon Fault Investigation
- ✓ Prepared grant invoice submittal and deliverables for technical grant tasks

TO: Standing Advisory Committee
Agenda Item No. 8b

FROM: Brian Van Lienden, Woodard & Curran

DATE: August 28, 2025

SUBJECT: Update on Grant-Funded Projects

Recommended Motion
None – information only.

Discussion
An update on Cuyama Basin Groundwater Sustainability Agency (CBGSA) grant-funded projects is provided as **Attachment 1**.

Cuyama Basin Groundwater Sustainability Agency

Update on Grant Funded Projects

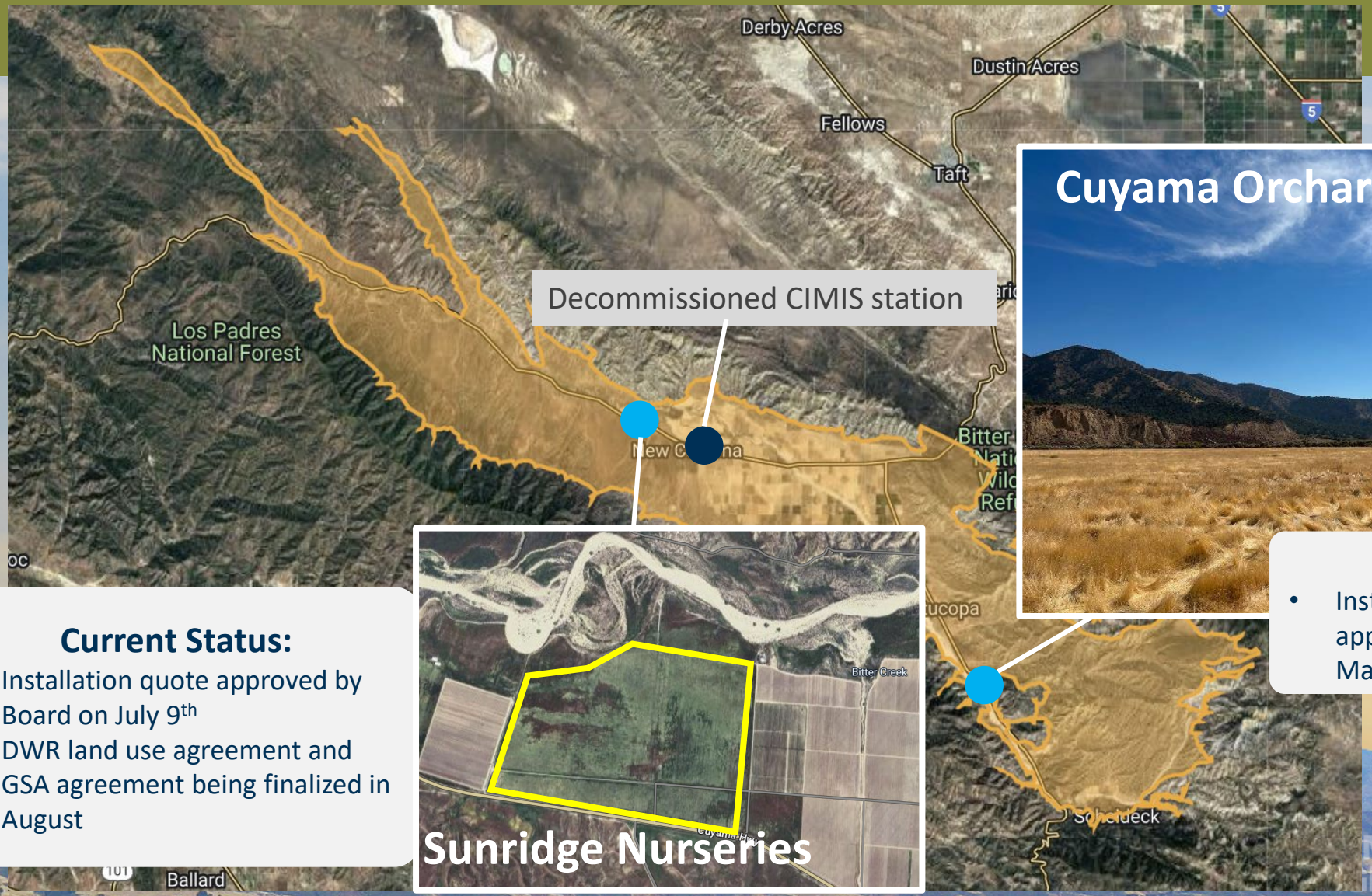
Brian Van Lienden

HALLMARK GROUP Woodard & Curran

Update on Grant Funded Projects

- CIMIS station installation:
  - CBGSA staff is currently working with CA DWR and landowners to finalize agreements
  - Amended grant agreement allows for reimbursement of work completed through December 2025
- Work on all other technical grant components is complete as of the end of June 2025

CIMIS Station Sites



Status:

- Installation quote approved by Board on Mar 5th

Current Status:

- Installation quote approved by Board on July 9th
- DWR land use agreement and GSA agreement being finalized in August

TO: Board of Directors
Agenda Item No. 11c

FROM: Brian Van Lienden, Woodard & Curran

DATE: September 3, 2025

SUBJECT: Update on July 2025 Groundwater Conditions Report

Recommended Motion
None – information only.

Discussion
The quarterly Groundwater Conditions– Cuyama Valley Groundwater Basin July 2025 report is summarized as **Attachment 1** and the detailed report is provided as **Attachment 2**.

Cuyama Basin Groundwater Sustainability Agency

13c. Update on Quarterly Groundwater Conditions Report

Brian Van Lienden

August 28, 2025

July 2025 Report

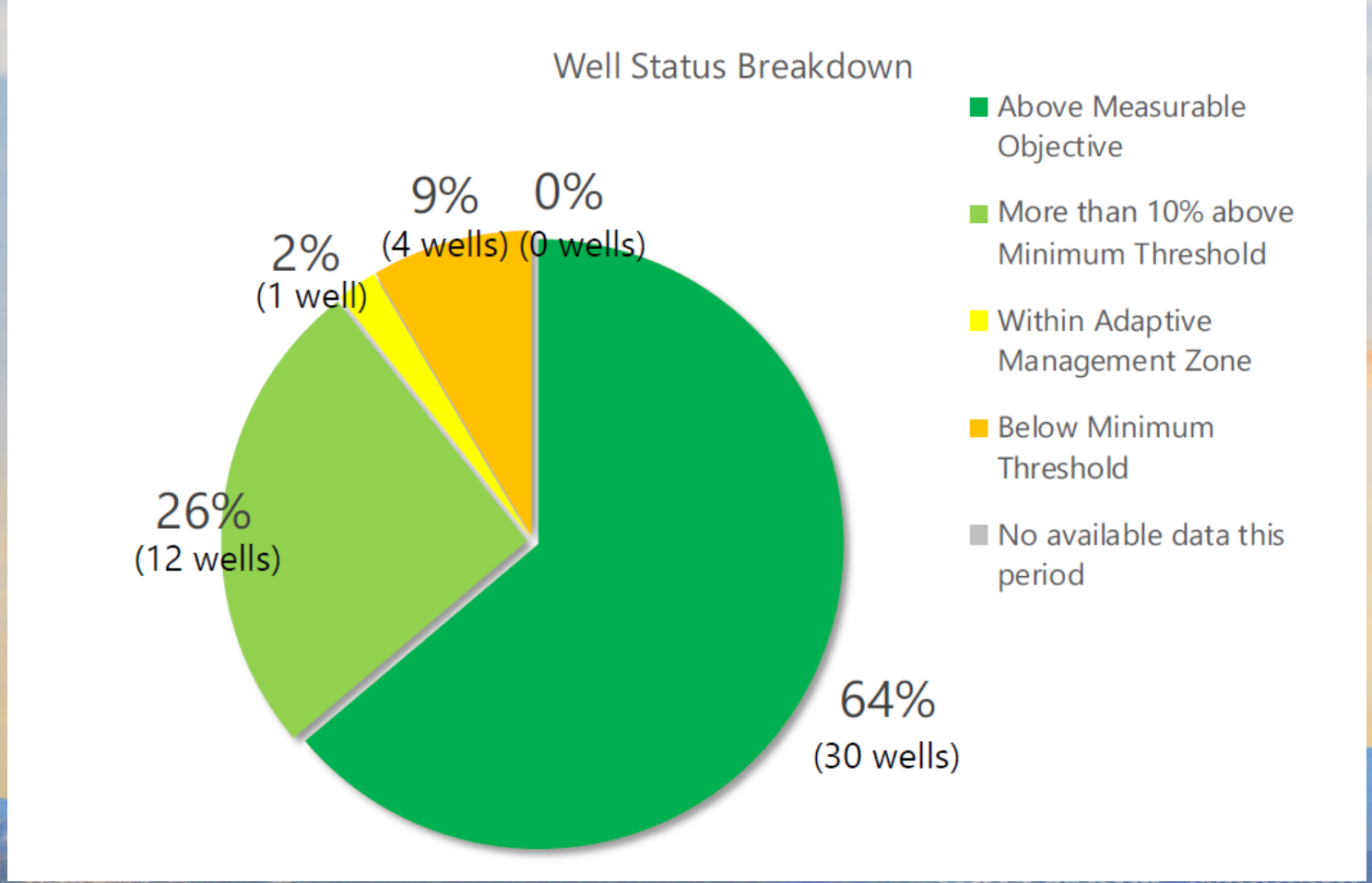
HALLMARK GROUP Woodard & Curran

Groundwater Levels Monitoring Network – Summary of Current Conditions

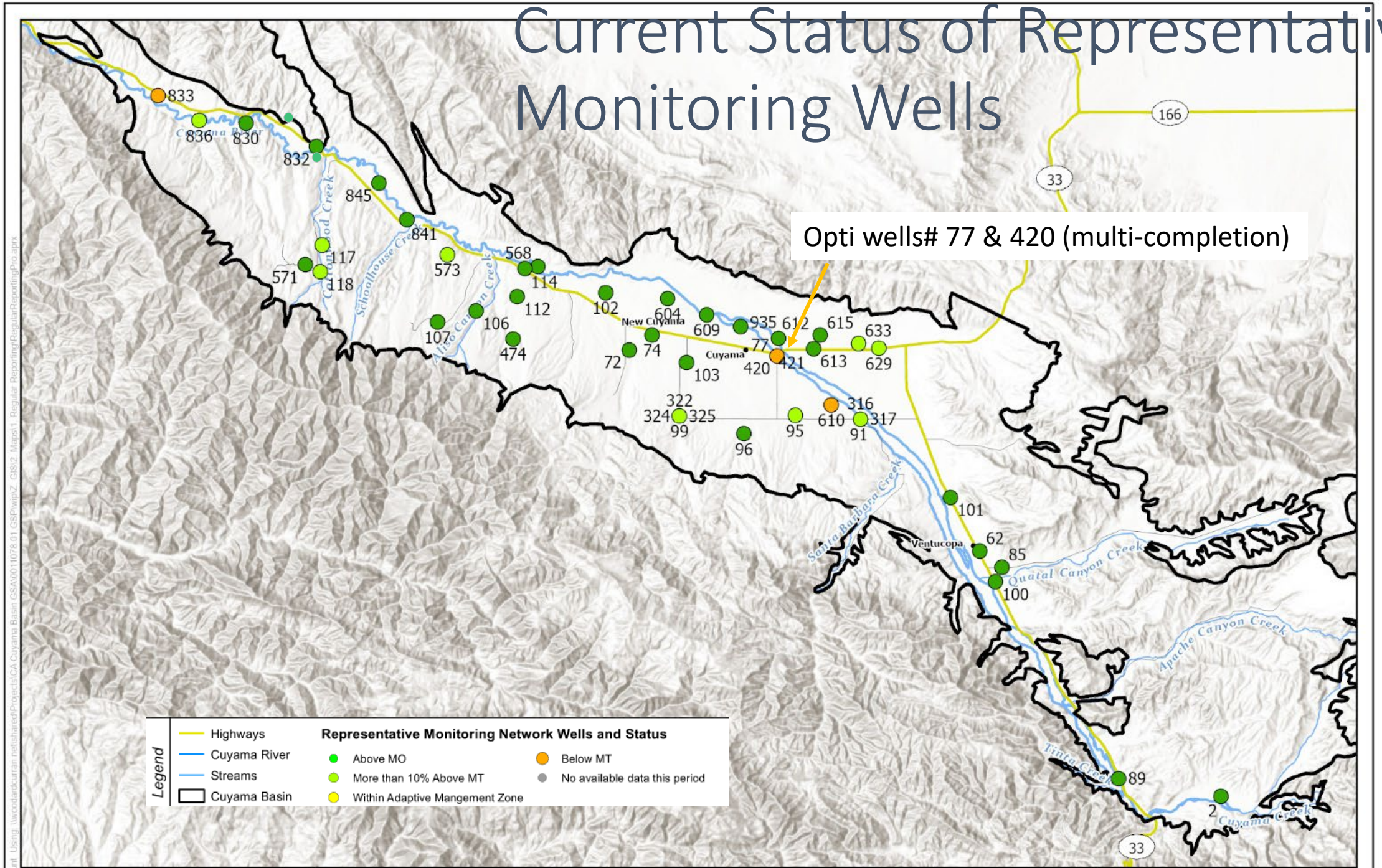
- Monitoring data from January 2025, April 2025, and July 2025 for representative wells is included in the Groundwater Conditions report
- All 47 representative monitoring wells have levels data at least once in the previous 12 months
- 4 wells were below the updated minimum threshold based on latest measurement since July 2024

Summary of Groundwater Well Levels as Compared To Sustainability Criteria

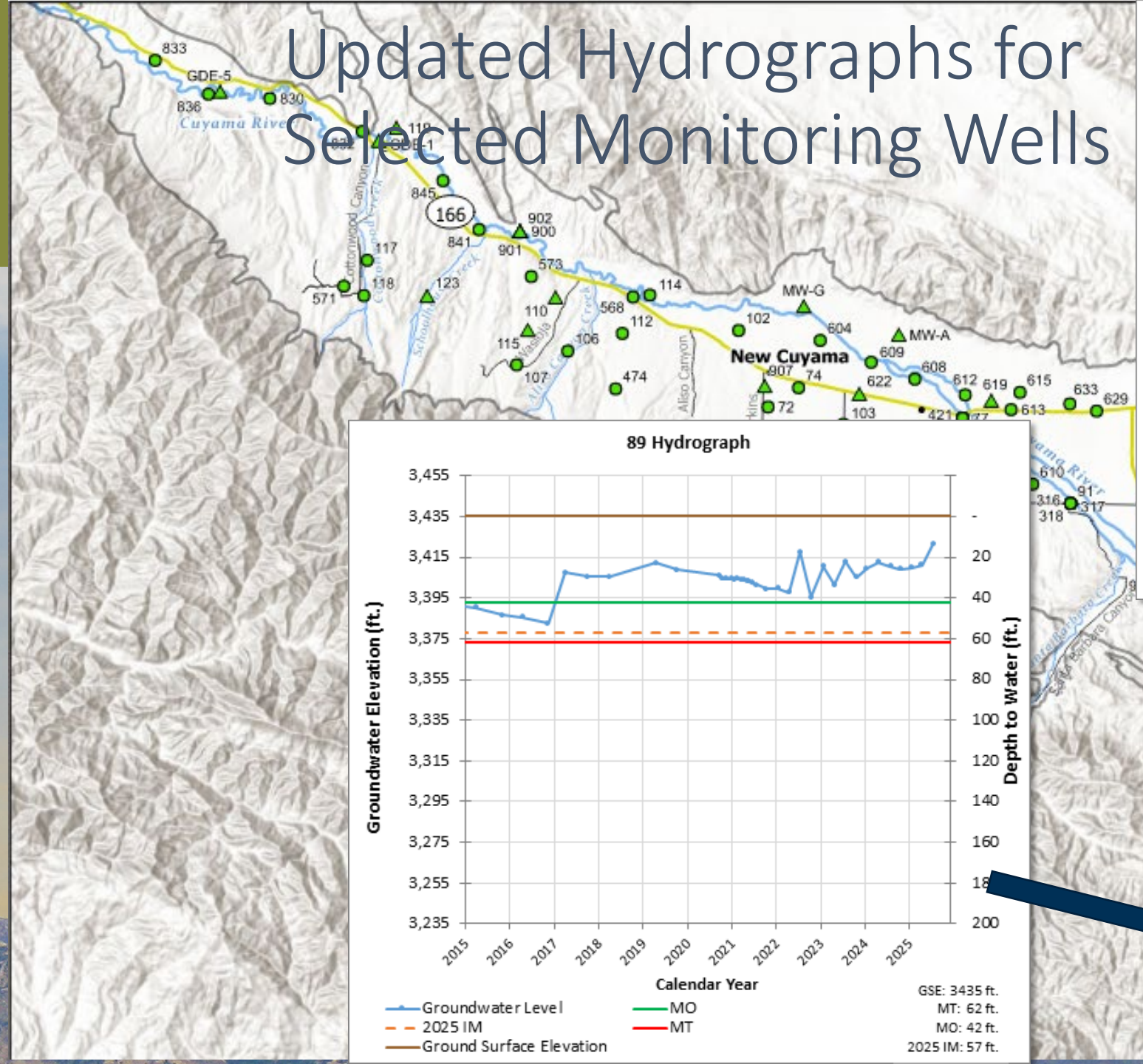
- 4 wells are currently below the updated minimum threshold (MT)
  - 1 wells (2%) has been below the MT for at least 24 months
  - 3 wells dropped below the MT in April 2025
    - Includes Well 833, which may have been affected by firefighting efforts in July
  - 0 wells moved above the MT in April 2025

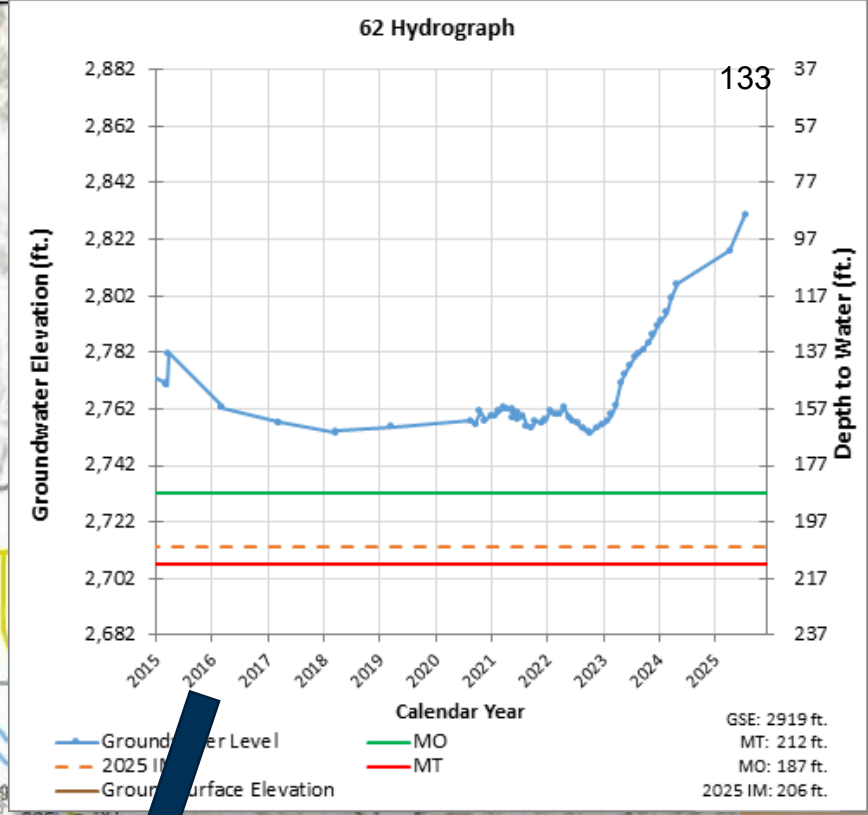


Current Status of Representative Monitoring Wells

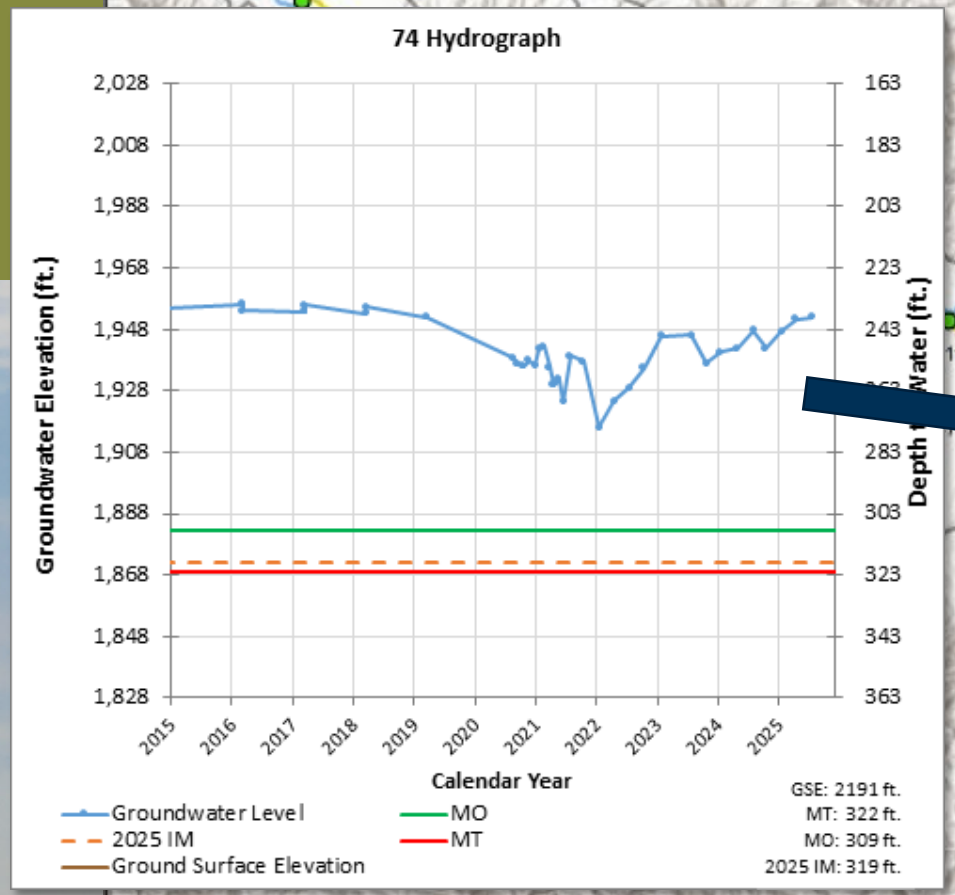


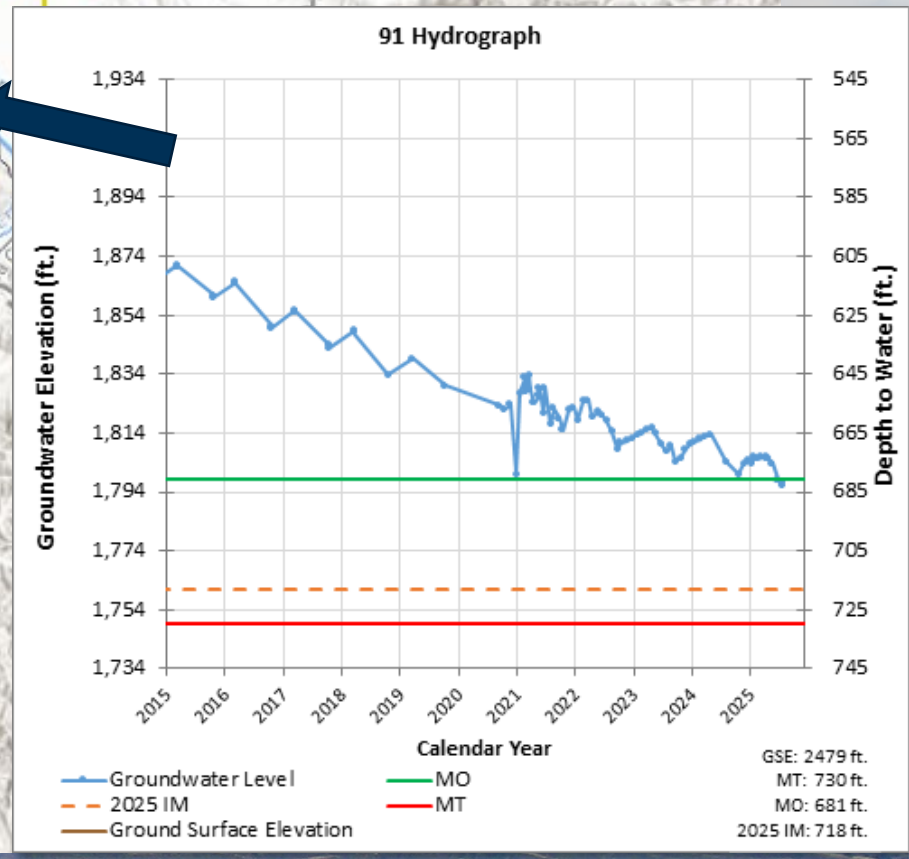
Updated Hydrographs for Selected Monitoring Wells



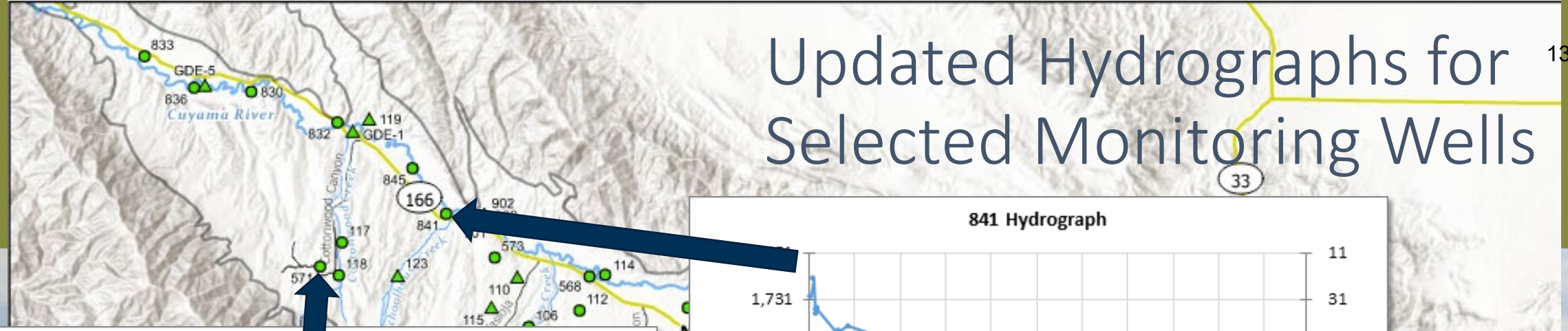


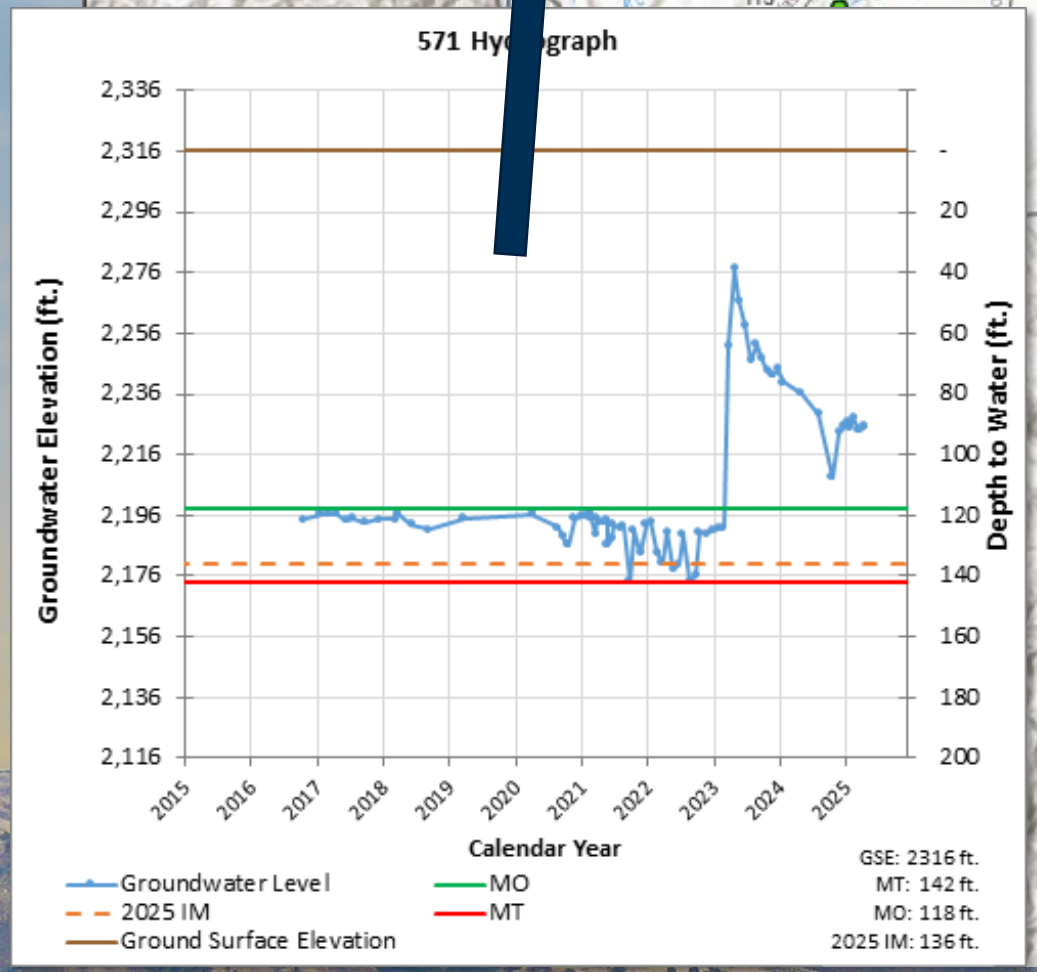
Updated Hydrographs for Selected Monitoring Wells

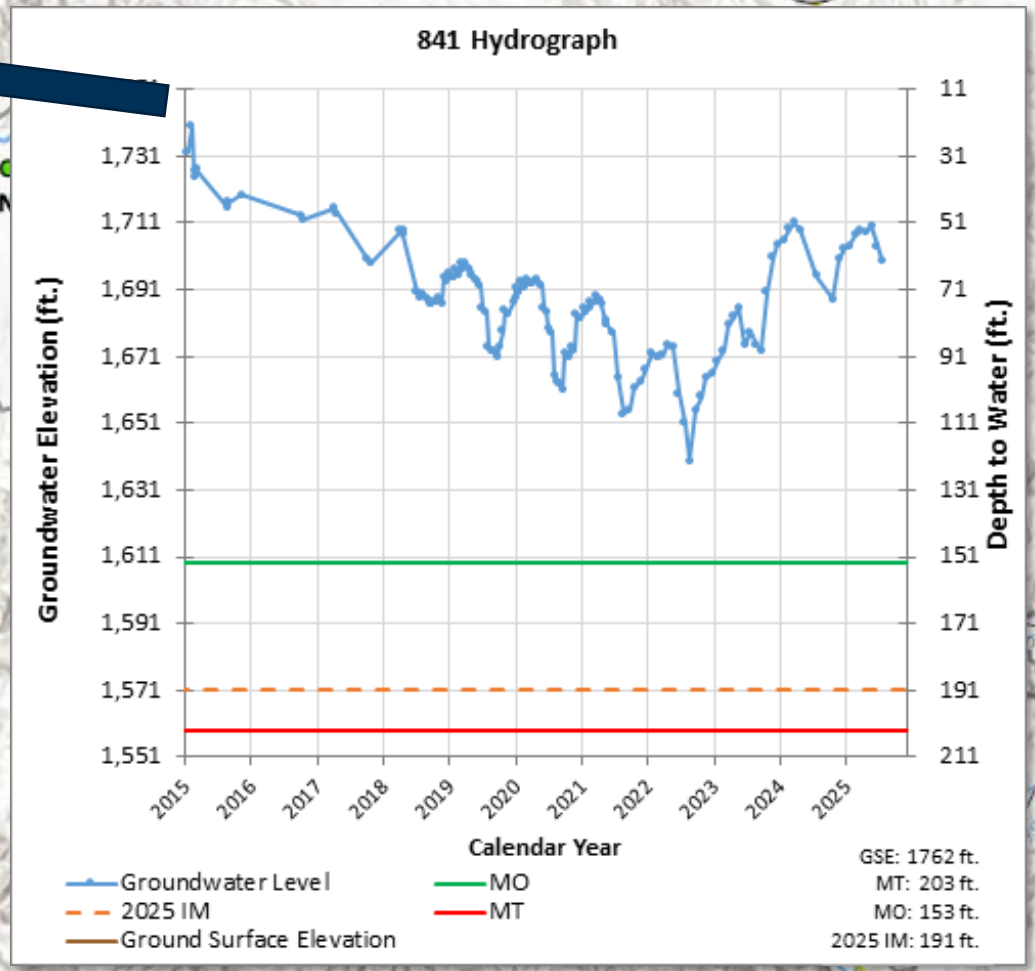


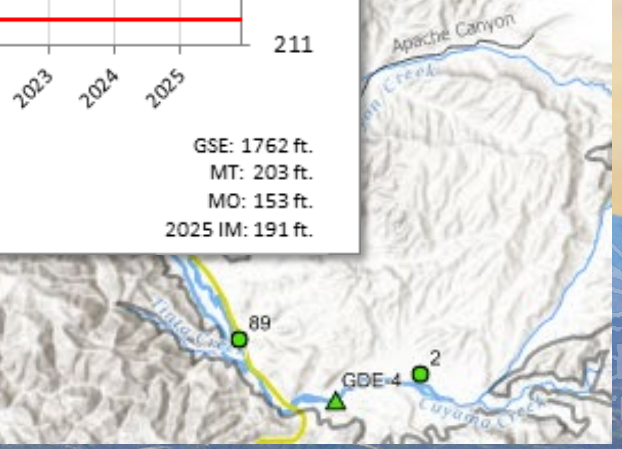


Updated Hydrographs for Selected Monitoring Wells









Attachment 2

GROUNDWATER CONDITIONS REPORT – CUYAMA VALLEY GROUNDWATER BASIN

July 2025

Woodard & Curran

801 T Street
Sacramento, CA
916.999.8700

woodardcurran.com

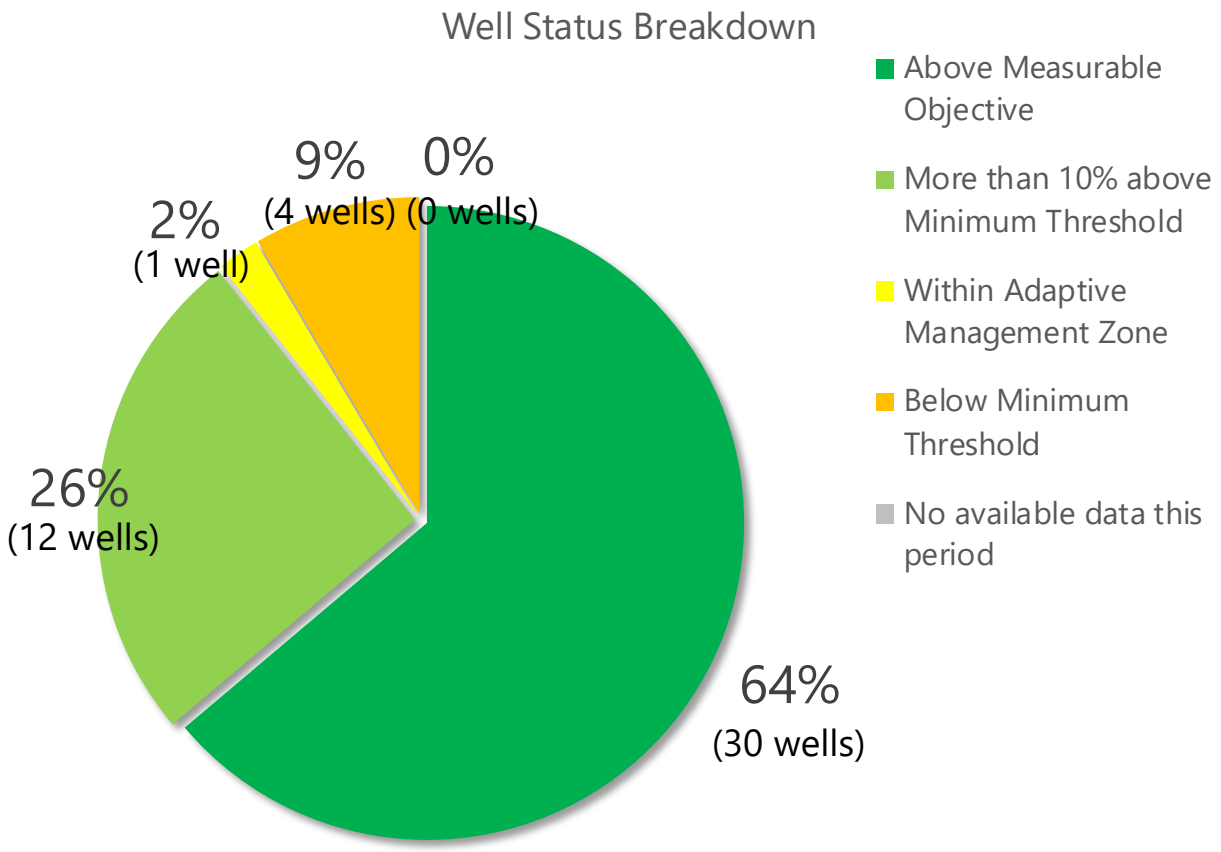
Cuyama Basin Groundwater Sustainability Agency

TABLE OF CONTENTS

1. INTRODUCTION

This report is intended to provide an update on the current groundwater level conditions in the Cuyama Valley Groundwater Basin. This work is completed by the Cuyama Basin Groundwater Sustainability Agency (CBGSA), in compliance with the Sustainable Groundwater Management Act (SGMA).

2. SUMMARY STATISTICS



There are currently 4 wells with groundwater levels exceeding the updated minimum thresholds. As outlined in the GSP, undesirable results for the chronic lowering of groundwater levels occurs, "when 30 percent of representative monitoring wells… fall below their minimum groundwater elevation threshold for two consecutive years." (Cuyama GSP, pg. 3-2). Currently, 2% of representative monitoring wells (i.e. 1 wells) have exceeded the minimum threshold for 24 or more consecutive months.

3. CURRENT CONDITIONS

Table 1 includes the most recent groundwater level measurements taken in the Cuyama Basin from representative wells included in the Cuyama GSP Groundwater Level Monitoring Network, as well as the previous two measurements and the measurement from the same time period in the previous year. Table 2 includes all of the wells and their current status in relation to the thresholds applied to each well. This information is also shown on Figure 1.

All measurements are also incorporated into the Cuyama DMS, which may be accessed at https://opti.woodardcurran.com/cuyama/login.php.

Table 1: Recent Groundwater Levels for Representative Monitoring Network

Well	Region	Oct-24	Jan-25	Apr-25	Last Year		Annual Elevation Change
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	
72	Central	2034	2025	2020	-	-	-
74	Central	1947	1951	1952	1947	Jul-24	4.4
77	Central	1791	1777	1749	1754	Aug-24	-4.5
91	Central	1806	1806	1798	1804	Aug-24	-6.6
95	Central	1867	1868	1871	1868	Aug-24	3.6
96	Central	2266	2268	2295	2266	Aug-24	29.4
99	Central	2212	2156	2129	2137	Jul-24	-8.2
102	Central	1763	1669	1684	-	-	-
103	Central	2054	2057	2056	2046	Aug-24	10
112	Central	2043	2046	2046	2042	Aug-24	3.5
114	Central	1879	1881	1881	1881	Aug-24	0
316	Central	1804	1805	1797	1804	Aug-24	-6.8
317	Central	1806	1806	1799	1806	Aug-24	-6.6
322	Central	2211	2152	2126	2134	Jul-24	-8.1
324	Central	2210	2178	2156	2168	Jul-24	-11.9
325	Central	2211	2194	2190	2194	Jul-24	-4.5
420	Central	1791	1775	1748	1750	Aug-24	-2.2
421	Central	1795	1787	1772	1778	Aug-24	-6.2
474	Central	2234	2236	2236	2234	Aug-24	1.8
568	Central	1873	1878	1876	1873	Jul-24	2.9

Well	Region	Oct-24	Jan-25	Apr-25	Last Year		Annual
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	Elevation Change
604	Central	1667	1668	1645	1661	Aug-24	-16.6
935*	Central	1790	1779	1753	1740	Aug-24	12.8
609	Central	1725	1732	1747	1691	Aug-24	55.9
610	Central	1801	1803	1795	1797	Aug-24	-1.2
612	Central	1803	1817	1815	1780	Aug-24	35.1
613	Central	-	1805	1783	1814	Aug-24	-31.5
615	Central	1795	1797	1797	1794	Aug-24	2.2
629	Central	1802	1805	1787	1791	Aug-24	-3.7
633	Central	-	1798	1792	1794	Aug-24	-2.1
62	Eastern	-	2818	2831	-	-	-
85	Eastern	2908	2910	2908	2902	Aug-24	6.4
100	Eastern	2930	2928	2924	2939	Aug-24	-15.3
101	Eastern	2671	2678	2679	2654	Aug-24	25
841	Northwestern	1704	1708	1710	1695	Jul-24	14.7
845	Northwestern	1642	1642	1640	1632	Jul-24	7.5
2	Southeastern	3699	3697	3693	3704	Jul-24	-11.2
89	Southeastern	3410	3411	3422	3411	Jul-24	11.1
106	Western	2176	2178	2177	2176	Aug-24	1.3
107	Western	2418	2418	2417	2421	Aug-24	-4.7
117	Western	1944	1945	1944	1945	Jul-24	-1.1
118	Western	2212	2212	2213	2212	Jul-24	0.8

Well	Region	Oct-24	Jan-25	Apr-25	Last Year		Annual
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	Elevation Change
571	Western	2225	2226	-	2230	Jul-24	-
573	Western	2012	2016	2016	2012	Aug-24	4.3
830	Far-West Northwestern	-	-	-	1515	Jul-24	-
832	Far-West Northwestern	1605	1608	1608	1606	Jul-24	1.2
833	Far-West Northwestern	1436	1440	1320	1435	Jul-24	-114.3**
836	Far-West Northwestern	1477	1480	1479	1478	Jul-24	0.8

*Per CBGSA Board direction at their July 2025 meeting, Well 608 (which is destroyed) has been replaced with new Well 935. The new well is in the process of being incorporated into Opti.
**Well 833 was flowing heavily at the time that the well was being surveyed. Reductions in groundwater levels may be due to heavy pumping at the well (or other nearby wells) in support of firefighting during July 2025.

Table 2: Well Status Related to Thresholds

Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
72	Central	150	7/16/2025	373	369	328	790	Above Measurable Objective	No
74	Central	239	7/16/2025	322	321	309	-	Above Measurable Objective	No
77	Central	534	7/16/2025	514	509	464	980	Below Minimum Threshold (1 month)	No
91	Central	682	7/18/2025	730	725	681	980	More than 10% above Minimum Threshold	No
95	Central	586	7/18/2025	597	594	562	805	More than 10% above Minimum Threshold	No
96	Central	313	7/17/2025	369	368	361	500	Above Measurable Objective	No
99	Central	375	7/17/2025	379	378	368	750	More than 10% above Minimum Threshold	No
102	Central	359	7/17/2025	470	466	432	-	Above Measurable Objective	No
103	Central	230	7/17/2025	379	374	324	1030	Above Measurable Objective	No
112	Central	83	7/18/2025	102	102	100	441	Above Measurable Objective	No
114	Central	46	7/18/2025	58	58	56	58	Above Measurable Objective	No
316	Central	682	7/18/2025	731	726	682	830	More than 10% above Minimum Threshold	No
317	Central	680	7/18/2025	700	695	650	700	More than 10% above Minimum Threshold	No
322	Central	378	7/17/2025	387	386	378	850	More than 10% above Minimum Threshold	No
324	Central	348	7/17/2025	365	364	353	560	Above Measurable Objective	No
325	Central	314	7/17/2025	331	330	323	380	Above Measurable Objective	No

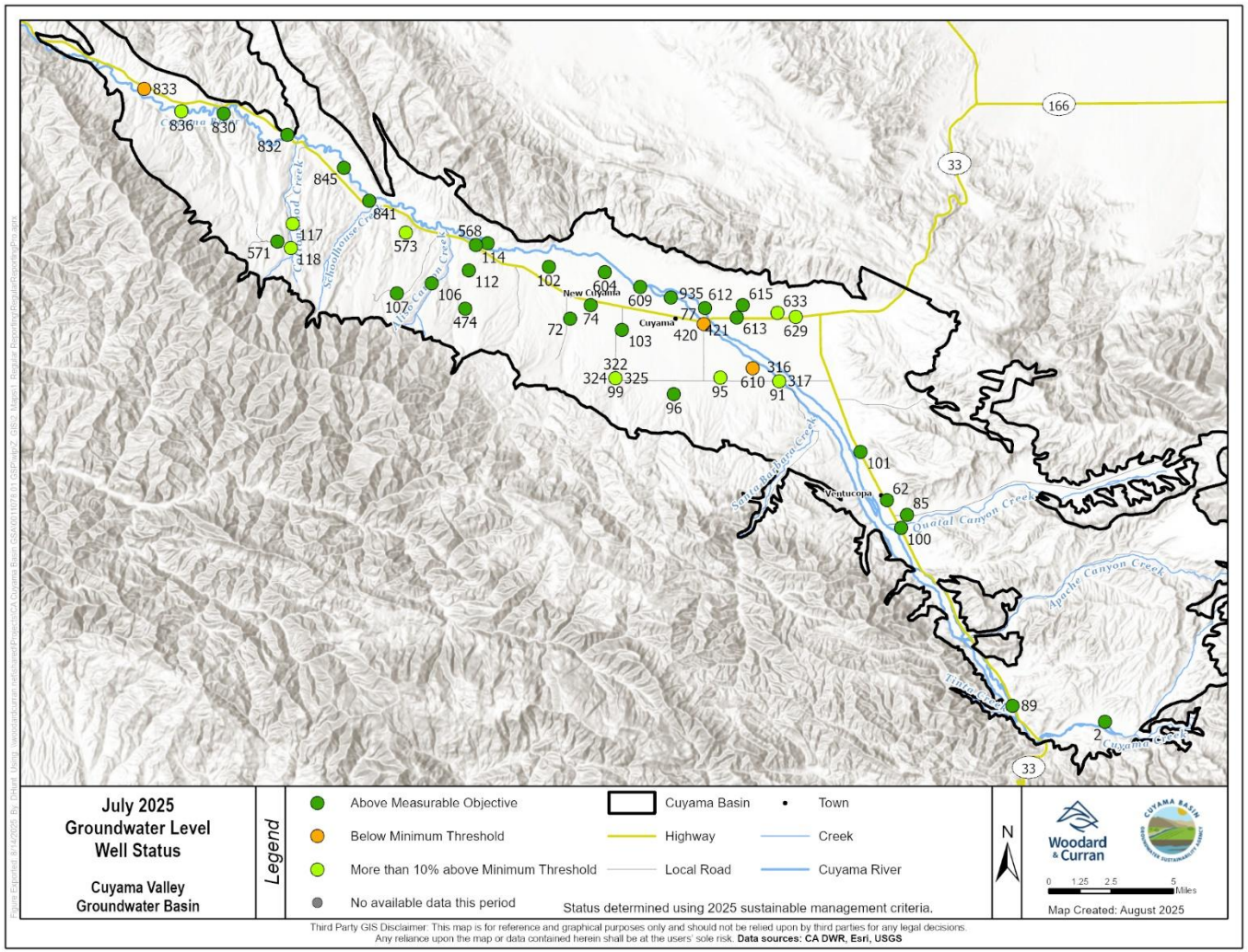
Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
420	Central	536	7/16/2025	514	509	464	780	Below Minimum Threshold (1 month)	No
421	Central	512	7/16/2025	514	509	466	620	Within Adaptive Management Zone	No
474	Central	129	7/18/2025	197	195	178	213	Above Measurable Objective	No
568	Central	36	7/17/2025	47	47	46	188	Above Measurable Objective	No
604	Central	473	7/18/2025	544	540	505	924	Above Measurable Objective	No
935*	Central	462	7/18/2025	504	501	475	745	Above Measurable Objective	No
609	Central	419	7/18/2025	499	495	462	970	Above Measurable Objective	No
610	Central	645	7/18/2025	557	554	527	780	Below Minimum Threshold (60 months)	No
612	Central	457	7/18/2025	513	511	490	1070	Above Measurable Objective	No
613	Central	545	7/18/2025	578	575	550	830	Above Measurable Objective	No
615	Central	526	7/17/2025	588	585	556	865	Above Measurable Objective	No
629	Central	592	7/18/2025	613	610	581	1000	More than 10% above Minimum Threshold	No
633	Central	572	7/18/2025	605	600	551	1000	More than 10% above Minimum Threshold	No
62	Eastern	88	7/16/2025	212	210	187	212	Above Measurable Objective	No
85	Eastern	141	7/16/2025	200	198	176	233	Above Measurable Objective	No
100	Eastern	84	7/16/2025	186	183	157	284	Above Measurable Objective	No
101	Eastern	69	7/16/2025	138	136	115	200	Above Measurable Objective	No
841	Northwestern	51	5/20/2025	203	198	153	600	Above Measurable Objective	No
845	Northwestern	71	5/20/2025	203	198	153	380	Above Measurable Objective	No

Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
2	Southeastern	27	7/16/2025	52	50	35	73	Above Measurable Objective	No
89	Southeastern	13	7/16/2025	62	60	42	125	Above Measurable Objective	No
106	Western	141	7/18/2025	164	163	152	228	Above Measurable Objective	No
107	Western	76	7/18/2025	122	120	103	200	Above Measurable Objective	No
117	Western	154	7/16/2025	163	162	154	212	More than 10% above Minimum Threshold	No
118**	Western	51	7/16/2025	72	37	42	500	More than 10% above Minimum Threshold	No
571	Western	-	-	142	140	118	280	Above Measurable Objective (Above MO In April 2025)	No
573	Western	66	7/18/2025	93	88	42	404	More than 10% above Minimum Threshold	No
830	Far-West Northwestern	-	-	63	63	60	77	Above Measurable Objective (Above MO in July 2024)	No
832	Far-West Northwestern	32	7/17/2025	50	49	35	132	Above Measurable Objective	No
833***	Far-West Northwestern	136	7/17/2025	48	44	10	504	Below Minimum Threshold (1 month)	No
836	Far-West Northwestern	31	7/17/2025	49	45	10	325	More than 10% above Minimum Threshold	No

*Per CBGSA Board direction at their July 2025 meeting, Well 608 (which is destroyed) has been replaced with new Well 935. The new well is in the process of being incorporated into Opti.
**Per CBGSA Board direction at their July 2025 meeting, the minimum threshold for Well 118 has been adjusted from 40 to 72 feet (dtw) and the measurable objective has been adjusted from 10 feet to 42 feet.
***Well 833 was flowing heavily at the time that the well was being surveyed. Reductions in groundwater levels may be due to heavy pumping at the well (or other nearby wells) in support of firefighting during July 2025.

Note: Wells only count towards the identification of undesirable results if the level measurement is below the minimum threshold for 24 consecutive months.

Figure 1: Groundwater Level Representative Wells and Status in July 2025



4. HYDROGRAPHS

The following hydrographs provide an overview of conditions in each of the six areas threshold regions identified in the GSP.

Figure 2: Southeast Region – Well 89

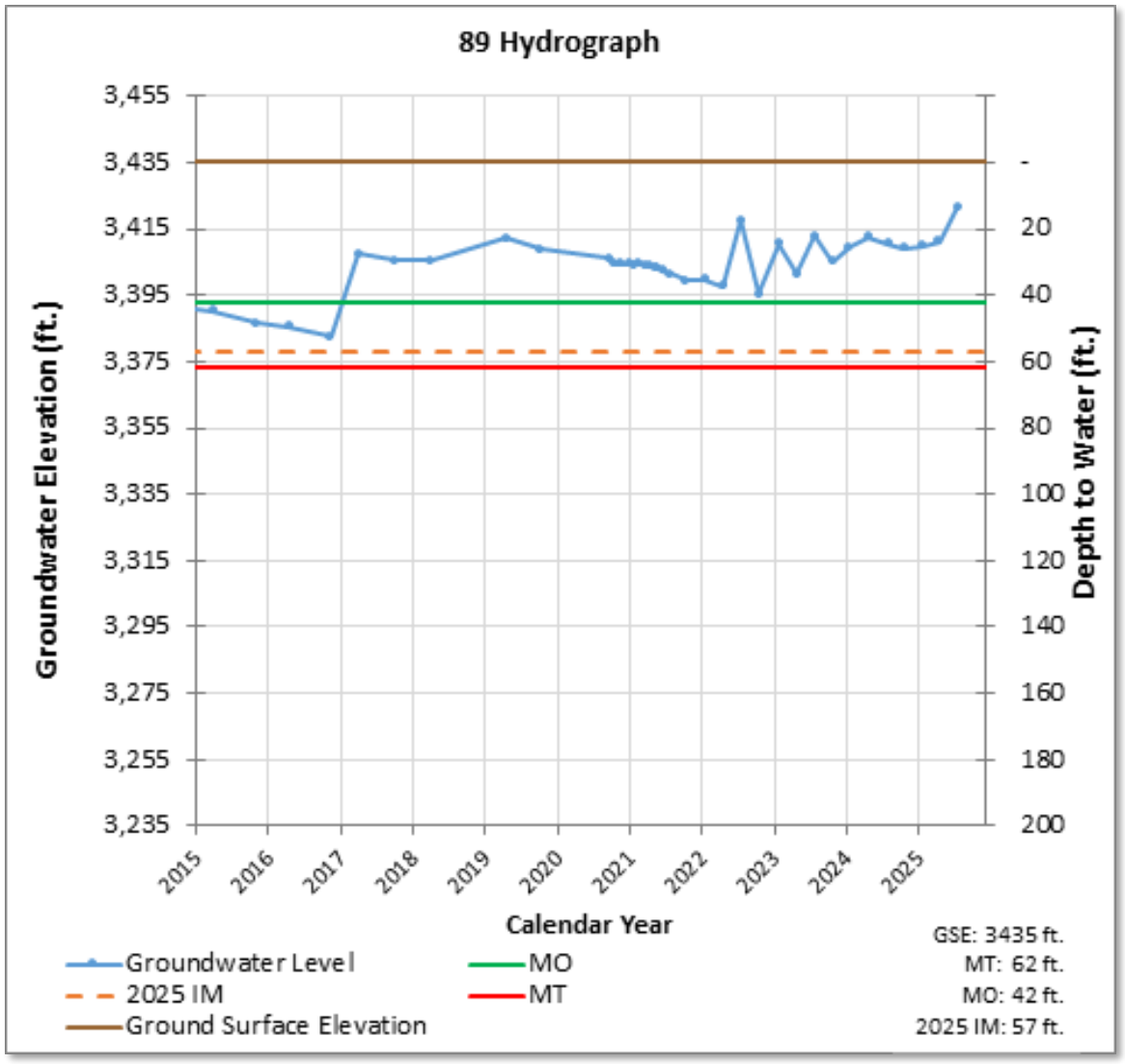


Figure 3: Eastern Region – Well 62

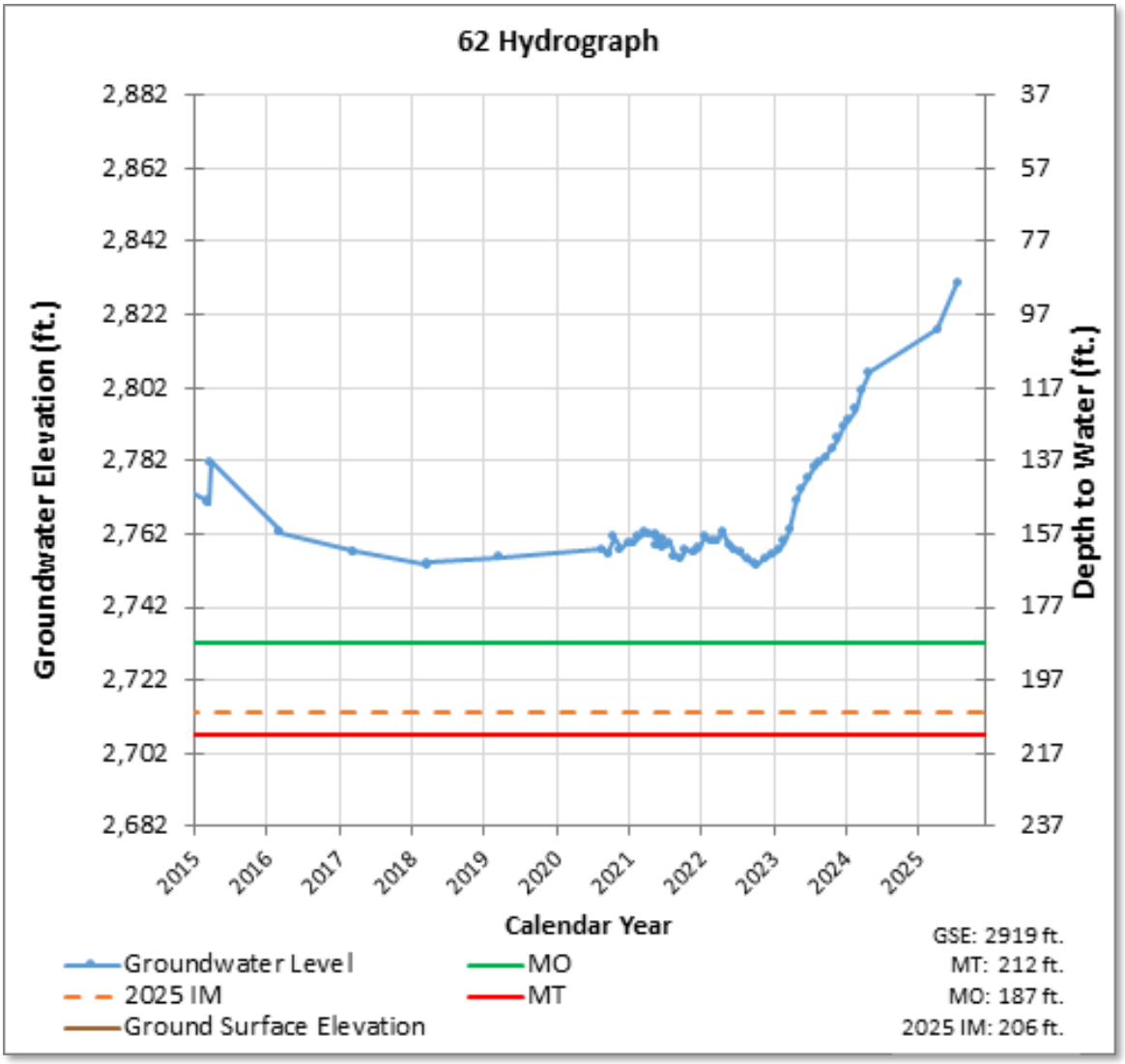


Figure 4: Central Region – Well 91

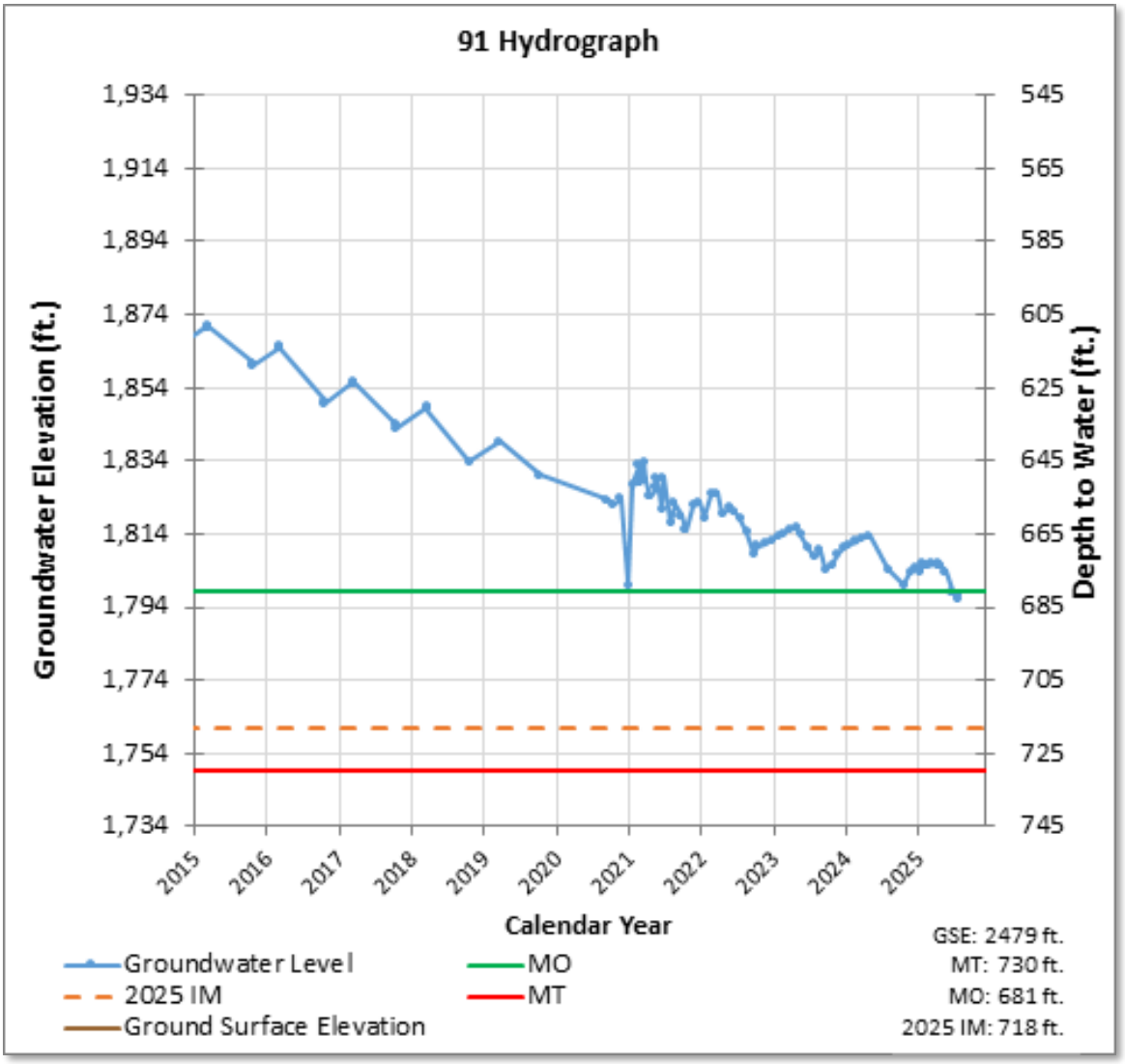


Figure 5: Central Region – Well 74

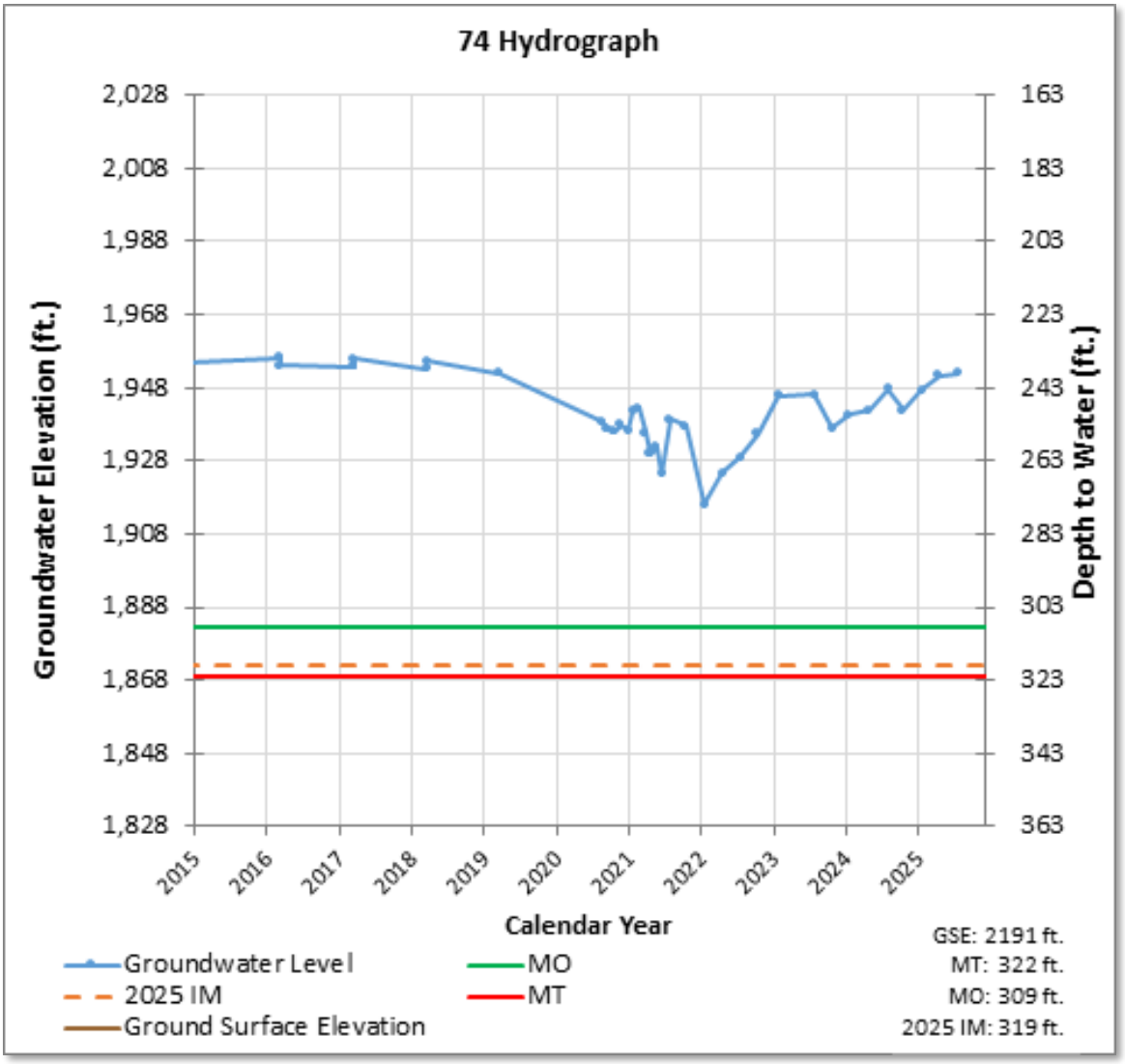


Figure 6: Western Region – Well 571

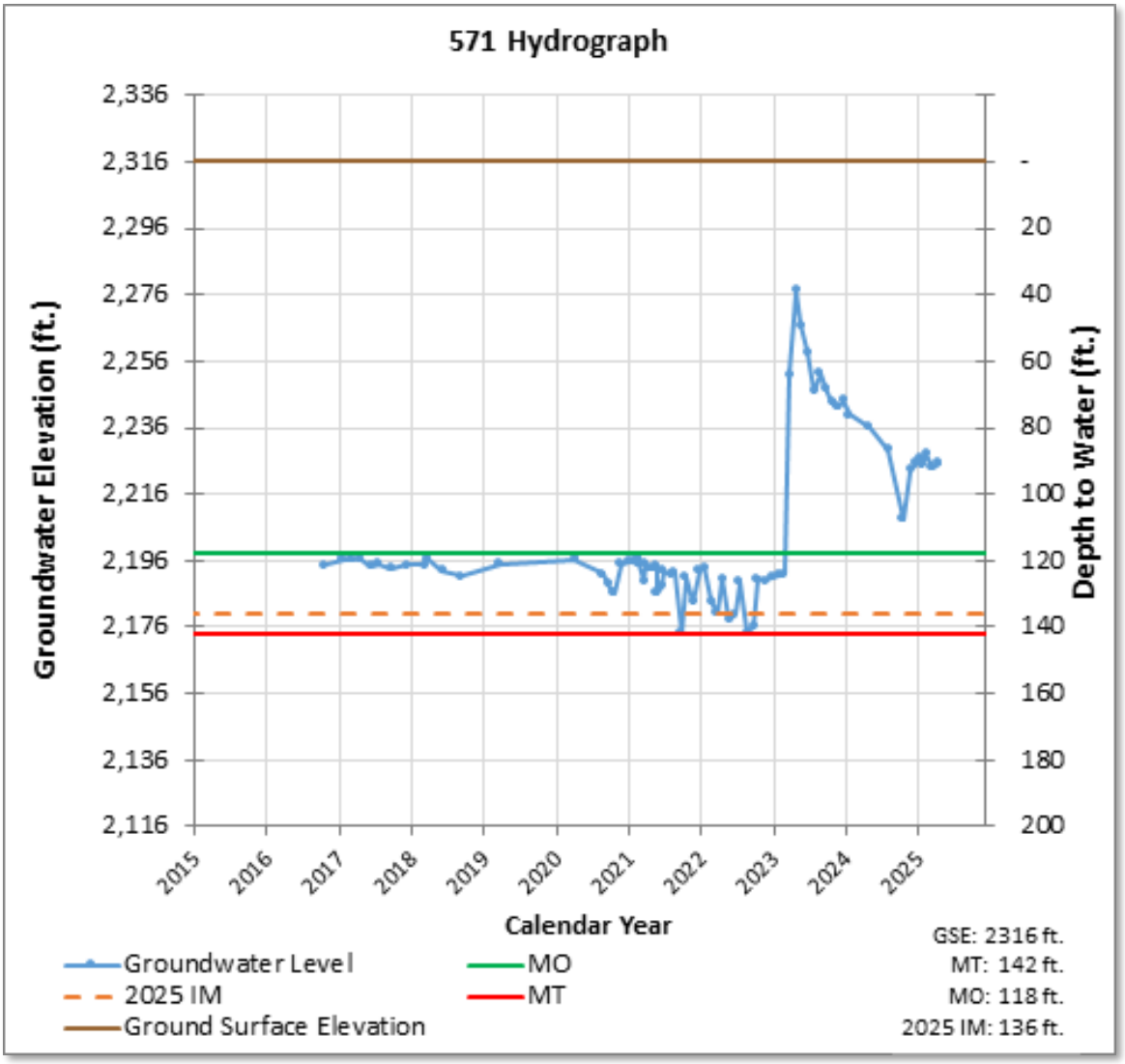
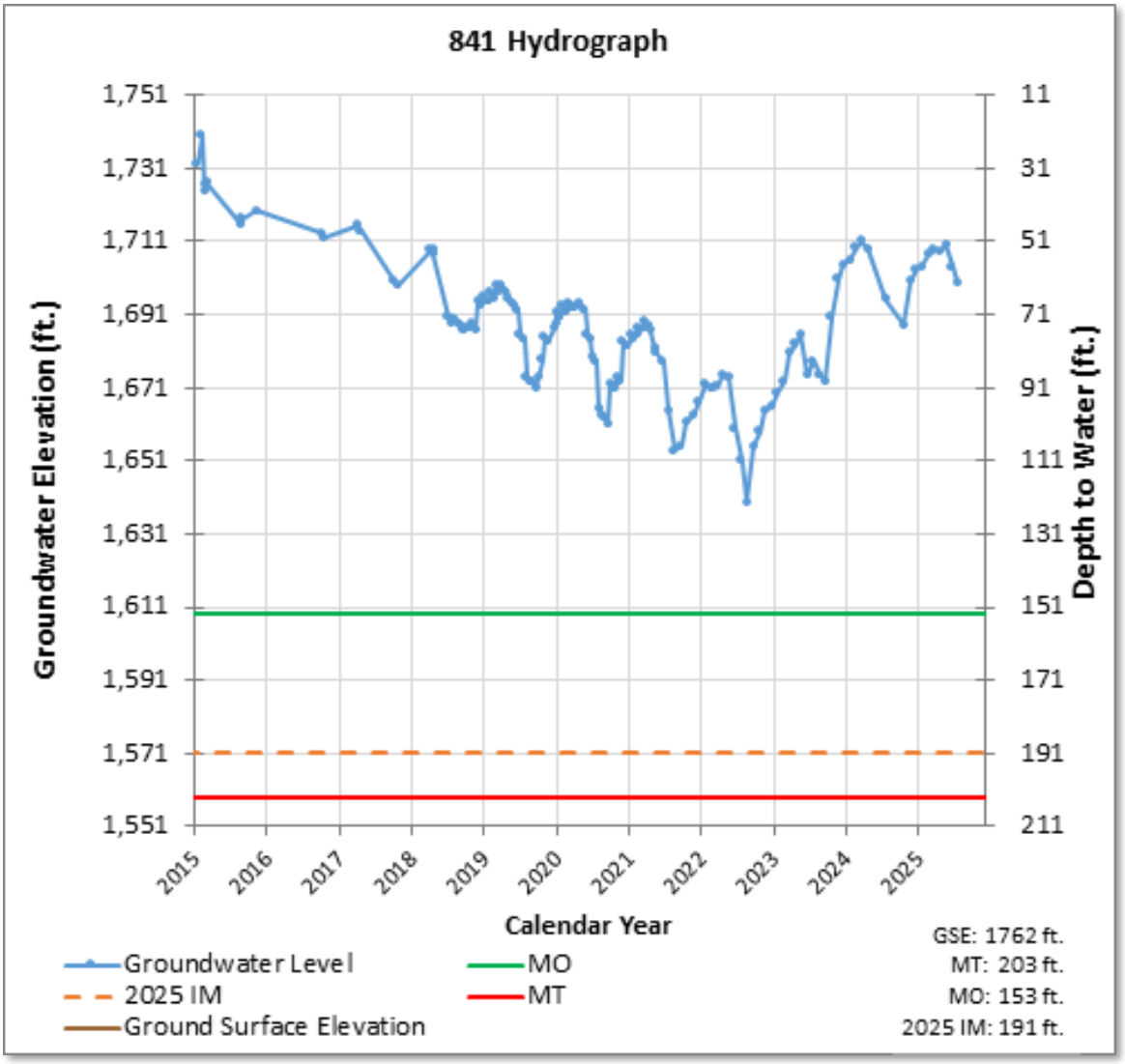


Figure 7: Northwestern Region – Well 841



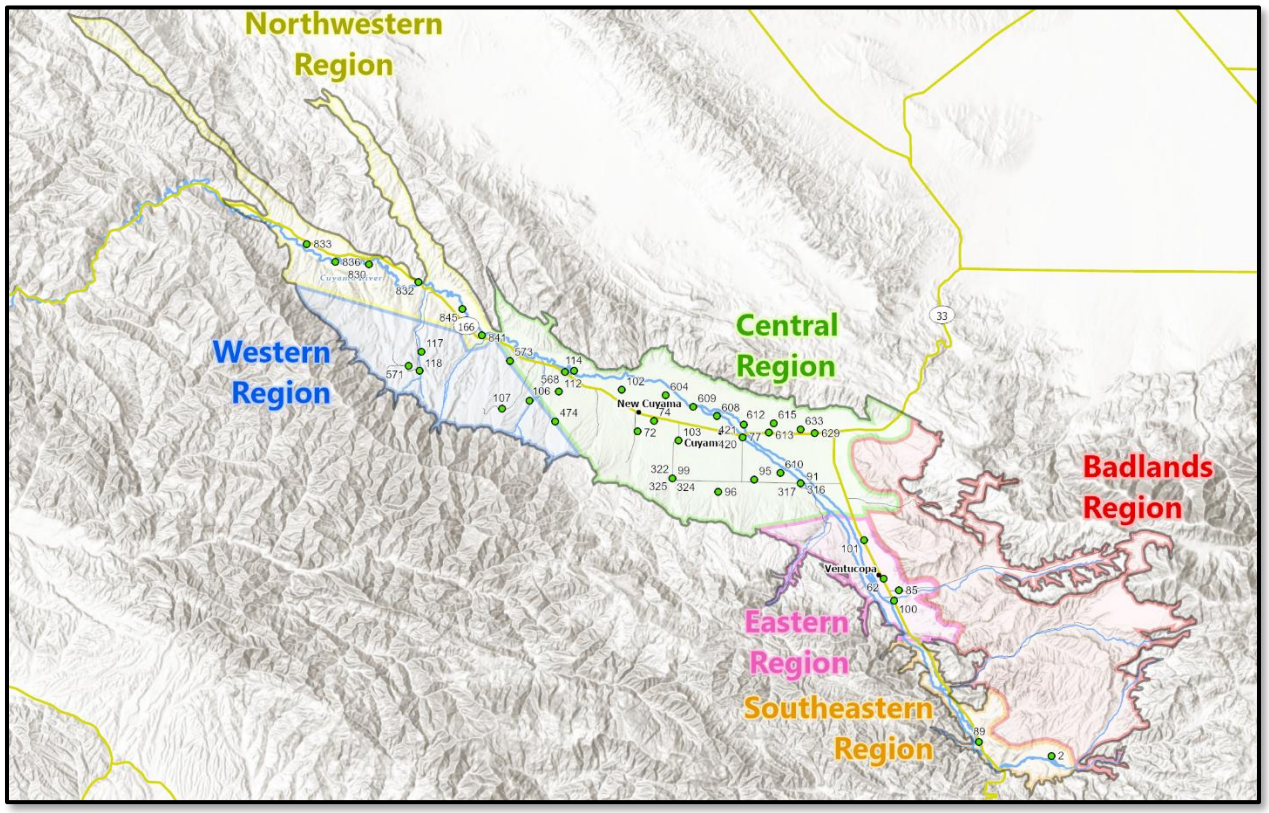


Figure 8: Threshold Regions in the Cuyama Groundwater Basin

5. MONITORING NETWORK UPDATES

As shown in Table 2, there are two wells with no measurement during the current monitoring period. These "no measurement codes" can have different causes as described below.

- Monitoring technician was unable to download data from the transducer:
  - Well 571
- Landowner changed and an access agreement has not been established with the current landowner:
  - Well 830

Additionally, the following changes have been made per direction of the CBGSA Board at their July 2025 meeting:

- Well 608 has been destroyed has been replaced with new Well 935. The new well is in the process of being incorporated into Opti.
- The minimum threshold for Well 118 has been adjusted from 40 to 72 feet (dtw) and the measurable objective has been adjusted from 10 feet to 42 feet (dtw).

[redacted]

From: Brenton Kelly
To: Grace Bianchi; Taylor Blakslee; Jim Beck
Subject: Water Market info.
Date: Wednesday, August 13, 2025 7:52:49 PM
Attachments: Groundwater Trading White Paper Final.pdf

Hello team~

I would very much like for this document to be distributed to the SAC and GSA. It is a little old, but very pertinent and present. I wish it were more up to date, but Cuyama may be the first post SGMA test case. Aslo the Fox Canyon water market has been taken offline due to unregulated exchanges.

Thanks,
Brenton

--
Brenton Kelly
Watershed Advocacy & Land Stewardship Director
Quail Springs Permaculture
www.quailsprings.org
brenton@quailsprings.org
(805) 722 2523

" Unless someone like you cares a whole awful lot, nothing is going to get better. It's not." ~ Lorax

California
WATER COMMISSION

A State Role in Supporting Groundwater Trading with Safeguards for Vulnerable Users: Findings and Next Steps

May 2022

California WATER COMMISSION

Table of Contents

California WATER COMMISSION

Executive Summary

In those parts of California where groundwater pumping has long exceeded replenishment, people are striving to bring groundwater basins into sustainable conditions within 20 years, between 2040 and 2042, as the Sustainable Groundwater Management Act (SGMA) requires. In some areas, groundwater sustainability agencies (GSAs) – the local agencies tasked with sustainable groundwater management – are beginning to work with other entities and stakeholders to discuss and experiment with the idea of giving groundwater pumpers allocations – allowances to remove a certain amount of water from a groundwater basin – and allowing them to either use their allocation individually or trade allocations between specified parties. Ideally, groundwater trading could ease the economic disruption of cutting back the overall amount of water pumped from a groundwater basin; growers who have less need for pumping could sell their allocation to others willing to pay for it, helping buyers keep their operations functional while compensating sellers. But the concept of groundwater trading raises many questions: How would wetlands, streams, and other ecosystems fed by aquifers be treated in a groundwater trading program? Would operators of farms who lack the resources of larger neighbors be able to benefit from trading? How might trading affect people who depend upon a household well or communities that need reliable groundwater supplies for homes and businesses? How can GSAs work with local stakeholders to develop, implement, and oversee trading programs that help with sustainable groundwater management? There is a State interest behind all of these questions – and a clear need for a focused discussion about groundwater trading.

The Water Resilience Portfolio, finalized in July 2020 by the Newsom Administration, acknowledges that need by calling on State agencies to create flexibility for groundwater sustainability agencies to trade water within basins by enabling and incentivizing transactional approaches, including groundwater markets, with rules that safeguard natural resources, small- and medium-size farms, and water supply and quality for disadvantaged communities. In March 2021, State water leaders asked the California Water Commission (Commission) to utilize its public forum to gather expert and public input and investigate what role California agencies should take to support the local agencies that are turning to groundwater trading as a flexible tool to help them bring basins into sustainable conditions.

Through extensive outreach and input that involved learning from the experience of others around the state, country, and world, the Commission has framed the basic elements of well-functioning, protective groundwater trading programs. Those elements start with trust, access to accurate data, and a sound, well-implemented groundwater sustainability plan that has fully considered all beneficial groundwater users when setting sustainable conditions. Groundwater trading will only help achieve sustainable groundwater management in areas that have capped groundwater use; that have a system for tracking and accounting for groundwater levels, quality, and use; and that have allocated how much groundwater can be used by individual pumpers to reach a sustainable groundwater condition while avoiding undesirable results. Not all GSAs will opt to develop groundwater trading programs.

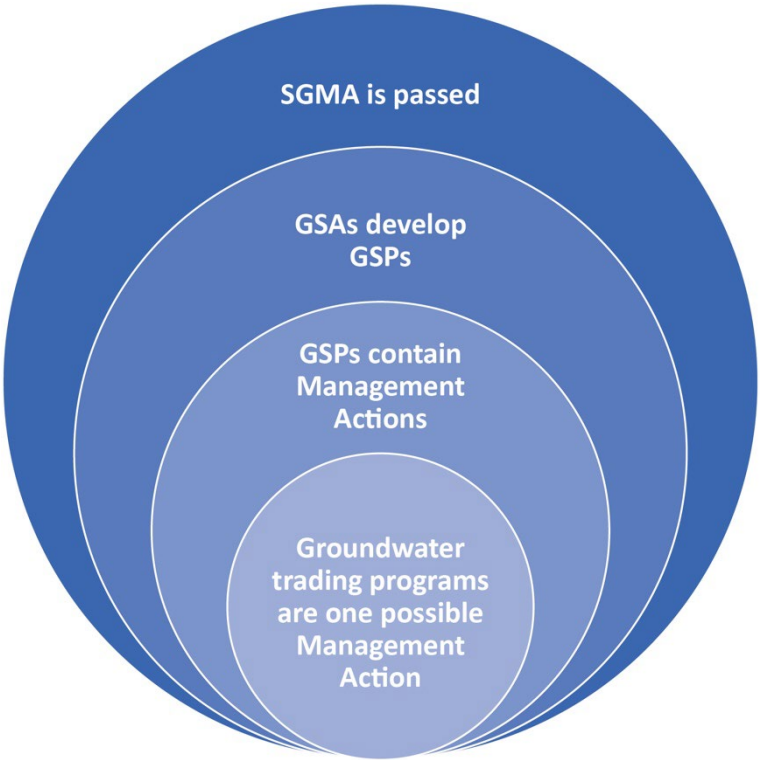
Without good governance in place and a careful, thoughtful approach to groundwater trading, trading programs run the risk of not meeting their goals and creating negative, third-party impacts. To protect natural resources, small- and medium-sized farms, and disadvantaged communities (taken together, “vulnerable users”), GSAs that decide to develop groundwater trading programs should incorporate specific, locally relevant mechanisms and trading rules, such as buffer zones or special management areas, that direct how and when trading occurs to avoid negative impacts. These mechanisms must be informed through inclusive stakeholder engagement, selected and evaluated through an iterative and

transparent process, modified as needed, and effectively enforced. No trading system will be instantly perfect – it will take time and vigilance for a GSA to develop a program that meets local needs, includes necessary protections, ensures compliance, and advances relevant State policies. The endeavor initially may be uncomfortable for many stakeholders. By starting with small-scale trading programs, GSAs can more easily adapt their efforts, modifying programs to ensure that they are functioning efficiently without causing harm.

Locally driven groundwater trading programs have the potential to be an important tool for managing reduced groundwater pumping – and implementing SGMA – in California. If done well, groundwater trading can provide a voluntary, flexible tool to help alleviate the economic burden of using less groundwater. Local entities, including community members and local water agencies, are, with the support of experienced advisors, best positioned to establish trading programs that work for their communities and local conditions. State authority to develop rules or oversee trading programs within basins is limited, but the Commission suggests that State agencies can play an important role in promoting groundwater trading with appropriate safeguards for vulnerable users. A State role could include disseminating information about where groundwater trading is being considered or used in California, developing best management practices, providing technical and financial assistance, creating incentive programs, hosting forums to further understanding, and engaging stakeholders to better recognize their concerns and fill information gaps. State agencies should also stand ready to administer additional authorities if the State Legislature finds stronger oversight is needed. It is the Commission's hope that this white paper will provide implementers and stakeholders a broad overview of the potential promises and pitfalls of groundwater trading and chart possible next steps for State agencies. By moving forward carefully and deliberately and in partnership with local implementers and stakeholders, the State can help foster groundwater trading that builds water resilience for all Californians.

California WATER COMMISSION

Introduction



In 2014, halfway through California's 2012 to 2016 drought cycle, the California Legislature passed the Sustainable Groundwater Management Act (SGMA), laying out a means of stewarding the state's groundwater resources in perpetuity. SGMA gives local groundwater sustainability agencies (GSAs) the authority and responsibility to manage and allocate groundwater resources within a basin. SGMA requires that GSAs develop, submit to the Department of Water Resources (DWR), and follow groundwater sustainability plans (GSPs) that describe the groundwater basin setting, determine a groundwater budget, create management criteria for monitoring and evaluating sustainability, and outline projects and management actions that will bring the basin into sustainability. Under SGMA, GSAs must achieve their sustainability goals, operating to a sustainable yield while avoiding undesirable results, within 20 years (by 2040 or 2042, depending on the basin).

Groundwater trading is one voluntary management action that a GSA could decide to employ to aid in the management of groundwater. There is potential for groundwater trading to be used broadly by GSAs. Of the 46 GSPs submitted by the 2020 SGMA deadline, approximately 19 note that the submitting GSAs will be or are considering setting up a groundwater trading program. To date, several GSAs are already developing trading programs and the current drought may be hastening their timelines (see Appendix 1: Status of SGMA Groundwater Trading Programs in California). Sixty-three of the non-critically overdrafted high- and medium-priority groundwater basins submitted GSPs to DWR in January of 2022; some number of these basins could also include in their GSPs the intent to use groundwater trading. The decision to design and implement a groundwater trading program rests solely with GSAs.

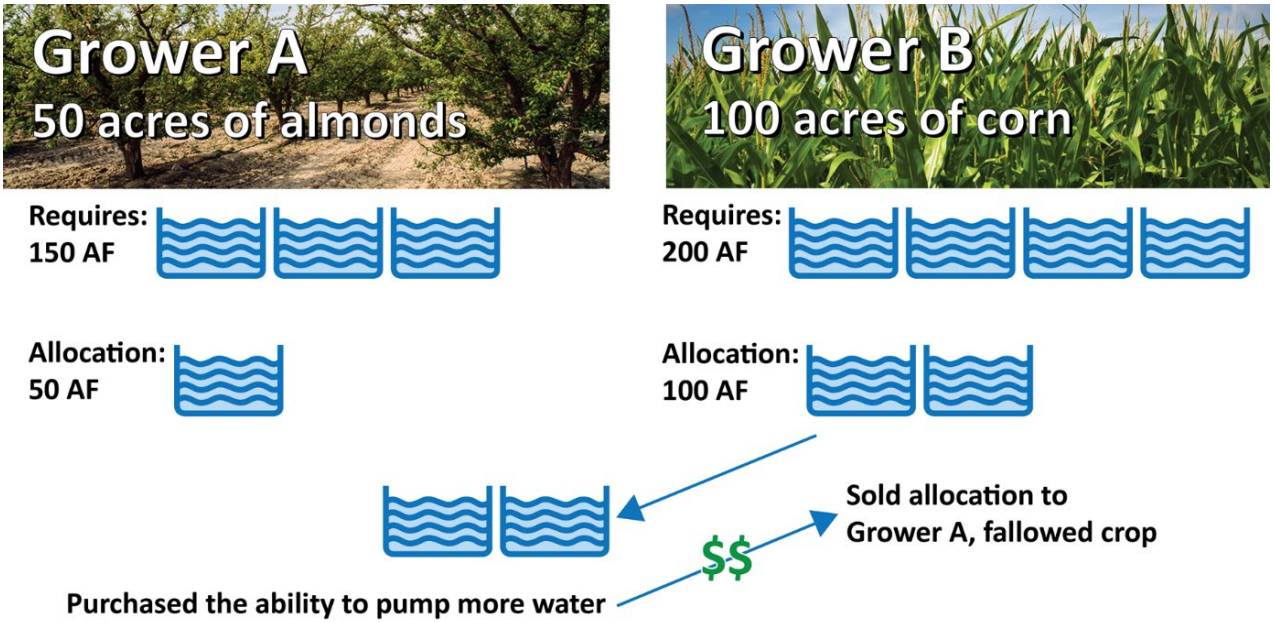
The Water Resilience Portfolio[1] (Portfolio), Governor Newsom's blueprint for California's water policy, includes Action 3.6, which calls on the DWR, the State Water Resources Control Board (Water Board), the California Department of Fish and Wildlife (CDFW), and the California Department of Food and Agriculture (CDFA) (taken together, "implementing agencies") to:

> *"Create flexibility for groundwater sustainability agencies to trade water within basins by enabling and incentivizing transactional approaches, including groundwater markets, with rules that safeguard natural resources, small- and medium-size farms, and water supply and quality for disadvantaged communities."*

[1] Link: California Water Resilience Portfolio 2020

In March 2021, the Commission received a letter[2] from the Secretaries for Natural Resources, Environmental Protection, and Food and Agriculture asking the Commission to take some initial steps on Portfolio Action 3.6 by using its public forum to better understand the concerns and opportunities around groundwater trading and to explore how the State can help support well-managed, locally designed, and locally led trading programs that provide safeguards for natural resources, small- and medium-sized farm operators, and disadvantaged communities. (For more information on the Commission's process and the topics considered, see Appendix 2: The Commission's Role and Approach.) The information captured in this white paper is distilled from conversations with experts, stakeholders, and the public and is intended to guide State agencies in their support of locally led groundwater trading programs. It may also serve to educate implementers and stakeholders about how to proceed with well-managed groundwater trading that safeguards natural resources, small- and medium-sized farms, and disadvantaged communities (taken together, "vulnerable users").

Localized, within-basin groundwater trading occurs when one entity sells its groundwater allocation to another entity to use within the same basin. Water is not typically being physically moved: participants in groundwater trading programs are trading their pumping allocation, moving the place where pumping is occurring, but not necessarily conveying water through a pipe or trucking water from one area to another. A simplified example of how groundwater trading works is illustrated in the graphic below[3].



Groundwater allocations, or allowances to pump a specific amount of groundwater, are the basis of groundwater trading and are generally presumed to be a specified volume of water per year. Most domestic well users will fall within the SGMA definition of a de minimis extractor: "a person who

[2] Link: Letter from the Secretaries for Natural Resources, Environmental Protection, and Food and Agriculture

[3] In the graphic, "AF" stands for acre-feet, which is a volumetric measurement of water. One acre-foot is enough water to cover an acre of land one-foot deep.

extracts, for domestic purposes, two acre-feet or less (of groundwater) per year," meaning they will not need an allocation to be allowed to pump and use groundwater (note that domestic users served by a community water system do not fall within the definition of a de minimis extractor). GSAs have authority to establish groundwater allocations. Because SGMA authority to require measurement devices does not apply de minimis extractors, however, it may not be practical to set allocations for de minimis extractors. GSAs can set and administer allocations for those who exceed de minimis usage, including community water systems, and should consider many factors when setting allocations, including basin hydrology, water rights, different beneficial uses and classes of users, and the goals of SGMA. Groundwater allocations by a GSA are not a final determination or modification of groundwater rights. Allocations, along with trading rules and other policies, may specify how much water may be pumped, when it can be pumped, and from where it may be pumped. In this way, groundwater allocations are similar to land use regulations: while land ownership entitles the landowner to a bundle of rights, the ability to utilize those rights is restricted by zoning, building codes, and other regulations put in place to manage land responsibly. The creation and modification of allocations is critical to groundwater trading, however it is not the primary focus of this paper, which looks instead at major public policy issues that can arise when allocations are traded. For more information about allocations, see Appendix 3: Allocations.

Groundwater trading is intended to reduce the economic hardships caused by water scarcity by giving water users flexible, voluntary mechanisms to shift available water to where it is needed most: to the crops that cannot be fallowed, to the livestock that need reliable water to survive, or to the crops whose value make a local grower willing and able to pay for supplemental water. Groundwater trading programs may create opportunities for water users in groundwater-constrained areas to purchase groundwater allocations to keep their operations functional, or to be compensated for foregoing pumping when selling their allocations. To participate in trading, some water users may implement water-saving behaviors or technologies in order to free up allocation which can be sold to other users. With sufficient price transparency, groundwater trading can also help guide efficient capital investments for water supply infrastructure. In its optimal form, groundwater trading will avoid negative impacts and complement other sustainable groundwater management tools, reducing the burden of using less groundwater and helping preserve the long-term viability of California, where, statewide, groundwater provides for 40 to 60 percent of the water used each year. Ease of use and efficiency will be critical for trading programs to meet their potential.

Developing a groundwater trading program is a voluntary, locally driven action. GSAs have the authority to establish trading programs and, with the support of experienced advisors and the involvement of diverse stakeholders, are best positioned to develop programs that work within their local context. GSAs also have the responsibility to consider beneficial users of groundwater and to run trading programs that avoid harming third parties. Not all GSAs will develop groundwater trading programs; GSPs without a trading component may not need to trade to achieve sustainable groundwater management. Where trading is being considered, GSAs will be responsible for exploring local authorities, such as local ordinances that prohibit trading groundwater outside of county boundaries, and incorporating locally-relevant issues into trading programs, such as surface water use and trading, and groundwater substitution, banking, and recharge efforts. GSAs that set up groundwater trading programs will have many questions to answer:

- Who are the stakeholders that use groundwater in the basin? What are the different uses of groundwater?
- What do different groups of stakeholders hope to accomplish with groundwater trading? What do they hope to avoid?
- Who stands to benefit from trading?
- What are the potential unintended consequences of trading?
- Which stakeholders are most at risk?
- Who develops, implements, and oversees a basin's groundwater trading program?
- What will the role of water stakeholders be in that process?

But GSAs are not starting from scratch: Through the process of developing a GSP, GSAs will be assembling the foundation for supporting groundwater trading, should a GSA choose to pursue it as a management action. The GSP's water budget and estimated sustainable yield of the basin are the basis for groundwater allocations, providing a capped amount of water that can be divvied up among users. Careful analysis of impacts to groundwater users is already required as part of the development of a GSP: SGMA calls for GSAs to consider interests of all beneficial uses and users of groundwater in the development of a GSP. Beneficial uses and users include, but are not limited to, agricultural users, environmental users, and disadvantaged communities. GSAs have the responsibility to ensure that the management actions proposed in a GSP, including a groundwater trading program, protect the environment and disadvantaged communities from groundwater overdraft and SGMA's undesirable results, which are chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, land subsidence, water quality degradation, and depletions of interconnected surface water. Given these requirements, a GSP, if done well, will provide a solid basis for launching a groundwater trading program that considers vulnerable users. Even with a sound GSP, however, GSAs will need to carefully consider the ramifications of a groundwater trading program. Because GSPs consider impacts to beneficial users at a basin scale and over a 20-year time horizon, the localized, immediate impacts of trading may not be appropriately covered in a GSP. If groundwater trading programs are not thoughtfully designed and well-managed, they could negatively impact vulnerable users at a very localized scale and in a short timeframe.

It is in the State's interest to help local entities explore the potential of groundwater trading while ensuring that vulnerable users are safeguarded and that diverse types of water users have the opportunity to benefit from trading, with the overall intent of locals reaching their basin sustainability goal. The State's interest in supporting groundwater trading is shaped by SGMA's clear intent to have all beneficial uses and users of groundwater considered in sustainable groundwater management and the State policy that domestic water use is the highest use of water (California Water Code section 106). The State interest includes advancing the Human Right to Water, codified in section 106.3 of the California Water Code, which specifies that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes," and protecting and preserving the statewide benefits of intact ecosystems.

Under SGMA, sustainable management of groundwater is the responsibility of local GSAs, but the State plays a critical role in overseeing local progress (for more information, see Appendix 4: Current State Engagement). The State must act within the confines of its existing authorities when enabling well-managed groundwater trading and supporting protections for vulnerable water users. The State lacks the regulatory authority to direct a GSA to develop or not develop a groundwater trading program, nor

can the State dictate how a GSA structures an in-basin trading program. Neither can the State implement a statewide groundwater trading program on an inter-basin (between basins) scale, moving water from water-rich areas to water-poor areas. However, the State can use its resources to support well-managed groundwater trading, helping local water managers and users attain good outcomes. Working in partnership with local implementers and stakeholders, the State can help advance groundwater trading programs that are thoughtfully designed and governed, that are inclusive and incorporate robust stakeholder input, and that achieve multi-benefit outcomes, prevent harm to vulnerable users, and avoid other negative consequences.

With SGMA as a catalyst, groundwater trading in California is entering a period of expansion and experimentation. California's groundwater basins will provide a laboratory for testing and refining the practice of trading groundwater to promote sustainability. The actions taken by early adopters will generate lessons to be heeded by others; California may serve as an example for other parts of the country and the world.

Box 1: Glossary of Terms

Beneficial users: As defined by California Water Code section 10723.2, beneficial users of groundwater that must be considered by GSAs include agricultural users and domestic well owners who hold overlying groundwater rights, municipalities with groundwater rights, environmental users, Tribes, and disadvantaged communities, among others.

De minimis users: SGMA defines a de minimis groundwater user as "a person who extracts, for domestic purposes, two acre-feet or less (of groundwater) per year." De minimis users may be defined otherwise in other circumstances, but generally are considered to be users with individually negligible impacts on overall water use due to the small amount of water they each consume.

Disadvantaged community: Disadvantaged communities refers to the areas throughout California that most suffer from a combination of economic, health, and environmental burdens; these communities, among other groundwater users, are to be considered in groundwater sustainability planning under SGMA.

Groundwater rights: Groundwater rights are rules applied to the extraction and use of groundwater and are held by groundwater users. Unlike surface water, California does not have a permit process for acquiring groundwater rights. Most of the law governing groundwater rights is established through case law. In several basins, groundwater rights have been determined by court decrees adjudicating the groundwater rights within the basins. Case law precedent can be used to estimate and take into account users' groundwater rights, but a legally binding determination of groundwater rights can only be achieved though judicial decree.

Groundwater sustainability agency: SGMA authorizes people to form groundwater sustainability agencies (GSAs) to develop, implement, and enforce a basin's groundwater sustainability plan.

Groundwater sustainability plan: A groundwater sustainability plan (GSP) is a plan developed by a groundwater sustainability agency for the sustainable use of groundwater within a groundwater basin.

Market power: Market power refers to an individual's or entity's relative ability to influence the price of an item in the marketplace by manipulating the level of supply, demand, or both.

Box 1: Glossary of Terms continued

Regulatory capture: Regulatory capture is an economic theory that regulatory agencies may come to be dominated by the interests they regulate and not by the public interest.

Small- and medium-sized farms: USDA defines small farms as having gross cash farm income (GCFI) of less than $350,000. Mid-sized farms are defined as operations having GCFI of $350,000 to $999,999. The California Department of Food and Agriculture recognizes that the USDA definitions do not appropriately take into account the wide diversity of crops grown in California that are not grown in other states and the array of farm sizes and inputs and is working with stakeholders and academic institutions to develop a more relevant description of small- and medium-sized farms. For the purposes of groundwater trading programs, small- and medium-sized farms may be best defined by GSAs and stakeholders, using locally relevant parameters.

Socially disadvantaged farmers and ranchers: Under the Farmer Equity Act, a socially disadvantaged farmer or rancher is defined as a farmer or rancher who is a member of a group whose members have been subjected to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities.

Sustainable yield: Under SGMA, sustainable yield means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.

Undesirable results: Sustainable groundwater management under SGMA singles out six "undesirable results" to be avoided: chronic lowering of groundwater levels, reduction of groundwater storage, seawater intrusion, land subsidence, water quality degradation, and depletions of interconnected surface water.

Cross-Cutting Themes: Context for Groundwater Trading Discussions

From the Commission's conversations on groundwater trading, generally agreed-upon, high-level concepts emerged that provide context for consideration of the opportunities and challenges surrounding groundwater trading in California. The cross-cutting themes identified below touch on and impact groundwater trading, but also extend beyond the specific focus of Action 3.6, offering some understanding of the ways in which groundwater trading is connected to other aspects of groundwater management.

Trust is critical. Groundwater management involves community members coming together to manage a shared resource collaboratively with the intention of counteracting a history of institutions and individuals acting in their own interest, in some cases at the expense of others or of the greater good. To manage groundwater successfully – and, more specifically, to trade groundwater – starts and ends with building trust. In some instances, trust is lacking due to long-standing historical issues related to control over resources. To move toward well-managed groundwater trading will require building trust in institutions as well as person-to-person trust, a process that should begin during GSP development. Trust-building is not a short endeavor. It requires engaging stakeholders and ensuring that all

groundwater users or their chosen representatives are included in conversations about groundwater management and, ideally, that stakeholder groups are represented in management decisions. It involves educating stakeholders so that they can understand the hydrogeology of the basin and how decisions may impact them, which will help establish trust that GSAs are being forthright about how trading programs are accounting for specific users. GSAs – which are governed by a collection of local individuals – must endeavor to uphold good governance structures that are transparent and accessible and responsive to stakeholders; with groundwater trading, they must create clear rules and enforce them consistently. Without trust in institutions' ability to govern effectively and enforce rules, those participating in groundwater trading programs may not feel that they or others need to abide by rules and vulnerable stakeholders may not believe that they are being properly protected. Because of the localized nature of trading, trust in individuals is also important, and this can be pursued through respectful interactions and inclusivity, as modeled by GSAs. Without trust between individuals, skepticism and fear that others might "game the system" could undermine the buy-in and participation necessary for a successful trading program. Building trust will increase participation in trading programs, increasing their effectiveness. The Final Groundwater Management Principles and Strategies to Monitor, Analyze, and Minimize Impacts to Drinking Water Wells document referenced in Appendix 4, Box 4: Related State Actions notes that building trust will "create opportunities for effective coordination, communication, and decision-making" and outlines six actions for building trusted relationships, many of which are applicable to groundwater trading and should be pursued by GSAs.

Implementing sustainable groundwater management takes time and information. Correcting decades of unsustainable groundwater management will not happen overnight, and neither will the development and implementation of a robust, well-managed groundwater trading program. It is imperative that GSAs and local communities understand their basin context, both in terms of hydrology – the way water moves into, out of, and through the aquifer – and the consumptive context – how much groundwater is used, where, and at what time. It is also important that they know where vulnerable water users are located and how they might be impacted by groundwater management actions. The process of building trust, alone, may take years. Educating and engaging stakeholders, establishing governance systems, developing a trading program that is responsive to the local context and does not have negative consequences, gradually reducing groundwater use, and waiting for management actions to result in basin-wide changes will likely take decades. In its conversations with representatives from other states that have been managing groundwater for much longer than California, the Commission learned of examples of groundwater management that have been ongoing for 40 or more years and are still working towards sustainability. In parts of Nebraska, groundwater management began in the 1980s and users are still working on gradually reducing their individual use. In Arizona, groundwater regulation occurred in the 1980s and many areas may not meet their 2025 sustainability goals.

Groundwater trading is built upon a sound GSP and accurate data. Sustainable groundwater management generally – and well-managed groundwater trading more specifically – requires a sound GSP that appropriately considers agricultural, environmental, and community water use. To be properly considered in GSPs, GSAs must first understand where these water uses take place: where agricultural water use may create undesirable results, where groundwater-dependent ecosystems are located, and where communities with drinking water wells are located. GSPs should contain an accurate water budget that identifies adequate water for human consumption and the environment (including wetlands and groundwater-dependent ecosystems). GSPs also should reflect best available data, clearly defined

sustainable groundwater management conditions, and a limit on the amount of groundwater that can be pumped to achieve sustainable conditions. The steps that GSAs take to develop a GSP, including conducting stakeholder outreach, collecting and analyzing data to develop a description of the basin, and determining sustainable yield, provide the foundation for developing a groundwater trading program. From these efforts stem the stakeholder buy-in, understanding of potential negative impacts, and allocations that are needed for groundwater trading. But a GSP must be done well to be effective. Of the first tranche of 42 GSPs submitted for review, DWR deemed 12 out of 20 basins incomplete, sending 34 GSPs back to GSAs to correct the deficiencies in their plans, including key issues related to impacts on drinking water, land subsidence, and interconnected surface water and groundwater. Addressing these deficiencies will be critical for developing a sound GSP that considers all groundwater users, and a sound GSP is an essential precursor to developing a groundwater trading program. If a GSP contains impactful data gaps or if it has not been informed by thorough and inclusive stakeholder engagement, then it is missing the foundational information needed to develop a well-managed groundwater trading program. Good data is imperative for understanding the likely impacts of trading and for ensuring that a trading program is meeting its goals. Participants in the Commission's workshops stressed the need to take time to verify newly developed GSPs and to close relevant knowledge gaps before thoughtfully designing groundwater trading programs.

Groundwater trading is just one tool in the sustainable management toolbox and may not be appropriate in all instances. Groundwater trading is not a silver bullet that will "solve" over-pumping, it is an optional part of a larger groundwater management effort that will involve a diverse suite of management actions to bring basins into sustainability. Trading programs are only applicable to address groundwater demands within a basin. Inter-basin water trading has not been contemplated and would in most instances run counter to the goals of respective GSPs, to water rights, and to community interests. Trading programs cannot be successful in areas that do not have limitations on groundwater use and established groundwater allocations. To be a useful tool, groundwater trading needs sufficient interest and activity from trading parties. Trading may not be appropriate if there are few entities interested in trading or if allocations are concentrated in the hands of a few. Trading programs are not appropriate if they create unavoidable third-party impacts, or if the risks associated with those third-party impacts are high or cannot be mitigated. Further, groundwater trading program development and oversight are costly endeavors and require specialized expertise. A cost-benefit analysis may indicate that trading is too costly. Finally, groundwater trading is not necessary to achieve sustainable groundwater management: It is likely that many GSAs will work toward sustainability without developing a trading program.

The State has a role to play. Although groundwater management and groundwater trading is governed by local agencies, the State has a role to play in ensuring that groundwater management broadly, and groundwater trading more specifically, complies with the intent of SGMA, supports the Human Right to Water, and protects and enhances the public trust resources, such as fish and wildlife, for which the State is responsible.

Box 2: Points of Divergence

During its conversations with small groups, the Commission identified three areas where there was not general agreement about how to approach groundwater trading programs.

1. Local control vs. State oversight
2. Customization vs. standardization
3. Transparency vs. confidentiality

These points of divergence represent a continuum of options for which there is no inherently right or wrong approach. Instead, the choices are dynamic and highly contextual. Navigating conflicting viewpoints must be nuanced and adaptive and may consist of "and/both" rather than "either/or" options. The Commission explored these continuums at its public workshops, as described below.

Local Control vs. State Oversight. Overall, those providing feedback to the Commission expressed interest in the State providing some form of support or oversight for groundwater trading. Many indicated a potential benefit in having the State articulate best practices and provide safeguards against trading systems that could create disproportionate impacts to some segments of the community. Participants proposed that the State could serve as a final arbiter of disputes associated with trading systems. Conversely, others felt it would be impossible for the State to provide more than high-level support, given the wide diversity of hydrologic, economic, and demographic conditions in individual groundwater basins. These individuals explained that the issuance of best practices could hinder the innovation and adaptation that will be necessary as people managing groundwater basins work to find trading options most suitable for their situation. Further, some questioned the State's authority to exercise any oversight over trading programs.

Customization vs. Standardization. As a group, those providing feedback on this subject generally believed there would be a need for customization of groundwater trading approaches in different areas. They suggested that groundwater trading programs need to be tailored to address local conditions and that new accounting platforms should be designed with input from local groundwater users. Many of the same group also saw benefits to standardization for activities like data monitoring and tracking. They believed the use of standardized tools within basins would facilitate better information sharing and potentially reduce costs as development costs and innovations could be shared across GSAs and subbasins. Even so, participants recognized that standardized software or other tools may still need some customization to accommodate local conditions. Some also noted that standardized practices would better facilitate evaluation of a trading program's performance.

Transparency vs. Confidentiality. Feedback on this topic tended to support transparency. Those arguing for transparency in groundwater trading programs cited the need for accountability. They believed that access to trading information would increase fairness by highlighting both the beneficiaries of the trading program and the degree to which impacts may occur to program participants and non-participants. Conversely, other stakeholders suggested that some level of confidentiality would be necessary to maintain privacy, security, and proprietary information. For instance, sharing information about who traded water to whom and the price and timing of that specific trade could give a business advantage to competitors. Publishing aggregated numbers of trades or average prices, however, would be less sensitive. Some also argued that blind trades were inherently fairer as they precluded groundwater trading program participants from only selling to certain entities or individuals or otherwise discriminating against buyers.

Considerations for Safeguarding Vulnerable Users: Concerns and Risks

As groundwater allocations are traded to the places of highest demand or the highest cost of reducing water use, it is possible that a groundwater trading program will lead to or exacerbate concentrations of pumping in certain areas. Concentrated pumping could draw down groundwater levels, creating localized groundwater declines that cause shallower wells to go dry or that deplete interconnected surface water. Concentrated pumping could also influence contaminant or seawater migration, which degrades water quality, and land subsidence, which could decrease groundwater storage capacity. In addition to physical risks, vulnerable users are also at risk of being overlooked during the design and implementation of trading programs. In its consideration of groundwater trading, the Commission has looked closely at the concerns of and risks posed to vulnerable water users.

Natural Resources. The groundwater-dependent ecosystems (GDEs) of California are ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface (California Code of Regulations, Title 23, section 351(m)). Examples include rivers, streams, and wetlands, all of which have been greatly diminished in size, extent, and/or quality due to land use changes and degradation over the last century. A small fraction of California's once-immense aquatic habitat remains and, as a result, the state has lost biodiversity and valuable ecosystem services like filtration of water and attenuation of peak flood flows.

Stakeholders who seek to protect, enhance, and restore groundwater-dependent ecosystems include environmental groups and environmental advocacy groups, land trusts, habitat managers, natural resource agencies at the federal, state, and local level, resource conservation districts, philanthropic foundations, and Tribes. These stakeholders stressed the need for groundwater trading programs to be developed from GSPs and water budgets that reflect the needs of GDEs and to consider and operate within the constraints of various regulations governing species and habitat protection. Stakeholders also expressed frustration that wetlands could face a disproportionate impact from SGMA implementation and from trading programs, particularly given the negligible contribution of managed wetland water use to existing groundwater problems.

Groundwater trading programs pose the following risks to natural resources.

- Concentrated pumping in portions of the basin could deplete groundwater, leaving GDEs without enough water to remain viable.
- Concentrated pumping in portions of the basin could deplete interconnected surface water, leaving surface water streams without enough water to remain viable.
- Pumping patterns could shift the water quality (such as temperature, salinity, or pH), timing, and/or reliability of groundwater, threatening GDEs and interconnected surface water.
- For managed wetlands that depend upon pumped groundwater and need more water than they are allocated to keep wetlands viable, wetland managers may not have sufficient capacity and financial resources to buy additional allocations to keep wetlands viable.

Small- and Medium-Sized Farm Operators. California is home to a diverse agricultural community, with farms ranging in size from fractions of an acre to many thousands of acres. Small- and medium-sized farms represent approximately 90 percent of farm operations in California. Farmers with smaller land holdings have less flexibility to aggregate their own groundwater allocations or shift their cropping

practices to accommodate pumping restrictions and less operational capacity to participate in trading programs. Because SGMA does not specify consideration of small- and medium-sized farm operators as beneficial users of groundwater (instead referring to agricultural users more broadly), GSAs will be responsible for identifying variability within the spectrum of agricultural users in order to understand any special considerations needed to accommodate small- and medium-sized farm operators.

Stakeholders representing small- and medium-sized farm operators include farmers, farm advocates and advocacy groups, agricultural land trusts and non-governmental organizations (NGOs), the University of California Cooperative Extension, county Farm Bureaus, resource conservation districts, county governments, and Tribes. These stakeholders expressed concerns that groundwater trading programs could drive small- and medium-sized farms and lower-value crops out of production, reducing the economic diversity of the area. Further, if excessive speculation, including possible outside speculation and investment, is allowed, water prices could outstrip agricultural commodity prices, making farming of some agricultural commodities, or even agricultural production itself, uneconomic. Stakeholders also expressed frustration that SGMA contains no protections for smaller-sized farm operators, such as a requirement to ensure that they are represented on a GSA board.

Groundwater trading programs pose the following risks to small- and medium-sized farm operators.

- Small- and medium-sized farm operators may not have the capacity to engage in or stay informed about the process of developing and participating in a trading program, which may lead to trading programs that do not serve them or that they do not understand well enough to participate in in ways that serve their interests. Socially disadvantaged farmers may face additional challenges, such as language, cultural, and socioeconomic barriers to participation in groundwater trading, as well as in the development and governance of trading programs.
- Small- and medium-sized farm operators who need more water than they have been allocated to make a profit may not have sufficient capacity and financial resources to buy additional allocations to remain viable.
- Small- and medium-sized farm operators may not wield sufficient market power, allowing more powerful entities to dominate the trading program and control how allocations are used.
- Tenant farmers may not be able to continue leasing parcels of land if the value of water is higher than the value of leasing land and the landowner decides to sell all of part of the allocation from a leased parcel.
- Concentrated pumping in adjacent areas could create localized groundwater declines, causing shallower irrigation wells to go dry.
- Concentrated pumping could influence contaminant plume migration or seawater intrusion, degrading water quality.

Disadvantaged Communities. Throughout California, and particularly in the San Joaquin Valley, falling groundwater levels are causing drinking water wells to go dry, disproportionately impacting low-income communities and communities of color that rely on groundwater for domestic purposes. Drought exacerbates this problem, creating a water crisis for many vulnerable communities and well owners.

Stakeholders representing disadvantaged communities include community members, community-based organizations, county governments, community services districts, small water system operators, and

Tribes. These stakeholders expressed concerns that GSAs setting up trading programs or individuals participating in groundwater trading programs may not consider the needs of communities or protect their drinking water resources and may not respond swiftly to any negative consequences of trading. Stakeholders fear that local decision makers lack information about where shallow wells and other vulnerable resources are located, making it difficult to carefully design a trading program. Stakeholders also expressed frustration with the rapidity of well-deepening occurring around communities and with declining water quality on the cusp of failing to meet water quality standards.

Groundwater trading programs pose the following risks to disadvantaged communities.

- Communities and community members may not have the capacity to engage in or stay informed about the process of developing and participating in a trading program, which may lead to trading programs that do not have adequate protections for communities or that they do not understand well enough to participate in in ways that serve their interests.
- Concentrated pumping in adjacent areas could create localized groundwater declines, causing shallower drinking water wells to go dry.
- Concentrated pumping could influence contaminant plume migration or seawater intrusion, degrading drinking water quality.
- Community water systems may not have sufficient allocations nor sufficient resources to buy additional allocations to meet basic human health and safety needs.

Findings

The following findings are distilled from conversations with experts, stakeholders, and the public and are intended to guide State agencies in their support of locally led groundwater trading programs and to educate implementers and stakeholders on how to proceed with well-managed groundwater trading that safeguards natural resources, small- and medium-sized farms, and disadvantaged communities.

1. **Safeguards for vulnerable users.** The Commission finds that ensuring safeguards for vulnerable water users, namely natural resources, small- and medium-sized farms, and disadvantaged communities, is a critical component of well-managed groundwater trading programs and that GSAs and local stakeholders will have the best understanding of the potential vulnerabilities at the local level. The Commission further finds that it is critical for GSAs and local trading entities to design programs that do not harm vulnerable users and to monitor implementation of programs to prevent and mitigate any unintended negative consequences; and that groundwater trading programs are not an appropriate tool for sustainably managing groundwater resources where harm to vulnerable users is likely or unavoidable and cannot be mitigated effectively and sufficiently.
2. **Identification and involvement of small- and medium-sized farms.** Although small- and medium-sized farms are not specifically called out as a beneficial user of groundwater in SGMA legislation, the Commission finds that it is incumbent upon GSAs that are developing trading programs to use locally applicable parameters to identify small- and medium-sized farm operators within their area, and to then engage and consider these users in the design of the program, especially those farmers – such as socially-disadvantaged farmers – who are most vulnerable to the impacts of trading programs.

3. **Identification and involvement of disadvantaged communities.** The Commission finds that localized, near-term impacts of groundwater trading programs could cause impacts to drinking water wells, and that, in accordance with section 106 of the California Water Code, which states that it is the "established policy of this State that the use of water for domestic purposes is the highest use of water," it is incumbent upon GSAs to identify and engage community members and representatives and protect these users especially in the design and implementation of groundwater trading programs to prevent trades that could have negative impacts to these vulnerable users' drinking water supply.

4. **Characteristics of well-managed local groundwater trading.** The Commission finds that the characteristics enumerated below describe well-managed groundwater trading, and that the State may help enable groundwater trading that safeguards natural resources, small- and medium-size farms, and water supply and quality for disadvantaged communities by supporting GSAs in developing trading programs that have these characteristics. Expert guidance, in the form of economists or other experienced market advisors, may be needed to help GSAs design a well-managed groundwater trading program.

   Precursors that need to be in place prior to designing a well-managed groundwater trading program include the following.

   1) A sound GSP, without critical data gaps that are relevant to starting a groundwater trading program, that includes:
      a) A water budget that accounts for water needs for human health and safety, the environment, and all other users in the basin.
      b) Clearly defined sustainable groundwater management conditions and a limit on the amount of groundwater that can be pumped to achieve sustainable conditions.
      c) A means of monitoring how much water is coming into and going out of the system.
      d) A means of measuring water use that provides verifiable, accurate data.
      e) A groundwater accounting system that tracks how much water is being used and by whom.
   2) Groundwater allocations that limit the amount of groundwater that an individual pumper can use and provide a consistent unit of trade.
   3) The flexibility to design a locally relevant program with rules that respond to the local context and that accommodate local needs.
   4) A sound governance system with transparent and robust decision-making mechanisms and leadership, and with program oversight and enforcement experience.

   The designing of a well-managed groundwater trading program involves the following.

   5) An articulated program goal that is aligned with achieving sustainable conditions and avoiding undesirable results.
   6) Fully engaged stakeholders who represent all beneficial users.
   7) A transparent and accessible process for designing the program.
   8) An understanding of vulnerable users and resources, including the location of groundwater dependent ecosystems, and how they might be impacted by a trading program.

9) Clear trading rules – including quantities, timing/schedule, and uses of groundwater – that have broad support from stakeholders and are designed to prevent impacts to vulnerable resources, vulnerable users, and other third parties.
10) Clearly articulated roles, responsibilities, and expectations for trading participants, program administrators, and GSAs.
11) A process for assessing and refining the program to ensure that safeguards are working properly, that any unintended consequences are minimized, and that adaptive management can occur.

The implementation of a well-managed groundwater trading program involves the following.

1) Accessible processes for eligible participants to participate in the trading program.
2) Sufficient participation for the program to meet its goals.
3) Sufficient funding, capacity, and expertise to run the program efficiently and to enforce market rules.
4) Transparent, accurate, and timely data used to monitor the success and impact of the program.
5) A transparent process for monitoring and reporting on the progress and impacts of the program.
6) Clearly identified triggers for stopping or changing the program before it leads to harmful impacts.
7) A mitigation plan in place for swiftly addressing and effectively correcting unintended negative consequences, including abuses of market power[4].
8) Consistent enforcement with clear consequences for breaking the rules.

5. **Proactive management.** The Commission finds that developing a well-managed groundwater trading program may take a significant amount of time – possibly years – in order to bring together the science, data, and stakeholders needed to ensure safeguards for vulnerable users, and that, to ensure adequate time to respond to drought conditions and water restrictions, GSAs should proactively plan for the development of trading programs to allow for sufficient time to ensure protections for vulnerable users.

6. **Stakeholder engagement.** The Commission finds that stakeholder engagement is a critical component of developing and implementing a well-managed groundwater trading program, and that GSAs and local entities bear the responsibility for engaging all beneficial users or for considering all beneficial users should those users be unable to engage in their processes. The Commission finds that GSAs and local entities should: provide sufficient information to stakeholders for them to understand the potential risks and benefits of a trading program, provide information in layperson terms, provide information in the languages commonly spoken in the area, provide adequate notice via a variety of distribution methods for public meetings, hold public meetings at times and venues when stakeholders are able to attend, and convene a stakeholder advisory group with diverse representation to guide and inform decision-making. When engaged, stakeholders can contribute to design decisions, enhance understanding of where vulnerable resources are located, and share views on how vulnerable users may be impacted by a trading program. Stakeholder engagement

[4] Note that, under SGMA, GSAs have broad discretion when identifying what, if any, mitigation measures are needed.

builds trust in GSAs and between individuals and facilitates coming to agreement on the rules governing the trading program. A trading program should not proceed without broad stakeholder support for the rules.

7. **Accurate, reliable data.** The Commission finds that, to design a well-managed groundwater trading program, local entities need accurate, reliable data to understand how trading could impact water levels and flows, where wells might go dry, where interconnected surface water or groundwater-dependent ecosystems might suffer, and where subsidence or sea water intrusion might occur if pumping increases in certain locations. The Commission further finds that accurate and reliable data is necessary for monitoring a groundwater trading program and tracking its impacts on groundwater users and resources.

Box 3: Measuring Water Use

Measuring water use is foundational to groundwater trading. Without reliable water usage measurements, trading programs could exacerbate overpumping, erode trust, and fail to function properly. Meters and satellite-based estimates of evapotranspiration (ET; water that evaporates off land and is transpired by plants) provide two different water measurements. Some GSAs have or are pursuing mandatory metering on all wells to implement water trading. Meters measure the volume of water pumped or diverted and are accurate when they are well-maintained and functioning properly. In some instances, GSAs are using or would like to use telemetric monitoring that feeds pumping data into an online accounting system. Meters, however, can be expensive, and some people shared concerns about the ability of bad actors to tamper with meters to game the system. Other GSAs are measuring net water consumed from irrigation by estimating ET through satellite imagery. Using satellite-based ET data is less expensive than installing meters, but since well meters and ET data are measuring different quantities, it is important to carefully consider the local setting to determine what measurement techniques are necessary to appropriately characterize use. Using satellite-based ET data may be the best option for GSAs in remote, rural areas or GSAs that are struggling with well registration. For groundwater trading programs, ET data and meters can be used in tandem. Some regions have used remote sensing to prevent cheating by manipulating water meters. If the meter reading is lower than the satellite data suggests it should be, the meter is inspected.

8. **Mechanisms for safeguarding vulnerable users.** The Commission finds that incorporating the following mechanisms, as applicable, into the design of a well-managed groundwater trading program may improve safeguards for vulnerable water users. The list below is not comprehensive; it is based on examples provided and discussed during the Commission's public conversations. The suggested mechanisms described below would need to be selected and implemented based on local needs and context, agreed upon by groundwater users and other stakeholders, and combined with other tools for managing groundwater sustainably. In selecting safeguarding mechanisms, GSAs will need to ensure that the mechanism itself is not creating undue impacts to other beneficial users.

    8.1. Scenario Planning. Groundwater models can be used to better understand potential implications from management actions, such as groundwater trading, to identify how changes in groundwater levels may impact or benefit other water users.

8.2. Trading Rules. Trading rules can be used to restrict how and when groundwater trading occurs.

- Directional trading occurs when groundwater users in a restricted area can only sell groundwater allocations but not buy them, thus limiting pumping in the areas where buying is restricted, and may be particularly helpful when there is a need to direct trading away from areas of subsidence or seawater intrusion, or where shallow wells and groundwater-dependent ecosystems need to be protected
- Proportional trading occurs when groundwater users can trade a portion of their allocation but not all of it. The proportion that may be traded may fluctuate across a variant based on the distance of the trade site from a vulnerable resource.
- Spatial concentration limits or well-spacing requires a certain amount of space between operational wells.
- Pumping schedules limit the time when groundwater may be pumped and could be used, for instance, to manage pumping near interconnected surface waters during ecologically sensitive time periods.
- Notice requirements occur when trading parties or the governing body must notify the public of proposed trades. While this mechanism may provide a disincentive to trade by slowing trades down, it may also increase transparency and help identify cause-and-effect impacts of pumping.
- Anonymous trading can be used to protect the identity of the buyers and sellers to prevent selective trading or other market manipulations. However, a buyer and seller need to be independent from one another. A trading program manager usually knows who is behind each trade and knows what the relationship is between parties and can prevent buying and selling between related entities.

8.3. Special Management Areas. Special Management Areas can create special rules, such as directional trading, within designated sensitive areas, such as those areas prone to seawater intrusion, along streams and rivers, near important infrastructure that is at risk of damage due to subsidence, near shallow wells, and near communities.

8.4. Buffer Zones. Buffer zones create an area around vulnerable users or resources, such as areas with shallow wells, where trading in is not allowed.

8.5. Mitigation Plans. Mitigation and compensation requirements occur when trading parties or the governing body must mitigate potential impacts, such as by paying to deepen shallow wells or by providing water to habitat areas that could be impacted, or to compensate third parties for any damages caused by the program, such as providing potable water should wells go dry or be contaminated.

8.6. Program Operation.

- Anonymous, algorithmic trading occurs when parties submit their willingness to sell allocations or desire to buy allocations to a system that anonymously matches sellers and buyers, factoring in any applicable trading rules before approving the trade. Instead of a party-to-party negotiation of the amount and price of the allocation to be traded, trading

parties do not know with whom they are trading, which helps ensure equal access to the trading program for vulnerable users, especially small- and medium-sized farm operators. Algorithmic matching helps ensure that trading rules are followed.

- Confined trading programs that limit trading to entities of the same size (e.g., bifurcating a program to keep trading between small farm operators or between large farm operators) may allow those entities to better access the trading program while guarding against power differentials that disadvantage certain participants.
- Third party intermediaries that absorb transaction costs and aggregate small allocations into larger blocks for sale or divide large allocations into smaller blocks for sale may help small- and medium-sized farm operators participate in a trading program. An intermediary could be the GSA itself, a cooperative, or a different, neutral third party.
- A neutral third-party administrator of the groundwater trading program may help avoid conflicts of interest, ensure all users have access to groundwater trading, and more objectively evaluate the impacts on vulnerable groundwater users in the region.

8.7. Careful Well Aggregation. Well aggregation rules allow a groundwater user to move allocations between wells that are owned or operated by the same user. Aggregations can produce the same negative impacts as groundwater trading. Generally, users must apply for well aggregation and be approved by the GSA. Well aggregation rules can allow powerful entities the ability to aggregate large numbers of wells, outside of the intention of the rule, giving such users the ability to move the location of pumping without oversight or application of trading rules and an unfair advantage over other traders in the basin. Careful well aggregation limits how wells can be aggregated and enforces aggregation rules, closing loopholes if they are exploited.

8.8. Annual Program Renewal. Annual renewal of a groundwater trading program allows for the regular evaluation of the program and its impacts, creating an opportunity to improve the design of the trading program and avoid unintended consequences to vulnerable groundwater users.

9. **Applying safeguards to protect vulnerable users.** The Commission finds that the safeguarding mechanisms noted above might be applied to protect vulnerable users, where agreed upon by groundwater users and other stakeholders, as follows.

9.1. Natural Resources. Local GSAs may seek to protect groundwater-dependent ecosystems, interconnected surface water, wetlands, and other natural resources through scenario planning to understand the potential impacts of trades; through the creation of special management areas and/or the use of directional trading, proportional trading, spatial concentration limits, pumping schedules, temporary trades, and buffer zones; through the use of protective mitigation plans that halt pumping when water levels drop or other habitat impacts are noted; and through annual program renewal. Natural resources may also benefit from financial support to help acquire water for species and habitat or a no net loss of wetlands policy.

9.2. Small- and Medium-Sized Farms. Local GSAs may seek to protect small- and medium-sized farms through notice requirements to alert farm operators of proposed trades; through anonymous and/or algorithmic trading; through confined trading programs; through use of

third-party intermediaries; through the use of a neutral third-party administrator; through careful well aggregation; and through annual program renewal.

9.3. Disadvantaged Communities. Local GSAs may seek to protect communities through the creation of special management areas and/or the use of directional trading, proportional trading, spatial concentration limits, pumping schedules, temporary trades, and buffer zones; through the use of protective mitigation plans that halt pumping when water levels drop or water quality impacts are noted; through careful well aggregation; and through annual program renewal.

10. **Market power.** The Commission finds that issues related to market power can show up during the design of the trading program, such as with rules that restrict access to the program, and during implementation of the trading program, such as when powerful entities coerce others to trade or refrain from trading. Market power also may manifest outside of trading, operating as a work-around to thwart the rules of the program. For example, well aggregation could happen outside of a trading program, allowing certain parties to control and trade groundwater outside of the formal groundwater trading program. The implications of out-of-program trades may warrant additional conversation. Many people across sectors expressed concern to the Commission about trading program participants using their market power to escalate prices or to create user blocs that dictate where water goes. Unbalanced market power could impact many of the other important factors involved in trading programs, such as trust, engagement, access, and compliance, posing a risk to groundwater trading programs and to SGMA implementation overall.

11. **Oversight and enforcement.** The Commission finds that consistent, active enforcement is a critical function of the GSA, that it is essential to running a well-managed groundwater trading program, that those participating in trading programs should agree to enforcement mechanisms, and that penalties must be sufficient to deter non-compliance. The Commission heard concerns about intentional non-compliance with program rules, such as intentionally misreporting water use or manipulating monitoring equipment, and about regulatory capture. In other states, local groundwater management entities enforce rules by levying fines, revoking pumping allocations, and pursuing criminal penalties. In these instances, local participants were eager to see rules enforced: They voted on the rules and report those not following rules, understanding that lax compliance works against those who are following rules. Enforcing pumping limits and trading program rules demonstrates to stakeholders and participants that parties are being treated equally and fairly, which builds trust in the institutions overseeing trading and ensures that the trading program meets its intent. Enforcement requires an on-the-ground presence to develop relationships with groundwater users and other stakeholders and to verify that rules are being followed. Enforcement is built on good governance, stakeholder engagement, and clear trading rules and necessitates proper capacity and resources for the enforcing entity.

12. **Start small.** The Commission finds that starting with a small, geographically and temporally confined program will allow local entities to test and refine their programs to minimize negative impacts and maximize the chances of success. Trading programs may be conscribed to small geographic areas and short-term, temporary trades at the outset or over the long term. Small programs may be the easiest means of securing stakeholder support and managing adverse trading impacts. Short-term, temporary trades may help avoid land use impacts.

13. **Scaling up.** The Commission finds that, as groundwater trading programs grow within basins, they will require additional oversight, including locally identified measures and controls, to ensure that trades do not have negative consequences and that compatible systems are developed to foster greater efficiency across entities. The implementation or consideration of the previous findings will advance viable groundwater trading programs that minimize unintended consequences.

Potential Next Steps for State Engagement

At this time, groundwater trading programs in California are under consideration or development or in the early stages of implementation. This is a period of learning, experimentation, and gathering information through observation and experience. GSAs and local entities are in the process of building trust and navigating a pioneering effort that may, at times, be uncomfortable in its unfamiliarity and unpredictability. The State, too, must position itself to navigate these early stages of groundwater trading by continuing to engage with GSAs and stakeholders to build trust. Because groundwater trading programs associated with SGMA are starting to be developed now, because they are forming in response to State policies, and because there may be many of them, the State has an opportunity to act now to help GSAs establish well-managed groundwater trading programs, avoiding foreseeable harms to disadvantaged communities, the environment, and other State interests. Doing so will be complex, it will require proper resourcing and the development of new skills and expertise, but timeliness matters. Over time, as groundwater trading becomes more established, the State role may need to change, adapting as programs develop.

The Commission proposes that the State take an iterative, multi-pronged approach to enabling and incentivizing well-managed groundwater trading where local entities and users propose and decide to adopt it. State agencies will need to fulfill their fundamental roles, described in Appendix 4: Current State Engagement, and meet their obligations under SGMA to ensure that GSPs are sound and being followed. Other potential actions for State engagement are enumerated below. DWR, the Water Board, CDFW, and CDFA will need to continue working together in a complementary and collaborative fashion. For each action listed below, the Action 3.6 implementing agencies will need to identify an appropriate lead and team for moving forward. The Commission encourages the implementing agencies to act with some urgency to implement Action 3.6 and offers its continued engagement in the effort at the request of the implementing agencies. The Commission also encourages the implementing agencies to engage other departments and agencies to ensure that State priorities are being implemented consistently, especially as applied to permitting and existing financial assistance and incentive programs. The implementing agencies may also look to work with federal agencies to better incorporate federal priorities and leverage federal funds.

Group 1 Actions. The Commission suggests that the State operate within its existing authorities to target immediate needs by engaging in the following actions. These actions may require additional resources for implementing agencies.

1. **Develop a workplan for implementation.** Upon release of this white paper, with DWR as the lead and working together across all implementing agencies, develop a workplan for implementing Action 3.6 to create flexibility for GSAs to trade water within basins by enabling and incentivizing transactional approaches, including the perspectives included in this groundwater trading white paper.

1.1. Consider creating an external advisory board with diverse representation to provide ongoing input on the State's workplan.

2. **Conduct SGMA related oversight.** Ensure that GSPs adequately address all groundwater uses and users when designing and implementing groundwater trading programs, if identified as a management action in an area's GSP.

3. **Convene stakeholders to share information.** Bring together GSAs, stakeholders, and experts on a regular basis, such as through an annual conference or quarterly forums, to share ideas, resources, and lessons learned with one another.

4. **Identify and assess resources for GSAs.** Engage GSAs in areas where trading programs may be developed in ongoing dialog about their resource requests and identify how implementing agencies can use technical and financial assistance to meet these requests while making sure that relevant, appropriate data and information are made available to the public. Some of the places where State resources could be deployed include:

    - Augmenting technology developments to optimize groundwater trading.
    - Providing an open-source water accounting platform with a scenario planning component that helps guide trading.
    - Providing statewide data sets to inform decision-making linked to designing trading programs.
    - Collecting and providing improved hydrogeologic data.
    - Providing information on different approaches to water measurement and a public forum for the discussion of water measurement standards.
    - Incentivizing the installation of meters and telemetric monitoring on wells in order to track water use.
    - Incentivizing and providing direct technical support for installing monitoring wells that will track impacts of trading programs.
    - Providing guidance or best management practices for data collection and measurement so that trading programs can be easily tracked and compared.
    - Supporting stakeholder engagement in trading programs by funding outreach to disadvantaged communities, environmental stakeholders and natural resource managers, and small- and medium-sized farm operators.
    - Offering facilitation services as needed to establish trading programs.

5. **Engage and support vulnerable users.** Engage community stakeholders, environmental stakeholders, small- and medium-size farm stakeholders, and GSAs in areas where trading programs may be developed to discuss how GSAs can identify stakeholders and how stakeholders can engage with GSAs on groundwater trading, and to develop processes at the State level for accepting, cataloging, and sharing feedback from stakeholders about their specific groundwater trading concerns.

    5.1. For community stakeholders, directly support community-based organizations and communities to promote engagement in the development of groundwater trading programs and ensure drinking water is a priority consideration, and work cross-programmatically to apply departmental Human Right to Water policies to groundwater trading outreach efforts.

5.2. For environmental stakeholders, consider working with environmental groups and other stakeholders to clarify the potential impacts and benefits to wetlands and interconnected surface water from trading programs.

5.3. For small- and medium-sized farm stakeholders, directly support community-based organizations and technical assistance providers who have existing relationships with farmers, particularly socially disadvantaged farmers and ranchers who could be more vulnerable in groundwater markets, to facilitate engagement in the development of groundwater trading programs and ensure that access to groundwater for small- and medium-sized farms is a priority consideration; work cross-programmatically to apply the Farmer Equity Act to groundwater trading outreach efforts; provide informational services to the agricultural community and GSAs about available technical assistance and State and federal programs related to SGMA, drought, water-use efficiency, and soil health; and, in coordination with the U.S. Department of Agriculture National Agricultural Statistics Service, County Agricultural Commissions and Sealers, and UC Agriculture and Natural Resources, make available to GSAs the most recent U.S. Census of Agriculture data that provides information related to the number of farms by size and by value of sales for each county so that GSAs may consider this data and possible unique characteristics of a particular local agricultural economy when developing groundwater trading.

6. **Create digital resources and catalog available trading information**. Establish, populate, and promote the use of a website for sharing groundwater trading information that includes a repository of GSA- and stakeholder-identified resources as well as information available in GSPs and annual reports about SGMA-related groundwater trading programs. Consider creating a digital map to display where programs are being developed and the status of development using designations such as pre-development, design phase, testing phase, and implementation phase.

7. **Develop best management practices.** Using the list of characteristics of well-managed local groundwater trading (Finding 4), develop a best management practices guidance document for GSAs to use when establishing groundwater trading programs that includes guidance on data transparency that balances anonymity and private information. Consider providing guidance on common trading program attributes that will make it easier to trade across GSA and/or political boundaries, where such trades are appropriate and without triggering negative impacts.

8. **Incentivize well-managed groundwater trading.** Using the best management practices described above as a means of evaluating programs, create a funding program for GSAs that incentivizes well-managed groundwater trading that safeguards natural resources, small- and medium-sized farms, and disadvantaged communities.

9. **Evaluate incentives for wetlands**. Explore how to work within trading programs established by local GSAs to incentivize the provisioning of supplemental water for wetlands in areas where wetlands require groundwater in excess of their allocation.

10. **Support groundwater technical assistance programs for small- and medium-sized farm operators.** Work with GSAs, UC Cooperative Extension, NGOs, and resource conservation districts to expand technical assistance programs and to create new opportunities to help small- and medium-sized farm operators access groundwater trading programs.

Group 2 Actions. The Commission suggests that the State monitor, evaluate, and report on groundwater trading efforts to identify additional ways in which the State can enable well-managed groundwater trading with protections for vulnerable water users. The actions suggested below will need to be reviewed and refined as trading programs are developed; however, it behooves the State not to delay until the issues these actions seek to remedy have intensified. The suggested actions stem from the public dialog hosted by the Commission. The Commission received significant public feedback stressing the need to formally incorporate equity issues into groundwater management in order to enforce outreach and engagement efforts or representative governance structures, and to hold entities accountable for the impacts of overpumping. The actions below may extend beyond the State's current authorities and implementation of these actions may require the State to be given new authorities by the Legislature. Expanded State authority is not likely to be universally welcome and should be pursued thoughtfully and with prudence.

11. **Examine existing authorities**. Examine existing State authorities to determine where the State may need new authorities to assist with the oversight of groundwater trading programs, including whether authority is needed for setting up an oversight mechanism to ensure programs are run openly and fairly, and that established rules are enforced.
12. **Create standard principles and rules**. Create standardized principles and rules related to the treatment of natural resources, small- and medium-sized farms, and disadvantaged communities and apply those principles and rules to trading programs. Consider using standardized principles and rules as criteria for reviewing GSP updates, as a requirement for securing financial and technical assistance from the State, and/or as the basis of a groundwater trading program certification process, akin to land trust accreditation.
13. **Create oversight mechanisms.** Develop a committee with stakeholder representation to advise the State on its review and oversight of local groundwater trading programs; request additional information about trading programs in annual reports and/or GSP updates sufficient to conduct an annual review of trading efforts to ensure that they are advancing the goal of sustainability and avoiding undesirable results; and establish a State process for reviewing programs that repeatedly violate standard principles or rules.

Appendix 1: Status of SGMA Groundwater Trading Programs in California

Currently, California is home to several nascent groundwater trading programs linked to SGMA. The most established is the Fox Canyon groundwater market, located in the Oxnard Basin in Ventura County. Fox Canyon began trading in 2020 and was the first groundwater trading program to begin trading under SGMA. Under the Fox Canyon GSP, both urban and agricultural water users receive an allocation, with approximately 60% going to agriculture and 40% going to urban users. Agricultural producers in the Oxnard basin are largely groundwater dependent and groundwater itself is in short supply: The basin is critically-overdrafted and growers face pumping cuts of at least 40 percent to bring their basin into sustainable conditions under SGMA. Growers in the basin called for the development of the program and were integral to developing groundwater allocations and market rules during the design phase. Urban and environmental stakeholders also participated in the process. The design of the Fox Canyon program was stakeholder-driven, facilitated by a non-profit third party, and authorized via ordinances passed by the GSA. Groundwater flows within the basin are well understood. The Fox Canyon groundwater market is an anonymous market that features algorithmic matching and a third-party exchange administrator, a design intended to thwart market power concerns by protecting participants' identities. Transfers of allocations are pre-approved by the GSA, conditional on the rules of the market, which reduces uncertainty and transaction costs. The program features special management areas with directional trading rules put in place to limit increased pumping in areas at risk of seawater intrusion and declining water levels. Initially, the program limited trading to agricultural water users, but the GSA will soon consider allowing municipal users to participate as well. All program participants are required to have meters on their wells with telemetric monitoring. The market is reviewed yearly by the GSA and requires annual reauthorization, allowing for the regular evaluation of its functionality and impacts, and allowing for changes to its design.

The Eastern Tule GSA, located in the Tule subbasin in Tulare County, established groundwater allocations in 2021 and allows landowners to transfer their allocations so long as they are in good standing with the GSA. Eastern Tule is home to many agricultural and domestic users who are not supplied by a water district and do not have access to surface water; many landowners are not irrigating and are presumed by the GSA to have dormant groundwater rights. While there are some large agricultural operations, the area also includes small and medium-sized operations; water use can vary from heavy to very light or domestic use only. Agricultural landowners receive a groundwater allocation from the GSA and may participate in the Eastern Tule trading program. Pumpers must arrange for trades themselves, using a bulletin board within their landowner account software that allows parties to specify if they are looking to sell or purchase groundwater allocations. This initial bulletin board does not include GSA management of actual trades, nor does it require disclosure of purchase amounts: All transactions remain anonymous throughout the process. Once a trade is negotiated, the pumpers submit a form to the GSA and the GSA then reviews the trade for approval. Pumpers located outside of a water district are likely to be buyers of groundwater allocations, while sellers are likely to be those with access to surface water or who have large operations that they are not irrigating. Eastern Tule measures groundwater pumping using remote sensing and evapotranspiration calculations and allows for a carry-over period of five years (meaning unused groundwater allocations created in one year can be stored and used or traded for up to five years). Flows within the basin are fairly well understood and understanding is increasing as the GSA expands its groundwater monitoring. Eastern Tule GSA is monitoring the impacts of its program on subsidence levels around the Friant-Kern Canal and on

groundwater wells in the nearby disadvantaged community of Ducor and will impose rules to restrict pumping in these areas should additional impacts occur. Ducor is represented by a County Supervisor on the GSA Board and a Ducor Community Services District (CSD) Board Member on the stakeholder committee. The General Manager of the GSA will occasionally attend Ducor CSD Board Meetings to provide updates or serve as a resource. An independent consultant designed the trading program.

The Lower Tule and Pixley GSAs, also located in the Tule subbasin in Tulare County, have implemented a trading program similar to the Eastern Tule program and expect that trades will occur across GSAs within the Tule subbasin. Use of the same groundwater accounting platform in the three GSAs will make this easier. Land ownership within the GSAs is not concentrated. The area is home to many landowners, with the largest owning only a small percentage of the agency's lands. Groundwater is used predominantly by agriculture and these water users all have similar water rights and water needs because the GSA boundaries match with the water district boundaries. By 2040, the GSAs need to reduce groundwater use by approximately one acre-foot per acre per year. Groundwater flows are fairly well understood; the GSA's flow model is improving with time and additional data. This area is home to disadvantaged communities whose needs are well known; the communities are incorporated into the GSP through a memorandum of understanding. The GSAs designed the policies and programs that allow groundwater users to trade allocations.

In Madera County, the county GSA, which represents those landowners not covered by another GSA, worked with other GSAs in the county to solicit stakeholder input to create a water trading program framework and then, in 2021, to run a simulation of the program. Approximately 60 people registered for the simulation, with 30 participating regularly. The simulation did not yield many trades. Because 95 to 97 percent of water use in Madera County serves agricultural demand, trading could increase as allocations decrease. The Madera County GSA anticipates agricultural demand reduction between 30 to 50 percent in the Madera, Chowchilla, and Delta-Mendota subbasins. The biggest challenge to the process came from landowners who had not recently pumped groundwater and were not given an allocation but felt they should receive a groundwater allocation based on their land ownership in the basin. Instead, groundwater allocations were divided equally among existing beneficial groundwater users. Another consideration centered around the ability to move allocations among parcels with the same owner or manager. As a tool for flexibility, Madera County GSA included multi-parcel farm units that allow owners and managers within the same hydrogeologic zone to move an allocation among multiple parcels that they own or manage. Residential water users have been heavily involved in the Madera County GSA and receive regular updates at monthly meetings held around the county; their needs have been articulated and will be incorporated into the design of the trading program. An independent consultant designed the trading program simulation and received input at three large, public meetings that included irrigated agricultural users, ranchers who do not irrigate, homeowners who do not farm, and disadvantaged community advocacy groups. This work is being funded, in part, by a grant from the U.S. Bureau of Reclamation.

The Kaweah subbasin, in Tulare County, is currently conducting a stakeholder-informed process that is projected to produce a water marketing strategy framework by 2022. The Kaweah subbasin is a mixed agricultural landscape with large urban areas, several small, disadvantaged communities, and rural homes, and has calculated that it is in overdraft of approximately 80,000 acre-feet annually on average. With the recent drought conditions, this number may be higher. Those without access to surface water will likely be interested in buying groundwater allocations. Beneficial users in the basin

have a representative seat at the table for discussions and decisions. Meetings are held regularly to share information and solicit public input. An advisory committee, called the Kaweah Subbasin Water Marketing Strategy Committee, made up of 11 members representing all beneficial users (agriculture, environmental stakeholders, disadvantaged communities, urban water users, industrial users, and the GSAs in the subbasin), serves as a workgroup for the development of the trading program. The member GSAs receive regular updates on the progress of the Water Marketing Strategy Committee from GSA representatives that participate on the committee. The Kaweah subbasin committee has discussed ideas like confining trading to those who own land in the Kaweah subbasin and imposing restrictions on trading around disadvantaged communities to protect shallow drinking water wells. Local GSAs are continuing to explore the needs of the communities and resources within the subbasin. The development of the trading program is being supported by a consultant. This work is being funded, in part, by a grant from the U.S. Bureau of Reclamation.

The McMullin Area GSA, located in the Kings subbasin in Fresno County, is dominated by agriculture, 75 percent of which is permanent crops. Ninety-five percent of agricultural production is utilizing groundwater as its only source of water. Users will need to reduce groundwater use by three-quarters of an acre-foot per acre to achieve sustainability. Subsurface flows within the basin are well understood. The McMullin Area GSA is considering developing a groundwater trading program based on per-acre groundwater allocations where pumping is tracked using meters and telemetric monitoring. The GSA is working to install meters. Allocations will be voluntary at first and will be monitored to see if pumping reductions are being successfully implemented. It may take 10 years to get to a firm allocation. Landowners may test a trading program while allocations are still voluntary. The GSA is considering starting with the ability to carry over water for one year with pumpers arranging for trades themselves, although there is potential to move to using a platform that matches sellers and buyers. The McMullin Area GSA anticipates that all landowners are likely participants in the program. The GSA has formed a stakeholder advisory group and is planning to convene an ad hoc group of stakeholders to assist with developing the trading program. The group will advise on the development of local groundwater trading rules, regulations, and methodologies. The GSA works with a data management company for collecting and maintaining its data for multiple purposes and expects that this company will serve the function of the trading platform.

The Rosedale-Rio Bravo Water Storage District (District) has established the Rosedale-Rio Bravo Management Area (RRBMA), which is included in the Kern GSA, located in the Kern County subbasin in Kern County. The RRBMA contains 25,000 acres of land in production in farms of varying sizes. Beginning in 2018, the District and Environmental Defense Fund collaborated to co-create an open-source Water Accounting and Trading Platform designed to facilitate effective accounting and management of available water resources in a user-friendly format. Iterative workshops with landowners and water managers informed development and refinement of the platform. The accounting section of the platform was launched in March 2020. The trading module has not been launched to date because the District is working to build a strong foundation of sustainable groundwater management before pursuing a water trading program, although the District anticipates that a water trading program could be a future tool for landowners to manage their water supplies. District stakeholders are engaged through bimonthly meetings.

California WATER COMMISSION

Appendix 2: The Commission's Role and Approach

The Commission has led a thorough and inclusive public dialog, described below, to frame State considerations around how to shape and support well-managed groundwater trading programs. The Commission acknowledges the complexity of groundwater trading. It takes time and resources to develop and implement a trading program that advances sustainable groundwater management, avoids undesirable results, and does not create negative impacts, because the foundation to such a program requires building trust, collecting information, utilizing accurate groundwater data, and evaluating alternatives and trade-offs. Considering how groundwater trading programs will interact with surface water use and trading, groundwater substitution, banking, and recharge, and how they will affect land use increases the complexity of this topic. These considerations will need to be taken up by GSAs and local stakeholders who are designing and implementing markets. For this endeavor, the Commission has focused its discussions on groundwater trading using the topics specified in the Water Resilience Portfolio: a State role in supporting in-basin trading that protects vulnerable users. Transboundary transactions – trading between two groundwater basins or basin-to-basin trading – were not considered. Additionally, the scope of the Commission's discussions covers groundwater, but not surface water stored underground, which is subject to Water Board permitting authority.

Step 1: Frame the Issue. To better understand the issues at play, Commission staff conducted interviews with small groups of stakeholders, spoke with out-of-state representatives about their groundwater trading efforts, and invited expert panels to address the Commission at its standing meetings. Staff organized 13 small group discussions with academics, agriculture representatives, associations, community-based organizations and community leaders, federal government representatives and wetland managers, environmental groups, northern GSAs, San Joaquin Valley GSAs and representatives, Central Coast GSAs, Tribal members, and economists. These discussions explored the status of groundwater trading; the bookends that should be placed on groundwater trading to protect communities, the environment, and small- to medium-sized farm operators; and perspectives about the State's role in groundwater trading to safeguard vulnerable water users. To gain an understanding of lessons learned about groundwater management and trading strategies outside of California, staff met with 22 people from Arizona, Colorado, Florida, Nebraska, Texas, and Australia (See Appendix 5: Synthesis of Out-of-State Conversations). Syntheses of small group and out-of-state discussions were brought to the public at the following Commission meetings:

- Groundwater Trading: Small Group Discussion Synthesis - September 2021, Item 12
- Groundwater Trading: Overview of Out-of-State Discussions and Emerging Themes - October

The Commission hosted the following expert panels and presentations at its monthly meetings:

- Water Trading: Panel Discussion on Markets and Groundwater Trading - June 2021, Item 13
- Groundwater Trading: Presentation on Groundwater Rights Law - July 2021, Item 10
- Groundwater Trading: Panel Discussion on Exploring Groundwater Trading - August 2021, Item
- Groundwater Trading: Panel Discussion on the Future of Groundwater Trading - September

Step 2: Hold Public Discussions. To further explore the information gathered in Step 1, Commission staff conducted localized outreach by attending stakeholder meetings; the Commission also hosted public

workshops, and collected information via an online survey. By holding these public discussions, the Commission sought to collect feedback from diverse participants about how groundwater trading could impact or benefit them and to gather information and test assumptions around opportunities and concerns; potential impacts to ecosystems, farms, and communities; and a State role in enabling groundwater trading with safeguards for vulnerable users. Commission staff made 14 presentations to stakeholder groups, including GSAs, habitat managers, farmers, county representatives, environmental and community nonprofit organizations, and community members. The Commission hosted two online public workshops, presented via Zoom. A total of 229 participants attended the workshops. The workbook used for the workshops is posted on the Commission's website: https://cwc.ca.gov/-/media/CWC-Website/Files/Documents/2021/GWTrading_Workbook_FINAL.pdf. Recordings for all workshops are posted to the Commission's website: https://www.water-ca.com/ground-water-trading-workshops.html. Results of the Commission's survey are discussed in Appendix 6: Stakeholder Survey. A discussion of workshop and survey results was brought to the public at the following Commission meeting:

- Groundwater Trading: Workshop Results - November 2021, Item 9

Throughout this process, Commission staff worked closely with a stakeholder advisory group to inform its approach and guide its discussions (see Appendix 7: Groundwater Trading Stakeholder Advisory Group Members). Commission staff also met regularly with representatives from the implementing agencies to share information and to keep them apprised of the status of the Commission's work.

Drawing on its public discussions, the Commission developed this white paper to guide the continued work on Action 3.6 by DWR, the Water Board, CDFW, and CDFA. The white paper includes a set of findings around how to shape well-managed groundwater trading programs with appropriate safeguards for natural resources, small- and medium-sized farms, and disadvantaged communities, and addresses what role the State could play in supporting groundwater trading.

Appendix 3: Allocations

Groundwater allocations are particularly important to groundwater trading. Without groundwater allocations, trading has no basis: allocations provide a limit on the amount of groundwater that can be pumped by an individual user and a consistent unit to trade. For this reason, establishing allocations is a necessary precursor to developing a groundwater trading program. If groundwater is allocated thoughtfully and inclusively, it can support trading that does not undermine a community's access to safe, clean, affordable water adequate for human consumption, cooking, and sanitary purposes, and does not overlook groundwater-dependent ecosystems and smaller farms. In particular, GSAs will need to consider how allocations to community water systems will ensure and support the Human Right to Water.

Because allocations are critical to groundwater trading, the topic of allocations came up repeatedly in the Commission's conversations with experts and stakeholders. Some stakeholders and some GSAs in the process of developing groundwater trading programs expressed a desire for more information to help with the complex process of determining allocations. These parties suggested that there would be some value in the State convening GSAs, stakeholders, and experts to discuss issues related to water rights and to groundwater allocations and that it would be helpful to share information about which allocations methods are being pursued and under which situation a particular allocation method may be a good practice.

While allocations are relevant to groundwater trading, the specifics of allocations, complex water rights issues, and other matters will depend on the area and uniquely complex issues relevant to each local setting. Further, the creation and modification of allocations is complicated and involves the potential for litigation that could lead to adjudications or intervention into groundwater management by the Water Board. SGMA—by its express terms—does not represent any final determination of the underlying groundwater rights in the basin. GSAs have no authority to determine water rights. Allocations may, for good reason, take water rights into account, but do not have to follow groundwater rights precisely. Short of an adjudication, GSAs and stakeholders cannot know what individuals' groundwater rights are. Further, no groundwater adjudication to date has precisely followed an individualized determination of water rights based on the legal principles governing groundwater rights. Most groundwater rights are overlying rights, which are not fixed but change as relative need changes. An overlying right holder can divert more as its reasonable needs increase, assuming there is enough water for all overlying needs. If there is not enough water, then each overlying right holder's right is reduced as necessary to meet the reasonable needs of the others. Other considerations, including claims of prescription, further complicate allocations. Even if allocations approximate water rights, they should not be thought of as water rights but instead be thought of as a regulatory overlay.

Below, the Commission captures some of the ways in which allocations may be designed to protect vulnerable water users. This information is based on the feedback the Commission received; the list is not exhaustive. GSAs will need to determine allocation methods based on local conditions and in line with their authority.

- GSAs could create special rules appropriate for local conditions for disadvantaged communities, small- and medium-sized farms, and environmental water uses, allowing these users to pump all or some proportionately tiered amount they need to be viable.

- GSAs could create a progressive allocation system that permits less pumping on larger landholdings (e.g., three acre-feet per acre on the first 100 acres and then a gradually reduced allocation for every 100 or more acres thereafter);
- GSAs could create a tiered system to protect one or more beneficial use that specifies that a certain portion of an allocation can only be used for agricultural purposes, for example, or another protected beneficial use, thereafter placing no restriction on the remainder of the allocation, which could be used for any other beneficial use (for example, municipal use); or
- GSAs could create carry-over rules allowing groundwater users to hold onto unused allocations for more than a single year, promoting conservation and flexibility.

Appendix 4: Current State Engagement

Defining how the implementing agencies are already engaged in SGMA and other groundwater-related efforts – as well as how other authorities, policies, and programs may relate to groundwater trading – provides context for understanding potential State engagement on groundwater trading, specifically. While the implementing agencies of Water Resilience Portfolio Action 3.6 are already active in supporting SGMA implementation, SGMA legislation only describes a specific oversight role for DWR and specific triggers for the Water Board's enforcement actions. Per California Water Code section 10720.1(h), one of the primary goals of SGMA is to "manage groundwater basins through the actions of local government agencies to the greatest extent feasible, while minimizing state intervention to only when necessary to ensure that local agencies manage groundwater in a sustainable manner." Aligned with the intent of SGMA, groundwater trading, as noted above, is a local, voluntary action selected, designed, and implemented by GSAs and other water rights holders.

Department of Water Resources (DWR). The Department of Water Resources has two primary roles in SGMA: regulator and provider of assistance. DWR's major regulatory oversight role is to review and assess GSP compliance at the basin or subbasin level and work with GSAs to revise their GSPs where there are deficiencies. GSAs must prepare and submit GSPs for review and assessment by DWR at least every five years beginning in 2020 for critically overdrafted basins and 2022 for all other high- or medium-priority basins. DWR is required to make local GSPs publicly available through the DWR SGMA Portal[5]. GSPs deemed unacceptable by DWR will result in Water Board intervention until the GSA adequately addresses the deficiencies found in the GSP and the Water Board returns control to the local GSAs. While DWR does not oversee the implementation of actions within a GSP, DWR assesses whether GSPs consider all groundwater uses and users when addressing and avoiding undesirable results, among other regulatory criteria. DWR incorporated the state's Human Right to Water policy into its GSP Regulations as part of the General Principles section (California Code of Regulations section 350.4(g)), making an early decision to incorporate the human right to water as a central principle[6]. For those GSPs that include groundwater trading programs as a management action, DWR will assess whether the program appears reasonable and feasible as described in the GSP and whether it will help achieve the basin's sustainability goal.

In addition to GSP oversight, DWR offers technical, planning, and financial assistance programs to support and guide GSAs toward reaching their sustainability goals. The technical assistance program provides various groundwater-related technical data, modeling, and tools to help GSAs in addressing undesirable results during the development and implementation of their GSPs. Financial assistance provides planning and implementation grants that support GSP development and local projects or programs, and planning assistance includes facilitation and written translations services to assist with stakeholder engagement. These resources could help with starting a new groundwater trading program.

State Water Resources Control Board (Water Board). The State Water Resources Control Board serves as a SGMA backstop and enforcement agency. If DWR determines that GSAs are not sustainably managing their basin, the Water Board can step in to manage the basin in a process called "State

[5] Link: SGMA Groundwater Management (SGMA) Portal - Department of Water Resources (ca.gov).

[6] In April of 2021, DWR codified in the Department Administrative Manual a Human Right to Water policy that guides departmental operations, projects, and programs (section 1100.01). Link: https://water.ca.gov/Programs/All-Programs/Human-Right-to-Water

intervention." Lack of plans, lack of coordination, inadequate plans, or inadequate implementation can trigger the State intervention process. After a triggering condition, the Water Board may designate a basin probationary after providing notice and holding a public hearing. Once a basin has been designated probationary, the Water Board may require groundwater extractors to install meters, measure and report all groundwater extractions, and pay fees to cover the cost of Water Board activities. The Water Board may also conduct investigations and gather data necessary for sustainable groundwater management. The Water Board may develop and implement an interim plan for a probationary basin if the Water Board determines that a local agency has not fixed the deficiencies that resulted in the probationary designation. An interim plan is intended to be a temporary measure to protect groundwater until effective local management is in place. An interim plan would likely focus on reducing groundwater use in the basin to sustainable levels as soon as practical.

To date, the Water Board has not initiated State intervention in any basins. The Water Board's focus has been on working with local agencies and interested parties to respond to questions and concerns about SGMA implementation. Additionally, Water Board staff commented on several GSPs submitted to DWR. Comments drew from the Water Board's expertise and regulatory experience in certain topic areas, including water quality, drinking water, and water rights. The goal of the Water Board's GSP review was to highlight concerns now, so that issues can be addressed and implementation succeeds.

In addition to its enforcement role under SGMA, the Water Board also is responsible generally for the administration and enforcement of surface water rights. The California Water Code requires that the Water Board, in its role as administrator of surface water rights, consult with CDFW on the amounts of water needed for fish and wildlife. The Water Board, and all political subdivisions of the state, are charged with the protection of public trust resources, such as fisheries, wildlife, aesthetics, and navigation, which it must consider in the balancing of all beneficial uses of water, protecting public trust uses whenever feasible.

The Water Board has passed a Human Right to Water Resolution[7] and a Resolution on racial equity[8], both of which speak to the Water Board's commitment to safeguarding water supplies for communities, particularly vulnerable communities.

California Department of Fish and Wildlife (CDFW). As trustee for the State's fish and wildlife resources, the California Department of Fish and Wildlife has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species (Fish and Game Code sections 711.7 and 1802). CDFW supports groundwater planning that carefully considers and protects groundwater-dependent ecosystems. In response to SGMA, CDFW developed a Groundwater Program to ensure fish and wildlife resources reliant on groundwater are addressed in GSPs and to support compliance with regulatory requirements on CDFW-owned lands and facilities in groundwater basins subject to SGMA.

[7] February 16, 2016, State Water Resources Control Board Resolution No. 2016-0010, Adopting the Human Right to Water as a Core Value and Directing its Implementation in Water Board Programs and Activities: remediated resolution 2016-0010 (ca.gov)

[8] November 21, 2021, State Water Resources Control Board Resolution No. 2021-0050, Condemning Racism, Xenophobia, Bigotry, and Racial Injustice and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-Racism: rs2021-0050 (ca.gov)

CDFW is also responsible for implementation and enforcement of the California Endangered Species Act (CESA; Fish and Game Code section 2050 et seq.), a California environmental law that conserves and protects plant and animal species at risk of extinction, and oversees the Native Plant Protection Act (Fish and Game Code section 1900 et seq.), which is designed to preserve, protect, and enhance endangered or rare native plants. These responsibilities shape CDFW's interest in ensuring that groundwater management and trading do not harm listed species, although CDFW's interest in ensuring proper groundwater management extends to non-listed species.

When considering the appropriation of surface water, CDFW engages in the State Water Board's water right process via review, analysis, and comment on new water rights applications, development of conditions for water right permits and licenses, as well as any proposed changes to existing water rights. For surface water transfer change petitions, CDFW identifies studies, surveys, and data required to evaluate conditions necessary to protect fish and wildlife resources and develops terms and conditions to protect public trust resources.

The Wetlands Conservation Policy (Executive Order W-59-3), also known as the state's "No Net Loss" policy, is an executive order issued in 1993 providing for the coordination of statewide activities for the preservation and protection of wetland habitats, which is potentially meaningful for any SGMA-related impacts to wetland habitat. CDFW implements No Net Loss through its "Retention of Wetland Acreage and Habitat Values" policy, which governs wetlands owned by CDFW. For wetlands not owned by CDFW, CDFW's role is advisory, related to the application of applicable state and federal laws and regulations.

California Department of Food and Agriculture (CDFA). The California Department of Food and Agriculture supports the ongoing vitality of the state's agricultural industry. In relation to SGMA, CDFA provides informational resources to support farmers and ranchers in accessing technical assistance and federal and state funding related to water-use efficiency and soil health. CDFA's Office of Environmental Farming and Innovation provides financial assistance for on-farm management practices and technologies that help farmers and ranchers prepare for and adapt to the implementation of SGMA. The State Water Efficiency and Enhancement Program (SWEEP) provides grants for irrigation system improvements that conserve water while the Healthy Soils Program funds soil management practices that promote water retention and infiltration. Both programs are supported by technical assistance providers, funded through CDFA, that help farmers apply for funding and implement projects. In 2021, CDFA received one-time funding for the Water Efficiency Technical Assistance (WETA) program. This program will support on-farm water efficiency technical assistance more broadly and support the development of training curriculum and resources for farmers related to irrigation water management and efficient irrigation systems.

CDFA is also home to the Office of Farm Equity, which runs the California Underserved and Small Producers Grant Program, designed to facilitate direct assistance to individual small- and mid-scale and socially disadvantaged farmers and ranchers who need support applying for economic relief grant programs and assistance with business planning and marketing strategies. Passed in 2017, the Famer Equity Act requires the CDFA "to ensure the inclusion of socially disadvantaged farmers and ranchers…in the development, adoption, implementation, and enforcement of food and agriculture laws, regulations, and policies and programs."[9]

[9] Link: Bill Text - AB-1348 Farmer Equity Act of 2017. (ca.gov)

Box 4: Related State Actions

Groundwater Management and Drinking Water Well Principles and Strategies. Called for in Governor Executive Drought Proclamation in April 2021, the Groundwater Management and Drinking Water Well Principles and Strategies (Principles and Strategies) are intended to help ensure that potential drought impacts on communities that rely on groundwater for drinking water are anticipated and proactively addressed. DWR and the Water Board have developed these Principles and Strategies to monitor, analyze, and minimize the impacts of groundwater management on drinking water wells. The information contained in the Principles and Strategies document provides a complementary framework for considering how to protect some of the vulnerable water users considered in this white paper.

Voluntary Open-source Groundwater Accounting Platform. DWR, the Water Board, the California Water Data Consortium (Consortium), and Environmental Defense Fund (EDF) are collaborating to enhance and scale a voluntary open-source groundwater accounting platform that will be freely available to help GSAs manage the transition to sustainable supplies. The open-source platform enables water managers and landowners to securely track water supplies and use, create water budgets, model scenarios, and trade allocations of water within a district or basin. DWR and the Water Board are working with EDF and the Consortium to ensure that the platform is compatible with the online electronic portals that local agencies use to submit public data required by the State, such as DWR's SGMA Portal and the Water Board's Groundwater Extraction Annual Reporting System (GEARS). Groundwater trading is one of many tools that local agencies are considering for managing groundwater sustainably, and an accounting system is the first step for such programs.

California WATER COMMISSION

Appendix 5: Synthesis of Out-of-State Conversations

Commission staff talked to 22 people total from the states of Arizona, Colorado, Florida, Nebraska, and Texas, and from Australia about the role of their states in trading programs, about their experience with considering vulnerable water users in groundwater trading, and about any salient issues and considerations they could share with the Commission. Out-of-state representatives discussed groundwater management generally as well as groundwater trading. The information they shared complements what staff heard from its small-group participants. Representatives stressed that sustainable groundwater management takes time – decades or more – and that local control is important, but that the State can serve as a catalyst for sustainable management and provide removed but important oversight. The need to engage stakeholders and the community came up repeatedly, with representatives stressing the need for groundwater managers to embed in the community, to understand it, to educate pumpers, and to take the time to build trust.

Through its conversations, the Commission learned of many ways of allocating groundwater: by permitting acres with unlimited pumping, which works best in areas with the same cropping patterns; by well and by year; by acre (based either on desired future conditions or historic use); and with restricted usage, with a certain portion specified for agricultural use and the rest unrestricted. In many cases, household wells and de minimis users are exempted from the allocation process. Some representatives explained that allowing for multiple-year allocations helps combat a “use it or lose it” mentality, leading to increased conservation and lower overall groundwater use. Groundwater managers stressed the overarching importance of enforcing allocation limits and the need for compliance with groundwater management rules. In general, out-of-state representatives explained that locals embrace rules and want to see them enforced consistently; they do not see the rules as an imposition or a burden, but as a necessity for fairness.

Representatives noted that groundwater trading is complicated and generally happens later in the process of managing groundwater. In Australia, groundwater trading is growing, but is significantly less in volume than surface water trading. There are two types of groundwater transfers: temporary transfers (called allocation transfers) and permanent groundwater transfers (called groundwater license entitlement transfers, which are less common). Trading between different groundwater sources is not permitted. In Arizona, there is not a huge volume of trades nor a specific interest in safeguarding disadvantaged communities or small- and medium-sized farm operators. Two local groundwater trading programs – the Edwards Aquifer in Texas and the Twin Platte in Nebraska – instituted groundwater management to protect surface water resources (streams, springs, and species) due to laws related to endangered species and depletion of interstate surface water. The Edwards Aquifer Authority uses directional trading to restrict trading near surface waters. The Twin Platte Natural Resources District, which uses irrigated acres as its unit of trade, uses a stream depletion factor (SDF) to calculate proportional trading, where the SDF determines the number of acres that can be irrigated based on the possible impact to the stream. Fewer acres can be irrigated as proximity to the stream increases.

California WATER COMMISSION

Appendix 6: Stakeholder Survey

To explore and validate themes identified during Step 1 conversations, the Commission conducted an online stakeholder survey, distributed through Commission communication lists and social media, stakeholder advisory group members' associated networks, and the DWR Sustainable Groundwater Management Office e-mail distribution list. The survey asked respondents to rank the importance of including various characteristics of well-managed groundwater trading in future policy recommendations and of possible State roles in supporting groundwater trading. It also asked respondents to share thoughts on how best to guide groundwater trading with safeguards for vulnerable water users. Over the course of four weeks, 135 people responded to the survey. Of the 135 responses, 35 percent indicated they were affiliated with or represented a GSA. Respondents were from across the state and included farm operators, representatives of county and regional groups, environmental groups, state and federal agencies, private utilities, consultants, and Tribes. Although the results are not statistically robust because respondents were not equally representative of the entire stakeholder population, responses indicate support for the themes identified by the Commission and offer areas for further exploration[10].

- **Characteristics of well-managed trading programs.** Respondents indicated that clear trading rules, measurement of water use, and water accounting and allocations are important characteristics of well-managed groundwater trading that should be incorporated into future policy recommendations. Responses show that stakeholder engagement has the least support for inclusion in future policy recommendations. This may be an area where some additional inquiry would be useful.
- **State role in supporting a well-managed groundwater trading program.** Respondents indicated that they would like to see the State provide guidance and minimum standards around how to establish well-managed groundwater trading programs and ensure that programs have metrics and monitoring. Responses show that a State role in enforcing protections for vulnerable users and ensuring the human right to water have the least support from the totality of respondents. Given the State's interest in having safeguards for vulnerable users, it may be useful to learn more about perceived concerns about these State roles
- **Guidance on how to establish a groundwater trading program with safeguards for vulnerable users.** Respondents indicated a preference for the State issuing best management practices and/or establishing standards that would need to be met to qualify for State funding or other assistance.

[10] Survey results were presented to the public and the Commission at the November 2021 Commission meeting. More information is available here: Groundwater Trading: Workshop Results - November 2021, Item 9.

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Appendix 7: Groundwater Trading Stakeholder Advisory Group Members

	Agency	Member (Name, Title)	Alternate (Name, Title)
1	Environmental Defense Fund	**Dr. Christina Babbitt**, Director, Climate Resilient Water Systems	**Ann Hayden**, Associate Vice President, Climate Resilient Water Systems
2	The Nature Conservancy	**Sarah Heard**, Director of Conservation Economics & Finance	
3	Mid-Kaweah Subbasin GSA	**Aaron Fukuda**, interim General Manager	
4	Madera County	**Stephanie Anagnoson**, Director of Water and Natural Resources	
5	Self-Help Enterprises	**Eddie Ocampo**, Director of Community Sustainability	**Angela Islas**, Community Development Specialist
6	Leadership Counsel for Justice and Accountability[11]	**Nataly Escobedo Garcia**, Policy Coordinator	
7	University of California Cooperative Extension	**Dr. Ruth Dahlquist-Willard**, Small Farms and Specialty Crops Farm Advisor	
8	Community Alliance with Family Farmers	**David Runsten**, Policy Director	

[11] Leadership Council for Justice and Accountability is opposed to groundwater trading.

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July 24, 2025

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VIA EMAIL

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Re: Variance Request- Tri-County Pistachio

Dear Mr. Blakslee:

On behalf of our client, Tri-County Pistachio ("Tri-County"), we submit this variance request for consideration by the Board of Directors of the Cuyama Basin Groundwater Sustainability Agency ("CBGSA") in response to the CBGSA "Notice of Final Central Management Area Allocations for 2025-2029 (5 Years)," dated February 7, 2025. Tri-County was only recently included in the Central Management Area ("CMA") when CBGSA updated the CMA boundary in 2024. In addition to the specific objections presented herein, Tri-County incorporates general objections to CBGSA's allocation policy that our office previously submitted on behalf of clients within the CMA. (Letter from Stephanie Hastings to CBGSA dated March 6, 2023 is attached as **Exhibit A.**)

It recently came to Tri-County's attention that the CBGSA relied on incorrect technical data to calculate Tri-County's 2025-2029 base allocation of 426 acre feet per year ("afy") for APNs 149-170-042, 44, 45 and 46. Tri-County is an established pistachio grower in the Cuyama Valley that has invested millions of dollars into this region, and will suffer great economic loss if it is unable to obtain an adjusted base groundwater allocation of 611 acre feet ("af") for 2025 with subsequent annual reductions consistent with CBGSA's glide path ramp down of 5-6 percent per year in the Central Management Area ("CMA"). If the erroneous base allocation remains in place, unlike the other farmers in the CMA, Tri-County will suffer an immediate 32 percent reduction in available groundwater this year—its first year being included within the CMA allocation program. A sudden, drastic reduction of 32 percent is unfair and must be corrected.

Thus, we are writing to request that Tri-County's base allocation be adjusted from 426 af to 611 af, which is a 5 percent reduction from Tri-County's 2024 water use of 644 af and comports with the CBGSA's reasonable glide path ramp down of 5-6 percent per year for all other CMA farmers. This letter provides additional background information to support the requested variance.

Tri-County's parcels were determined to be within the CMA for the first time in 2024 when the GSA adopted an updated CMA boundary. Consequently, Tri-County did not have the same opportunity to identify issues with the technical information it submitted and to correct its allocation compared to other landowners within the original CMA boundary. Tri-County should be given an opportunity now to report its corrected and true historical pumping to CBGSA and obtain a variance in its base allocation as a matter of equity.

Upon reviewing its final allocation, Tri-County realized that the CBGSA incorrectly calculated Tri-County's historical water use in certain years. These accounting errors contributed to Tri-County's incorrect base allocation calculation. In 2005, Tri-County planted 40 acres of pistachios on APN 149-170-42. Unlike row crops which can be fallowed, pistachios are perennial crops and need water every year. According to the CBGSA, Tri-County's historical water use associated with 149-170-42 is as follows between 2004-2017:

Year	CBGSA Water Use Estimate (in afy)
2004	1.46
2005	1.97
2006	99.66
2007	101.63
2008	111.17
2009	116.34
2010	119.38
2011	108.49
2012	131.58
2013	121.63
2014	4.69
2015	3.21
2016	111.24
2017	109.30

The historical water use estimate to irrigate 40 acres of pistachio trees in 2014 and 2015 (highlighted above) is obviously an error. Tri-County did not remove any trees from production during 2014 and 2015 and there was no drop off in the number or quality of nuts harvested from that parcel. A significant drop in nut quality and quantity would have occurred if the trees had received little to no water during the 2014-2015 growing season. Such a drastic reduction in water use would have been catastrophic or even fatal to the trees. No such event occurred during these years.

In 2024, Tri-County reported total metered water use of 626 af collectively used on APNs 149-170-042, -045, -044, and -046. Although Tri-County' wells were not metered in 2014 and 2015, the 2024 total metered water use of 626 af can be used to estimate the corrected water use in 2014 and 2015 on APN 149-170-042.

For example, in 2014 we can subtract from 626 af the 2014 CBGSA estimated water use for the other Tri-County parcels (147.50 af + 293.91 af +117.75 af = 559.16 af) to find the approximate corrected water use for APN 149-170-042. Using this methodology, the corrected water use for APN 149-170-042 should be approximately 66.84 af in 2014 (626-559.16= 66.84) and 118.1 af in 2015 (626-507.9= 118.1).

In other instances, the CBGSA model does not account for the history of Tri-County water use during the multi-year growth phase as the trees reached full maturity. Instead, CBGSA's model estimates that water was only used once trees reached full productive maturity. This is incorrect and does not reflect the realities of the water requirements for pistachio orchards.

Year	**APN 149-170-45 (CBGSA Water Use Estimate in afy)**	**APN 149-170-44 (CBGSA Water Use Estimate in afy)**	**APN 149-170-42 (CBGSA Water Use Estimate in afy)**
2002	2.93 (40 acres of pistachios planted in 2002.)	1.65	1.49
2003	2.75	1.91 (40 acres of pistachios planted in 2003.)	1.31
2004	2.87	1.53 (Another 40 acres of pistachios planted in 2004 for a total of 80 acres of pistachios on the parcel.)	1.46
2005	4.22	2.43	1.97 (40 acres of pistachios planted in 2005.)
2006	108.31	195.90	99.66

2007	108.28	205.56	101.63
2008	118.75	228.24	111.17

CBGSA's model used to calculate allocations completely omits Tri-County's history of water use during the multi-year growth phase as the trees reached full maturity. Instead, the CBGSA only accounts for fully mature trees on Tri-County's parcels starting in 2006, without concessions for the water applied when the trees were initially planted and thereafter to irrigate the trees between 2002-2006 to bring them to maturity.

Tri-County planted 40 acres of pistachios on APN 149-170-45 in 2002, 40 acres on APN 149-170-44 in 2003, another 40 acres on APN 149-170-44 in 2004, and 40 acres on APN 149-170-42 in 2005. A copy of Google Earth images from 2002-2005 (with 1994 included as a control to show the fields prior to planting) evidence the Tri-County pistachio planting dates and is attached as **Exhibit B**.

The CBGSA provided growers with a water use estimate worksheet that provided instructions for how growers could estimate net water use based on acreage and crop factors as calculated by the California Polytechnic State University's Irrigation Training and Research Center ("ITRC") California Crop and Soil Evapotranspiration Report, ITRC Report No. 03-001. (See blank CBGSA Form I Irrigator Water Use Estimate Worksheet, **Exhibit C.)** According to the CBGSA's own provided formula, 40 acres of pistachios would result in total net water use of approximately 119.6 afy. (40 acres x 2.99-Pistachio crop factor using ET Reference Average for Zone 10 = 119.6 afy.) Even accounting for a lower than average water use as the trees were still maturing during the initial planting phase, we would expect to see a gradual increase in water use as the trees reach maturity. Instead, CBGSA's model represented above seems to erroneously suggest that Tri-County planted fully mature pistachio trees in 2006. This is not physically or economically feasible and does not reflect the realities of Tri-County's operation. (See **Exhibit B**.)

The highlighted figures in the chart above represent the erroneous water use estimates that must be adjusted for purposes of calculating Tri-County's base allocation. CBGSA's model and the erroneous base allocation based on this model should be adjusted to account for Tri-County's water applied to irrigate trees between 2002-2006 to bring them to maturity.

Further, Tri-County was only included in the CMA boundary in 2024 and was not given a sufficient opportunity to scrutinize the technical data, or to purchase water before having severe cutbacks imposed on them. On May 3, 2023, the CBGSA approved the final 2023 and 2024 CMA groundwater allocations for those properties within the original CMA boundary. Those initial allocations were only effective for one year, then were adjusted and reconsidered for the five year period between 2005 to 2029. During this time, those landowners within the original CMA boundary had a full year to adjust to

the new groundwater allocations and to determine whether there were any issues with the technical information relied upon by the CBGSA in calculating allocations.

On September 4, 2024, the CBGSA Board considered and adopted a new CMA boundary based on an updated basin model. Overnight, Tri-County was included in the newly adopted CMA boundary line and became subject to the CMA groundwater allocations for the first time.

On November 8, 2024, CBGSA distributed a "Notice of Updated Central Management Area 2025-2029 Groundwater Allocations and Variance Request Form" which informed affected parties, including Tri-County, that allocations were calculated based, in part, on cropping data, including landowner provided data and Land IQ/DWR estimated data. The notice set a short deadline of December 6, 2024 to submit a completed Variance Request Form.

Tri-County had less than one month to evaluate the effects of a groundwater allocation that would be imposed for the next five years and to scrutinize the data used by CBGSA to calculate the allocations, in contrast to the original landowners who had the opportunity to attend numerous CBGSA hearings on the subject, were granted multiple opportunities to correct mistakes and who had ample time to adjust to the CMA groundwater allocations during the 2023-24 water year. On February 7, 2025, CBGSA distributed a "Notice of Final Central Management Area Allocations for 2025-2029 (5 Years)." The short time frame was insufficient for Tri-County to gather, submit, and review its pumping data.

Unless this error is fixed, Tri-County faces the prospect that it may have to immediately remove its some of its productive trees. Without a water market in place in the Cuyama Valley, perennial crops, like pistachios, face a major disadvantage. Tri-County has invested millions of dollars in its orchards and has waited for years for its pistachio trees to reach full economic maturity. This investment is now at risk because of accounting errors by the CBGSA. Unlike farmers who cultivate annual crops and can fallow ground, Tri-County's pistachio trees require a base quantity of irrigation water to survive.

For the foregoing reasons, Tri-County respectfully requests that the CBGSA correct the technical data for Tri-County's affected property and grant a variance (correction) to its current 2025-29 CMA allocation from 426 af to **611 af**. This represents a 5 percent reduction from 2024 water use, consistent with CBGSA's glide path ramp down of 5-6 percent per year.

Please contact me with any questions. We appreciate your time and attention to this matter.

Sincerely,

Amy Steinfeld

EXHIBIT A

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RE: Objection to Cuyama Basin Central Management Area Revised Allocation (Revised)

Dear Mr. Blakslee:

On behalf of our clients with lands within the Central Management Area (CMA),[1] we submit the following objection to the Cuyama Basin Groundwater Sustainability Agency's (CBGSA) proposed Notice of Central Management Area Policies and Landowner Requirements, dated February 3, 2023 (Notice), and the "revised estimated allocations" and "pumping reduction program" for 2023 and 2024 set forth in the Notice (CMA Allocation Policy). Our firm represents a number of landowners within the Cuyama Basin including landowners inside and outside of the CMA.

As described herein, our clients continue have significant concerns with the GSA's Notice and the CMA Allocation Policy—most importantly, that the GSA's CMA Allocation Policy has the potential to impair common law water rights without due process of law—and therefore submit these comments for the Board's consideration. These comments further supplement our prior objections and comments provided to the CBGSA on January 6, 2023 related to the Overarching Policy for Wells Inside and Outside the Central Management Area (Farm Unit Policy) and on September 1, 2022 related to the prior CMA Allocation Policy. This constitutes a general objection to the CMA Allocation Policy and the CBGSA's iterative variance request process and does not propose a specific variance request for any individual client.

[1] Our clients in the CMA include Blue Sky Sustainable Living Center, Perkins Ranch (aka Belden Family Trust), Ann M. Buck Trust, Eight Ls Trust, Jason and Mary Jo Harrington Revocable Living Trust, David Lewis, Slumskie Family Trust and Trujillo Family Trust.

I. Reservation of Rights

Our clients reserves all rights, claims and defenses with respect to the CMA Allocation Policy, the Farm Unity Policy, and any other action of the CBGSA. Our clients reserve the right to object to and challenge the CMA Allocation Policy, the Farm Unit Policy, and any other action by the GSA, administratively before the CBGSA, or through any other legal means, including through the pending comprehensive adjudication of the Cuyama Basin (*Bolthouse Land Company, LLC, et al. v. All Persons Claiming a Right to Extract Groundwater in the Cuyama Valley Groundwater Basin (No. 3-013)* (the "Adjudication"). Our clients' participation in this process in no way constitutes a waiver of their objections or an admission, opinion or support for the CBGSA's actions related to the CMA Allocation Policy, the Farm Unit Policy, or and any other action of the CBGSA.

II. The CMA Allocation Policy Conflicts with California Water Law

The GSA does not have the power to determine or alter groundwater rights. SGMA does not supplant the common law; rather it only supplements it. Yet, the Notice purports to limit the pumping of a subset of the Cuyama Basin's users without regard to any user's common law water rights.

For example, the CMA Allocation Policy is geographically discriminatory in that it constrains the pumping of a subset of overlying landowners within the CMA, even though all groundwater users share in a common groundwater resource. Regardless of whether a landowner is inside or outside the CMA, their pumping withdraws from the same supply. The CMA Allocation Policy ignores this fact and California groundwater law by regulating groundwater use by some, but not all. This approach is inconsistent with the physically interconnected nature of the Basin and with common law water rights.

The Farm Unit Policy further creates new inequities based solely upon the nature of a requester or landowner's operations that are completely unrelated to sustainable management of the groundwater resource. For example, a landowner that owns 50 acres of land inside the CMA and 50 acres of land outside the CMA and pumps 100 acre-feet per year ("AFY") from a well outside the CMA for use on the entire property is subject to the Farm Unit Policy and must comply with the CMA Allocation Policy's pumping reductions. Meanwhile, a neighbor that owns 50 acres of land outside the CMA that pumps 150 AFY from a well outside the CMA is not subject to CMA Allocation Policy under the Farm Unit Policy and need not engage in any pumping reductions. In fact, the neighbor could increase its water use above and beyond any pumping reductions by those subject to the Farm Unit Policy. As such, the Farm Unit Policy arbitrarily impairs exercise of overlying rights in a manner that is disconnected from sustainable management of the resource.

Moreover, in implementing SGMA, even area-specific responsive management actions must be specifically associated with avoiding undesirable results identified in the Cuyama Basin Groundwater Sustainability Plan (GSP). Notably, the Department of Water Resources issued a statement on March 2, 2023 stating that it plans to recommend further corrective actions that the CBGSA must include in its January 2025 GSP Update. Such corrective actions may implicate the CMA Allocation Policy and

Farm Unit Policy and should be considered during the adoption of the CMA Allocation Policy given that they may impact implementation of Basin-wide sustainable management.

While an allocation policy is one means of ensuring sustainable groundwater management, such a policy must comport to fundamental principles of California Water Law—i.e., that the burdens of sustainable management are shared amongst similarly situated water right holders—while simultaneously avoiding the undesirable results on the Cuyama Basin.

III. The CMA Allocation Policy Should be Reconciled with the Ongoing Cuyama Basin Comprehensive Groundwater Adjudication

The Adjudication seeks to quantify all groundwater rights within the Cuyama Basin consistent with California water law. The Court—not the GSA—has exclusive jurisdiction to determine water rights through the Adjudication and to allocate the Cuyama Basin's sustainable yield accordingly. The CMA Allocation Policy and Farm Unit Policy, which effectively quantify a subset of groundwater users' water rights, conflict with the Adjudication because they seek to quantify and impair the rights of only a portion of the Cuyama Basin's users. Ultimately, the Court's decision with respect to water rights and a physical solution in the Adjudication will supersede the CMA Allocation Policy and the Farm Unit Policy.

Through the Adjudication, the Court will craft a physical solution to sustainably manage the Cuyama Basin. This physical solution should resolve the fundamental concerns with the CMA Allocation Policy and the Farm Unit Policy identified in this letter. Accordingly, the GSA should consider other approaches to improve sustainable groundwater management in the interim while the Adjudication unfolds and, at a minimum, revise the CMA Allocation Policy and the Farm Unit Policy to conform with the pending Adjudication.

IV. The CMA Allocation Policy Unclear and Fails to Acknowledge Uncertainties

Numerous components of the CMA Allocation lack evidentiary support and therefore are arbitrary and unclear. For example:

The GSA has acknowledged the modeled and operational CMA boundary is arbitrary given that users within the CMA pump groundwater from the same aquifer as users outside of the CMA who are exempt from the program. At the CBGSA Public Workshop on August 25, 2022, staff acknowledged that the CMA boundary was selected for political reasons and had no scientific basis. The CMA boundary also may no longer reflect current Basin groundwater levels following the significant storm events that may raise groundwater levels. Given that the CMA boundary is based, in part, by groundwater level information, the CBGSA must update the model to reflect current Basin conditions to define the boundary prior to imposing a punitive allocation program on a subset of landowners.

Further, the CMA boundary was selected using Cuyama Basin Water Resources Model (CBWRM) results that have a margin of error based on model limitations and geographic projections that

significant impact CMA Allocation Policy implementation but remain unexplained and unquantified. The model uncertainty undoubtedly impact the allocations assigned to water users yet it is unclear how, if at all, this uncertainty is accounted for in the individual allocations.

During the prior variance request process, we identified a flaw in the CBGSA's allocation methodology. Although the CBGSA addressed the identified error, it continues to rely on land use data from 1998-2021, including both landowner provided data and aerial survey data, imported into the CBWRM to estimate groundwater use in a manner that cannot be reproduced and verified by landowners. The Notice contains a description of the revised methodology but again it is not clear about the basis of the selected water use period and whether it accurately reflects historical and/or planned for pumping. Moreover, the CBGSA's characterization of the variance request process provides limited opportunities to correct the CBWRM data.

The CBWRM data further does not consider land use and irrigation efficiency practices in setting the pumping within the CMA and estimate individual allocations. The CMA Allocation Policy relies on a 20-year period (1998-2017) to calculate the individual allocations. In effect, this 20-year period takes into account historical, less-efficient irrigation practices. It also penalizes landowners who voluntarily employed significant conservation measures to limit their water use or fallowed lands. Landowners that may have temporarily modified their groundwater production to convert to more water efficient uses may also be penalized. None of this information is evident from the CMA Allocation Policy and should be considered through the policy and variance request process.

V. The Variance Request Process Is Flawed

First, the Notice does not set forth clear criteria or findings that the Board will use to determine whether to grant a variance, which may lead to arbitrary and capricious decision-making. This continues the same flawed process that the CBGSA took with the first iteration of variance requests. Further, since the variance request process will impact other landowners' allocations, even those that do not submit a variance request, the process must have clear criteria to provide adequate notice and clear procedures for all landowners.

Second, the Notice does not provide the data upon which the proposed allocations are based in a transparent manner that would allow for landowners to ascertain data errors as needed to submit a variance request form. The data tables attached to the Notice fail to provide landowners with any information as to the modeled calculation of an individual allocation such that a landowner can understand the potential source of data errors. Further, the CBWRM data is generally not available to digestible for individual landowners.

Third, the Notice does not make it clear to landowners that do not intend to submit a variance request form that their individual allocations may change in response to the Board's action to grant a variance

requested by another landowner. All landowners should be fully informed of the need and right to participate in the variance process in order to preserve their rights and avoid penalties.

Fourth, the California Constitution and SGMA contain specific substantive and procedural requirements on the adoption of fees and charges. The Cuyama GSA has not complied with any of these requirements in its adoption of a $250 fee to submit a Variance Request Form.

VI. The CMA Allocation Policy Should Have Been Adopted Through A Formal Action And Was Not

The CBGSA has developed the current form of the CMA Allocation Policy through a series of minute orders over many months of CBGSA Board meetings. The CBGSA Board, however, has never taken formal action to adopt the CMA Allocation Policy, the Farm Unit Policy or any components thereof through a formal ordinance to establish this regulatory program.

Because the CMA Allocation Policy is clearly intended as a regulation, a formal document is needed to explain and elucidate the program and its requirements. Although titled "Central Management Area Policies and Landowner Requirements," the Notice and estimated allocation assigned to certain Basin landowners has the effect of a regulation that limits groundwater pumping by a subset of the Basin's landowners without due process and in conflict each landowner's exercise of its overlying property right in the Basin. The Notice also proposes to impose monetary and other penalties on those listed landowners who use groundwater in excess of the assigned estimated allocation. As such, the CMA Allocation Policy must be adopted through a formal ordinance that imposes specific regulations (allocations) and penalties for failure to comply with such regulations on landowners within the CMA to ensure that affected landowners receive due process.

An ordinance also is necessary to clearly document and allow for public comment on the mechanics of the program's requirements to allow for meaningful public participation and informed decision-making. Notably, the CBGSA Board still plans at least two actions which may further impact landowners rights and obligations under the CMA Allocation Policy: (1) action on the second iteration of variance requests at a March 29, 2023 special meeting; and (2) the "final adoption" at the May 3, 2023 meeting. These actions may further modify landowners allocations or the regulatory requirements of the CMA Allocation Policy. Absent a clear ordinance establishing the regulatory program described in the CMA Allocation Policy, landowners have no way to knowing whether to object to their current allocations or the program itself—a clear violation of due process.

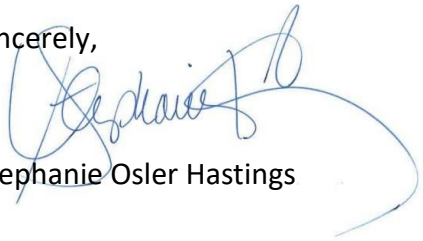
VII. The CBGSA Has Not Yet Complied with the California Environmental Quality Act

The CBGSA's actions are subject to the California Environmental Quality Act (CEQA). As discussed above, the CBGSA has asserted that the Notice and CMA Allocation Policy is a result of a series of directions proved over many months and CBGSA Board meetings by minute order. CEQA must be completed at the "earliest commitment" to a project or to a definite course of action. As such, the CBGSA's compliance with CEQA is long overdue.

Assuming that the Board has not taken a formal action to adopt the CMA Allocation Policy, the Board must consider whether the CMA Allocation Policy will have a direct or reasonably foreseeable indirect impact on the environment due to the potential for landowners to need to fallow land to comply with the program. The fallowing of land in response to the proposed allocation has reasonable foreseeable direct and indirect impacts on the environment including but not limited to impacts on air quality, land use, agricultural resources, and biological resources.

Thank you for your considerations of these comments. We also request that these comments be included in the CBGSA Board materials for its March 29, 2023 and May 3, 2023 meetings. Should you have questions, please contact me at (805) 882-1415 or Shastings@bhfs.com or Mack Carlson at (805) 882-1485 or Mcarlson@bhfs.com.

Sincerely,



Stephanie Osler Hastings

SOH

cc: Joseph Hughes, Klein DeNatale Goldner
Alex Dominguez, Klein DeNatale Goldner

EXHIBIT B

May 1994


Foothill Rd
Foothill Rd
149-170-046
149-170-045
149-170-042
Santa Barbara Canyon Rd
Santa Barbara Canyon Rd
149-170-044

May 2002


Foothill Rd
Foothill Rd
149-170-046
149-170-045
149-170-042
Santa Barbara Canyon Rd
149-170-044

July 2003


Foothill Rd
Foothill Rd
149-170-046
149-170-045
149-170-042
Santa Barbara Canyon Rd
Santa Barbara Canyon Rd
149-170-044

July 2004


Foothill Rd
Foothill Rd
149-170-046
149-170-045
149-170-042
Santa Barbara Canyon Rd
Santa Barbara Canyon Rd
149-170-044

August 2005


Foothill Rd
Foothill Rd
149-170-046
149-170-045
149-170-042
Santa Barbara Canyon Rd
Santa Barbara Canyon Rd
149-170-044

EXHIBIT C

Form I

IRRIGATOR

WATER USE ESTIMATE WORKSHEET – 2022

Cuyama Basin Groundwater Sustainability Agency

Name _____

Billing Address _____

Phone / Email _____

Instructions:

1. For 2022, input crop name(s)[1] in column A, the parcels those acres are farmed on in column B, the irrigated acres in column C, and the corresponding crop factors from the attached Exhibit C-1 in column D.
2. Multiply acres (column C) by the crop factor (column D) and input result in column E.
3. Total the acre-feet from column E in row 2.
4. Convert net water use (from row 2) to gross water use by multiplying total acre-feet from row 2, column E by the gross factor in row 3, column E and insert in row 4, column E.

	A	B	C		D		E
	Crop Name	Assessor Parcel Number(s) (APN)[2]	Acres		Crop Factor		Water Use (acre-feet)
1				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
				X		=	
2	Total Acre-feet (sum column E)						
3	Gross Conversion Factor						1.52
4	Total Gross Water Use						

[1]If you have metered water use that is less than the crop factors, you can report metered water use.

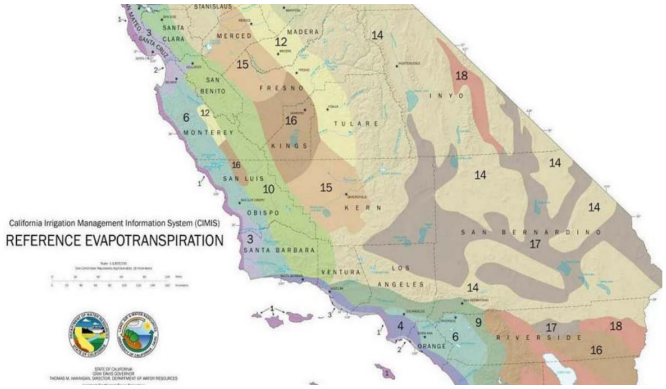
[2]Cropping location information may be provided separately from this form. Please contact Taylor Blakslee at 661-477-3385, or tblakslee@hgcpm.com for any questions.

Exhibit I-1 – Crop Factors

Source Information

Crop Factors are evapotranspiration (ET) values from California Polytechnic State University's Irrigation Training and Research Center (ITRC) California Crop and Soil Evapotranspiration Report (Crop Report), ITRC Report No. R 03-001 accessible at www.itrc.org/reports/pdf/californiacrop.pdf.

The below values were calculated using ET reference averages for zone 10 from the Crop Report (see below figure).



Avg Annual Reference ET by Zone (inches/yr)

Zone	Total
1	33.0"
2	39.0"
3	46.3"
4	45.5"
5	43.9"
6	49.7"
7	43.4"
8	49.4"
9	55.1"
10	**49.1"**
11	53.0"
12	53.3"
13	54.3"
14	57.0"
15	57.0"
16	62.5"
17	66.5"
18	71.3"

Crop Factors

Crop	ET	Crop	ET
Alfalfa Hay	4.02	Melon, Radish, Squash, & Cucumbers	1.62
Alfalfa Seed, Sudan	3.60	Olives, Mature	3.27
Almonds	3.32	Olives, Deficit	2.58
Apples[1] (Drip)	2.50	Onions and Garlic	1.99
Apples, Pear, Cherry, Plum, and Prune	3.33	Permanent Pasture	3.93
Barley Wheat, Oats	1.97	Pistachios	2.99
Blackeyed Peas	1.97	Potatoes	3.00
Carrots	2.20	Rootstock	2.23
Corn	2.43	Sorghum Grain	2.43
Cotton	2.70	Sugar Beets	2.70
Citrus	3.45	Tomatoes	2.20
Grapes with 40% cover crop	1.56	Walnuts	3.53
Grapes with 60% cover crop	2.02	Cannabis[2]	TBD
Grapes with 100% cover crop	2.24	Hemp[3]	TBD
Lettuce	2.20		

[1]Value determined by local expertise in the Cuyama Valley.
[2]Value based on ____.
[3]Value based on ____.