



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
Arne Anselm Secretary, County of Ventura
Byron Albano Treasurer, Cuyama Basin Water District
Rick Burnes Cuyama Basin Water District
Steve Jackson Cuyama Basin Water District

Jimmy Paulding County of San Luis Obispo
Katelyn Zenger County of Kern
Das Williams Santa Barbara County Water Agency
Deborah Williams Cuyama Community Services District
Jane Wooster Cuyama Basin Water District

AGENDA

November 6, 2024

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Board of Directors to be held on Wednesday, November 6, 2024, at 2:00 PM at the **Cuyama Valley Family Resource Center 4689 CA-166, New Cuyama, CA 93254**. Participate via computer at: <https://rb.gy/1nxwv> or by going to Microsoft Teams, downloading the free application, then entering Meeting ID: 224 192 969 900 Passcode: jVHbgy or enter or telephonically at (469) 480-3918 Phone Conference ID: 956 062 525#.

Teleconference Locations:

4689 CA-166 New Cuyama, CA 93254	1115 Truxtun Ave., 5th Floor Bakersfield, CA 93314	800 S. Victoria Ave., #1610 Ventura, CA 93009	900 Work Street Salinas, CA 93901
-------------------------------------	---	--	--------------------------------------

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 September 4, 2024, Meeting Minutes (Bantilan) (1 min)
7. Approve Payment of Bills for August and September 2024 (Blakslee) (1 min)
8. Approve Financial Reports for August and September 2024 (Blakslee) (1 min)

9. Approve the 2025 Meeting Calendar (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.

10. Groundwater Sustainability Plan Implementation
- a) Discuss and Take Appropriate Action on CIMIS Station Implementation Policies (Blakslee/Van Lienden) (15 min)
11. Groundwater Sustainability Plan Amendment Components
- a) Update on GSP Component Schedule (Beck/Van Lienden) (5 min)
 - b) Discuss and Take Appropriate Action on Groundwater Allocation Program
 - i. Discuss and Take Appropriate Action on Farm Unit Policy (Beck/Van Lienden) (60 min)
 - ii. Discuss and Take Appropriate Action on Baseline Options and Implementation of 2025-2029* Groundwater Allocations (Beck/Van Lienden) (60 min)
 - c) Review Public Comments on Amended GSP [excel matrix] (Beck/Van Lienden) (15 min)

REPORT ITEMS

12. Administrative Updates
- a) Report of the Executive Director (Blakslee) (5 min)
 - b) Report of the General Counsel (Hughes) (5 min)
13. 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 2024 Groundwater Quality Conditions Report (Van Lienden) (5 min)
14. Report of Ad Hoc Committees (1 min)
15. Directors' Forum (1 min)
16. Public Comment for Items Not on the Agenda (5 min)
17. Correspondence (1 min)

PUBLIC HEARING

18. **PUBLIC HEARING** – Consider Adoption of the Amended Groundwater Sustainability Plan (4:30 p.m.) (15 min)
19. Consider for Approval Resolution No. 2024-111 Amending the GSP and Submitted to DWR (Beck/Hughes) (5 min) **[Supermajority Vote Required: 75%]**
20. Review and Take Appropriate Action on the GSP 5-Year Periodic Evaluation (Beck/Van Lienden) (5 min)

CLOSED SESSION

21. 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)
22. Adjourn (6:00 p.m.)

CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

2024 Board Ad hocs

1	GSP Amendment	Albano Paulding Williams, Das Wooster Yurosek
2	Basin-Wide Water Management Policy	Anselm Bantilan Williams, Deborah Yurosek
3	Central Management Area Policy	Anselm Bantilan Vickery Williams, Deborah Wooster
4	Grant-Funded Items	Albano Vickery Williams, Das Williams, Deborah
5	Unknown Extractors	Anselm Vickery
6	CIMIS Station Implementation Policy	Bantilan Burnes Wooster

Tech Forum Participants

Participants	Entity	Representing
Aman Singh Anthony Daus	GSI	Bolthouse / Grimmway
Mack Carlson	BHFS	Coalition of Landowners for Commonsense Groundwater Solution
Derrick Williams	Montgomery & Associates	Coalition of Landowners for Commonsense Groundwater Solution
Bob Abrams Sean Hartman	Aquilogic	BBK
Matt Klinchuch	Cuyama Basin Water District	Cuyama Basin Water District
Jeff Shaw John Fio Macy Frost Marco Maneta	EKI	Cuyama Basin Water District
Neil Currie	Cleath-Harris	Grapevine Capital
Matt Young Matt Scrudato	Santa Barbara County Water Agency	Santa Barbara County
Bianca Cabera Steve Johnson Jeff Helsley	Stetson Engineers	Sunrise Olive

Standing Advisory Committee Report

Meeting Date: October 31st, 2024

Submitted to the CBGSA Board of Directors on November 6th, 2024

By Brenton Kelly, SAC Chair

The Standing Advisory Committee met at the Cuyama Valley Family Resource Center in a hybrid format with Four Committee Members present in-person and two on the conference line and one Committee Member absent. GSA Staff Taylor Blakslee and Grace Bianchi were in the room, joined by Jim Beck and Brian Van Lienden on the call. Two public stakeholders were in the room and up to 22 participants were on the video conference line. The meeting lasted 3.5 hours with constructive and informative discussion.

The Standing Advisory Committee has regrettably received two resignations from Committee positions. For personal and professional considerations Karen Adams and Jake Furstenfeld can no longer make the commitment necessary to be on the SAC. Perspective nominations and/or applications can be directed to Taylor or Brenton.

The Committee recommends the adoption of the proposed 2025 Schedule of Meetings.

The Committee took a vote on four motions for recommendations to the GSA and they can be presented when those items come up at this meeting.

10. a) Discuss and Take Appropriate Action on CIMIS Station Implementation Policies

Committee member Gaillard stressed the importance of having a fire break around the perimeter to prevent the spread of fire by mowing in the summer. Committee member Hasslett was concerned that the estimated site preparation costs may be too low, given the requirements of the CIMIS program. Several Committee members shared the importance of finding an additional location for a CIMIS station in the central area of the Basin.

Motion: Made by Jaffe, second by Haslett

The SAC agrees with the Ad hoc committee's recommendation regarding the Financial Considerations, the Water Use Implications and the Agreements policies of the CIMIS stations on private property.

Motion passed unanimously.

10,b,i) Discuss and Take Appropriate Action on Farm Unit Policy

Chair Kelly asked what % of change would be considered a threshold between Option 2 and Option 3? Staff replied that this was difficult to say in the abstract. Jim Beck suggested that a change of more than 5% of total CMA pumping for that year would be a reasonable threshold.

Committee member Jaffe asked how often this might happen? Brian Van Lieden related that it likely would be uncommon and was called for at every five year update or whenever the Model is updated.

Vice Chair DeBranch thought Option 2 made the most sense and suggested that the Farming Unit issues were baked into the CMA Allocations by the land use element as opposed to managing extraction from the specific location of the Well itself.

Motion: Made by Jaffe seconded by Haslett

The SAC recommends Option 2 with a threshold of no more than 5% of the Maximum allowed pumping for that year, which would trigger Option 3.

Motion passed 4 to 2, DeBranch and Lewis cast No votes

10,b,ii) Discuss and Take Appropriate Action on Baseline Options and Implementation of 2025-2029 Groundwater Allocations

Stakeholder Jane Wooster asked if the % of Historical Use by parcel had changed with the new Model and CMA estimates? Staff said Yes. All the historical use estimates for 1997-2021 had been recalculated by the updated model and therefore the % of average historical use had also changed.

Committee Member Dave Lewis asked if the Baseline pumping estimates and the Sustainable Yield numbers were all modeled by the same calculated estimation of historical use? The answer from the staff was Yes. Dave asked the follow up question: What is the best guess of accuracy in the model? Jim Beck was reluctant to answer this and spoke to the challenge of stating this number. Some areas of the model are more accurate than others and so it's not easy to quantify the overall accuracy of the Model. But between +/-5% was a reasonable guess. Dave Lewis was concerned for the reliability of the Model and that the estimations for small farmer operations like his family's were all within the margin of error and it amounted to statistical noise when balancing the Basin as a whole.

Committee Member Haslett said that this chart demonstrates the inequity of only using Historical Use as a determination of the allocations. Flaws in the data can translate to devastation to the smaller pumpers. Stakeholder Jaffe agreed to the use of the new model due to the improved data and better calibration. She shared the frustration that 2 major pumpers are putting the burden of their overdraft on the shoulders of the many small pumpers.

Committee vice chair DeBranch defended the approach to using Historic Use as a way that treated all pumpers proportionate to their extraction before the passing of SGMA.

Vice Chair DeBranch made a Motion to recommend Option #3 of a Baseline of 44,254 AF. The Motion failed for a lack of a Second.

Motion: Made by Gaillard, seconded by Jaffe

To recommend Option #4 with a consideration for a tiered approach that protects the basin and small farmers

Vice Chair DeBranch asked the GSA legal council if this tiered approach was legal? GSA Council Dominguez said that in their analysis no other GSA has taken a tiered approach to structuring a pumping restriction policy.

Chair Kelly suggested that the law has been changed by SGMA and an ethical, equitable and nuanced approach to protecting groundwater as a commons resource has not yet been attempted. He suggested that the column of % of allocation was a fine example of a place to consider a tiered approach to protecting the small pumpers whose volumes are within the margin of error in the estimation of overall extraction. Otherwise, Chair Kelly was in favor of the new, more accurate Modeled Baseline that allowed for less loss in overall Groundwater Storage.

Stakeholder Wegis suggested that the issue should be looked at from an Acre Foot per Acre approach. He also requested that once a baseline number is chosen that it not change during implementation. Stick with whatever we come up with.

Motion passed 4 to 1: DeBranch voted No due to councilors Dominguez' comments, Committee Member Haslett abstained.

18) PUBLIC HEARING – Consider Adoption of the Amended Groundwater Sustainability Plan

Vice Chair DeBranch expressed concerns about the uncertainty of the recent model updates. He said that the confidence in the accuracy of the computer estimations was lacking. Committee Member Lewis found agreement with this uncertainty of the accuracy, especially when making a policy decision based on a brand new computer estimation.

Committee Member Jaffe shared that it was very difficult for her to approve a new improved Plan that does not fix many of the deficiencies of the last Plan, such as; Water Quality issues, inconsistencies in MT changes in the Northwest Region, GDE protections and the inequity of the allocations.

Committee Member Haslett agreed with Jaffe that the new GSP does not address the problem areas or resolve the policy problems that this Committee has been bringing up for years.

Chair Kelly felt conflicted between the ongoing deficiencies of the new Plan and the many improvements that it represents over the old one. This is a summary of his public comment letter regarding these deficiencies.

- The GSP should investigate, quantify and protect the remaining GDEs in the Basin before more are lost. No wetland survey has been done other than a remote desktop illumination of ¾ of all probable GDE's based on satellite data interpretation.
- The GSP should be more protective of groundwater resources and recognize the undesirable result of long term chronic declining groundwater levels and the loss of storage. The end goal of Sustainability in 2040 is 15 years away and the Basin stands to lose substantially more under this Plan.

- The Central Management Area should be better justified with ground truthed data and Policy decisions should not be driven solely by the current algorithms of the Hydrologic Model.
- The GSP would be more effective if it addressed the causes of long-term chronic overdraft rather than just lowering the Minimum Thresholds to avoid exceedance. Five years into this Plan and no actual reductions of Historic Use have been achieved.
- The GSP would be more consistent if it did not make one-off questionable exceptions for groundwater level declines for one large vine operation in the Northwest area. The Saturated Thickness methodology is based solely on the property owners request using proprietary science.
- The GSP would be more equitable if it recognized the magnitudes of difference between the few large operations and the many much smaller farming operations in the valley. The discrepancy demands something more nuanced than a one-size-fits-all Policy.
- The GSP would be more enforceable if it had Management Action triggers and timelines, and the GSA exercised its authority and mandate to preserve groundwater and protect the Public Trust from private over extraction.

No motion was made in support of the adoption of the amended GSP.

Motion: Made by Jaffe, seconded by Lewis.

The SAC recommends that the Amended GSP should not be adopted as presented.

Passed Unanimously.

Although the Committee did not recommend adoption of this amended GSP, they do recognize the challenge this GSA is now facing. In evaluating the new Plan, we did not judge whether or not it was still better than the old one for possibly the next 5 years. We also recognize the substantial work that GSA Staff and the W&C team have made toward improving the GSP within the direction of this GSA Board. However, For a diverse set of reasons this Committee is unanimous that this Plan still has critical issues unresolved.

20) Review and Take Appropriate Action on the GSP 5-Year Periodic Evaluation

Brian Van Linden suggested that although most of the 91 page document would be unaffected if the Draft GSP is not adopted he also shared some of the connecting issues that embed the Draft GSP into the Periodic Evaluation.

No Recommendation was made by the SAC on this item.

Chair Kelly Adjourned the meeting at 8:40.

Respectfully submitted,

Brenton Kelly

Cuyama Basin Groundwater Sustainability Agency
Board of Directors Meeting

September 4, 2024

Draft Meeting Minutes

PRESENT:

Directors

Bantilan, Cory – Chair
Yurosek, Derek – Vice Chair
Albano, Byron – Treasurer
Anselm, Arne – Secretary
Burnes, Rick
Jackson, Steve
Reely, Blaine – Alternate
Williams, Das
Williams, Deborah
Wooster, Jane
Zenger, Katelyn

Staff

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

ABSENT:

None

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

Standing Advisory Committee (SAC) Member Robbie Jaffe provided a report on the August 29, 2024 SAC meeting and is included below:

Submitted to the CBGSA Board of Directors on September 4th, 2024
By Brenton Kelly, SAC Chair

The Standing Advisory Committee met at the Cuyama Valley Family Resource Center in a hybrid format with five Committee Members present in-person and two on the conference line and two Committee Members absent. GSA Staff Grace Bianchi was in the room, joined by Jim Beck and Brian Van Lienden on the call. Two public stakeholders were in the room and up to 22 participants were on the video conference line. The meeting lasted 4.5 hours with constructive and informative discussion. One recommendation was made by a formal vote and the opinions on the other items are reflected by a straw poll/feedback method.

9.a) Discuss and Take Appropriate Action on Data Management System (DMS) Update Options

Back on May 25, 2024 the SAC approved all the items currently planned for in the update of the DMS, for instance the automatic integration of publicly available data from GAMA, CASGEM and ILP data. Staff was commended by the Committee and the public for the ongoing improvements to the public facing DMS. Committee Chair Kelly asked if the 'Site Map' toggle on the Opti Well page could be reinstated, as it was a very helpful shortcut and it seems to have fallen off the page in recent upgrades. Staff responded with the intent to reinstate the feature. Stakeholder Jim Wegis asked how landowners can improve precision of the locations on the map, because they are not in the precise location. Mr. Van Lienden responded there is a Well Information Survey document to help improve or update well location information.

10. a) Update on GSP Component Schedule

The Committee members shared with staff their personal availability for the Public Workshop during the week of 9/30 to 10/4. The Advisory Committee repeated that generally, public attendance would be better if it was held later in the day.

10. b) Review of CMA Operational Boundary

The SAC passed a Motion to stick with the old CMA until significant and unreasonable discrepancies between actual well data and modeled projections are reconciled. The SAC continued the discussion from the last meeting regarding the updated Model CMA projections. It remains difficult to understand how or why the model would increase the size of the CMA by adding unirrigated lands up in the National Forest to the south and also the eastern badlands, while removing currently heavily irrigated lands in the western edge of the CMA. Monitoring wells in these areas show data that do not support the model projections. For example in the current Groundwater Conditions Report on this agenda, several monitoring wells just west of the CMA fell over 40' and dropped below their MTs. While at the same time the brand new monitoring well in the southwest corner of the new CMA has actually

come up 20 feet.

Vice Chair Brad DeBranch thought the new Model update represented the very best we could do with all the new data we have, and that the existing policy was simple and clear on how to use the modeled projection to derive a Management Area boundary, and that we should simply use it as it is. Chair Kelly questioned how faithfully we should depend on the suspected location of a complex fault line that has not been physically confirmed, or accurately modeled to make a hard line policy decision? Especially when local observation and data would indicate otherwise.

Committee member John Caufield said that 'there is wholesale disagreement between the observed well data and the Model projection, and that without a more understandable and believable explanation for this discrepancy, he could not recommend using the new model projections for the CMA, in the SE edge specifically and the whole CMA generally. Caufield added that there may be a rationale for the discrepancy but the modeling team should be asked to provide the rationale. Committee Member Dave Lewis suggested there were multiple levels of uncertainty and regional inaccuracies in the Model projection and he is not confident enough to change the CMA boundary based on this modeled projection.

Stakeholder Jim Wegis presented an informative, researched explanation for how the wells in the vicinity of the Santa Barbara Canyon Fault respond very differently from the wells to the north. He understands that Ventucopa may or may not become a Management Area in the future but they can not be considered to be simply connected to the CMA to the north. He doesn't believe the proposed southern CMA boundary is technically justified. Jim was encouraged to submit his written statement for the record.

MOTION

Committee Member Caufield made a motion not to recommend the updated boundary to the CMA until an explanation is provided on the discrepancy between the model and the well data. The motion was seconded by Committee Member Haslett. A roll call vote was made, and the motion passed.

AYES: Caufield, Gaillard, Jaffe, Kelly, Lewis, Haslett

NOES: DeBranch

ABSTAIN: None

ABSENT: Adams, Furstenfeld

10. c. i.) Discuss and Take Appropriate Action on Frequency and Extent of Changes to Groundwater Allocations

A poll was taken that indicated full support for a triggered response to any significant change in either groundwater elevations or groundwater pumping. The frequency was a split between annually and every five years. Committee Member Haslett was concerned that water allocations outside the CMA would be used to try to artificially balance the CMA water budget. Committee Member Caufield expressed concern for the potential of overdraft in the Northwest Region and was in favor of both a regular

evaluation interval, and a trigger set for either a significant drop in GW elevations or significant increase in pumping. Vice Chair DeBranch suggests that we must find any areas outside the CMA that represent the remainder of the overdraft that is not being managed within the CMA and manage it all in order to achieve sustainability. He felt it should be evaluated annually by whichever metric staff recommends. The rest of the Committee was evenly split between Annual and a 5 year interval as long as it also included the management action triggers for significant changes in groundwater conditions.

10. c. ii.) Discuss and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations

When considering whether or not a Variance Process was needed, the Committee voted six to one in favor of a Variance Process. Committee member DeBranch did not feel it was needed this time. When considering which of the two options were preferred, the Committee voted along the same 6:1 line in favor of Option 2: giving more time to try to get it right. Committee member DeBranch chose option #1, for timing issues with the row crop farmers.

10. c. iii.) Discuss and Take Appropriate Action on Baseline Options

In a poll the majority of the SAC recommend using the new modeled pumping estimate for the 2021 rain year. The SAC held a thorough discussion on the significance of this issue and the impact it would have on the Basin. Committee Member Lewis asked "What was the fall-out of a higher or lower baseline?" We were told that while the Sustainable Yield end goal was the same, the higher the Baseline the more pumping would occur with a greater loss of groundwater in storage, the smaller the Baseline would result in less loss of storage before reaching the sustainability goal. Mr. Van Lienden explained that with the new Model, the change in storage in terms of acre-feet is less for each foot of drawdown in a given well.

The SAC expressed the need to maintain some predictability in the Allocation process during the remainder of the GSP implementation period. The fact remains that every time the Model is updated and recalibrated many of the Model output numbers will change. Allocations will change, estimated pumping volume will change and the Sustainable Yield will change. Only the % of the cutbacks on the Glide Slope will stay the same. For this reason it was generally felt that at least the year that is chosen for the baseline should not change over time. Vice Chair DeBranch stated that he had never liked a single year choice or a combination of only recent years, preferring a multiyear average of wet and dry years. He commented that the sustainable yield, baseline, and glidepath need to align, and he wanted to see how the numbers would look once the CMA w/ Farming Units was finalized.

In the straw poll of their preferred baseline date: Haslett, Gaillard, Jaffe, Caufield and Kelly agreed on Option #4, 34,000 AF, the new model prediction for 2021, a critically dry year with more pumping. This base number is similar to other options including the reported data from pumping reports.

Committee members DeBranch and Lewis chose (#3), 56,600 the original number (2021 Old Model) until better data is available.

10. e) Discuss and Take Appropriate Action on Amended GSP

The SAC accepted the Public Draft of the Amended GSP for the 30-day review period. No further recommendations were made.

Respectfully submitted,

Brenton Kelly
SAC Chair

CONSENT AGENDA

6-8. Consent Agenda

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

Chair Bantilan requested CBGSA staff provide an overview of item 8, Payment of Bills. Mr. Blakslee responded that there are some delays in funding from the Department of Water Resources. The earliest expected payment is at the beginning of November.

MOTION

Director Das Williams made a motion to approve the consent agenda item nos. 6-8. The motion was seconded by Director Deborah Williams a roll call vote was made and passed.

- AYES: Albano, Bantilan, Burnes, Jackson, Reely, Williams, Williams, Wooster, Yurosek, Zenger
- NOES: None
- ABSTAIN: None
- ABSENT: Anslem

ACTION ITEMS

9. Groundwater Sustainability Plan Implementation

a. Discuss and Take Appropriate Action on Data Management System Update Options

Mr. Van Lienden provided a brief overview of the potential Data Management System (DMS) updates.

Director Wooster asked for the addition of a form for community members to provide comments and questions that will prompt technical staff to review well data and/or work with the community to update the well OPTI data. Mr. Van Lienden responded that it would be possible to develop a form to allow people to submit questions or comments.

Director Albano asked about the costs of DMS maintenance and updates. Mr. Van Lienden responded that there will be cost savings due to more efficient well reporting.

SAC Member Robbie Jaffe provided the SAC report on this item, which is included in the Board packet.

Chair Bantilan opened the floor for public comment.

Stakeholder Jim Wegis commented that GPS locations do not correspond with the map. Mr. Van Lienden responded that data was collected from a variety of sources and coordinates were collected from well data.

Chair Bantilan closed the floor for public comment.

MOTION

Director Das Williams made a motion to approve the DMS updates. The motion was seconded by Director Albano. A roll call vote was made and passed.

AYES: Albano, Bantilan, Burnes, Jackson, Reely, Williams (Das), Williams (Debby), Wooster, Yurosek, Zenger

NOES: None

ABSTAIN: None

ABSENT: Anslem

10. Groundwater Sustainability Plan Amendment Components

a. Update on GSP Component Schedule

Mr. Blakslee provided an update on the Groundwater Sustainability Plan (GSP) component schedule and noted that minor changes to the schedule. He added that the project is still on schedule, but any potential changes or delays to the schedule may result in requiring additional special meetings.

There were no public comments on this item.

b. Review and Take Appropriate Action on CMA Operational Boundary

Mr. Beck briefly reviewed the updated Central Management Area (CMA) boundary approved by the Board in July 2024 and provided an overview of the updated CMA Operational Boundary with existing farming units.

Mr. Van Lienden provided an overview of the technical issue of the fault line that was included in the model. Mr. Beck added that CBGSA is looking for direction from the Board on whether to include the yellow area (Jim Wegis’s property) in the CMA.

Director Reely asked if groundwater level (GWL) data does not support the modeling data, then what data is used as an accurate depiction. Mr. Van Lienden responded that the GWL measurement differences between the Technical Support Services (TSS) wells and the north wells indicate a different hydrologic regime in that area surrounding the fault.

Director Jackson asked for more information on the two-foot boundary.

Mr. Van Lienden responded that the model uses the current land use to project GWL changes over a projected 50-year period. The updated model included newer data and additional information, such as the Airborne Electromagnetic (AEM) data, more accurate

pumping well locations and quantities, which caused a shift in the CMA boundary.

Chair Bantilan asked if the yellow area (Jim Wegis's property) is removed, should the areas south of the theoretical fault line be removed as well. Mr. Van Lienden responded that further investigation should determine how far east the fault line goes, but there is a significant change in GWL between the MW-H and the TSS well that indicates that a fault may be in the vicinity.

Director Wooster commented that Jim Wegis's irrigation well is 106 feet depth to water and there is well data nearby that has a groundwater elevation 74 feet higher now than in 1955. She noted that this is the area that is being considered for inclusion in the CMA.

SAC Member Robbie Jaffe provided the SAC report for this agenda item.

Chair Bantilan opened the floor for public comment.

Stakeholder Wegis commented on he is confused with the proposed boundary change to the southeastern zone of the CMA, the yellow area near the Ventucopa Area. He said all groundwater elevations, well depths, and depths to water in the proposed area to be added to the CMA are in the same realm as those in the Ventucopa Management area as currently defined by the GSA. He said they have no correlation at all with the wells and the southwest portion of the central management in Group. There is no current monitoring wells information posted on the DMS site South of well 91 on Foothill Rd. Well 91 is 3.43 miles northwest of the proposed southern boundary of the CMA. In this 3.43 miles lies the Santa Barbara Canyon Fault. The GSA has drilled 1 monitoring well in the area, the MWH well and it's depth to water is 610 feet. This well was completed in the spring of 2024. It's location is approximately 3/4 of a mile north of the proposed southern boundary of the CMA. When I say the southern boundary, that's a yellow dotted line, not does not include the farming units. In the spring of 2022, the GSA drilled well 905 on our property. It is located on the proposed southern boundary line of the CMA. The most current information on the DMS site for well 905 is from April 2024, the groundwater elevation was 2568.5 feet and the water was 111.7 feet. On the same date, Well 91 on Foothill Road, the GWE groundwater elevation was 1813 feet and depth to water was 667.34 feet. The difference between these two locations was dramatic. The groundwater elevation of Will 905 was 755.5 feet higher then that of, well 91. That's 5.97 times less in well 91 than it is in, well 905. Well 40 is 1/4 mile northwest of well 905. It's still being used today and has data from July 1952 to August 2012. In 1952, the groundwater elevation was 2578.4 feet. In 2012, it was 2573.5 feet, 60 years and it had gone down 4.9 feet or less than one inch per year. The closest current monitoring well to the South of well 905 is well 101. In April of 2024, the groundwater elevation was 2658.49 feet and the depth to water was 87.29 feet. This was 90 feet higher in groundwater elevation and 24 feet shallower in depth to water than well 905, than in well 101. Well 101 is 0.92 miles southeast of Well 905. My irrigation well 0.75 miles from miles South East of well 905 and a 0.25 mile to the northwest of well 101. The August 21, 2024 test of Well 1 showed a depth to water was 106 feet, which is 5.7 feet shallower than will 905. 170 yards east of well, 905 is an old monitoring well, number 277 that has records from 1955 through 1968. In 1955, the groundwater elevation was 2585 feet and depth to water was 125.1 feet. This was 69 years ago and their current

groundwater elevation is 17 feet lower today than it was in 1955. This is an annual decrease of three inches per year. That 69 years of GSA records and they much say this area is sustainable as currently being used. These are the reasons why I feel the new CMA southern boundary is not justified.

Stakeholder Ray Shady asked if the red dotted line is from the United States Geological Survey (USGS) and if the model used the line as shown in the presentation. Mr. Van Lienden responded that the fault line was included in the model, as shown in the presentation.

Stakeholder Shady commented he still feels the model is incomplete and was disappointed that a previous resistivity study didn't have information on the fault line.

Stakeholder Brenton Kelly thanked Jim Wegis for being on the ground and providing technical justification.

Mr. Beck commented that there is a variance process to be considered, which allows landowners to present concerns or questions with the CMA boundary.

Director Wooster commented on the shift of the CMA boundary to the east. Wells on the western side, that were not in the CMA last year but are included now, have gone up 25 to 30 feet in elevation since 2017.

Director Das Williams commented that this agenda item is to determine whether or not to keep the land in the CMA boundary and what are the options for other people near that area. Mr. Blakslee responded that CBGSA staff is presenting an option to exclude an area from the CMA based on the model uncertainty north of the Santa Barbara Canyon Fault line and said the allocation variance process will provide people with an opportunity to address this with staff and the Board.

Director Yurosek commented that he does not support adjusting the CMA and would like to have a management plan for the entire basin.

Chair Bantilan commented that it makes sense to use the CMA boundary as provided by the model. He added the fault location is not correct, but the model is the best available data. He commented that he is in favor of not including the area, following the technical.

Director Das Williams commented that it would be easier to adjudicate the area north of the yellow boundary rather than go through the variance process.

Director Albano commented that it is important to think about the hydrologic regime in this area. He said the science has been clear on the CMA boundary, but in this case the data is telling a difference story. CBGSA staff has provided the arguments and reasons to exclude the highlighted areas and the Board should follow their recommendations.

Mr. Beck responded that there is a different hydrologic regime and somewhere between the two wells, the CMA boundary should be drawn. He said the goal is to manage the area

creating the most significant overdraft and noted the CBGSA should manage a contiguous hydrologic regime and not potential two different hydrologic regimes.

Director Zenger recommended keeping the boundary line as-is and allow a variance process, allowing an equal opportunity for those landowners, to present their testimony.

MOTION

Director Wooster made a motion to adopt the new CMA operational boundary excluding the yellow parcels as presented and recommended by Woodard & Curran. The motion was seconded by Director Das Williams and the motion passed with a 64.45%.

AYES: Albano, Bantilan, Burnes, Reely, Williams, Williams, Wooster
 NOES: Jackson, Yurosek, Zenger
 ABSTAIN: None
 ABSENT: Anslem

c. Discuss and Take Appropriate Action on Groundwater Allocation Program

i. Discuss and Take Appropriate Action on Frequency and Extent of Changes to Groundwater Allocations

Mr. Beck reviewed the previous Board action to consider groundwater allocations and the application of those outside the CMA plus farming units at a future date. He provided an overview of frequency and extent changes to groundwater allocations and reviewed the potential quantitative and qualitative options.

Director Albano asked about the previous Board discussion on Ventucopa area and how previous Board direction on management areas relates to this item. Mr. Beck responded that this item considers the structure that triggers allocations in the current Ventucopa area and other potential management areas.

Mr. Beck responded that CBGSA staff are looking for a policy to include in the GSP to determine when additional management areas should be considered.

Director Yurosek commented all areas in the basin should be evaluated in the same manner.

Director Albano commented there is one area with the two-foot overdraft area that corresponds to chronic declines in GWL that is not seen in other areas of the valley.

SAC Member Jaffe provided the SAC report on this item.

There were no public comments on this item.

Director Jackson commented the need for allocations outside the CMA should be considered and referenced in the Annual Report and look at the entire basin and said he is in favor of a model update every few years.

Director Wooster commented that the Board should consider including on a future agenda whether the CBGSA should require all irrigated pumpers to report GWL. She commented there are irrigated pumpers who are not currently reporting their groundwater levels, and until the board gets that information, the CBGSA does not have a real clear idea of what is happening in the basin. She commented on a model versus actual reported information, and how the CBGSA should work towards creating a 3D database of what is actually happening in the basin, rather than just relying on the model.

Mr. Van Lienden responded that staff can work towards getting more comprehensive database of pumping, groundwater levels, and what’s happening in the basin.

Director Wooster asked if CBGSA staff can work towards creating 3D database of what is happening in the basin.

Mr. Beck responded that real world data to calibrate and adjust models. He noted the modeling becomes a function of cost and time to improve the model calibration

Director Wooster commented that actual data should be used to compare to the model data, including a separate database of the actual information, not to calibrate the model with it, but to compare the model to the real world data.

MOTION

Director Jackson made a motion to approve qualitative assessment of groundwater allocations should be considered outside the CMA to be performed during each annual report. The motion was seconded by Director Debbie Williams and the motion passed with a 82.22%.

AYES: Albano, Bantilan, Burnes, Jackson, Reely, Williams, Williams, Wooster, Zenger

NOES: Yurosek

ABSTAIN: None

ABSENT: Anslem

ii. Discuss and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations

Mr. Blakslee provided an overview of the two options for a groundwater allocation implementation schedule. He reported that staff recommends following the expanded schedule which includes a farming unit application and variance process that aligns with Board meeting.

Director Reely asked about the disadvantages of option 2 and who it impacts. Mr. Blakslee responded that the allocations would not be provided until 2025, which will have largest impact on the landowners.

Director Albano asked about the second variance if needed. Mr. Blakslee responded that a notice would be sent to landowners and there is an application window. The second variance is for clarification needed based on the first variance with landowners.

SAC Member Jaffe provided a SAC report on this item, which is included in the packet.

Stakeholder David Lewis commented that the human impact of changes has not been discussed when reviewing these options.

Stakeholder Ann Myhre commented she would like to see this process move forward earlier in the year, when perennial crops are more forgiving.

Director Albano asked if the GSP draft is not passed, then how will items be reviewed.

Mr. Blakslee responded that allocations could be a maximum of five years without changing the model. The expanded schedule only includes an initial variance process, but an annual variance process should be discussed if there is Board interest.

Director Albano commented should be some kind of policy or open-door process for landowners to be able to request variances, even if it's not a formal annual variance process. Mr. Blakslee responded that additional variance processes would take more staff time, but it provides more flexibility for landowners.

Chair Bantian asked if picking variance requests is problematic.

Legal Counsel Dominguez responded that the variance process must be open to everyone. A landowner is not prohibited from approaching the board if data is conflicting and can make the request to the Board. The variance is guiding staff for the next five years and there may be cases that arise. If anomalies arise, then CBGSA will bring it to the Board's attention. He also added that landowners can bring concerns to the board or staff whenever, and there does not need to be a policy for that.

Director Jackson asked if the previous variance was extended and asked why a landowner would need two variance processes.

Director Zenger asked at which board meeting the variance requests would be reviewed. Mr. Blakslee responded that in timeline option two variance requests would be considered by the Board in January 2025. The Board would provide direction on which variance requests will be included or not, and then the Board would assess whether a second variance process is needed.

Mr. Blakslee reported that during the first variance process, one landowner identified an issue with the model which impacted the total allocations. He noted a second variance process was included to review updates of the changes to the allocations.

Chair Bantilan asked if a variance ad hoc would be appointed during the November board meeting. CBGSA Staff collectively agreed that variance ad hoc should be appointed in November.

MOTION

Director Albano made a motion to approve all components of option 2. The motion was seconded by Director Das Williams and the motion passed with a 82.22%.

AYES:	Albano, Bantilan, Burnes, Reely, Williams, Williams, Yurosek, Wooster, Zenger
NOES:	Jackson
ABSTAIN:	None
ABSENT:	Anslern

iii. Discuss and Take Appropriate Action on Baseline Options

Mr. Beck reviewed the groundwater allocation baseline options and the initial amounts used for allocations in 2023 and 2024.

Mr. Van Lienden provided an overview of the baseline options and added the estimates will be adjusted once farming units are approved.

SAC Member Jaffe provided the SAC report on this item, which is included in the Board packet.

Stakeholder Matt Vickery commented in favor of keeping the baseline where it is currently at (option 3). He said new landowners will be subject to the cutbacks and there may be more immediate harm on new landowners. He commented that if one of the lower options is moved forward, then the glidepath will be accelerated and landowners will have to reduce by an amount greater than what was originally intended by the Board.

Director Debbie Williams asked why the 2021 updated pumping estimate would not be used since the estimated amount is most closely related to the reported pumping.

Director Albano commented that the numerator and denominator should use consistent data from the new model or old model.

Director Yurosek commented that the purpose of glidepath is to determine baseline and sustainable yield for the basin. Moving the baseline is not as critical as insuring the sustainable yield is correct. There is significant impacts on the

landowner and growers. He is in favor of leaving the estimate where it is out.

Director Jackson commented that the difference between the new and old pumping estimate baseline causes a five to six thousand acre-feet difference in Grimmway. He is in favor of keeping baseline at old baseline (option 3).

Director Zenger commented that she agrees with Mr. Vickery's comment. It will be difficult to measure progress if the model is updated. She is in favor of option 3.

Director Wooster commented if the old model pumping estimate. If the baseline is dropped, it is going to hurt landowners with permanent crops. She is in favor of option 3.

Director Das Williams expressed concern with using option 3, when CBGSA staff had reported the data is bad. There is no evidence that supports option 3.

Director Albano commented in agreement with Das William's comment. He asked what baseline would be used if a baseline is needed for areas not in the CMA.

Director Yurosek commented to get to sustainable yield by the end point and the purpose of the GSP is to get to the sustainable yield over time.

Director Burnes commented that the guiding principle is the glidepath.

Director Wooster commented that the sustainable yield is the most important number to be evaluated.

Chair Bantilan asked given that the basin is using less, it seems few people will take a reduction in use.

Director Das Williams asked what the cumulative reduction has been in the past two years. Mr. Blakslee responded ten percent. Director Das Williams responded that the glidepath has not started.

Director Burnes commented that the baseline doesn't matter but is the glidepath still accurate.

Director Das Williams responded that the more the numbers are spread out over the years, there is more time to reduce.

Director Yurosek commented that the glidepath was agreed on and the end point is not. The baseline should not be adjusted after three years otherwise there are greater cutbacks in a few years.

Director Wooster commented that the sustainable yield should be discussed. Landowners are not using as much water, but they are cutting back on the acreage irrigated. Need to determine if model toward sustainability is accurate and

determine sustainable yield.

Mr. Blakslee commented that there was updated sustainable yield for the basin, middle range (16,500 AF) and for the CMA + farming units was 11,500 AF. The previous sustainable yield for basin (20,000 AF) and previous yield for CMA + farming unit was 5,000. There was board consensus using the updated model average of 11,500 AF.

Director Albano commented that / expressed concern that there will be no reduction in water use if the old model estimate is used. It will be 8-10 years until the allocation will be less than what has been pumping.

Director Jackson commented the glidepath will be steeper if the baseline is changed. He is in favor of keeping the current baseline option, option 3.

Chair Bantilan commented that by starting with a higher baseline value will be harder farmers later during the allocation period, but using 30,000 AF will impact farmers more initially.

Mr. Beck showed a graph of the various baseline options, highlighting differences in allocations reductions between each option.

Director Yurosek commented he would be interested in hearing from a landowner who had to reduce groundwater. Stakeholder Matt Vickery commented that the cuts are noticeable and real for Grimmway.

Director Burnes commented that the glidepath is important and permanent growers will need more time to plan. He said the CMA is already impacting growers and there are already behavior changes in the basin, including cutting down on acreage.

Director Anslum commented it does not make sense to have a baseline significantly higher than reported pumping. He asked about the impacts of the glidepath on the available storage and rate of pumping. Mr. Beck responded that the all baseline options end at the sustainable yield, but the difference is the potential for additional water to be extracted during this period.

Director Debbie Williams commented the basin is pumping less than the baseline so there shouldn't be an impact on landowners with changes to the baseline.

Director Das Williams commented if people are making cuts, but as an CMA there are not large reductions, then another possibility is that there is underreporting. He added the impacts on storage could be the end of some wells.

Director Wooster commented that there is a large difference in year one starting point.

Director Albano commented that farming and irrigation strategies in the basin have changed and become more efficient. The CMA has been pumping unconstrained and if cuts must be made then it should reflect the real world.

Director Burnes expressed concern in doing math and glidepath calculations on the fly. Staff should have provided formalized analysis.

Director Albano asked how difficult it would be to provide allocation options.

Mr. Blakslee recommended get farming units applications, update sustainable yield, and look at allocations and baseline options. The GSP does not have specific details about the baseline options.

Mr. Van Lienden added that allocation tables could be provided.

Director Reely asked if a new baseline is adopted then allocations for 23/24 would be different than the options.

Mr. Blakslee responded the allocations are for 2025.

Director Reely commented that the commented the model estimate is impressively close reported pumping for 2022 and 2023, which are far from the 50,600 AF option.

MOTION

Director Zenger made a motion to use baseline option 3, the old model pumping estimate for 2021. The motion was seconded by Director Jackson and the motion did not pass with 31%

- AYES: Burnes, Jackson, Zenger, Yurosek
- NOES: Albano, Anselm, Bantilan, Reely, Williams, Williams
- ABSTAIN: Wooster
- ABSENT: None

Director Burnes commented that the board should think about growers in the CMA.

Director Albano commented in favor of option 9.

Director Zenger commented that if staff provides allocation options in November then it impacts the allocation timeline.

Mr. Blakslee commented that asking staff to provide more information at the next board meeting will not impact the implementation schedule previously approved.

Director Wooster commented that if using the new model number, then allocations will change. Mr. Van Lienden responded that the updated ET factors

and the percentage by parcel will be multiplied by allocations in total.

Director Albano asked what baseline would be used if additional areas were added to allocations.

Chair Bantilan commented that he would like to see 2022 data with allocations and reported pumping.

MOTION

Director Albano made a motion to have three options presented at the November Board meeting with the pumping allocations and 2022 reported pumping. The motion was seconded by Director Debbie Williams.

Amended MOTION

Director Albano amended his motion to have options 3, 4, 9, and 10 presented in a table at the November Board meeting with the pumping allocations and 2022 reported pumping. The motion was seconded by Director Burnes and the motion passed with 69%.

AYES: Albano, Anselm, Bantilan, Burnes, Reely, Williams, Williams
 NOES: Jackson, Wooster, Yurosek, Zenger
 ABSTAIN: None
 ABSENT: None

d. Review Public Comments on Amended GSP

Ms. Bianchi briefly reviewed the public comment response matrix that was included in the Board packet, which matrix includes a staff response for each comment.

There were no public comments on this item.

e. Discuss and Take Appropriate Action on Amended GSP

Mr. Beck briefly reviewed the status of the GSP draft chapters. the redlined chapters

MOTION

Director Das Williams made a motion to start the 30-day public review period. The motion was seconded by Director Debbie Williams and the motion passed with a 93% vote.

AYES: Albano, Anselm, Bantilan, Burnes, Reely, Williams, Williams, Wooster, Yurosek, Zenger
 NOES: None
 ABSTAIN: None
 ABSENT: None

REPORT ITEMS

11. Administrative Updates

a. Report of the Executive Director

Nothing to report.

b. Report of the General Counsel

Nothing to report.

12. Technical Updates**a. Update on Groundwater Sustainability Plan Activities**

Mr. Van Lienden briefly mentioned accomplishments for June and July 2024, which is provided in the Board packet.

b. Update on Grant-Funded Projects

Mr. Van Lienden briefly provided an update on grant-funded projects, which is provided in the Board packet.

c. Update on Quarterly Groundwater Conditions Report

Mr. Van Lienden briefly reviewed the July Groundwater Conditions Report, which is provided in the Board packet.

13. Report of Ad Hoc Committees

Nothing to report.

14. Directors' Forum

Nothing to report.

15. Public comment for Items Not on the Agenda

Stakeholder Ann Myhre commented that there are not members excluded from the closed session and she was wondering if there are members excluded. Legal Counsel Dominguez responded that there are no members excluded from closed session.

16. Correspondence

Mr. Blakslee responded two correspondences were sent to stakeholders, one on September 4 and the second on September 5.

CLOSED SESSION**17. Closed Session**

At 6:30 PM, the Board adjourned to closed session. At 6:54 PM, the Board returned from closed session at which time Legal Counsel reported to the public that there was no reportable action.

18. Adjourn

Chair Bantilan adjourned the meeting at 6:54 PM.

BOARD OF DIRECTORS OF THE
CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

Chair: _____

ATTEST:

Secretary: _____

DRAFT



TO: Board of Directors
Agenda Item No. 7

FROM: Taylor Blakslee, Hallmark Group

DATE: November 6, 2024

SUBJECT: Approve Payment of Bills for August and September 2024

Recommended Motion

Approve payment of the bills for August and September 2024 in the amount of \$780,874.

Discussion

Consultant invoices for the months of August and September 2024 are summarized below for consideration of Board approval.

Expense	August	September	Totals
Woodard & Curran – Technical Services	\$192,779	\$94,428	\$287,207
Hallmark – Executive Director services	\$27,681	\$22,505	\$50,186
P&P – Quarterly Groundwater levels	\$5,076	\$1,459	\$6,535
Klein – Legal services	\$25,498	\$19,241	\$44,739
U.S. Geological Survey – stream gauges	\$0	\$13,150	\$13,150
Daniells Phillips Vaughan & Bock – Audit services	\$5,000	\$2,000	\$7,000
BC2 – Monitoring wells	\$339,953	\$32,104	\$372,057
TOTALS	\$595,987	\$184,887	\$780,874



TO: Board of Directors
Agenda Item No. 8

FROM: Taylor Blakslee, Hallmark Group

DATE: November 6, 2024

SUBJECT: Approve Financial Reports for August and September 2024

Recommended Motion

Approve financial reports for August and September 2024.

Discussion

The Cuyama Basin Groundwater Sustainability Agency's financial report for August 2024 is provided as Attachment 1 and the financial report for September 2024 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
- 2023/2024 Operating Budget



Cuyama Basin GSA

Financial Statements

August 2024

CUYAMA BASIN GSA
Statement of Financial Position
As of August 31, 2024

	Aug 31, 24	Aug 31, 23	\$ Change	% Change
ASSETS				
Current Assets				
Checking/Savings				
Chase - General Checking	80,029	1,996,878	-1,916,850	-96%
Total Checking/Savings	80,029	1,996,878	-1,916,850	-96%
Accounts Receivable				
Accounts Receivable	4,033,481	737,372	3,296,110	447%
Total Accounts Receivable	4,033,481	737,372	3,296,110	447%
Total Current Assets	4,113,510	2,734,250	1,379,260	50%
TOTAL ASSETS	4,113,510	2,734,250	1,379,260	50%
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
Accounts Payable	2,480,276	423,506	2,056,770	486%
Total Accounts Payable	2,480,276	423,506	2,056,770	486%
Other Current Liabilities				
New/Repl Well Deposits	3,100	1,559	1,541	99%
Total Other Current Liabilities	3,100	1,559	1,541	99%
Total Current Liabilities	2,483,376	425,065	2,058,311	484%
Total Liabilities	2,483,376	425,065	2,058,311	484%
Equity				
Unrestricted Net Assets	2,527,541	2,080,948	446,593	22%
Net Income	-897,407	228,237	-1,125,644	-493%
Total Equity	1,630,134	2,309,185	-679,051	-29%
TOTAL LIABILITIES & EQUITY	4,113,510	2,734,250	1,379,260	50%

CUYAMA BASIN GSA
Receipts and Disbursements
As of August 31, 2024

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:Highland Vineyard SB, LLC	9,160.00	
Payment	07/10/2024	525138	Groundwater Extraction Fees:E & B Natural Resources M...	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		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	
Total Chase - General Checking				130,045.09	237,303.32
TOTAL				130,045.09	237,303.32

**CUYAMA BASIN GSA
A/R Aging Summary
As of August 31, 2024**

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
Department of Water Resources	0	0	0	1,490,690	2,116,327	3,607,017
Groundwater Extraction Fees						
Adam Family	0	0	0	2	0	2
Duncan Family Farms	0	0	0	424,909	0	424,909
Cuyama Dairy Farm	0	0	0	115	1,154	1,269
Lear Real Estate Ent LLC	0	0	0	284	0	284
Total Groundwater Extraction Fees	0	0	0	425,311	1,154	426,464
TOTAL	0	0	0	1,916,001	2,117,481	4,033,481

**CUYAMA BASIN GSA
A/P Aging Summary
As of August 31, 2024**

	<u>Current</u>	<u>1 - 30</u>	<u>31 - 60</u>	<u>61 - 90</u>	<u>> 90</u>	<u>TOTAL</u>
BC2 Environmental	339,953	85,968	0	367,652	229,887	1,023,459
Daniells Phillips Vaughan & Bock	5,000	0	0	0	0	5,000
HGCPM, Inc.	27,681	0	49,247	12,378	40,490	129,796
Klein DeNatale Goldner	25,498	0	13,867	13,592	31,524	84,480
Provost & Pritchard Consulting Group	5,076	0	6,933	0	11,646	23,655
U.S. Geological Survey	0	0	0	13,150	0	13,150
Woodard & Curran Inc	192,779	0	323,697	221,986	462,274	1,200,736
TOTAL	<u>595,987</u>	<u>85,968</u>	<u>393,744</u>	<u>628,757</u>	<u>775,821</u>	<u>2,480,276</u>

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

	Jul - Aug 24	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
Direct Public Funds				
Groundwater Extraction Fees	171,177	175,000	-3,823	98%
GWE Late Fees	604	0	604	100%
Total Direct Public Funds	171,781	175,000	-3,219	98%
Total Income	171,781	175,000	-3,219	98%
Cost of Goods Sold				
Program Expenses				
Technical Consulting				
Monitoring Network Enhancements	469,715	271,589	198,127	173%
GSP Implementation - W&C	23,890	35,870	-11,980	67%
Stakeholder Engagement	63,345	44,450	18,895	143%
Technical Support for DWR	0	3,500	-3,500	0%
Outreach	5,985	7,622	-1,637	79%
Grant Proposals	0	7,350	-7,350	0%
Grant Administration	29,778	26,250	3,528	113%
Improve Basin Water Use Info	11,770	12,600	-830	93%
Project & Mgmt Action Impl	45,084	22,400	22,684	201%
5 Year GSP Update - Technical	199,720	185,000	14,720	108%
Fault Investigation	92,788	121,867	-29,080	76%
Well Permit Review - Technical	0	2,100	-2,100	0%
GSP Development	0	7,000	-7,000	0%
Total Technical Consulting	942,074	747,598	194,477	126%
Other Technical Consulting				
Monitoring Network	12,009	11,340	669	106%
Total Other Technical Consulting	12,009	11,340	669	106%
Total Program Expenses	954,083	758,938	195,146	126%
Total COGS	954,083	758,938	195,146	126%
Gross Profit	-782,302	-583,938	-198,364	134%
Expense				
General and Administrative				
Executive Director				
Board Meetings	39,406	40,000	-594	99%
Consult Mgmt and GSP Devel	10,044	12,268	-2,224	82%
Financial Information Coord	13,681	7,927	5,754	173%
Funding - GWE Fees	1,806	1,800	6	100%
Outreach	8,219	1,977	6,242	416%
Adjudication Support	1,825	358	1,467	510%
Management Area Admin	0	2,165	-2,165	0%
5-Year GSP Update - Admin	0	3,351	-3,351	0%
Water Use Enforcement	88	4,240	-4,153	2%
Well Permit Review - Admin	0	330	-330	0%
Travel and Direct Costs	977	814	163	120%
Total Executive Director	76,046	75,230	816	101%
Other Administrative				
Legal	32,235	41,670	-9,435	77%
Audit Fees	5,000	1,000	4,000	500%
Printing and Copying	90	0	90	100%
Other Admin Expense	1,191	0	1,191	100%
Postage	543	0	543	100%
Contingency	0	3,330	-3,330	0%
Total Other Administrative	39,059	46,000	-6,941	85%
Total General and Administrative	115,105	121,230	-6,125	95%
Total Expense	115,105	121,230	-6,125	95%
Net Ordinary Income	-897,407	-705,168	-192,240	127%
Net Income	-897,407	-705,168	-192,240	127%

CUYAMA BASIN GSA
FY 24/25 Budget
 July 2024 - June 2025

	Jul '24 - Jun 25
Ordinary Income/Expense	
Income	
Direct Public Funds	
Groundwater Extraction Fees	175,000
Grant Reimbursements	1,670,000
Total Direct Public Funds	1,845,000
Total Income	1,845,000
Cost of Goods Sold	
Program Expenses	
Technical Consulting	
Monitoring Network Enhancements	497,383
GSP Implementation - W&C	215,250
Stakeholder Engagement	114,450
Technical Support for DWR	21,000
Outreach	30,410
Grant Proposals	44,100
Grant Administration	105,000
Improve Basin Water Use Info	75,600
Project & Mgmt Action Impl	134,400
5 Year GSP Update - Technical	309,802
Fault Investigation	121,867
Well Permit Review - Technical	12,600
GSP Development	42,000
Total Technical Consulting	1,723,862
Other Technical Consulting	
Monitoring Network	68,000
Stream Gauge Maintenance	56,650
Total Other Technical Consulting	124,650
Total Program Expenses	1,848,512
Total COGS	1,848,512
Gross Profit	-3,512
Expense	
General and Administrative	
Executive Director	
Board Meetings	110,990
Consult Mgmt and GSP Devel	73,578
Financial Information Coor	47,587
Funding - GWE Fees	5,830
Outreach	11,847
Adjudication Support	2,138
Management Area Admin	13,005
5-Year GSP Update - Admin	20,131
Water Use Enforcement	25,400
Well Permit Review - Admin	2,000
Travel and Direct Costs	4,894
Total Executive Director	317,400
Other Administrative	
Legal	250,000
Insurance Policies	17,000
Audit Fees	10,000
Printing and Copying	4,000
Other Admin Expense	200
Contingency	20,000
Total Other Administrative	301,200
Total General and Administrative	618,600
Total Expense	618,600
Net Ordinary Income	-622,112
Net Income	-622,112

Note: The FY24/25 Budget Includes Woodard & Curran Contract Amendments 1 and 2



Cuyama Basin GSA

Financial Statements September 2024

CUYAMA BASIN GSA
Statement of Financial Position
As of September 30, 2024

	Sep 30, 24	Sep 30, 23	\$ Change	% Change
ASSETS				
Current Assets				
Checking/Savings				
Chase - General Checking	612,727	1,705,968	-1,093,241	-64%
Total Checking/Savings	612,727	1,705,968	-1,093,241	-64%
Accounts Receivable				
Accounts Receivable	4,590,783	1,182,525	3,408,258	288%
Total Accounts Receivable	4,590,783	1,182,525	3,408,258	288%
Total Current Assets	5,203,510	2,888,493	2,315,017	80%
TOTAL ASSETS	5,203,510	2,888,493	2,315,017	80%
LIABILITIES & EQUITY				
Liabilities				
Current Liabilities				
Accounts Payable				
Accounts Payable	2,665,162	320,322	2,344,841	732%
Total Accounts Payable	2,665,162	320,322	2,344,841	732%
Other Current Liabilities				
New/Repl Well Deposits	3,100	1,559	1,541	99%
Total Other Current Liabilities	3,100	1,559	1,541	99%
Total Current Liabilities	2,668,262	321,880	2,346,382	729%
Total Liabilities	2,668,262	321,880	2,346,382	729%
Equity				
Unrestricted Net Assets	2,527,541	2,080,948	446,593	22%
Net Income	7,706	485,664	-477,958	-98%
Total Equity	2,535,247	2,566,613	-31,365	-1%
TOTAL LIABILITIES & EQUITY	5,203,510	2,888,493	2,315,017	80%

CUYAMA BASIN GSA
Receipts and Disbursements
As of September 30, 2024

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	120.35	
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:Highland Vineyard SB, LLC	9,160.00	
Payment	07/10/2024	525138	Groundwater Extraction Fees:E & B Natural Resources M...	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		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	
Total Chase - General Checking				662,743.72	237,303.32
TOTAL				662,743.72	237,303.32

**CUYAMA BASIN GSA
A/R Aging Summary
As of September 30, 2024**

	Current	1 - 30	31 - 60	61 - 90	> 90	TOTAL
Department of Water Resources	1,090,000	A	0	0	0	3,075,872
Groundwater Extraction Fees						
Adam Family	0	0	0	0	2	2
Duncan Family Farms	0	0	0	0	424,909	424,909
Total Groundwater Extraction Fees	0	0	0	0	424,911	424,911
TOTAL	1,090,000	0	0	0	3,500,783	4,590,783

A - Accrual Estimate

**CUYAMA BASIN GSA
A/P Aging Summary
As of September 30, 2024**

	<u>Current</u>	<u>1 - 30</u>	<u>31 - 60</u>	<u>61 - 90</u>	<u>> 90</u>	<u>TOTAL</u>
BC2 Environmental	32,104	339,953	85,968	0	597,539	1,055,563
Daniells Phillips Vaughan & Bock	2,000	5,000	0	0	0	7,000
HGCPM, Inc.	22,505	27,681	0	49,247	52,868	152,300
Klein DeNatale Goldner	19,241	25,498	0	13,867	45,116	103,722
Provost & Pritchard Consulting Group	1,459	5,076	0	6,933	11,646	25,114
U.S. Geological Survey	13,150	0	0	0	13,150	26,300
Woodard & Curran Inc	94,428	192,779	0	323,697	684,260	1,295,164
TOTAL	<u>184,887</u>	<u>595,987</u>	<u>85,968</u>	<u>393,744</u>	<u>1,404,578</u>	<u>2,665,162</u>

CUYAMA BASIN GSA

Statement of Operations with Budget Variance

July through September 2024

	Jul - Sep 24	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
Direct Public Funds				
Groundwater Extraction Fees	171,177	175,000	-3,823	98%
Grant Reimbursements	1,090,000	621,000	469,000	176%
GWE Late Fees	604	0	604	100%
Total Direct Public Funds	1,261,781	796,000	465,781	159%
Total Income	1,261,781	796,000	465,781	159%
Cost of Goods Sold				
Program Expenses				
Technical Consulting				
Monitoring Network Enhancements	515,893	407,383	108,510	127%
GSP Implementation - W&C	29,044	53,808	-24,764	54%
Stakeholder Engagement	77,717	51,450	26,267	151%
Technical Support for DWR	0	5,250	-5,250	0%
Outreach	7,035	11,432	-4,397	62%
Grant Proposals	0	11,025	-11,025	0%
Grant Administration	36,840	26,250	10,590	140%
Improve Basin Water Use Info	13,545	18,900	-5,355	72%
Project & Mgmt Action Impl	49,181	33,600	15,581	146%
5 Year GSP Update - Technical	234,419	260,000	-25,581	90%
Fault Investigation	104,933	121,867	-16,935	86%
Well Permit Review - Technical	0	3,150	-3,150	0%
GSP Development	0	10,500	-10,500	0%
Total Technical Consulting	1,068,606	1,014,615	53,991	105%
Other Technical Consulting				
Monitoring Network	13,468	17,006	-3,538	79%
Stream Gauge Maintenance	13,150	14,161	-1,011	93%
Total Other Technical Consulting	26,618	31,167	-4,549	85%
Total Program Expenses	1,095,224	1,045,782	49,442	105%
Total COGS	1,095,224	1,045,782	49,442	105%
Gross Profit	166,557	-249,782	416,339	-67%
Expense				
General and Administrative				
Executive Director				
Board Meetings	47,750	40,000	7,750	119%
Consult Mgmt and GSP Devel	15,425	18,399	-2,974	84%
Financial Information Coor	17,531	11,893	5,638	147%
Funding - GWE Fees	1,956	1,800	156	109%
Outreach	9,275	2,964	6,311	313%
Adjudication Support	1,825	536	1,289	340%
Management Area Admin	2,531	3,249	-718	78%
5-Year GSP Update - Admin	0	5,029	-5,029	0%
Water Use Enforcement	88	6,360	-6,273	1%
Well Permit Review - Admin	0	497	-497	0%
Travel and Direct Costs	1,158	1,222	-64	95%
Total Executive Director	97,540	91,949	5,591	106%

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

	Jul - Sep 24	Budget	\$ Over Budget	% of Budget
Other Administrative				
Legal	51,098	62,503	-11,406	82%
Audit Fees	7,000	7,000	0	100%
Printing and Copying	901	0	901	100%
Other Admin Expense	1,771	0	1,771	100%
Postage	543	0	543	100%
Contingency	0	4,997	-4,997	0%
Total Other Administrative	<u>61,312</u>	<u>74,500</u>	<u>-13,188</u>	<u>82%</u>
Total General and Administrative	<u>158,851</u>	<u>166,449</u>	<u>-7,598</u>	<u>95%</u>
Total Expense	<u>158,851</u>	<u>166,449</u>	<u>-7,598</u>	<u>95%</u>
Net Ordinary Income	<u>7,706</u>	<u>-416,231</u>	<u>423,937</u>	<u>-2%</u>
Net Income	<u><u>7,706</u></u>	<u><u>-416,231</u></u>	<u><u>423,937</u></u>	<u><u>-2%</u></u>

CUYAMA BASIN GSA
FY 24/25 Budget
 July 2024 - June 2025

	Jul '24 - Jun 25
Ordinary Income/Expense	
Income	
Direct Public Funds	
Groundwater Extraction Fees	175,000
Grant Reimbursements	1,670,000
Total Direct Public Funds	1,845,000
Total Income	1,845,000
Cost of Goods Sold	
Program Expenses	
Technical Consulting	
Monitoring Network Enhancements	497,383
GSP Implementation - W&C	215,250
Stakeholder Engagement	114,450
Technical Support for DWR	21,000
Outreach	30,410
Grant Proposals	44,100
Grant Administration	105,000
Improve Basin Water Use Info	75,600
Project & Mgmt Action Impl	134,400
5 Year GSP Update - Technical	309,802
Fault Investigation	121,867
Well Permit Review - Technical	12,600
GSP Development	42,000
Total Technical Consulting	1,723,862
Other Technical Consulting	
Monitoring Network	68,000
Stream Gauge Maintenance	56,650
Total Other Technical Consulting	124,650
Total Program Expenses	1,848,512
Total COGS	1,848,512
Gross Profit	-3,512
Expense	
General and Administrative	
Executive Director	
Board Meetings	110,990
Consult Mgmt and GSP Devel	73,578
Financial Information Coor	47,587
Funding - GWE Fees	5,830
Outreach	11,847
Adjudication Support	2,138
Management Area Admin	13,005
5-Year GSP Update - Admin	20,131
Water Use Enforcement	25,400
Well Permit Review - Admin	2,000
Travel and Direct Costs	4,894
Total Executive Director	317,400
Other Administrative	
Legal	250,000
Insurance Policies	17,000
Audit Fees	10,000
Printing and Copying	4,000
Other Admin Expense	200
Contingency	20,000
Total Other Administrative	301,200
Total General and Administrative	618,600
Total Expense	618,600
Net Ordinary Income	-622,112
Net Income	-622,112

Note: The FY24/25 Budget Includes Woodard & Curran Contract Amendments 1 and 2



TO: Board of Directors
Agenda Item No. 9

FROM: Taylor Blakslee, Hallmark Group

DATE: November 6, 2024

SUBJECT: Approval of 2025 Meeting Schedule

Recommended Motion

Approve the 2025 Groundwater Sustainability Agency Board of Directors and Standing Advisory Committee meetings schedule.

Discussion

The proposed Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board of Directors and Standing Advisory Committee (SAC) meeting calendar for 2025 is provided as Attachment 1 for consideration of approval.

Agenda Item No. 9

Cuyama Basin Groundwater Sustainability Agency

2025 Meeting Calendar

BOD SAC Holiday

January 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

February 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

March 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December 2025						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



TO: Board of Directors
Agenda Item No. 10a

FROM: Taylor Blakslee / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Discuss and Take Appropriate Action on CIMIS Station Implementation Policies

Recommended Motion

Board of Directors feedback requested.

Discussion

The Cuyama Basin Groundwater Sustainability Agency (CBGSA) grant-funded projects include funding for California Irrigation Management Information System (CIMIS) weather stations, to improve estimates of reference evapotranspiration in the model and expand spatial coverage of reference evapotranspiration (ET) across the basin.

Several policy issues related to the CIMIS stations implementation are outlined in Attachment 1, which includes a recommendation from the CIMIS Station Board Ad hoc (Directors Bantilan, Burnes, and Wooster). Board feedback is requested on these policy options.

Cuyama Basin Groundwater Sustainability Agency

10a. Discuss and Take Appropriate Action on CIMIS Station
Implementation Policies

Jim Beck / Brian Van Lienden

November 6, 2024



Proposed, New, Grant-Funded CIMIS Stations

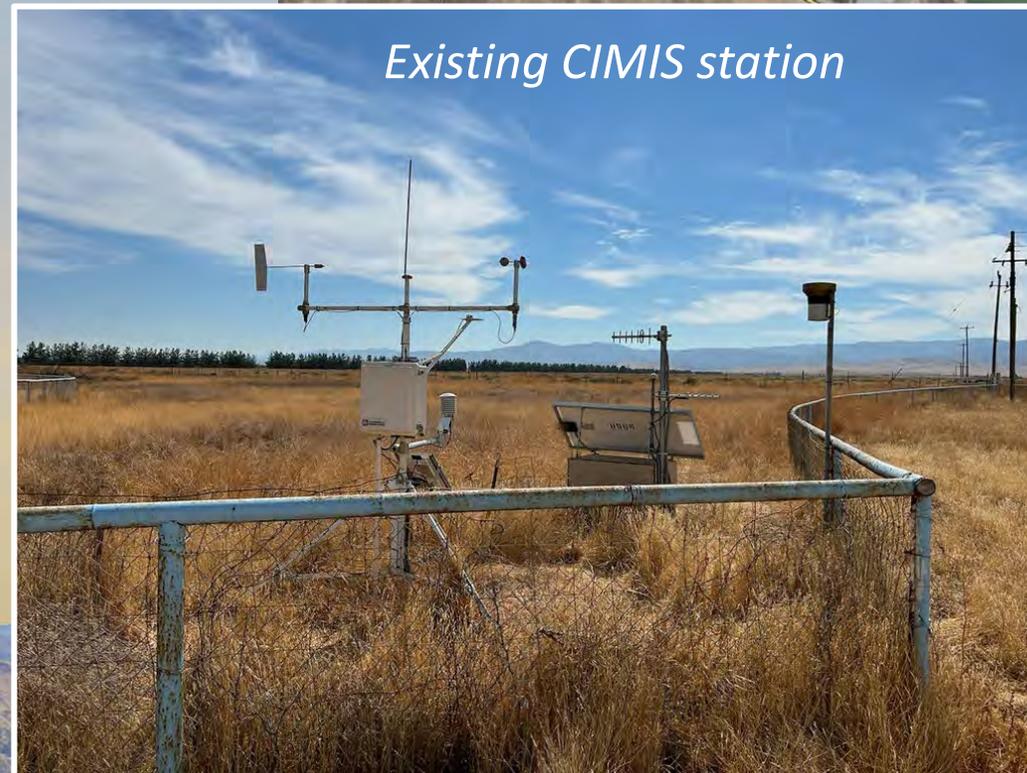


DWR CIMIS Station Requirements

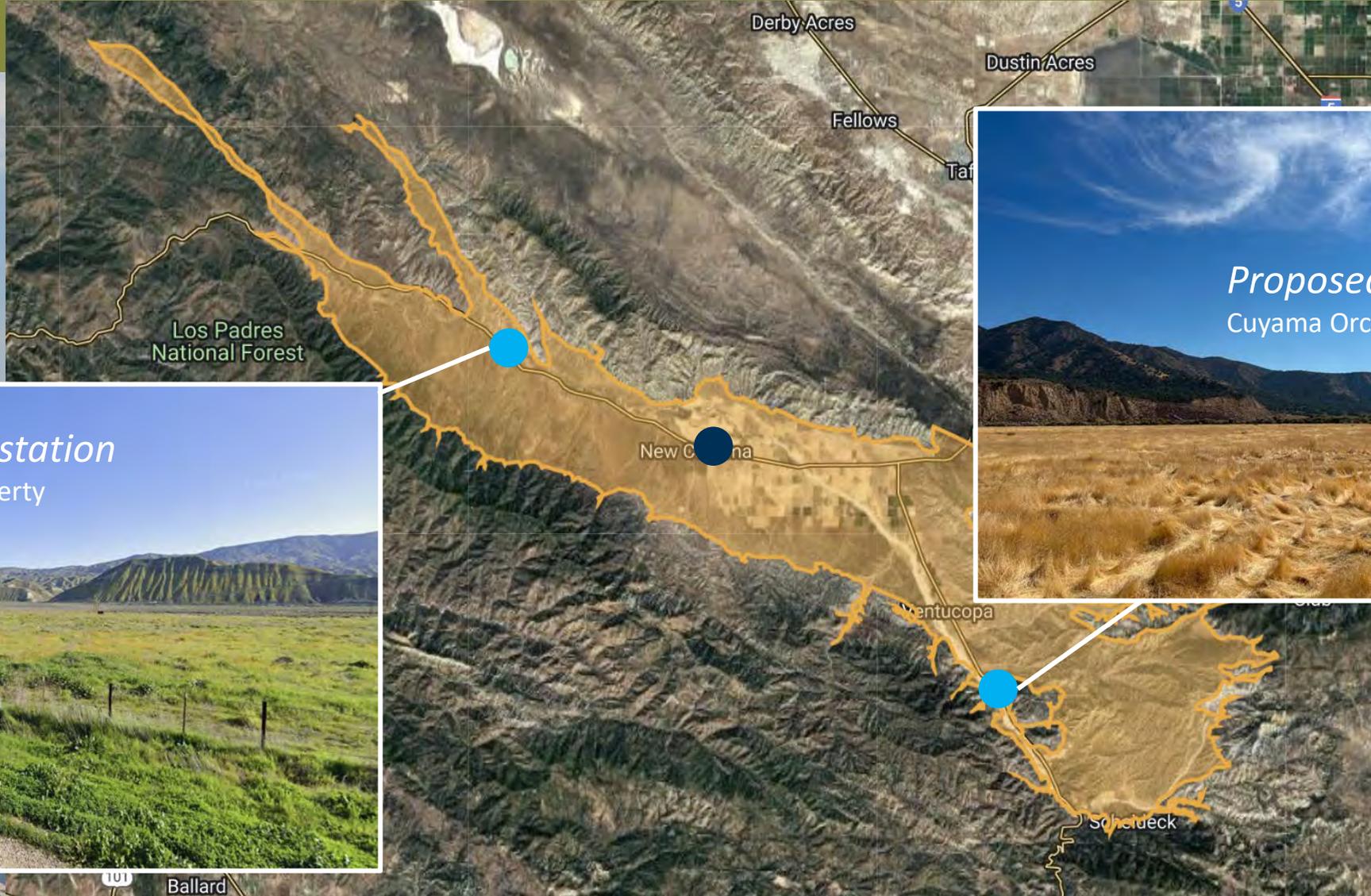
1. Maintain irrigated, green vegetation in a 300-foot radius area around CIMIS station
2. Install meter to measure water irrigating field
3. Keep vegetation mowed to 4-6-inches, no higher than knee height (requires mowing every couple months)
4. Keep vegetation clear directly under stations (periodic weed eating)
5. Local cooperator required to visit site monthly and perform routine maintenance and minimal calibration
6. Agreement with involved parties (landowner, GSA, DWR)
7. DWR staff will visit 2-4 times per year for more involved maintenance and calibration

Issue with Existing Station

- Vegetation not being maintained, does not provide accurate reference ETo
- Station ownership being established
- Likely to be decommissioned by DWR
- Currently, have not successfully identified a willing landowner for a replacement site in the central portion of the basin



Potential Sites for New, Grant-Funded Stations



Proposed CIMIS station
Cuyama Orchards Property



Proposed CIMIS station
Grapevine Capital Property

Financial Considerations

- Who covers the below costs? The landowner or the GSA?
 1. **Initial set up costs**
 - a. Installing irrigation system (trenching, PVC, sprinklers, etc.)
 - b. Installing flow meter
 - c. Running electrical to CIMIS station
 - d. ~\$15-20k per landowner; grant may be able to cover these costs
 2. **Ongoing O&M costs**
 - a. Energy costs to irrigate 300-foot radius field
 - b. Mowing to maintain 4-6" height of vegetation
 - c. 1) Time for monthly "local cooperators" duties (sensor cleaning, simple calibration, checking station, etc.), 2) hand-held tools (hand-held calibration device, standard tools)
 - d. Cost estimate to be provided by landowner
- ***The Ad hoc recommended the GSA fund initial and O&M costs related to CIMIS station installation.***

Water Use Implications

- Should the landowner be exempt from groundwater extraction fees as reported by a meter?
- Should any water use for the CIMIS station be excluded from any calculations related to potential groundwater allocations?
- ***The Ad hoc recommended a GSA “yes” answer to the above two questions.***

Agreements

- Equipment is owned by the GSA, but installed by DWR
- DWR requires an agreement with the landowner and the GSA
 - Can include landowner access requirements
 - Mutual indemnification
 - 5-year land commitment, but landowner can have station removed within 30 days of request
- Landowner recommends a maintenance contract with the GSA with the ability to direct bill for set up and O&M costs
 - Does the Board agree with this approach?
 - ***The Ad hoc recommended moving forward with a maintenance contract with the landowner***



TO: Board of Directors
Agenda Item No. 11a

FROM: Jim Beck / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Update on GSP Components Schedule

Recommended Motion

None – information only.

Discussion

On July 12, 2023, the Cuyama Basin Groundwater Sustainability Agency Board of Directors reviewed and approved a schedule for updating the Groundwater Sustainability Plan (GSP) ahead of the January 2025 deadline and that schedule is provided as Attachment 1 for reference.

GSP Update and Board Policy Discussions Schedule

Updated/New Schedule

	2023			2024							2025
	1 July	2 Sep	3 Nov	4 Jan	5 Mar	6 May	7 Jul	8 Sep	9 Nov	10 Jan	
Board Direction:	<p>Finalize: Feedback on engagement strategy</p>	<p>Basin-wide pumping restrictions/Central Management Area (CMA) boundary</p> <p>Finalize: Groundwater (GW) levels & storage monitoring networks</p> <p>GW levels & storage sustainable management criteria (SMC) and undesirable results (UR) criteria options</p> <p>Allocation methodology</p>	<p>Finalize: Subsidence, Interconnected surface water (ISW), and water quality (WQ) monitoring networks</p> <p>GW subsidence ISW, and WQ SMC and UR options</p> <p>Glidepath methodology</p>	<p>Finalize: GW levels, storage, subsidence, ISW, WQ SMC and UR</p>	<p>Project and Management Action (PMA) options</p> <p>Sustainable yield (SY) methodology</p>	<p>Continued: PMA options</p> <p>Basin-wide pumping restrictions</p> <p>Allocation program</p> <p>----- Issue 90-Day Notice</p>	<p>Finalize: Basin-wide Pumping Restrictions/MA Boundary (updated model)</p> <p>Allocation methodology</p> <p>Glidepath methodology</p> <p>PMA options</p> <p>SY approach</p>	<p>Review Public draft</p>	<p>**Public Hearing to adopt amended GSP</p>	<p>Submit revised GSP and periodic evaluation to DWR</p>	
GSP Chapter Review:				<p>Ch 1. Agency Info/Plan Area</p> <p>Ch 4. Monitoring Network</p>		<p>Ch 3. URs</p> <p>Ch 5. SMCs</p>	<p>Ch 2. Basin Setting</p> <p>Ch 6. DMS</p>	<p>Ch 7. PMAs</p> <p>Ch 8. Plan Implementation Executive Summary</p>			
Public Workshop		✓					✓	✓			



TO: Board of Directors
Agenda Item No. 11bi

FROM: Jim Beck / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Discuss and Take Appropriate Action on Farm Unit Policy

Recommended Motion

Board of Directors feedback requested.

Discussion

During the Farm Unit application process, a landowner asked what happens if a leased parcel is included in a farm unit, but the lease ends in the middle of the GSA groundwater allocation implementation period and the lessee chooses not to renew their lease.

Attachment 1 outlines several options for the Board's consideration to address this issue.

Cuyama Basin Groundwater Sustainability Agency

11bi. Farm Unit Implementation Policy Issue
Jim Beck / Brian Van Lienden

November 6, 2024



Farm Unit Issue

- During the Farm Unit application process, a landowner asked what happens if a leased parcel is included in a farm unit, but the lease ends in the middle of the GSA groundwater allocation implementation period and the lessee chooses not to renew their lease?

Potential Options

- Below are several **draft options** for the Board to consider to deal with the issue of a lessee not renewing their lease that is part of a Farm Unit and impacts to groundwater allocations:
 1. Do not allow any changes to the Management Area (including Farm Unit) boundary until the next model update.
 2. Remove farm unit parcels from the Management Area, but do not adjust the allocation amounts for any other parcel.
 3. Remove farm unit parcels from the Management Area and readjust the entire Management Area allocations.

Option No. 1

- Do not allow any changes to the allocations in the Management Area (including Farm Units) boundary until the next model update.

Conceptual Example:



 Farm Units Parcels Subject to Allocations
 Operational CMA Boundary

Option No. 2

- Remove farm unit parcels from the Management Area, but do not adjust the allocation amounts for any other parcel.
- This option may be appropriate if this issue impacts a small number of farm unit acres.

Conceptual Example:

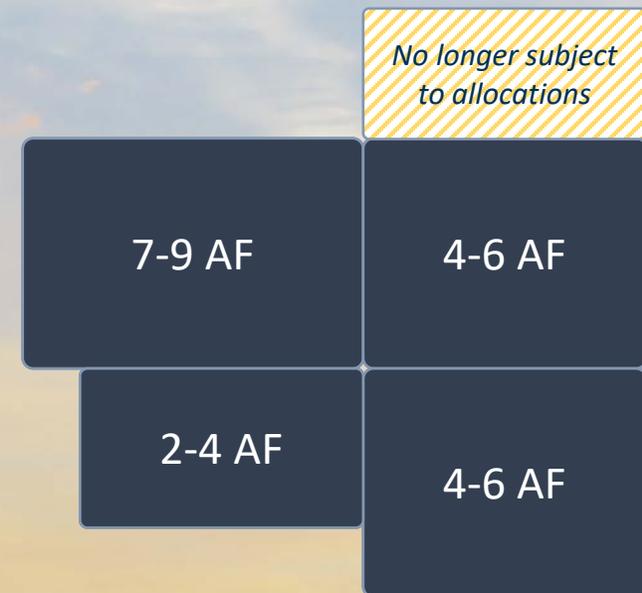


 Farm Units Parcels Subject to Allocations
 Operational CMA Boundary

Option No. 3

- Remove farm unit parcels from the Management Area and readjust the entire Management Area allocations.
- This option may be appropriate if this issue impacts a large number of farm unit acres.

Conceptual Example:



- Farm Units Parcels Subject to Allocations
- Operational CMA Boundary



TO: Board of Directors
Agenda Item No. 11bii

FROM: Jim Beck / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Discuss and Take Appropriate Action on Baseline Options and Implementation of 2025-2029 Groundwater Allocations

Recommended Motion

Select baseline option ___ to develop the 2025-2029 CMA plus farming unit groundwater allocations.

Discussion

On September 4, 2024, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board discussed different groundwater allocation baseline options and directed staff to develop and present baseline options 3, 4, 9, and 10 using actual allocations, including 2022 reported pumping, for review at the November 6, 2024, Board meeting.

A presentation describing the baseline options and a brief overview of the groundwater allocation program is provided as Attachment 1, and the baseline option tables are provided as Attachment 2.

On September 4, 2024, the CBGSA Board approved the 2025-2029 groundwater allocation implementation schedule (provided as Attachment 3). According to the schedule, draft allocations will be distributed, and a variance process will be initiated.

Staff is seeking Board feedback on the selection of a baseline option to finalize draft allocations.

Cuyama Basin Groundwater Sustainability Agency

11bii. Discuss and Take Appropriate Action on Baseline Options and Implementation of 2025-2029 Groundwater Allocations

Jim Beck / Brian Van Lienden

October 31, 2024



Central Management Area Baseline Options

Jim Beck

- **Board direction:** Present baseline options 3, 4, 9, and 10 using actual allocations, including 2022 reported pumping, for review at the November Board meeting.

Single Year Baseline Options					
No.	Pumping Year	Estimate Method	Pumping Average(AF)	Hydrology Year Type	Irrigated Acreage
3	2021	Old Model	50,600	Critically dry year	n/a
4		Updated Model	31,100		12,000

Multi-Year Baseline Options				
No.	Multi-year Periods	Estimate Method	Pumping Average (AF)	Irrigated Acreage Average
9	1998-2017	Updated Model	39,400	n/a
10	1998-2023	Updated Model	37,500	n/a

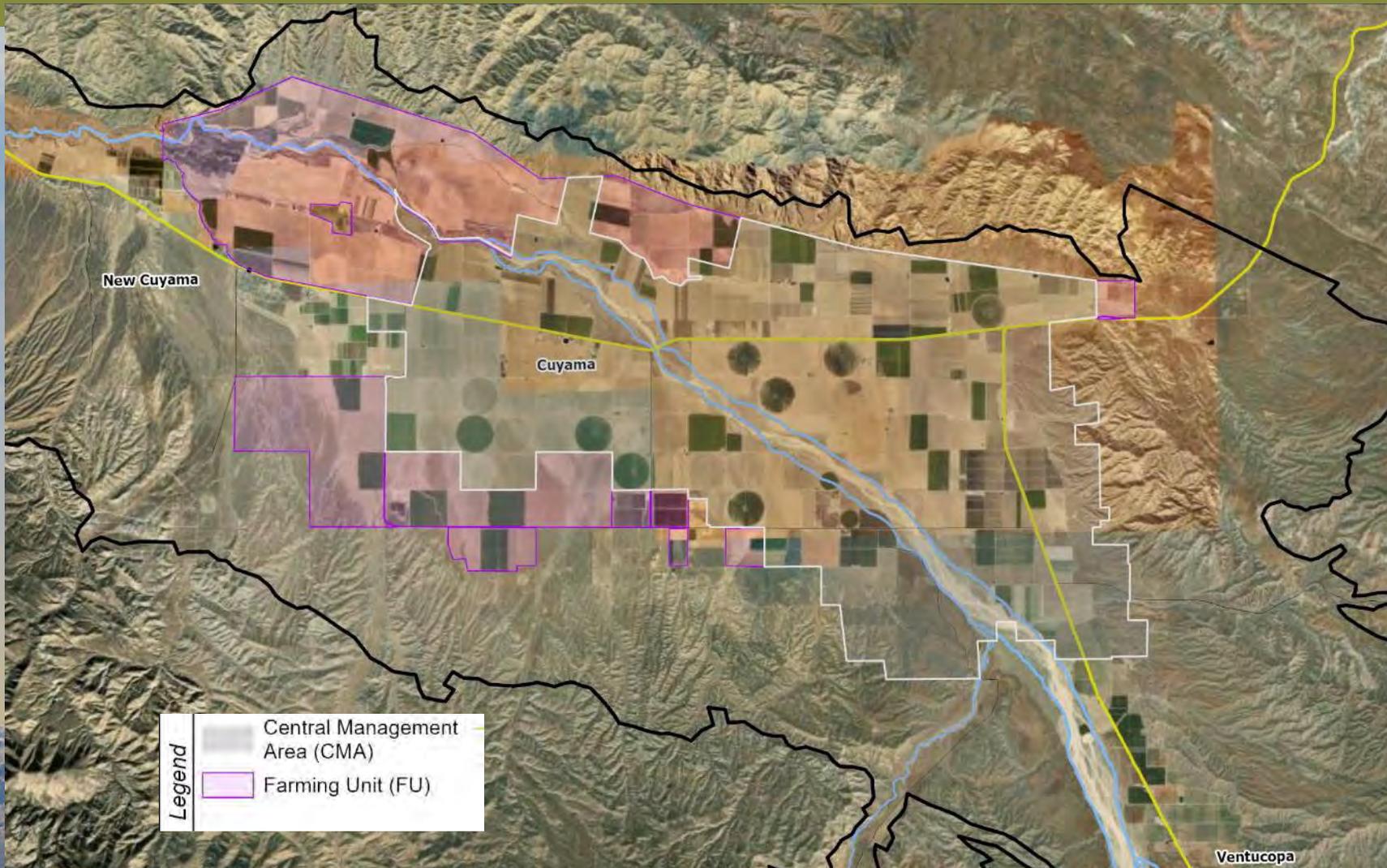
- Pumping allocations for 2025-2029 estimated using the above Baseline numbers for each of these options are shown in the attached tables

Pumping Allocation Tables for each Central Management Area Baseline Option

Brian Van Lienden

- **All numbers used to develop allocations for each Option are the same except for the Baseline value (pumping estimate) shown in the previous slide**
- Total CMA + farming unit allowable pumping for each year is based on the glide path applied between the assumed Baseline and the sustainable yield
- The proportion of the total CMA + farming units allowable pumping is distributed to each parcel in proportion to the average 1998-2017 applied water use for each parcel (as estimated by the updated model)
- Pumping allocations are updated relative to previous allocations due to the following changes resulting from using the updated model:
 - Updated Central Management Area plus farming unit area
 - Updated model water use estimates for historical (1998-2023) period:
 - Revised evapotranspiration estimates to better match reported 2022-2023 pumping
 - Revised land use with updated data and to better identify irrigated versus non-irrigated land areas

Model Estimates for Baseline options were updated to reflect updated Farming Unit area

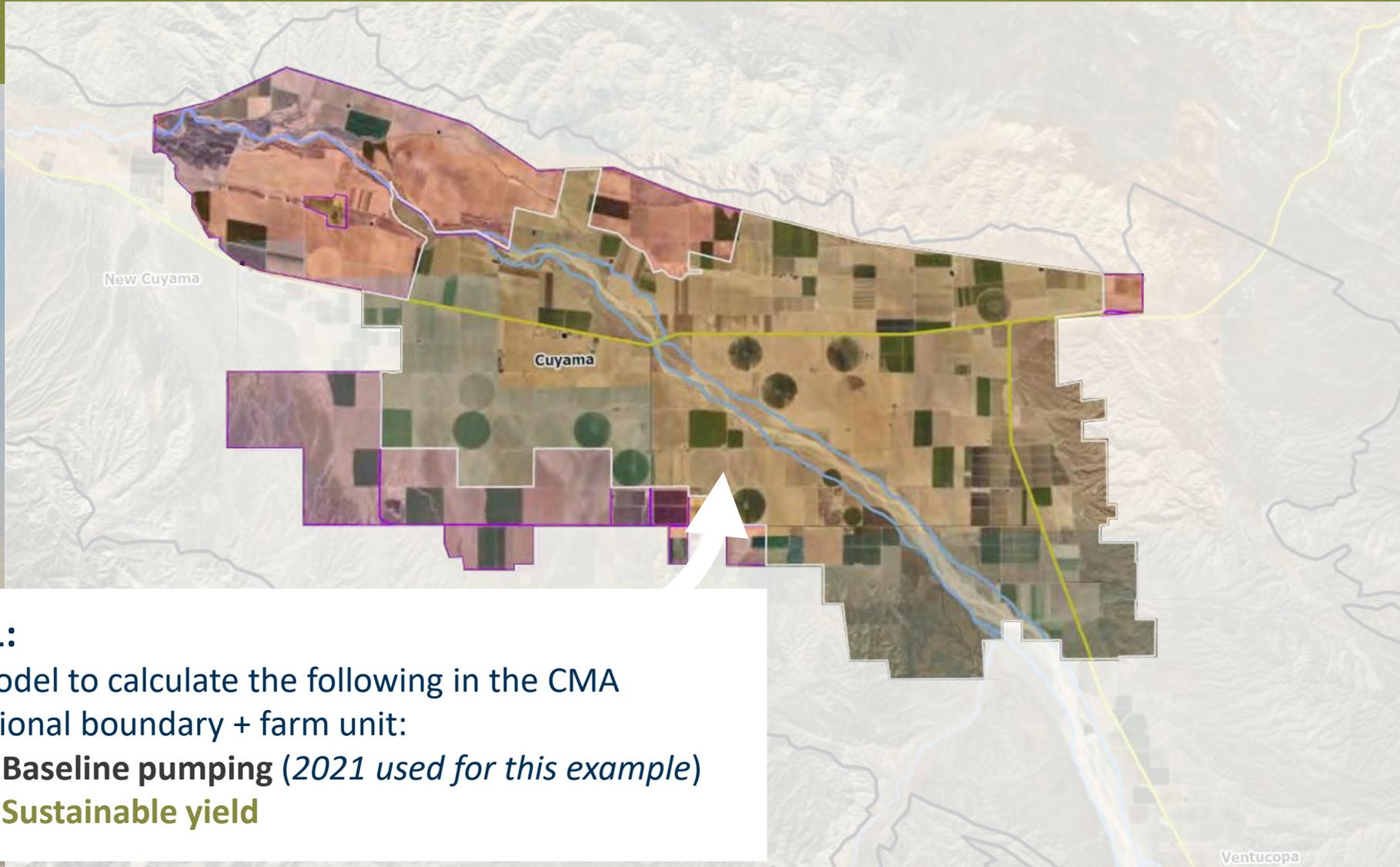


- Four (4) farming unit applications were received
- Baseline and sustainable yield estimates for CMA + farming unit area were updated to reflect the updated area

Overview of Groundwater Allocation Program Structure

- Staff has developed an overview of the allocation program that outlines the below steps on the following slides:
 - **Step 1:** Determine the **baseline pumping** and **sustainable yield** in the CMA operational + farm unit boundary.
 - **Step 2:** Calculate the **pumping reduction required**.
 - **Step 3:** Apply **glidepath** to the **pumping reduction required** to determine **maximum annual pumping** each year.
 - **Step 4:** Allocate **maximum annual pumping** to each landowner in the CMA operational boundary + farm unit area based on average historic water use for the 1998-2017 period.

Step 1 – Establishing Groundwater Allocations

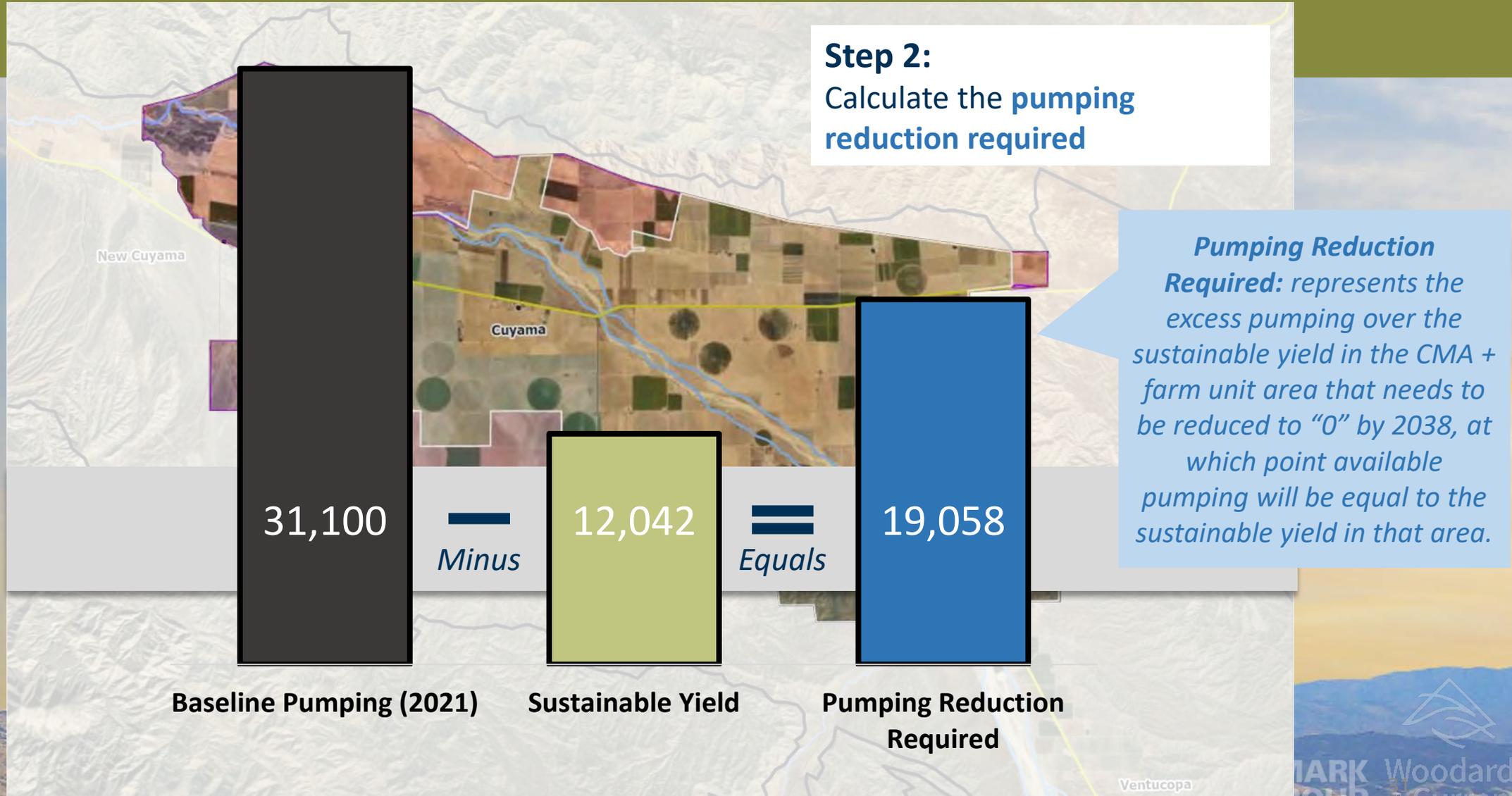


Step 1:

Use model to calculate the following in the CMA operational boundary + farm unit:

1. **Baseline pumping** (2021 used for this example)
2. **Sustainable yield**

Step 2 – Establishing Groundwater Allocations



Step 3 – Establishing Groundwater Allocations

A	B	C	D	E	F	G
Year	Puming Reduction Required	X Glidepath	= Reduce Each Year	Baseline Pumping (2021)	- Cumulative Amt to Reduce Each Year	= Maximum Annual Pumping
2023	19,058	5%	953	31,100	953	30,147
2024	19,058	5%	953	31,100	1,906	29,194
2025	19,058	6.5%	1,239	31,100	3,145	27,955
2026	19,058	6.5%	1,239	31,100	4,383	26,717
2027	19,058	6.5%	1,239	31,100	5,622	25,478
2028	19,058	6.5%	1,239	31,100	6,861	24,239
2029	19,058	6.5%	1,239	31,100	8,100	23,000
2030	19,058	6.5%	1,239	31,100	9,338	21,762
2031	19,058	6.5%	1,239	31,100	10,577	20,523
2032	19,058	6.5%	1,239	31,100	11,816	19,284
2033	19,058	6.5%	1,239	31,100	13,055	18,045
2034	19,058	6.5%	1,239	31,100	14,294	16,807
2035	19,058	6.5%	1,239	31,100	15,532	15,568
2036	19,058	6.5%	1,239	31,100	16,771	14,329
2037	19,058	6.5%	1,239	31,100	18,010	13,090
2038	19,058	5.5%	1,048	31,100	19,058	12,042

Example of allocation to landowners on next slide...

Step 3:
Apply **glidepath** to the **pumping reduction required** to determine **maximum annual pumping** each year

Sustainable yield

Step 4 – Establishing Groundwater Allocations

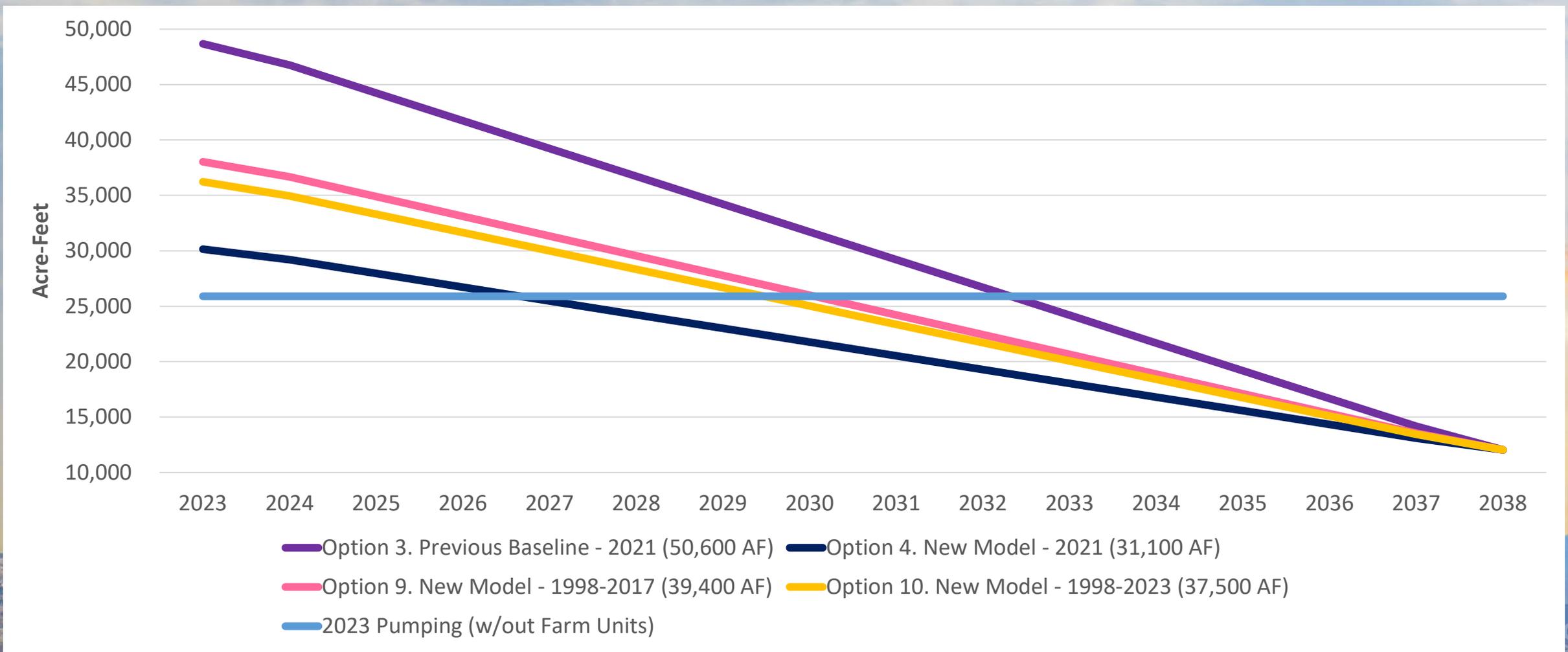
Step 4:

Allocate **maximum annual pumping** to each landowner in the CMA operational boundary + farm unit area based on average historic water use for the 1998-2017 period.

Conceptual example:

A	B																				C	D	E	F	
	Modeled Pumping (Acre-feet)																								Average AF (1998-2017)
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017					
Landowner 1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	21%	27,955	5,815
Landowner 2	5	5	500	500	500	100	100	500	500	500	500	500	500	200	200	100	50	5	5	5	264	55%	27,955	15,337	
Landowner 3	250	100	50	20	5	5	5	5	5	5	5	5	5	5	20	100	250	500	500	500	117	24%	27,955	6,804	
																					481	100%		27,955	

Baseline Option Groundwater Storage Impacts



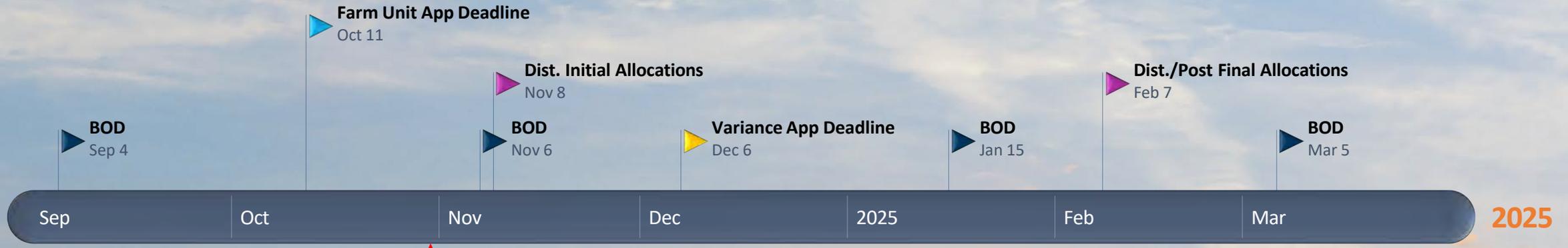
Recommendation

- **Does the Board have a recommendation on selecting a baseline pumping option?**
 - Option 3: 2021, Old model – 50,600 AF
 - Option 4: 2021, New model – 31,100 AF
 - Option 9: 1998-2017, New Model – 39,400 AF
 - Option 10, 1998-2023, New Model – 37,500 AF

									Option 3 - Old Model - 2021 (50,600 AF)						
<i>Maximum Annual Pumping (af)--></i>									44,254	41,746	39,239	36,731	34,223		
Grouping	Subgroup/ Farming Unit Components	Portion of Allocation (2025-2029)	Total Reported Pumping for 2022	Total Reported Pumping for 2023	Pumping Allocation for 2023	Pumping Allocation for 2024	Acres Included in 2023-2024 CMA + Farming Unit	Acres Included in 2025-2029 CMA + Farming Unit	Estimated Pumping Allocation for 2025	Estimated Pumping Allocation for 2026	Estimated Pumping Allocation for 2027	Estimated Pumping Allocation for 2028	Estimated Pumping Allocation for 2029		
			Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre	Acre	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet		
1	2961 Highway LLC	n/a	1.82%	n/a	n/a	831.73	798.34	468.0	468.0	805.64	759.99	714.34	668.69	623.04	
2	Ann Buck	n/a	0.32%	127.39	104.40	123.55	118.59	40.0	40.0	142.26	134.20	126.14	118.08	110.02	
3	CCSH Farms, Doug Slumskie	n/a	0.31%	127.39	99.40	120.21	115.38	40.0	40.0	137.81	130.00	122.19	114.38	106.58	
4	David Lewis	n/a	0.04%	30.19	34.01	n/a	n/a	85.1	85.1	16.78	15.83	14.88	13.93	12.98	
5	Duncan Family Farms, LLC/Aguila G B	n/a	0.43%	18.00	115.62	1,365.17	1,310.36	930.9	132.2	189.04	178.33	167.62	156.91	146.20	
Total Grimmway			38.72%							17,134.90	16,164.00	15,193.09	14,222.19	13,251.28	
6	Grimmway Enterprises, Inc	Caliente Ranch Cuyama	3.93%							1,738.25	1,639.75	1,541.26	1,442.77	1,344.27	
		Diamond Farming Co	8.51%	17,213.27	12,251.88	18,745.29	17,992.71	13,474.0	13,474.0	3,764.65	3,551.33	3,338.02	3,124.70	2,911.39	
		Lapis Land Company	10.47%							4,632.81	4,370.30	4,107.80	3,845.29	3,582.78	
		Ruby Land Company	15.82%							6,999.20	6,602.61	6,206.02	5,809.43	5,412.83	
7	Harrington Family Trust	n/a	0.05%	n/a	n/a	n/a	n/a	-	151.5	20.57	19.40	18.24	17.07	15.91	
8	Hoekstra Family Trust	n/a	1.00%	632.04	230.73	239.07	229.47	158.0	460.4	441.34	416.33	391.32	366.32	341.31	
9	JHP Global/Joo Capital	n/a	1.54%	347.02	365.28	172.13	165.22	176.8	892.3	682.07	643.42	604.77	566.13	527.48	
Total Kern Ridge Growers			5.67%							2,510.48	2,368.23	2,225.98	2,083.73	1,941.48	
10	Kern Ridge Growers, LLC	Daria Trust	0.16%							69.23	65.31	61.38	57.46	53.54	
		Farry Michael	0.88%	3,033.23	2,673.37	905.53	869.17	510.9	1,909.1	389.06	367.01	344.97	322.92	300.88	
		Groetzing Eric/Pauline Rae	0.00%							-	-	-	-	-	
		Kern Ridge Growers LLC	4.64%							2,052.19	1,935.91	1,819.63	1,703.34	1,587.06	
Total Sunrise Olive Ranch			4.49%							1,986.50	1,873.94	1,761.38	1,648.82	1,536.26	
11	Sunrise Olive Ranch, LLC	Reinhard, Carl Jr. (et al)	0.05%	1,761.57	1,726.11	2,619.75	2,514.57	934.2	934.2	23.13	21.82	20.51	19.20	17.89	
		Sunrise Ranch Properties	4.44%							1,963.37	1,852.12	1,740.87	1,629.62	1,518.37	
12	Tri-County Pistachio	n/a	0.98%	1,876.00	1,118.00	n/a	n/a	-	192.0	433.32	408.76	384.21	359.66	335.11	
13	Triple H Farming, LLC, Jason, Roy, & R	n/a	0.32%	127.39	104.50	130.75	125.51	38.5	38.5	141.26	133.25	125.25	117.25	109.24	
Total Wm. Bolthouse Farms			44.09%							19,511.36	18,405.80	17,300.24	16,194.67	15,089.11	
14	Wm. Bolthouse Farms, Inc.	Belden Family	16.83%							7,447.93	7,025.91	6,603.89	6,181.88	5,759.86	
		Bolthouse Land Company	24.49%	12,395.29	8,490.94	23,065.45	22,139.43	13,495.2	13,495.2	10,838.75	10,224.60	9,610.45	8,996.30	8,382.15	
		Bolthouse Properties	1.15%							509.62	480.74	451.87	422.99	394.11	
		Cuyama Solar	0.29%							127.12	119.92	112.72	105.51	98.31	
		Lear Real Estate Enterprises	1.33%							587.94	554.63	521.31	488.00	454.69	
15	Other	n/a	0.23%	n/a	n/a	165.37	158.73	n/a	n/a	100.20	94.52	88.85	83.17	77.49	
				100.00%	37,688.77	27,314.24	48,484.00	46,537.48	30,351.60	32,312.51	44,253.54	41,746.02	39,238.50	36,730.99	34,223.47

Grouping	Option 4 - New Model - 2021 (31,100 AF)					Option 9 - New Model - 1998-2017 (39,400 AF)					Option 10 - New Model - 1998-2023 (37,500 AF)				
	27,952	26,714	25,475	24,237	22,998	34,927	33,145	31,364	29,582	27,801	33,305	31,650	29,995	28,339	26,684
	Estimated Pumping Allocation for 2025	Estimated Pumping Allocation for 2026	Estimated Pumping Allocation for 2027	Estimated Pumping Allocation for 2028	Estimated Pumping Allocation for 2029	Estimated Pumping Allocation for 2025	Estimated Pumping Allocation for 2026	Estimated Pumping Allocation for 2027	Estimated Pumping Allocation for 2028	Estimated Pumping Allocation for 2029	Estimated Pumping Allocation for 2025	Estimated Pumping Allocation for 2026	Estimated Pumping Allocation for 2027	Estimated Pumping Allocation for 2028	Estimated Pumping Allocation for 2029
	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet	Acre-feet
1 2961 Highway LLC	508.88	486.33	463.78	441.23	418.68	635.84	603.41	570.98	538.55	506.12	606.32	576.19	546.06	515.92	485.79
2 Ann Buck	89.86	85.87	81.89	77.91	73.93	112.28	106.55	100.82	95.10	89.37	107.06	101.74	96.42	91.10	85.78
3 CSH Farms, Doug Slumskie	87.05	83.19	79.33	75.48	71.62	108.76	103.22	97.67	92.12	86.57	103.72	98.56	93.41	88.25	83.10
4 David Lewis	10.60	10.13	9.66	9.19	8.72	13.25	12.57	11.90	11.22	10.54	12.63	12.00	11.38	10.75	10.12
5 Duncan Family Farms, LLC/Aguila G Bc	119.41	114.12	108.83	103.54	98.24	149.20	141.59	133.98	126.37	118.76	142.27	135.20	128.13	121.06	113.99
6 Grimmway Enterprises, Inc	10,823.10	10,343.53	9,863.96	9,384.39	8,904.82	13,523.51	12,833.73	12,143.95	11,454.17	10,764.39	12,895.68	12,254.77	11,613.87	10,972.96	10,332.05
	1,097.95	1,049.30	1,000.65	952.00	903.35	1,371.89	1,301.91	1,231.94	1,161.97	1,091.99	1,308.20	1,243.18	1,178.17	1,113.15	1,048.13
	2,377.90	2,272.54	2,167.17	2,061.81	1,956.45	2,971.20	2,819.65	2,668.10	2,516.55	2,365.00	2,833.26	2,692.45	2,551.64	2,410.83	2,270.02
	2,926.27	2,796.61	2,666.94	2,537.28	2,407.62	3,656.39	3,469.89	3,283.39	3,096.89	2,910.40	3,486.64	3,313.36	3,140.07	2,966.79	2,793.50
4,420.98	4,225.09	4,029.20	3,833.30	3,637.41	5,524.04	5,242.28	4,960.52	4,678.76	4,397.00	5,267.58	5,005.79	4,743.99	4,482.20	4,220.40	
7 Harrington Family Trust	12.99	12.42	11.84	11.26	10.69	16.23	15.41	14.58	13.75	12.92	15.48	14.71	13.94	13.17	12.40
8 Hoekstra Family Trust	278.77	266.41	254.06	241.71	229.36	348.32	330.55	312.79	295.02	277.25	332.15	315.64	299.13	282.63	266.12
9 JHP Global/Joo Capital	430.82	411.73	392.64	373.55	354.46	538.31	510.86	483.40	455.94	428.49	513.32	487.81	462.30	436.79	411.28
10 Kern Ridge Growers, LLC	1,585.72	1,515.46	1,445.19	1,374.93	1,304.67	1,981.36	1,880.30	1,779.24	1,678.18	1,577.12	1,889.38	1,795.48	1,701.58	1,607.68	1,513.77
	43.73	41.79	39.85	37.91	35.98	54.64	51.85	49.06	46.28	43.49	52.10	49.51	46.92	44.33	41.74
	245.74	234.86	223.97	213.08	202.19	307.06	291.40	275.74	260.07	244.41	292.80	278.25	263.70	249.15	234.60
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,296.25	1,238.81	1,181.37	1,123.94	1,066.50	1,619.67	1,537.05	1,454.44	1,371.83	1,289.22	1,544.47	1,467.71	1,390.95	1,314.20	1,237.44	
11 Sunrise Olive Ranch, LLC	1,254.75	1,199.16	1,143.56	1,087.96	1,032.36	1,567.82	1,487.85	1,407.89	1,327.92	1,247.95	1,495.04	1,420.73	1,346.43	1,272.13	1,197.83
14.61	13.96	13.31	12.67	12.02	18.25	17.32	16.39	15.46	14.53	17.41	16.54	15.68	14.81	13.95	
1,240.15	1,185.19	1,130.24	1,075.29	1,020.34	1,549.57	1,470.53	1,391.49	1,312.46	1,233.42	1,477.63	1,404.19	1,330.75	1,257.32	1,183.88	
12 Tri-County Pistachio	273.70	261.57	249.45	237.32	225.19	341.99	324.55	307.10	289.66	272.22	326.11	309.91	293.70	277.49	261.28
13 Triple H Farming, LLC, Jason, Roy, & R	89.22	85.27	81.32	77.36	73.41	111.49	105.80	100.11	94.43	88.74	106.31	101.03	95.74	90.46	85.18
14 Wm. Bolthouse Farms, Inc.	12,324.16	11,778.08	11,232.00	10,685.92	10,139.84	15,399.10	14,613.66	13,828.21	13,042.76	12,257.32	14,684.20	13,954.40	13,224.61	12,494.81	11,765.02
	4,704.41	4,495.96	4,287.51	4,079.06	3,870.61	5,878.19	5,578.37	5,278.54	4,978.72	4,678.90	5,605.29	5,326.71	5,048.13	4,769.55	4,490.97
	6,846.19	6,542.84	6,239.49	5,936.13	5,632.78	8,554.35	8,118.03	7,681.70	7,245.38	6,809.06	8,157.21	7,751.80	7,346.40	6,940.99	6,535.58
	321.90	307.63	293.37	279.11	264.84	402.21	381.70	361.18	340.66	320.15	383.54	364.48	345.41	326.35	307.29
	80.30	76.74	73.18	69.62	66.06	100.33	95.21	90.09	84.98	79.86	95.67	90.92	86.16	81.41	76.65
	371.37	354.91	338.46	322.00	305.55	464.03	440.36	416.69	393.02	369.35	442.48	420.49	398.50	376.51	354.52
15 Other	63.29	60.49	57.68	54.88	52.07	79.08	75.05	71.02	66.98	62.95	75.41	71.66	67.92	64.17	60.42
	27,952.32	26,713.76	25,475.20	24,236.64	22,998.08	34,926.56	33,145.10	31,363.63	29,582.17	27,800.70	33,305.09	31,649.85	29,994.61	28,339.36	26,684.12

2025 Groundwater Allocation Implementation Schedule





TO: Board of Directors
Agenda Item No. 11c

FROM: Jim Beck / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Review Public Comments on Amended Groundwater Sustainability Plan

Recommended Motion

None – information only.

Discussion

On July 31, 2024, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board approved a public comment process for the amended Groundwater Sustainability Plan (GSP) including a comment response matrix.

Provided as Attachment 1 is the public comment matrix that includes comments from the October Public Workshop and any written comments on the updated GSP submitted to CBGSA Staff by October 11, 2024. The matrix includes a response from CBGSA staff and is included for Board of Directors review and feedback.

Public comment letters and correspondence from the below entities/individuals are provided as Attachment 2.

Public commenters:

1. Bolthouse Land Company, LLC
2. Brenton Kelly, Quail Springs Permaculture
3. California Department of Fish and Wildlife
4. EKI on behalf of Cuyama Basin Water District
5. Kathleen March
6. LeBeau Thelen on behalf of Diamond Farming Company, Lapis Land Company and Ruby Land Company
7. Pam Doiron
8. U.S. Forest Service

Summary of 2025 GSP Public Comments and GSA Staff Response

	Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
1	Public Workshop (October 2024)		Basin Setting	Throughout the process the community kept hearing that the Groundwater Sustainability Agency (GSA) needed more data. New data has resulted in modifications to the Groundwater Sustainability Plan (GSP), including the baseline for pumping allocations. The new data is very critical to understanding the basin situation. The information about the new data should be in the GSP in detail.	The revised GSP describes new data received and how this data was used to update the GSP.
2	Public Workshop (October 2024)		Basin Setting	Suggestions for additional information on the basin setting and/or from the model: - What is the age of the water in the basin? - What is the total volume of storage in the basin? - How is water quality changing in the Central Management Area (CMA)? - Where is there demonstrated recharge in the basin?	As reflected in the GSP, the Board is managing the basin to achieved sustainable groundwater storage and conditions by 2040. More detailed analyses as suggested can be considered by the GSA in the future.
3	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	There is no scientific justification for two wells in the northwest area of the Basin using an independent methodology for minimum thresholds when the rest of the Basin uses a standard approach for protecting beneficial uses. Consistency is important. If there are different areas using different methodologies, it is a weakness of the GSP.	The Board considered justification for setting sustainable management criteria (SMC) in the basin and elected to use a different methodology for two wells in the northwestern portion of the basin to support local agricultural operations that are not expected to impact beneficial uses (Groundwater Dependent Ecosystems, or domestic wells).
4	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	Identify what the minimum thresholds would be for the two wells in the northwest area of the basin if they did not have the special approach applied.	Comment received, staff does not believe this information needs to be added to the GSP.
5	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	The Adaptive Management process needs to have a clear timeline for investigation and reporting to the public for wells that are below minimum thresholds.	The adaptive management process was designed to provide in general detail to provide flexibility to respond to unique situations, but the Board may consider a more prescriptive process.
6	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	The GSA lowered minimum thresholds at 37 wells to continue business as usual and was successful at obscuring overdraft results. How can the community reconcile the definition of overdraft with the lack of action in the valley?	The updated minimum thresholds were developed based on an analysis of impacts to beneficial uses and users, using newly available data, and the new sustainable management criteria (SMCs) are protective of groundwater depended ecosystems (GDEs) and domestic users.
7	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	The GSP should clarify what happened when 30% of the wells went below minimum thresholds. The ad hoc committee changed the minimum thresholds. This was a misuse of SGMA.	The SMCs established in the original GSP were based on data available at that time and did not include a robust analysis of beneficial uses and users. Also, several wells were already below the SMC when the original SMC criteria was established. Sustainable Groundwater Management Act requires basins to manage to sustainability and provides local control to define that while providing guidance to protect beneficial uses and users (i.e. GDEs, and domestic wells) which the new SMCs do.
8	Public Workshop (October 2024)		Management Actions and Pumping Allocations	The groundwater level in the west Basin has dropped significantly, 14 feet since 2014 and is not sustainable. The pumping there should be regulated.	Minimum thresholds at representative wells in this part of the basin can be used to indicate whether groundwater levels have dropped to unsustainable levels.
9	Public Workshop (October 2024)		Management Actions and Pumping Allocations	Changing the CMA every 5 years is a poor approach because it creates uncertainty for farmers.	Comment noted. The Board will decide whether changes to the CMA boundary are appropriate as additional information is available in the future.
10	Public Workshop (October 2024)		Management Actions and Pumping Allocations	The baseline pumping used in the allocation program and the allocations should be in the GSP, not solely policies defined outside the GSP.	This detailed information is not included in the GSP to allow flexibility for the Board in implementing the pumping allocation program.
11	Public Workshop (October 2024)		Management Actions and Pumping Allocations	Allocations based on historical use. 1998-2017. Everyone attending the meeting is aware of who the major pumpers were during that time. Five percent of the pumpers were and still are pumping 90% of the water in the CMA. These major pumpers have allocations based on the over-pumping they did in the past. The GSA is rewarding them. It's not an equitable way to allocate water. Smaller pumpers should not be required to reduce the same percentage. It's inequitable. Currently, the only way to mitigate this is through the variance process, which has not been defined.	While the GSP describes the groundwater allocation program at a high-level, implementing groundwater allocations is a complex process and the Board has elected to enact policies to implement the GSP's groundwater allocation action in a way that responds to the unique challenges that arise in implementing a groundwater allocation program.
12	Public Workshop (October 2024)		Management Actions and Pumping Allocations	The GSA should educate growers and promote sustainable agricultural practices as part of its management actions.	Comment noted. This can be considered by the Board in the future.
13	Public Workshop (October 2024)		Management Actions and Pumping Allocations	Accelerate the water rights analysis for groundwater recharge.	The water rights analysis will be completed in the near future.
14	Public Workshop (October 2024)		Management Actions and Pumping Allocations	The GSA should use a small allocation baseline number based on science and the data. Selecting a larger baseline number would be contrary to SGMA.	Staff agrees the baseline number should be grounded in science and data. SGMA and the pumping allocation included in the GSP give the Board latitude to determine appropriate baseline number.
15	Public Workshop (October 2024)			Would like "constrained groundwater flow" to be defined in the GSP.	The GSP describes the current understanding of the effect of faults in the basin on groundwater flows.

Summary of 2025 GSP Public Comments and GSA Staff Response

	Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
16	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	There should be differentiation between when 30% wells below minimum standards. Ad hoc changed MT, which is not adaptive management.	The SMCs established in the original GSP were based on data available at that time and did not include a robust analysis of beneficial uses and users. Also, several wells were already below the SMC when the original SMC criteria was established. SGMA requires basins to manage to sustainability and provides local control to define that while providing guidance to protect beneficial uses and users (i.e. GDEs, and domestic wells) which the new SMCs do.
17	Public Workshop (October 2024)		Water Levels and Minimum Thresholds	Please define 'beneficial users'.	"Beneficial uses and users" of groundwater in Cuyama basin is defined in Section 1.3.1 of the GSP.
18	Written Correspondence on 10/10/2024	Kathleen March, Walking U Ranch LLC		<p>The amended GSP should require groundwater pumping reductions in the wells located on the 10,000 acres owned by Brodiaea, Inc. (aka North Fork Vineyards), where Brodiaea planted thousands of grapevines in 2014 onward, and is using over 800 acre feet per year ("AFY") groundwater, to irrigate its grapevines. One monitored well, OPTI well 840, groundwater level has dropped 40 feet from when pumping started in 2014, to 2023. That is NOT sustainable yield that SGMA requires. That drop in groundwater violates SGMA sustainable yield. A 40 foot drop in groundwater level in 10 years is a faster per year drop in groundwater level than the groundwater level drop of 300 feet in wells in the Central Management Area, from when irrigation started in 1940s, to 2010. The US government determined there had been a 300 foot drop in groundwater level over those decades, with only 27% of groundwater left, by 2010.</p> <p>The amended GSP should require groundwater pumping reductions in OPTI well 840, and in the additional wells located on North Fork Vineyard land, where the groundwater levels have been dropping from 2014 to present, that are similar to the groundwater pumping reductions that GSP requires in the Central Management Area.</p>	The Board considered justification for setting sustainable management criteria in the basin and elected to use a different methodology for two wells in the northwestern portion of the basin to support local agricultural operations (a beneficial user) that are not expected to impact other nearby beneficial uses or users (i.e. GDEs, or domestic wells). Also, the groundwater model does not indicate long-term overdraft conditions in this portion of the basin.
19	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	Final model (CBWRM v.030) recalibration results and documentation (i.e., GSP Ch.2 Appendix C) have not been provided in the GSP Public Review Draft for evaluation. Reviewing parties thus far only can evaluate partial and draft analyses. Technical staff need to document (a) their technical evaluation of model fit to observed data, (b) their analysis of sensitive parameters, and (c) their quantitative analysis of how uncertainty within the historical model propagates to affect real-world data such as baseline pumping allocations, so that the GSA and the public can evaluate the reliability of model projections and GSA decisions that are based on model output.	An updated version of the model documentation is under development and will be included in the 2025 GSP.
20	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	The recalibrated CBWRM v0.30 incorporates large changes (up to 85%) in some estimated evapotranspiration (ET) values. Some irrigated crops (e.g., Mixed Field, Grains, and Safflower) appear to be modeled using ET values that are lower than native vegetation. GSA Technical Staff need to explain the ET input data and the rationale for these modifications, as well as provide published agronomic or other scientific literature, regulatory guidance, or case studies in similar basins to support these changes to crop ET assumptions.	The updated model documentation includes additional explanation of how agronomic data developed in advance of the 2020 GSP was updated during model re-calibration. More detailed agronomic analysis could be considered in the future.
21	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	The recalibrated CBWRM v0.30 still has areas of significant mismatch with observed water level elevation data. Particularly in the eastern Central Management Area, the Ventucopa Area, and the area near the Santa Barbara Canyon Fault, modeled water level elevations are 50 – 200 feet higher than measured elevations. These are significant errors that will affect model predicted heads, groundwater storage volume, and the rate and direction of groundwater flow. Technical staff need to review the sensitivity of model parameters and explain what impact these errors has on important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, baseline pumping allocations, and allocation reductions.	Sensitivity of model parameters is included in the model documentation. Additional modeling work to quantify how these sensitivities translate to model-based criteria can be considered in the future.
22	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	Water level recovery of the basin during the historically wet 2023 period appears to be underestimated in the CBWRM. Simulated recovery seems consistently muted compared to observed head rebounds, particularly in some regions (e.g. West).	2023 was a unique year that was not similar to any other year in the calibration period. Additional model updates and re-calibration to improve performance during the recent wet period can be considered in the future.
23	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	Hydraulic head effects of the Santa Barbara Canyon (SBC) Fault are still poorly understood. A significant effort was made by technical staff to conduct testing, analyze the resulting data, and locate the SBC Fault within the Basin, but the results unfortunately remain ambiguous. Technical staff need to explain the steps taken within the CBWRM v.030 calibration effort to accommodate the new data collected, and how the revised model fault characteristics affect important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.	The Hydrogeologic conceptual model (HCM) and updated model documentation include additional explanation of how the fault investigation results update our understanding of the SBC fault. Additional modeling work to quantify how these sensitivities translate to model-based criteria can be considered in the future.

Summary of 2025 GSP Public Comments and GSA Staff Response

	Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
24	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	The Cuyama Basin California Irrigation Management Information System (CIMIS) station does not meet required baseline maintenance conditions, either historically or currently. CIMIS station data provide base assumptions used for processing remotely sensed evapotranspiration (ET) data throughout the Basin, leading to potential errors in all ET estimates in the basin that are calculated using this station. Technical staff need to explain the effects of actual Cuyama CIMIS station conditions on ET estimates and how this known error has been compensated in the ET analysis used to estimate pumping from wells simulated by the model.	The model development team utilized the CIMIS station data because it was the best available information at the time. The new CIMIS stations will be installed using the grant funding from Department of Water Resources (DWR). Additional analysis of CIMIS station data and its affect on evapotranspiration estimates can be considered in the future.
25	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	The CBWRM v0.30 still does not realistically simulate the thick vadose zone in the Central Management Area (CMA). For example, infiltration of water past crop roots is simulated as instantaneously reaching the water table, where in reality it can require decades to reach the water table - and in some circumstances never reach the water table. This can confuse the magnitude and timing of model-calculated benefits from management actions on groundwater storage.	Comment noted. This issue can be assessed in a future CBWRM update.
26	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	EKI	Cuyama Basin Water Resources Model (CBWRM) recalibration	Final Public Review Draft model input files and 2023 pumping data have not been made generally available to the Technical Forum members for third party review of model behavior. Partial data have been presented and earlier draft files have been provided but these are not useful to evaluate the final Public Review Draft model if they are not current. Technical staff need to ensure these files and data are available to the Technical Forum community and other public interested parties.	Comment noted. Some data was provided through the adjudication process and was inadvertently not provided to some technical forum members. Technical data presented to the technical forum will be provided to all technical forum members in the future.
27	Correspondence on 10/11/2024	CDFW	GDE Assessment (Appendix D Chapter 2)	The methods used in the Updated GSP to evaluate and exclude Groundwater Dependent Ecosystems (GDEs) were not robust. The GSP relied on aerial imagery and a dataset (NCCAG) that identified potential GDEs but used criteria such as the presence of springs or wetlands and visible inundation to eliminate areas. This resulted in the exclusion of many GDE areas, contradicting other data sets like The Nature Conservancy's GDE Pulse, which recognizes these areas as GDEs. The Updated GSP does not include an evaluation of other sensitive species of fish and wildlife environmental beneficial users that are vulnerable to pumping impacts in Cuyama Valley Basin area.	The methods used to identify GDE locations in the GSP are compliant with SGMA. The board could consider more robust methods in the future.
28	Correspondence on 10/11/2024	California Department of Fish and Wildlife	GDE Protection Depth	The Updated GSP set a protection depth of 30 feet as the threshold for "potential GDE" locations. However, this threshold lacks a clear scientific explanation of how it prevents undesirable impacts on GDEs, as required by SGMA regulations. It is unclear whether this threshold properly protects GDEs that depend on shallower groundwater. The method only monitors areas designated as "probable GDEs," excluding many GDEs identified by other sources like NCCAG and The Nature Conservancy, thus leading to inadequate protection.	The method used to develop thresholds that protect GDEs is compliant with SGMA. The intention is to provide an indication of potential harm to GDEs, so the Board can respond through its adaptive management process. The Board could consider more robust methods in the future.
29	Correspondence on 10/11/2024	California Department of Fish and Wildlife	GDEs and Monitoring Wells	A total of three new shallow monitoring wells (piezometers) and seven existing representative monitoring wells are located in areas of "probable GDEs" (Updated GSP Section 2, Subsection 2.2.11, page 2-148, Figure 2-91; Subsection 2.2.12, page 2-153; Section 4, Subsection 4.5.1, page 4-35). Although the Department believes the GSA's installation of three piezometers in the vicinity of GDEs is an improvement, it seems insufficient given the majority of GDEs identified throughout the Cuyama Valley Subbasin are excluded from monitoring because, as stated above, methods utilized by the Updated GSP have deemed them as "probable non-GDEs".	The methods used to identify GDE locations in the GSP are compliant with SGMA. The locations selected for the new piezometers are appropriate to the mapped GDE locations.
30	Correspondence on 10/11/2024	California Department of Fish and Wildlife	Updated GSP subsection 5.7	The Updated GSP states the GSA will address ISW sustainability indicators when DWR issues its guidance document to GSAs. No attempt made to propose a method for addressing ISW. As such the plan remains incomplete with respect to this deficiency (Updated GSP subsection 5.7, pages 5-20 and 5-21).	The GSP describes a network of wells intended to measure interconnected surface waters (ISW) and potential depletions. DWR provided guidance to nearly every GSA in the State that ISW methodologies are not adequate and directed them to review DWR guidance once it is released. The technical papers on methods to estimate depletions of ISW were released too late to be incorporated in the 2025 GSP update; the Board will consider applying these recommended methods in the future. When DWR releases their guidance document on SMCs for ISW, the GSA will update the GSP to reflect this guidance.

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
31 Correspondence on 10/11/2024	California Department of Fish and Wildlife	Updated GSP subsection 4.10	Absence of evaluation of impacts from new pumping: The Cuyama Basin has undergone an expansion of agricultural development during Department's Carrizo Plains Ecological Reserve. Changes in pumping patterns due to new agricultural development can have a significant impact on ISWs and subsequently GDEs and other beneficial users. The Updated GSP does not include an updated evaluation of changes in land use and associated pumping patterns and these effects on ISW and GDEs.	The GSP considers impacts to beneficial users (i.e. GDEs and domestic wells) in establishing SMCs. Land use changes and native vegetation, which includes GDE locations, are included in the model for the historical and baseline conditions which was used to analyze potential impacts to beneficial users.
32 Correspondence on 10/11/2024	California Department of Fish and Wildlife		Inadequate justification of proxy metrics: The Updated GSP uses the low groundwater elevation observed in fall 2015 as the minimum threshold for Interconnected Surface Water (ISW) and streamflow depletion at each monitoring site. However, this method does not meet the SGMA regulation requirements, as it lacks an explanation of how this threshold will prevent undesirable impacts on sustainability indicators. The Department disagrees with using groundwater levels as a proxy for ISW depletion, as the Updated GSP fails to analyze the relationship between groundwater levels and surface water depletion, especially given that 2015 was a drought year. Without a clear connection, this proxy may mislead groundwater management efforts and fail to protect fish, wildlife, and other beneficial uses of surface water. Furthermore, the approach does not account for the site-specific interactions between groundwater and surface water, making it inadequate under California's regulatory standards.	The GSP describes a network of wells intended to measure interconnected surface waters (ISW) and potential depletions. DWR provided guidance to nearly every GSA in the State that ISW methodologies are not adequate and directed them to review DWR guidance once it is released. The technical papers on methods to estimate depletions of ISW were released too late to be incorporated in the 2025 GSP update; the Board will consider applying these recommended methods in the future. When DWR releases their guidance document on SMCs for ISW, the GSA will update the GSP to reflect this guidance.
33 Correspondence from Brenton Kelly 10/11/2024		Undesirable Results Statements	Lack of urgency and attention on continued, sustained and significant declines in groundwater levels and loss of groundwater storage. Although SGMA doesn't require the consideration of undesirable results that occurred before 2015, the Cuyama Basin continues to experience "significant and unreasonable depletion of supply" at the same rate after that date as before that date. By the time this plan is fully implemented hundreds of thousands of acre feet of groundwater storage will be lost, along with several hundred feet of additional decline in groundwater elevations. Both of these undesirable results—identified by SGMA—are caused by pumping more groundwater than the aquifer can sustain over time without depletion. The amended GSP shows clear, documented evidence of the severity of localized over pumping in the CMA with some areas still exceeding an average drawdown of over seven feet per year. Why are these degrading historic conditions being permitted to continue without recognition of the obvious undesirable results as defined in the GSP?	SGMA requires basins to be sustainable by 2040. SMCs have been set to protect beneficial uses and users (i.e. GDEs and domestic wells), and groundwater allocations are being implemented to reduce over-pumping by 2038. Using this SGMA-defined timeline, groundwater storage will be lost until sustainable conditions are achieved.
34 Correspondence from Brenton Kelly 10/11/2024		Depletions of Interconnected Surface Water	Deficiency: Degrading riparian habitat is not addressed Some of the old dead Cottonwood trees are still standing like headstones in a graveyard, but most have fallen with the declining groundwater levels. Little is known about the few wetlands that remain in the basin because no biological survey or in-field assessments have been conducted to effectively identify their existence and location. The state grant funded project to fill these data gaps and install 10 shallow well piezometers in the wetlands has been downsized to just three piezometers, presumably to be used to monitor the remaining cottonwoods' continued decline. As the last trees die and fall, this GSP offers little protection to these environmentally sensitive habitats. DWR has recently published and released these ISW guidance documents. What will remain of the beneficial uses of Interconnected Surface Water if sustainability is ever accomplished?	The grant included funding for four piezometers to be installed in the vicinity of GDE locations The GSA worked to find willing landowners to install piezometers in the basin, but were only able to partner with three landowners. The ISW network and methodology for establishing SMCs will be updated once DWR guidance is released.

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
35	Correspondence from Brenton Kelly 10/11/2024	Minimum Thresholds, Measurable Objectives, and Interim Milestones	<p>Deficiency: Lowering most of the Minimum Thresholds without scientific justification</p> <p>The approved GSA (2022) includes several sustainable management criteria that, when triggered, will require the GSA to determine and apply a management action to correct the conditions that breached the stated sustainable management criteria. One of these criteria is that “The GSP states undesirable results for chronic lowering of groundwater levels would occur when groundwater level minimum thresholds are exceeded in 30 percent of monitoring wells for two consecutive years.” Over the past several years, more than 30 percent of monitoring wells have exceeded their minimum thresholds, yet no management action was triggered. Instead, the GSA lowered the minimum thresholds to obscure the continuing overdraft and postpone taking action to determine the cause and correct these exceedances. In the current 5-year update to the GSP, the GSA has lowered Minimum Thresholds (MTs) for 36 out of 49 (73%) of wells in the monitoring network by an average of 36 feet, with MTs for two monitoring wells lowered more than 200 feet and MTs for seven monitoring wells lowered more than 80 feet. It is fair to say that these wholesale adjustments— not backed by science—were a successful effort to obscure the evidence of overdraft and avoid triggering an established key sustainable management criterion for the basin. These adjustments compromise critical guardrails that can help to slow and eventually reverse historic and continuing overdraft. This GSP would allow for up to 250,000 acre-feet of continued overdraft before 2040. The MTs provided in the 5-year update will allow groundwater elevations to decline further without triggering any Adaptive Management actions to prevent it. This one amendment has greenwashed the basin’s continued overdraft and ensured that this continued overdraft will not be recognized as an undesirable result. How is this a constructive contribution to sustainability? It’s not.</p>	The updated minimum thresholds were developed based on an analysis of impacts to beneficial uses and users, using newly available data, and the new SMCs are protective of GDEs and domestic users.
36	Correspondence from Brenton Kelly 10/11/2024	Minimum Thresholds, Measurable Objectives, and Interim Milestones	<p>Deficiency: Questionable justification for inconsistent criteria in setting Minimum Thresholds (MTs) for two key monitoring wells</p> <p>In the 5-year update to the GSP, in order to treat the basin uniformly, the GSA adopted an elaborate four-step matrix to reset all Minimum Thresholds across the basin. A consistent scientific method was employed which is intended to help protect shallow domestic wells and sensitive wetlands from the effects of nearby pumping. While this method was declared to treat the whole basin uniformly, two critical monitoring wells were exempted from this scientific approach without explanation. Rather than follow the 4-step matrix employed to set MTs for the rest of the basin, the MTs for these two wells were set using an unverified, proprietary landowner-funded approach based on something called ‘saturated thickness’. This approach resulted in MTs that allow more than 100 feet of groundwater decline before triggering any management action. This inconsistent, unexplained and unverified approach significantly compromises the effective management of the basin as a whole, as well as the credibility of the science used basin wide. Why was this pumper-funded approach—which was not independently reviewed or verified—allowed to determine MTs for just two wells, particularly as it resulted in allowing the pumper to continue to draw down those two wells by more than 100 feet, more than any other monitoring well in the basin. Is this a fair way to set basin wide management policy? How is this consistent with stopping overdraft? It’s not.</p>	The Board considered justification for setting sustainable management criteria in the basin and elected to use a different methodology for two wells in the northwestern portion of the basin to support local agricultural operations (a beneficial user) that are not expected to impact other nearby beneficial uses or users (i.e. GDEs, or domestic wells). Also, the groundwater model does not indicate long-term overdraft conditions in this portion of the basin.
37	Correspondence from Brenton Kelly 10/11/2024	Pumping reductions	<p>Deficiency: Lack of consideration of all beneficial users and uses, particularly small pumpers</p> <p>Pumping reductions of over 60% are anticipated basin wide in order to achieve balance by 2040 in compliance with SGMA. Allocations have been developed for all parcels in the CMA, the area of the basin where the majority of overdraft is occurring and currently the only area of the basin where pumping reductions are required. However, according to the Allocation Report, over 90% of the applied water is pumped by less than 5% of the pumpers. Why are a small minority of operators allowed to significantly and unreasonably impact the remainder of all beneficial users? The CMA represents about 17% of the basin (25,900 acres out of a total 147,200-acre basin) and is responsible for over 80% of the basin-wide pumping. The remaining 20% (~8,000 AF) is easily accounted for by the irrigated land use outside the CMA, where the modeled drawdown is less than 2 feet per year. The GSP fails to recognize that there is more than a magnitude of difference between the small number of big pumpers and the vast majority of small farmers in the basin. The former represent the major cause of the overdraft problem; the latter may be demonstrating viable solutions to sustainable groundwater use. The GSP should encourage the latter while it effectively manages the former. The degree of pumping reductions should correlate with the pumpers’ contribution to the overdraft. Many small pumpers are negligible contributors to the overdraft and should not bear the same burden of reductions as operators who pump 10, 100, and 1,000 times more water. How can this discrepancy be reconciled? Why hasn’t a tiered approach to pumping reductions or a Sustainability Exemption for small pumpers been seriously considered by the GSA, despite suggestions by the SAC and stakeholders?</p>	A tiered allocation approach was considered by the Board, but the final direction was to allocate water proportions using the 1998-2017 historical use average for each pumper in the CMA.

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
38 Correspondence from Brenton Kelly on 10/11/2024		Allocations Baseline	<p>Allocations Baseline Deficiency: inadequate justification for the use of an outdated model estimate for the pumping reduction baseline. The GSA has not yet agreed upon a baseline value for a starting point for the reduction of allocations. The approved GSP used the old modeled estimate for the year 2021, a dry year with higher extraction. The new model estimates extraction for that same year at 32% less (34,000 AF vs. 54,600 AF). The best data and science available have gone into the updated model, yet some members of the GSA continue to suggest using the old number, which did not have the benefit of new data and more accurate science. The GSA should not be choosing between new and outdated data. Simply put, a higher baseline number would allow for more groundwater extraction over the implementation period than a smaller baseline. To choose a higher baseline number is to allow more depletion of groundwater storage to occur before sustainability is achieved. The choice of a higher baseline number, in the face of the scientific evidence that the GSA has spent millions of dollars to produce, would increase the undesirable result of groundwater storage loss. The GSA should be protecting groundwater storage and should not use an outdated data point and allow greater overdraft.</p>	<p>Staff agrees the baseline number should be grounded in science and data. The Board will consider and select an appropriate baseline number.</p>
39 Correspondence from Brenton Kelly on 10/11/2024		Adaptive Management	<p>Adaptive Management Deficiency: lack of enforcement actions identified to be implemented when sustainable management criteria are triggered.</p> <p>For CBGSA, the trigger for adaptive management and CBGSA's next steps would be as follows: if pumping reductions are more than 5 percent off the glide path identified in the pumping allocation plan, CBGSA would evaluate why pumping allocations are not being met and implement additional outreach or enforcement, as appropriate; if the Basin is within the Margin of Operational Flexibility, but trending toward undesirable results, and within 10 percent of the Minimum Threshold, CBGSA will investigate the cause and determine appropriate actions. In the first five years of this GSP, the basin got to within a month of the undesirable result threshold, with more than 30% of MTs exceeded for two years. The only effort made to avoid this problem was to lower all the Minimum Thresholds. Without any real pumping reductions happening yet due to over-allocations of pumping, the glide path is already behind the curve. No investigations have resulted from any of the 43% (21 wells) of representative monitoring wells that have exceeded their MTs, in some cases for more than two years. This policy continues to have no enforceability, no actionable timeline, and no accountability. The Basin has been trending toward undesirable results for decades. How will we achieve sustainability now that the goalposts have been moved?</p>	<p>The adaptive management process was designed to provide in general detail to provide flexibility to respond to unique situations, but the Board may consider a more prescriptive process. Regarding sustainability, the updated minimum thresholds are more reflective of the actual impacts on beneficial uses and users due to the analysis performed with updated data.</p>
40 Correspondence from USFS on 10/11/2024	U.S. Forestry Services		<p>The GSP should incorporate more detailed information about the Los Padres National Forest's (LPNF) groundwater rights and management priorities, which aim to protect watershed health, groundwater quality, and sustainability for both forest and downstream users. The LPNF's Land Management Plan (LMP) emphasizes the importance of maintaining natural watershed functions and managing groundwater to minimize negative impacts. The Forest Service requires special authorization for water wells or pipelines on National Forest lands, ensuring that groundwater extraction is not excessive and considers future needs. The Forest Service's Groundwater Management Program works to preserve groundwater-fed ecosystems and maintain partnerships with local communities and other agencies. The GSP should acknowledge that LPNF wells are currently in use, but due to groundwater quality concerns, the future groundwater needs of the forest have not been determined.</p>	<p>No information was provided related to groundwater use on forest service land. This can be included in the GSP if additional data is provided in the future.</p>
41 Correspondence from Pam Dorion on 10/11/2024			<p>The references to water flow and faults are somewhat confusing/contradictory. At various locations in the document, the faults are said to have "constraints on water flow" (ES-3) but evaluations are "inconclusive" (2-19) and can be "impacting". Does this mean that the water flow is only slightly measurable? A partial blockage? A total blockage?</p>	<p>Data from the fault investigation doesn't conclusively quantify constraints on water flow across the faults. Additional studies will be considered by the Board in the future.</p>
42 Correspondence from Pam Dorion on 10/11/2024			<p>I would love to see a total basin cross section included. There are contour maps but no basin-wide figure that I could find.</p>	<p>Additional figure could be included using Airborne Electromagnetic (AEM) data. The GSP currently includes a figure showing AEM cross section data for the southeast portion of the basin. An additional figure could be added to show similar data for the central and western areas.</p>
43 Correspondence from Pam Dorion on 10/11/2024			<p>Throughout the document, the Western, Northwestern and "Far-Western" (whatever that is) regions are referenced separately, and interchangeably. That will become problematic in the future as Harvard continues to pump heavily for its vineyard while small producers and ranchers continue to conserve water. The document says that the Western region is in balance; however, as our discussion showed last night, the only reason it appears to be is that the MTs have been changed for that area. The Northwestern region is in balance, indeed. The Northwestern and Western areas have been identified and described, and should not be lumped together.</p>	<p>The Board considered justification for setting sustainable management criteria in the basin and elected to use a different methodology for two wells in the northwestern portion of the basin to support local agricultural operations that are not expected to impact beneficial uses (Groundwater Dependent Ecosystems, or domestic wells). With the change in SMC methodology, the distinction between different areas of the western region may no longer be relevant and could be removed from the GSP.</p>
44 Correspondence from Pam Dorion on 10/11/2024			<p>I also find the statements regarding sustainable yield confusing. The GSP estimates the SY to be 17,500 AFY, but last night Brian identified the SY as 11,500 on his "Water Budgets Guide Basin Management to Achieve Balance and Avoid Undesirable Results" slide. Which is the real number? It's great to have more detailed data with greater accuracy; however, some of the changes appear problematic to me.</p>	<p>The GSP reports the sustainable yield of the basin as a whole, however implementation of the pumping allocation action, the GSA estimates a sustainable yield for just the CMA plus farming units.</p>

Summary of 2025 GSP Public Comments and GSA Staff Response

	Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
45	Correspondence on 10/11/2024	LeBeau Thelen		The Landowners object to and protest the draft 2024 GSP, lack of proper notice, and the CBGSA-s (1) use of management areas and separate water budgets as a means of allocating groundwater, including the use of variances and exceptions for certain landowners which are not supported by the best scientific evidence	Landowner requests that CBGSA “correct” information regarding the Santa Barbara Canyon Fault set forth in the draft GSP to reflect recent studies performed by CBGSA. The Hydrogeological Conceptual Model (HCM) section of the GSP (Section 2.1) has been updated in the 2025 GSP Update to incorporate the results of the CBGSA’s fault investigations.
46	Correspondence on 10/11/2024	LeBeau Thelen		Allocation of groundwater other than on a correlative Basin-wide basis based on historic use and irrigated acreage as described in the approved GSP	Landowners claim that “[m]andated reduction of pumping by the CBGSA is improper, illegal and unenforceable. . . .” Landowners go on to claim that “[a] GSA has no express or actual authority under SGMA, or otherwise, to limit or alter the Landowners’ exercise of their established groundwater rights.” CBGSA disagrees. SGMA expressly authorizes CBGSA to establish groundwater extraction allocation to regulate groundwater extraction. (Wat. Code, § 10726.4, subd. (a)(2).) Notably, however, CBGSA acknowledges that “[n]othing in [SGMA], or in any groundwater management plan adopted pursuant to [SGMA], determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.” (Wat. Code, § 10720.5, subd. (b).)
47	Correspondence on 10/11/2024	LeBeau Thelen		Failing to institute Basin-wide agricultural reductions in groundwater extractions to achieve Basin-wide sustainability. Instead, the draft 2024 GSP proposes to illegally foist the entire burden of balancing the Basin on landowners within the Central Management Area (CMA), while groundwater extractions outside the CMA remain unmanaged.	In discussing Basin-wide groundwater management, and CBGSA’s implementation of groundwater allocations in the Central Management Area, Landowners claim that “CBGSA’s myopic approach to Basin management violates SGMA and its regulations. CBGSA disagrees. California Code of Regulations, title 23, section 354.20 expressly authorizes CBGSA to establish one or more management areas within the Basin. And California Code of Regulations, title 23, section 351, subdivision (r) defines “management area” as “an area within a basin for which the [GSP] may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.” Accordingly, CBGSA’s establishment of the Central Management Area and the imposition of groundwater allocations therein is expressly authorized under SGMA. Landowners also claim that the draft GSP improperly fails to include any regional water budgets or a detailed description of allocation methodology and criteria for variances. Regarding water budgets, only Basin-wide water budgets are described in the GSP; since the Basin has one principal aquifer, regional water budgets are not required. And regarding the description of allocation methodology and criteria for variances, that is not a required component of a GSP.
48	Correspondence on 10/11/2024	LeBeau Thelen		The Landowners object to and protest the draft 2024 GSP, lack of proper notice	Landowners claim that “CBGSA has failed to give proper and sufficient notice to the public, and Basin stakeholders regarding critical components of the GSP, including intended actions regarding area boundaries, water budgets, allocation criteria, restriction of water rights, modifications, variances, exceptions and exclusions from the [Central Management Area].” CBGSA disagrees. CBGSA notice the GSP components listed have in accordance with SGMA and the Brown Act. Further, the Board of Directors has publicly considered these GSP components at several notice public meetings. Landowners further claim that the Basin is being managed on “an ad-hoc basis.” CBGSA disagrees. While CBGSA does rely on ad-hoc committees from time to time, those committees are formed and operated in compliance with the Brown Act. Accordingly, any action by an ad-hoc committee comes in the form of a recommendation provided to and considered by the Board of Directors. Landowners state that certain technical consultants have requested data and information from CBGSA’s model, but that those requests have been ignored. CBGSA is unaware of any outstanding requests for information. If Landowners are aware of such outstanding requests, CBGSA invites Landowners to meet with CBGSA staff to address.
49	Correspondence on 10/11/2024	Bolthouse Land Company		III. The GSP and DGSP (2024 Draft GSP) proposed management plan and proposed allocations don't equally protect the overlying correlative groundwater pumping rights of all landowners. Instead, the GSP and DGSP improperly place all of the pumping reductions on a small number of parties that pump groundwater in the Central Management Area (“CMA”). The Department of Water Resources (“DWR”), in part, failed to approve the original GSP for its failure to address pumping in excess of the supply in the Ventucopa area of the Basin. The DWR ultimately approved the GSP with requested corrective action. The DGSP still has not been corrected to address excessive pumping in the Ventucopa area. Moreover, the DGSP continues to allow landowners outside the CMA, which have equal, not superior rights to parties inside the CMA, to pump unregulated, without any reductions. The consequence of allowing pumping outside the CMA to continue unregulated has resulted in new and increased pumping in the Basin. This is what the GSP should be protecting against, rather than playing favorites based upon political and self-serving voting in the CBGSA. This result is inconsistent with California groundwater law.	California Code of Regulations, title 23, section 354.20 expressly authorizes CBGSA to establish one or more management areas within the Basin. And California Code of Regulations, title 23, section 351, subdivision (r) defines “management area” as “an area within a basin for which the [GSP] may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.” Accordingly, CBGSA’s establishment of the Central Management Area and the imposition of groundwater allocations therein is expressly authorized under SGMA. Notably, however, CBGSA acknowledges that “[n]othing in [SGMA], or in any groundwater management plan adopted pursuant to [SGMA], determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights.” (Wat. Code, § 10720.5, subd. (b).)

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
50	Correspondence on 10/11/2024	Bolthouse Land Company	<p>IV. The proposed pumping allocations in the CMA are hydrogeologically inappropriate.</p> <p>1) The GSP and DGSP fail to calculate a sustainable yield for the entire interconnected basin as defined by the California Department of Water Resources in Bulletin 118 and determined by the Court in Phase 1 of the comprehensive adjudication.</p> <p>2) Experts retained by the parties in Phase 1 to confirm the Basin boundaries testified that the basin is hydrogeologically connected. They confirmed that:</p> <p>a. Groundwater contour maps prepared for the Basin show the flow of groundwater across the presumed location of the Santa Barbara Canyon Fault and the location of the Russell Fault.</p> <p>b. Groundwater modeling confirms the groundwater flow from the area east of the Santa Barbara Canyon Fault downgradient into the central area of the Basin. The DGSP reports an even less impediment to flow across this fault than previously stated in the GSP.</p> <p>c. Groundwater modeling also confirms the significant flow of groundwater across the Russell Fault location.</p> <p>d. Groundwater pumping east of the Santa Barbara Canyon Fault has significantly reduced the volume of groundwater flowing from east of the Santa Barbara Canyon Fault into the central area of the Basin.</p> <p>e. Landowner pumping information indicates that groundwater pumping in the Ventucopa area is approximately 6,145 acre feet per year ("afy") although the model estimates a sustainable yield for that area of 3,400 afy. This results in an over pumping deficit in the Ventucopa area of 2,744 afy if no pumping reductions are required for the Ventucopa area. Instead, all of the pumping reductions necessary to make up for the Ventucopa overproduction are being imposed in the GSP and DGSP on parties located in the central area of the Basin. Additionally, if the Ventucopa area is subject to proportional cutbacks as required by California law, recharge to the central area of the Basin would increase by 3,746 afy.</p> <p>3) The determination of the sustainable yield of the Cuyama Basin must be a scientific data-driven process dependent on sound scientific analysis that reflects the current understanding of the Cuyama Basin hydrogeology. Recent CBGSA publications reveal that the safe yield calculations for the Cuyama Basin are not being made based upon science, and instead are being made based upon politically motivated and self-serving voting.</p>	<p>The sustainable yield estimate included in the GSP is for the basin as a whole, as estimated by the groundwater model, which is the best available scientifically-based tool. The model used to develop the sustainable yield accounts for flow across the Russell Fault and Santa Barbara Canyon Fault. Per Board direction, pumping allocations have only been included for the CMA in the draft GSP. As stated in the GSP, the board will consider allocations in other parts of the basin in the future.</p>
51	Correspondence on 10/11/2024	Bolthouse Land Company	<p>V. The proposed pumping allocations in the CMA are legally inappropriate and infringe of the court's authority</p> <p>The Court's order that the Basin is a single basin with no subbasins supports application of California case law which confirms that (a) the overlying groundwater rights in the Basin are correlative; (b) the overlying rights are of equal priority; and (c) in times of shortage, each party is entitled to a proportionate share of the Basin yield. The CBGSA's new proposal infringes upon BLC's and other landowners' water rights and the Court's single basin determination in Phase 1 of the Adjudication. The recently proposed management plan for the Basin and proposed allocations in the GSP and DGSA impose pumping reductions only on some landowners in the CMA of the Basin, while allowing landowners outside the CMA to pump unregulated. This is a textbook example of a failure to respect and protect a landowner's correlative share of the Basin water supply and is contrary to California water law.</p> <p>The CBGSA's proposal also infringes on the Court's sole authority to determine the parties' water rights. Pursuant to Water Code section 10737 et seq., the Court has the exclusive and sole authority to determine the "safe yield" of the Basin. As the CB GSA is aware due to the fact it is a party to the Adjudication, the Court set a second phase of trial to determine the "safe yield" of the Basin for February 2025. The CBGSA's attempt to quantify and limit the water rights of BLC based upon an administratively, politically and scientifically questionable "sustainable yield," prior to the court's determination of safe yield in the Adjudication, conflicts with the Court's authority to determine groundwater rights in the Basin.</p>	<p>CBGSA acknowledges that "[n]othing in [SGMA], or in any groundwater management plan adopted pursuant to [SGMA], determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights." (Wat. Code, § 10720.5, subd. (b).)</p> <p>Further, CBGSA must develop a sustainable yield, as required by SGMA.</p>
52	Correspondence on 10/11/2024	Bolthouse Land Company	<p>UNREGULATED PUMPING IN SOME AREAS OF THE SINGLE BASIN IS INAPPROPRIATE</p> <p>The GSP and DGSA include a separate "budget" for separate areas of the Basin which is inconsistent with California groundwater law. Unregulated pumping in the Ventucopa area exceeds the budget for this area determined by the CBGSA. This reduces available recharge to the CMA. The CB GSA and GSP relied upon Model V .20 to reach this conclusion. This model was also the basis for litigating the Basin boundary in Phase 1. The model confirmed that pumping in the Ventucopa area intercepts water which would otherwise flow to and recharge the central area of the Basin. The model further reveals that groundwater pumping reductions in the Ventucopa Area would substantially increase recharge to the CMA, raise groundwater levels, reduce overdraft, and maintain sustainability of the groundwater supply. Plaintiffs' expert Anthony Daus P.E., and Highland's expert Anthony Brown in Phase 1 of the Adjudication agreed that reductions in groundwater pumping in the Ventucopa area would increase groundwater recharge in the CMA. Finally, the GSP and DGSP allow unregulated pumping in nearly ninety percent of the Basin. Unregulated pumping cannot achieve sustainability of the Basin. Unregulated pumping in the Basin will allow pumping in excess of the sustainable yield of the Basin.</p>	<p>The sustainable yield estimate included in the GSP is for the basin as a whole, as estimated by the groundwater model, which is the best available scientifically-based tool. The model used to develop the sustainable yield accounts for flow across the Russell Fault and Santa Barbara Canyon Fault. Per Board direction, pumping allocations have only been included for the CMA in the draft GSP. As stated in the GSP, the board will consider allocations in other parts of the basin in the future.</p>

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Commenter / Organization	Topic	Comment	GSA Staff Response
53	Correspondence on 10/11/2024	Bolthouse Land Company	<p>THE PROPOSED PUMPING ALLOCATIONS ARE BASED UPON UNTESTED AND POTENTIALLY INACCURATE SCIENTIFIC DATA.</p> <p>The GSP approved by the DWR was based upon Model V.20. The CBGSA is currently relying on Model V.30 as a basis for new production rampdowns. Model V.20 estimated the sustainable yield for the Basin to be 20,000 afy to 21,000 afy. Model V.30 released in July of 2024 originally estimated the sustainable yield of the Basin to be 17,800 afy. A short time later, the sustainable yield of the Basin was changed by the CBGSA to a range from 15,900 afy to 17,500 afy. The CBGSA then arbitrarily selected 16,700 afy as the sustainable yield of the Basin.</p> <p>This sustainable yield determination cannot be properly based upon political decisions by Board vote rather than based upon science. Additionally, production reductions cannot be made based upon a range. The California Constitution, Article X, Section 2 provides: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable ... " In the absence of proper scientific analysis, not political decisions, this is not possible. The GSP and DGSP are not supported by properly calculated and vetted scientific analysis and instead defer to political decisions. At the September 4, 2024 Board meeting, Water District consultant EKI presented new data concerning potential interconnected surface water which also casts doubt on the sustainable yield numbers discussed above.</p> <p>Based upon review of initial information, there are significant concerns about the technical analysis and accuracy of Model V.30 which must be evaluated and resolved before the proposed DGSP is adopted by the GSA. Additionally, the proposed pumping allocations are not supported by valid, scientific, or reliable evidence following the CBGSA's release of the sustainable yield range and associated data in July of 2024. CBGSA's technical support staff received several questions from landowner experts, including BLC's expert, regarding the CBGSA's expert data, analysis and findings. The CBGSA failed to properly consider or address any of the questions posed by landowner experts. This further exacerbated concerns regarding the GSP expert assumptions and findings supporting the CBGSA's proposed sustainable yield numbers including the most recent sustainable pumping range. It is unreasonable and be thoroughly vetted. All landowners and experts must have adequate time to consider, evaluate and respond to Model V.30 and the proposed changes to the GSP. As such, BLC objects to the CBGSA Cuyama Basin implementing production reductions based upon new Model V.30. Instead, CBGSA should maintain production reductions at their current level, but apply them to all parties, and make no temporary nor final allocations or production limitations.</p>	<p>During the CBGSA staff presentation on modeling results in July 2024, a range of uncertainty for basin-wide sustainable yield was provided for purposes of discussion. However, a single sustainable yield estimate is included in the GSP for the basin as a whole, as estimated by the groundwater model. The model V.30 was developed to reflect additional data and information that was not previously available; these updates were made using the data that was available within the available timeframe, and is currently the best available scientifically-based tool.</p>
54	Correspondence on 10/11/2024	Bolthouse Land Company	<p>THE CBGSA has not provided proper notice of intended actions regarding area boundaries, water budgets, allocation criteria, and restriction of water rights.</p> <p>The CBGSA has failed to give proper and sufficient notice to the public, and Basin stakeholders regarding critical components of the GSP, including intended actions regarding area boundaries, water budgets, allocation criteria, restriction of water rights, modifications, variances, exceptions and exclusions from the CMA. Further, the CBGSA has been inconsistent regarding the application and reliability of Model V.30.</p> <p>Notwithstanding the Phase 1 Court Order, the DGSP proposes to divide the Basin into three regions and two management areas, the boundaries of which continue to remain in flux. The draft 2024 GSP does not include historic pumping or water budget information for these illdefined regions, and the CBGSA is planning to develop landowner allocations without including the regional water budget and overdraft information in the GSP. The water budgets, overdraft information and proposed allocation methodology must be included in the GSP and submitted to DWR for approval. Otherwise, the Basin will continue to be managed on an ad-hoc basis without providing any degree of planning or certainty to Basin stakeholders.</p> <p>On September 25, 2024, EKI published comments highlighting several significant flaws in Model V.30 relating to Basin outflow, water levels and lack of attention to GDE's. The CBGSA has yet to address those comments. Other technical consultants have requested further data and information from the CGGSA staff regarding Model V.30 which have been ignored.</p> <p>The cumulative impact of these defects has effectively prevented a reasonable opportunity for review and evaluation of the GSP by Basin stakeholders.</p>	<p>CBGSA has noticed the revised GSP components in accordance with SGMA and the Brown Act. Further, the Board of Directors has publicly considered these GSP components at several publically noticed meetings.</p>



October 11, 2024

VIA EMAIL

Board of Directors
Cuyama Basin Groundwater Sustainability Agency
Attention: Taylor Blakslee
4900 California Avenue, Tower B, Second Floor
Bakersfield, California 93309

Re: Objection of Bolthouse Land Company, LLC to Groundwater Sustainability Plan and Draft 2024 Groundwater Sustainability Plan

Board of Directors:

I.

INTRODUCTION

Bolthouse Land Company, LLC ("BLC") submits the following comments and objection to the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Groundwater Sustainability Plan ("GSP") and Draft 2024 Groundwater Sustainability Plan ("DGSP") and new proposed pumping allocations for the Central Management Area ("CMA") of the Cuyama Groundwater Basin (the "Basin"). On November 6, 2019, May 2, 2022, and April 30, 2024, BLC raised concerns regarding the creation and submission of the GSP to the California Department of Water Resources ("DWR"). For the same and additional reasons, the five-year update is not consistent with California law which requires that all landowners in the Basin must proportionately share in pumping cutbacks necessary to balance water supply with water demand and to achieve long term sustainability. The GSP and DGSP did not, and do not, comply with California law and will infringe on the legal exercise of BLC's groundwater rights in the "Basin."

Based upon the presentation slides for the September 4, 2024 meeting, and comments made by the CBGSA since that time, the CBGSA's new proposal to increase and accelerate pumping cutbacks only in the CMA, is inconsistent with California water rights. As discussed previously in written correspondence and comments to the Board, the plan does not achieve sustainability in a hydrogeologically and legally appropriate manner. Accordingly, BLC objects to the GSP as originally submitted and subsequently updated, and hereby incorporates its previous objections thereto, and requests that the plan be amended to comply with water rights of overlying landowners consistent with California law.

Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page Two

II.

THE COURT IN THE ADJUDICATION DETERMINED THAT THE CUYAMA BASIN IS A SINGLE GROUNDWATER BASIN WITH NO SUBBASINS

As the CBGSA knows, since it is a party to the case, there is a pending comprehensive groundwater adjudication pending in the Los Angeles County Superior Court, Central District, entitled *Bolthouse Land Company, LLC, et al. v. All Persons Claiming a Right to Extract or Store Groundwater in the Cuyama Valley Groundwater Basin* (No. 3-013) (“Adjudication”) to comprehensively determine all rights to extract and store water in the Basin pursuant to the streamlined groundwater adjudication provisions of *Code of Civil Procedure* sections 830 *et seq.* (“the Act”).

An accurate basin boundary is necessary for implementation of a GSP and to conduct a comprehensive adjudication pursuant to the Act. The basin boundary is necessary to determine the basin safe yield, water right priorities, each party’s correlative share of the common groundwater supply and a physical solution to limit groundwater production to the safe yield and to manage the basin to maintain sustainability in the future. Highland Vineyard SB, LLC, Brodiaea, Inc., the Cuyama Community Services District and landowners in the Ventucopa area, who are treated more favorably in the GSP than other landowners, objected to the single basin boundary identified in Bulletin 118 by the Department of Water Resources. The Bulletin 118 boundary was supported by other landowners including BLC. The objecting parties requested that the court resolve the boundary issue in a Phase 1 trial. These parties contended that the Basin should be subdivided into three separate subbasins, based upon the location of the Santa Barbara Canyon Fault and the location of the Russell Fault, with separate safe yields and separate pumping allocations for each subbasin. The CBGSA filed a brief agreeing with Plaintiffs position that there is a single groundwater basin with no subbasins.

The court issued its Phase 1 Statement of Decision on February 23, 2024, finding that the Basin is coterminous with the Basin described by DWR Bulletin 118 and “that there are no subbasins within the Basin.” (Ex. A, p. 5, Statement of Decision.)

III.

THE GSP AND CURRENTLY PROPOSED AMENDMENTS ARE INCONSISTENT WITH THE COURT’S DETERMINATION IN THE ADJUDICATION

The Phase 1 Statement of Decision confirms that the Basin at issue in the comprehensive Adjudication is a single Basin as defined in DWR Bulletin 118 with no sub-basins. As such, overlying groundwater rights in the Basin are correlative. Overlying rights are of equal priority, and, in times of shortage, each party is entitled to a proportionate share of the Basin safe yield. (*Antelope Valley Groundwater Cases* (2021) 62 Cal. App. 5th 992, 1030.)

Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page Three

The GSP and DGSP proposed management plan and proposed allocations do not equally protect the overlying correlative groundwater pumping rights of all landowners. Instead, the GSP and DGSP improperly place all of the pumping reductions on a small number of parties that pump groundwater in the Central Management Area (“CMA”). The Department of Water Resources (“DWR”), in part, failed to approve the original GSP for its failure to address pumping in excess of the supply in the Ventucopa area of the Basin. The DWR ultimately approved the GSP with requested corrective action. The DGSP still has not been corrected to address excessive pumping in the Ventucopa area. Moreover, the DGSP continues to allow landowners outside the CMA, which have equal, not superior rights to parties inside the CMA, to pump unregulated, without any reductions. The consequence of allowing pumping outside the CMA to continue unregulated has resulted in new and increased pumping in the Basin. This is what the GSP should be protecting against, rather than playing favorites based upon political and self-serving voting in the CBGSA. This result is inconsistent with California groundwater law.

IV.

THE PROPOSED PUMPING ALLOCATIONS IN THE CMA ARE HYDROGEOLOGICALLY INAPPROPRIATE

California law requires a determination of the safe yield of the basin. Evaluation and correction of overdraft requires a water balance analysis of the entire groundwater basin to determine the safe yield. Overlying landowners have priority rights to pump groundwater and apply that groundwater on their property and property within a farming unit. Pumping reductions are necessary to align pumping with the safe yield of the Basin. Pumping reductions, resulting in pumping allocations, must recognize priority rights and be consistent with California groundwater law which recognizes that the groundwater rights of overlying landowners are of equal priority and are shared correlatively on an equal basis. The CBGSA has no authority to change water rights. Water Code section 10720.5(b) provides that nothing in SGMA “determines or alters surface water rights or groundwater rights under common law or any provisions of law that determines or grants surface water rights.”

CBGSA’s new pumping allocations which continue to require pumping reductions only by landowners in the CMA and pumping rampdown only for the CMA, improperly infringes on the water rights of parties in the Basin. This action is outside of the CBGSA’s statutory authority under SGMA and is based upon inadequate and incomplete scientific evaluation. The DGSP is still inadequate as summarized in bullet points below.

- 1) The GSP and DGSP fail to calculate a sustainable yield for the entire interconnected basin as defined by the California Department of Water Resources in Bulletin 118 and determined by the Court in Phase 1 of the comprehensive adjudication.
- 2) Experts retained by the parties in Phase 1 to confirm the Basin boundaries testified that the basin is hydrogeologically connected. They confirmed that:

Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page Four

- a. Groundwater contour maps prepared for the Basin show the flow of groundwater across the presumed location of the Santa Barbara Canyon Fault and the location of the Russell Fault.
 - b. Groundwater modeling confirms the groundwater flow from the area east of the Santa Barbara Canyon Fault downgradient into the central area of the Basin. The DGSP reports an even less impediment to flow across this fault than previously stated in the GSP.
 - c. Groundwater modeling also confirms the significant flow of groundwater across the Russell Fault location.
 - d. Groundwater pumping east of the Santa Barbara Canyon Fault has significantly reduced the volume of groundwater flowing from east of the Santa Barbara Canyon Fault into the central area of the Basin.
 - e. Landowner pumping information indicates that groundwater pumping in the Ventucopa area is approximately 6,145 acre feet per year (“afy”) although the model estimates a sustainable yield for that area of 3,400 afy. This results in an over pumping deficit in the Ventucopa area of 2,744 afy if no pumping reductions are required for the Ventucopa area. Instead, all of the pumping reductions necessary to make up for the Ventucopa overproduction are being imposed in the GSP and DGSP on parties located in the central area of the Basin. Additionally, if the Ventucopa area is subject to proportional cutbacks as required by California law, recharge to the central area of the Basin would increase by 3,746 afy.
- 3) The determination of the sustainable yield of the Cuyama Basin must be a scientific data-driven process dependent on sound scientific analysis that reflects the current understanding of the Cuyama Basin hydrogeology. Recent CBGSA publications reveal that the safe yield calculations for the Cuyama Basin are not being made based upon science, and instead are being made based upon politically motivated and self-serving voting.

As the CBGSA is aware, the Court in the Adjudication ruled that the Basin is a single basin with no sub-basins, consistent with the Department of Water Resources Bulletin 118. Pumping in one area of the basin affects recharge and water use in other areas of the basin. As a single basin, the Basin must be managed to reduce pumping in the entire basin to correct overdraft and to achieve sustainability in a legally appropriate manner. This cannot be achieved by cutbacks in only one portion of the Basin. Separate water budgets for different areas of the Basin, with separate safe yields, separate allocations and cutbacks in only one area of the Basin are inconsistent with California law by depriving overlying landowners of their correlative share of the safe yield. Further, the sub-areas are not based upon data and science.

Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page Five

In the DGSP, the CBGSA takes an additional step further infringing on BLC's water rights with its proposal to increase and accelerate pumping cutbacks in the CMA based upon new, but inconsistent, sustainable yield calculations for the CMA. Pumping reductions only in the CMA and not for other areas within the single basin, will not balance the Basin. Any plan to bring the Basin into balance will require basin wide cutbacks.

V.

**THE PROPOSED PUMPING ALLOCATIONS
 IN THE CMA ARE LEGALLY INAPPROPRIATE
 AND INFRINGE ON THE COURT'S AUTHORITY**

The Court's order that the Basin is a single basin with no subbasins supports application of California case law which confirms that (a) the overlying groundwater rights in the Basin are correlative; (b) the overlying rights are of equal priority; and (c) in times of shortage, each party is entitled to a proportionate share of the Basin yield. The CBGSA's new proposal infringes upon BLC's and other landowners' water rights and the Court's single basin determination in Phase 1 of the Adjudication. The recently proposed management plan for the Basin and proposed allocations in the GSP and DGSA impose pumping reductions only on some landowners in the CMA of the Basin, while allowing landowners outside the CMA to pump unregulated. This is a textbook example of a failure to respect and protect a landowner's correlative share of the Basin water supply and is contrary to California water law.

The CBGSA's proposal also infringes on the Court's sole authority to determine the parties' water rights. Pursuant to *Water Code* section 10737 et seq., the Court has the exclusive and sole authority to determine the "safe yield" of the Basin. As the CBGSA is aware due to the fact it is a party to the Adjudication, the Court set a second phase of trial to determine the "safe yield" of the Basin for February 2025. The CBGSA's attempt to quantify and limit the water rights of BLC based upon an administratively, politically and scientifically questionable "sustainable yield," prior to the court's determination of safe yield in the Adjudication, conflicts with the Court's authority to determine groundwater rights in the Basin.

VI.

**UNREGULATED PUMPING IN SOME
 AREAS OF THE SINGLE BASIN IS INAPPROPRIATE**

Previously, some GSA board members argued that groundwater levels under their land were stable and therefore, their pumping should not be reduced. As noted above, simply because groundwater under a particular parcel of land within the Basin is stable does not mean that pumping on that property is not depriving other landowners of recharge to the Basin which must be shared by all landowners. The claims of these landowners to the contrary are inconsistent

Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page Six

with correlative, shared and equal groundwater rights of overlying landowners protected by California groundwater law. The Court's Phase 1 Statement of Decision confirmed that there is a single Basin as defined by the DWR. Accordingly, consistent with California law, overlying landowners must share the limited water supply correlatively, and when there is insufficient groundwater available in the Basin, all landowners must proportionately cut back their groundwater production.

The GSP and DGSA include a separate "budget" for separate areas of the Basin which is inconsistent with California groundwater law. Unregulated pumping in the Ventucopa area exceeds the budget for this area determined by the CBGSA. This reduces available recharge to the CMA. The CBGSA and GSP relied upon Model V.20 to reach this conclusion. This model was also the basis for litigating the Basin boundary in Phase 1. The model confirmed that pumping in the Ventucopa area *intercepts* water which would otherwise flow to and recharge the central area of the Basin. The model further reveals that groundwater pumping reductions in the Ventucopa Area would substantially increase recharge to the CMA, raise groundwater levels, reduce overdraft, and maintain sustainability of the groundwater supply. Plaintiffs' expert Anthony Daus P.E., and Highland's expert Anthony Brown in Phase 1 of the Adjudication agreed that reductions in groundwater pumping in the Ventucopa area would increase groundwater recharge in the CMA.

Finally, the GSP and DGSP allow unregulated pumping in nearly ninety percent of the Basin. Unregulated pumping cannot achieve sustainability of the Basin. Unregulated pumping in the Basin will allow pumping in excess of the sustainable yield of the Basin.

VII.

THE PROPOSED PUMPING ALLOCATIONS ARE BASED UPON UNTESTED AND POTENTIALLY INACCURATE SCIENTIFIC DATA

BLC further objects to any allocation or attempted allocation, including but not limited to, any increased and/or accelerated rampdown of groundwater production, beyond what is set forth for 2023 and 2024 in the original GSP approved by the DWR. The GSP approved by the DWR was based upon Model V.20. The CBGSA is currently relying on Model V.30 as a basis for new production rampdowns. Model V.20 estimated the sustainable yield for the Basin to be 20,000 afy to 21,000 afy. Model V.30 released in July of 2024 originally estimated the sustainable yield of the Basin to be 17,800 afy. A short time later, the sustainable yield of the Basin was changed by the CBGSA to a range from 15,900 afy to 17,500 afy. The CBGSA then arbitrarily selected 16,700 afy as the sustainable yield of the Basin.

This sustainable yield determination cannot be properly based upon political decisions by Board vote rather than based upon science. Additionally, production reductions cannot be made based upon a range. The California Constitution, Article X, Section 2 provides: "It is hereby declared that because of the conditions prevailing in this State the general welfare requires that

Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page Seven

the water resources of the State be put to beneficial use to the fullest extent of which they are capable...” In the absence of proper scientific analysis, not political decisions, this is not possible. The GSP and DGSP are not supported by properly calculated and vetted scientific analysis and instead defer to political decisions. At the September 4, 2024 Board meeting, Water District consultant EKI presented new data concerning potential interconnected surface water which also casts doubt on the sustainable yield numbers discussed above. The result of the changing estimates of sustainable yield, and the most recent changes in particular, appears to change the rampdown from what the DWR approved, to an increased and accelerated rampdown based upon numbers that have not been properly assessed based upon science.

Consultants retained by BLC requested the modeling files for Model V.30 to analyze the Woodard and Curran sustainable conditions analysis. Supporting modeling files were provided on September 20, 2024. BLC consultants began analyzing the sustainable yield analysis and found that Woodard and Curran’s own modeling files did not match the sustainable yield they calculated. For example, in the modeling files provided, the sustainable yield was calculated to be 19,115 afy while in the sustainable yield calculation presented by Woodard and Curran for the Basin, pumping was 16,700 afy, a 14% increase in pumping. BLC consultants reached out to Woodard and Curran on October 1, 2024 to request correct modeling files. Unfortunately, the necessary files to complete review by BLC consultants have not been provided. Once the files are received, BLC consultants will work to complete their analysis of the model assumptions and calculations. BLC is informed that other consultants also reached out to the CBGSA with questions and/or additional information requests, without any response from the CBGSA.

Landowner consultants reviewing the GSP model and DGSP agree there has been insufficient time to properly analyze new Model V.30 and data relied upon in the model. There has been a failure to timely make the work product of CBGSA consultants supporting the model and paid for by landowners, available to all landowners for review and evaluation.

Based upon review of initial information, there are significant concerns about the technical analysis and accuracy of Model V.30 which must be evaluated and resolved before the proposed DGSP is adopted by the GSA. Additionally, the proposed pumping allocations are not supported by valid, scientific, or reliable evidence following the CBGSA’s release of the sustainable yield range and associated data in July of 2024. CBGSA’s technical support staff received several questions from landowner experts, including BLC’s expert, regarding the CBGSA’s expert data, analysis and findings. The CBGSA failed to properly consider or address any of the questions posed by landowner experts. This further exacerbated concerns regarding the GSP expert assumptions and findings supporting the CBGSA’s proposed sustainable yield numbers including the most recent sustainable pumping range. It is unreasonable and inappropriate to approve any further changes in the GSP and associated reductions in sustainable yield until the recent changes in the proposed groundwater budget can be thoroughly vetted.

All landowners and experts must have adequate time to consider, evaluate and respond to Model V.30 and the proposed changes to the GSP. As such, BLC objects to the CBGSA Cuyama Basin

Groundwater Sustainability Agency
 October 11, 2024
 Page Eight

implementing production reductions based upon new Model V.30. Instead, CBGSA should maintain production reductions at their current level, but apply them to all parties, and make no temporary nor final allocations or production limitations.

VIII.

THE CBGSA HAS NOT PROVIDED PROPER NOTICE OF INTENDED ACTIONS REGARDING AREA BOUNDARIES, WATER BUDGETS, ALLOCATION CRITERIA AND RESTRICTION OF WATER RIGHTS

The CBGSA has failed to give proper and sufficient notice to the public, and Basin stakeholders regarding critical components of the GSP, including intended actions regarding area boundaries, water budgets, allocation criteria, restriction of water rights, modifications, variances, exceptions and exclusions from the CMA. Further, the CBGSA has been inconsistent regarding the application and reliability of Model V.30.

Notwithstanding the Phase 1 Court Order, the DGSP proposes to divide the Basin into three regions and two management areas, the boundaries of which continue to remain in flux. The draft 2024 GSP does not include historic pumping or water budget information for these ill-defined regions, and the CBGSA is planning to develop landowner allocations without including the regional water budget and overdraft information in the GSP. The water budgets, overdraft information and proposed allocation methodology must be included in the GSP and submitted to DWR for approval. Otherwise, the Basin will continue to be managed on an ad-hoc basis without providing any degree of planning or certainty to Basin stakeholders.

On September 25, 2024, EKI published comments highlighting several significant flaws in Model V.30 relating to Basin outflow, water levels and lack of attention to GDE's. The CBGSA has yet to address those comments. Other technical consultants have requested further data and information from the CGGSA staff regarding Model V.30 which have been ignored.

The cumulative impact of these defects has effectively prevented a reasonable opportunity for review and evaluation of the GSP by Basin stakeholders.

IX. **CONCLUSION**

BLC will continue to cooperate in the GSA attempts to create and amend a scientifically and legally appropriate CBGSP as originally contemplated, pending court determination of the issues in the Adjudication. Unfortunately, the GSP and DGSP, which allow unregulated groundwater production for nearly ninety percent of the Basin, will not achieve and maintain sustainability. The GSP and DGSP also are not consistent with California law which requires that all landowners in the Basin, including subareas of the Basin, cut back groundwater production proportionally. Even within the CMA, certain landowners are politically and

Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page Nine

improperly exempted from pumping reductions even though the data derived from the latest model indicates otherwise.

The GSA is currently being reviewed by multiple experts in the CBGSA process and in the Adjudication. The DGSP has errors, omissions, lack of data and is tainted by political determinations which have not been vetted. The sustainable yield calculations in the GSP and DGSP have varied dramatically and without proper legal notice, in a downward direction in the absence of proper scientific analysis. The California Constitution, Article X, section 2, requires maximum use of groundwater which cannot be accomplished without proper scientific evaluation. Repeatedly changing sustainable yield numbers, and employing politically determined allocations, prevents proper planning and investment by landowners. Since the proposed changes and updates amount to fundamental changes in the GSP, and since these changes have not been approved by the DWR, these changes, including continued reductions only in the CMA, and increasing or accelerating pumping reductions, should not be undertaken by CBGSA.

BLC continues to object to the GSP in its current form, and to the proposed DGSP. BLC requests that the CBGSA correct the legal and technical deficiencies in the GSP and rescind all Board actions based upon Model V.30. Thank you for your consideration of these comments and requests.

Best regards,



DANIEL T. CLIFFORD
 Bolthouse Land Company, LLC

DTC:nv

cc:

Katelyn Zenger zengerk@kerncounty.com

Rick Burnes rick@sridge.net

Byron Albano byronalbano@gmail.com

Cory Bantilan cory.bantilan@countyofsb.org

Deborah Williams dwilliams.ccsd@gmail.com

Das Williams dwilliams@countyofsb.org

Arne Anselm Arne.Anselm@ventura.org

Blaine Reely breely@co.slo.ca.us (standing in for Jimmy Paulding jpaulding@co.slo.ca.us)

Jane Wooster jane@woosterranch.com

Derek Yurosek dyurosek@bolthouseproperties.com

Steve Jackson steve@next-gen-water.com

Public Comment on:
 The Cuyama Basin Groundwater Sustainability Agency
 2025 Amended Groundwater Sustainability Plan - Draft

October 11, 2024

Taylor Blakslee
 Project Coordinator
 Cuyama Basin Groundwater Sustainability
 Agency
 4900 California Ave, Tower B, 2nd Floor,
 Bakersfield, CA 93309
 (661) 477-3385

Brenton Kelly
 Quail Springs Permaculture
 Ventucopa Uplands
 Standing Advisory Committee Chair
 cuyamalorax@gmail.com

Sent by electronic mail to:
 TBlakslee@hgcpm.com

Dear Mr. Blakslee,

Please accept these comments in response to the Cuyama Basin Groundwater Sustainability Agency (GSA) public draft of the 2024 Amended Groundwater Sustainability Plan (GSP) currently under development for submission to the California Department of Water Resources (DWR) in January of 2025. I appreciate the time and effort invested by the GSA Board and Staff with technical assistance from Woodard & Curran in furtherance of achieving sustainable groundwater use in the Cuyama Valley. Thank you for considering these and other stakeholders' comments. These comments are my own and do not necessarily represent the views of the other affiliations that I represent in the valley.

Background

As a resident of the Cuyama Valley for over 18 years, and an engaged stakeholder since before the adoption of the Sustainable Groundwater Management Act (SGMA), I have an informed and objective view of the actions, efforts, challenges and obstacles in trying to manage one of California's most critically overdrafted basins. At this point, we are 10 years into SGMA and undergoing the first five year update to the GSP in its 20-year implementation period. While there have been some good accomplishments during this last decade, the Cuyama Basin has experienced more than seven decades of chronic over-extraction of its pleistocene-aged groundwater. Over-pumping has averaged two to three times the sustainable yield and continues today. Significant and unreasonable reductions in both groundwater storage and groundwater levels continue to cause many of the undesirable results identified by SGMA.

The amended GSP documents that the basin continues to lose 25,000 acre-feet (AF) per year on average. 250,000 AF have been lost since 2014, when SGMA became law. Since the

passage of SGMA, groundwater elevations in the Central Management Area (CMA) have plummeted over 70 feet, adding to the 500-foot decline of groundwater levels that this basin has endured prior to 2014. The trends are clearly demonstrated; the several undesirable results are clearly evident; the cause of the problem has always been obvious, and the only effective solution to the problem is perfectly clear. Unfortunately the resistance to cut backs is equally obvious.

Undesirable Results

Deficiency: Lack of urgency and attention on continued, sustained and significant declines in groundwater levels and loss of groundwater storage

3.2 Undesirable Results Statements (Pg. 3-1)

Undesirable Results are defined in SGMA as one or more of the following effects caused by groundwater conditions occurring throughout the Basin:

- *Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.*
- *Significant and unreasonable reduction of groundwater storage.*

Although SGMA doesn't require the consideration of undesirable results that occurred before 2015, the Cuyama Basin continues to experience "significant and unreasonable depletion of supply" at the same rate after that date as before that date. By the time this plan is fully implemented hundreds of thousands of acre feet of groundwater storage will be lost, along with several hundred feet of additional decline in groundwater elevations. Both of these undesirable results—identified by SGMA—are caused by pumping more groundwater than the aquifer can sustain over time without depletion.

The amended GSP shows clear, documented evidence of the severity of localized overpumping in the CMA with some areas still exceeding an average drawdown of over seven feet per year. Why are these degrading historic conditions being permitted to continue without recognition of the obvious undesirable results as defined in the GSP?

Deficiency: Degrading riparian habitat is not addressed

5.7 Depletions of Interconnected Surface Water (Pg.5-20)

DWR is in the process of developing additional guidance documents to assist GSAs in addressing the interconnected surface waters sustainability indicator. At this time, those guidance documents have not been published, but the CBGSA plans to utilize those resources when they become available for future updates to the GSP and for future ISW implementation.

Some of the old dead Cottonwood trees are still standing like headstones in a graveyard, but most have fallen with the declining groundwater levels. Little is known about the few wetlands that remain in the basin because no biological survey or in-field assessments have been conducted to effectively identify their existence and location. The state grant funded project to fill these data gaps and install 10 shallow well piezometers in the wetlands has been downsized to just three piezometers, presumably to be used to monitor the remaining cottonwoods' continued decline. As the last trees die and fall, this GSP offers little protection to these environmentally sensitive habitats. DWR has recently published and released these ISW guidance documents. What will remain of the beneficial uses of Interconnected Surface Water if *sustainability* is ever accomplished?

Minimum Thresholds

Deficiency: Lowering most of the Minimum Thresholds without scientific justification

5.2.2 Minimum Thresholds, Measurable Objectives, and Interim Milestones (Pg. 5-5)

For RMWs that did not utilize the saturated thickness approach in the approved 2020 GSP,

- a. *First find the deeper of these two values:*
 - i. *Deepest depth to water (DTW) from 2013-2023 + buffer*
 - ii. *Cuyama Basin groundwater model projected DTW in 2040*
- b. *Then find the shallower value between Step 2a, the WPD and the GDE protection depth*

The approved GSA (2022) includes several sustainable management criteria that when triggered will require the GSA to determine and apply a management action to correct the conditions that breached the stated sustainable management criteria. One of these sustainable management criteria is “The GSP states undesirable results for chronic lowering of groundwater levels would occur when groundwater level minimum thresholds are exceeded in 30 percent of monitoring wells for two consecutive years”. Over the past several years, more than 30 percent of monitoring wells have exceeded their minimum thresholds, Yet no management action was triggered. Instead, the GSA lowered the minimum thresholds, to obscure the continuing overdraft and postpone taking action to determine the cause and correct these exceedances.

In the current 5-year update to the GSP, the GSA has lowered Minimum Thresholds (MTs) for 36 out of 49 (73%) of wells in the monitoring network by an average of 36 feet, with MTs for two monitoring wells lowered more than 200 feet and MTs for seven monitoring wells lowered more than 80 feet. It is fair to say that these wholesale adjustments—not backed by science— was a successful effort to obscure the evidence of overdraft and avoid triggering an established key sustainable management criteria for the basin. These adjustments compromise critical guardrails that can help to slow and eventually reverse historic and continuing overdraft.

This GSP would allow for up to 250,000 acre feet of continued overdraft before 2040. The MTs provided in the 5-year update will allow groundwater elevations to decline further without triggering any Adaptive Management actions to prevent it. This one amendment has

greenwashed the basin's continued overdraft and ensured that this continued overdraft will not be recognized as an undesirable result. How is this a constructive contribution to sustainability? It's not.

Deficiency: Questionable justification for inconsistent criteria in setting Minimum Thresholds for two key monitoring wells

5.2.2 Minimum Thresholds, Measurable Objectives, and Interim Milestones (Pg. 5-5)

For RMWs that used the saturated thickness approach in the approved 2020 GSP, utilize that same approach.

In the 5-year update to the GSP, in order to treat the basin uniformly, the GSA adopted an elaborate four-step matrix to reset all Minimum Thresholds across the basin. A consistent scientific method was employed which is intended to help protect shallow domestic wells and sensitive wetlands from the effects of nearby pumping. While this method was declared to treat the whole basin uniformly, two critical monitoring wells were exempted from this scientific approach **without explanation**. Rather than follow the 4-step matrix employed to set MTs for the rest of the basin, the MTs for these two wells were set using an unverified, proprietary landowner-funded approach based on something called 'saturated thickness'. This approach resulted in MTs that allow more than 100 feet of groundwater decline before triggering any management action. This inconsistent, unexplained and unverified approach significantly compromises the effective management of the basin as a whole, as well as the credibility of the science used basinwide. Why was this pumper-funded approach—which was not independently reviewed or verified—allowed to determine MTs for just two wells, particularly as it resulted in allowing the pumper to continue to draw down those two wells by more than 100 feet, more than any other monitoring well in the basin. Is this a fair way to set basin wide management policy? How is this consistent with stopping overdraft? It's not.

Managing Pumping Reductions

Deficiency: Lack of consideration of all beneficial users and uses, particularly small pumpers

Pumping reductions of over 60% are anticipated basinwide in order to achieve balance by 2040 in compliance with SGMA. Allocations have been developed for all parcels in the CMA, the area of the basin where the majority of overdraft is occurring and currently the only areas of the basin where pumping reductions are required. However, according to the [Allocation Report](#), over 90% of the applied water is pumped by less than 5% of the pumpers. Why are a small minority of operators allowed to significantly and unreasonably impact the remainder of all beneficial users?

The CMA represents about 17% of the basin (25,900 acres out of a total 147,200 acre basin) and is responsible for over 80% of the basin-wide pumping. The remaining 20% (~8,000 AF) is easily accounted for by the irrigated land use outside the CMA where the modeled drawdown is less than 2 feet per year. The GSP fails to recognize that there is more than a magnitude of

difference between the small number of big pumpers and the vast majority of small farmers in the basin. The former represent the major cause of the overdraft problem; the latter may be demonstrating viable solutions to sustainable groundwater use. The GSP should encourage the latter while it effectively manages the former. The degree of pumping reductions should correlate with the pumpers' contribution to the overdraft. Many small pumpers are negligible contributors to the overdraft and should not bear the same burden of reductions as operators who pump 10, 100 and 1000 times more water. How can this discrepancy be reconciled? Why hasn't a tiered approach to pumping reductions or a Sustainability Exemption for small pumpers been seriously considered by the GSA, despite suggestions by the SAC and stakeholders?

Allocations Baseline

Deficiency: inadequate justification for use of outdated model estimate for pumping reduction baseline

The GSA has not yet agreed upon a baseline value for a starting point for the reduction of allocations. The approved GSP used the old modeled estimate for the year 2021, a dry year with higher extraction. The new model estimates extraction for that same year at 32% less (34,000AF vs. 54,600AF). The best data and science available has gone into the updated model, yet some members of the GSA continue to suggest using the old number, which did not have the benefit of new data and more accurate science. The GSA should not be choosing between new and outdated data. Simply put, a higher baseline number would allow for more groundwater extraction over the implementation period than a smaller baseline. To choose a higher baseline number is to allow more depletion of groundwater storage to occur before sustainability is achieved. The choice of a higher baseline number, in the face of the scientific evidence that the GSA has spent millions of dollars to produce, would increase the undesirable result of groundwater storage loss. The GSA should be protecting groundwater storage and should not use an outdated data point and allow greater overdraft.

Adaptive Management

Deficiency: Lack of enforcement actions identified to be implemented when sustainable management criteria are triggered.

7.6 Adaptive Management. (Pg 7-33)

For CBGSA, the trigger for adaptive management and CBGSA's next steps would be as follows:

- Pumping reductions are more than 5 percent off the glide path identified in the pumping allocation plan: CBGSA would evaluate why pumping allocations are not being met and implement additional outreach or enforcement, as appropriate.*
- If the Basin is within the Margin of Operational Flexibility, but trending toward Undesirable Results, and within 10 percent of the Minimum Threshold: CBGSA will investigate the cause and determine appropriate actions*

In the first five years of this GSP the basin got to within a month of the undesirable result threshold, more than 30% of MTs exceeded for 2 years. The only effort made to avoid this problem was to lower all the Minimum Thresholds. Without any real pumping reductions happening yet due to over-allocations of pumping, the glide path is already behind the curve. No investigations have resulted from any of the 43% (21 wells) of representative monitoring wells that have exceeded their MTs; in some cases for more than 2 years. This policy continues to have no enforceability, no actionable timeline and no accountability. The Basin has been '*trending toward Undesirable Results*' for decades! How will we achieve sustainability now that the goal posts have been moved?

Recommendations

- The GSP should investigate, quantify and protect the remaining GDEs in the Basin before more are lost.
- The GSP should be more protective of groundwater resources and recognize the undesirable result of long term chronic declining groundwater levels and the loss of storage.
- The Central Management Area should be better justified by ground truthed data and not be driven solely by the current algorithms of the Hydrologic Model.
- The GSP would be more effective if it addressed the causes of long term chronic overdraft rather than just lowering the Minimum Thresholds to avoid exceedance.
- The GSP would be more consistent if it did not make one-off questionable exceptions for groundwater level declines for one large operation in the Northwest area.
- The GSP would be more equitable if it recognized the magnitudes of difference between the large and small farming operations in the valley.
- The GSP would be more enforceable if it had Management Action triggers and timelines, and the GSA exercised its authority and mandate to preserve groundwater.

Respectfully submitted,
Brenton Kelly



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



October 11, 2024

James Beck
Executive Director
Cuyama Basin Groundwater Sustainability Agency
4900 California Avenue, Tower B, 2nd Floor
Bakersfield, California 93309
Email: jbeck@hgcpm.com

Via Electronic Mail and Online Submission

**Subject: CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE COMMENTS ON THE
CUYAMA VALLEY GROUNDWATER BASIN UPDATED GROUNDWATER
SUSTAINABILITY PLAN**

Dear James Beck:

The California Department of Fish and Wildlife (Department) is providing comments on the five-year Cuyama Basin Groundwater Sustainability Agency (GSA) Cuyama Valley Groundwater Basin Groundwater Sustainability Plan (Updated GSP) made available to the public on September 12, 2024, and prepared pursuant to the Sustainable Groundwater Management Act (SGMA). The Basin is designated as Critically Over Drafted under SGMA.

The Cuyama Valley Basin GSP was approved by the California Department of Water Resources (DWR) on May 25, 2023 (Approved GSP). In approving this GSP, DWR identified four Deficiencies to be addressed by the GSA when updating the GSP prior to DWR's first five-year review. An approved GSP must be periodically reviewed by DWR at least every five years (Cal. Code Regs., tit. 23, § 356.4). The upcoming due date, for GSAs with approved GSPs in Critically Over Drafted Basins, to submit updated GSPs to DWR prior to its upcoming five-year review is January 30, 2025.

The Department is writing to support ecosystem preservation and enhancement in compliance with SGMA and its implementing regulations based on Department expertise and best available information and science. The Department has an interest in the sustainable management of groundwater, as many sensitive ecosystems, species, and public trust resources depend on groundwater and interconnected surface water (ISW), including groundwater dependent ecosystems (GDEs). In the context of SGMA

Conserving California's Wildlife Since 1870

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 2

statutes and regulations, and Public Trust Doctrine considerations, groundwater planning should carefully consider and protect environmental beneficial uses and users of groundwater, including fish and wildlife and their habitats, GDEs, and ISW. The Department has enclosed, for reference, a summary of GSP requirements and GSA obligations with respect to the protection of fish and wildlife and public trust resources (Attachment A).

COMMENTS AND RECOMMENDATIONS

The Department reviewed the Cuyama Valley Basin Updated GSP and believes that it fails to adequately address the following Deficiencies and associated Corrective Actions identified in the DWR Approval Determination:

Deficiency 1: The Approved GSP lacks justification for, and effects associated with, the sustainable management criteria for groundwater levels

Corrective Action 1a: Monitor impacts to beneficial uses and users and provide an update on impacts and adaptive management strategies.

Corrective Action 1b: Explain and justify how and why using a subset of representative wells available in the region is appropriate to simulate the potential impacts to all beneficial uses and users in the region.

Department Response and Recommendation: Upon review of the information provided in Sections 2.2.11 Groundwater Dependent Ecosystems and 2.2.12 Data Gaps in the Updated GSP; Section 5.2.2 (Page 5-3) GDE Protection Depth; and Chapter 1 (response to comments) and Chapter 2 of Appendix D (page 2); the Department believes that data and methods used to verify and evaluate environmental beneficial users including sensitive fish and wildlife beneficial users and GDEs remains unchanged and insufficient. As previously stated in the Department's comments on the Final GSP (Attachment B) and Draft GSP (Attachments C and D), the Department recommends that the Updated GSP adequately evaluate data gaps pertaining to environmental beneficial users and uses including GDEs and incorporate the recommendations of the following three comments with respect to this deficiency:

1. Issue: GDE Assessment (Appendix D Chapter 2):
Methods applied to the California DWR Natural Communities Commonly Associated with Groundwater (NCCAG) dataset to eliminate potential GDEs are not robust. The Updated GSP relied on prior aerial imagery and the NCCAG geospatial data set to identify locations for GDEs and used the following criteria to further discern between "probable GDEs" and "probable non-GDEs":

James Beck
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 3

- Presence of a mapped United States Geological Survey (USGS) spring or seep.
- Inundation visible on aerial imagery.
- Saturation visible on aerial imagery.
- Dense riparian and/or wetland vegetation visible on aerial imagery.
- GDE field verification at a total of six locations in the field on publicly accessible lands.

These methods of GDE evaluation, identification, and exclusion resulted in the GSP determining a total of 275 mapped polygons throughout the Cuyama Valley Subbasin as “probable non-GDEs,” contradicting the NCCAG and other data sets including The Nature Conservancy’s GDE Pulse which currently identify these same areas as GDEs.

The Updated GSP does not include an evaluation of other sensitive species of fish and wildlife environmental beneficial users that are vulnerable to pumping impacts in Cuyama Valley Basin area, include (but are not limited to): California red-legged frog (*Rana draytonii*); tricolored blackbird (*Agelaius tricolor*); western spadefoot (*Spea hammondi*); southwestern pond turtle (*Actinemys pallida*); yellow warbler (*Setophaga petechia*); Arroyo chub (*Gila orcuttii*); least Bell’s vireo (*Vireo bellii pusillus*); and willow flycatcher (*Empidonax traillii*).

Recommendation: As stated above, the Updated GSP does not adequately identify GDEs within the Cuyama Valley Basin and methods applied to the elimination of potential GDEs are not scientifically sound. The Department continues to recommend the GSP elaborate on potential environmental beneficial uses and users of groundwater by including a detailed description on how these users, such as GDEs and the species therein, may rely on groundwater and be impacted by Sustainable Management Criteria pursuant to California Code of Regulations, Title 23, sections 354.10 subdivision (a), 354.26 subdivision (b)(3), 354.28 subdivision (b)(4), 354.34 subdivision (b)(2), and 354.34 subdivision (f)(3). CDFW considers its prior comments still valid and continues to recommend that the best scientific data on depth to groundwater inform the analysis of GDEs and ISW s before potential GDEs are excluded. Until such time as data is collected to field verify the presence of all GDEs, groundwater uncertainties should preclude the exclusion of GDEs.

2. Issue: GDE Protection Depth (GSP Subsection 5.2.2 page 5-3):

The Updated GSP assigns a protection depth of 30 feet below ground surface as a minimum sustainability threshold for “potential GDE” locations. The Updated GSP does not adequately address the following requirement for minimum thresholds as defined in the SGMA regulations: “The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 4

results for each of the sustainability indicators.” (Cal. Code Regs., tit. 23, § 354.28 subd. (b)(2)).

It is unclear whether the Updated GSP is using this minimum threshold to establish a proxy depth to groundwater as an alternative method of eliminating GDEs within the Cuyama Valley Subbasin. The Updated GSP does not specify how this depth to groundwater protects GDEs that may rely on shallower groundwater levels.

The Updated GSP only assigns minimum threshold monitoring for the protection of “probable GDEs.” This is inadequate given the method of GDE identification and exclusion seems questionable, as stated above. By assigning minimum thresholds to only “probable GDEs” the majority of GDEs identified in the Cuyama Valley Subbasin by other methods including the NCCAG and The Nature Conservancy GDE Pulse, are not considered when developing sustainability thresholds, and relegates monitoring for GDEs to primarily the southeastern and northwestern portions of the Cuyama Valley GSP area.

Exclusion of potential GDEs based on this singular groundwater elevation measurement is questionable because it does not consider representative climate conditions (i.e. seasons and a range of water type years) and it does not account for GDEs that can survive a finite period of time without groundwater access (Naumburg et al. 2005), but that rely on groundwater table recovery periods for long term survival.

The Updated GSP’s removal of potential GDEs based on a proxy depth to groundwater, including removal of GDEs that may be dependent on seasonally high groundwater table adjacent to irrigated fields or losing surface water bodies, does not consider GDE’s adaptability and opportunistic nature in accessing water supply. For instance, GDEs that are near *interconnected* surface water bodies may depend on sustained groundwater elevations that stabilize the gradient or rate of loss of surface water; meaning ecosystems near ISWs may depend on sustainable groundwater elevations. Therefore, it is possible that any of these potential GDEs rely on groundwater during specific seasons or water year types.

In addition to aerial imagery, trend data from The Nature Conservancy GDE Pulse web application (which uses Normalized Derived Vegetation Index (NDVI) and Normalized Derived Moisture Index (NDMI) to estimate GDEs in an area) infers that GDEs along Cuyama River and other areas show little or no change in GDE vegetation from 1985 to 2023. This contradicts the Updated GSP’s assumption that GDEs are no longer present in areas where depth to groundwater exceeded 30 feet in the fall of 2015.

James Beck
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 5

Recommendations: The Department has two recommendations to address the deficient analysis of GDE protection depth:

- a. Develop a robust hydrologic baseline: If GDE are to be excluded from analysis based on a proxy depth to groundwater threshold, the Updated GSP should utilize a scientifically robust hydrologic baseline that relies on multiple, climatically representative years of groundwater elevation and that accounts for the inter-seasonal and inter-annual variability of GDE water demand. Because some GDEs can exceed a 30-foot rooting zone and may rely on seasonal groundwater-level fluctuations (Lewis and Burgy 1964, Miller et al 2010, Stromberg 2013), the Department recommends using a 50-foot, instead of a 30-foot, depth to groundwater threshold for analysis.
 - b. Include additional data sources and references for evaluation: The Department recognizes that NCCAG (Klausmeyer et al. 2018) provided by DWR is a good starting reference for GDE's; however, the Department recommends the Updated GSP include additional resources for evaluating GDE locations. The Department recommends consulting other references, including, but not limited to: The Nature Conservancy GDE Pulse (TNC 2024), California Department of Fish and Wildlife (CDFW) (2019) VegCAMP, CDFW (2024), California Native Plant Society (CNPS) (2019A and 2019B), Klausmeyer et al. (2019), Rohde et al. (2018), Rohde et al. (2019), The Nature Conservancy (TNC) (2014), TNC (2019), U.S. Forest Service (USFS) (2019) CalVeg, U.S. Fish and Wildlife Service (USFWS) (2018) NWI, USFWS (2019), and Witham et al. (2014).
3. Issue: GDE Data Gaps - GDEs and Monitoring Wells:
 A total of three new shallow monitoring wells (piezometers) and seven existing representative monitoring wells are located in areas of "probable GDEs" (Updated GSP Section 2, Subsection 2.2.11, page 2-148, Figure 2-91; Subsection 2.2.12, page 2-153; Section 4, Subsection 4.5.1, page 4-35). Although the Department believes the GSA's installation of three piezometers in the vicinity of GDEs is an improvement, it seems insufficient given the majority of GDEs identified in throughout the Cuyama Valley Subbasin are excluded from monitoring because, as stated above, methods utilized by the Updated GSP have deemed them as "probable non-GDEs".

Recommendation: Until such time as ISW and GDE can be verified with empirical evidence, the Department recommends that the Updated GSP include all potential GDE as beneficial users of groundwater and identify continued efforts to confirm the presence or absence of GDE and surface water groundwater interconnection.

James Beck
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 6

Deficiency 2: The Approved GSP does not fully describe the use of groundwater levels as a proxy for depletion of interconnected surface water.

Corrective Action 2a: Utilize the interconnected surface water guidance when issued by DWR to establish quantifiable minimum thresholds, measurable objectives, and management actions.

Corrective Action 2b: Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.

Corrective Action 2c: Prioritize collaborating and coordinating with local, state, and federal regulatory agencies, as well as interested parties, to better understand the full suite of beneficial uses and users that may be impacted by pumping-induced surface water depletions within the GSA's jurisdictional area.

Upon review of the information provided in Updated GSP Sections 2.2, Groundwater Conditions, 2.2.10 ISW Systems, 4.10 (page 4-66) Depletions of ISW Monitoring Network, 4.10.7 Plan to Fill Data Gaps, 5.7 Depletions of ISWs, and 5.7.1 Proxy Monitoring, the Department believes that data and methods used to evaluate ISWs and impacts to environmental beneficial users including sensitive fish and wildlife beneficial users and GDEs remains unchanged and insufficient. As previously stated in our comments above and in the Department's comments on the Final GSP (Attachment B) and Draft GSP (Attachments C and D), the Department recommends that the Updated GSP include the best scientific data on depth to groundwater to inform analysis of ISWs pertaining to environmental beneficial users and uses including GDEs and incorporate the recommendations of the following three comments:

1. Issue: Absence of ISW sustainability indicators:

The Updated GSP states the GSA will address ISW sustainability indicators when DWR issues its guidance document to GSAs. No attempt made to propose a method for addressing ISW. As such the plan remains incomplete with respect to this deficiency (Updated GSP subsection 5.7, pages 5-20 and 5-21).

Recommendation: Although the final guidance document may not be made available prior to the end of the five-year review process, the Department recommends the GSA review the draft document and utilize appropriate information for the ISW analysis.

2. Issue: Absence of evaluation of impacts from new pumping:

The Cuyama Basin has undergone an expansion of agricultural development during the drought between 2014 through 2022, especially in the northwest area near the

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 7

Department's Carrizo Plains Ecological Reserve. Changes in pumping patterns due to new agricultural development can have a significant impact on ISWs and subsequently GDEs and other beneficial users. The Updated GSP does not include an updated evaluation of changes in land use and associated pumping patterns and these effects on ISW and GDEs (Updated GSP subsection 4.10).

Recommendation: The Department recommends the Updated GSP address changes in pumping patterns resulting from new agricultural development, and include this information in future GSP updates. Impacts to ISWs and GDEs and sustainability indicators from these changes should be analyzed in the Updated GSP and subsequent GSP updates.

3. Issue: Inadequate justification of proxy metrics:

The minimum thresholds for ISW and stream flow depletion is defined in the Updated GSP as the low groundwater elevation observed in fall 2015 at each representative monitoring location (Updated GSP Subsection 5.7.2 page 5-21). The Updated GSP does not adequately address the following requirement for minimum thresholds as defined in the SGMA regulations: "The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (Cal. Code Regs., tit. 23, §354.28(b)(2).

The minimum thresholds for ISW and stream flow depletion is defined in the Updated GSP as the low groundwater elevation observed in fall 2015 at each representative monitoring location. The Department does not concur with the use of groundwater elevations as a proxy metric for ISW depletions as the Updated GSP has not provided a robust analysis of how this proposed minimum threshold for streamflow depletion avoids the undesirable result of significant and unreasonable impacts to beneficial uses of surface water. The ability of the proposed sustainable management criteria to avoid impacting surface water beneficial uses, including fish and wildlife environmental beneficial uses and users, are not analyzed. The Department believes that any surface water depletions attributable to groundwater pumping are likely significant, particularly when contrasted with the benchmark year of 2015, which was the third documented consecutive critical dry year in a drought cycle.

If a significant correlation is lacking between groundwater levels and ISW depletions, particularly at the representative monitoring well locations used to track groundwater elevations, then groundwater elevations used as a proxy for surface water depletions may misinform groundwater management activities and poorly predict instream habitat conditions for fish and wildlife species. Accordingly, the Department

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 8

does not concur that the subsequent application of Groundwater Level sustainable management criteria to Depletions of Interconnected Surface Water is appropriate, as it is not grounded in a quantifiable and site-specific understanding of surface water-groundwater connectivity pursuant to California Code of Regulations, Title 23, section 354.28, subdivision (c)(6)(A).

Recommendation: To justify use of groundwater elevations as a proxy metric for Depletions of Interconnected Surface Water, the Department recommends the Updated GSP specify how groundwater elevations are significantly correlated to surface water depletions using empirical evidence; and define an expeditious path to identifying the location, quantity, and timing of surface water depletions caused by groundwater use, pursuant to California Code of Regulations, Title 23, section 354.28, subdivision (c)(6)(A), to better inform sustainability criteria for Depletions of Interconnected Surface Water.

CONCLUSION

In conclusion, the Department deems the Updated GSP insufficient in its consideration of GDEs and ISW, and environmental beneficial uses and users of groundwater including fish and wildlife and their habitats. The Department's comments further indicate that the Updated GSP fails to sufficiently address deficiencies previously identified by DWR, and thus may warrant a determination of incompleteness due to the following deficiencies:

1. The assumptions, criteria, findings, and objectives, including the sustainability goal, undesirable results, minimum thresholds, measurable objectives, and interim milestones are not reasonable and/or not supported by the best available information and best available science [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(1)];
2. The GSP does not identify reasonable measures and schedules to eliminate data gaps [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(2)];
3. The sustainable management criteria and projects and management actions are not commensurate with the level of understanding of the basin setting, based on the level of uncertainty, as reflected in the GSP [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(3)];
4. The interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have not been considered [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(4)];
5. The projects and management actions are not feasible and/or not likely to prevent undesirable results and ensure that the basin is operated within its sustainable yield [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(5)];

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 9

6. The GSP does not provide sufficient information to indicate that the GSA has adequately responded to comments that raise credible technical or policy issues with the GSP [Cal. Code Regs., tit. 23, § 355.4, subd. (b)(10)].

The Department has included a summary of GSP regulatory requirements pertaining to the protection of fish and wildlife (Attachment A) and has also included prior Department comments (Attachments B, C, and D) for your reference.

The Department appreciates the opportunity to provide comments on the Cuyama Valley Basin Updated GSP. If you have any further questions, please contact Annette Tenneboe at Annette.Tenneboe@wildlife.ca.gov.

Sincerely,

DocuSigned by:

FA83F09FE08945A...

Julie A. Vance
Regional Manager

Enclosures (Attachments A, B, C, D)

cc: California Department of Fish and Wildlife

Brooke Jacobs, Branch Chief
Water Branch
Brooke.Jacobs@wildlife.ca.gov

Robert Holmes, Environmental Program Manager
Statewide Water Planning Program
Robert.Holmes@wildlife.ca.gov

Adam Weinberg, Statewide SGMA Coordinator
Groundwater Program
Adam.Weinberg@wildlife.ca.gov

Kathleen Miller, Attorney III
Office of the General Counsel
Kathleen.Miller@wildlife.ca.gov

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 10

California Department of Water Resources

Paul Gosselin
Deputy Director of Sustainable Groundwater Management
Paul.Gosselin@water.ca.gov

National Marine Fisheries Service

Rick Rogers, Fish Biologist
West Coast Region
Rick.Rogers@noaa.gov

State Water Resources Control Board

Natalie Stork, Assistant Director
Office of Sustainable Groundwater Management
Natalie.Stork@waterboards.ca.gov

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 11

Attachment A

Summary of GSP Requirements and GSA Obligations With Respect to the Protection of Fish and Wildlife and Public Trust Resources

As trustee agency for the State's fish and wildlife resources, the Department 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 & G. Code, §§ 711.7 and 1802). SGMA and its implementing regulations afford ecosystems and species specific statutory and regulatory consideration, including the following as pertinent to GSPs:

- GSPs must **consider impacts to GDEs** (Water Code, § 10727.4, subd. (l); see also Cal. Code Regs., tit. 23, § 354.16, subd. (g));
- GSPs must consider the interests of all beneficial uses and users of groundwater, including environmental users of groundwater (Water Code, § 10723.2) and GSPs must **identify and consider potential effects on all beneficial uses and users of groundwater** (Cal. Code Regs., tit. 23, §§ 354.10, subd. (a), 354.26, subd. (b)(3), 354.28, subd. (b)(4), 354.34, subds. (b)(2), & (f)(3));
- GSPs must **establish sustainable management criteria that avoid undesirable results** within 20 years of the applicable statutory deadline, including **depletions of ISW that have significant and unreasonable adverse impacts on beneficial uses of the surface water** (Cal. Code Regs., tit. 23, § 354.22 *et seq.* and Water Code §§ 10721, subd. (x)(6) and 10727.2, subd. (b)) and describe monitoring networks that can identify adverse impacts to beneficial uses of ISW (Cal. Code Regs., tit. 23, § 354.34, subd. (c)(6)(D)); and
- GSPs must **account for groundwater extraction for all water use sectors**, including managed wetlands, managed recharge, and native vegetation (Cal. Code Regs., tit. 23, §§ 351, subds. (a) & (l) and 354.18, subd. (b)(3)).

Furthermore, the Public Trust Doctrine imposes a related but distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419.) The GSA has “an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.” (*National Audubon Society, supra*, 33 Cal. 3d at 446.) Accordingly, groundwater plans should consider

James Beck
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 12

potential impacts to and appropriate protections for ISW and their tributaries, and ISW that support fisheries, including the level of groundwater contribution to those waters.

Attachment B

*CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE CENTRAL REGION
COMMENTS ON THE CUYAMA GSA/BASIN FINAL GROUNDWATER
SUSTAINABILITY PLAN*

Attachment C

*CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE CENTRAL REGION
COMMENTS ON THE CUYAMA GSA/BASIN DRAFT GROUNDWATER
SUSTAINABILITY PLAN*

Attachment D

*CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE SOUTH COAST REGION
COMMENTS ON THE CUYAMA GSA / BASIN Draft GROUNDWATER
SUSTAINABILITY PLAN*

Attachment E

LITERATURE CITED

California Department of Fish and Wildlife (CDFW). 2019. Vegetation Classification and Mapping Program. Available from <https://wildlife.ca.gov/Data/VegCAMP>

CDFW. 2024. Biogeographic Information and Observation System (BIOS). <https://www.wildlife.ca.gov/Data/BIOS>. Accessed October 07, 2024.

California Native Plant Society (CNPS). 2019A. A Manual of California Vegetation, online edition. <http://www.cnps.org/cnps/vegetation/>

CNPS. 2019B. California Protected Areas Database. (CPAD). Sacramento, California. <https://www.calands.org/cpad/>

Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, and A. Lyons. 2018. Mapping indicators of groundwater dependent ecosystems in California. <https://gis.water.ca.gov/app/NCDatasetViewer/>

Klausmeyer, K. R., T. Biswas, M. M. Rohde, F. Schuetzenmeister, N. Rindlaub, and J. K. Howard. 2019. GDE pulse: taking the pulse of groundwater dependent ecosystems with satellite data. San Francisco, California. Available at <https://gde.codefornature.org>. (Same as: TNC. 2024. GDE pulse. Interactive map. Website. <https://gde.codefornature.org/#/home>)

Lewis, D. C., and R. H. Burgy (1964), Relationship between oak tree roots + groundwater in fractured rock as determined by tritium tracing, J. Geophys. Res., 69(12), 2579–2588

Miller, G. R., X. Chen, Y. Rubin, S. Ma, and D. D. Baldocchi (2010), Groundwater uptake by woody vegetation in a semiarid oak savanna, Water Resour. Res., 46, W10503, doi:10.1029/2009WR008902.

Naumburg E, R. Mata-Gonzalez, R.G. Hunter, T. McLendon and D. Martin. 2005. Phreatophytic vegetation and groundwater fluctuations: a review of current research

and application of ecosystem response modeling with an emphasis on great basin vegetation. *Environmental Management*. 35(6):726-40

- Rohde, M. M., S. Matsumoto, J. Howard, S. Liu, L. Riege, and E. J. Remson. 2018. Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans. The Nature Conservancy, San Francisco, California.
- Rohde M.M., Seapy B, Rogers R, Castañeda X, editors. 2019. Critical Species LookBook: A compendium of California's threatened and endangered species for sustainable groundwater management. The Nature Conservancy, San Francisco, California.
- Stromberg, J.. 2013. Root patterns and hydrogeomorphic niches of riparian plants in the American Southwest. *Journal of Arid Environments*. 94.1-9. 10.1016/j.jaridenv.2013.02.004.
- The Nature Conservancy (TNC). 2014. Groundwater and stream interaction in California's Central Valley: insights for sustainable groundwater management. Prepared by RMC Water and Environment.
- TNC. 2019. The Critical Species LookBook. Groundwater Resource Hub. https://www.groundwaterresourcehub.org/content/dam/tnc/nature/en/documents/Critical_Species_LookBook_91819.pdf
- TNC, California. 2024. GDE Pulse v2.2.0. San Francisco, California. <https://gde.codefornature.org>. (September 12, 2024)
- U.S. Forest Service (USFS). 2019. Landsat-based classification and assessment of visible ecological groupings, USDA Forest Service (March 2007).
- U.S. Fish and Wildlife Service (USFWS). 2018. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. <http://www.fws.gov/wetlands/>
- USFWS. 2019. Threatened & Endangered Species Active Critical Habitat Report: online mapping tool. <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>
- Witham, C. W., R. F. Holland, and J. E. Vollmar. 2014. Changes in the Distribution of Great Valley Vernal Pool Habitats from 2005 to 2012. Prepared for CVPIA Habitat Restoration Program, U.S. Fish and Wildlife Service, Sacramento, CA. USFWS Grant Agreement No. F11AP00169 with Vollmar Natural Lands Consulting.



DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



May 8, 2020

Via Electronic Mail and Online Submission

Craig Altare
Supervising Engineering Geologist
California Department of Water Resources
901 P Street, Room 213
Sacramento, California 94236
Email: Craig.Altare@water.ca.gov
Portal Submission: <https://sgma.water.ca.gov/portal/#gsp>

Taylor Blakslee
Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
4900 California Avenue, Tower B, 2nd Floor
Bakersfield, California 93309
Email: tblakslee@hgcpm.com

Subject: Comments on the Cuyama Basin Final Groundwater Sustainability Plan

Dear Mr. Altare and Mr. Blakslee:

The California Department of Fish and Wildlife (Department) Central Region is providing comments on the Cuyama Basin Groundwater Sustainability Agency (GSA) Cuyama Basin Final Groundwater Sustainability Plan (GSP) prepared pursuant to the Sustainable Groundwater Management Act (SGMA). As trustee agency for the State's fish and wildlife resources, the Department 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 & Game Code §§ 711.7 and 1802).

Development and implementation of GSPs under SGMA represents a new era of California groundwater management. The Department has an interest in the sustainable management of groundwater, as many sensitive ecosystems and species depend on groundwater and Interconnected Surface Waters (ISW), including ecosystems on Department-owned and -managed lands within SGMA-regulated basins. SGMA and its implementing regulations afford ecosystems and species specific statutory and regulatory consideration, including the following as pertinent to Groundwater Sustainability Plans:

Craig Altare
Taylor Blakslee
May 8, 2020
Page 2

- Groundwater Sustainability Plans must identify and consider impacts to groundwater dependent ecosystems (GDEs) [23 CCR § 354.16(g) and Water Code § 10727.4(l)];
- Groundwater Sustainability Agencies must consider all beneficial uses and users of groundwater, including environmental users of groundwater [Water Code §10723.2 (e)]; and Groundwater Sustainability Plans must identify and consider potential effects on all beneficial uses and users of groundwater [23 CCR §§ 354.10(a), 354.26(b)(3), 354.28(b)(4), 354.34(b)(2), and 354.34(f)(3)];
- Groundwater Sustainability Plans must establish sustainable management criteria that avoid undesirable results within 20 years of the applicable statutory deadline, including depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water [23 CCR § 354.22 *et seq.* and Water Code §§ 10721(x)(6) and 10727.2(b)] and describe monitoring networks that can identify adverse impacts to beneficial uses of interconnected surface waters [23 CCR § 354.34(c)(6)(D)]; and
- Groundwater Sustainability Plans must account for groundwater extraction for all water use sectors including managed wetlands, managed recharge, and native vegetation [23 CCR §§ 351(a) and 354.18(b)(3)].

Furthermore, the Public Trust Doctrine imposes a related but distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to navigable surface waters or surface waters supporting fisheries, and surface waters tributary to navigable surface waters or surface waters supporting fisheries, are also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419). Accordingly, groundwater plans should consider potential impacts to and appropriate protections for interconnected surface waters and their tributaries, and interconnected surface waters that support fisheries, including the level of groundwater contribution to those waters.

In the context of SGMA statutes and regulations, and Public Trust Doctrine considerations, the Department values groundwater planning that carefully considers and protects environmental beneficial uses and users of groundwater including fish and wildlife and their habitats, groundwater dependent ecosystems and interconnected surface waters.

Craig Altare
Taylor Blakslee
May 8, 2020
Page 3

COMMENT OVERVIEW

The Department supports ecosystem preservation and enhancement in compliance with SGMA and its implementing regulations based on Department expertise and best available information and science. Consistent with comments previously submitted to the GSA on May 22 and May 23, 2019 from the Department's Central Region and South Coast Region, respectively. The Department recommends the GSP provide additional information and analysis that considers all environmental beneficial uses and users of groundwater and better characterize and consider surface water-groundwater connectivity. The GSA provided Response to Comments to the Department's initial comments that were included in the Final GSP in *Chapter 1 Appendix D* under the date June 24, 2019 separated by chapter. The Department has updated the comments and provided additional information for the California Department of Water Resources (CDWR) and restated each response to comment and the Department's reply in *italicized text*.

COMMENTS AND RECOMMENDATIONS

- 1. Comment #1 Description of Beneficial Users.** *Section 1.3.1, starting page 1-46.* The Department believes that beneficial uses, such as fish and wildlife preservation and enhancement, GDEs and other plant and animal species that depend on GDEs and interconnected surface waters occur within the Cuyama Basin [Water Code §10727.4(l), 23 CCR §§ 666 and 354.26(b)(3)]. The Department has documented several sensitive species within the Basin that should be considered in the GSP as beneficial users and are vulnerable to groundwater pumping impacts including (but not limited to): California red-legged frog (*Rana draytonii*); tricolored blackbird (*Agelaius tricolor*); western spadefoot (*Spea hammondi*); southwestern pond turtle; (*Actinemys pallida*); yellow warbler (*Setophaga petechia*); Arroyo chub (*Gila orcuttii*); least Bell's vireo (*Vireo bellii pusillus*); and willow flycatcher (*Empidonax traillii*).

GSA Response to Comments Numbers 35 and 44: *In response to Department comments to Numbers 35 and 44: the GSA states: "environmental users have been added to the list of users present in the Basin."*

Department reply: *The Department appreciates the addition of environmental users in the list of beneficial users on page 1-46 and recommends elaborating on potential environmental beneficial uses and users of groundwater by including a detailed description on how these users, such as GDEs and the species therein, may rely on groundwater and may be impacted by Sustainable Management Criteria pursuant to 23 CCR §§ 354.10(a), 354.26(b)(3), 354.28(b)(4), 354.34(b)(2), and 354.34(f)(3). The Critical Species LookBook (TNC 2019) is a resource to help identify threatened and endangered species in any basin subject to SGMA and to help understand species relationships to groundwater. The*

Craig Altare
Taylor Blakslee
May 8, 2020
Page 4

LookBook also offers narrative on species and habitat groundwater dependence that can be a model for describing environmental beneficial uses and users of groundwater in the GSP.

2. **Comment #2 Basin Boundaries.** Section 2.1.6, starting page 2-25. The GSP should provide more information on groundwater extraction well depths throughout the basin including how they compare with the depth of the Morales geologic formation. Well depth should be used to inform the determination of the basin bottom to capture such occurrences.

GSA Response to Comments Number 40: *“The GSA states, “data was not available to perform these analyses in advance of the GSP. Additional detail can potentially be added as additional data is collected in the future.”*

Department reply: *The Department encourages the GSA to gather and report well depth data to inform and improve the Basin Setting.*

3. **Comment # 3 Principal Aquifers and Aquitards.** Section 2.1.7 starting page 2-26. The GSP identifies the Basin’s principal aquifer as unconfined and continuous, except for locally perched clay aquifers. These perched water resources can provide essential habitat and sustenance for various wildlife species including plants, aquatic animals and migratory refugia for avian species. To enhance the effectiveness and utility of the GSP, the Department requests the following information be included:

- a. Identify where perched aquifers exist within the basin and describe, by each aquifer, if they: 1) are being used by domestic shallow wells; 2) support GDEs; and, 3) have interactions with surface water.
- b. Document the characteristics of each perched aquifer, including thickness, porosity, hydraulic conductivity, and vertical gradients.

GSA Response to Comments Number 41: *“The GSA states, “data was not available to perform these analyses in advance of the GSP. Additional detail can potentially be added as additional data is collected in the future.”*

Department reply: *The Department encourages this data collection and associated analyses as understanding groundwater management impacts to shallow groundwater is critical to determining impacts on environmental beneficial uses and users of groundwater.*

4. **Comment #4 Interconnected Surface Waters.** Section 2.1.7, starting page 2-26; Section 2.2.8, starting page 2-112. The GSP identifies an unconfined and continuous principal aquifer, except for locally perched clay layers. The Cuyama

Craig Altare
Taylor Blakslee
May 8, 2020
Page 5

Basin Water Resources Model (CBWRM) results appear to support that the entire Cuyama River is an interconnected surface water system (see Table 2-2) [23 CCR § 351(o)]; therefore, riparian ecosystems rely on the health and sustainability of the aquifer in that it supports and interconnected surface water body. The GSP should include additional information on annual average stream depletion by reach, including identifying losing and gaining segments, pursuant to CCR § 345.15(f).

GSA Response to Comments Number 42: *“The analysis and discussion of GDEs in the GSP was developed to satisfy SGMA requirements as they relate to GDEs. The GSP recommends piezometers to monitor for groundwater levels in the vicinity of critical GDEs. Additional analysis of GDEs and actions for GDEs can potentially be added in the future at the direction of the CBGSA Board.”*

Department reply: *The Department believes the original comment above remains relevant.*

5. **Comment #5 Groundwater Dependent Ecosystems.** *Section 2.2.9, starting page 2-117.* The GSP does not adequately identify GDEs within the Basin. Mapping GDEs and other beneficial uses/users is an essential component in the consideration, development, and implementation of GSPs [Water Code § 10723.2] and in assessing if groundwater conditions are impacting environmental beneficial uses and users of groundwater. The Department believes the GSA’s elimination of many potential GDEs identified in the NC Dataset may be premature. GDEs can rely on groundwater for some or all its requirements, relying on multiple water sources simultaneously and at different temporal/spatial scales (e.g., precipitation, river water, reservoir water, soil moisture in the vadose zone, groundwater, applied water, treated wastewater effluent, urban stormwater, irrigated return flow). The Department recommends that the best scientific data on depth to groundwater inform the analysis of GDEs and interconnected surface waters before potential GDEs are excluded. Until such time as data is collected to field verify the presence of GDEs, groundwater uncertainties should preclude the exclusion of GDEs.

GSA Response to Comments Number 43: *“The analysis and discussion of GDEs in the GSP was developed to satisfy SGMA requirements as they relate to GDEs. The GSP recommends piezometers to monitor for groundwater levels in the vicinity of critical GDEs. Additional analysis of GDEs and actions for GDEs and other environmental benefits can potentially be added in the future at the direction of the CBGSA Board.”*

Department reply: *The Department encourages the GSA to expedite expansion of monitoring and initiate field verification of GDEs to comply with GSP regulations. However, the Department stands by original comments that the*

Craig Altare
Taylor Blakslee
May 8, 2020
Page 6

current level of GDE-identification lacks statutory standards per 23 CCR § 354.16(g) and Water Code § 10727.4(l). The Department further recommends additional references be reviewed and GDE's on private land be ground verified. Please review the Literature Cited section at the end of this letter for suggested references.

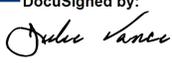
CONCLUSION

Although the Cuyama Basin Final GSP consulted with entities representing environmental beneficial users of groundwater, the Department deems the GSP insufficient in its consideration of environmental beneficial uses and users of groundwater, including fish and wildlife and their habitats. The Department recommends CDWR seriously consider the above comments to protect fish and wildlife beneficial uses, groundwater dependent ecosystems, and interconnected surface waters. The Department further recommends that CDWR request that the responsible GSA address the Departments concerns before approving the final plan. The Department's concerns are as follows:

1. The GSP does not identify reasonable measures and schedules to eliminate data gaps. [23 CCR § 355.4(b)(2)] (See Comments #2, 3, 4, 5).
2. The interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have not been considered. [23 CCR § 355.4(b)(4)] (See Comments #1, 3, 4, 5).
3. The GSA has not adequately responded to comments that raise credible technical or policy issues with the GSP. [23 CCR § 355.4(b)(10)] (See All Comments).

The Department appreciates the opportunity to provide comments on the Cuyama Basin Final GSP. If you have any further questions, please contact Dr. Andrew Gordus, Staff Toxicologist, at Andy.Gordus@wildlife.ca.gov or (559) 243-4014 x 239.

Sincerely,

DocuSigned by:

FA83F09FE08945A...

Julie A. Vance
Regional Manager, Central Region

Enclosures (Literature Cited)

Craig Altare
Taylor Blakslee
May 8, 2020
Page 7

ec: **California Department of Fish and Wildlife**

Joshua Grover, Branch Chief
Water Branch
Joshua.Grover@wildlife.ca.gov

Robert Holmes, Environmental Program Manager
Statewide Water Planning Program
Robert.Holmes@wildlife.ca.gov

Annee Ferranti, Environmental Program Manager
Central Region
Annee.Ferranti@wildlife.ca.gov

Andy Gordus, Staff Toxicologist
Central Region
Andy.Gordus@wildlife.ca.gov

Annette Tenneboe, Senior Environmental Scientist Specialist
Central Region
Annette.Tenneboe@wildlife.ca.gov

Bob Stafford, Environmental Program Manager
Central Region
Bob.Stafford@wildlife.ca.gov

David Hacker, Senior Environmental Scientist Supervisor
Central Region
David.Hacker@wildlife.ca.gov

Mary Ngo, Senior Environmental Scientist Specialist
South Coast Region
Mary.Ngo@wildlife.ca.gov

California Department of Water Resources

Anita Regmi, Cuyama Basin SGMA Point of Contact
Southern Region Office
Anita.Regmi@water.ca.gov

Craig Altare
Taylor Blakslee
May 8, 2020
Page 8

National Marine Fisheries Service

Rick Rogers, Fish Biologist
West Coast Region
Rick.Rogers@noaa.gov

State Water Resources Control Board

Natalie Stork, Chief
Groundwater Management Program
Natalie.Stork@waterboards.ca.gov

Craig Altare
Taylor Blakslee
May 8, 2020
Page 9

Literature Cited

California Department of Fish and Wildlife (CDFW). 2019A. Vegetation Classification and Mapping Program. Available from <https://www.wildlife.ca.gov/Data/VegCAMP>

California Department of Fish and Wildlife (CDFW). 2019B. CNDDDB (California Natural Diversity Database). Rarefind Version 5. Internet Application. CDFW, Sacramento, California. <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>

California Native Plant Society (CNPS). 2019A. A Manual of California Vegetation, online edition. <http://www.cnps.org/cnps/vegetation/>

California Native Plant Society (CNPS). 2019B. California Protected Areas Database. (CPAD). Sacramento, California. <https://www.calands.org/cpad/>

Klausmeyer, K., J. Howard, T. Keeler-Wolf, K. Davis-Fadtke, R. Hull, and A. Lyons. 2018. Mapping indicators of groundwater dependent ecosystems in California. <https://data.ca.gov/dataset/natural-communities-commonly-associated-groundwater>

Klausmeyer, K. R., T. Biswas, M. M. Rohde, F. Schuetzenmeister, N. Rindlaub, and J. K. Howard. 2019. GDE pulse: taking the pulse of groundwater dependent ecosystems with satellite data. San Francisco, California. Available at <https://gde.codefornature.org/>. (Same as:TNC. 2019. GDE pulse. Interactive map. Website. <https://gde.codefornature.org/#/home>

Naumburg E, R. Mata-Gonzalez, R.G. Hunter, T. McLendon and D. Martin. 2005. Phreatophytic vegetation and groundwater fluctuations: a review of current research and application of ecosystem response modeling with an emphasis on great basin vegetation. *Environmental Management*. 35(6):726-40

Rohde, M. M., S. Matsumoto, J. Howard, S. Liu, L. Riege, and E. J. Remson. 2018. Groundwater Dependent Ecosystems under the Sustainable Groundwater Management Act: Guidance for Preparing Groundwater Sustainability Plans. The Nature Conservancy, San Francisco, California.

The Nature Conservancy (TNC). 2014. Groundwater and stream interaction in California's Central Valley: insights for sustainable groundwater management. Prepared by RMC Water and Environment.

The Nature Conservancy (TNC). 2019. The Critical Species LookBook. Groundwater Resource Hub. <https://groundwaterresourcehub.org/sigma-tools/the-critical-species-lookbook/>

Craig Altare
Taylor Blakslee
May 8, 2020
Page 10

U.S. Forest Service. 2019. Landsat-based classification and assessment of visible ecological groupings, USDA Forest Service (March 2007).

<https://www.fs.fed.us/r5/rsi/projects/classification/system.shtml>

U.S. Fish and Wildlife Service (USFWS). 2018. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

<http://www.fws.gov/wetlands/>

U.S. Fish and Wildlife Service (USFWS). 2019. Threatened & Endangered Species Active Critical Habitat Report: online mapping tool.

<https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
124 E. Shaw Avenue
Fresno, CA 93710
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



128

May 22, 2019

Via Electronic Mail

Taylor Blakslee
Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
4900 California Ave, Tower B, 2nd Floor
Bakersfield, CA 93309
tblakslee@hgcpm.com

Comments on the Draft Cuyama Basin Groundwater Sustainability Plan

Dear Mr. Blakslee:

The California Department of Fish and Wildlife (Department) is providing comments on the Public Draft Cuyama Groundwater Basin Groundwater Sustainability Plan (GSP). As trustee agency for the State's fish and wildlife resources, the Department 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 & Game Code §§ 711.7 and 1802]. The Department has an interest in the sustainable management of groundwater, as many sensitive ecosystems and public trust resources depend on groundwater and interconnected surface waters, including ecosystems on Department lands in the Cuyama Groundwater Basin (3-013).

COMMENT OVERVIEW

The Department is writing to support ecosystem preservation and enhancement in SGMA groundwater basins and on Department Lands therein under Sustainable Groundwater Management Act (SGMA) implementation. SGMA affords ecosystems specific statutory and regulatory consideration:

- Groundwater Sustainability Plans (GSPs) must consider **impacts to groundwater dependent ecosystems** [Water Code §10727.4(l)].
- GSPs must identify potential **effects on all beneficial uses and users of groundwater**, including fish and wildlife preservation and enhancement [Title 23 California Code of Regulations §666], that may occur from undesirable results [Title 23 California Code of Regulations (CCR) §354.26(b)(3)].

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 22, 2019
Page 2

- GSPs must **account for groundwater extraction for all Water Use Sectors** including managed wetlands, managed recharge, and native vegetation [Title 23 CCR §351(a), §356.2(b)(4)].

In consideration of these and other SGMA statute and GSP regulations and provided the presence of Department lands in the Cuyama Basin, the Department submits the following comments on the Cuyama GSP. The Department requests that the Cuyama Basin Groundwater Sustainability Agency address these comments before submitting the GSP to the Department of Water Resources for evaluation and assessment.

COMMENTS AND RECOMMENDATIONS

The Department comments are as follows:

1. Section 2.2.9 does not adequately identify Groundwater Dependent Ecosystems (GDE) within the Cuyama Basin (Basin). The Department owns approximately 7,600 acres of non-irrigated lands within the northwestern unit of the Basin and only has two active wells which use less than two-acre feet of groundwater per year to meet wildlife water needs. The wells also provide water for two livestock water troughs which are part of a 460-acre riparian restoration project on the Cuyama River. This project provides direct benefits to sensitive riparian resources, including groundwater dependent ecosystems, and slows river velocities during high flow events. The reduction in flow velocities directly benefits the Cuyama Basin by allowing for increased surface water infiltration in to the subsurface aquifer. The restoration project area should be identified in Section 2.2.9 Groundwater Dependent Ecosystems, and data from this location should be utilized to identify and model additional GDE's within the Basin.
2. The Department has documented populations of several sensitive species on the restoration site and these species should be listed as beneficial users of groundwater. They are all vulnerable to groundwater pumping impacts and include California red-legged frog (*Rana draytonii*), tricolored blackbird (*Agelaius tricolor*), western spadefoot (*Spea hammondi*), southwestern pond turtle (*Actinemys pallida*), yellow warbler (*Setophaga petechia*), Arroyo chub (*Gila orcuttii*), and California roach (*Lavinia symmetricus*). All of these species have benefitted from the restoration project which may eventually provide habitat for the state listed least Bell's vireo (*Vireo bellii pusillus*) and willow flycatcher (*Empidonax traillii*). The importance of the restoration site is reflected in Figure 2-63 which shows a high density of GDE elements in the northwestern corner of the Basin. Beneficial use in the form of future riparian enhancement projects should be included in the GSP.
3. The GSP proposes three funding mechanisms to fund planning efforts – fees based upon water usage, fees based upon acreage within the Basin, or a

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 22, 2019
Page 3

combination of the two. Fees based upon water use is the most defensible method for funding planning efforts given that current and historical water use patterns are the primary drivers of Cuyama Basin overdraft conditions.

CONCLUSION

In conclusion, the Department is uncertain if the Cuyama Groundwater Basin GSP contains sufficient information to determine if it meets all aspects of SGMA statute and regulations; specifically, those areas that consider impacts to fish and wildlife beneficial users of groundwater. The Department recommends that the Cuyama Basin Groundwater Sustainability Agency address the above comments for the following reasons derived from regulatory criteria for plan evaluation:

1. The interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have not been considered. [CCR § 355.4(b)(4)] (See Comment #1, 2)

The Department appreciates the opportunity to provide comments. Please contact Bob Stafford, Senior Environmental Scientist at (805)542-4666 or Andy Gordus at (559) (559) 243-4014 x 239 with any questions.

Sincerely,



 Julie A. Vance
Regional Manager
Central Region

cc: California Department of Fish and Wildlife

Robert Stafford, Senior Environmental Scientist, Supervisor
Bob.Stafford@wildlife.ca.gov

Andrew Gordus, Staff Toxicologist Specialist
Central Region
Andy.Gordus@wildlife.ca.gov

Robert Holmes, Environmental Program Manager
Statewide Water Program

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 22, 2019
Page 4

Robert Holmes, Environmental Program Manager
Statewide Water Program
Robert.Holmes@wildlife.ca.gov

Briana Seapy, Statewide SGMA Coordinator
Groundwater Program
Briana.Seapy@wildlife.ca.gov

Mary Ngo, Senior Environmental Scientist, Specialist R5
Water Rights/SGMA/FERC Coordinator
Mary.Ngo@Wildlife.ca.gov

California Department of Water Resources

Steven Springhorn, Supervising Engineering Geologist
Sustainable Groundwater Management Program
Steven.Springhorn@water.ca.gov

State Water Resources Control Board

Samuel Boland-Brien, Program Manager
Groundwater Management Program
Samuel.Boland-Brien@waterboards.ca.gov



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region 5
3883 Ruffin Road
San Diego, CA 92123
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



May 23, 2019

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

Dear Mr. Taylor Blaksee:

Subject: Cuyama Basin Groundwater Sustainability Plan

The California Department of Fish and Wildlife (CDFW) is providing comments on the Cuyama Basin Groundwater Sustainability Plan (GSP). As trustee agency for the State's fish and wildlife resources, the CDFW 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 & Game Code Sections §§ 711.7 and 1802]. CDFW has an interest in the sustainable management of groundwater, as many sensitive ecosystems and public trust resources depend on groundwater and interconnected surface waters, including ecosystems on Department-owned and -managed lands that fall within SGMA-regulated basins.

Introduction

CDFW is writing to support ecosystem preservation and enhancement under Sustainable Groundwater Management Act (SGMA) implementation in the context of the following SGMA statutory mandates and our ecological and biological expertise. SGMA affords ecosystems specific statutory and regulatory consideration:

- GSPs must consider impacts to groundwater dependent ecosystems [Water Code §10727.4(l)]. SGMA defines groundwater dependent ecosystems (GDEs) as "ecological communities and species that depend on *groundwater emerging from aquifers or on groundwater occurring near the ground surface*". These ecological communities include groundwater-dependent vegetation (Phreatophytes) that rely and access groundwater occurring near the ground surface via their rooting network.
- GSPs must identify potential effects on all beneficial uses and users of groundwater, including fish and wildlife preservation and enhancement [Title 23 California Code of Regulations § 666], that may occur from undesirable results [Title 23 California Code of Regulations § 354.26(b)(3)].
- GSPs must account for groundwater extraction for all Water Use Sectors including managed wetlands, managed recharge, and native vegetation [Title 23 California Code of Regulations § 351(a), § 356.2(b)(4)].

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 23, 2019
Page 2 of 5

In consideration of these and other SGMA statute and GSP regulations and provided the presence of conserved lands in the Cuyama Basin, CDFW submits the following comments on the Cuyama GSP. CDFW requests that the Cuyama Basin Groundwater Sustainability Agency address these comments before submitting the GSP to the Department of Water Resources for evaluation and assessment.

Comments and Recommendations

1. Section 1.3.1 (Description of Beneficial Uses and Users of Groundwater): The Department believes that beneficial uses, such as fish and wildlife preservation and enhancement, GDEs and other plant and animal species that depend on interconnected surface waters occur within the Cuyama Basin [Water Code §10727.4(l), Title 23 California Code of Regulations §§ 666 and 354.26(b)(3)]. GDEs can rely on groundwater for some or all its requirements, relying on multiple water sources simultaneously and at different temporal/spatial scales (e.g., precipitation, river water, reservoir water, soil moisture in the vadose zone, groundwater, applied water, treated wastewater effluent, urban stormwater, irrigated return flow). Several sensitive species known to occur within the Basin that should be considered in the GSP as beneficial users and are vulnerable to groundwater pumping impacts include (but not limited to): California red-legged frog (*Rana draytonii*); tricolored blackbird (*Agelaius tricolor*); western spadefoot (*Spea hammondi*); southwestern pond turtle; (*Actinemys pallida*); yellow warbler (*Setophaga petechia*); Arroyo chub (*Gila orcuttii*); least Bell's vireo (*Vireo bellii pusillus*); and willow flycatcher (*Empidonax traillii*) [see Natural Communities Commonly Associated with Groundwater dataset (NC Dataset) located at <https://gis.water.ca.gov/app/NCDatasetViewer/>].

2. Section 2.1.6 (Basin Boundaries): The GSP should provide more information on groundwater extraction well depths throughout the basin including how it compares with the depth of the Morales geologic formation. Wells that extend outside the vertical limits of the basin should be included within the SGMA regulations. Well depth should be included in the determination of the basin bottom to capture such occurrences.

3. Section 2.1.7 (Principal Aquifers and Aquitards): The GSP identifies that the aquifer is unconfined and continuous, except for locally perched clay aquifers. These perched water resources can provide essential habitat and sustenance for various wildlife species including plants, aquatic animals and migratory refugia for avian species. To enhance the effectiveness and utility of the GSP, CDFW requests the following information be included:

- a) Identify where perched aquifers exist within the basin and describe, by each aquifer, if they: 1) are being used by domestic shallow wells; 2) support GDEs; and, 3) have interactions with surface water.
- b) Document the characteristics of each perched aquifer, including thickness, porosity, hydraulic conductivity, and vertical gradients to more recent alluvium aquifers.

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 23, 2019
Page 3 of 5

4. Section (Interconnected Surface Water Systems): As described in Section 2.1.7, the GSP identifies that the aquifer is unconfined and continuous, except for locally perched clay aquifers. The model results appear to support that the entire river is an interconnected surface water system [23 CCR §351(o)]; therefore, GDEs that exist within the basin rely more on availability and health of the aquifer. The GSP should include additional information on annual average stream depletion by reach (see Table 2-2), including identifying losing and gaining segments.

5. Section 2.2.9 (Groundwater Dependent Ecosystems): Section 2.2.9 does not adequately identify GDEs within the Basin. Mapping GDEs and other beneficial uses/users is an essential component in the consideration, development and implementation of GSPs (Water Code §10723.2) and in assessing if conditions are having potential effects on beneficial uses and users of groundwater. GSAs must also include sustainable management criteria and monitoring to detect adverse impacts. CDFW believes the elimination of a large portion of the data pertaining to GDEs may have been premature. We recommend that best scientific data on depth to groundwater be included in the analysis of interconnected surface waters before any data is excluded. Other data should include (but not be limited to): USGS mapped springs/seep and comparing recent groundwater level contours to vegetation root zones. In addition, relying solely on soils information is not recommended. For example, the presence of sandy, dry, and friable soils, does not mean that existing plant species do not rely on groundwater for some portion of their life cycle. Capillary fringe associated with root networks from native plants could be accessing groundwater from deeper depths.

In addition, restoration projects that provide direct benefits to sensitive riparian resources, such as slowing river velocities during high flow events which benefits the Cuyama Basin by allowing for increased surface water infiltration into the subsurface aquifer, should be identified as GDEs and mapped in the GSP. Beneficial use in the form of future riparian enhancement projects should be included in the GSP.

6. Executive Summary: Funding Mechanisms: The GSP proposes three funding mechanisms to fund planning efforts: 1) fees based upon water usage; 2) fees based upon acreage within the Basin; or 3) a combination approach. CDFW believes that fees based upon water use is the most reasonable considering that current and historical water use patterns appear to be the main cause of overdraft conditions. The historic use and growth of agriculture, including wineries and legal cannabis cultivation, will continue to place demand on groundwater within the Cuyama Basin.

Conclusion

CDFW recommends that the GSP incorporate the items identified in this letter to adequately protect fish and wildlife beneficial users of groundwater. The information should be based on the best available science [CCR § 355.4(b)(1) and is needed to fully consider the interests of the beneficial uses and users of groundwater in the basin [CCR

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 23, 2019
Page 4 of 5

§ 355.4(b)(4)], ensure the basin is sustainable [CCR § 355.4(b)(5)], adequately assesses and mitigate for overdraft [CCR § 355.4(b)(6)], and identify reasonable measures and schedules to eliminate data gaps [CCR § 355.4(b)(2)]. Thank you for the opportunity to provide input and consideration of comments we feel are necessary to protect wildlife resources within the Cuyama Basin. Please contact Mary Ngo, Senior Environmental Scientist (Specialist) at (562) 342-2140 or Mary.Ngo@wildlife.ca.gov with any questions.

Sincerely,



Erinn Wilson
Environmental Program Manager
South Coast Region

cc: California Department of Fish and Wildlife

Joshua Grover, Branch Chief
Water Branch
Joshua.Grover@wildlife.ca.gov

Robert Holmes, Environmental Program Manager
Statewide Water Program
Robert.Holmes@wildlife.ca.gov

Briana Seapy, Statewide SGMA Coordinator
Groundwater Program
Briana.Seapy@wildlife.ca.gov

Randy Rodriguez, Senior Environmental Scientist, Supervisory
South Coast Region 5
Randy.Rodriguez@wildlife.ca.gov

Robert Stafford, Senior Environmental Scientist, Supervisor
Bob.Stafford@wildlife.ca.gov

Mary Ngo, Senior Environmental Scientist, Specialist
South Coast Region 5
Mary.Ngo@wildlife.ca.gov

Groundwater Sustainability Agencies

Taylor Blakslee, Project Coordinator
Cuyama Basin Groundwater Sustainability Agency
May 23, 2019
Page 5 of 5

Taylor Blakslee
tblakslee@hgcpm.com

National Marine Fisheries Service

Rick Rogers, Fish Biologist
West Coast Region
Rick.Rogers@noaa.gov

State Water Resources Control Board

Samuel Boland-Brien, Program Manager
Groundwater Management Program
Samuel.Boland-Brien@waterboards.ca.gov

No.	Date of Comment	Topic	Comment	GSA Staff Response	Incorporated into Final Draft 2025 GSP?
1	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Final model (CBWRM v.030) recalibration results and documentation (i.e., GSP Ch.2 Appendix C) have not been provided in the GSP Public Review Draft for evaluation. Reviewing parties thus far only can evaluate partial and draft analyses. Technical staff need to document (a) their technical evaluation of model fit to observed data, (b) their analysis of sensitive parameters, and (c) their quantitative analysis of how uncertainty within the historical model propagates to affect real-world data such as baseline pumping allocations, so that the GSA and the public can evaluate the reliability of model projections and GSA decisions that are based on model output.		
2	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The recalibrated CBWRM v0.30 incorporates large changes (up to 85%) in some estimated evapotranspiration (ET) values. Some irrigated crops (e.g., Mixed Field, Grains, and Safflower) appear to be modeled using ET values that are lower than native vegetation. GSA Technical Staff need to explain the ET input data and the rationale for these modifications, as well as provide published agronomic or other scientific literature, regulatory guidance, or case studies in similar basins to support these changes to crop ET assumptions.		
3	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The recalibrated CBWRM v0.30 still has areas of significant mismatch with observed water level elevation data. Particularly in the eastern Central Management Area, the Ventucopa Area, and the area near the Santa Barbara Canyon Fault, modeled water level elevations are 50 – 200 feet higher than measured elevations. These are significant errors that will affect model predicted heads, groundwater storage volume, and the rate and direction of groundwater flow. Technical staff need to review the sensitivity of model parameters and explain what impact these errors has on important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, baseline pumping allocations, and allocation reductions.		

No.	Date of Comment	Topic	Comment	GSA Staff Response	Incorporated into Final Draft 2025 GSP?
4	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Water level recovery of the basin during the historically wet 2023 period appears to be underestimated in the CBWRM. Simulated recovery seems consistently muted compared to observed head rebounds, particularly in some regions (e.g. West).		
5	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Hydraulic head effects of the Santa Barbara Canyon (SBC) Fault are still poorly understood. A significant effort was made by technical staff to conduct testing, analyze the resulting data, and locate the SBC Fault within the Basin, but the results unfortunately remain ambiguous. Technical staff need to explain the steps taken within the CBWRM v.030 calibration effort to accommodate the new data collected, and how the revised model fault characteristics affect important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.		
6	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The Cuyama Basin CIMIS station does not meet required baseline maintenance conditions, either historically or currently. CIMIS station data provide base assumptions used for processing remotely sensed evapotranspiration (ET) data throughout the Basin, leading to potential errors in all ET estimates in the basin that are calculated using this station. Technical staff need to explain the effects of actual Cuyama CIMIS station conditions on ET estimates and how this known error has been compensated in the ET analysis used to estimate pumping from wells simulated by the model.		
7	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The CBWRM v0.30 still does not realistically simulate the thick vadose zone in the Central Management Area (CMA). For example, infiltration of water past crop roots is simulated as instantaneously reaching the water table, where in reality it can require decades to reach the water table - and in some circumstances never reach the water table. This can confuse the magnitude and timing of model-calculated benefits from management actions on groundwater storage.		

No.	Date of Comment	Topic	Comment	GSA Staff Response	Incorporated into Final Draft 2025 GSP?
8	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Final Public Review Draft model input files and 2023 pumping data have not been made generally available to the Technical Forum members for third party review of model behavior. Partial data have been presented and earlier draft files have been provided but these are not useful to evaluate the final Public Review Draft model if they are not current. Technical staff need to ensure these files and data are available to the Technical Forum community and other public interested parties.		

From: K. P. March <kmarch@bkylawfirm.com>

Sent: Thursday, October 10, 2024 6:42 PM

To: Taylor Blakslee

Subject: To To Cuyama Basin GSA, attn Taylor Blakslee, from Walking U Ranch LLC ("Ranch LLC"), by KPMarch, Esq.: Please read below for Ranch LLC's public comment on the draft GSP Update being discussed at the 10/10/24 public outreach meeting

To Cuyama Basin GSA, attn Taylor Blakslee, from Walking U Ranch LLC ("Ranch LLC"), by KPMarch, Esq.: Please read below for Ranch LLC's public comment on the draft GSP Update being discussed at the 10/10/24 public outreach meeting:

The amended GSP should require groundwater pumping reductions in the wells located on the 10,000 acres owned by Brodiaea, Inc. (aka North Fork Vineyards), where Brodiaea planted thousands of grapevines in 2014 onward, and is using over 800 acre feet per year ("AFY") groundwater, to irrigate its grapevines. One monitored well, OPTI well 840, groundwater level has dropped 40 feet from when pumping started in 2014, to 2023. That is NOT sustainable yield that SGMA requires. That drop in groundwater violates SGMA sustainable yield. A 40 foot drop in groundwater level in 10 years is a faster per year drop in groundwater level than the groundwater level drop of 300 feet in wells in the Central Management Area, from when irrigation started in 1940s, to 2010. The US government determined there had been a 300 foot drop in groundwater level over those decades, with only 27% of groundwater left, by 2010.

The amended GSP should require groundwater pumping reductions in OPTI well 840, and in the additional wells located on North Fork Vineyard land, where the groundwater levels have been dropping from 2014 to present, that are similar to the groundwater pumping reductions that GSP requires in the Central Management Area.

Mr. Blakslee please REPLY to confirm receipt, then please reply for GSA about whether the amended GSP will be further revised, to put groundwater pumping on the wells located on North Fork Vineyard, similar to the groundwater pumping restrictions in the Central Management Area

Kathleen P. March, Esq.



Bernard G. LeBeau Jr.	Andrew K. Sheffield	Bernard G. LeBeau III	S. Gwen Atherton
Dennis R. Thelen	Daniel K. Klingenberg	Robert G. Kuhs	Chelsie L. Morgan
Thomas S. McIntosh	Kevin E. Thelen	Gary L. Logan	
Thomas A. Crear	Alan J. Mish	Briar R. Keeler	Of Counsel:
Thomas P. Fehér	Amanda M. Lucas	Matthew J. Dobbs	J. Nile Kinney

October 11, 2024

Via Electronic Mail

jbeck@hgcpm.com; tblakslee@hgcpm.com

Board of Directors
Cuyama Basin Groundwater Sustainability Agency
Attention: James Beck and Taylor Blakslee
4900 California Avenue, Tower B, 2nd Floor
Bakersfield, CA 93309

Re: Protest and Objections to Draft 2024 Groundwater Sustainability
Plan Update; Management Areas and Groundwater Allocations

Dear Board of Directors and Staff:

Diamond Farming Company, Lapis Land Company and Ruby Land Company (collectively, **Landowners**) are significant landowners within the Cuyama Valley Groundwater Basin (No. 3-013) (**Basin**) and provide these comments to the Cuyama Basin Groundwater Sustainability Agency (**CBGSA**) in response to the August draft 2024 Groundwater Sustainability Plan (**draft 2024 GSP**), Basin management and proposed allocations.

The Landowners hold established and legally protected rights to extract groundwater from the Basin as defined by DWR in Bulletin 118 and recently confirmed by the Court in the ongoing groundwater adjudication entitled *Bolthouse Land Company, LLC, et al. v. All Persons Claiming a Right to Extract Groundwater in the Cuyama Valley Groundwater Basin (No. 3-013)* (**Adjudication**).

SUMMARY OF COMMENTS

The Landowners object to and protest the draft 2024 GSP, lack of proper notice, and the CBGSA's (1) use of management areas and separate water budgets as a means of allocating groundwater, including the use of variances and exceptions for certain landowners which are not supported by the best scientific evidence, (2) allocation of groundwater other than on a correlative Basin-wide basis based on historic use and irrigated acreage as described in the approved GSP, and (3) failing to institute Basin-wide agricultural reductions in groundwater extractions to achieve Basin-wide sustainability. Instead, the draft 2024 GSP proposes to illegally foist the entire burden of balancing the Basin on landowners within the Central Management Area (**CMA**), while groundwater extractions outside the CMA remain unmanaged.

Despite uniform agreement that there is a single Basin, without subbasins, the CBGSA has improperly used the updated Model 0.30 (**V.30**) to set "sustainable yield" budgets for four



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 2

ill-defined regions in the Basin. Reported landowner pumping demonstrates that pumping in the Eastern or Ventucopa Region (**Ventucopa**) exceeds the modeled sustainable yield by several thousand acre-feet. Unregulated overpumping in Ventucopa is intercepting groundwater that would otherwise recharge the Basin downgradient of the inferred location of the Santa Barbara Canyon Fault (**SBCF**) and help balance the CMA, mitigate undesirable results, and avoid triggering Minimum Thresholds (**MTs**). The draft 2024 GSP protects certain landowners and punishes others at the expense of Basin sustainability.

Further, the draft 2024 GSP fails to satisfy commitments made to the Department of Water Resources (**Department** or **DWR**) and to Basin stakeholders in the approved 2020 GSP and fails to satisfy directives in Title 23 California Code of Regulations, sections 355.4(b) and 355.6, which are the regulation establishing the criteria through which DWR is required to evaluate the adequacy of the draft 2024 GSP. Specifically:

1. Assumptions and findings of the draft 2024 GSP are not reasonable and are not supported by the best available information and best available science, in violation of section 355.4(b)(1).
2. The draft 2024 GSP fails to identify reasonable measures and schedules to eliminate data gaps, in violation of section 355.4(b)(2).
3. The sustainable management criteria and management actions are not commensurate with the level of understanding of the Basin setting, in violation of section 355.4(b)(3).
4. The management actions proposed are not likely to prevent undesirable results and ensure that the Basin is operated within the sustainable yield, in violation of section 355.4(b)(5).
5. The draft 2024 GSP fails to include a reasonable assessment of overdraft conditions and a reasonable means to mitigate overdraft Basin-wide and, in particular, in Ventucopa in violation of section 355.4(b)(6).
6. The draft 2024 GSP includes more than two management areas for the Basin, the CMA, and the Ventucopa Management Area (**VMA**), but fails to explain how the management areas can operate under different minimum thresholds and measurable objectives without causing undesirable results outside of the management area, in violation of section 354.20(b)(4).
7. The draft 2024 GSP fails to use the best available information and best available science in development of the management area boundaries and allocation of the groundwater resources, in violation of section 354.18(e).



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 3

Further, failure to implement agricultural pumping reductions throughout the Basin and exclusion of some landowners within the CMA from pumping reductions, without scientific support, is arbitrary and capricious.

BACKGROUND

A. 2020 GSP Submission

On January 28, 2020, the CBGSA submitted its initial GSP to DWR for evaluation and assessment as required by the Sustainable Groundwater Management Act (SGMA). The 2020 GSP noted the following: Both the Central and Ventucopa management areas were projected to have groundwater levels decreases at a rate of 2 feet or more per year over a 50-year hydrologic period.¹ Regarding the Eastern Threshold Region, the 2020 GSP stated: “This part of the Basin has agricultural pumping. Hydrographs in this region indicate that groundwater levels have historically ranged widely and repeatedly over the last 50 years, and in general, are declining over the past 20 years.”² Nevertheless, the 2020 GSP stated that the CBGSA declined to impose pumping reductions and said it would perform additional monitoring and data gathering over the “next two-to-five years.”³ In other words from 2020-2024.

B. DWR June 3, 2021, Comment Letter

On June 3, 2021, the DWR initiated consultation and notified the CBGSA that DWR staff completed an initial review of the GSP and identified four significant deficiencies that may preclude DWR approval of the GSP. Deficiency 4 stated:

The GSP does not provide a sufficient explanation as to how overdraft will be mitigated for the entire Basin and how continued overdraft outside the CMA will be mitigated through projects and actions.

“The GSA should explain the rationale for not implementing pumping reductions in the overdrafted Ventucopa management area or any other portion of the Basin where overdraft is expected to continue, and explain the timeline and criteria that may be used to determine whether future pumping reduction allocations are needed.”⁴

DWR staff further noted: “For basins in overdraft, the description shall include a quantification of demand reduction or other methods for mitigating the overdraft.” (See 23 CCR § 354.44(b)(2).)

1 2020 GSP: ES-13.

2 2020 GSP; 5-5.

3 2020 GSP; ES-14.

4 DWR June 3, 2021 comment letter, p. 10.



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 4

DWR was highly critical of the lack of pumping reductions in Ventucopa and stated that the 2020 GSP “does not explain why pumping reductions will not be implemented in the Ventucopa management area.”⁵ In fact, DWR notes that the only discussion in the entire GSP regarding overdraft in Ventucopa was found in the Executive Summary which stated that “[p]umping reductions are not currently recommended for the Ventucopa Area” and instead recommends “to perform additional monitoring, incorporate new monitoring wells, and further evaluate groundwater conditions in the area over the next two to five years” and that “[o]nce additional data are obtained and evaluated, the need for any reductions in pumping will be determined.”⁶

In addressing the Deficiency 4, DWR stated that the **“GSA should explain the rationale for not implementing pumping reductions in the overdrafted Ventucopa management area or any other portion of the Basin where overdraft is expected to continue and explain the timeline and criteria that may be used to determine whether future pumping reduction allocations are needed.”**⁷

C. CBGSA November 5, 2021, Technical Memo

The CBGSA responded with a November 5, 2021, Technical Memorandum addressing the deficiencies. Regarding Deficiency 4, the CBGSA assured DWR that within the two-to-five year time frame (2020-2024) the CBGSA would fill the data gaps in Ventucopa. The CBGSA proposed the following additions to the 2020 GSP to resolved DWR’s concerns:

5.3.1 Ventucopa Management Area “[T]he GSA intends to re-evaluate the need for pumping reductions in the Ventucopa region after further evaluating groundwater conditions over a two-to-five-year period following submission of the GSP.

- At the time that the GSP was submitted, the CBGSA felt that it was premature to prescribe pumping reductions in the Ventucopa region on the basis of CBWRM model results because the development of the model in that portion of the basin posed significant challenges:
- Limited groundwater level data was available for model calibration. Only three calibration wells were available in that area of the basin (wells 62, 85, and 617). Since submission of the GSP, a new multi-completion monitoring well has been installed in the area, which will provide additional information for model calibration going forward.
- Characterization of streamflows and their effect on the groundwater aquifer was challenging because there were no streamflow gages on the Cuyama River with measurements taken during the calibration period and limited information was available

⁵ *Id.* at p.10.

⁶ *Ibid.*

⁷ *Ibid.*



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 5

regarding stream geometry in the region. Since submission of the GSP, a new streamflow gage has been installed on the Cuyama River upstream of the Ventucopa region.

- Groundwater pumping levels in the region were based on estimates from available land use information. However, unlike the central basin, cropping patterns in this portion of the basin was not provided by local landowners but was instead estimated using satellite imagery. Furthermore, specific well locations were not available in this portion of the basin. The CBGSA has addressed these shortcomings through the requirement of landowners to install meters on production wells and to report well information starting in calendar year 2022.
- Due to time and budget constraints during GSP development, model development and calibration prioritized development of an accurate representation of the central basin portion of the aquifer (where long-term overdraft was known to occur) with lesser emphasis on other parts of the model. The primary model calibration objective during CBWRM development of the Ventucopa region was on ensuring that groundwater levels matched historical trends at the boundary of the central basin and Ventucopa region. In light of the uncertainties, and lack of sufficient data on the water budget components to verify the model projected water budget, the CBGSA determined that implementing a management action in the region at this early stage may be too premature. **Instead, the CBGSA is determined to compile and analyze additional data and information on groundwater levels, surface water flows, groundwater pumping, as well as information on channel geometry and subsurface conditions.**

On January 21, 2022, the Department issued a Staff Report and Statement of Findings determining “the initial GSP submitted by the Agency for the basin to be incomplete because the GSP did not satisfy the requirements of SGMA, nor did it substantially comply with the GSP Regulations.”

D. 2020 GSP Approval

The CBGSA resubmitted its revised July 2022, GSP with a specific plan to address data gaps in Ventucopa. On May 25, 2023, DWR issued a letter approving the July 2022, GSP, finding that the GSP “substantially complies” with SGMA, but also proposed recommended corrective actions to “enhance the GSP and facilitate future evaluation by the Department.”

E. Draft 2024 GSP Update: Broken Promises to DWR and Basin Stakeholders

At the July 31, 2024, CBGSA meeting, staff reported that the Model V.30 update incorporates significant new data that was previously unavailable.⁸ The new data includes new

⁸ Exhibit A; July CBGSA Board Package, p. 87-118, 129-131, 137.



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 6

geological data, streamflow data, land use and cropping data, landowner reported pumping for 2022 and 2023, revised ET estimates, domestic well information, and recalibrated groundwater level and streamflow data.⁹ In other words, the V.30 Model includes all of the data that the CBGSA represented to DWR was needed to institute management actions and pumping reductions in Ventucopa.

Based on the new data and updated model, staff reported on July 22, 2024 that historical pumping from 1968-2017 averaged 42,400 afy, and the Basin sustainable yield was 17,800 afy.¹⁰ Shortly before the July 31, 2024, CBGSA meeting staff reduced the sustainable yield to a range of between 15,900 afy and 17,500 afy.¹¹ The V.30 Model again predicted overdraft in Ventucopa and groundwater level declines in excess of 2 feet per year.¹² Nevertheless, the CBGSA refused to accept the model results and impose pumping reductions in Ventucopa, and did so without any information regarding the current amount of pumping in Ventucopa. Staff and the CBGSA completely ignored overdraft conditions in Ventucopa. Instead, the draft 2024 GSP regurgitates nearly the same data gap excuses that it provided to DWR and Basin stakeholders in 2021, stating: **“The CBGSA still believes that it is premature to prescribe pumping reductions in the Ventucopa region on the basis of CBWRM model results because the development of the model in that portion of the Basin posed significant challenges.”**¹³

“In light of the uncertainties, and lack of sufficient data on the water budget components to verify the model projected water budget, the CBGSA determined that implementing a management action in the region at this stage may be premature. Instead, the CBGSA is determined to continue to compile and analyze additional data and information on groundwater levels, surface water flows, groundwater pumping, as well as information on channel geometry and subsurface conditions. This information will be used to further enhance the capabilities of the model for analysis of projected water budgets and groundwater conditions in the region, and to determine possible management actions to address any possible projected overdraft conditions. As noted above, the CBGSA plans to develop a management plan for the Ventucopa Management Area in the future, which may or may not provide for pumping restrictions.”¹⁴

We fail to understand how the same model used to set the Basin sustainable yield and the CMA water budget is simultaneously inadequate to establish a water budget for Ventucopa. If the data and model results for Ventucopa are unreliable, then necessarily the model results for the

⁹ *Ibid.*

¹⁰ *Ibid.* at p. 130.

¹¹ *Ibid.* at p. 87, 131.

¹² *Ibid.* at p. 137.

¹³ Draft 2024 GSP; 7-2. Unless otherwise stated, citations are to the August draft 2024 GSP.

¹⁴ *Ibid.* at 7-2, 7-3.



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 7

entire Basin are unreliable. While the model is far from perfect, we believe that the CBGSA has more than sufficient data to include an assessment of overdraft conditions and implement agricultural pumping reductions and management in Ventucopa. Pumping in the region far exceeds the modeled water budget for the region. Another five years of data collection is not a sufficient reason to delay agricultural pumping reductions Basin-wide. Indeed, the data indicates that agricultural pumping outside the CMA is increasing, not decreasing. Simply put, the entire Basin is in overdraft and pumping reductions should be instituted immediately Basin-wide.

The 2024 GSP should identify and discuss the Ventucopa water budget, current pumping and the alleged “significant challenges,” “uncertainties and lack of sufficient data” that preclude management action and pumping reductions in Ventucopa and a schedule for correcting the lack of data and analysis. Based on the model results and pumping information it appears that the decision to defer pumping reductions in Ventucopa is political, not scientific and may be a basis for DWR to decline GSP approval.¹⁵

F. EKI Comments on V.30 Model

EKI evaluated the V.30 Model and presented its comments to the Cuyama Basin Water District on September 25, 2024.¹⁶ EKI notes:

Comment #2: “Particularly in the eastern Central Management Area, the Ventucopa Area, and the area near the Santa Barbara Canyon Fault, modeled water level elevations are 50 to 200 feet higher than measured elevations.”¹⁷

EKI characterized this as a “significant error that will affect model predicted heads, groundwater storage volumes, and the rate and direction of groundwater flow.”¹⁸ (Emphasis in original.)

Modeled vs. Reported Pumping: EKI also noted that the V.30 Model pumping data differed significantly from the landowner reported metered data. In Ventucopa and in the presumed area of the SBCF, the Model significantly **underestimated pumping by 1,000 – 1,500 af.**¹⁹

While the CBGSA might be tempted to point to EKI’s criticisms to support the stated need to further study Ventucopa before implementing reductions, the opposite is true. As a result of these significant defects, the V.30 Model significantly overestimates groundwater levels in Ventucopa and near the SBCF and significantly underestimates overdraft conditions in

¹⁵ 23 CCR §§ 354.20, 355.6(c).

¹⁶ EKI slide deck attached as Exhibit B. We join in EKI’s comments.

¹⁷ *Ibid.* at p. 7; Notably, during the September CBGSA meeting, Jim Wegis who farms near the SBCF, was arbitrarily excluded from the CMA based on anecdotal comments without any scientific support whatsoever.

¹⁸ *Ibid.* at p. 7.

¹⁹ *Ibid.* at p. 24; EKI was provided the Model input files only two days before the Cuyama Water District meeting.



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 8

Ventucopa. **The actual conditions in Ventucopa are worse than the modeled conditions.** Regrettably, the CBGSA Board took action based on the V.30 Model before the model was properly vetted. If the Model is defective and insufficient to implement pumping reductions outside the CMA, then we request that the CBGSA rescind all Board actions based on the Model results and fix the Model before adopting the GSP. The CBGSA cannot blow hot and cold, relying on the Model to reduce CMA pumping, while dolling out exemptions and variances, and deferring pumping reductions outside the CMA because the Model is unreliable. Such non-scientific decision making is arbitrary and capricious.

DETAILED COMMENTS

1. **The Cuyama Basin Is a Single Groundwater Basin with No Subbasins.**

The correct basin boundary is the foundation from which the basin safe yield, water rights and priorities, and each party's correlative share of the common groundwater resource must be determined.²⁰ In the Adjudication, two groups of landowners objected to the current Bulletin 118 Basin boundary and requested that the Court resolve the boundary issue in a Phase 1 trial; namely (1) Highland Vineyard SB, LLC, Brodiaea, Inc. and the Cuyama Community Services District (collectively, **Highland**), and (2) the Ventucopa Landowners group²¹, collectively referred to as the Objecting Parties. The Objecting Parties claimed that the Basin should be subdivided into three separate subbasins at the Santa Barbara Canyon Fault and the Russell Fault. The CBGSA filed its trial brief supporting Plaintiffs' position that there is single groundwater basin, with no subbasins.

Highland's consultant, Anthony Brown of Aquilogic, and the Landowners' expert, Anthony Daus of GSI, both testified in deposition that because the Basin is hydrologically connected, and the Central Region is downgradient, pumping in Ventucopa reduces recharge to the Central Region.²² Conversely, reduced pumping in Ventucopa increases recharge to the Central Region. This fact was confirmed by the CBGSA model and uncontradicted. While some landowners have argued that groundwater levels under their particular land are stable, such statement is irrelevant and has no basis in the law or the science. The Basin is in critical overdraft and must be corrected Basin-wide. Localized water levels or even surplus are irrelevant. Pumping in Ventucopa causes a net loss to the Basin groundwater supplies.²³

20 Code Civ. Proc., §§ 832(c), 834(a), 836.

21 Ventucopa Landowners include Albano Family LP; Billy Harrington as Trustee of the Harrington Family Trust; Billy L. Harrington; Ceferino Cheng as Trustee of the Cheng Family Trust; Cuyama Orchards; Historic Reyes Ranch LLC; James A. Wegis and Christine A. Wegis as Trustees of the James and Christine Wegis Family Trust; James and Dorothy Menzies as Trustees of the Menzies Living Trust; James and Dorothy Menzies as Trustees of the Thomas O. Menzies Trust; Karam Pistachio Farm, Inc.; Marvin and Christine Rahe; Silver Birch Partners, LLC; Triangle E Farms; and JR Investment Properties.

22 Exhibit C; Anthony Brown May 3, 2023, Transcript at p. 70-71.

23 See e.g., *Antelope Valley Groundwater Cases* (2020) 59 Cal.App.5th 241, at p. 255, 262, 266. Court affirmed trial



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 9

On February 23, 2024, the court issued its Phase 1 Statement of Decision finding that the boundary of the basin is coterminous with the Basin as described by DWR in Bulletin 118, and “that there are no subbasins within the Basin.”²⁴ Because there is a single Basin, overlying groundwater rights in the Basin are correlative and of equal priority.²⁵ In times of shortage, each party is entitled to a “proportionate fair share of the total amount available based upon reasonable need.”²⁶ SGMA expressly prohibits the CBGSA from altering these groundwater rights.²⁷ The CBGSA’s refusal to adhere to the allocation methodology in the 2020 GSP, failure to impose Basin-wide correlative agricultural reductions, and other aspects of the draft 2024 GSP, substantially alter and impair the Landowners’ water rights and impair Basin-wide sustainability. Instead, the proposed 2024 GSP foists 100% of Basin reductions in groundwater extraction on a few parties in the Central Management Area, while allowing landowners outside the CMA to pump unregulated and, in some cases, increase groundwater use in this critically overdrafted Basin. Such unregulated pumping in the face of significant cutbacks in the CMA is not only unequitable but fails to respect common law groundwater rights and inhibits the singular goal of SGMA, Basin sustainability.

Simply put, continued unregulated pumping in the Ventucopa area exceeds the modeled water budget and reduces available recharge to the Central Region. Yet, for some unexplained non-scientific reason the CBGSA continues to avoid groundwater pumping reductions for Ventucopa and the entire Basin.

Previously, some Board members have argued that discreet areas of the Basin should not be subject to reductions because groundwater levels under their land, or the lands of their colleagues, are stable. Such arguments have no place in the law or Basin management.²⁸ All Basin pumping causes a net reduction in available groundwater, regardless of localized conditions. As the 2020 GSA states, and the Court’s Phase 1 Statement of Decision confirmed, there is a single Basin and therefore a single yield. All overlying rights within the Basin must share the limited water supply correlatively, and reduction must be uniform across the Basin to avoid altering common law water rights.

court’s denial of an appropriative right to take groundwater from the Basin based on theory of “local surplus” and stable groundwater levels in the vicinity of Phelan’s well because Phelan’s pumping caused a net reduction in available basin groundwater.

24 *Exhibit D*, p. 5, Statement of Decision.

25 See e.g., *Antelope Valley Groundwater Cases* (2021) 62 Cal.App.5th 992, 1022-1023.

26 See e.g., *Tehachapi-Cummings County Water District v. Armstrong* (1975) 49 Cal.App.3d 992, 1001.

27 Water Code, § 10720.5(b).

28 See footnote 23 *ante*.



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 10

- a. *Statements in the Draft 2024 GSP regarding the Santa Barbara Canyon Fault Should Be Corrected based on Recent Studies.*

The CBGSA's recent investigations regarding the location of the SBCF determined that the SBCF was not at its presumed location, and its existence could not be verified east of the river channel.²⁹

"The survey also confirmed the fault does not extend to the east as reported. It is uncertain whether the fault extends to the northeast from the location identified by the geophysical survey and, if so, where it crosses SR 33 to the north of Line 1. However, the **possible northeast extension** of the fault would not resolve the significant change in groundwater elevations that occurs further to the south of Line 1, namely between TSS #3 and MW-H (i.e., Opti wells 903-905 and 915 and 916)."³⁰ (Emphasis added.)

The draft GSP should deal with scientific facts and not mere possibilities. Because the investigation could not identify the location of the SBCF to the northeast, the following statement in the draft GSP is inconsistent with the conclusion above, has no scientific basis and should be removed from the GSP.

"It appears the Santa Barbara Canyon Fault extends further to the northeast rather than bend distinctly to the east as inferred by the USGS."³¹

There is no scientific basis to infer or conclude that the SBCF extends to the northeast and the above language, and any similar language, should be removed from the draft GSP.

2. The CBGSA Has No Authority to Regulate or Restrict the Exercise of Water Rights in the Basin.

SGMA was not intended to and cannot alter or modify prior, established water rights. SGMA provides: "It is the intent of the Legislature to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater."³² Water Code Section 10720.5(b) further states that nothing in the SGMA legislation "determines or alters surface water rights or groundwater rights under common law or any provisions of law that determines or grants surface water rights." Mandated reduction of pumping by the CBGSA is improper, illegal and unenforceable because the CBGSA's proposed pumping allocations depart

²⁹ Draft 2024 GSP, p. 2-26 et seq.

³⁰ Draft 2024 GSP, p. 2-70.

³¹ Draft 2024 GSP, p. 2-35.

³² Water Code, § 10720.1.



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 11

from the DWR approved method of allocating water rights based on irrigated acreage and historical water use, and necessarily attempt to determine or alter groundwater rights, and threaten the security of groundwater rights in the Basin. A GSA has no express or actual authority under SGMA, or otherwise, to limit or alter the Landowners' exercise of their established groundwater rights. The Landowners are not required to comply with an invalid, illegal and unauthorized limit on the exercise and use of their water rights. Any reduction in groundwater extractions from the Basin must be correlative. The CBGSA's attempt to pick winners and losers and impose all pumping reductions on just a few landowners violates the equal protection and due process provisions of state and federal constitutions, as well as the Takings Clause.

3. The CBGSA's Groundwater Model and Landowner Pumping Data Confirm that the Ventucopa Area is Being Overdrafted and Impairing Basin Sustainability.

Unregulated Pumping in the Ventucopa Region Impacts Basin-Wide Sustainability.

At the July 31, 2024 CBGSA meeting, staff reported that the Model V.30 is better calibrated and incorporates significant new data than was previously unavailable.³³ The new data included new geological data, land use data, cropping data, landowner reported pumping for 2022 and 2023, revised ET estimates, domestic well information, and recalibrated groundwater level and streamflow data.³⁴ Based on the new data and updated model, staff reported that historical pumping from 1968-2017 averaged 42,400 afy, and the Basin sustainable yield was between 15,900 afy and 17,500 afy.³⁵

Remarkably, staff suggested that the approach to sustainability should be to "permanently fallow annual crop acreage in the Central Region", while maintaining pumping in the Eastern and Western Regions "because these regions are not expected to be in overdraft under projected conditions."³⁶ First, staff is ignoring that because there is a single basin with a common interconnected water supply, all water rights are correlative and of equal priority. Second, staff's predilection favoring eradication of row crops in favor of permanent plantings is arbitrary, capricious, impairs established groundwater rights, and is unsupported by any technical data. The CBGSA has no legal authority or technical basis to pick which growers starve and which flourish. Further, these incendiary statements demonstrate a complete lack of understanding of Basin hydrogeology and the Model results.

Based on the modeled sustainable yield of 17,800, staff initially proposed regional water budgets as follows:³⁷

33 Exhibit A: July CBGSA Board Package, p. 87-118.

34 *Ibid.*

35 *Ibid.*

36 *Ibid* at p. 129.

37 *Ibid.* at p. 130.



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 12

Central Region	13,200 afy
Western Area	1,200 afy
Eastern Area	<u>3,400 afy</u>
Total	17,800 afy

Neither the draft 2024 GSP, nor Staff's presentation identify the technical and policy assumptions supporting this arbitrary division of yield. Staff updated the sustainable yield estimate shortly before the Board meeting and suggested a range of sustainable yields, from 15,900 to 17,500 afy, and a CMA pumping range of 10,900 to 12,100 afy.³⁸ The CBGSA Board then voted to set the Basin sustainable yield at 16,700 afy, a reduction of 1,100 afy without explaining how the 1,100 afy reduction in yield would be distributed across the Basin and regional water budgets. The draft 2024 GSP improperly fails to include any regional water budgets or a detailed description of allocation methodology and criteria for variances. Reducing only CMA pumping would be arbitrary and not based on science. However, even assuming the water budget for Ventucopa remains unchanged at 3,400 afy (which appears unsupported), landowner **pumping records show that current pumping in Ventucopa exceeds the modeled budget by more than 80 percent.** The Table below is compiled from landowner reported metered production provide by the CBGSA:

2023 EASTERN REGION PUMPING	
Landowner	Reported AF
Kern Ridge Growers	699.67
Highland Vineyard SB, LLC	1,832.00
Tri-County Pistachios	474.00
Cuyama Orchards	875.00
Triangle E. Farms	580.75
Karam Pistachio Farm	480.38
Lucky Dog Ranch	343.00
Apache Canyon Ranch	327.96
Feinstein Investments	268.88
Chang Ceferino	117.00
Harrington Farms	111.19
Jennifer Lee	20.93
Kooros Samadzadeh	13.73
Total Reported Extractions	6,144.49
Modeled Sustainable Yield (7/22/24)	3,400
Eastern Overdraft (Pumping in excess of Yield)	(2,744.49)
Reduction @ 6.5% per year to 2038	2,398
Additional Recharge to Basin	3,746.49

61% Reduction

³⁸ Ibid, p. 131.



Board of Directors of
Cuyama Basin Groundwater Sustainability Agency
October 11, 2024
Page 13

Furthermore, if landowners in Ventucopa reduced pumping 6.5% per year to 2038, like the CMA, an **additional 3,746.5 afy would recharge the downgradient Basin**. There simply is no scientific basis to defer Basin-wide agricultural pumping reductions, particularly in Ventucopa. Without substantial pumping reductions in Ventucopa, landowners in Ventucopa are intercepting recharge to the Central Region, further impairing the sustainability of the CMA and the Basin as a whole.

The Basin encompasses 378 square miles, or about 241,920 acres.³⁹ The proposed CMA encompasses 25,900 acres⁴⁰ or about 10.7 percent of the Basin. In other words, the draft 2024 GSP proposes to implement demand reduction and management in only 10.7 percent of the this critically overdrafted Basin, targeting row crops in the CMA. The CBGSA's myopic approach to Basin management violates SGMA and its regulations.

According to DWR, the Basin is in critical overdraft. With such a dire diagnosis, it defies logic as to why the CBGSA continues to allow unregulated pumping in nearly 90 percent of the Basin, and why the CBGSA is proposing to continue that practice for the next five years. The draft 2024 GSP encourages unregulated and increased water use throughout most of the Basin, while unfairly punishing those in the CMA. SGMA requires Basin-wide demand management. The CBGSA's failure to impose Basin-wide agricultural pumping reductions violates the representations milestones in the 2020 GSP, undermines public and stakeholder confidence, and creating planning uncertainty, will delay Basin-wide sustainability, and may trigger minimum thresholds in the CMA though no fault of the CMA landowners.

4. The CBGSA Has Not Provided Proper and Sufficient Notice Of Intended Actions Regarding Area Boundaries, Water Budgets, Allocation Criteria And Restriction Of Water Rights

The CBGSA has failed to give proper and sufficient notice to the public, and Basin stakeholders regarding critical components of the GSP, including intended actions regarding area boundaries, water budgets, allocation criteria, restriction of water rights, modifications, variances, exceptions and exclusions from the CMA. Further, the CBGSA has been schizophrenic regarding the application and reliability of the Model V.30.

Notwithstanding the Phase 1 Court Order, the draft 2024 GSP proposes to divide the Basin into three regions and two management areas, the boundaries of which continue to remain in flux. The draft 2024 GSP does not include historic pumping or water budget information for these ill-defined regions, and the CBGSA is planning to develop landowner allocations without including the regional water budget and overdraft information in the GSP. The water budgets, overdraft information and proposed allocation methodology must be included in the GSP and

³⁹ Draft 2024 GSP, p. 1-3.)

⁴⁰ July Board Package, p. 137.



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 14

submitted to DWR for approval. Otherwise, the Basin will continue to be managed on an ad-hoc basis without providing any degree of planning or certainty to Basin stakeholders.

On September 25, 2024, EKI published comments highlighting several significant flaws in the V.30 Model relating to Basin outflow, water levels and lack of attention to GDE's. The CBGSA has yet to address those comments. Other technical consultants have requested further data and information from the CGGSA staff regarding the V.30 Model which have been ignored.

The cumulative impact of these defects has effectively prevented a reasonable opportunity for review and evaluation of the GSP by Basin stakeholders.

CONCLUSION

The continued effort to manage the Basin and allocate groundwater on a regional basis and to force 10 percent of the Basin to bear 100 percent of the reduction is divisive and inefficient. The draft 2024 GSP, proposed management actions and allocation methodology violate California Law, including article X, section 2 of the California Constitutions, SGMA and its implementing regulation, violates due process, the Equal Protection Clause and the Taking's Clause because:

1. The assumptions and findings of the draft 2024 GSP are not reasonable and are not supported by the best available information and best available science;
2. The draft 2024 GSP fails to identify reasonable measures and schedules to eliminate data gaps, particularly in light of the representations made regarding Ventucopa management in the 2020 GSP;
3. The sustainable management criteria and management actions are not commensurate with the level of understanding of the Basin setting;
4. The management actions proposed are not likely to prevent undesirable results and ensure that the Basin is operated within the sustainable yield.
5. The draft 2024 GSP fails to include a reasonable assessment of overdraft conditions and a reasonable means to mitigate overdraft Basin-wide and, in particular, in Ventucopa and fails to include a water budget and current production for areas outside the CMA;
6. The draft 2024 GSP includes two management areas for the Basin, the CMA, and the VMA, but fails to explain how the management areas can operate under different minimum thresholds and measurable objectives without causing undesirable results outside of the management area;
7. The draft 2024 GSP fails to use the best available information and best available science in development of the management area boundaries and allocation of the groundwater resources;
8. The draft 2024 GSP enforces the V.30 Model results against some landowners while questioning the Model's reliability and exempting others without scientific basis;



Board of Directors of
 Cuyama Basin Groundwater Sustainability Agency
 October 11, 2024
 Page 15

9. The draft 2024 GSP fails to implement pumping reductions throughout the Basin, and excludes some landowners within the CMA from pumping reductions, arbitrarily and without scientific support; and
10. The management actions proposed impair and alter the water rights of landowners within the CMA without scientific, legal or equitable justification.

Accordingly, we request that the CBGSA substantially revise the draft 2024 GSP to address these comments and begin the job of managing the entire Basin consistent with SGMA, consistent with California Constitution, article X, section 2, consistent with established water rights priorities, and consistent with basic principles of equity and fairness.

Very truly yours,

ROBERT G. KUHS

RGK:ce

Board of Directors:

Katelyn Zenger zengerk@kerncounty.com

Rick Burnes rick@sridge.net

Byron Albano byronalbano@gmail.com

Cory Bantilan cory.bantilan@countyofsb.org

Deborah Williams dwilliams.ccsd@gmail.com

Das Williams dwilliams@countyofsb.org

Cory Bantilan cory.bantilan@countyofsb.org

Arne Anselm Arne.Anselm@ventura.org

Blaine Reely breely@co.slo.ca.us (standing in for Jimmy Paulding jpaulding@co.slo.ca.us)

Jane Wooster jane@woosterranch.com

Derek Yurosek DYurosek@bolthouseproperties.com

Steve Jackson steve@next-gen-water.com

cc: Paul Gosselin, Deputy Director of Sustainable Groundwater Management.
paul.gosselin@water.ca.gov

EXHIBIT A

Cuyama Basin Groundwater Sustainability Agency

11b. Update on Cuyama Basin Water Resources Model

Jim Beck / Brian Van Lienden

July 31, 2024



Agenda

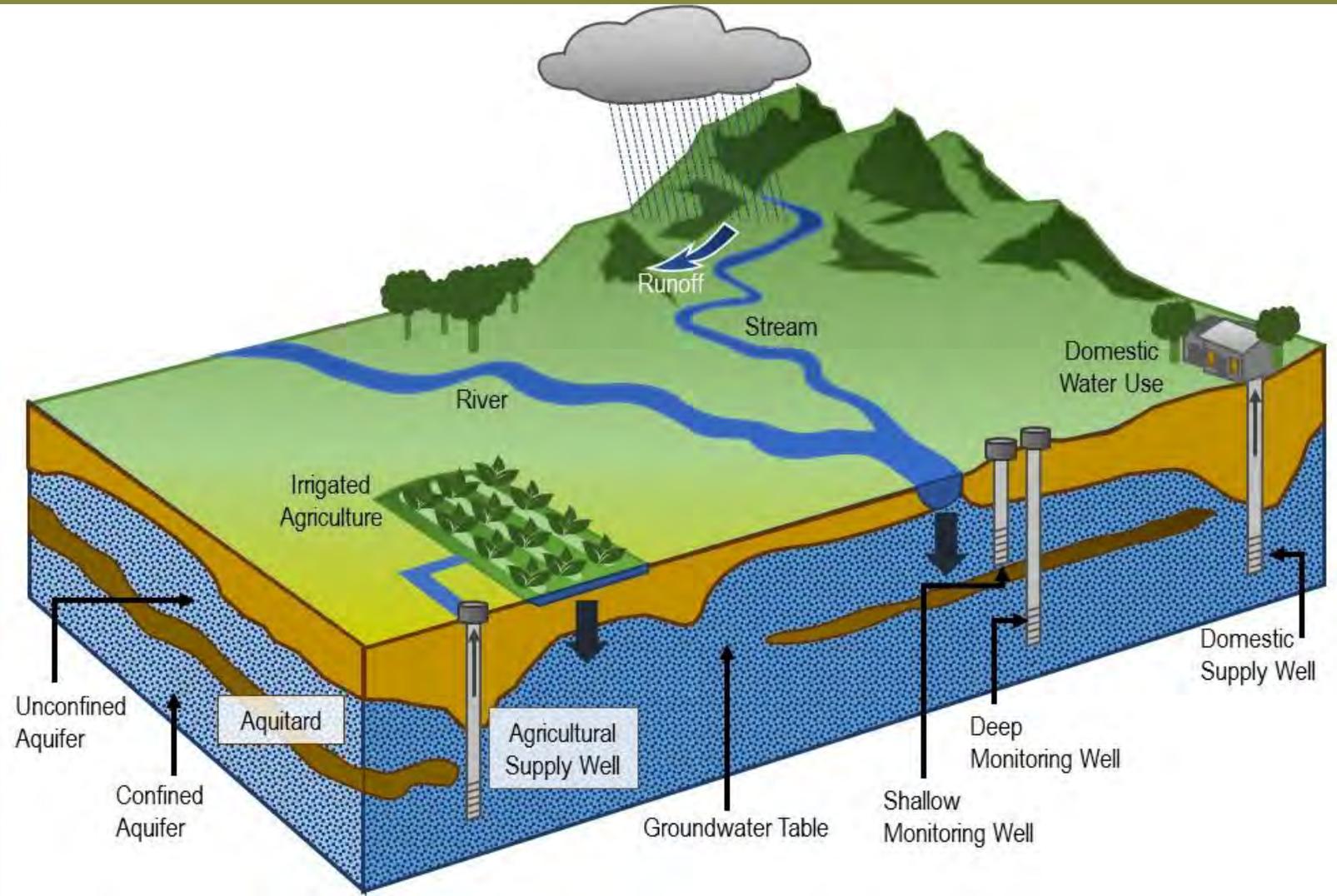
- Briefing on the CBWRM model upgrade
- Review model results
- Update on Sustainable Yield Analysis
- Update on Management Area Extent

Key Outcomes

- The updated model incorporates significant new data that was previously unavailable
- Projected basin-wide pumping (42,400 AFY) and groundwater storage deficit (17,600 AFY) are both lower than previous estimates
- Basin-wide sustainable yield is estimated to be between 15,900 AFY and 17,500 AFY
- Pumping cap in current Central Management Area plus Farming Units is between 10,900 AFY and 12,100 AFY
- Approach to uncertainty analysis for the updated model is similar to that of the GSP.

Components of the Cuyama Basin Water Resources Model

- Groundwater aquifers
- Agricultural and domestic pumping
- Percolation
- Surface water interaction



Model Development and Application History

- **CBWRM was originally developed for the 2020 GSP (v0.10)**
 - This version was used to develop water budget and sustainability estimates contained in the 2020 GSP
 - Applied for water year 2020 and 2021 Annual Reports
- **July 2022 Update (v0.20)**
 - Incorporated updated data available at that time
 - Applied for water year 2022 and 2023 Annual Reports
 - Used to develop CMA allocation tables for 2023 and 2024
- **July 2024 Update (v0.30)**
 - Incorporates additional data updates that are now available

Newly available information

- **Geology:**
 - AEM
 - Fault investigation
 - Well log data from the newly installed monitoring wells
- **Land use:**
 - Updated land use data from LandIQ and local landowners
- **Pumping:**
 - Reported pumping for 2022 and 2023
 - Detailed information about the well location and service areas as a result of the well survey and pumping reports
- **Recalibration:**
 - Groundwater level and streamflow measurements from CBGSA monitoring program

CBWRM Model Update

- Revised model layering by incorporating AEM, fault investigation, and other geologic data.
- Revised the land surface component to align simulated pumping with the reported pumping values for 2022 and 2023 and incorporate non-irrigated land use types.
- Estimates of Non-irrigated parcels based on recent idle acreage
- Refined pumping wells and service areas.
- Recalibrated the model using data through WY 2023.
- Updated historical and future conditions budgets, and estimate sustainable yield.



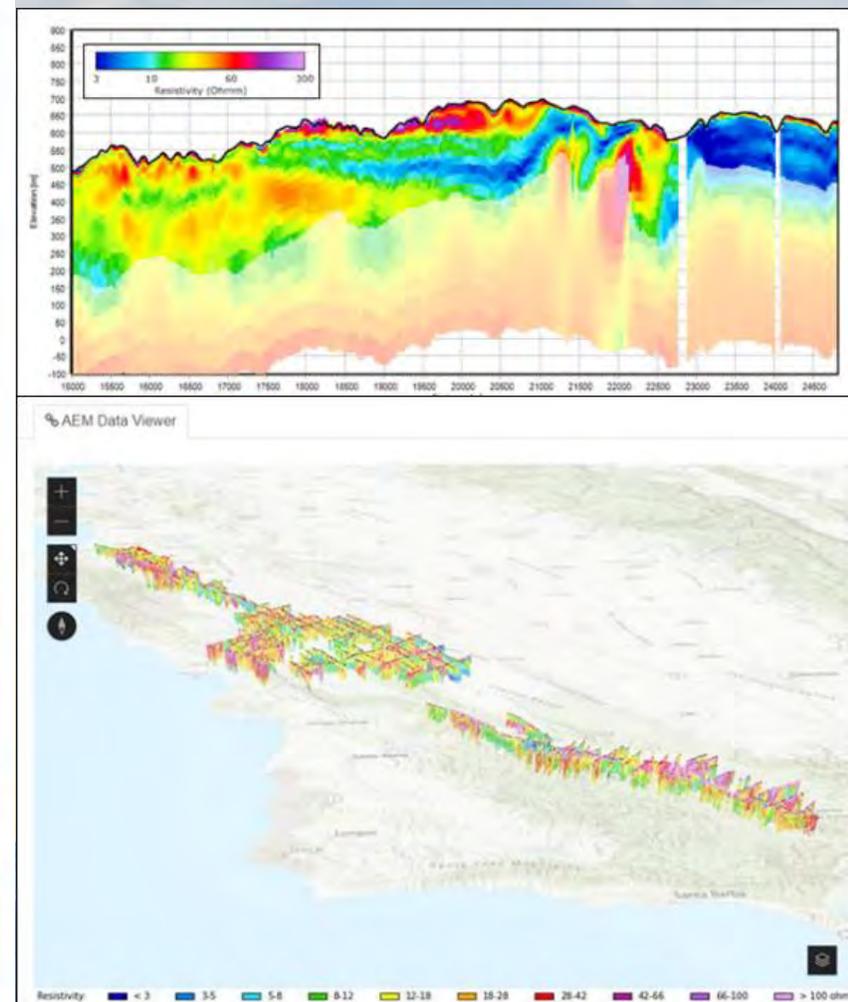
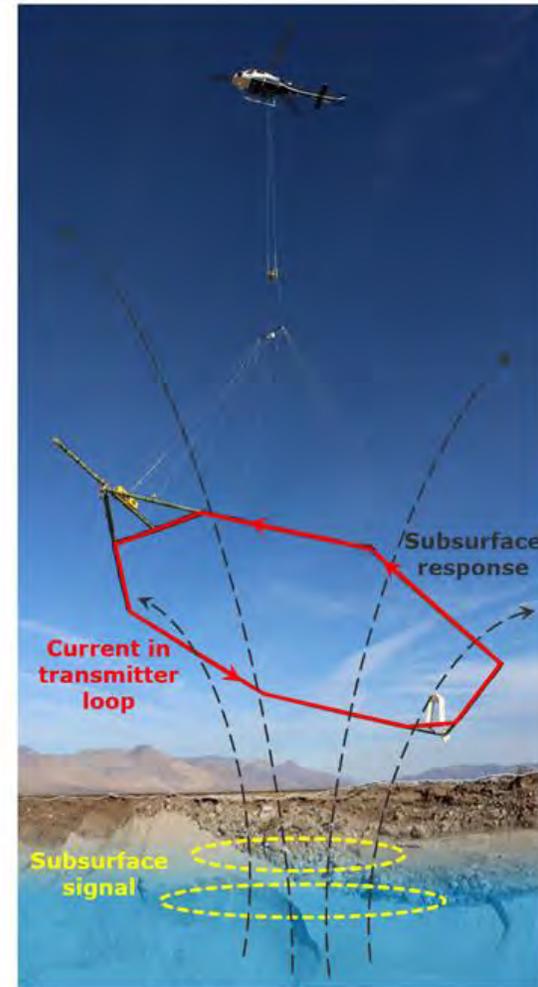
Other available data not incorporated in the model

- Streambed LiDAR survey
 - Model requires consistent invert elevation and rating tables
 - Holding this update until improved rating tables are available
- Non-irrigated fields from LandIQ
 - Dataset was not available on time to integrate into the land use
 - Instead manually checked satellite images for the last two years and marked them as non-irrigated
 - Can be incorporated in the next annual report

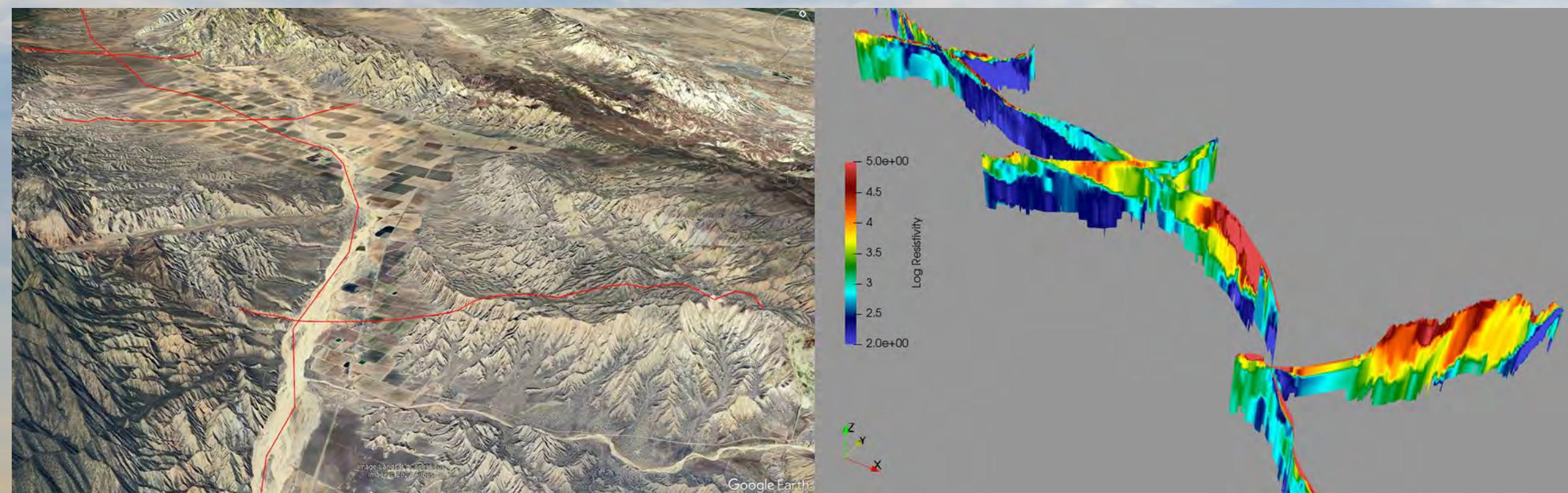
Geology Update

Airborne Electromagnetic (AEM) Surveys

- DWR conducted AEM surveys in California's high- and medium-priority groundwater basins as part of the Basin Characterization program.
- During an AEM survey, a helicopter tows electronic equipment that sends signals into the ground which bounce back. The data collected is used to develop continuous images that are interpreted for underground geology.

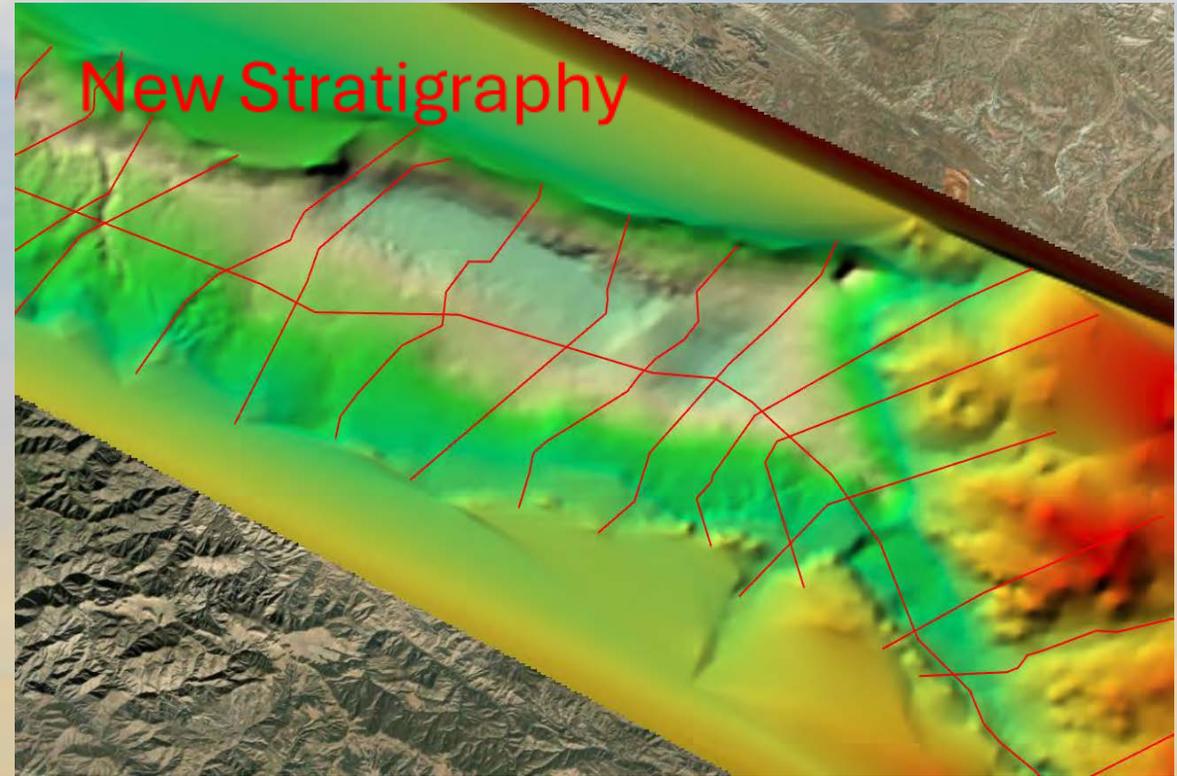
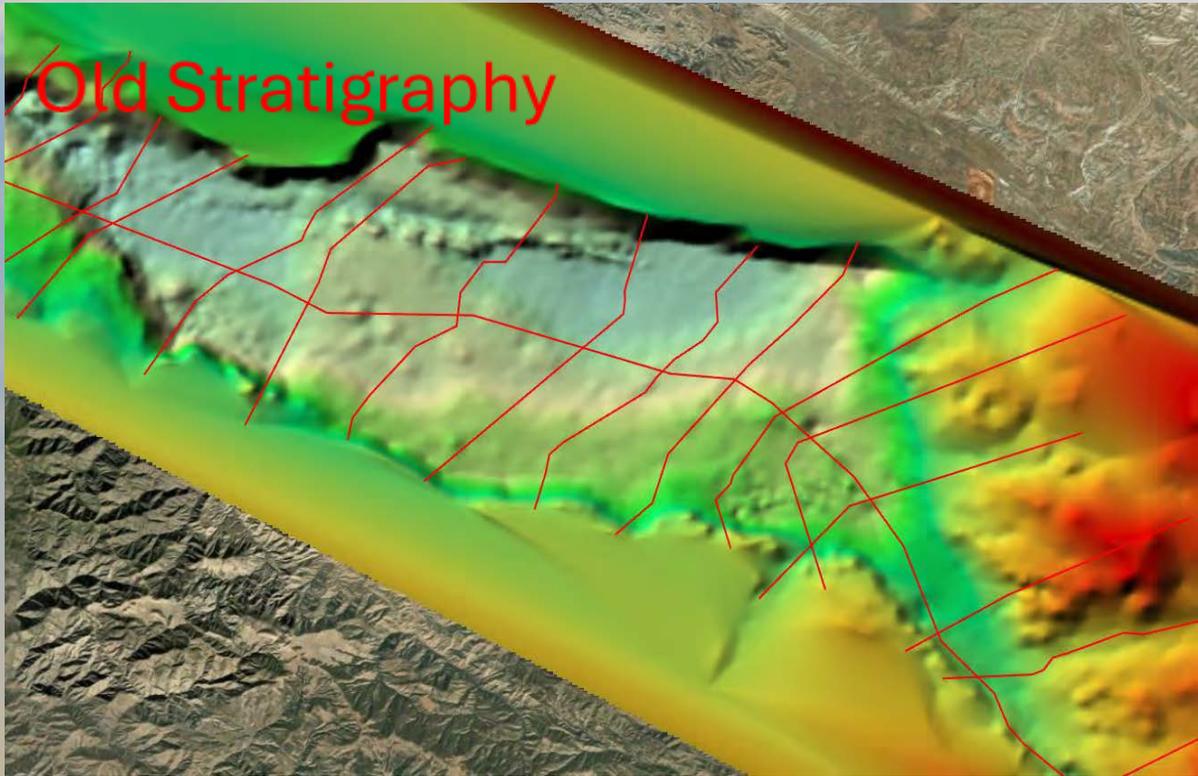


Used DWR's AEM Survey



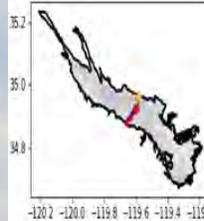
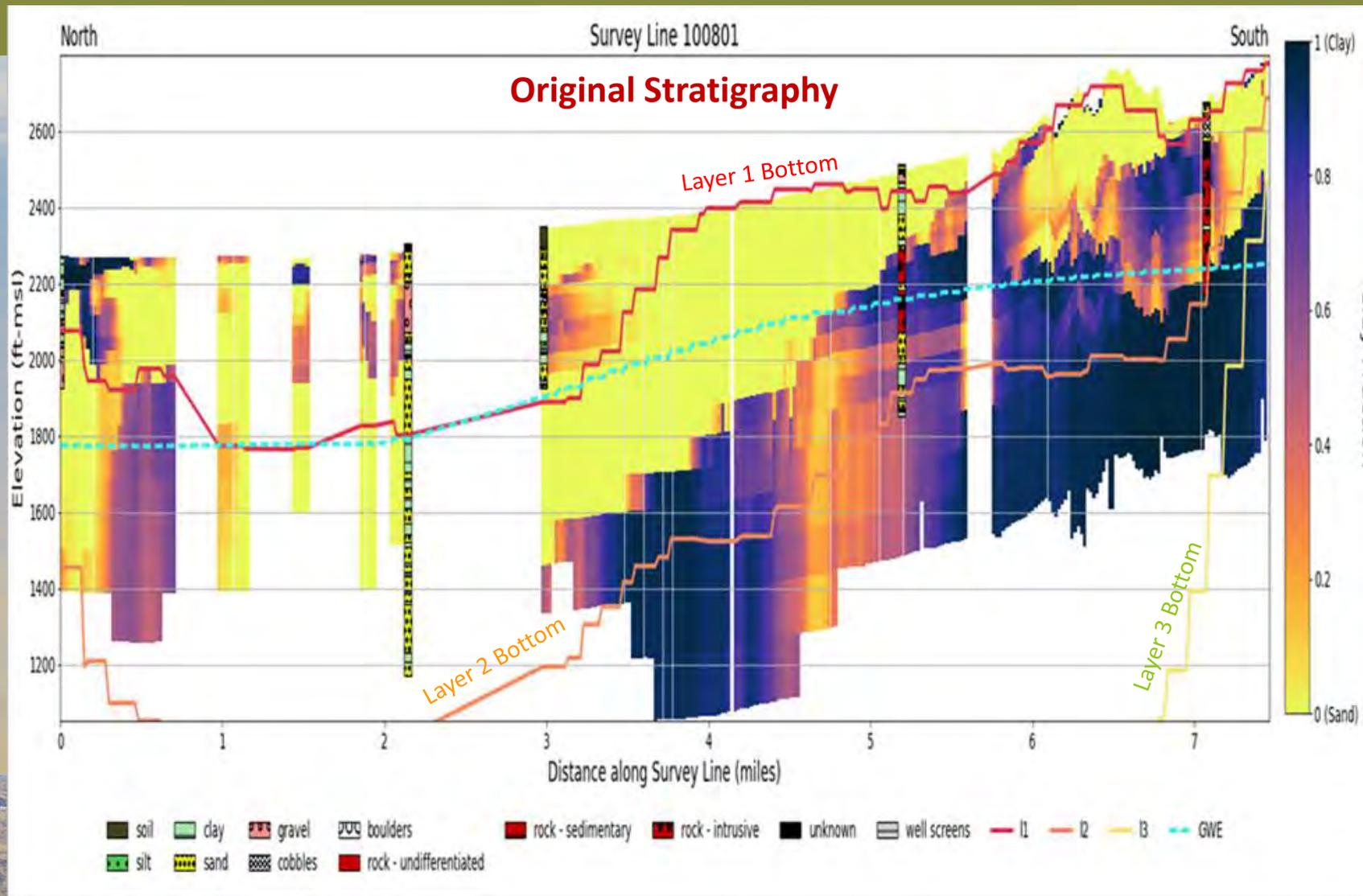
DRAFT

Layer 2 of the Model is Updated



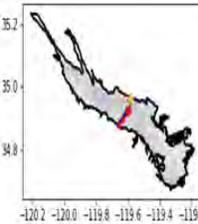
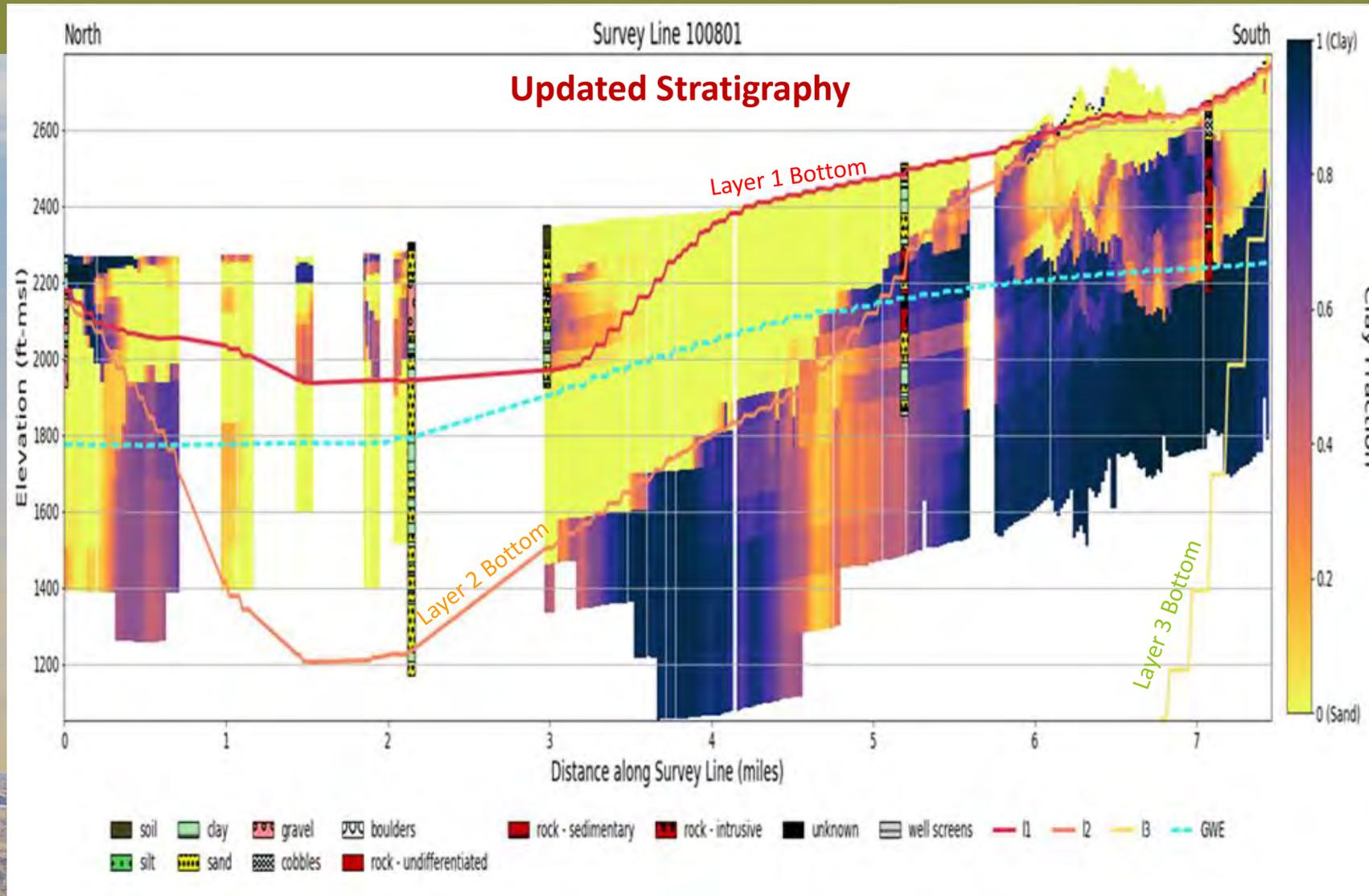
DRAFT

Model layer definition have improved based on the AEM Data



DRAFT

Model layer definition have improved based on the AEM Data



DRAFT

Incorporation of Fault Investigation Data into the Model

- Appropriate resistivity lines were incorporated along with data from AEM surveys were incorporated into the model layers
- Based on the analysis, an improved representation of flow barrier conditions across the fault is incorporated in the model
- Incorporating the fault investigation and AEM data in the model at the SBCF area, the model simulation capabilities near the SBCF has improved

Land Use Update



Land Surface Update

- Revised historical land use data:
 - Combined historical land use data into a single, consistent shapefile
 - Reviewed and revised the matching of crop categories to model crop types when needed
 - Introduced non-irrigated land use type
- Revised IDC calibration:
 - Adjusted ET rates to align simulated pumping with the reported volumes for 2022-23
 - Reviewed root zone and land & water use budgets
 - Adjusted soil parameters as necessary

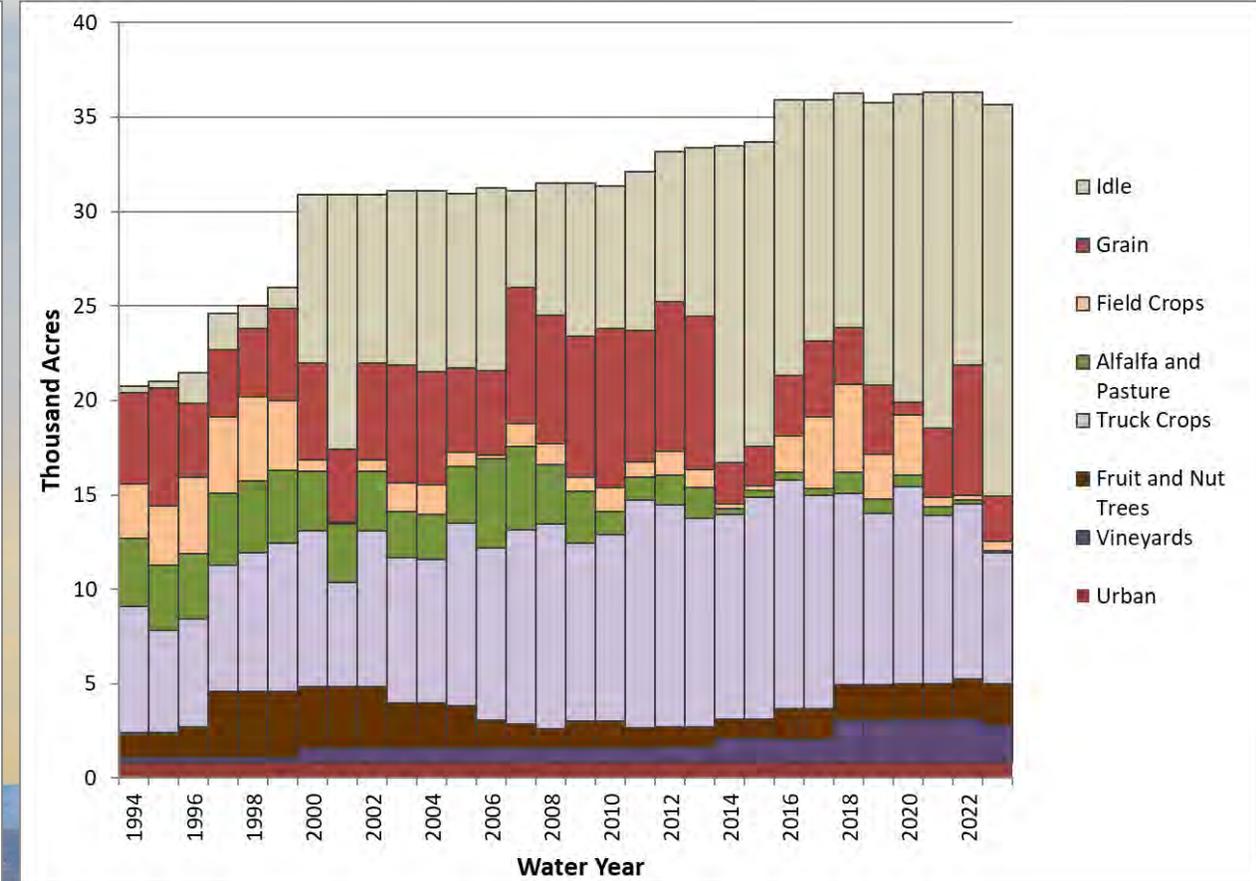
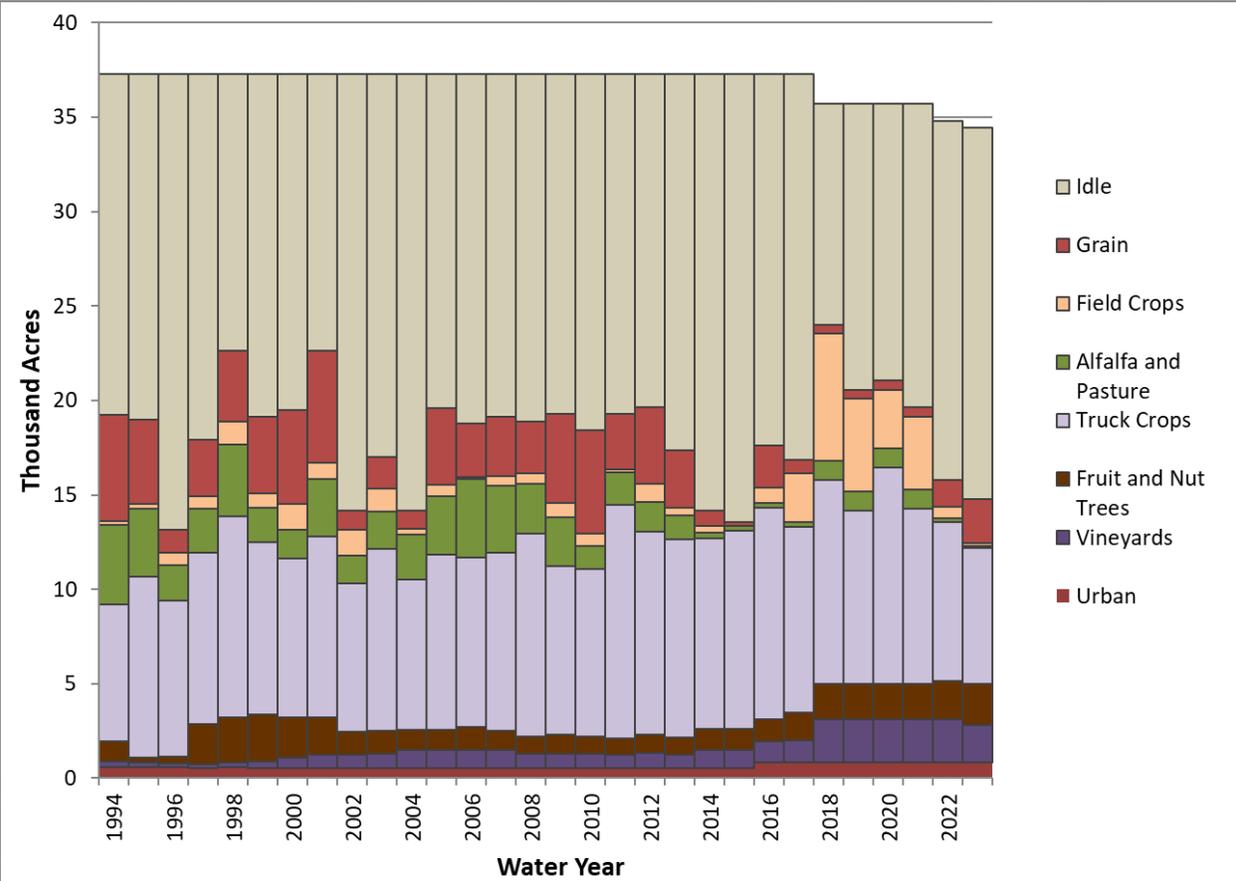
Historical Land Use Data

- v0.20 land use was developed:
 - By Davids Engineering for the years 1994-2017
 - By Woodard & Curran for the years 2018-recent
 - Data from each year is independently stored and processed, which may lead to inconsistency between years
- v0.30 land use is developed:
 - For the years 1994-recent
 - All the data is combined into a single master shapefile
 - All years are batch-processed with a consistent methodology using only LandIQ and local landowner provided data
- ***Updated land use data has a better representation of the historical conditions and agricultural development in the valley.***

Historical Land Use Data in the Model

v0.20 (as of 2023 annual report)

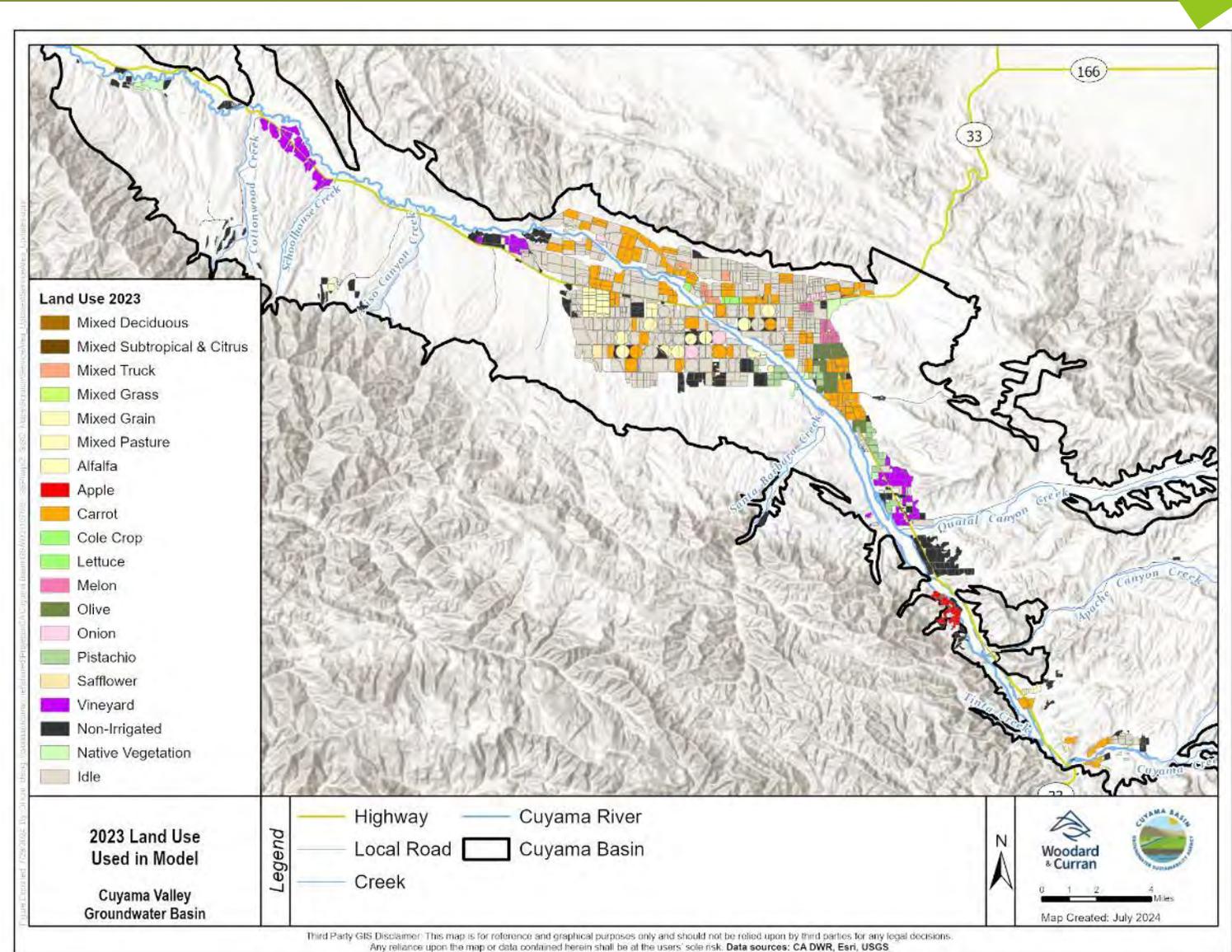
v0.30 (updated version)



DRAFT

2023 Land Use in the Model

- Source:
 - Land IQ 2023 Survey
 - 2022/23 Local crop reports



DRAFT

Pumping Update



ET for these crops have not been changed:

Historical Potential ET rates

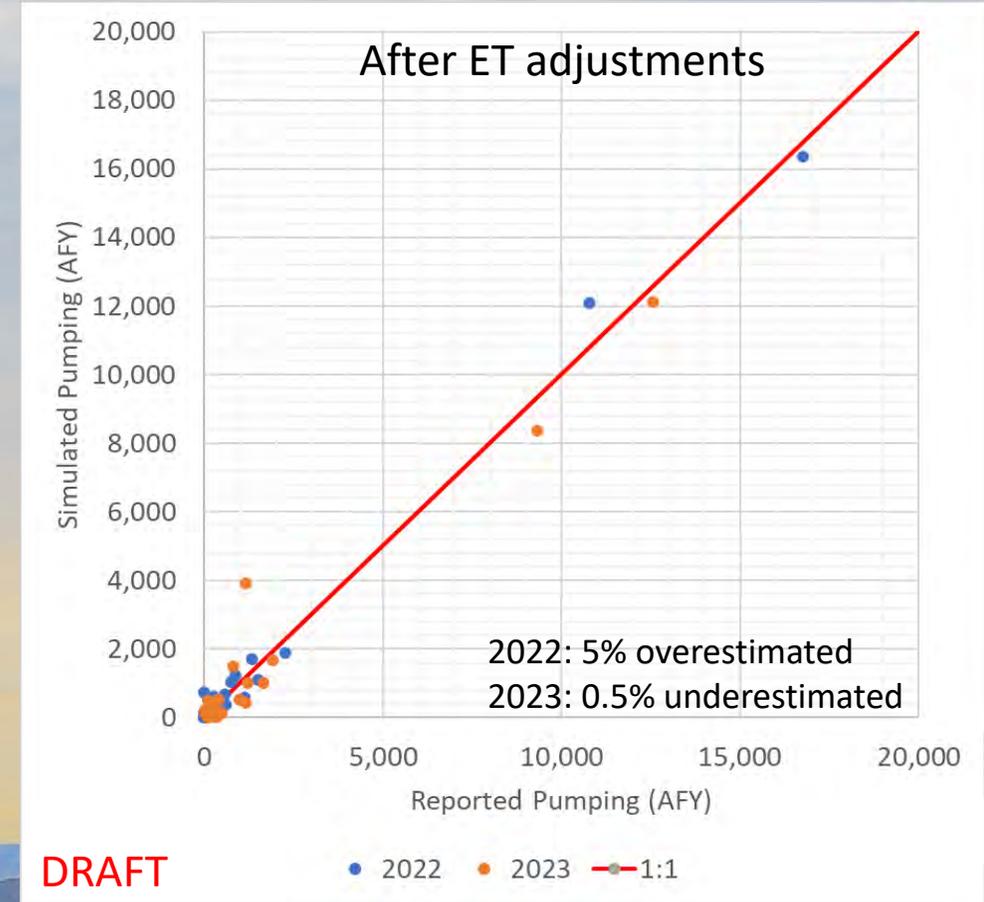
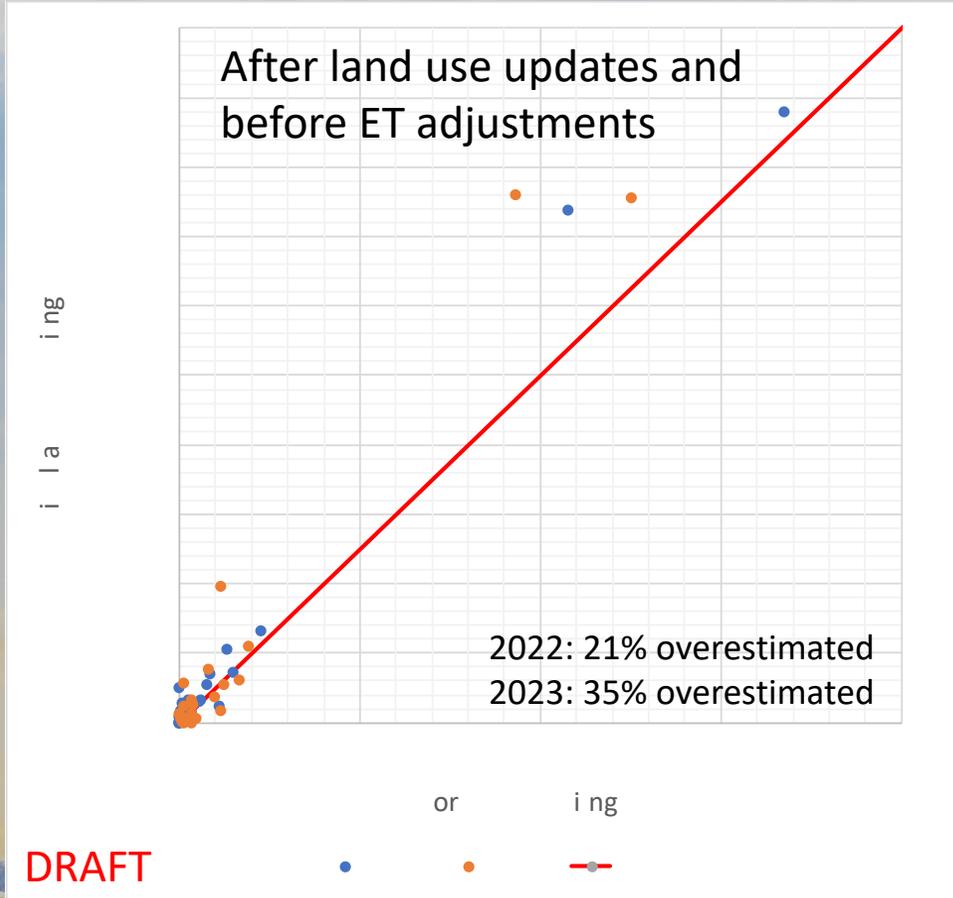
- Previous discussions with the locals concluded that the model does not correctly represent irrigation practices for certain crop types.
- Reported pumping volumes showed difference from simulated ones for 2022 and 2023.
- Potential ET rates are modified to take into account those practices, and to better match the reported pumping for 2022 and 2023.

Crop	v0.20 ET (ft/yr)	v0.30 ET (ft/yr)	Change
Carrot	3.20	3.84	↗
Idle	0.82	0.08	↘
M Truck	2.84	3.84	↗
M Field	3.89	0.58	↘
M Grain	2.03	0.51	↘
Onion	2.53	2.78	↗
Pistachio	2.73	3.55	↗
Potato	2.74	3.02	↗
Safflower	1.28	0.26	↘

Crop	v0.20 & v0.30 ET (ft/yr)
Alfalfa	4.48
Apple	4.00
Bean	1.74
Berry	1.89
Citrus	2.32
Cole	1.61
Corn	4.13
Grape	1.89
Green	1.02
Lettuce	1.54
Melons	2.35
M Decid.	2.54
M Grass	3.12
M Subt.	1.94
Olive	1.33
Wheat	2.05
YTrees	1.34

*Native, Mixed Pasture and Non-irrigated land use type ETs are limited by available precipitation. Actual ET is around 10 inches/year.

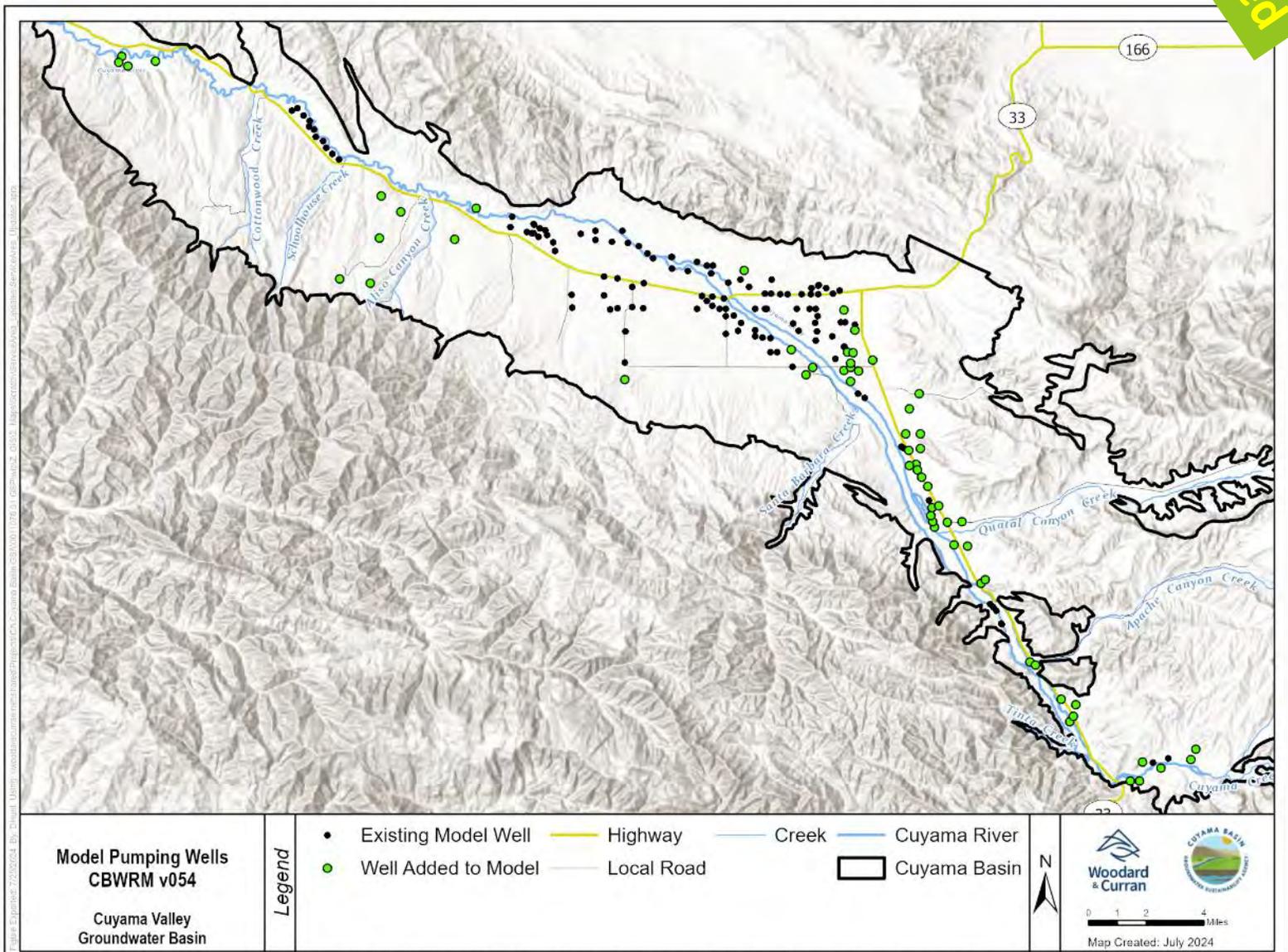
Model Estimated vs. Reported Pumping



Pumping Wells Included in Model

108
Updated

- Total 186 pumping wells
 - 122 Original Model
 - 64 New wells Added
- Most of Central basin wells, and some others, were already in the model.
- Coordinates are updated for the existing wells.
- More wells are added in the Western and Eastern parts of the basin.



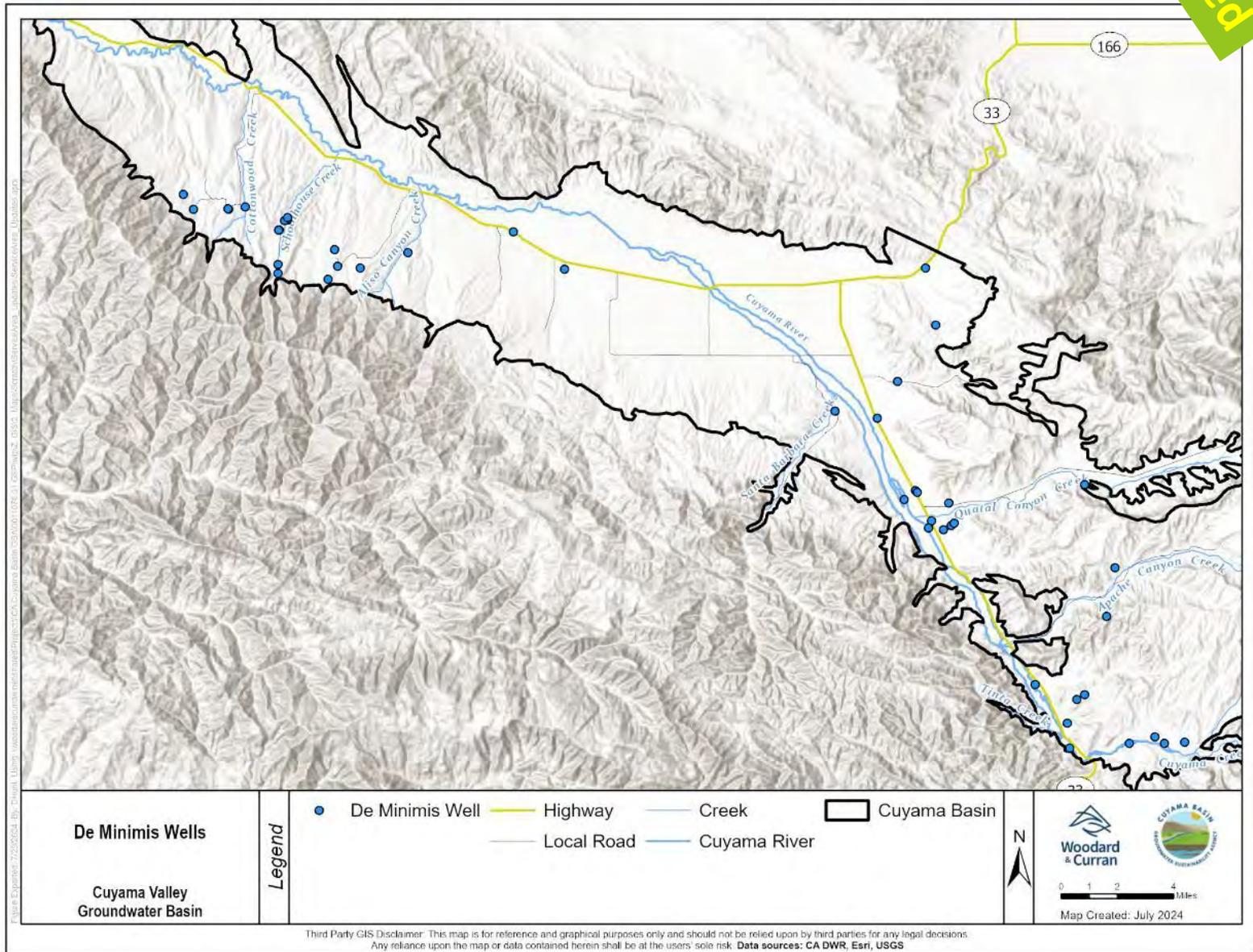
DRAFT

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

De Minimis Domestic Wells

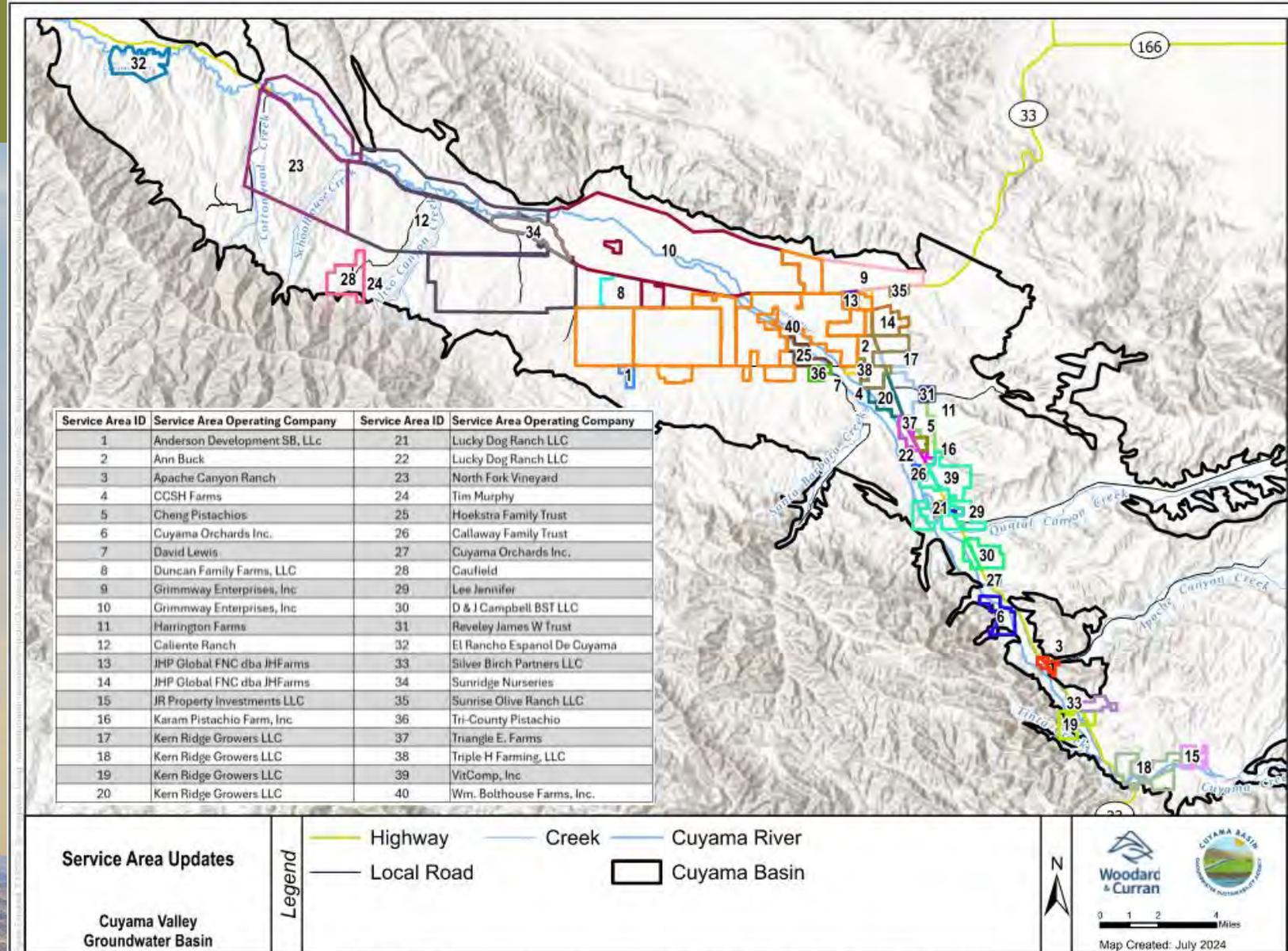
109
Updated

- Wells producing less than 2 AFY (~1,785 GPD)
- Total 49 Wells
- Additional information provided by some of the well owners



Service Areas

- 40 service areas are defined for reporting on a range of agricultural fields.
- These service areas are linked to the wells serving those areas.
- Information is mostly coming from pumping reports and farm unit applications.



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

DRAFT

Land Use and Pumping Refinements

- Refinements to the land use data have contributed to improvement of model representation of the agricultural and crop acreage over time
- Identification of pumping wells and reporting of pumping rates along with the service area delineation has helped improve model representation of location and amount of pumping
- Pumping and crop reporting should continue on an annual basis to help improve the sustainability analysis and accounting process
- These improvements have contributed to more accurate calibration of the model, which is presented in the following slides

Model Recalibration

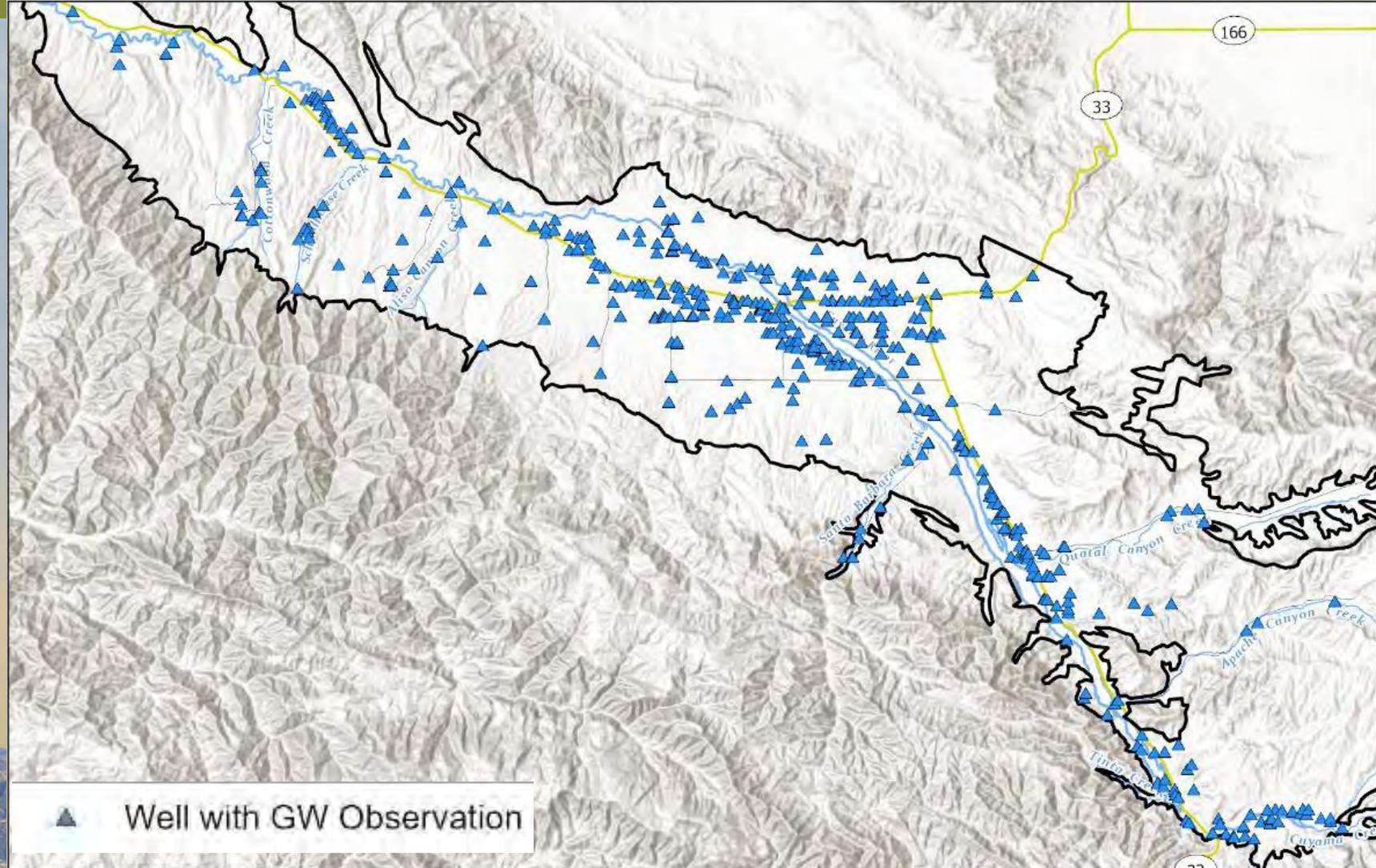


Model Recalibration

- As a result of the changes in model stratigraphy and land surface water budget components (crop demand, pumping, and deep percolation estimates), model required a recalibration.
- Aquifer parameter distribution was revised to better match the understanding from the AEM hydrogeologic information.
- Uncertainties in representation and interpretation of observed GWL data was minimized by vertical averaging of the observed data.

All wells with a historical groundwater measurement

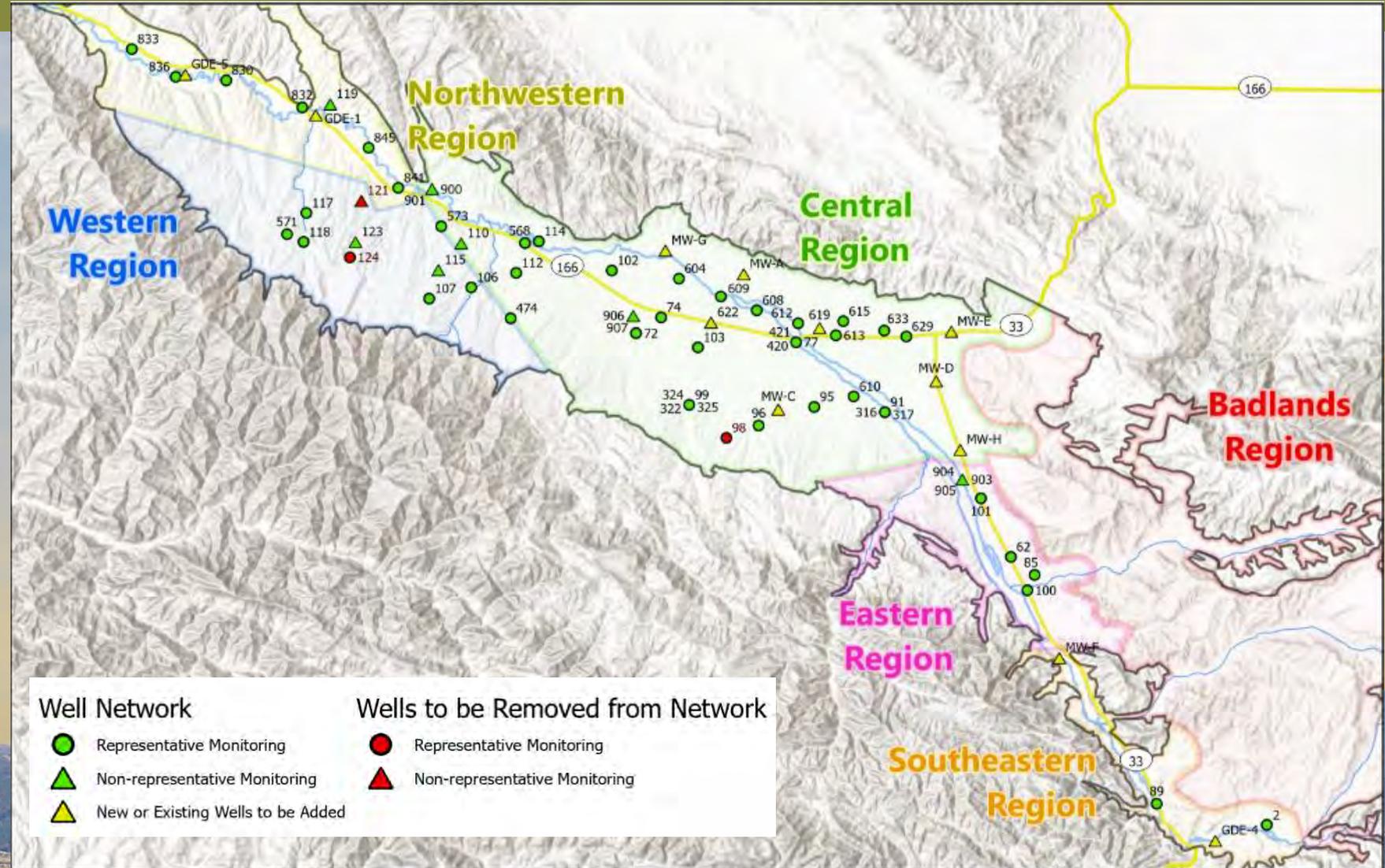
- Wells were compiled during GSP development (507)
- Sources:
 - DWR
 - USGS
 - Counties
 - CCSD
 - Landowners



Board Approved Groundwater Levels Monitoring Network

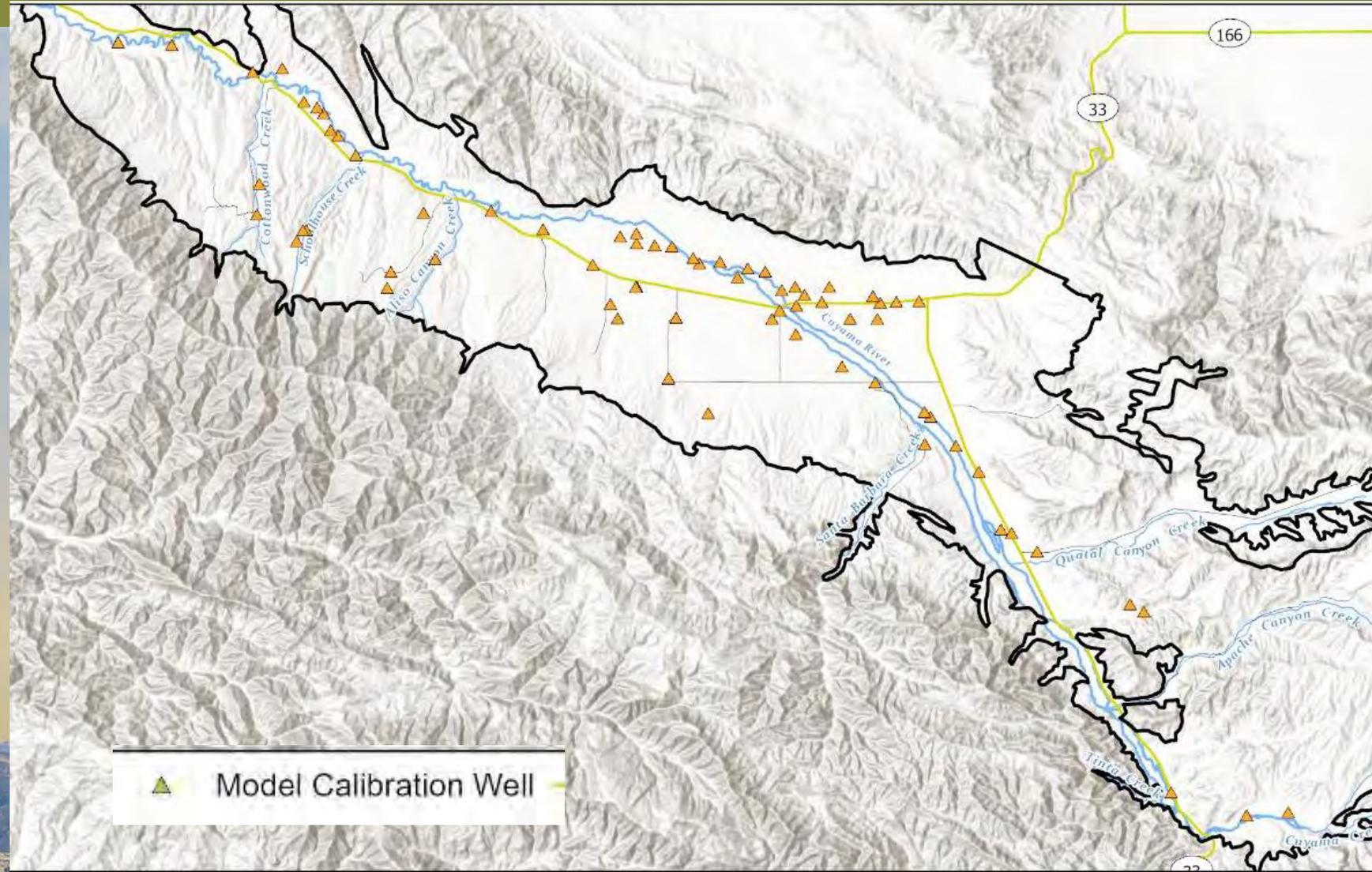
1185
Updated

- These wells have been monitoring by the CBGSA since 2020



Model Calibration Wells

- Model calibration wells (76) were selected based on the following criteria:
 - Availability and the length of data during calibration period
 - Spatial coverage within Basin

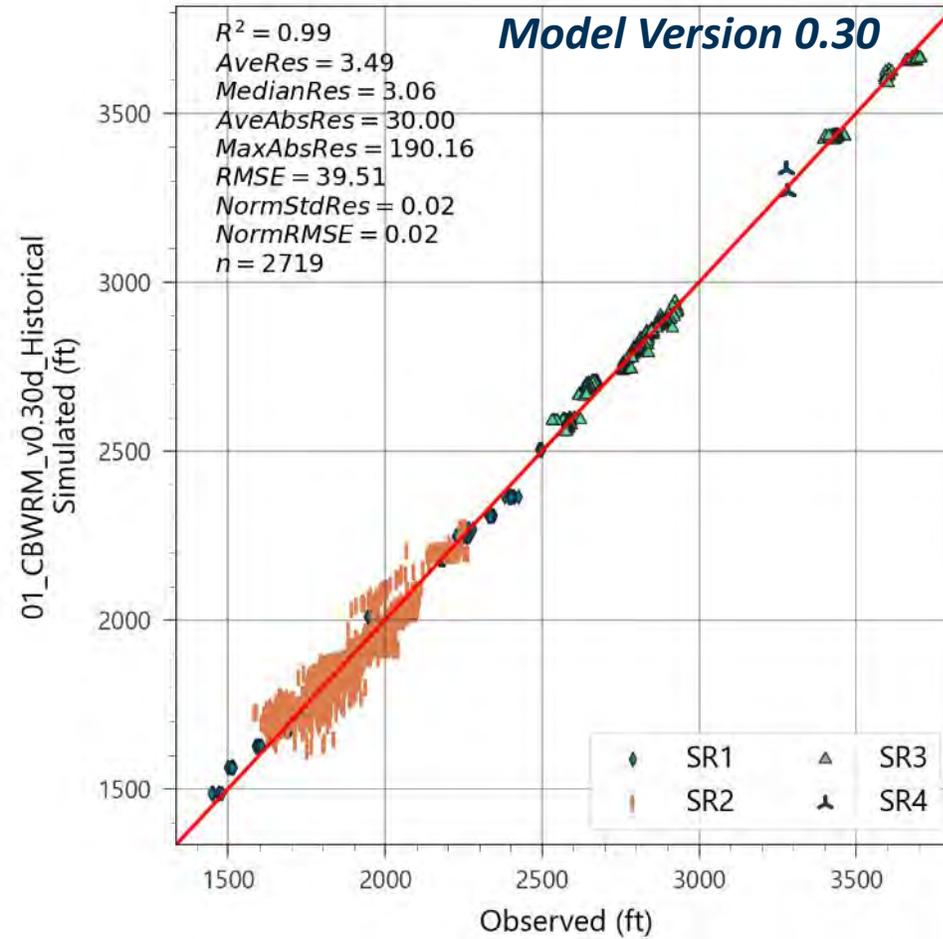
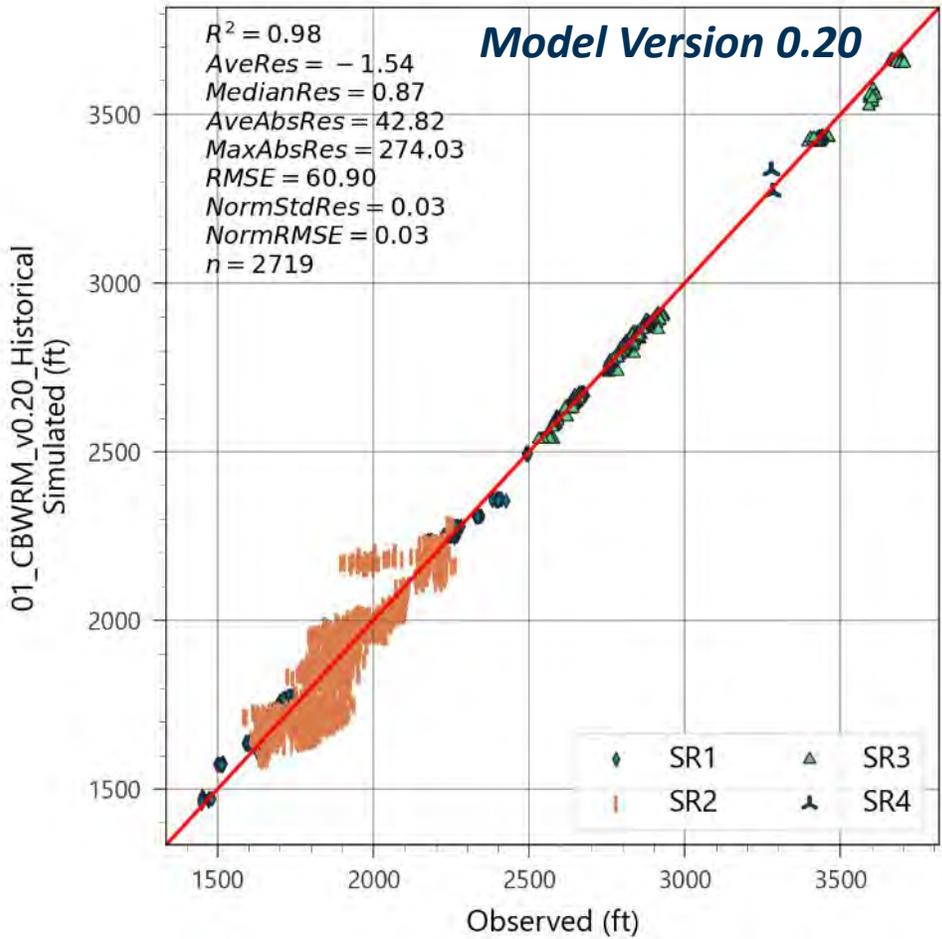


Model Calibration Statistics

Observed GWLs vs. Simulated GWLs

“perfect results would be on the red line”

Updated 11/30



v0.30 shows improved residual statistics compared to v0.20.

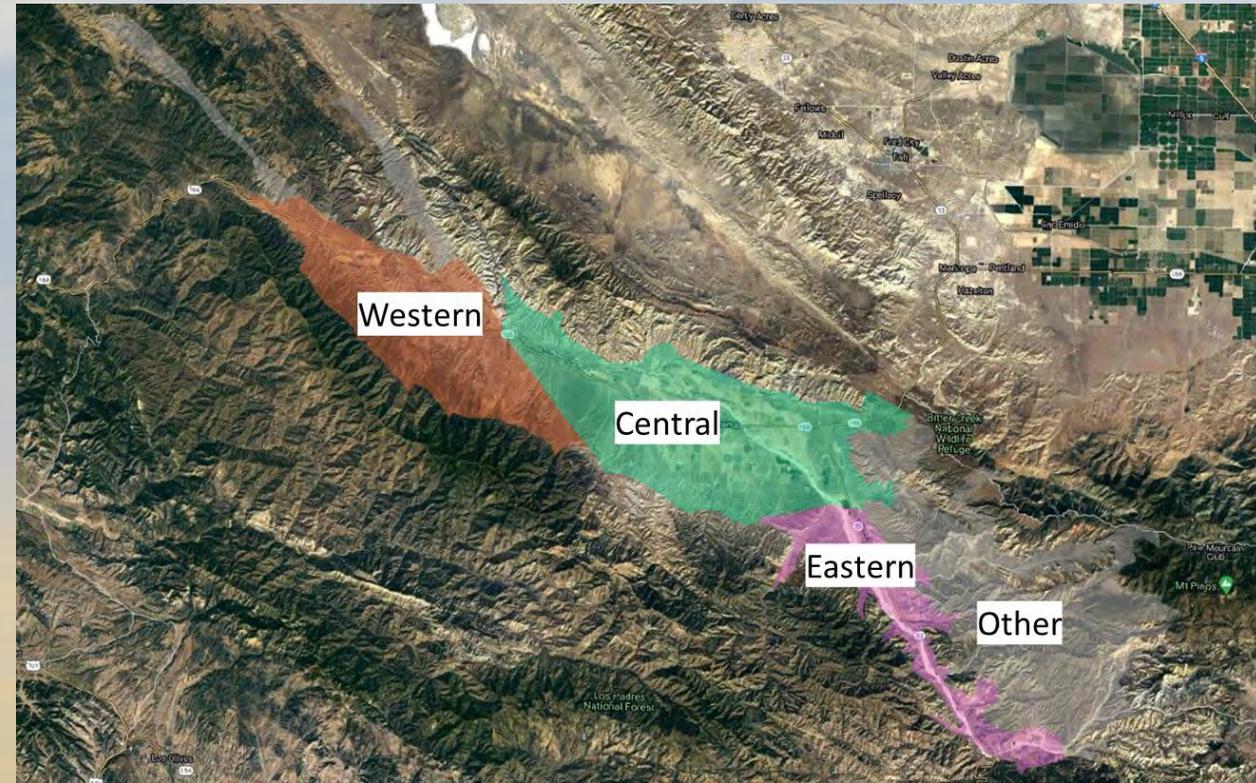
DRAFT

Summary of Re-calibration Effort

- Model calibration has improved in many areas of the basin
- Improvements in model representation of the historical conditions helps:
 - Improve projection of future conditions
 - Better estimation of sustainable yield
 - More representative delineation of Management Area boundaries and GW allocation

Sustainable Yield Estimation Approach

- Permanently fallow annual crop acreage in Central Region to have approximately zero long-term storage change in the Central Region.
- Maintain Western and Eastern regions pumping, because these regions are not expected to be in overdraft under projected conditions.



Sustainable Yield Estimate (7/22/24 version)

Basin-Wide GW Budget

Component	Projected Baseline AF/Yr	Sustainable Conditions AF/Yr
Inflow		
Deep Percolation	16,100	9,600
Stream Seepage	5,500	5,400
Boundary and Other Inflows	2,800	2,800
Total Inflow	24,400	17,800
Outflow		
Groundwater Pumping	38,500 <i>(GSP: 60,000, v0.20: 56,500)</i>	17,800 <i>(GSP: 20,000, v0.20: 23,900)</i>
Total Outflow	38,500	17,800

Sustainable Yield for the entire basin: 17,800 AFY

Central Region: 13,200 AFY

Western Area: 1,200 AFY

Eastern Area: 3,400 AFY

Pumping cap within current CMA+Farming Unit area: 10,500 AF/Yr

Updated Sustainable Yield Estimate

Basin-Wide GW Budget

Component	Projected Baseline AF/Yr	Sustainable Conditions AF/Yr
Inflow		
Deep Percolation	16,700	8,600
Stream Seepage	5,400	5,300
Boundary and Other Inflows	2,800	2,800
Total Inflow	24,900	16,700
Outflow		
Groundwater Pumping	42,400	16,700
Total Outflow	42,400	16,700
GW Storage Deficit	17,500	0

Range of sustainable yield:

Lower Bound: 15,900 AF/Yr
Average: 16,700 AF/Yr
 Upper Bound: 17,500 AF/Yr

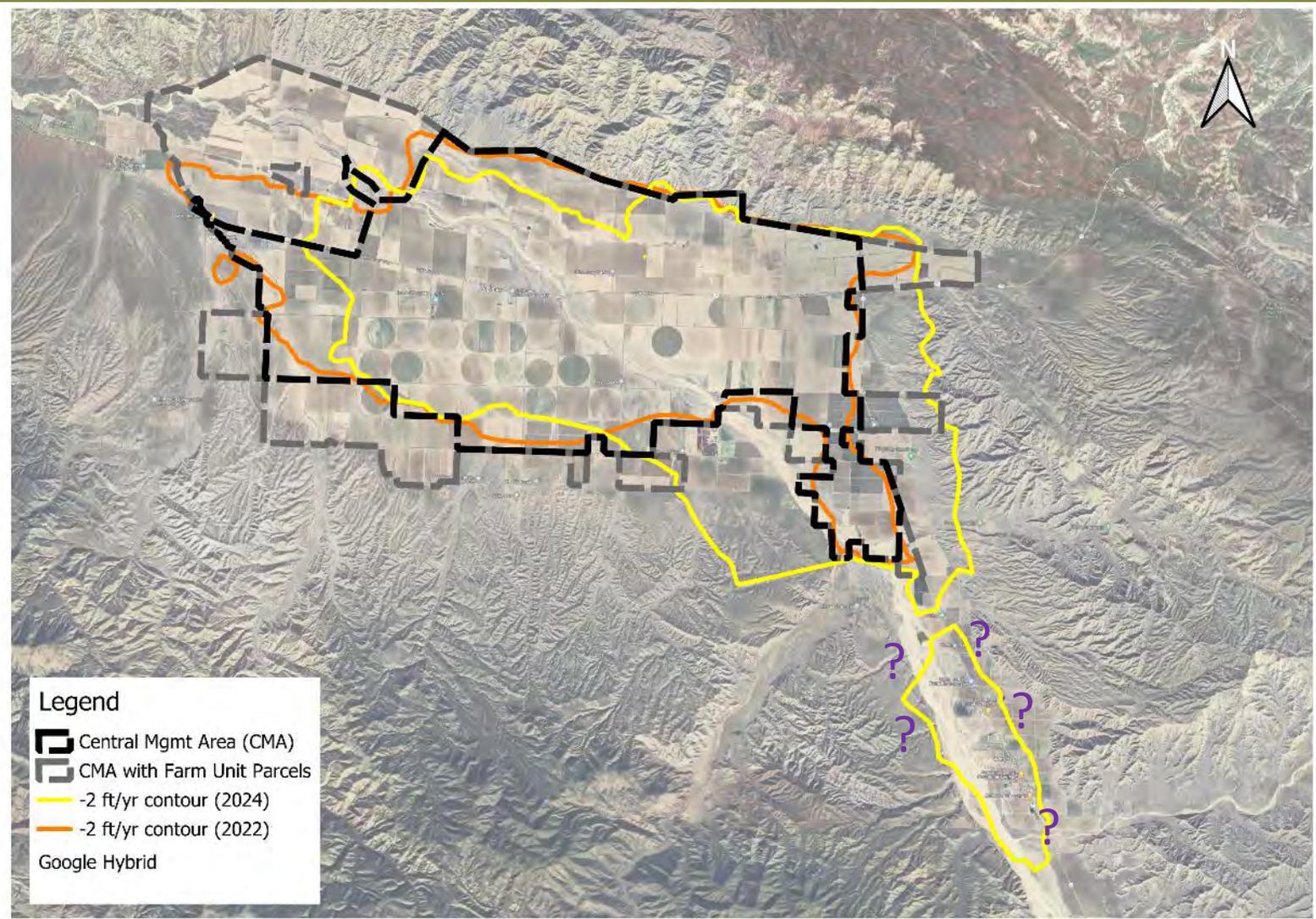
Range of reduction in annual pumping:

Lower Bound: 24,900 AF/Yr
Average: 25,700 AF/Yr
 Upper Bound: 26,500 AF/Yr
(GSP: 40,000 AF/Yr, v0.20: 32,600 AF/Yr)

Pumping cap for the CMA + Farming Unit*:
11,500 AF/Yr (range of 10,900 – 12,100 AF/Yr)

*as delineated in 2022

Updated Management Area 2022 Version vs. Updated 2 ft/yr Contour



- Total CMA acreage within 2ft/yr contour:
 - 2022: 22,500 acres
 - 2024: 25,900 acres
- Causes of shift:
 - Updated geology and aquifer parameters
 - Reduced pumping
 - Improved calibration

EXHIBIT B

02/23/2024

David W. Slayton, Executive Officer / Clerk of Court

By: R. Arraiga Deputy

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

BOLTHOUSE LAND COMPANY, LLC, a)	Case No.: BCV-21-101927
California limited liability)	
company; WM. BOLTHOUSE FARMS,)	
INC., a Michigan corporation;)	
)	
and)	STATEMENT OF DECISION
)	(Phase 1: Basin Boundaries);
GRIMMWAY ENTERPRISES, INC., a)	ATTACHMENT
Delaware corporation, DIAMOND)	
FARMING COMPANY, a California)	
corporation; LAPIS LAND)	
COMPANY, LLC, a California)	
limited liability company; RUBY)	
LAND COMPANY, LLC, a Delaware)	
limited liability company,)	
)	
Plaintiffs,)	
)	
vs.)	
)	
ALL PERSONS CLAIMING A RIGHT TO)	
EXTRACT OR STORE GROUNDWATER IN)	
THE CUYAMA VALLEY GROUNDWATER)	
BASIN (NO. 3-013); ALL PERSONS)	
UNKNOWN, CLAIMING ANY LEGAL OR)	
EQUITABLE RIGHT, TITLE, ESTATE,)	
LIEN, OR INTEREST IN THE)	
PROPERTY DESCRIBED IN THE)	
COMPLAINT ADVERSE TO)	

1 PLAINTIFF'S TITLE, OR ANY CLOUD)
 2 UPON PLAINTIFF'S TITLE THERETO;)
 3 DOES 1 THROUGH 5000 and THE)
 4 PERSONS NAMED AS DEFENDANTS)
 5 IDENTIFIED ON EXHIBIT D TO THIS)
 6 COMPLAINT as may be amended)
 7 from time to time,)
 8)
 9 Defendants.)
 10)
 11)
 12)
 13)
 14)
 15)
 16)
 17)
 18)
 19)
 20)
 21)
 22)
 23)
 24)
 25)

8 Pursuant to CCP §632 and CRC Rule 3.1590, the Court issues
 9 the following Statement of Decision after court trial (Phase 1:
 10 Basin Boundaries):

11 1. Plaintiffs commenced this comprehensive adjudication on
 12 August 17, 2021 pursuant to the Streamlined Adjudication Act
 13 (Code of Civil Procedure, Section 830 et seq.) to determine all
 14 rights to extract and store groundwater in the Cuyama Valley
 15 Groundwater Basin, Basin No. 3-103, as mapped and described by
 16 the California Department of Water Resources (DWR) in its
 17 Bulletin 118. The case was filed in Kern County but transferred
 18 to Los Angeles County Superior Court pursuant to CCP §838(a). A
 19 First Amended Complaint was filed on March 3, 2022.

21 2. Code of Civil Procedure Section 841(a) provides that ". . .
 22 the boundaries of the area subject to a comprehensive
 23 adjudication shall be consistent with the boundaries of a
 24 basin." Code of Civil Procedure Section 832(a) provides that

1 "[b]asin' has the same meaning as defined in Section 10721 of
2 the Water Code." Water Code Section 10721 states:

3 (b) "Basin" means a groundwater basin or subbasin
4 identified and defined in Bulletin 118 or as modified
5 pursuant to Chapter 3 (commencing with Section 10722).

6 (c) "Bulletin 118" means the department's [DWR] report
7 entitled "California's Groundwater: Bulletin 118"
8 updated in 2003, as it may be subsequently updated or
9 revised in accordance with Section 12924.

10 California Code of Regulations, Title 23, Section 341(g)(2)
11 states that "[t]he term 'subbasin' shall refer to an area
12 specifically defined as a subbasin or 'groundwater subbasin' in
13 Bulletin 118, and shall refer generally to any subdivision of a
14 basin based on geologic and hydrologic barriers or institutional
15 boundaries, as further described or defined in Bulletin 118."
16 The DWR Bulletin 118 describes and maps the boundaries of the
17 Cuyama Valley Groundwater Basin at Basin No. 3-103.

18
19 3. Code of Civil Procedure Section 840(b) provides that "[i]n
20 an initial case management conference, or as soon as
21 practicable, the court may consider the following in addition to
22 other matters: (1) Determining whether to seek adjustment of
23 the basin boundaries pursuant to Section 841."

24 a. On July 22, 2022, the court issued a Status Conference
25 Order that any party who contends that the boundaries of the

1 Cuyama Valley Groundwater Basin and the area to be adjudicated
2 in this proceeding is not as described by DWR in Bulletin 118,
3 shall, on or before September 2, 2022, file a statement with the
4 Court objecting to the DWR Bulletin 118 Basin boundary.

5 b. On September 2, 2022, two groups of landowners,
6 Highland Vineyard SB, LLC and Brodiaea, Inc. (collectively,
7 "Highland"), and the Ventucopa Landowners Group,¹ collectively
8 referred to as the "Objecting Parties," filed notices objecting
9 to the current Bulletin 118 basin boundary and requesting that
10 the court resolve the issue in a Phase 1 trial.

11
12 4. On November 4, 2022, the court set a Non-Jury Trial (Phase
13 1 - Jurisdiction Boundaries) for August 7, 2023.

14 5. On July 31, 2023, Highland and the Ventucopa Landowners
15 Group filed separate Trial Briefs claiming that the Basin should
16 be subdivided into three separate subbasins.

17 6. On August 7, 2023, the trial was continued to October 9,
18 2023.

19 7. On August 15, 2023, the trial was continued to January 5,
20 2024.

21
22
23 ¹ Ventucopa Landowners include Albano Family LP; Billy Harrington as Trustee
24 of the Harrington Family Trust; Billy L. Harrington; Ceferino Cheng as
25 Trustee of the Cheng Family Trust; Cuyama Orchards; Historic Reyes Ranch LLC;
James A. Wegis and Christine A. Wegis as Trustees of the James and Christine
Wegis Family Trust; James and Dorothy Menzies as Trustees of the Menzies
Living Trust; James and Dorothy Menzies as Trustees of the Thomas O. Menzies
Trust; Karam Pistachio Farm, Inc.; Marvin and Christine Rahe; Silver Birch
Partners, LLC, a Delaware limited liability company; Triangle E Farms; and JR
Investment Properties.

1 8. On January 3, 2024, the Objecting Parties filed a
2 withdrawal of their objections to the Bulletin 118 Basin
3 Boundary and withdrawal of their request for modification of the
4 Bulletin 118 Basin Boundary. Objecting Parties also moved ex
5 parte to vacate the Phase 1 trial date.

6 9. On January 5, 2024, following oral argument, the court
7 denied the Ex Parte Application to vacate the Phase 1 trial.
8 Trial was continued to January 8, 2024.

9 10. On January 8, 2024, no parties objected to the boundary of
10 the Cuyama Basin as depicted in Bulletin 118. Counsel for
11 Objecting Parties submitted as Proposed Joint Trial Exhibit 1
12 the Bulletin 118 map that DWR currently maintains on its website
13 that depicts the Cuyama Groundwater Basin. Counsel for
14 Plaintiffs agreed to the Court's admission of Joint Trial
15 Exhibit 1. The Court admitted Joint Trial Exhibit 1, a copy of
16 which is attached hereto, into evidence.

17 11. The court finds that the jurisdictional boundary of this
18 comprehensive groundwater adjudication is coterminous with the
19 boundaries of the Cuyama Valley Groundwater Basin as described
20 and depicted in Bulletin 118, Basin No. 3-103, and that there
21 are no subbasins within the Basin.
22

23 12. Regarding the court's finding that there are no subbasins
24 within the Basin, the court agrees with Intervenor Cuyama Basin
25

1 Groundwater Sustainability Agency's Phase One (Jurisdictional
2 Boundary) Trial Brief at p. 12:

3 . . . [This finding] would not foreclose addressing
4 the basin management concerns of the objectors. The
5 Court has been scrupulous to confine Phase 1 of this
6 adjudication to the jurisdictional boundaries of the
7 Court's in rem jurisdiction. Later phases of this
8 adjudication may be used to determine whether
9 management areas should be utilized (or not) and
10 whether the basin should be differentially or
11 homogenously managed.
12

13 13. All future dates remain on the calendar.

14 CLERK TO GIVE NOTICE.

15 DATED: February 23, 2024



Yvette M. Palazuelos

YVETTE M. PALAZUELOS
JUDGE OF THE SUPERIOR COURT

Yvette M. Palazuelos / Judge

Map

3-013 CUYAMA VALLEY



[Map Link](#)

References

This table contains the reference listings for the citations noted in the Summary. Each reference contains the name of the reference and the publication date. For more information, email sgmps@water.ca.gov.

<u>Citation</u>	<u>Pub Date</u>

EXHIBIT C

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF LOS ANGELES, SPRING STREET COURTHOUSE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

BOLTHOUSE LAND COMPANY, LLC, a)	Case No.
California limited liability)	
company; WM BOLTHOUSE FARMS, INC.,)	BCV-21-101927
a Michigan corporation;)	
)	
and)	
)	
GRIMMWAY ENTERPRISES, INC., a)	
Delaware corporation; DIAMOND)	
FARMING COMPANY, a California)	
corporation; LAPIS LAND COMPANY,)	
LLC, a California limited)	
liability company; RUBY LAND)	
COMPANY, LLC, a Delaware)	Volume I
limited liability company;)	
)	
Plaintiffs,)	
)	
VS)	
)	
ALL PERSONS CLAIMING A RIGHT TO)	
EXTRACT OR STORE GROUNDWATER IN)	
THE CUYAMA VALLEY GROUNDWATER)	
BASIN (NO. 3-013), et al.,)	
)	
Defendants.)	
)	

DEPOSITION OF:
 ANTHONY BROWN
 WEDNESDAY, MAY 3, 2023
 10:07 A.M.

Reported by: LINDA NICKERSON
 CSR No. 8746

1 A Simply because of the pumping. So for
 2 example, if it was a specific area close to the
 3 stream where there was groundwater production that
 4 lowered the water levels to the point where they now
 5 were below the stream levels. you could have the
 6 Cuyama River be a losing stream in that particular
 7 location.

8 Q On the other side of that equation. if
 9 pumping was reduced in the Ventucopa area. that
 10 would affect the amount of water that would be
 11 moving into the Central area?

12 A So obviously, as we've discussed, the water
 13 that flows out of the Ventucopa area is either
 14 through pumping or some other loss.

15 We've discussed three areas;
 16 evapotranspiration, surface water flows, and
 17 groundwater flows. To maintain the water budget,
 18 that is, maintain that hydraulic equilibrium. if one
 19 of the outflows was reduced such as pumping and the
 20 recharge was maintained at the same, which it should
 21 be on average. except maybe accounting for some
 22 climactic change, then one of the other outflows
 23 would have to increase.

24 Q What I'm getting to is it works both ways.
 25 If pumping in the Ventucopa area was reduced, that

Page 70

1 would increase the amount of water that would be
 2 flowing into the Central area?

3 MS. WANG: Objection; incomplete
 4 hypothetical.

5 THE WITNESS: In general, yes. While I
 6 don't quantify that, to maintain that hydraulic
 7 balance, if you reduce pumping, then one of the
 8 other or perhaps a combination of the two or three
 9 others would actually have to increase.

10 BY MR. ZIMMER:
 11 Q Okay. So the answer to my question is yes?
 12 MS. WANG: Objection --
 13 THE WITNESS: In simple terms, yes.
 14 MS. WANG: -- asked and answered.

15 BY MR. ZIMMER:
 16 Q I'm trying to cover some of the general
 17 stuff before we go out to lunch, and Mr. Dunn I
 18 think correctly observed that El Fornaio may be less
 19 crowded if we hit it at 12:30 or 12:20.
 20 You told us you had not calculated safe
 21 yield for the basin or any part of the basin, any
 22 portion of the basin?

23 A We have not independently calculated safe
 24 yields. We have taken information that's presented
 25 in other reports that discuss safe yield or

Page 71

1 sustainable yield and simply summarized that
 2 information, but we have not independently
 3 calculated safe yield for this phase of the case.

4 Q I'd like to talk to you about -- just so
 5 we're on the same page and we're not getting into
 6 different -- I want to stick with your
 7 definitions -- what is your definition of a basin?

8 A Are you referring just in general terms?

9 Q Yeah, I mean we're lawyers. We have a
 10 bunch of terms of art. As hydrogeologists, you all
 11 have terms of art.

12 So what's your -- what's your definition of
 13 a basin?

14 MS. WANG: Mr. Zimmer, for clarity
 15 purposes, are you drawing a distinction between
 16 basin and subbasin or just dealing with basin?

17 MR. ZIMMER: Basin.

18 THE WITNESS: So -- whoops -- referring you
 19 to information that's presented, in this case
 20 Appendix E to the Ventucopa Subbasin report, where I
 21 present just some general information on the basics
 22 of hydrogeology and there is a slide -- or a series
 23 of PowerPoint slides, one is slide 7, and the title
 24 of the slide is "Groundwater Basins," and the
 25 definition is taken from the Department of Water

Page 72

1 Resources Bulletin 118 which is titled "California's
 2 Groundwater."
 3 And this is actually from the 2003 update
 4 where it defines a basin as "an alluvial aquifer or
 5 a stacked series of alluvial aquifers with
 6 reasonably well-defined boundaries in a lateral
 7 direction and a definable bottom. Lateral
 8 boundaries are features that significantly impede
 9 groundwater flow such as rock or sediments with very
 10 low permeability or a geologic structure such as a
 11 fault."

12 BY MR. ZIMMER:
 13 Q And the definition of an aquifer has been
 14 around for a long time.
 15 Didn't Todd have a definition that was
 16 pretty similar to that way back when?

17 A So an aquifer would be an individual unit
 18 within a basin. Now, some basins just have one
 19 aquifer. Some have multiple are aquifers.

20 Q I'm just talking about the basin, the
 21 definition of a basin. That's something
 22 hydrogeologists have used for a long time?

23 A It is, yes.

24 Q And it really hasn't changed over time?
 25 A I would say generally no. I mean there's

Page 73

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

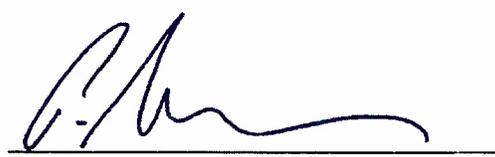
STATE OF CALIFORNIA)

) ss

COUNTY OF ORANGE)

I, ANTHONY BROWN, hereby certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this 16th day of May , 2023, at San Francisco , California.



ANTHONY BROWN

EXHIBIT D

UPDATE: CUYAMA BASIN GSP IMPLEMENTATION

Cuyama Basin Water District

Board of Directors

25 September 2024

Update: 25 September 2024 CBWD Board Meeting

Topics for discussion:

1. Farming Unit Update
2. Public Review Draft GSP Model Comments
3. New DWR Guidance re Interconnected Surface Water (ISW)
4. Preliminary maps of modeled vs. reported pumping

Farming Unit Update

New Central Management Area and Farming Units

- New CMA operational boundary
- Farming Unit exclusion request deadline is **11 Oct 2024**
- Easiest to view and zoom to details using Google Earth online:
<https://www.google.com/maps/d/u/0/viewer?mid=1Rym08A8wmXZvykXbdKHBkrijTCXTMnY&ll=34.92708891277304%2C-119.62643554065554&z=11>
- Turn off CMA layer and click on any parcel to get info on
 - APN
 - Lot size (ac)
 - Lot area (sq. ft)

CUYAMA BASIN
GROUNDWATER SUSTAINABILITY AGENCY

**NOTICE OF UPDATED CENTRAL MANAGEMENT AREA
2025-2030 GROUNDWATER ALLOCATIONS AND FARMING UNIT
REQUEST FORM**

September 20, 2024

Directors:
Cory Bantilan
Chair
Derek Yurosek
Vice Chair

Central Management Area Landowner:

On May 3, 2023, the Board of Directors (Board) of the Cuyama Basin Groundwater Sustainability Agency (CBGSA) established groundwater allocations for the Central Management Area (CMA) for Calendar Years 2023 and 2024. Since then, the Board has updated the CBGSA's Groundwater Sustainability Plan (GSP) and provided direction regarding the implementation of groundwater allocations for Calendar Years 2025-2030. As part of the

Cuyama Central Mana...
Cuyama GSA

1,753 views
Published on September 6
SHARE

Cuyama Basin

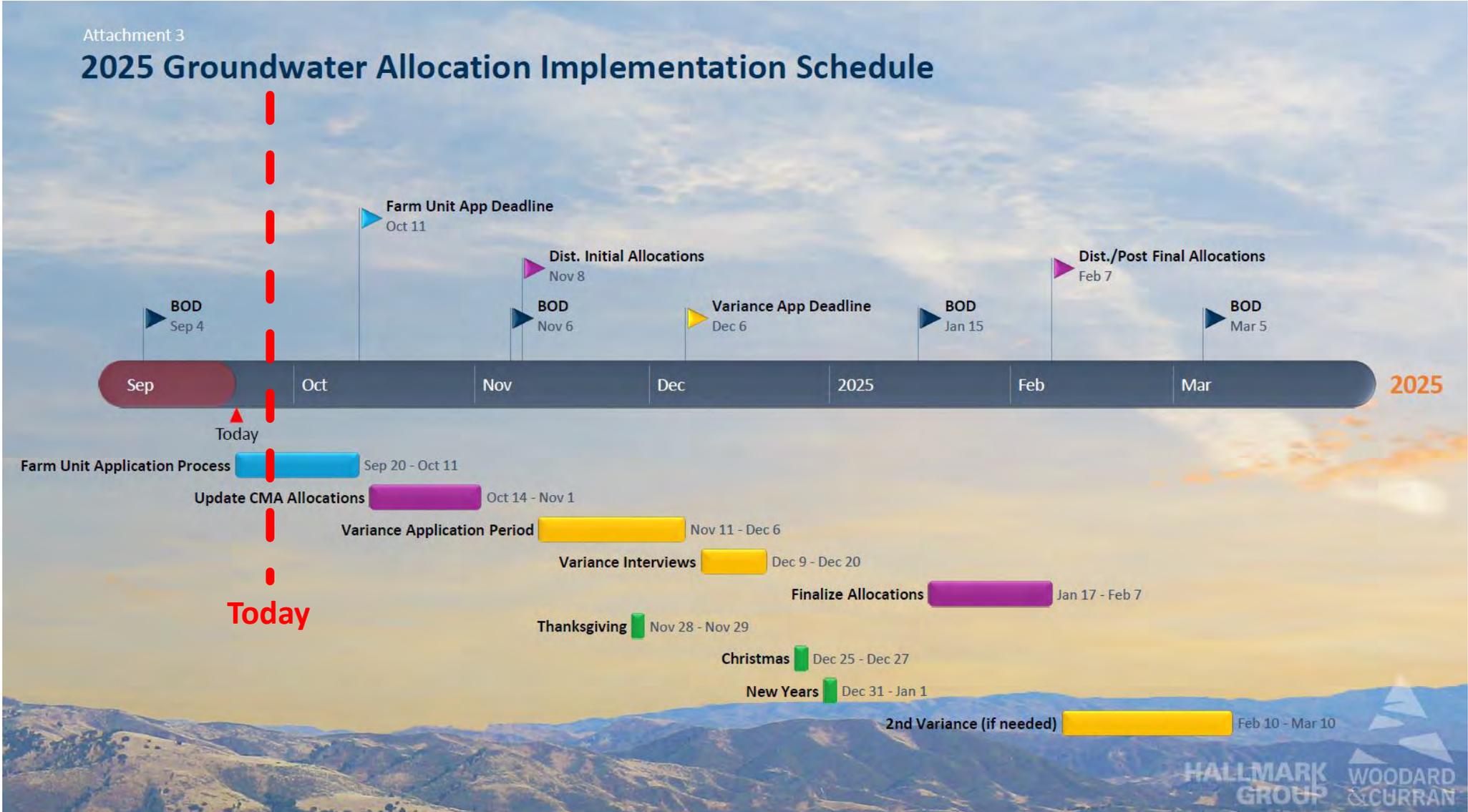
Untitled

description

FID 14
FIPS 06083
APN 149180021
APN_L 149-180-021
LOTSIZE 80.540
LOTAREA 3508322

3

Farming Unit Update



Public Review Draft GSP Comments

- EKI comments mainly focused on CBWRM (model).
- Uses comment response matrix format presented during 4 Sep 2024 GSA Board Meeting.
- EKI will finalize and submit before Fri 4 Oct 2024 deadline.

	Date of Comment	Topic	Comment	GSA Staff Response	Incorporated into Final Draft 2025 GSP?
1	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Final CBWRM (model v0.30) calibration results and documentation (i.e., Ch.2 Appendix C) have not been provided in the GSP Public Review Draft for evaluation. Reviewing parties can only evaluate partial and draft information. Technical staff need to provide final model files and document their technical evaluation of model fit to observed data, their analysis of sensitive parameters, and their analysis of uncertainty within the historical model so that the GSA and the public can evaluate the reliability of model projections and GSA decisions that are based on model output.		
2	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The calibrated CBWRM (v0.30) still has areas of significant mismatch with observed water level elevation data. Particularly in the eastern Central Management Area, the Ventucopa Area, and the area near the Santa Barbara Canyon Fault, modeled water level elevations are 50 to 200 feet higher than measured elevations. This is a significant error that will affect model predicted heads, groundwater storage volume, and the rate and direction of groundwater flow. Technical staff need to review sensitivity of model parameters and explain what impact this error has on important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.		
3	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The calibrated CBWRM (v0.30) incorporated large changes (up to 85%) in some estimated ET values. Technical Staff need to explain the data and rationale for these modifications. Some irrigated crops (Mixed Field, Grains, and Safflower) appear to be modeled using evapotranspiration (ET) values that are lower than native vegetation.		
4	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Hydraulic head effects of the Santa Barbara Canyon Fault are poorly understood. A significant effort was made by technical staff to conduct testing, analyze the resulting data and locate the fault within the Basin, but the results unfortunately are ambiguous. Technical staff need to explain the steps taken within the CBWRM v0.30 calibration effort to accommodate the new data collected, and how the revised model fault characteristics impact important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.		
5	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The Cuyama Basin CIMIS station does not currently meet required baseline conditions and has not met required baseline conditions in the past, leading to potential errors in all evapotranspiration (ET) rates in the basin that are calculated using this station. Technical staff need to explain the effects of actual Cuyama CIMIS station conditions on ET estimates and how this known error has been compensated in the ET data used to estimate pumping from wells simulated by the model.		
6	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	The CBWRM (v0.30) still does not realistically simulate the thick vadose zone in the CMA. For example, infiltration of water past crop roots is simulated as instantaneously reaching the water table, where in reality it can require decades to reach the water table - and in some circumstances never reach the water table. This can confuse the magnitude and timing of model-calculated benefits from management actions on groundwater storage.		
7	2024-07-23 Technical Forum and 2024-09-04 GSA Board Meeting	Cuyama Basin Water Resources Model (CBWRM) recalibration	Water level recovery of the basin during the historically wet 2023 period appears to be underestimated in the CBWRM. Simulated recovery seems consistently muted compared to observed head rebounds, particularly in some regions (e.g. West).		

Public Review Draft GSP Comment #1

Final CBWRM (model v0.30) calibration results and documentation (i.e., Ch.2 Appendix C) have not been provided in the GSP Public Review Draft for evaluation.

- Reviewing parties can only evaluate partial and draft information.
- GSA staff need to document their technical evaluation of model fit to observed data, their analysis of sensitive parameters, and their analysis of uncertainty within the historical model so that the GSA and the public can evaluate the reliability of model projections and GSA decisions that are based on model output.

This appendix will be updated for the Final Updated GSP. This version was included in the Original GSP.

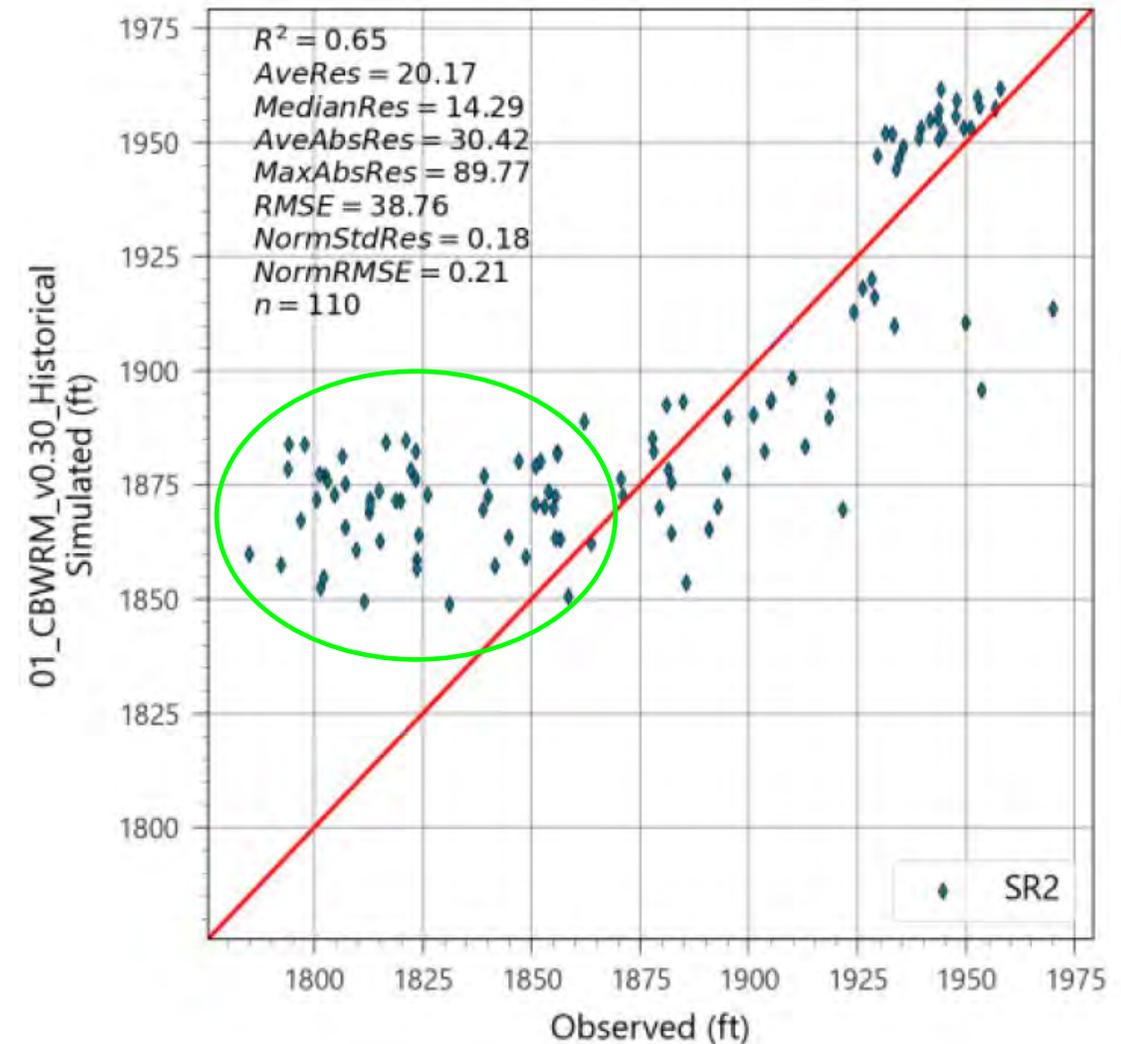
Chapter 2
Appendix C

Cuyama Basin Water Resources
Model Documentation

Public Review Draft GSP Comment #2

The calibrated CBWRM (v0.30) still has areas of significant mismatch with observed water level elevation data.

- Particularly in the eastern Central Management Area, the Ventucopa Area, and the area near the Santa Barbara Canyon Fault, modeled water level elevations are 50 to 200 feet higher than measured elevations.
- This is a significant error that will affect model predicted heads, groundwater storage volume, and the rate and direction of groundwater flow.
- Technical staff need to review sensitivity of model parameters and explain the impact of this error on important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.



Public Review Draft GSP Comment #3

The calibrated CBWRM (v0.30) incorporated large changes (up to 85%) in some estimated ET values.

- Technical Staff need to explain the data and rationale for these modifications.
- Some irrigated crops (Mixed Field, Grains, and Safflower) appear to be modeled using evapotranspiration (ET) values that are lower than native vegetation.

- Revised Native Vegetation ET = 9.9 in/year (0.83 ft/year)
- Native vegetation ET is more than mixed field crops, grains, and safflower

Historical Potential ET rates

Previous discussions with the locals concluded that the model does not correctly represent irrigation practices for certain crop types. Reported pumping volumes showed difference from simulated ones for 2022 and 2023. Potential ET rates are modified to take into account those practices, and to better match the reported pumping for 2022 and 2023.

Crop	v0.20 ET (ft/yr)	v0.30 ET (ft/yr)	Change
Carrot	3.20	3.84	↗
idle	0.82	0.08	↘
M Truck	2.84	3.84	↗
M Field	3.89	0.58	↘
M Grain	2.03	0.51	↘
Onion	2.53	2.78	↗
Pistachio	2.73	3.55	↗
Potato	2.74	3.02	↗
Safflower	1.28	0.26	↘

ET for these crops have not been changed:

Crop	v0.20 & v0.30 ET (ft/yr)
Alfalfa	4.48
Apple	4.00
Bean	1.74
Berry	1.89
Citrus	2.32
Cole	1.61
Corn	4.13
Grape	1.89
Green	1.02
Lettuce	1.54
Melons	2.35
M Decid.	2.54
M Grass	3.12
M Subt.	1.94
Olive	1.33
Wheat	2.05
YTrees	1.34

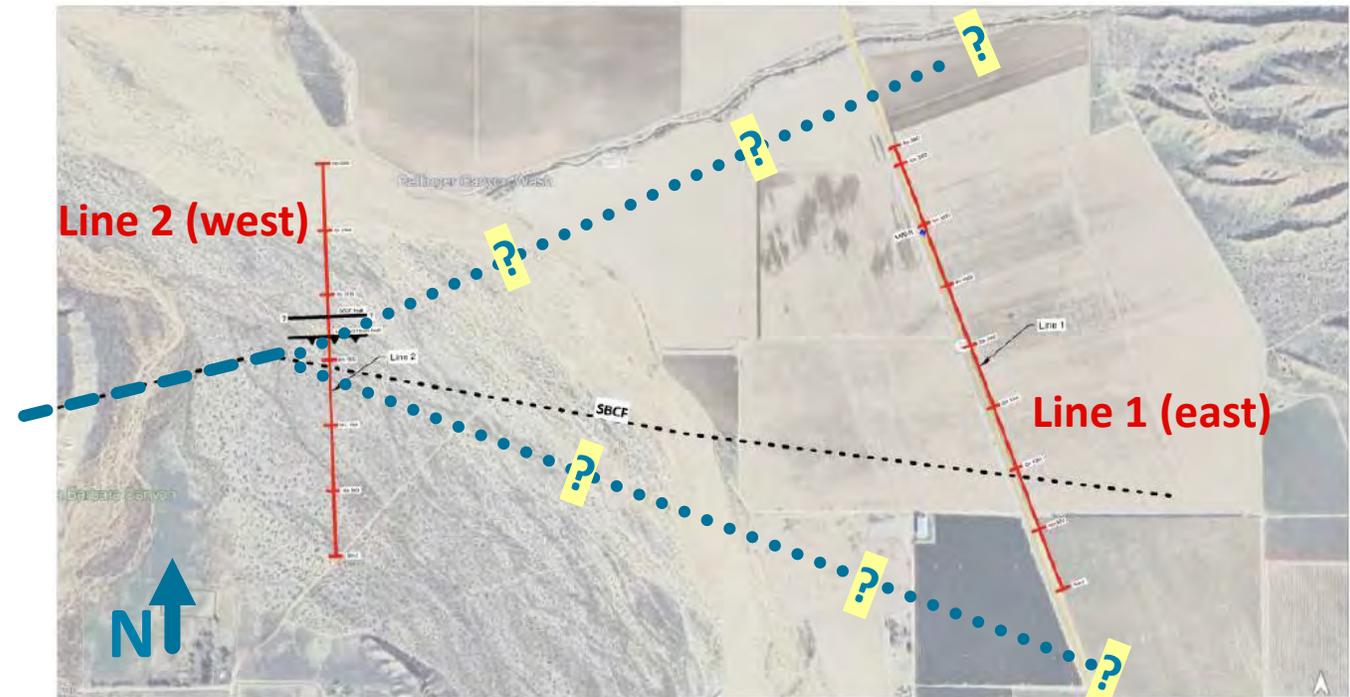
*Native, Mixed Pasture and Non-irrigated land use type ETs are limited by available precipitation. Actual ET is around 10 inches/year.

AFT

Public Review Draft GSP Comment #4

Hydraulic head effects of the Santa Barbara Canyon Fault are poorly understood.

- A significant effort was made by technical staff to conduct testing, analyze the resulting data and locate the fault within the Basin, but the results unfortunately are ambiguous.
- Technical staff need to explain the steps taken within the CBWRM v0.30 calibration effort to accommodate the new data collected, and how the revised model fault characteristics impact important model-based decisions such as management area boundaries, the local and Basin water budget, estimates of sustainable yield, and allocation reductions.



Public Review Draft GSP Comment #5

The Cuyama Basin CIMIS station does not currently meet required baseline conditions and has not met required baseline conditions in the past.

- Leads to potential errors in all evapotranspiration (ET) rates in the basin that are calculated using this station.
- Technical staff need to explain the effects of actual Cuyama CIMIS station conditions on ET estimates and how this known error has been compensated in the ET data used to estimate pumping from wells simulated by the model.

From CIMIS guidance on station siting:

“The ideal site for a station is at least 20 acres of well-maintained, cool-season perennial grass. Station equipment is located in the center of the area and the grass is well irrigated and mowed to a height of three inches to six inches”

California Irrigation Management Information System (CIMIS)

CIMIS Monthly Report

Rendered in ENGLISH Units.

January 2022 - December 2022

Printed on Wednesday, July 17, 2024

Cuyama - Central Coast Valleys - Station 88

Month Year	Total ETo (in)	Total Precip (in)	Avg Sol Rad (Ly/day)	Avg Vap Pres (mBars)	Avg Max Air Temp (°F)	Avg Min Air Temp (°F)	Avg Air Temp (°F)	Avg Max Rel Hum (%)	Avg Min Rel Hum (%)	Avg Rel Hum (%)	Avg Dew Point (°F)	Avg Wind Speed (mph)	Avg Soil Temp (°F)
Jan 2022	2.35	0.12	256	6.3	62.8	33.0	45.8	85	33	60	31.7	4.7	47.9 L
Feb 2022	3.25	0.05	378	4.5 K	66.0 K	29.6 K	46.0 K	75	21	44 K	24.3 K	5.3	51.4 L
Mar 2022	4.90	0.72	471	6.4 K	70.5 K	37.4	53.0 K	78	24	47 K	32.1 K	5.6	60.2 L
Apr 2022	6.36	0.19	604 K	6.5 K	73.5 K	40.9 K	57.2 K	72	21	41 K	32.6 K	5.8 K	67.5 L
May 2022	8.37	0.00	712 K	6.6 K	81.5 K	45.9 K	64.0 K	60	15	32 K	33.2 K	6.0	75.6
Jun 2022	9.24	0.00	728 K	7.6 K	91.6	54.6 K	74.1 K	56	14	27 K	36.6 K	6.0 K	84.7
Jul 2022	9.52	0.01	693	8.7 K	97.8	59.9 K	78.9 K	49	14	26 K	40.1 K	5.2	90.3 L
Aug 2022	8.26 K	0.00 K	628 K	9.5 K	99.1	62.1 K	80.1 K	51 L	14 L	27	42.7	5.2 K	91.9 K
Sep 2022	1.43 K	0.20 K	488 K	10.8 K	92.3 K	58.1 K	74.4 K	50 L	12 L	37 L	45.0 L	5.4 K	85.3 L
Oct 2022	4.11 K	0.00 K	401 K	7.7 K	82.9	46.7 K	63.5 K	62 L	18 L	39	36.0	5.2 K	75.3 K
Nov 2022	2.64	0.83	281	5.5	63.9	32.3	46.3	77	28	52	28.2	5.0 K	53.0 L
Dec 2022	1.58 K	2.33 K	200 K	7.8 K	59.4	35.8 K	45.9 K	93 K	48 K	73 K	37.3 K	4.7 K	48.6 L
Tots/Avgs	62.01	-4.4	487	7.3	78.4	44.7	60.8	67	22	42	35.1	5.3	69.3

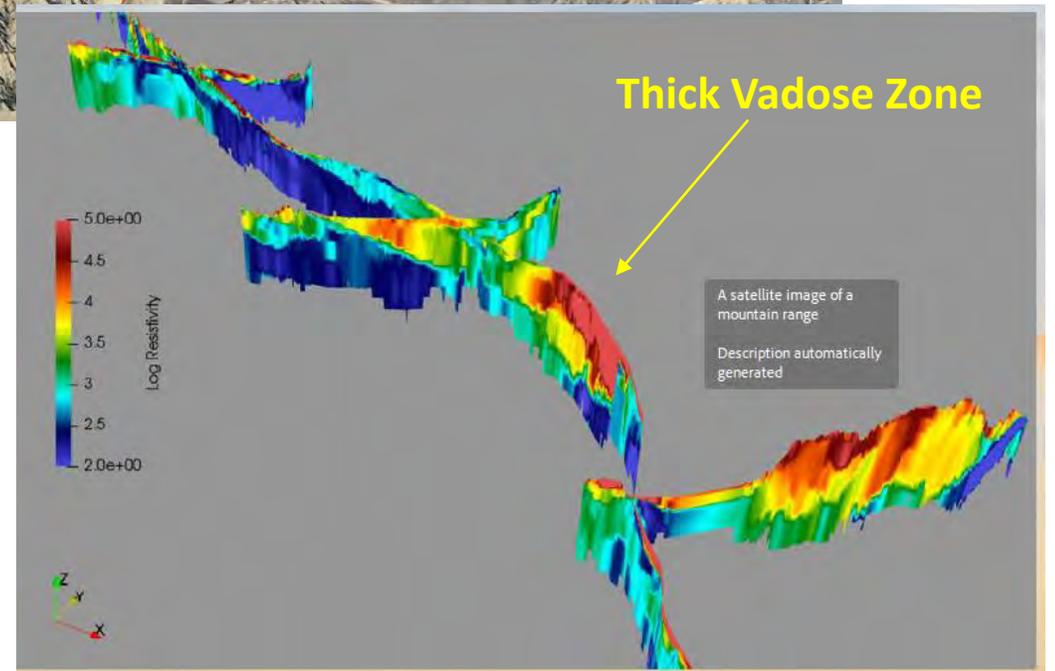
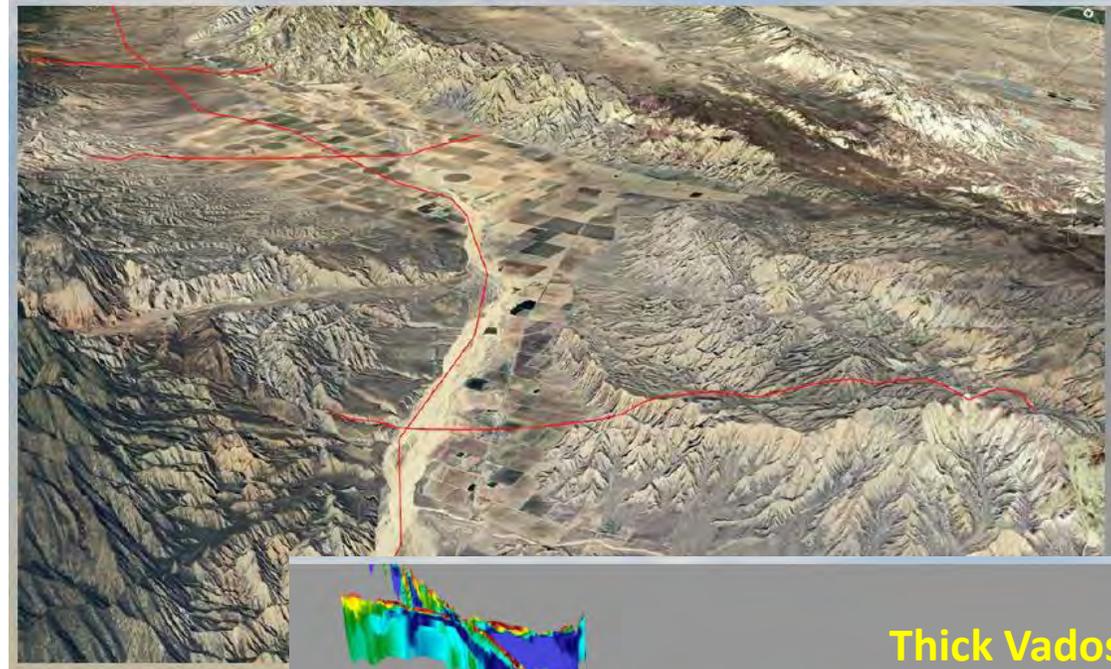
Flag Legend		
M - All Daily Values Missing	K - One or More Daily Values Flagged	
J - One or More Daily Values Missing	L - Missing and Flagged Daily Values	
Conversion Factors		
W/sq.m = Ly/day/2.065	inches * 25.4 = mm	(F-32) * 5/9 = c
	mBars * 0.1 = kPa	—

Public Review Draft GSP

Comment #6

The CBWRM (v0.30) still does not realistically simulate the thick vadose zone in the CMA.

- Infiltration of water past crop roots is simulated as instantaneously reaching the water table.
- In reality it can take decades to reach the water table - and in some circumstances never reach the water table.
- This can obscure the magnitude and timing of model-calculated benefits from management actions on groundwater storage.



DWR Guidance re Interconnected Surface Water (ISW)

(DWR released new guidance on Friday 20 Sep 2024)

Surface Water Terms

- **Surface Water Bodies** are rivers, streams, lakes, ponds, and wetlands
- **Perennial** surface water bodies typically always have water in their channels.
- **Intermittent** surface water bodies flow only when they receive water from rainfall runoff, springs, or some surface source such as melting snow.
- **Ephemeral** surface water bodies have water in their channels only in direct response to precipitation; they receive little or no water from springs, melting snow, or other sources; their channels are always above the water table.



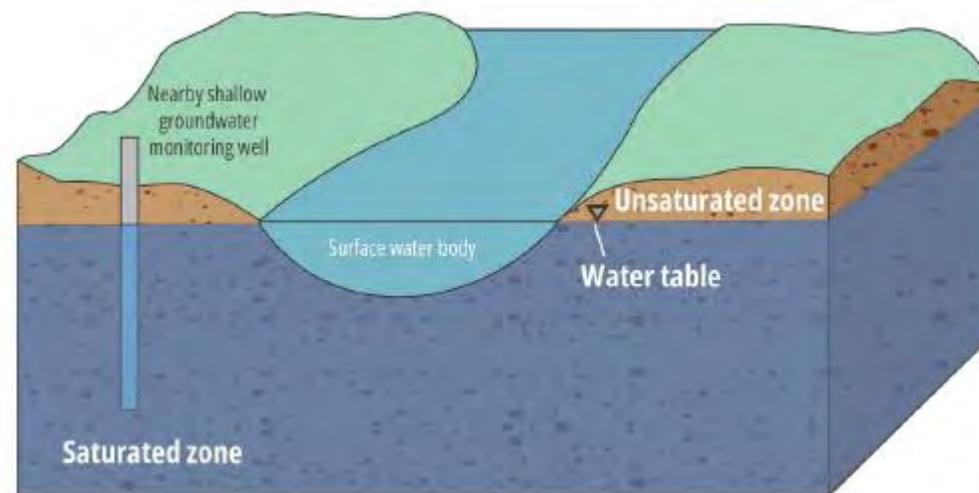
DWR Guidance re Interconnected Surface Water (ISW)

DWR: “Determining if a surface water body is an ISW can be challenging”

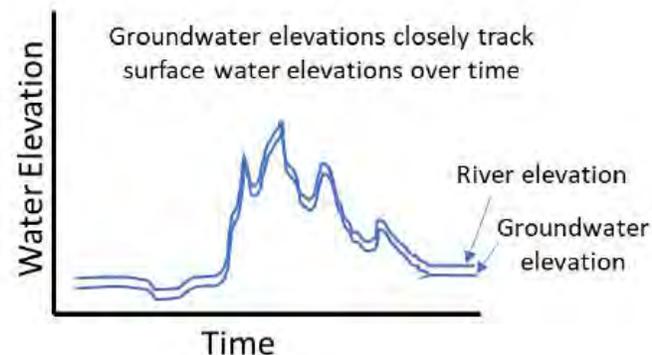
Two general conditions of Interconnected Surface Water (ISW):

Condition 1: Shallow groundwater elevations are similar to or higher than the streambed elevation.

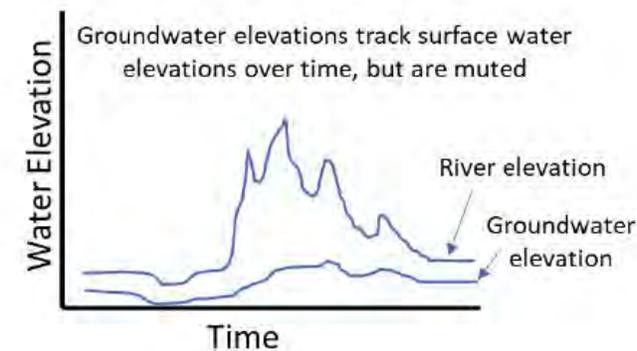
Condition 2: Groundwater elevations appear to track stream stage elevations.



Well close to stream



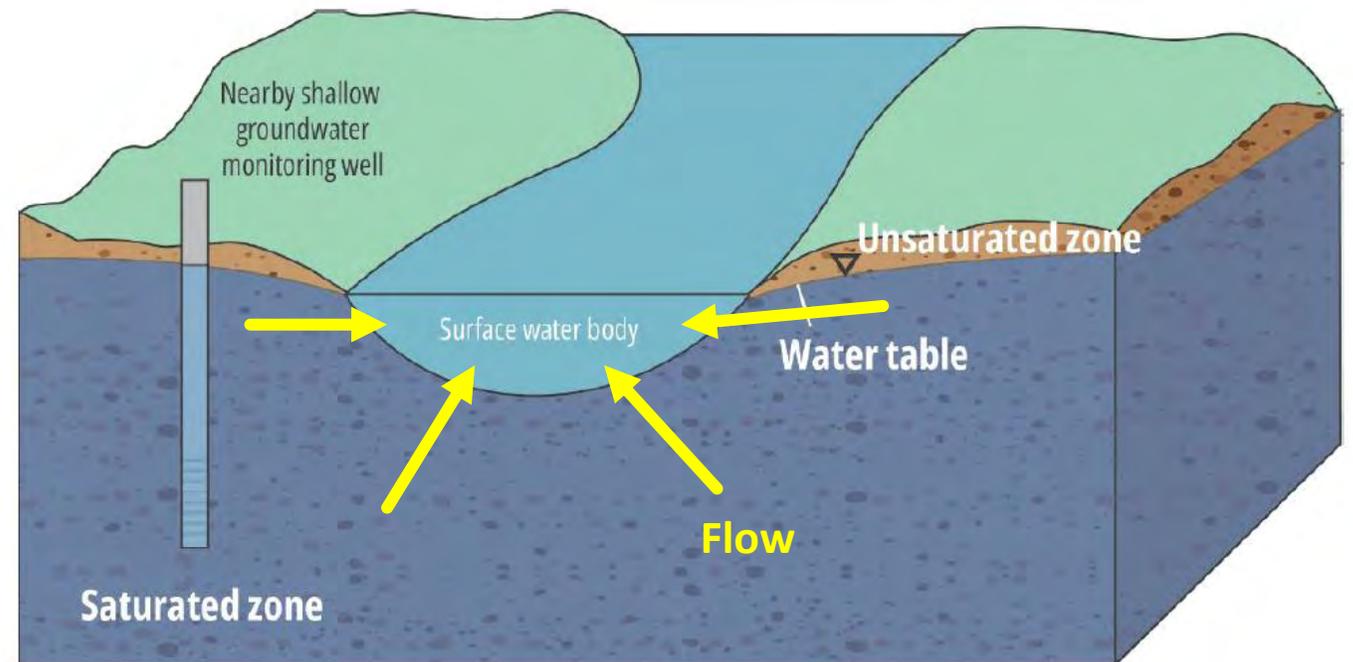
Well farther from stream



DWR Guidance re Interconnected Surface Water (ISW)

Interconnected Gaining Stream

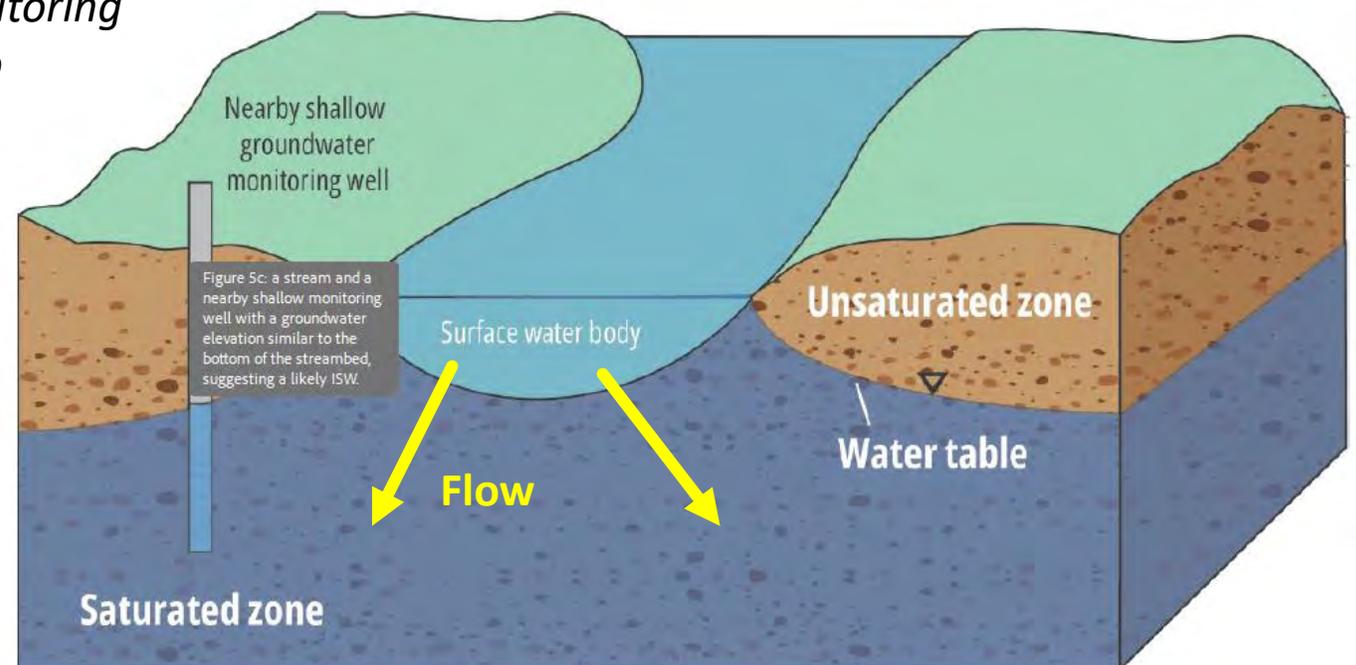
- Groundwater flows to stream, increasing streamflow
- Springs and seeps can occur on or above streambanks
- Water level elevations in nearby wells are higher than streambed elevation
- DWR: *“A stream and a nearby shallow monitoring well with a groundwater elevation above the bottom of the streambed and above the elevation of the surface water, strongly suggesting an ISW.”*



DWR Guidance re Interconnected Surface Water (ISW)

Interconnected Losing Stream

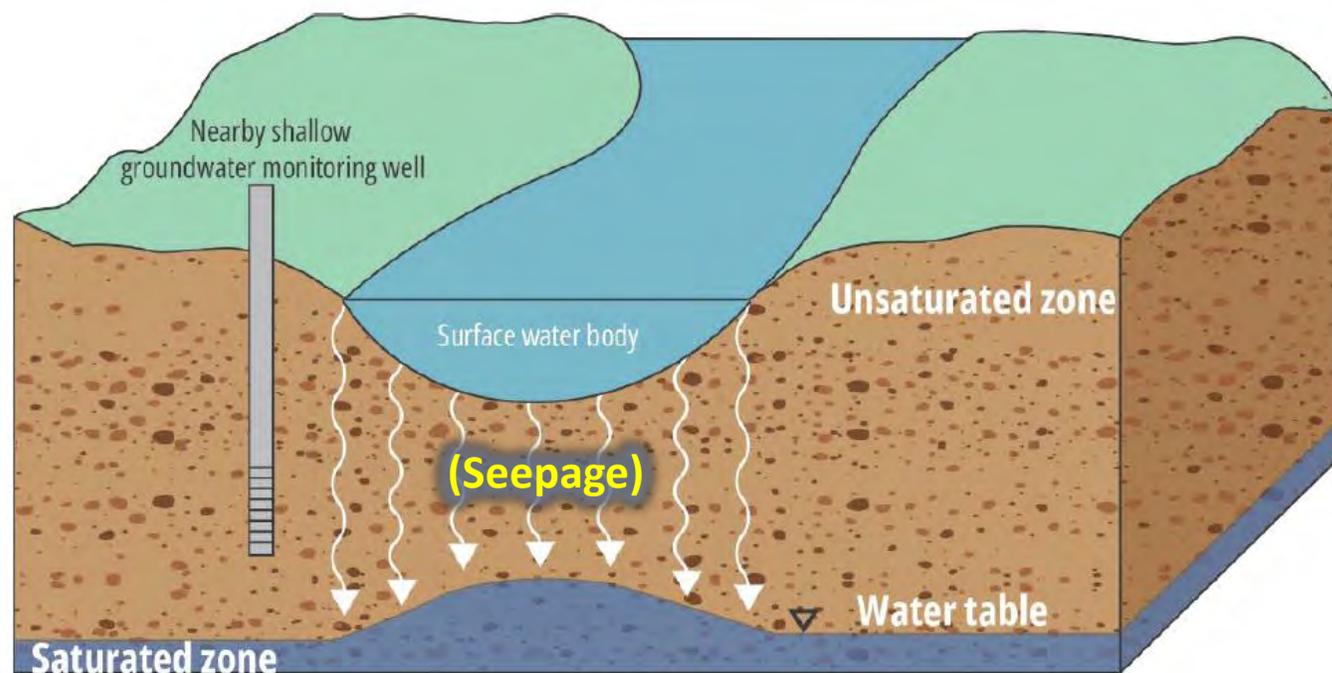
- Streamwater flows to and recharges groundwater
- Pore spaces below streambed are saturated with water all the way down to the water table
- Water level elevations in nearby wells are lower than streambed elevation
- DWR: *“A stream and a nearby shallow monitoring well with a groundwater elevation similar to the bottom of the streambed, suggesting a likely ISW.”*



DWR Guidance re Interconnected Surface Water (ISW)

Disconnected Losing Stream

- Streamwater flows to and recharges groundwater
- Pore spaces below streambed are dry or unsaturated
- Water level elevations in nearby wells are much lower than streambed elevation
- DWR: *“A stream and a nearby shallow monitoring well with a groundwater elevation similar to the bottom of the streambed, suggesting a likely ISW.”*

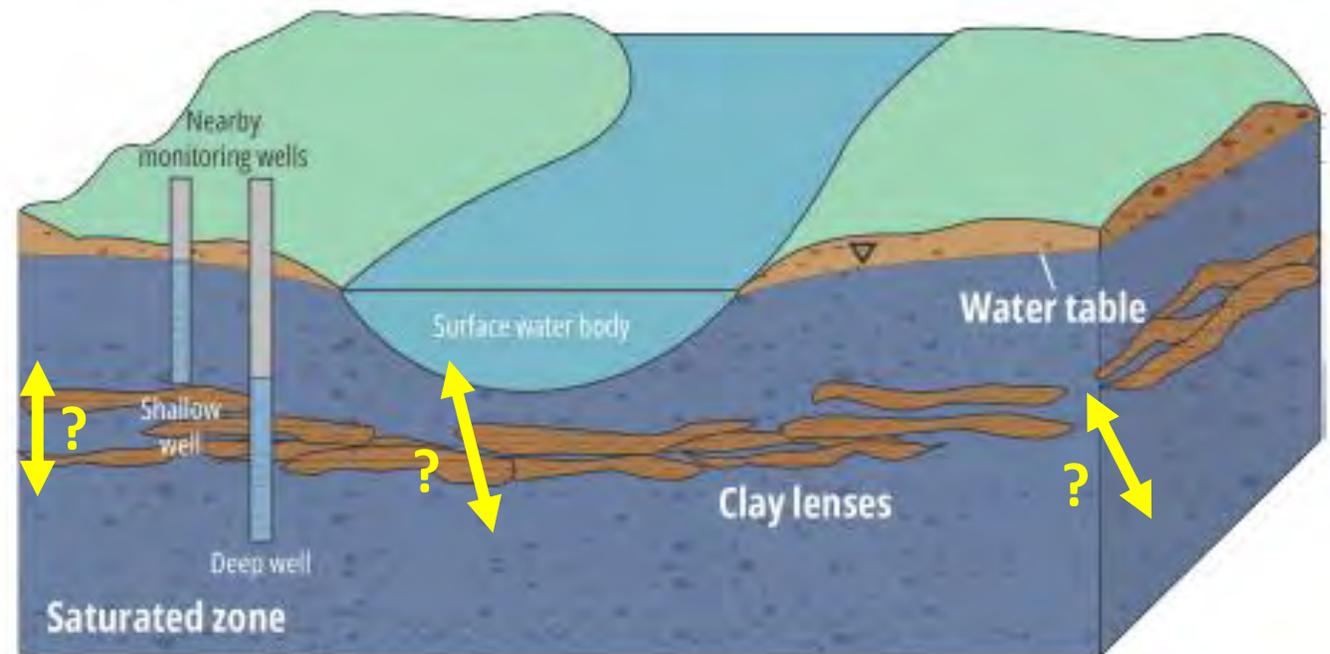


DWR Guidance re Interconnected Surface Water (ISW)

Depletions

- Pumping from an aquifer with interconnected surface water will affect surface water flows in two primary ways:
 1. Reducing inflow to an ISW from groundwater; or
 2. Increasing outflow from an ISW to groundwater.

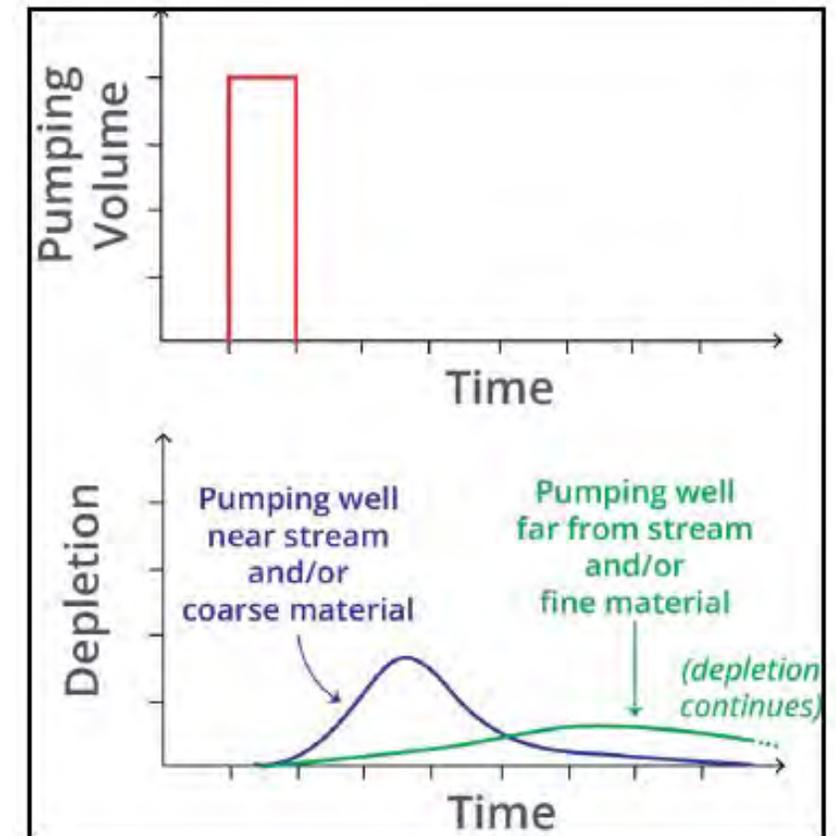
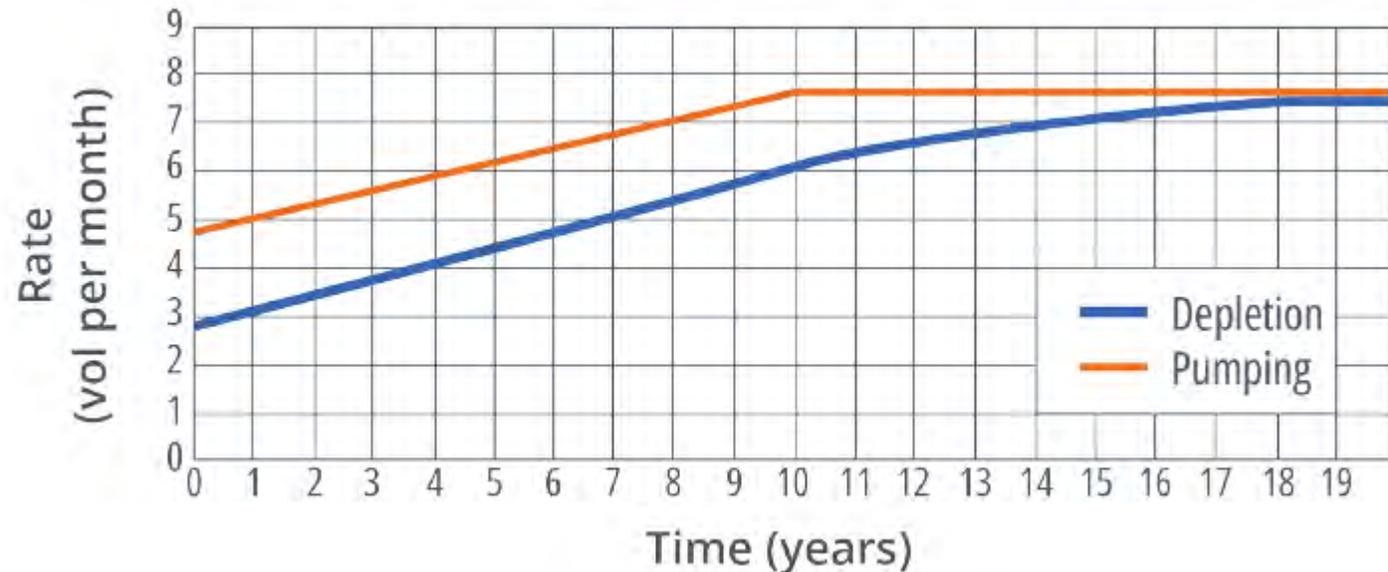
- DWR: *“Depletions occur regardless of hydrologic conditions or other factors influencing surface water and groundwater. Many basins have complex subsurface conditions, such as confining layers and faulting. Depletions will occur regardless of these features, although they may occur over a longer time horizon or at more distant locations as a result.”*



DWR Guidance re Interconnected Surface Water (ISW)

Depletions

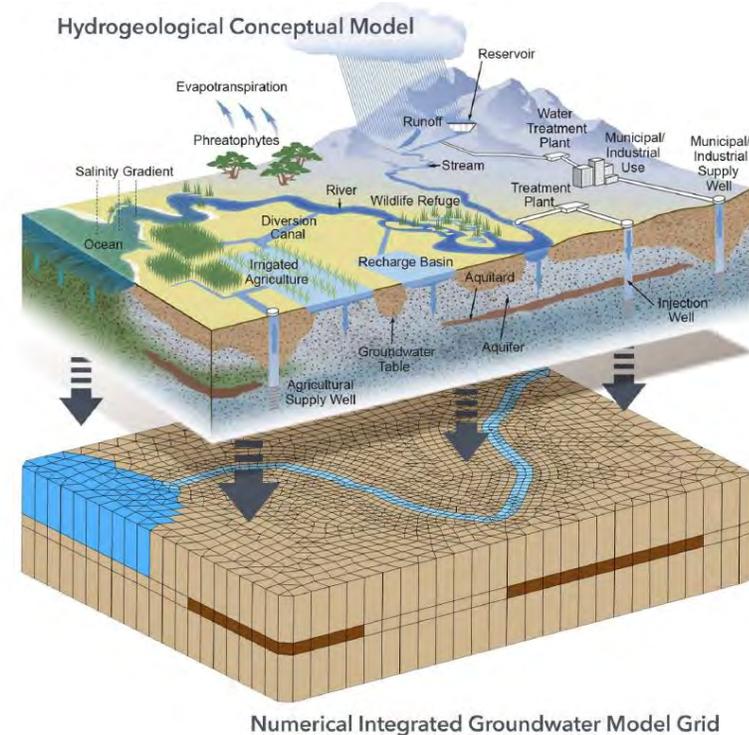
- Depletion effects of pumping generally lag behind changes in pumping
- Effects can take years or longer to appear
- Effects in surface water bodies vary by distance from the pumped wells



DWR Guidance re Interconnected Surface Water (ISW)

Fundamental Data Required to Estimate ISW Depletion due to Groundwater Use

1. Pumping data through time
2. Well spatial and construction data
3. Consumptive water use (e.g., ET, domestic use, exports)
4. Horizontal and vertical hydraulic conductivity of aquifer and aquitard materials
5. Thickness and geometry of the aquifers
6. Aquifer storage parameters (i.e., the specific yield of unconfined aquifers and storage coefficient of confined aquifers)
7. Conductance of the surface water beds
8. Characteristics of faults that can influence the flow of groundwater



Primary Methods of ISW Impact Estimation

1. Numerical model
2. Analytical methods
3. Statistical methods

DWR Guidance re Interconnected Surface Water (ISW)

SGMA and GSP Regulations Requirements

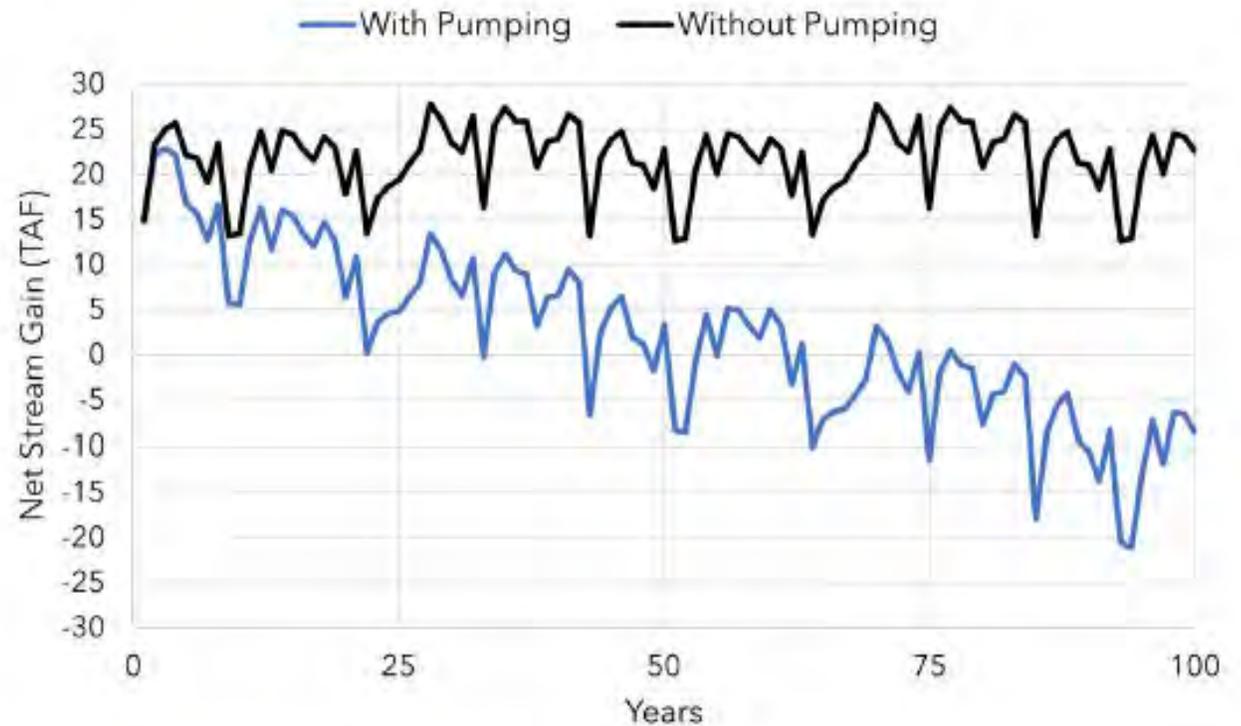
The Sustainable Groundwater Management Act (SGMA) and the GSP Regulations require GSAs to:

- 1) Estimate the quantity and timing of depletion of ISW systems identified in the basin
- 2) Define conditions of ISW depletion that would have significant and unreasonable adverse impacts on surface water users and would, thus, be an undesirable result
- 3) Set minimum thresholds (MTs) for ISW depletion based on the rate or volume of those depletions caused by groundwater pumping that adversely impacts beneficial uses of the surface water and may lead to undesirable results
 - Minimum thresholds must be supported by information on the location, quantity, and timing of ISW depletion.
 - The GSP must describe the groundwater and surface water model used to quantify the surface water depletion.
 - If a numerical groundwater and surface water model is not used, the GSA must identify and describe a method or tool that is equally effective as a numerical model to accomplish the requirements for developing minimum thresholds.

DWR Guidance re Interconnected Surface Water (ISW)

DWR-suggested numerical modeling steps to estimate ISW depletion:

- 1) Run the model with pumping at the wells of interest (e.g., all wells in a subbasin, all wells in a management area, etc.) and record model-computed flow rates (i.e., net stream gain) to and from streams or other surface water bodies;
- 2) Rerun the model without pumping from the wells of interest and record model-computed flow rates to and from streams.
- 3) Subtract model-computed flow rates to and from streams in Step 1 from corresponding flow rates in Step 2 to determine the net change in flow between the aquifer and streams, i.e., the depletion caused by groundwater use.

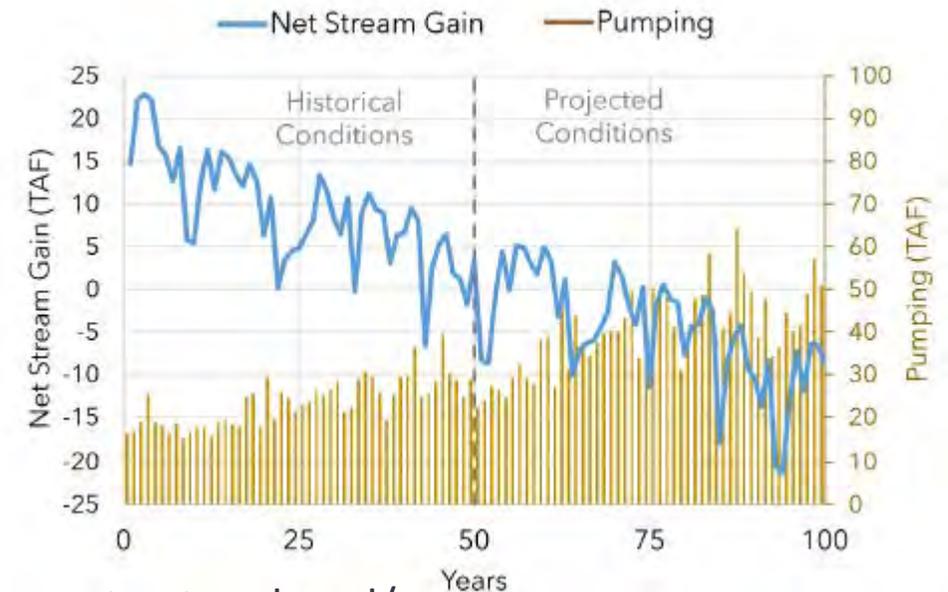


4.2.3 Step 3. Calculating Depletion

DWR Guidance re Interconnected Surface Water (ISW)

Sources of Error and Uncertainty:

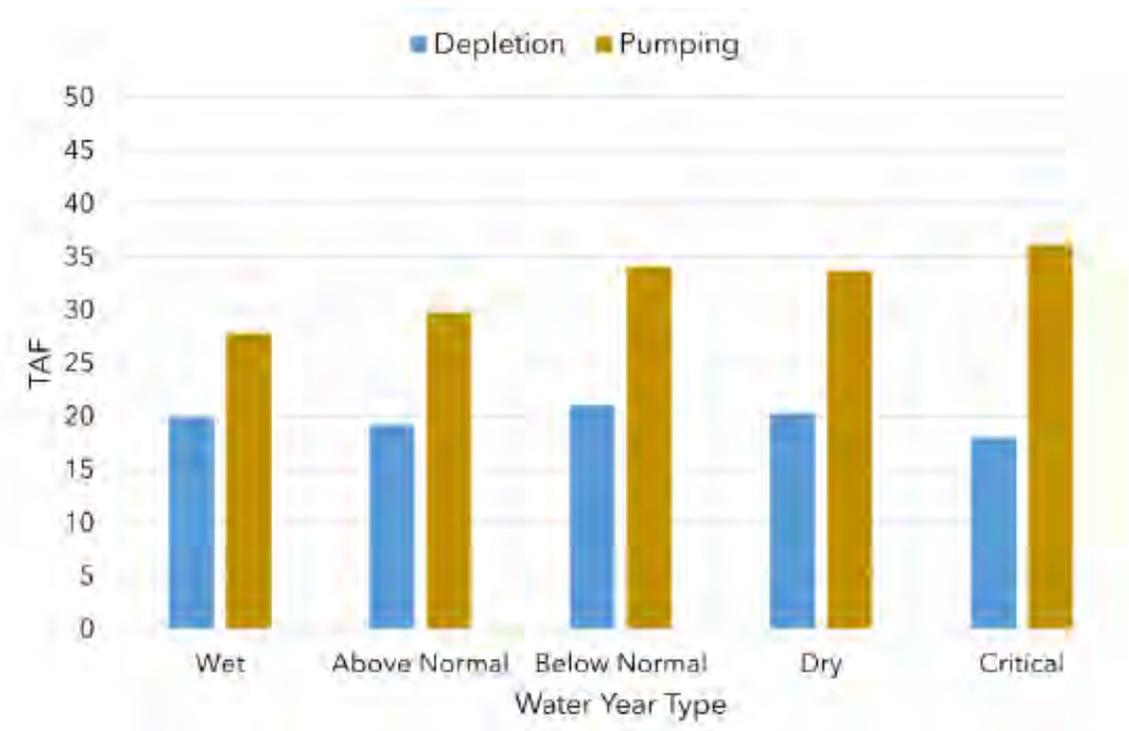
- 1) Available period of data may be too short. Ideally, historical modeling should extend back to:
 - a) The start of significant groundwater development, or
 - b) A time far enough back to demonstrate equilibrium between surface water and groundwater
- 2) Modeled domain (area) may be too small. Sub-basin models may not include ISW areas that are affected by groundwater use within the sub-basin
- 3) Spatial resolution may be too coarse within the model horizontal element network and/or vertical layers.
- 4) Data for surface water modeling parameters may not be available (e.g., channel geometry; rating tables describing the relationships between streamflow, wetted perimeter, and stream stage; streambed conductance, etc).
- 5) Local model calibration near stream data locations may not be sufficient to draw realistic conclusions.



DWR Guidance re Interconnected Surface Water (ISW)

DWR expects that groundwater managers “expeditiously work to”:

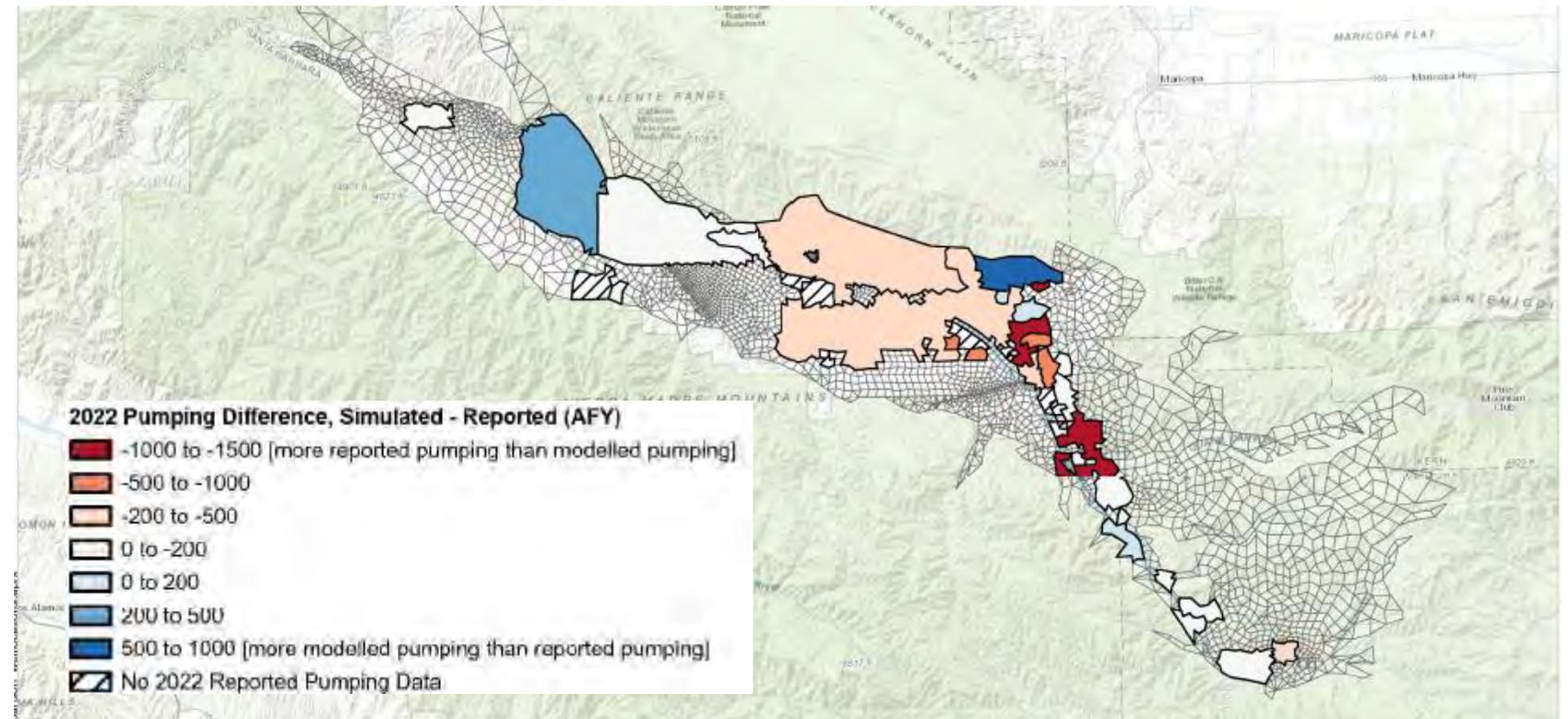
- 1) Develop initial estimates of the location, quantity, and timing of depletion using the best available data and methods and document those estimates as part of their periodic evaluations and/or annual reports
- 2) Develop plans to address the uncertainty in the ISW estimates in a timely manner
- 3) Utilize the estimates of the location, quantity, and timing of ISW depletion to inform their sustainable management criteria, consistent with the requirements of the GSP Regulations
- 4) Consistent with best practices, DWR expects that GSAs will periodically update their models and include better and more complete information about the basin, and that this will usually result in changes to the output of those models.



Preliminary Maps of Modeled vs. Reported Pumping

Examining modeled vs. reported pumping

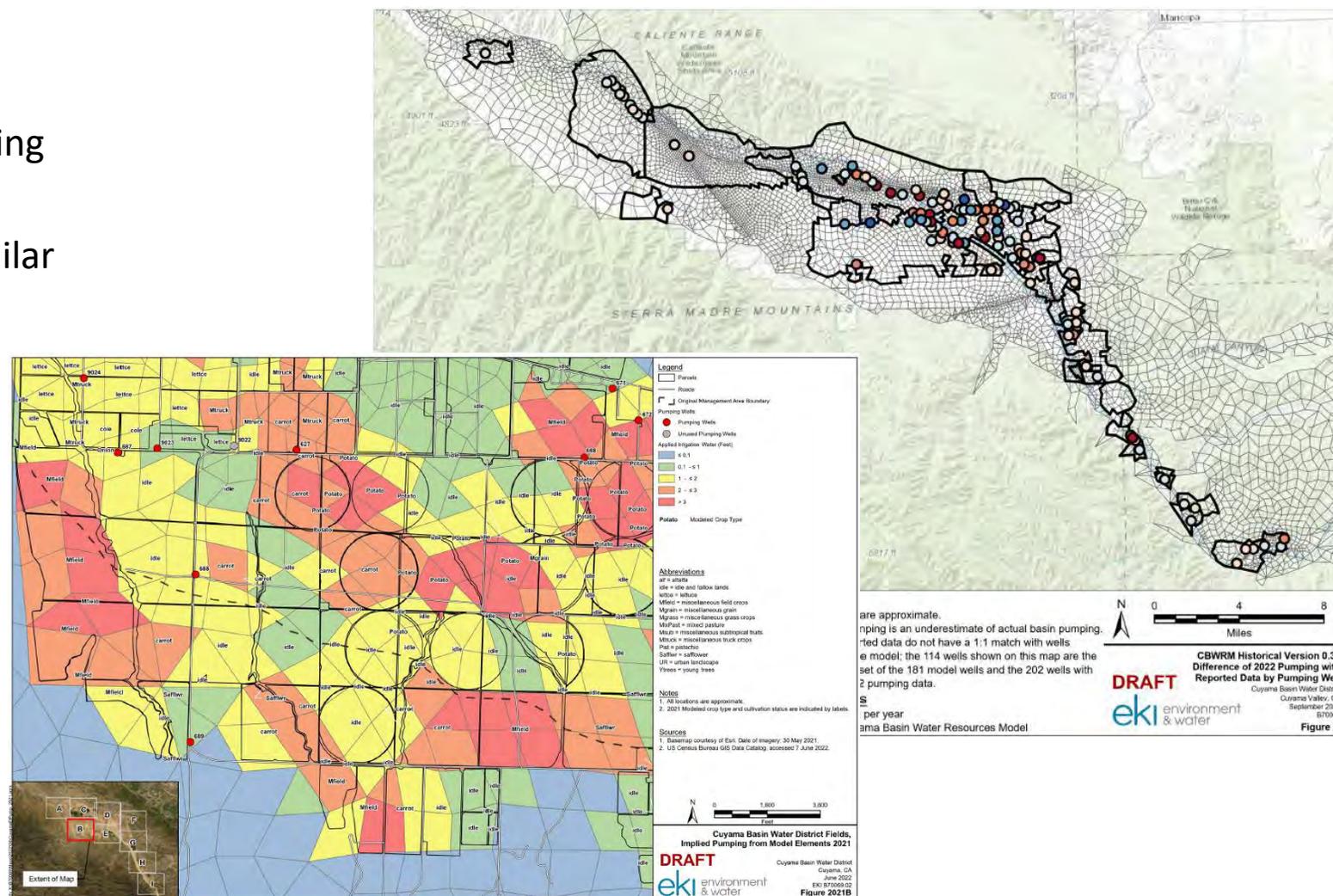
- Reviewing at well service area level and individual well level
- Some difficulty matching modeled wells with actual wells
- Received final model input files on Mon 23 September, so still a work in progress



Preliminary maps of modeled vs. reported pumping

Examining modeled vs. reported pumping

- Can produce detailed (zoomed in) maps of wells with reported pumping for District review if desired
- Can produce Google Earth files similar to GSA interactive maps if desired



End

From: [Taylor Blakslee](#)
To: [Grace Bianchi](#)
Subject: FW: Cuyama Valley GSP
Date: Tuesday, October 22, 2024 1:08:54 PM

Taylor Blakslee | Hallmark Group | Project Manager | (661) 477-3385

From: Pamela Doiron <doiron@spanishranch.net>
Sent: Friday, October 11, 2024 3:23 PM
To: Taylor Blakslee <TBlakslee@hgcpm.com>
Subject: Cuyama Valley GSP

Hi Taylor,

A few comments to consider regarding the draft document and information presented last night. Thanks to you and the team for the workshop.

First, I find the references to water flow and faults somewhat confusing/contradictory. At various locations in the document, the faults are said to have “constraints on water flow” (ES-3) but evaluations are “inconclusive” (2-19) and can be “impacting”. Does this mean that the water flow is only slightly measurable? A partial blockage? A total blockage? It’s pretty vague to me. Maybe a little clarification is in order to make the discussion more cohesive.

I could not find what exactly the “Groundwater Monitoring Tool” is. I may have skimmed over it without realizing what it was, but I looked for the detail and it was hard to find.

I would love to see a total basin cross section included. There are contour maps but no basin-wide figure that I could find.

Throughout the document, the Western, Northwestern and “Far-Western” (whatever that is) regions are referenced separately, and interchangeably. That will become problematic in the future as Harvard continues to pump heavily for its vineyard while small producers and ranchers continue to conserve water. The document says that the Western region is in balance; however, as our discussion showed last night, the only reason it appears to be is that the MTs have been changed for that area. The NORTHWESTERN region is in balance, indeed. The Northwestern and Western areas have been identified and described, and should not be lumped together.

I also find the statements regarding sustainable yield confusing. The GSP estimates the SY to be 17,500 AFY, but last night Brian identified the SY as 11,500 on his “Water Budgets Guide Basin Management to Achieve Balance and Avoid Undesirable Results” slide. Which is the real number? It’s great to have more detailed data with greater accuracy; however, some of the

changes appear problematic to me.

Finally, I agree with Brenton Kelly that somewhere (I don't know where), enforcement and consequences for noncompliance must be established. I believe there is a penalty established for overpumping, but I don't believe it has ever been enforced.

Thanks for the opportunity to add my comments to for staff consideration, Taylor. You don't have to respond to my comments, just let me know that you got the email. I may have missed some references as this is a rather large and detailed document, and if so, I apologize for not finding that detail.

Thanks again, Taylor,

Pam Doiron



United States
Department of
Agriculture

Forest
Service

Los Padres National Forest
Supervisor's Office

1980 Old Mission Drive
Solvang, CA 93463
805-968-6640
Fax: 805-961-5729

File Code: 1560
Date: October 11, 2024

Mr. Jim Beck
Cuyama Basin General Manager / CBGSA Director
Cuyama Basin Groundwater Sustainable Agency
4900 California Avenue
Tower B, Suite 210
Bakersfield, CA 93309

Dear Mr. Beck:

The Los Padres National Forest (LPNF) covers 32% (78,011 acres) of the Cuyama Valley Groundwater Basin (Basin) and includes 11.7 miles of the Cuyama River. The LPNF is the largest beneficial user in the Basin. The Forest Service reviewed the Cuyama Valley Groundwater Basin Public Draft Groundwater Sustainability Plan, dated August 2024, hereinafter referred to as "Plan" and would like to have the following information incorporated into the Plan.

The LPNF was established in 1936 to protect watersheds that supply water to local communities and municipalities. The Chumash Wilderness, established by the Los Padres Condor Range and River Protection Act, is an integral part of Chumash Indian culture and is important to the local Chumash tribe. A sliver of the Sespe Wilderness located within the Basin boundary is habitat for many threatened and endangered species as well as home to the California Condor and to steelhead trout. Threatened California red-legged frogs and southwestern willow flycatcher habitats are also found within the Cuyama River. Multiple grazing allotments are active in the Basin as well. The LPNF holds overlying groundwater rights for watershed health, timber management, recreation, fire protection, and grazing.

The Los Padres National Forest developed the Land Management Plan (LMP) in 2005 to bring consistency in planning within the National Forest System lands, including those National Forest System lands in the Basin. Some of the many purposes of the LPNF LMP is to protect, maintain, and restore natural watershed functions including slope processes, surface and groundwater flow and retention, riparian area sustainability, and manage groundwater to maintain or improve water quantity and quality in ways that minimize adverse effects. The LMP overall promotes a sustainable flow of uses, benefits, products, services, and visitor opportunities. The LMP has identified forest goals and desired conditions for multiple watersheds through cooperative management resilience and managed to assure the sustainability of high quality and quality water available for downstream users.

A special use authorization is required for all individuals or entities that propose to develop water wells or construct water pipelines on National Forest System lands. The Technical Guide to Managing Ground Water Resources provides guidance for the authorization of water wells or injection wells and water pipelines. Standard 46 of the design criteria requires the applicant to



Mr. Jim Beck

2

demonstrate that water extracted is excess to the current and reasonably foreseeable future needs of the forest resources before authorized to extract groundwater on National Forest System lands. The applicant must evaluate other reasonable alternatives before the LPNF would authorize new or increased groundwater pumping on National Forest System lands.

The Forest Service has an established Groundwater Management Program to maintain and enhance groundwater fed streams, springs, wells, and wetlands, which supply the healthy watersheds and communities with much needed water, in partnership with local communities, states, and other partners. Forest Service Manual (FSM) 2880 Geologic Resources, Hazards, and Services provides guidance on Forest management activities including development of geologic resources, groundwater dependent ecosystems within the floodplains and wetlands, identifying recharge areas, geologic and geomorphic factors influencing watershed function, and monitoring to assess the cumulative effect of management activities on groundwater resources. The Technical Guide to Managing Ground Water Resources also provides guidance on the National Forest groundwater policy in Land Management Planning, water development, water quality, groundwater dependent ecosystems, inventory and monitoring, data management, and partnership with other local, state, tribes, and federal agencies.

There are multiple wells currently in use located on LPNF within the Basin serving administrative and recreational use. Due to groundwater quality concerns, the potential future need for groundwater has not yet been determined by the LPNF.

If any additional information is needed from the Forest Service, please contact Forest Hydrologist Else Wolff at Else.Wolff@usda.gov. Thank you for the opportunity to provide comments to the Plan.

Sincerely,

X	JEANNE DAWSON	Digitally signed by JEANNE
		DAWSON
		Date: 2024.10.11 09:26:59 -07'00'

JEANNE DAWSON
Deputy Forest Supervisor

References:

USDA Forest Service (2005a). Land Management Plan. Part 1: Southern National Forests Vision. Pacific Southwest Region. R5-MB-075 (usda.gov)

USDA Forest Service (2005b). Land Management Plan. Part 2: Los Padres National Forest Strategy. Pacific Southwest Region. R5-MB-078 (usda.gov)

USDA Forest Service (2005c). Land Management Plan. Part 3: Design Criteria for the Southern National Forests Vision. Pacific Southwest Region. R5-MB-080 (usda.gov)

USDA Forest Service (2007). Technical Guide to Managing Ground Water Resources, United States Department of Agriculture Forest Service Minerals and Geology Management Watershed, Fish, Wildlife, Air, and Rare Plants Engineering FS-881, May 2007.

USDA Forest Service (2008). Forest Service Manual 2800 – Minerals and Geology, Chapter 2880 Geologic Resources, Hazards, and Services (Amendment 2800-2008-1), September 2008.



TO: Board of Directors
Agenda Item No. 13a

FROM: Brian Van Lienden, Woodard & Curran

DATE: November 6, 2024

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.

Cuyama Basin Groundwater Sustainability Agency

13a. Update on Groundwater Sustainability Plan Activities
Brian Van Lienden

November 6, 2024



Sep-Oct Accomplishments

- ✓ Finalized installation of multi-completion monitoring wells
- ✓ Prepared draft 2025 Periodic Evaluation document for the Cuyama Basin
- ✓ Facilitated public workshop on 2025 GSP Update
- ✓ Facilitated DWR site visits for 2 potential new CIMIS stations
- ✓ Developed groundwater quality conditions report
- ✓ Developed draft allocation tables for Baseline options



TO: Board of Directors
Agenda Item No. 13b

FROM: Brian Van Lienden, Woodard & Curran

DATE: November 6, 2024

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

13b. Update on Grant Funded Projects

Brian Van Lienden

November 6, 2024



Updates on Grant Funded Projects

- **Multi-Completion Nested Monitoring Wells:**
 - Installation of wells at all locations is complete
 - Currently working to procure transducers to install in each well
- **CIMIS Stations:**
 - Potential agreements currently under consideration by two landowners
 - DWR staff performed site visits at these locations in October
- **Technical reports currently under development:**
 - Water rights analysis
 - Cloud seeding study
 - Fault investigation report



TO: Board of Directors
Agenda Item No. 13c

FROM: Brian Van Lienden, Woodard & Curran

DATE: November 6, 2024

SUBJECT: Update on 2024 Groundwater Quality Conditions Report

Recommended Motion

None – information only.

Discussion

The annual Groundwater Quality Conditions Report – Cuyama Valley Groundwater Basin October 2024 report is summarized as Attachment 1 and the detailed report is provided as Attachment 2.

Cuyama Basin Groundwater Sustainability Agency

13c. Update on Groundwater Quality Conditions Report

Brian Van Lienden

November 6, 2024

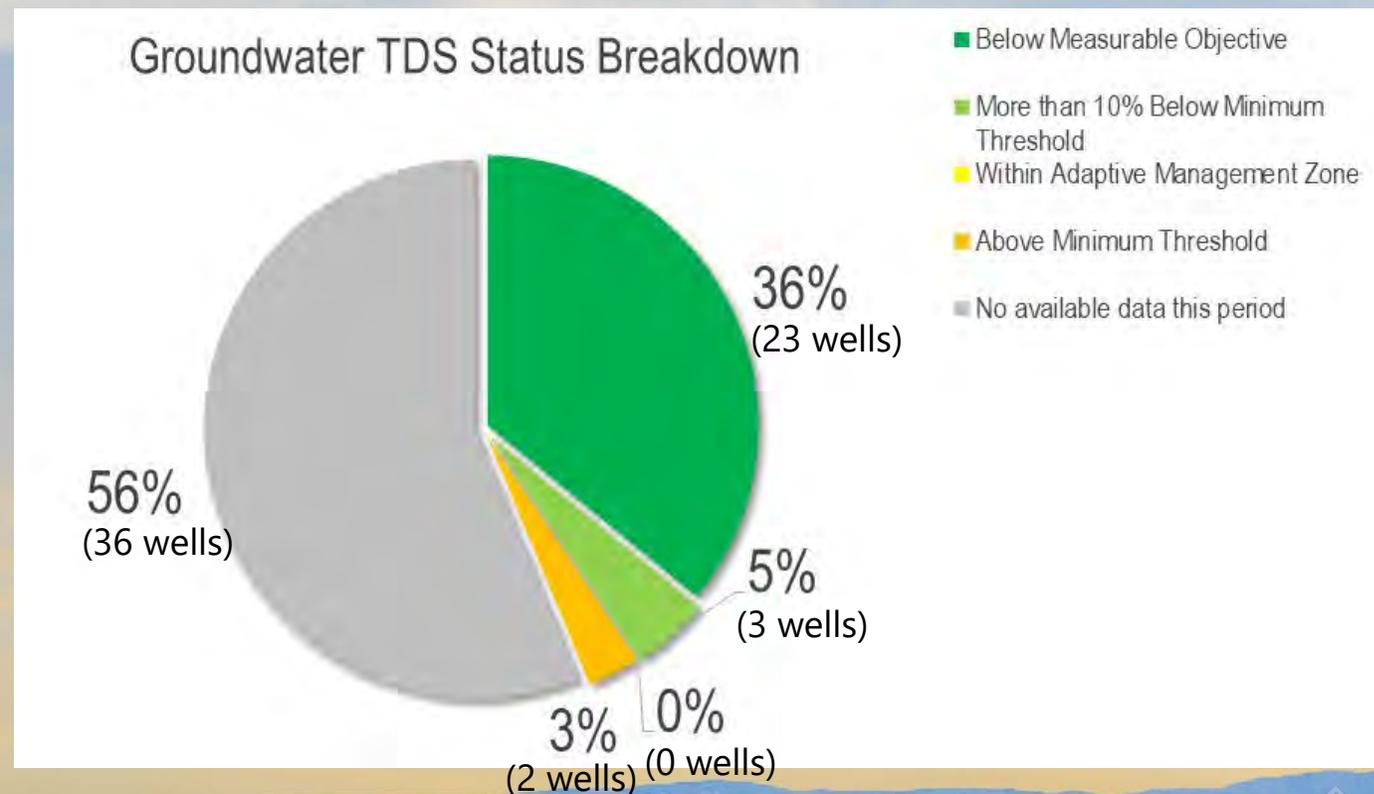


Groundwater Quality Monitoring Network – Summary of Current Conditions

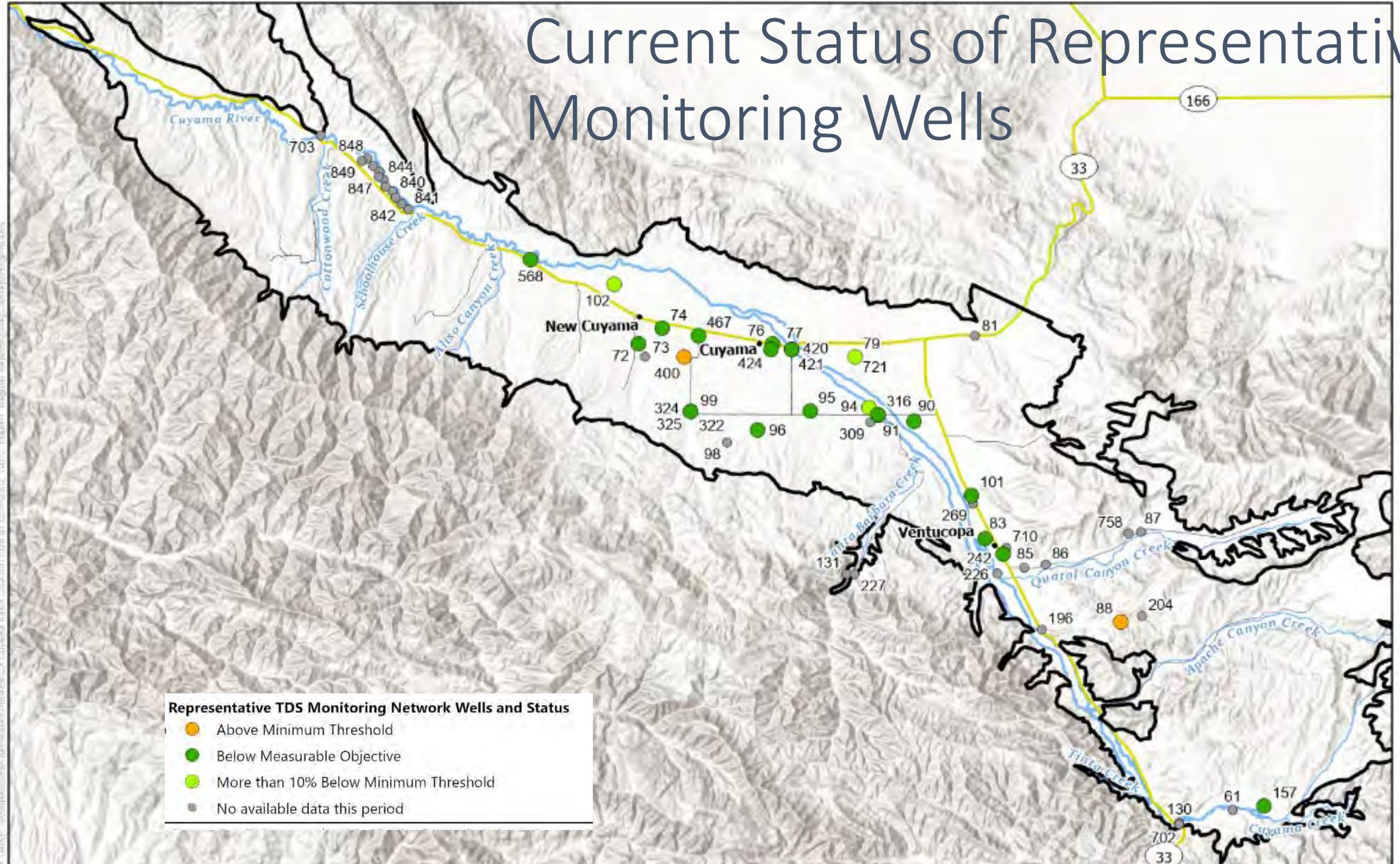
- Monitoring data collected by P&P in August and October 2024 is included in the Groundwater Quality Conditions report
 - The report also includes transducer data collected at groundwater levels wells in July 2024
- 25 representative monitoring wells and 18 other wells have TDS measurements in 2023
- 3 additional representative wells were measured for salinity in 2021, 2022 or 2023

Summary of Groundwater Well TDS Measurements as Compared To Sustainability Criteria

- 2 the 28 wells with a measurement in 2021-2024 are currently below minimum threshold (MT)
- 36 representative wells did not have a measurement in any year, in most cases because landowner agreement could not be obtained



Current Status of Representative Monitoring Wells



Representative TDS Monitoring Network Wells and Status

- Above Minimum Threshold
- Below Measurable Objective
- More than 10% Below Minimum Threshold
- No available data this period

Map data: USGS, National Geographic, Esri, DeLorme, Garmin, © 2014



**GROUNDWATER
QUALITY
CONDITIONS
REPORT –
CUYAMA VALLEY
GROUNDWATER
BASIN**

October 2024

801 T Street
Sacramento, CA
916.999.8700

woodardcurran.com

0011078.01
**Cuyama Valley
Groundwater
Sustainability Agency**

TABLE OF CONTENTS

SECTION	PAGE NO.
EXECUTIVE SUMMARY	ES-1
1. INTRODUCTION	1-2
2. SUMMARY STATISTICS	2-2
3. CURRENT CONDITIONS	3-3

TABLES

Table 1: Recent total Dissolved Solids Measurements for Monitoring Network

Table 2: Well Status Related to TDS Thresholds

FIGURES

Figure 1: Third Quarter 2024 Groundwater Status

Figure 2: Groundwater Quality Representative Wells and Status

Figure 3: Southeast Region – Well 157

Figure 4: Eastern Region – Well 83

Figure 5: Central Region – Well 467

Figure 6: Central Region – Well 74

Figure 7: Western Region – Well 571

Figure 8: Threshold Regions in the Cuyama Groundwater Basin

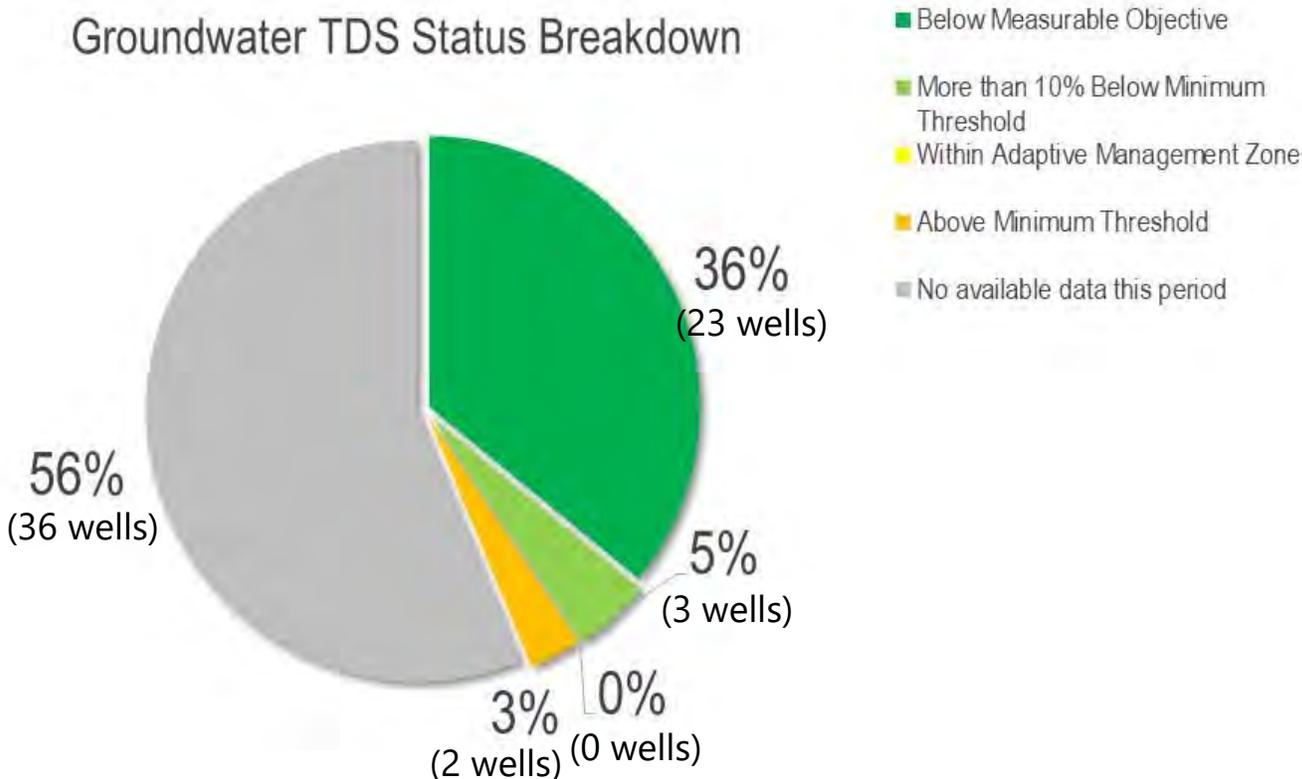
1. INTRODUCTION

This report is intended to provide an update on the current groundwater quality of total dissolved solids (TDS) conditions in the Cuyama Valley Groundwater Basin. Groundwater quality measurements were taken on August 21 and 22, 2024. This work is completed by the Cuyama Basin Groundwater Sustainability Agency (CBGSA), in compliance with the Sustainable Groundwater Management Act.

2. SUMMARY STATISTICS

As outlined in the GSP, undesirable results for degraded water quality occurs, “when 30 percent of representative monitoring points... exceed the minimum threshold for a constituent for two consecutive years.” (Cuyama GSP, pg. 3-4). Fourteen wells (900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 912, 914, 916) were installed after the GSP was submitted in January 2020 and therefore do not have minimum thresholds or measurable objectives. Additionally, wells 62, 103 and 571 had transducers installed after January 2020 and do not have minimum thresholds or measurable objectives. Measurements from well 204 are now being taken at nearby well 205. The results dating back to first quarter 2023 have been updated to reflect the well change.

FIGURE 1: THIRD QUARTER 2024 GROUNDWATER STATUS



3. CURRENT CONDITIONS

Table 1 includes the most recent TDS measurements taken in the Cuyama Basin from representative wells included in the Cuyama GSP Groundwater Quality Monitoring Network, which were taken during July and August 2023. The eleven wells discussed above are also included in **Table 1**. Per the plan described in the GSP, it is the intention of the GSA to take TDS measurements once per year. **Table 2:** includes all of the representative wells and their current status in relation to the thresholds applied to each well. This information is also shown in **Figure 1**.

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

TABLE 1: RECENT TOTAL DISSOLVED SOILDS MEASUREMENTS FOR MONITORING NETWORK

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023	Q3, 2024
		TDS, mg/L	TDS, mg/L	TDS, mg/L	TDS, mg/L
61	Southeastern	-	-	-	-
72	Central	560	980	900	894
73	Central	-	-	-	-
74	Central	1260	1700	1310	1360
76	Central	1270	-	-	-
77	Central	1070	1120	1120	1165
79	Central	1790	-	-	1630
81	Central	-	-	-	-
83	Eastern	1120	1400	1120	1110
85	Eastern	-	-	-	-
86	Eastern	-	-	-	-
87	Badlands	-	-	-	-
88	Badlands	330	300	320	337
90	Central	-	1400	-	1120
91	Central	1030	-	1020	1059
94	Central	960	-	1190	1140
95	Central	1290	1700	1340	1310
96	Central	1210	1500	1100	1220
98	Central	-	-	-	-
99	Central	1010	1300	1140	1060
101	Eastern	-	1400	1210	1230
102	Central	900	2100	1610	1640
130	Southeastern	-	-	-	-
131	Eastern	-	-	-	-
157	Southeastern	1360	-	-	-
196	Eastern	-	-	-	-
204	Badlands	-	-	-	-
226	Eastern	-	-	-	-
227	Eastern	-	-	-	-

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023	Q3, 2024
		TDS, mg/L	TDS, mg/L	TDS, mg/L	TDS, mg/L
242	Eastern	830	1100	780	883
269	Eastern	-	-	-	-
309	Central	-	-	-	-
316	Central	1050	1050	1060	1105
317	Central	690	990	-	1056
318	Central	-	-	-	-
322	Central	1120	1500	1140	1170
324	Central	490	850	740	700
325	Central	750	1400	1070	1040
400	Central	1350	-	-	-
420	Central	1080	1080	1080	1122
421	Central	800	1290	1280	1404
422	Central	-	-	-	-
424	Central	-	1600	1260	1270
467	Central	1140	1400	1070	1080
568	Central	870	920	860	841
702	Southeastern	-	-	-	-
703	Northwestern	-	-	-	-
710	Eastern	-	-	-	-
711	Central	-	-	-	-
712	Central	-	-	-	-
713	Central	-	-	-	-
721	Central	-	-	-	-
758	Badlands	-	-	-	-
840	Northwestern	-	-	-	-
841	Northwestern	-	-	-	-
842	Northwestern	-	-	-	-
843	Northwestern	-	-	-	-
844	Northwestern	-	-	-	-
845	Northwestern	-	-	-	-
846	Northwestern	-	-	-	-
847	Northwestern	-	-	-	-
848	Northwestern	-	-	-	-
849	Northwestern	-	-	-	-
850	Northwestern	-	-	-	-
Additional Non-Representative Wells					
62	Eastern	890	980	780	757
103	Central	520	820	860	-
205	Badlands	360	340	380	348
571	Western	310	300	290	294
900	Central	-	6200	-	6410
901	Central	-	6700	-	9620

Well	Region	Q1, 2021	Q3, 2022	Q3, 2023	Q3, 2024
		TDS, mg/L	TDS, mg/L	TDS, mg/L	TDS, mg/L
902	Central	-	9200	-	10500
903	Eastern	-	1500	1080	1110
904	Eastern	-	1500	1120	1140
905	Eastern	-	1400	1100	1170
906	Central	-	-	-	1230
907	Central	-	1600	1260	1300
908	Central	-	2400	1770	1760
909	Northwestern	-	-	-	2,270
910	Northwestern	-	-	-	946
911	Southeastern	-	-	-	1,360
912	Southeastern	-	-	-	1,320
914	Central	-	-	-	1,830
916	Central	-	-	-	1,200

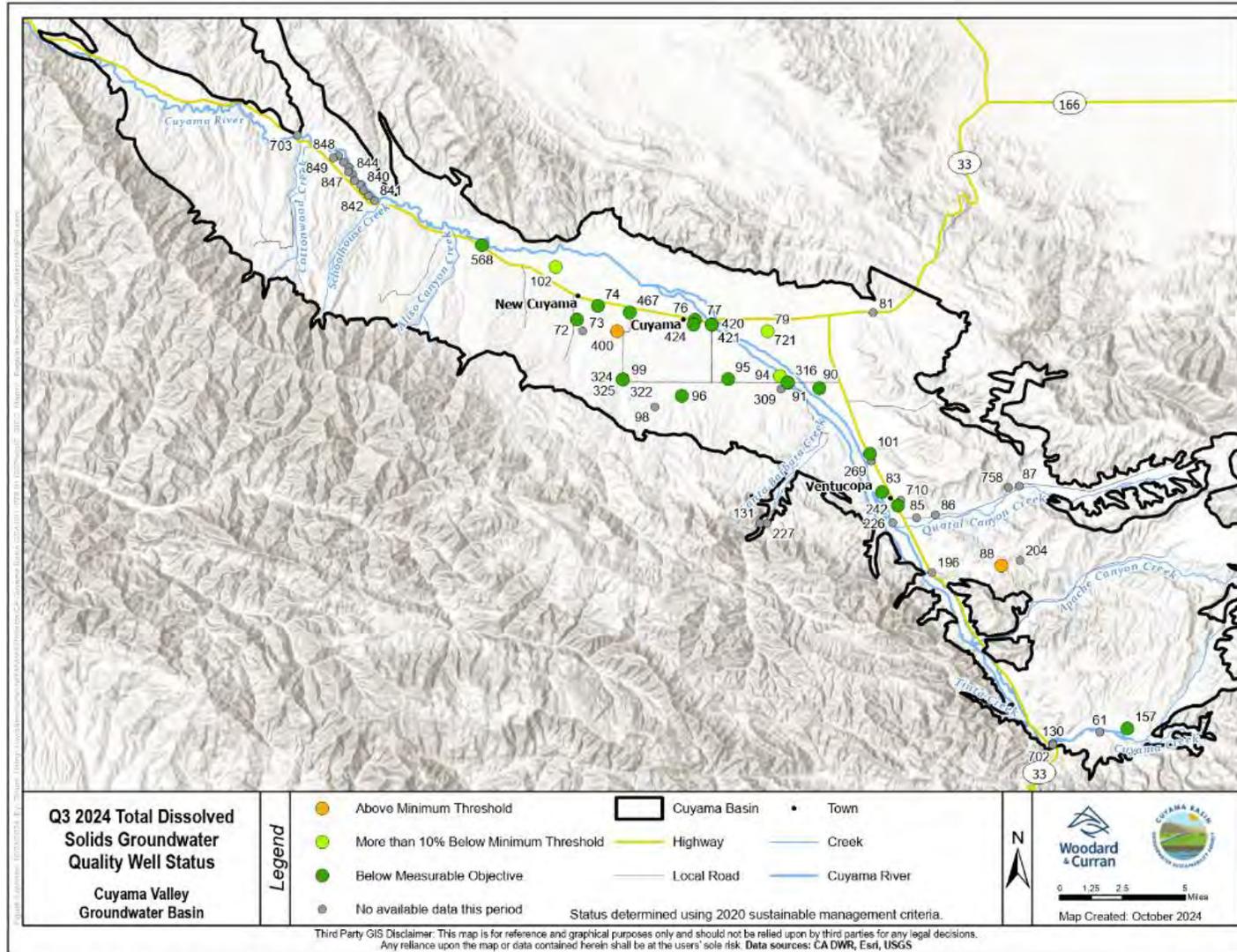
TABLE 2: WELL STATUS RELATED TO TDS THRESHOLDS

Well	Region	Current Measurement Period		Minimum Threshold	Within 10% of Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
61	Southeastern	-	-	615	612	585	No available data this period	No
72	Central	894	8/21/2024	1023	1020	996	Below Measurable Objective	No
73	Central	-	-	856	851	805	No available data this period	No
74	Central	1360	8/22/2024	1833	1800	1500	Below Measurable Objective	No
76	Central	-	-	2307	2226	1500	No available data this period (below MO in 2021)	No
77	Central	1165	7/20/2024	1592	1583	1500	Below Measurable Objective	No
79	Central	1630	8/22/2024	2320	2238	1500	More than 10% Below Minimum Threshold	No
81	Central	-	-	2788	2659	1500	No available data this period	No
83	Eastern	1110	8/21/2024	1726	1703	1500	Below Measurable Objective	No
85	Eastern	-	-	1391	1314	618	No available data this period	No
86	Eastern	-	-	975	974	969	No available data this period	No
87	Badlands	-	-	1165	1157	1090	No available data this period	No
88	Badlands	337	8/22/2024	302	302	302	Exceeds Minimum Threshold	No
90	Central	1120	8/22/2024	1593	1584	1500	Below Measurable Objective	No
91	Central	1059	7/20/2024	1487	1479	1410	Below Measurable Objective	No
94	Central	1140	8/21/2024	1245	1226	1050	More than 10% Below Minimum Threshold	No
95	Central	1310	8/21/2024	1866	1829	1500	Below Measurable Objective	No
96	Central	1220	8/21/2024	1632	1619	1500	Below Measurable Objective	No
98	Central	-	-	2400	2310	1500	No available data this period	No
99	Central	1060	8/22/2024	1562	1555	1490	Below Measurable Objective	No

Well	Region	Current Measurement Period		Minimum Threshold	Within 10% of Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
101	Eastern	1230	8/21/2024	1693	1674	1500	Below Measurable Objective	No
102	Central	1640	8/21/2024	2351	2266	1500	More than 10% Below Minimum Threshold	No
130	Southeastern	-	-	1855	1820	1500	No available data this period	No
131	Eastern	-	-	1982	1934	1500	No available data this period	No
157	Southeastern	-	-	2360	2274	1500	No available data this period (below MO in 2021)	No
196	Eastern	-	-	904	898	851	No available data this period	No
204	Badlands	-	-	269	267	253	No available data this period	No
226	Eastern	-	-	1844	1810	1500	No available data this period	No
227	Eastern	-	-	2230	2157	1500	No available data this period	No
242	Eastern	883	8/22/2024	1518	1513	1470	Below Measurable Objective	No
269	Eastern	-	-	1702	1682	1500	No available data this period	No
309	Central	-	-	1509	1499	1410	No available data this period	No
316	Central	1105	7/20/2024	1468	1459	1380	Below Measurable Objective	No
317	Central	1068	7/20/2024	1337	1329	1260	Below Measurable Objective	No
318	Central	-	-	1152	1145	1080	No available data this period	No
322	Central	1170	8/22/2024	1386	1382	1350	Below Measurable Objective	No
324	Central	700	8/22/2024	777	774	746	Below Measurable Objective	No
325	Central	1040	8/22/2024	1569	1559	1470	Below Measurable Objective	No
400	Central	-	-	976	970	918	No available data this period (exceeds MT in 2021)	No
420	Central	1121	7/20/2024	1490	1484	1430	Below Measurable Objective	No
421	Central	1390	7/20/2024	1616	1604	1500	Below Measurable Objective	No

Well	Region	Current Measurement Period		Minimum Threshold	Within 10% of Minimum Threshold	Measurable Objective	Status	GSA Action Required?
		TDS mg/L	Date					
422	Central	-	-	1942	1898	1500	No available data this period	No
424	Central	1270	8/22/2024	1588	1579	1500	Below Measurable Objective	No
467	Central	1080	8/22/2024	1764	1738	1500	Below Measurable Objective	No
568	Central	841	8/21/2024	1191	1159	871	Below Measurable Objective	No
702	Southeastern	-	-	2074	1878	110	No available data this period	No
703	Northwestern	-	-	4097	3727	400	No available data this period	No
710	Eastern	-	-	1040	1040	1040	No available data this period	No
711	Central	-	-	928	928	928	No available data this period	No
712	Central	-	-	978	977	977	No available data this period	No
713	Central	-	-	1200	1200	1200	No available data this period	No
721	Central	-	-	2170	2103	1500	No available data this period	No
758	Badlands	-	-	954	949	900	No available data this period	No
840	Northwestern	-	-	559	559	559	No available data this period	No
841	Northwestern	-	-	561	561	561	No available data this period	No
842	Northwestern	-	-	547	547	547	No available data this period	No
843	Northwestern	-	-	569	569	569	No available data this period	No
844	Northwestern	-	-	481	481	481	No available data this period	No
845	Northwestern	-	-	1250	1250	1250	No available data this period	No
846	Northwestern	-	-	918	918	918	No available data this period	No
847	Northwestern	-	-	480	480	480	No available data this period	No
848	Northwestern	-	-	674	674	674	No available data this period	No
849	Northwestern	-	-	1780	1752	1500	No available data this period	No
850	Northwestern	-	-	472	472	472	No available data this period	No

FIGURE 2: GROUNDWATER QUALITY REPRESENTATIVE WELLS AND STATUS



4. TOTAL DISSOLVED SOLIDS TIME SERIES FIGURES

The following figures provide an overview of TDS conditions in each of the six area threshold regions identified in the GSP.

FIGURE 3: SOUTHEAST REGION – WELL 157

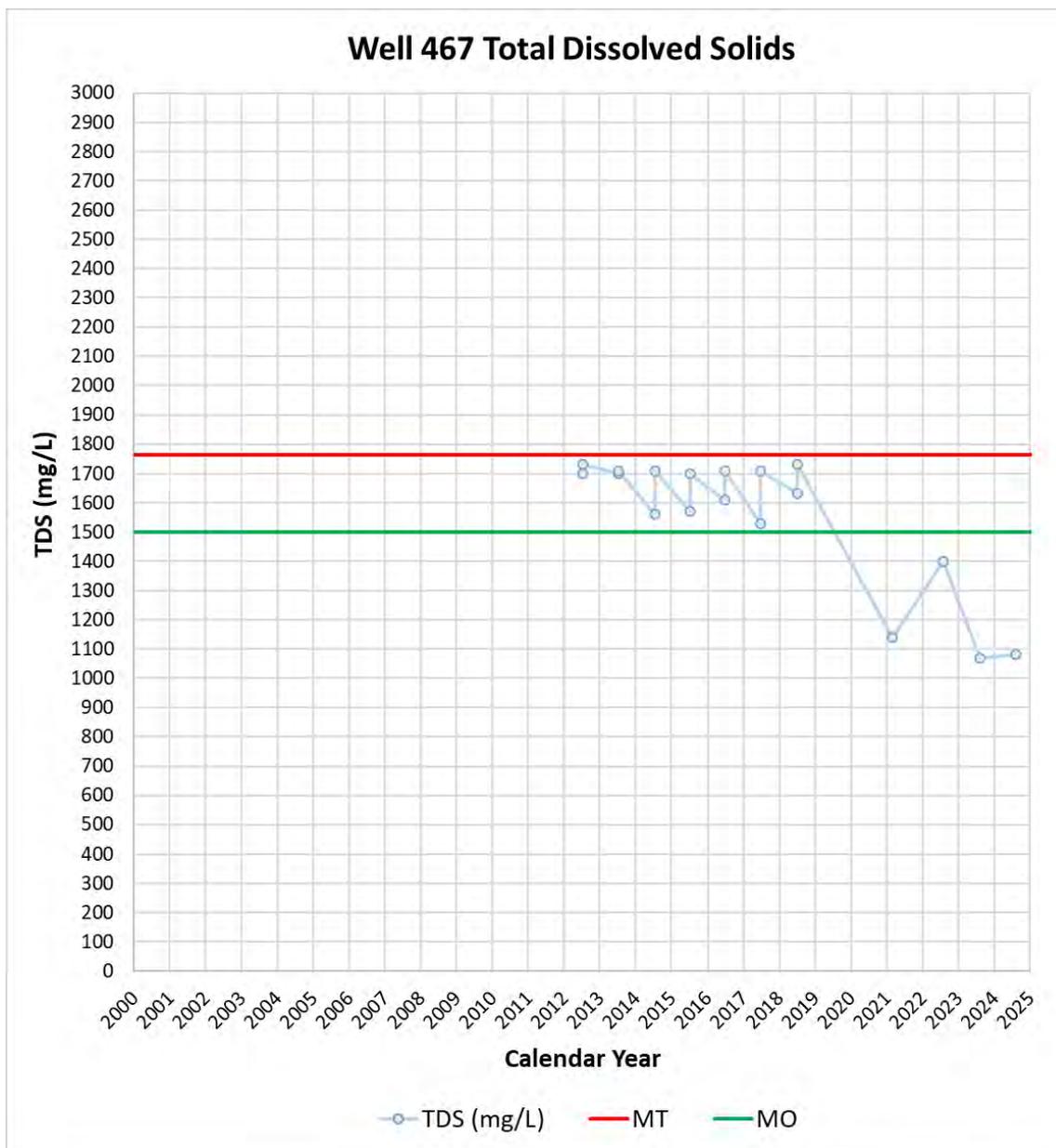


FIGURE 4: EASTERN REGION – WELL 83

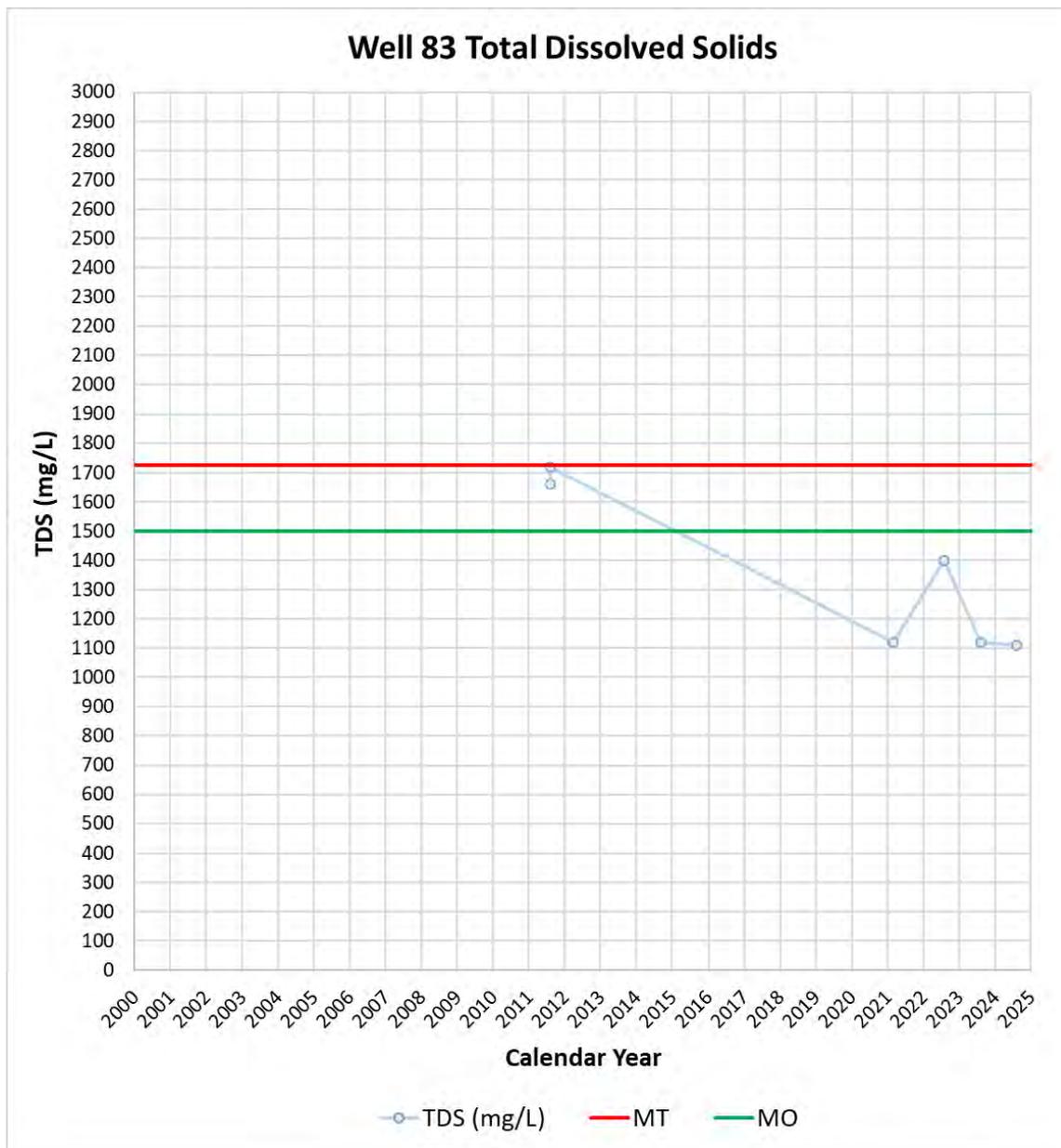


FIGURE 5: CENTRAL REGION – WELL 467

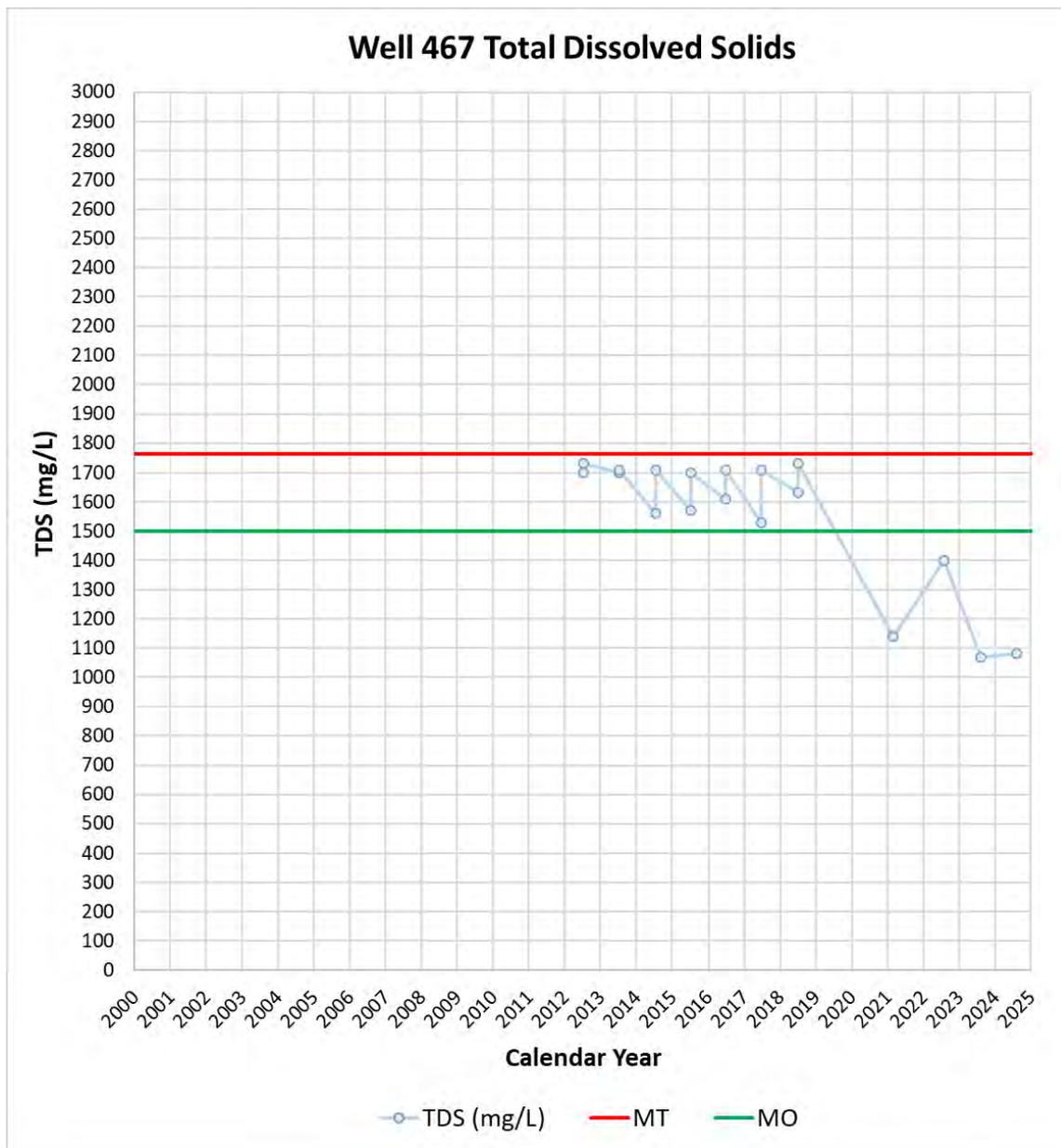


FIGURE 6: CENTRAL REGION – WELL 74

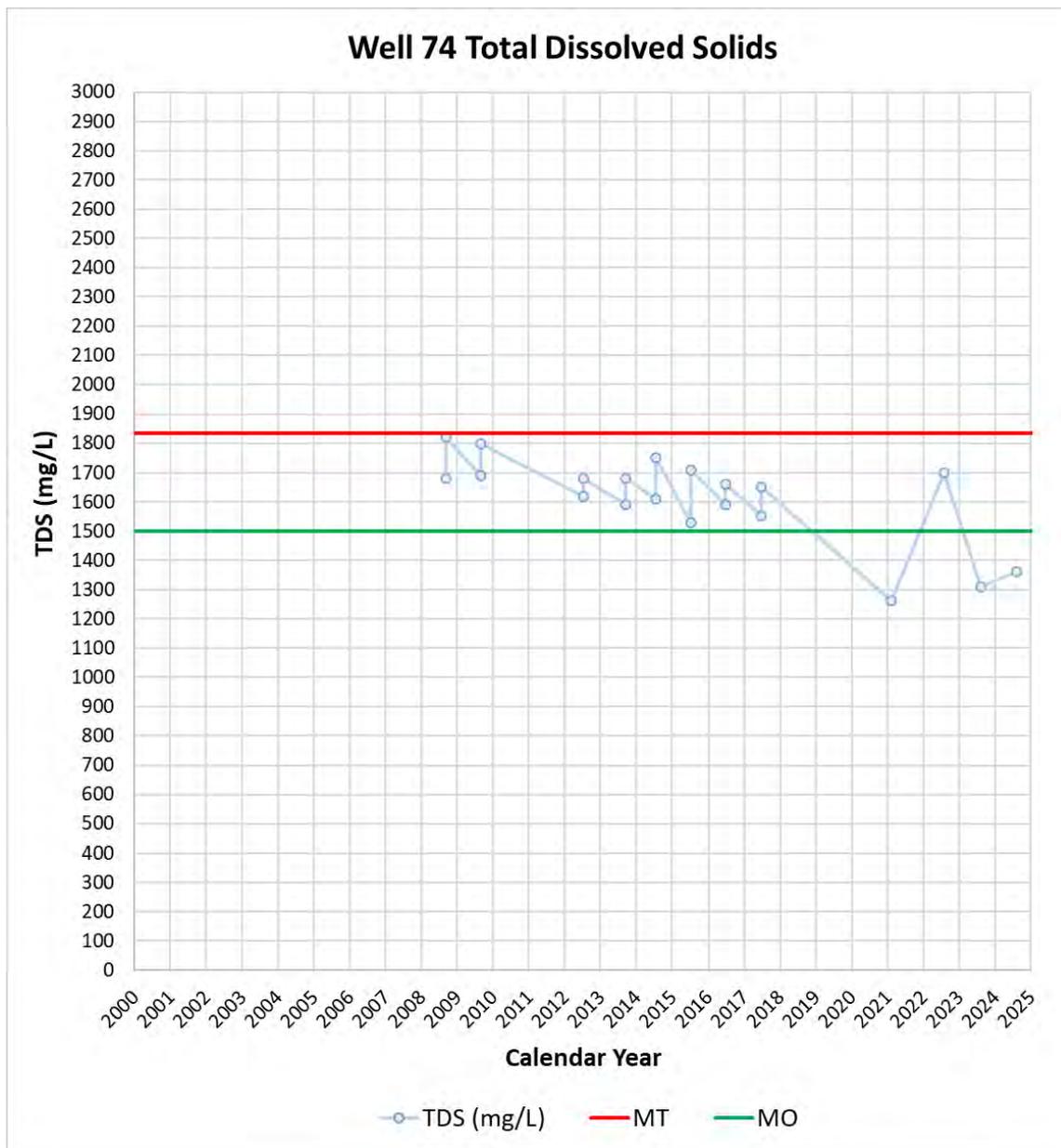


FIGURE 7: WESTERN REGION – WELL 571 (NOT A REPRESENTATIVE WELL)

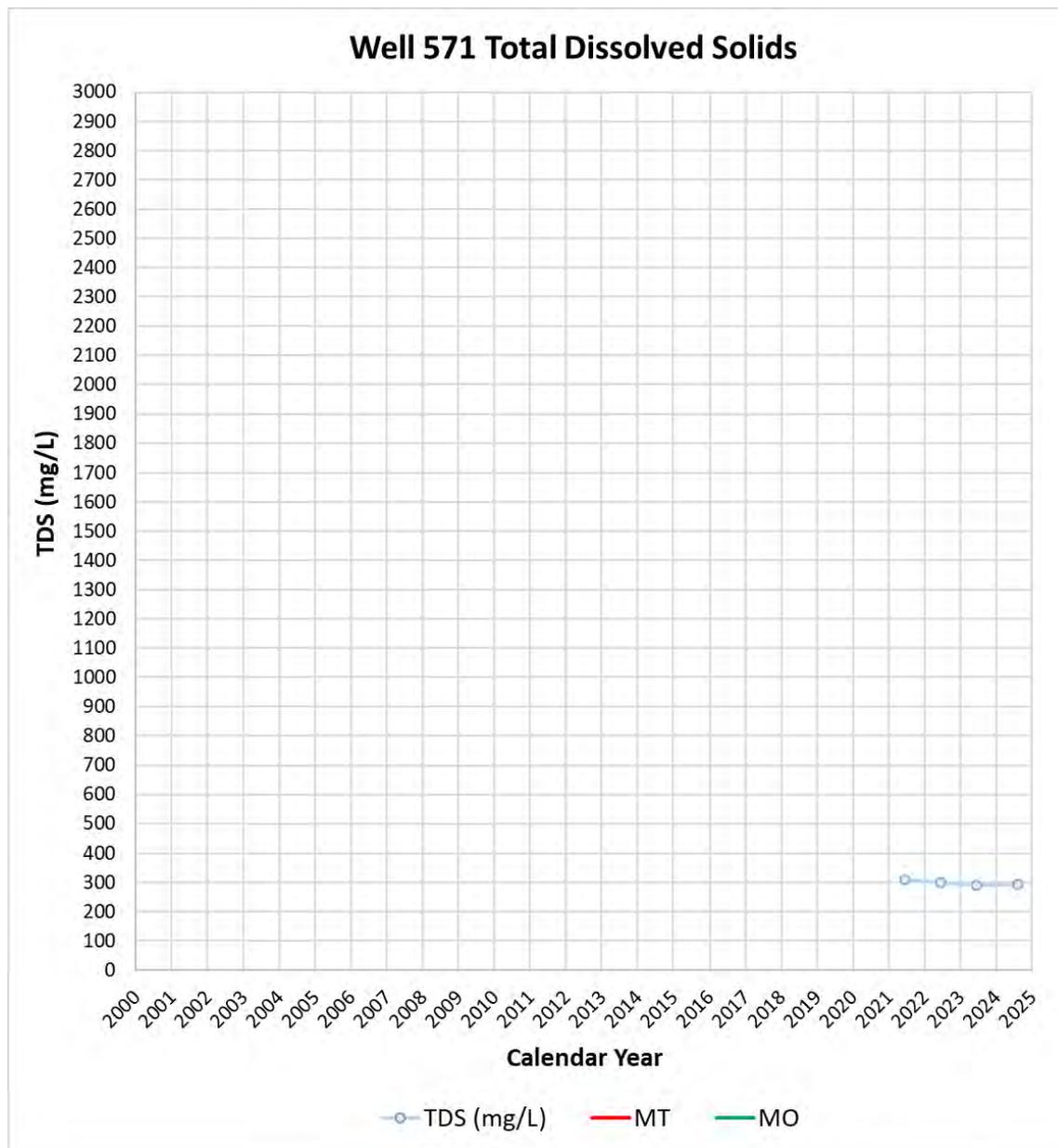
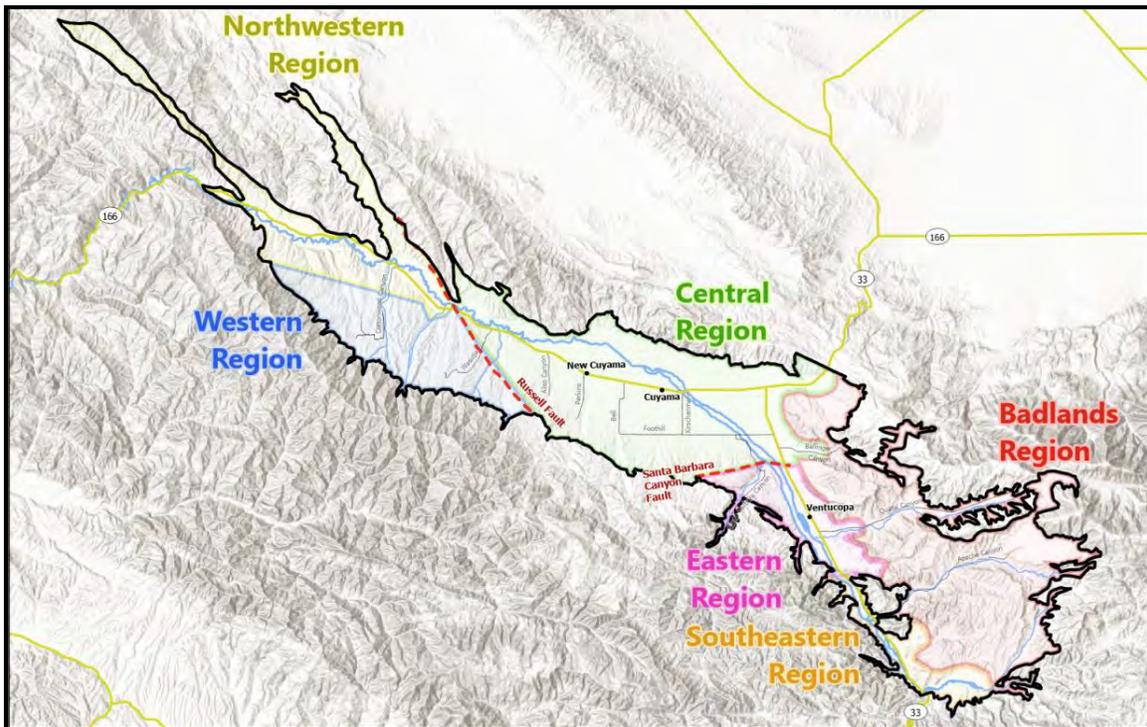


FIGURE 8: THRESHOLD REGIONS IN THE CUYAMA GROUNDWATER BASIN



5. MONITORING NETWORK UPDATES

As shown in the Summary Statistics Section, there are 40 wells without current measurements. These “no measurement codes” can have different causes as described below.

- Access agreements have not yet been established with the landowner, access has not been granted yet, or no access at the time of measurement:
 - Wells 61, 73, 81, 85, 86, 87, 98, 130, 131, 157, 196, 204, 226, 227, 269, 309, 702, 703, 710, 711, 712, 713, 721, 758, 840, 842, 843, 844, 846, 847, 848, 849, 850
- The well was out of service:
 - Wells 76, 400
- Transducer data was not currently available:
 - Wells 103, 841, 845
- The well has gone dry:
 - Wells 318, 422



**Woodard
& Curran**

woodardcurran.com

From: [Taylor Blakslee](#)
To: [Jack Forinash](#)
Cc: [Grace Bianchi](#)
Subject: RE: Cuyama Futures report
Date: Friday, November 1, 2024 11:55:32 AM

Thank you, Jack, will do! I'll had it correspondence in the Board packet.

Best,

Taylor Blakslee | Hallmark Group | Project Manager | (661) 477-3385

From: Jack Forinash <jack@blueskycenter.org>
Sent: Wednesday, October 30, 2024 11:05 AM
To: Taylor Blakslee <TBlakslee@hgcpm.com>
Subject: Cuyama Futures report

Hi Taylor

I wanted to share with you this new report: Cuyama Futures. This is an economic development-focused report following up from the Cuyama Valley Community Action Plan from 2020. It was done with support from the CA Jobs First program through Uplift Central Coast. We will next be applying for funding to work on some of the needs identified in the Cuyama Futures report.

Read/download the report and appendices here:

blueskycenter.org/futures

I ask that you share this report with the GSA and SAC, and I welcome any feedback from you and them after reading it.

Thank you!

*Hey! **Blue Sky is turning 10!** Please consider [a tax-deductible contribution](#) to our **Ten Years of Blue Skies** campaign.*

Jack Forinash

Executive Director

BLUE SKY CENTER

e: jack@blueskycenter.org

p: (661) 413 3005

s: @blueskycenter

w: www.blueskycenter.org

FALL 2024

Cuyama Futures

*a community-led economic research report
from the voices of Cuyama residents*

Prepared by Quail Springs and Blue Sky Center
in partnership with the Uplift Central Coast Coalition's California Jobs First Initiative





5	EXECUTIVE SUMMARY
7	ORIENTING TO THE CUYAMA VALLEY
9	THE REGIONAL ECONOMIC EFFORT
9	PRIOR RESEARCH
10	SUMMARY OF FINDINGS
13	LISTENING SESSIONS
17	COMMUNITY-WIDE SURVEY
33	WHAT WE LEARNED
34	NEXT STEPS
37	APPENDICES
38	ACKNOWLEDGMENTS



Executive Summary

The economic future of Cuyama depends on the skills, talents, and entrepreneurship of the residents of the Cuyama Valley. As does any community, our Cuyama home has gone through many economic changes over the years, from primary industries of ranching and oil to agriculture and tourism. What comes next? How can we all work together to make sure there are enough economic opportunities to support the work and family life of all residents? What does economic development, job security, and wellbeing mean for Cuyama, as told by Cuyamans?

Quail Springs and Blue Sky Center partnered on a \$30,000 grant from [Uplift Central Coast](#) to identify pathways for Cuyama's economic future as desired by local Cuyamans. Listening sessions were held in both English and Spanish in August 2023 and February 2024 to collect stories, hopes, and challenges to the local economy, with 46 residents in attendance in 2023 and 80 residents in 2024. In May 2024, a bilingual survey was sent to every address in the Cuyama Valley to expand outreach efforts to all Cuyamans to better quantify their desires for the economic future of the valley. A total of 133 surveys were completed representing 12% of the Cuyama Valley total population of 1,100 residents.

The findings of this research focuses on the current lived reality of the Cuyama economy as experienced by Cuyamans, what industries and jobs are currently available here, and perceptions of what future opportunities in the valley there could be. This report contains self-identified employment data, demographics data, housing data, and details on economic optimism and concerns. It can be used as a reference to guide future conversations on potential economic development in the valley. It provides a snapshot of job security, quality of life, existing industries, and future sustainable development priorities in Cuyama.

View the full report and all appendices at www.madeincuyama.com

Opposite: View from the Caliente Range of the most recent wildflower superbloom, with the Cuyama Valley below, then the Sierra Madre Coastal Range rising up in the far distance (2023).

COUNTIES OF THE CENTRAL COAST



THE CUYAMA VALLEY



Orienting to the Cuyama Valley

"Cuyama" comes from a Chumash word meaning "clam." The Cuyama River (now dry most of the year) hosted these freshwater mollusks as evidenced in the fossil record. Since recorded history including Native use, the Valley was used as a thoroughfare, connecting the coast to inland, with sparse settlement. In the early 1800s, European and Mexican settlers divided the land into parcels to form two large ranches, using the land primarily for cattle grazing. By the early 1900s, water pumps brought water from deep aquifers to allow for irrigated agricultural land. The townsites of Ventucopa and Cuyama were established. Oil was discovered in the late 1940s, and with that came Richfield Oil Company (now Atlantic Richfield Oil Company, or ARCO). ARCO built the townsite of New Cuyama (five miles west of "Old Cuyama") in its entirety, including housing, infrastructure, commercial spaces, schools, and an industrial campus. By the 1960s and 1970s, the oil cache was beginning to play out. New Cuyama as a "company town" existed from 1950 to the late 1970's, when ARCO finished selling off its ownership in the properties to private citizens and businesses. Many direct ARCO employees and ancillary business people that depended on ARCO left the Valley. New Cuyama continues to serve as a hub of activity for the Cuyama Valley, with about half of the Cuyama Valley population residing within the New Cuyama townsite.

The Cuyama Basin is known as an organic hot spot. Agriculture and cattle grazing are the prominent land uses, almost exclusively relying on groundwater. Grimmway Farms, Bolthouse Farms, and Caliente Ranch Cuyama LLC are the largest landowners in the Valley to this day, collectively owning over 35,000 acres of the land, most of which was originally part of the Mexican land-grant

Cuyama Rancho #2. Major agricultural exports are carrots, lettuces, onions, grapes, pistachios, olives, apples, hay, and cattle. Even as Cuyama is known primarily as a farming and ranching Valley based on land use, many Cuyamans make this valley their home outside of the agricultural sector.

The Cuyama Valley is defined primarily by its geography. With a land area of about 300 square miles, the extents are bound by the La Panza and Caliente Ranges on the north and northeast and the Sierra Madre Mountains on the south and west. These mountain ranges cause the high desert climate of the Cuyama Valley (at an elevation between 2,000 and 3,000 feet), which only receives on average about five inches of rain per year. The east-west California Highway 166 connects the Cuyama Valley to Santa Maria and the Pacific Coast on the west and the southern end of the Central Valley (Maricopa) on the east. California Scenic Highway 33 connects the Valley to Ojai and Ventura to the south, and Taft, to the north.

The Cuyama River follows the path of Highway 33 northwest then west to, eventually, the Twitchell Reservoir beyond the Valley. Most residents live in the Valley's lower elevations that the Cuyama River passes nearby, within the unincorporated townsites of New Cuyama (pop. 542), Cuyama (pop. 37), and Ventucopa (pop. 92). Many residents live on ranches and farms outside the townsites and into the foothills of the mountain ranges.

OPPOSITE: Scenic Highway 33, as seen standing in Ventura County and entering into Santa Barbara County, up ahead before Highway 166 you enter into San Luis Obispo County and to the right is Kern County; all intersecting in the Cuyama Valley.



The Regional Economic Effort

[Uplift Central Coast](#) ("Uplift") is a growing coalition powered by Central Coast residents working together toward a shared vision of a diverse, inclusive economy built by and for the region's residents. Uplift is the result of a collaboration between three economic development organizations working in the Central Coast: [Economic Development Collaborative](#), [Monterey Bay Economic Partnership](#), and [REACH Central Coast](#). These organizations came together to apply for a \$5 million planning grant from California Jobs First (previously known as CERF). California Jobs First is a \$579 million state program created to catalyze planning and action to realize an equitable and sustainable economy across the state's diverse regions and develop industries that create high-quality, broadly accessible jobs for all Californians. Our six-county region was identified as one of 13 regions eligible for a \$5 million planning grant, with potential to compete for a larger implementation investment. The planning grants are intended to create an inclusive economic development process with a focus on equity, sustainability, job quality, economic competitiveness, and resilience.

Quail Springs and Blue Sky Center applied together as one of 17 Community-Based Organizations across the Central Coast who were awarded funding. Our community — which includes land in Santa Barbara, San Luis Obispo, Kern, and Ventura Counties — will be represented in the broader regional Economic Development Report from Uplift in the fall of 2024. Going forward, Uplift will work to advance and implement projects and programs resulting from the inclusive regional planning efforts. The state has set aside \$50 million in potential funding for various projects, though the planning phase is also intended as a catalyst to compete for a range of other federal, philanthropic, and state funding. More can be found at upliftcentralcoast.org.

Prior Research

This report serves as an addendum and follow-up to the Cuyama Valley Community Action Plan (published in early 2020). One of the seven community priorities established in the Action Plan was the need for economic development and job creation, with a stated goal of increasing the quantity, quality, and diversity of jobs in the Cuyama Valley.

For more detailed information on the Cuyama Valley's geography, attributes, history, and (broader) demographics and community priorities, it is worth first reviewing the Community Action Plan. Additionally, the 2023 Cuyama Valley Farmworker Housing Report provides detailed data and information regarding Cuyama's agricultural workers.

Contact Blue Sky to view these reports or by going to:

blueskycenter.org/action-plan

blueskycenter.org/housing

Summary of Findings

- A total of **126 Cuyamans attended** four listening sessions, held in English and Spanish.
- Cuyamans submitted **133 complete surveys**, representing 12% of the total population.
- Of employed respondents, **75% work in the valley** with 25% traveling beyond Cuyama for work.
- **The primary industry employing Cuyamans is agriculture** (38% of employed respondents), followed by 14% in educational services, and 7% in arts and entertainment.
- Of employed respondents, **46% indicated agriculture was their household's main source of income**, qualifying these households as "farmworker households."
- Of employed respondents, **21% said their income from their job(s) was not enough even to meet their basic needs**. Only 17% said their income was enough to raise a family, 15% to go on an annual vacation, 15% to donate to church or causes they believe in, and only 9% to save for retirement.
- Of employed respondents, 85% feel either very secure or somewhat secure in their current job and 80% feel they have a good job. **The main challenge faced when looking for a good job was the number and variety of jobs.**
- **A strong majority of Cuyamans (60%) believe there are not enough good, well-paying jobs in Cuyama**, with 38% believing the number of good jobs has decreased over the past few years. When asked if the number of good jobs would increase, decrease, or stay about the same in the coming years, the highest response was the belief that they would stay about the same.
- **The availability, quantity, and diversity of jobs was the most prominent local concern**, followed by water rights, inflation, lack of resources / remoteness, and economic long-term sustainability.
- **When imagining the future of the Cuyama Valley, Cuyamans are positive**, envisioning improved job opportunities, more opportunities for youth, educational and creative opportunities, some amount of population growth, and the protection of natural assets (including water) and land rights.
- **Quality of life in Cuyama is high**, with 69% of respondents rating the overall quality of life as "good" or "excellent," and just 7% rating it "poor." Quality of life perception has increased over time, up 16 percentage points of people rating their quality of life as "good" or "excellent" compared to five years ago when this same question was asked during the Community Action Plan research.

- **Four-in-five (81%) of respondents believed they will be the same or better off a year into the future.**
- Although nearly all (94%) reported household incomes below the HUD-established “low income” threshold, **most Cuyamans (60%) perceive themselves as middle-class** with just 30% feeling as though they were living in the lowest income bracket.
- **Cuyamans most celebrate the natural, cultural, and social assets of the community**, while the built infrastructure and financial assets are noted as lacking. Indeed, what stops people most from starting a business is access to funding and investors.
- **Cuyamans worry about the younger generations being able to find adequate housing, meaningful work, and sufficient amenities** to be able to make a life in the Cuyama Valley.
- **Access to clean and plentiful water is the most important issue Cuyamans face**, followed next by the need for economic development and jobs.
- **Most Cuyamans want to see more food options**, either via a grocery store, farmer’s market, and/or restaurants.
- When asked what investments should be made, the top options were: **1) supporting the local school system** with more options for areas of study and administrative support, **2) home improvement, rehab, and new construction**, and **3) improving high-speed / broadband Internet access and affordability.**
- Cuyamans prioritized starting or expanding businesses in the Cuyama Valley that provided **health services, practiced sustainable agriculture, provided child care, served local residents, or increased tourism.**
- **Cuyamans are split when considering the likelihood of major agricultural businesses reducing their operations or leaving the valley:** nearly half (47%) indicated they / their family would be worse off, 17% indicated they would be better off, and 23% indicated there would be no direct personal effect.
- In line with these worries, **a significant percentage — 33% — felt it was likely they would need to move out of the valley in the next five years**, indicating the primary reason to move would be for better employment.

A series of questions were asked to the entire group for discussion at the start of all sessions, including:

WHAT DO YOU THINK OF WHEN YOU HEAR THE TERM
"ECONOMIC DEVELOPMENT"?

WHAT IS THE MOST MEANINGFUL PART OF LIVING AND
WORKING IN THIS AREA?

WHAT IS THE MOST CHALLENGING THING ABOUT LIVING
AND WORKING IN THIS AREA?

WHAT ARE THE BIGGEST EXISTING ASSETS IN YOUR
COMMUNITY THAT CAN CREATE ECONOMIC OPPORTUNITY?

WHAT REQUIRES MORE INVESTMENT?



Listening Sessions

OVERVIEW

On August 6th, 2023, and February 18th, 2024, Listening Sessions were held at the Cuyama Buckhorn, a restaurant and hotel that serves as a hub for the Cuyama community. Outreach was done online, by phone, and in-person to invite community members to the two-hour sessions. For both dates, sessions were hosted separately in English and Spanish, with attendance of 22 participants in August and 57 in February for the Spanish-language sessions, and 24 in August and 23 in February for the English-language sessions — for a total attendance of 126. Sessions had a mix of demographics, including young people age 13 and over, elders, farmworkers, long-time Cuyama residents, short-term Cuyama residents, business owners, and entire families. For their time and subject matter expertise, inclusivity funds of \$100 per participant were offered to those who were eligible.

Each session followed the same format: a 20-minute slide show presentation (see Appendix D) followed by a large group discussion, then smaller breakout sessions between groups that were predetermined upon registration. There was then a group discussion to recap all the topics covered in the session. The questions asked and the templates for the sessions were provided by Uplift and the sessions facilitated by Quail Springs staff.

FINDINGS

Participants shared passionate yet skeptical views on community development, highlighting challenges in hyper-rural Cuyama such as lack of essential services, high living costs, limited local governance, geographic isolation, and more. The lack of local opportunities for skill-building and diverse work was noted, with a strong desire for locally accessible training in schools to capture Cuyama Valley's entrepreneurial and innovative spirit. There was an emphasis on strong community involvement and support, with concerns about water quality and access for both drinking and agriculture. Participants lifted up major water rights conflicts between local landowners and outside corporations as well.

Opposite: Fieldworkers prune crops on large-scale farms in the heat of the cloudless desert skies of the Cuyama Valley (2018).

THEMES AND RECOMMENDED ACTIONS

Local Governance: Participants highlighted challenges posed by the lack of unified local governance, affecting community representation, and the ability to address pressing needs effectively.

Recommended Action: *Develop a more centralized and unified community governance structure, with streamlined ways for residents to access local resources from their respective jurisdiction.*

Infrastructure Challenges: Both physical (roads, utilities) and digital (Internet access) infrastructures were identified as critical barriers to economic growth and community connectivity.

Recommended Action: *Seek public investments for both physical and digital infrastructure. Ensure the Broadband For All program fulfills its promise to bring fiber Internet to Cuyama. Seek resources to ensure connectivity, safety, and affordability for residents and businesses.*

Disaster Preparedness: Cuyama only has four main roads that lead in or out of the valley, and each have been closed for extended periods due to fires, flooding, landslides, and other natural disasters, increasing the risk of isolation and inability to steadily rely on outside resources in case of emergency.

Recommended Action: *Develop detailed disaster preparedness plans that are customized for Cuyama and its unique needs and challenges. Establish well-resourced community hubs to support in various environmental disaster scenarios.*

Economic and Business Development: Continuing local economic development emerged as a theme with calls for more small businesses and better support for cottage industries. Access to funding and mentorship for local entrepreneurs emerged as a desire.

Recommended Action: *Provide bilingual business technical assistance to new and existing small businesses through one-on-one meetings and group workshops. Better connect financial institutions to residents and businesses.*

Education and Youth: Significant gaps in educational opportunities were noted, particularly in vocational training/trade schools. There is a need for expanded access to English and Spanish classes, GED programs, and trade skills training.

Recommended Action: *Develop enhanced educational programs and recruit resources that better prepare youth and adults for job opportunities.*

Inclusivity and Equity: Concerns about racism and discrimination — especially towards Latinx community members — were raised. Participants emphasized the need for inclusive community programs and policies.

Recommended Action: *Develop and support initiatives to address discrimination and promote inclusivity within Cuyama.*

Access to Transportation: Lack of reliable public transportation was identified as a major barrier to accessing essential services and employment opportunities outside Cuyama.

Recommended Action: *Work with regional transportation entities to enhance services and improve infrastructure. Seek to bring more services and job opportunities to Cuyama, reducing the need to travel.*

Community Resources: Calls were made for improved community infrastructure, including parks, recreational facilities, and affordable housing options.

Recommended Action: *Partner with county government departments to bring new and more resources for recreation and housing. Support the responsible and appropriate development of new affordable housing as well as hosting home repair and rehab programs to improve the existing housing stock.*

Food Access: Participants expressed the need for affordable and healthy food options, more local markets, and community gardens to enhance food security.

Recommended Action: *Develop community-based food programs, backyard gardens, and food hub initiatives to increase the availability of affordable and healthy food options. Support local food entrepreneurs through training and technical assistance.*

Job Training and Employment: There is a demand for job training programs, especially in construction and other trades, to build local infrastructure and provide employment opportunities.

Recommended Action: *Recruit resources to provide vocational job training programs and support local employment opportunities for any new infrastructure projects.*

Access to Healthcare: The absence of full-service medical facilities was a significant concern. Participants suggested opening a clinic and dental center, and improving transportation to existing medical services.

Recommended Action: *Improve healthcare access by expanding services at the local clinic and secure resources for transportation to medical facilities in nearby cities.*

Water Quality and Access: Water quality and access — for both drinking and agriculture — was a repeated concern, with major water rights conflicts between local landowners and outside corporations that is perceived as wasting community resources.

Recommended Action: *Provide resources for water-wise improvements for agriculture and domestic uses. Support engagement in the Groundwater Sustainability Agency. Provide resources for locals to engage in and advocate for their rights.*

The findings underscore the pressing need for tailored support and strategic investments in infrastructure, education, job creation and training, and community governance to enhance the quality of life and economic prospects for Cuyama residents. Addressing these challenges will require collaborative efforts between local stakeholders, government agencies, and community organizations to ensure equitable development and sustainability.



Community-Wide Survey

OVERVIEW

After testing with a focus group of local residents, the survey was publicly launched physically and digitally in May 2024. It contained 52 questions, a mix of multiple choice, select all that apply, and open-ended questions. Based on testing, the survey took on average 35 minutes to complete. A copy of the survey was sent to every mailbox in the valley, with options to drop completed physical copies off at the post office in New Cuyama or at Blue Sky's office. There were two in-person outreach events for residents to fill out surveys and receive inclusivity funding. Inclusivity funds in the form of \$50 VISA gift cards were available through Uplift for the first 100 respondents who requested them.

SURVEY RESULTS

The following sections are a more detailed summary of the data collected through the survey. The survey itself was divided into three sections; demographics, questions about Cuyama and the quality of life here, and questions regarding individual opinions on Cuyama's economic future. The blank survey can be found in the appendix of the report, along with a question-by-question breakdown of results for further analysis.

Opposite: The townsite of New Cuyama and the L88 airstrip, facing east toward acreage of industrial-scale agricultural operations along Highway 166 (2023).

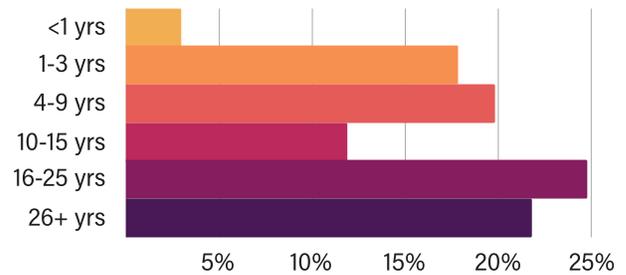
COMMUNITY RESPONSE

The survey received responses from 133 people, with 98% identifying as residents of the Cuyama Valley.

RESIDENT LONGEVITY

Longevity in the community is notable, as approximately 59% of respondents have lived in the Cuyama Valley for over 10 years. A substantial portion (22%) of these residents has been in the area for more than 25 years, highlighting the deep roots that are present in the valley. The remaining respondents include recent arrivals (3 years or less), accounting for about 21%, which indicates some level of new migration into the valley.

How long have you live in the Cuyama Valley?

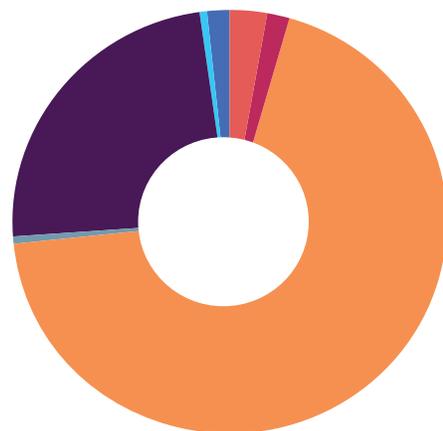


RACE / ETHNICITY

The vast majority of respondents self-reported their race or ethnicity as Hispanic / Latino / Chicano (74%). A majority (55%) prefer to speak Spanish at home, while 61% speak English at work or otherwise in public. 3% indicated that they speak English/Spanish equally both at work and at home.

Which best describes your race and/or ethnicity?

- Native American / Native Alaskan / American Indian / Indigenous
- Black / African American / African
- Hispanic / Latino / Chicano
- Middle Eastern / North African
- White / Caucasian / European American
- Decline to state
- Other

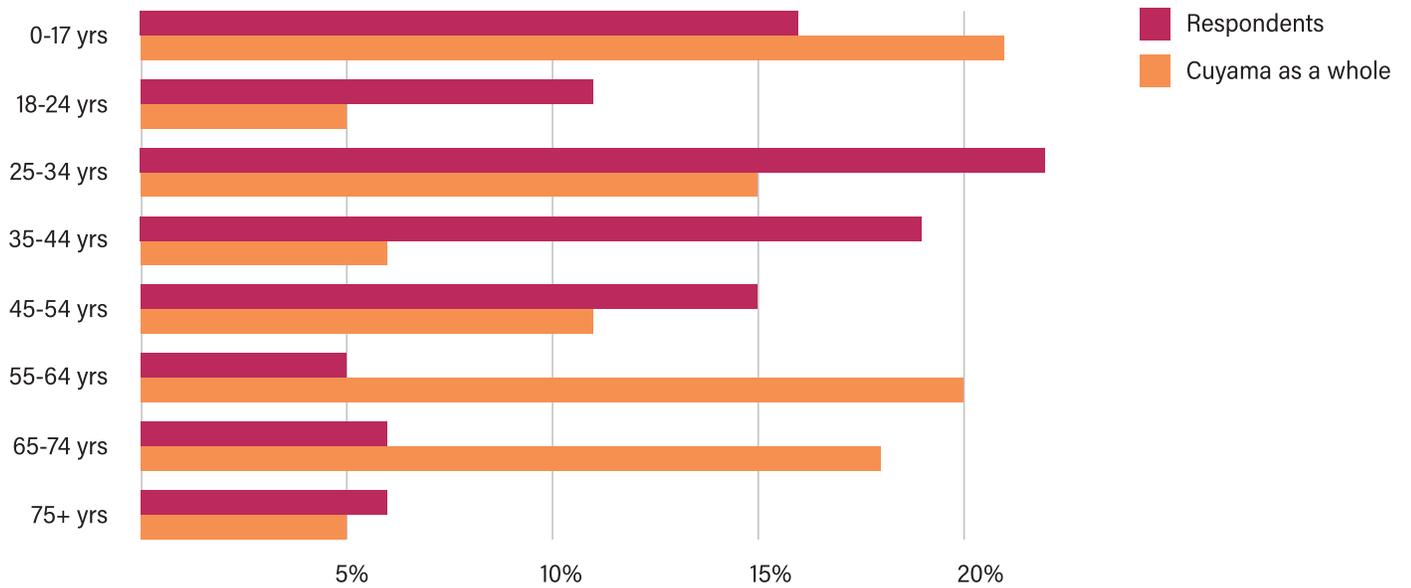


Opposite: Participants in the Victory Gardens program look to local Latina leaders who provide hands-on food-based workshops for how to use and preserve the food they grow in their backyard gardens (March 2024).

POPULATION AGE

Respondents represented all ages of Cuyamans, with proportions somewhat over-represented for ages 18 through 54 and under-represented for ages 55 and up. This representation correlates to the predominant ages of the workforce population, the focus of this survey and report.

Which answer best describes your age group?



EMPLOYMENT STATUS

A significant portion of respondents (58%) are currently employed, while about 42% are not in the workforce. The employment rate reflects the working-age population's involvement in the local economy.

- Employed full-time year-round
- Employed full-time seasonally (9 months or less in a year)
- Employed part-time
- Self-employed full-time
- Self-employed part-time
- Homemaker and/or caretaker of my family full-time or part-time
- Unemployed, for any reason, including due to a disability
- Retired
- Full-time student
- Other

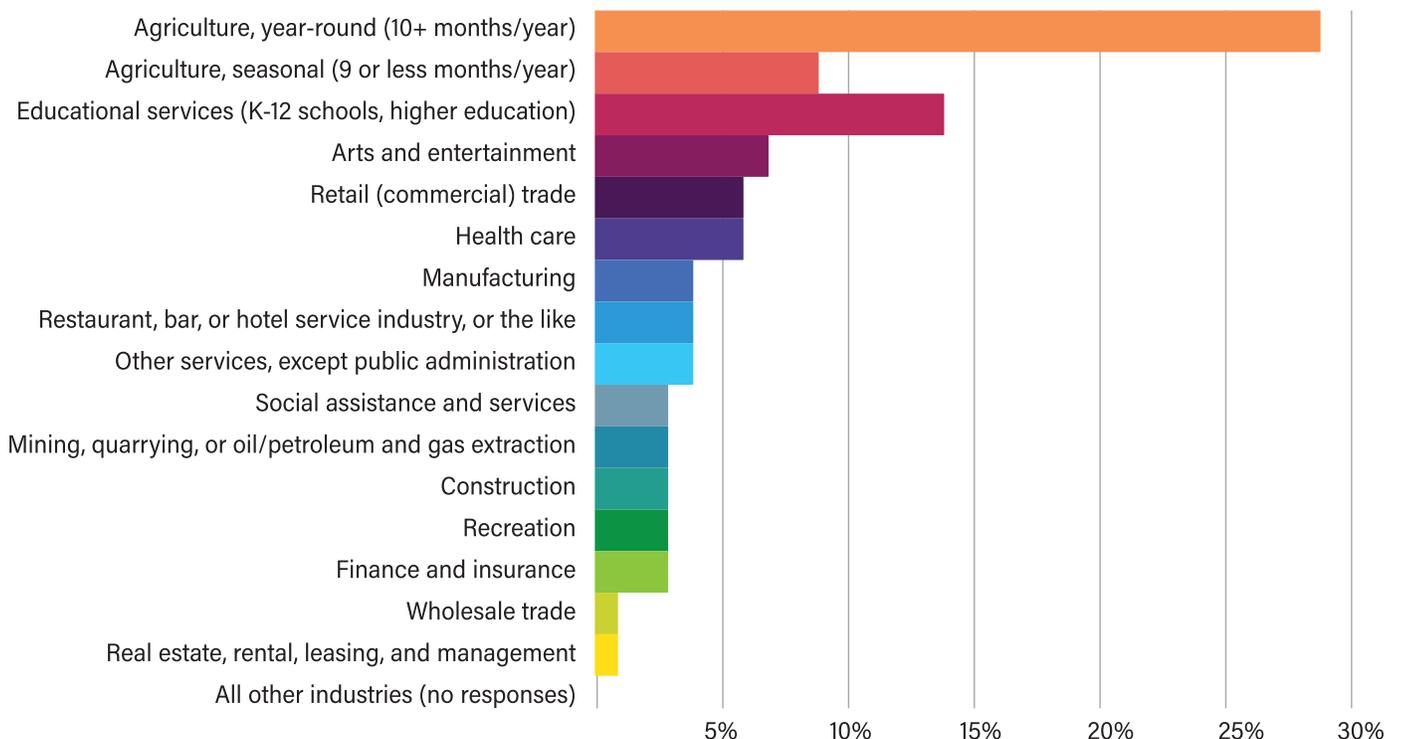
What is your current employment status?



EMPLOYMENT TYPE

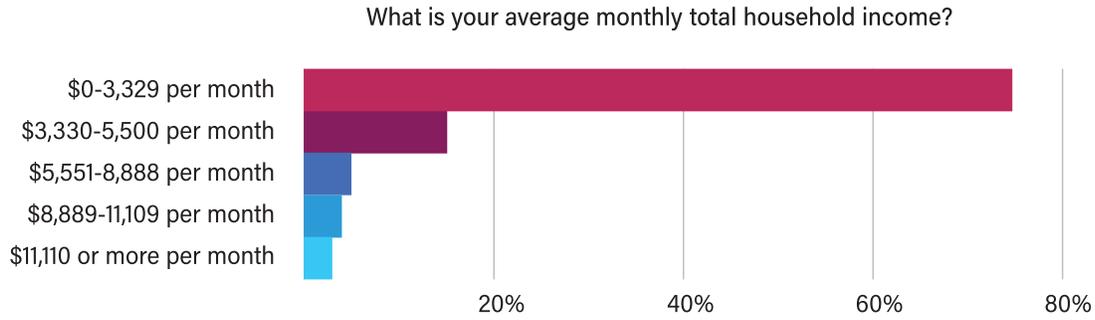
Agriculture dominates the employment landscape, with 38% of working respondents employed in the sector. This underscores the region's heavy reliance on agricultural activities. Further emphasizing the importance of agriculture, 46% of respondents report agriculture as the primary source of household income. This concentration in a single industry has extensive implications for economic stability and diversification.

In what industry do you work?



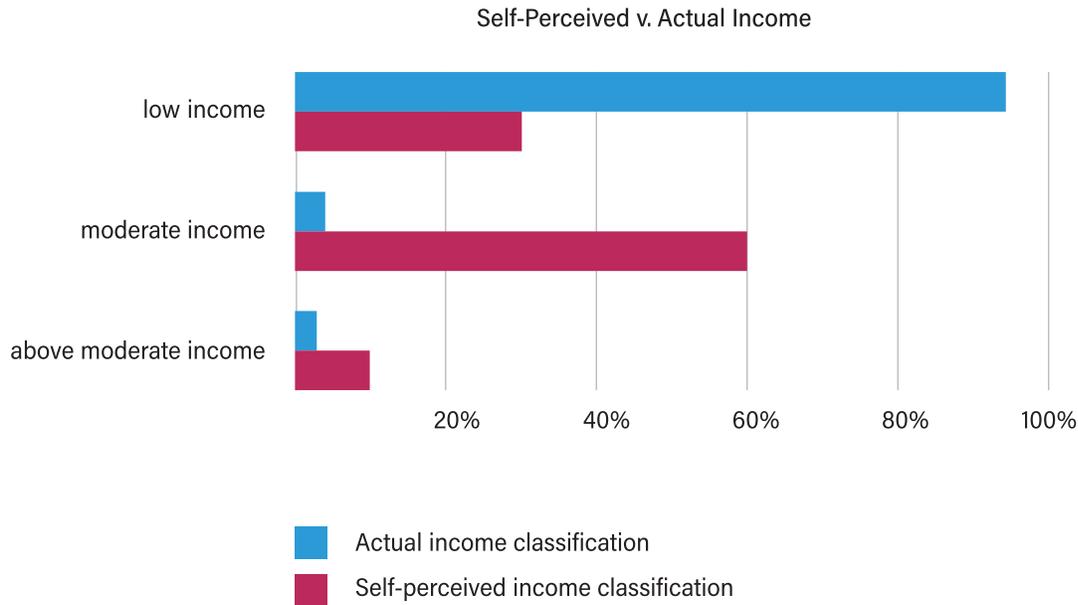
INCOME LEVELS

Compared to the Central Coast region, household incomes are very low, with more than half of the respondents (74%) earning less than \$39,948 gross income per year. This income distribution reflects the economic realities of a community where low-wage agricultural work is predominant. It also points to potential vulnerabilities in terms of housing affordability and access to essential services.



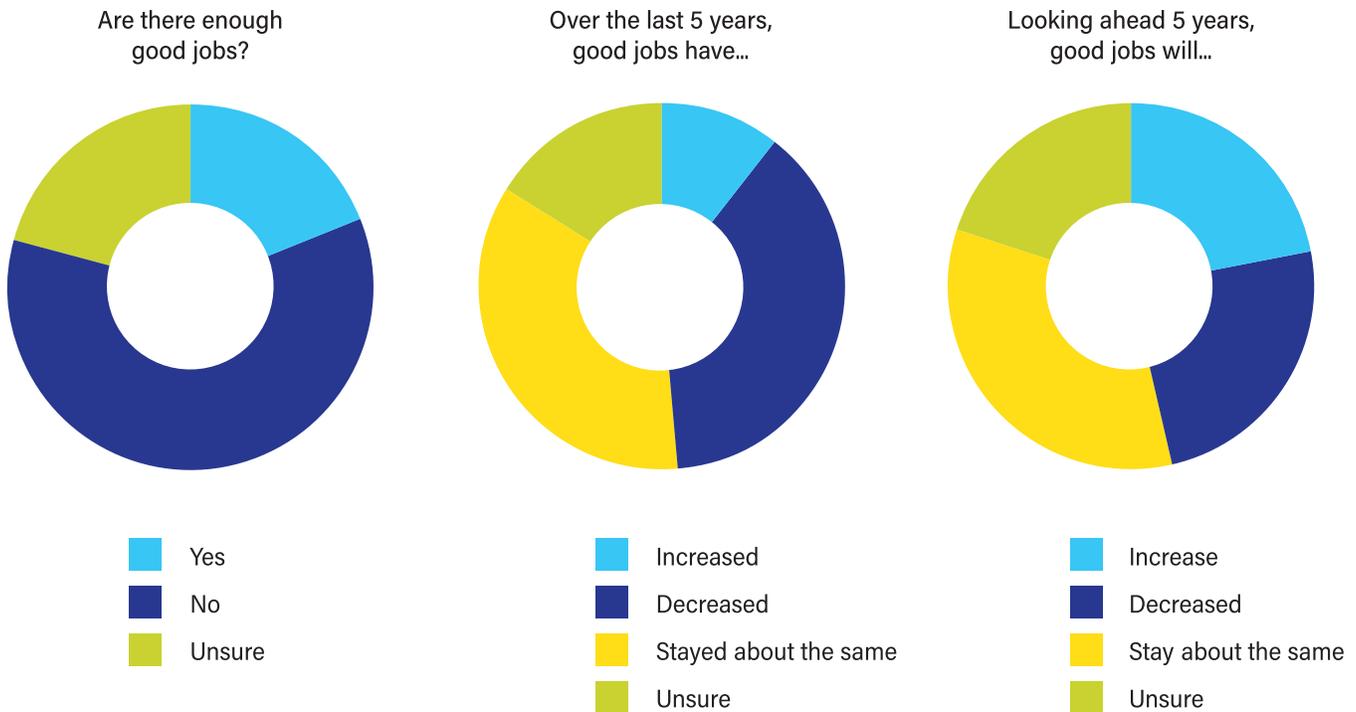
PERCEIVED CLASS

Most respondents (60%) perceive themselves having incomes within the middle-class, even as their reported income classifies 94% as "low income," as determined by HUD's metrics for Santa Barbara County.



JOB AVAILABILITY

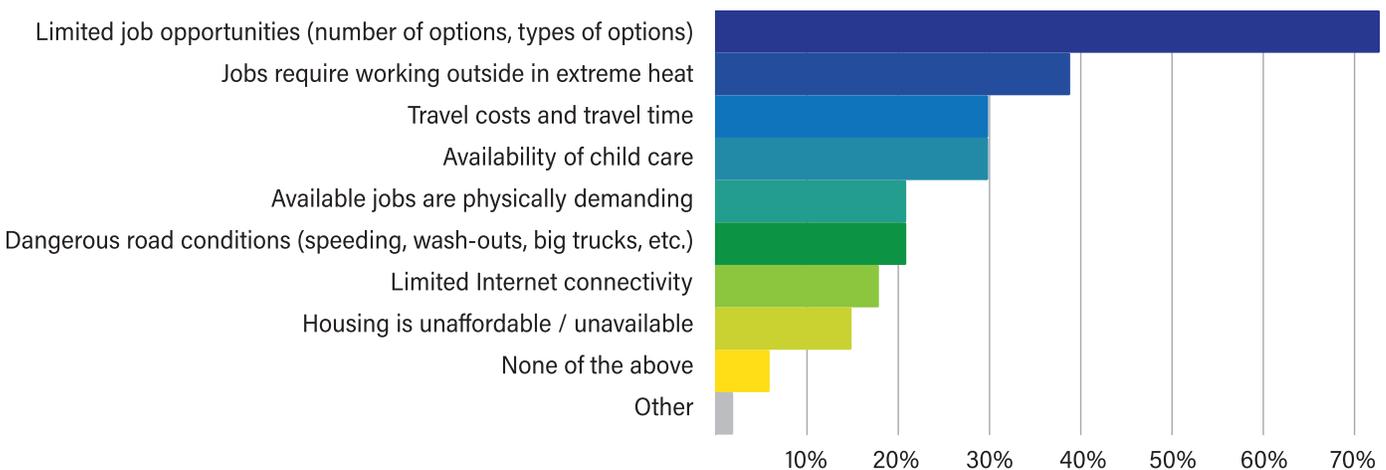
There is a strong perception among residents that there is a shortage of good, well-paying jobs. Only 19% of respondents believe there are enough quality jobs available in the Cuyama Valley.



CHALLENGES TO GOOD JOBS

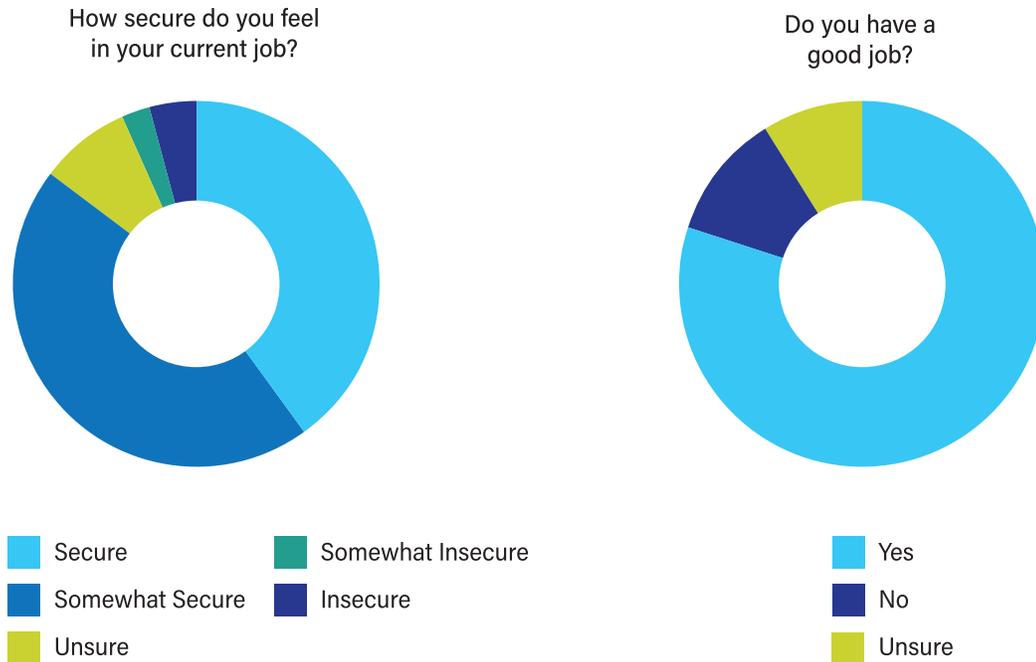
The majority (73%) of respondents identified job availability and variety as a significant challenge, indicating a concern that **the local economy does not offer sufficient opportunities for gainful employment**. Other top challenges identified include jobs that require working in extreme heat, travel costs and time, and lack of child care.

What are the challenges Cuyamans face in getting "good jobs" in the Cuyama Valley?



JOB SECURITY

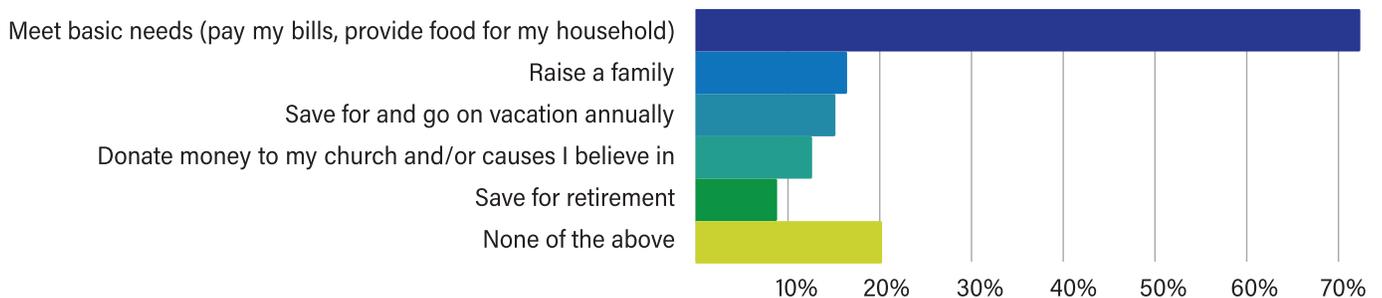
Job security, however, seems relatively stable, with 85% of employed respondents feeling secure in their current positions, and 80% feel they have a good job.



JOB SUFFICIENCY

Despite this, the quality of these jobs is questionable, as many do not provide sufficient income to meet basic needs. Approximately 21% of respondents reported that their earnings are insufficient to cover basic living expenses, and only a small fraction (9%) felt they earned enough to save for retirement. This points to a broader issue of underemployment and the need for higher-wage jobs.

If working, is your income sufficient to...

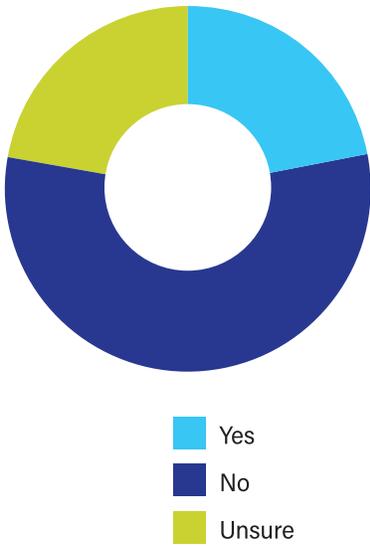


HOUSING AFFORDABILITY

Housing affordability and availability are significant issues in the Cuyama Valley. Only 30% of respondents believe affordable, adequate housing is available in the area, highlighting a gap between supply and demand.

Many residents struggle with high housing costs relative to their income levels, which further stresses their financial situation. The lack of affordable housing options is a barrier to attracting and retaining residents, particularly younger families and new migrants.

Do you think that the Cuyama Valley's youth and future generations will be able to find adequate housing, meaningful work, and sufficient amenities here in the Cuyama Valley?



Why or why not?

“I want to believe so. If we can find a way to create more community spaces, skill building, and local farming I think it could be.”

“Comments from youth have been heard. Currently, they are looking for more vocational training here. Continuing to live and work after graduating from high school is challenging. Currently few good jobs exist. If Cuyama wants to retain its youth and future, it will need to create a few businesses that will employ people. Good internet access (broadband) is essential.”

“I hope so, we have some of the brightest, most respectful kids in this town I have ever met. However long-time residents don't seem to think it will happen.”

“No creo por primero el agua es muy cara y no hay mucho donde trabajar y los trabajos que hay mayor parte es en la agricultura.”

“Sí y no. Porque si viven aquí casi todos los trabajos en el campo. Y no porque a veces tienen que viajar a otros países. En los campos son temporales.”

“Sí, solo es cuestión de que ellos estudien y se preparando para su vida futura por que tenemos muchos recursos solo que no los sabemos aprovechar.”

OPPOSITE: Leaders from the Victory Gardens program pose for a photo, wearing shirts that exhibit produce they've grown in their backyard gardens—shirts designed by Cuyama's High Desert Print Co. (March 2024).



What is the most challenging aspect of living and working in the Cuyama Valley?

“Since there aren’t many jobs out here, a lot of people work outside of town. My family works out of town... The closest town is about half an hour away which isn’t too bad but a lot of people drive 1+ hours for work.”

“Remote location makes getting goods like fresh food and medicine very expensive and time consuming. Being cut off from communication when the only cell phone and internet signal is out. Our police department not having a reliable phone connection. We could die out here in an emergency!”

“Access to resources. Limited hardware/tools, limited food systems. Everywhere requires driving hours back and forth.”

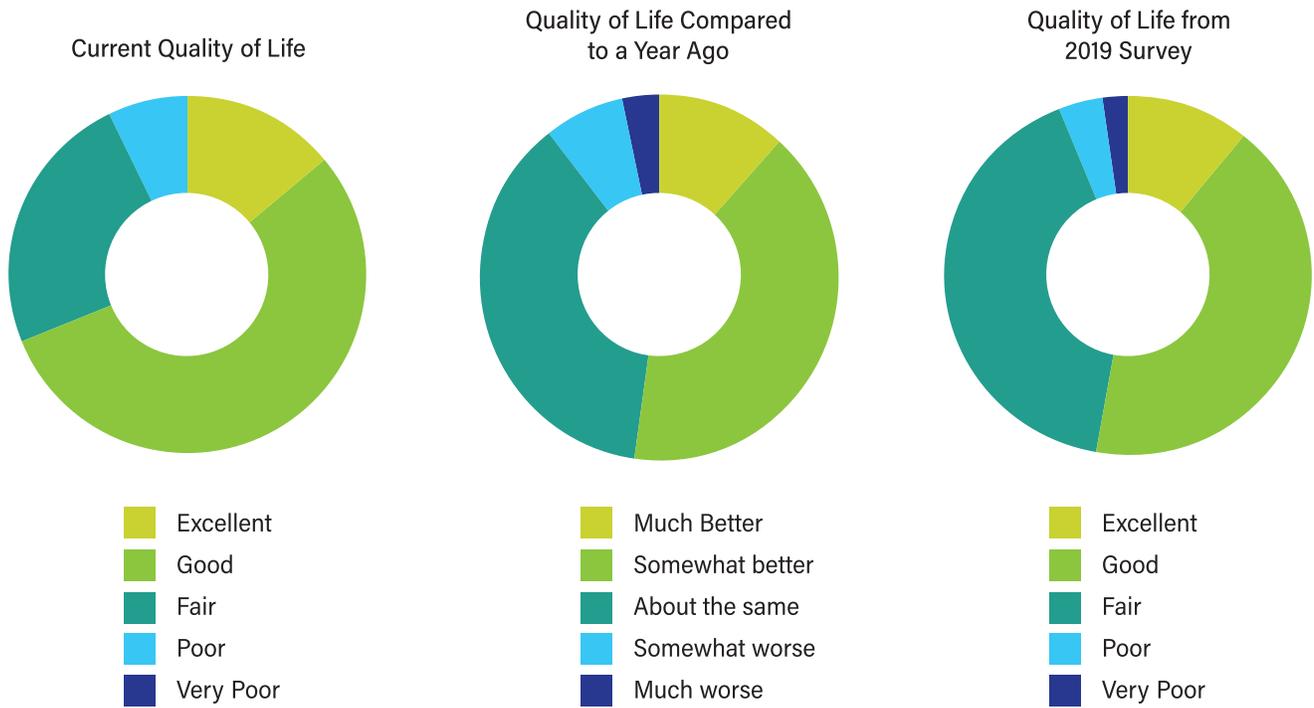
“Todo está muy lejos para viajar para abastecer las necesidades del hogar.”

“No hay control de rentas ni de agua, es muy caro y la mayoría de la gente que renta trabaja en el campo ganando el sueldo mínimo. Es ilógico.”

“Buscar trabajo ya que solo hay 2 o 3 compañías y todos te conocen y se hablan entre sí para ver como trabajas.”

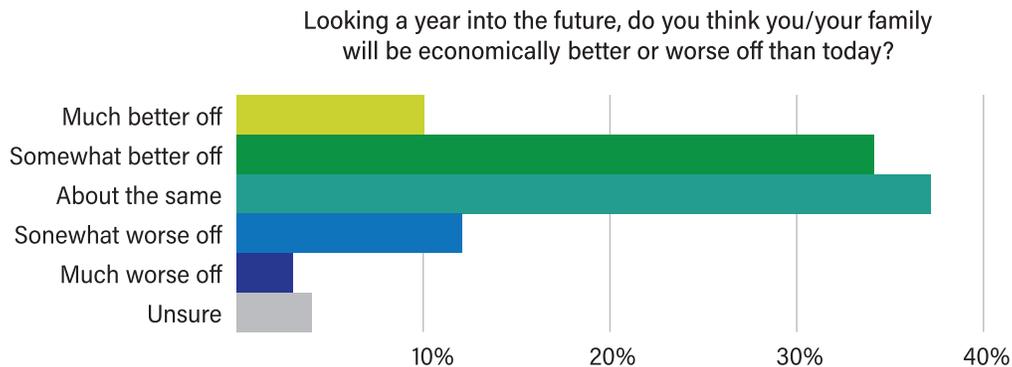
QUALITY OF LIFE

Despite these challenges, the general quality of life in the Cuyama Valley is rated positively by a majority of respondents. About 69% described their quality of life as good or excellent, a 16-point improvement compared to five years ago when this same question was asked. Compared to a year ago, 52% of respondents say their quality of life has improved, with only 10% saying it has gotten worse.



ECONOMIC OPTIMISM

There is a sense of cautious optimism about the future, with 44% of respondents believing they will be better off economically in a year and only 15% predicting they will be worse off. This is balanced by concerns about the local economy's ability to provide sufficient opportunities.



ECONOMIC PROSPECTS

Only 22% of respondents expect an increase in good job opportunities over the next five years, indicating **uncertainty about the valley's economic prospects**. The heavy dependence on agriculture is seen as both a strength and a vulnerability, with many residents recognizing the need for economic diversification.

If you've wanted to start a business, what stops you?

“Is it economically viable here? Certain businesses could thrive: small farmers with products for community, service providers like home maintenance and repair, remodel. for instance.”

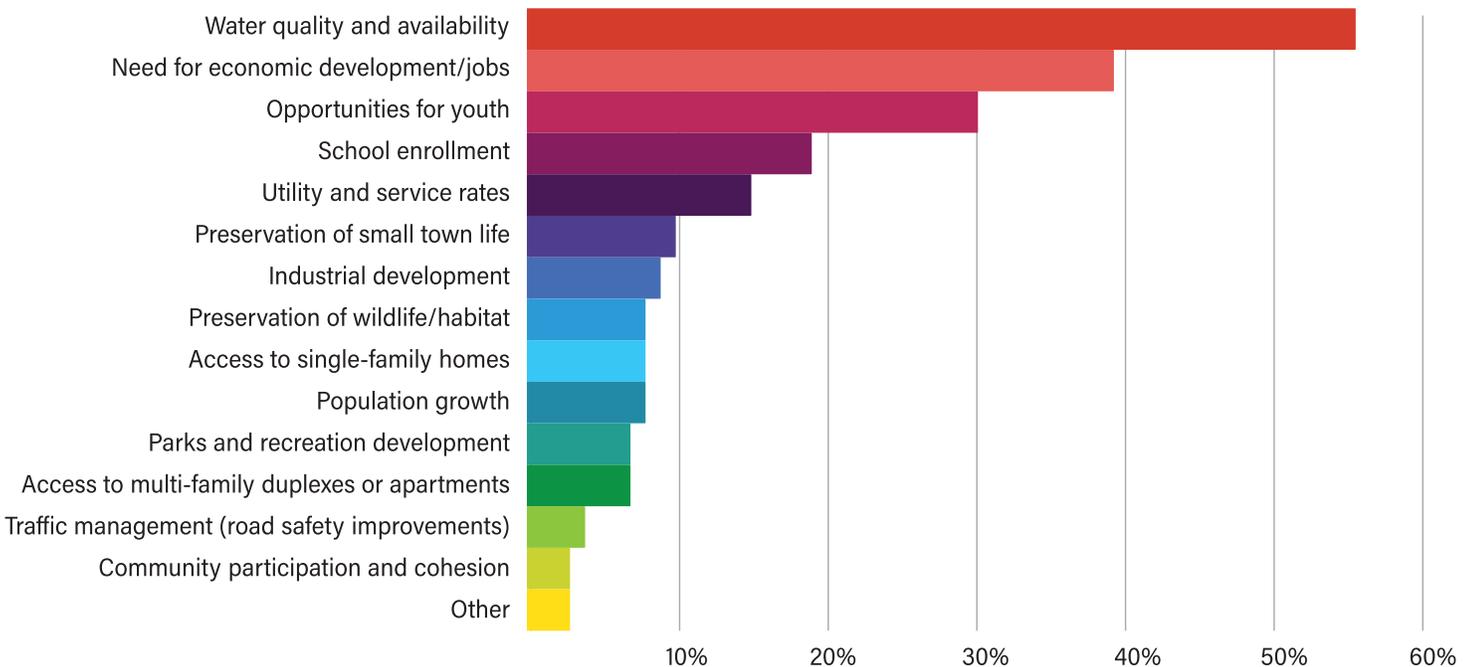
“El presupuesto y el miedo a fracasar porque es muy pequeño y no hay mucha gente.”

“Me detiene la falta de locales. Y quizás mi propia inseguridad.”

ECONOMIC CONCERNS

The community's economic concerns are linked to broader issues such as the viability for the agriculture sector to continue in the face of water shortages and climate-related disasters, like wildfires. **There is a need for improved infrastructure to support new businesses and industries.**

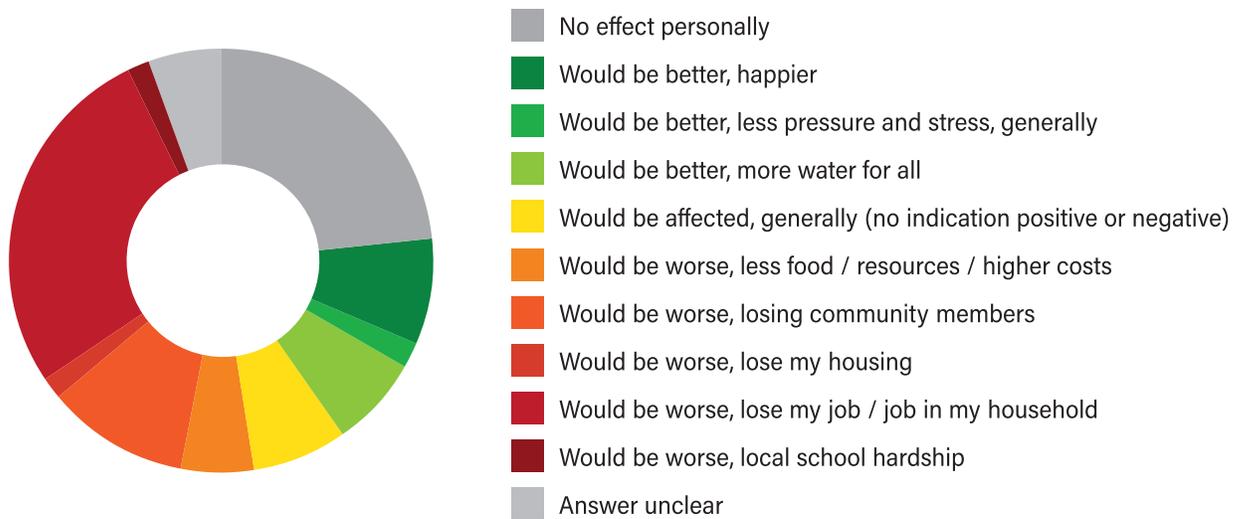
Which are the most important issues facing the Cuyama Valley during the next five years?



WATER RIGHTS

Concerns regarding the current legal process of water adjudication appear throughout the responses, especially to open-ended questions. Water quality and availability exceeds job availability concerns, while in another question water rights concerns come in second only to job opportunities. With the Groundwater Sustainability Plan requiring annual reductions in water use by major agricultural users, **Cuyamans are split when considering the likelihood of major agricultural businesses reducing their operations or leaving the valley:** nearly half (47%) indicated they / their family would be worse off, 17% indicated they would be better off, and 23% indicated there would be no direct personal effect. **In line with these worries, a significant percentage — 33% — felt it was likely they would need to move out of the valley in the next five years,** indicating the primary reason to move would be for better employment.

If a major agricultural business (i.e. Bolthouse or Grimmway) significantly reduced the land they farmed or shut down operations altogether, how would your life (your family's lives) be affected, if at all?



(Open-ended question, with answers grouped by theme)

COMMUNITY PRIORITIES

The lack of dependable, affordable, high-speed Internet is a pervasive concern, and is a barrier to being able to work from home as well as an emergency communications concern. Many Cuyamans (14%) don't have Internet access at home, even from cell phone data plans.

Most Cuyamans want to see more food options: 55% of respondents mentioned either a grocery store, farmer's market, and/or restaurants in an open-ended question as to what new business or service they would like to see.

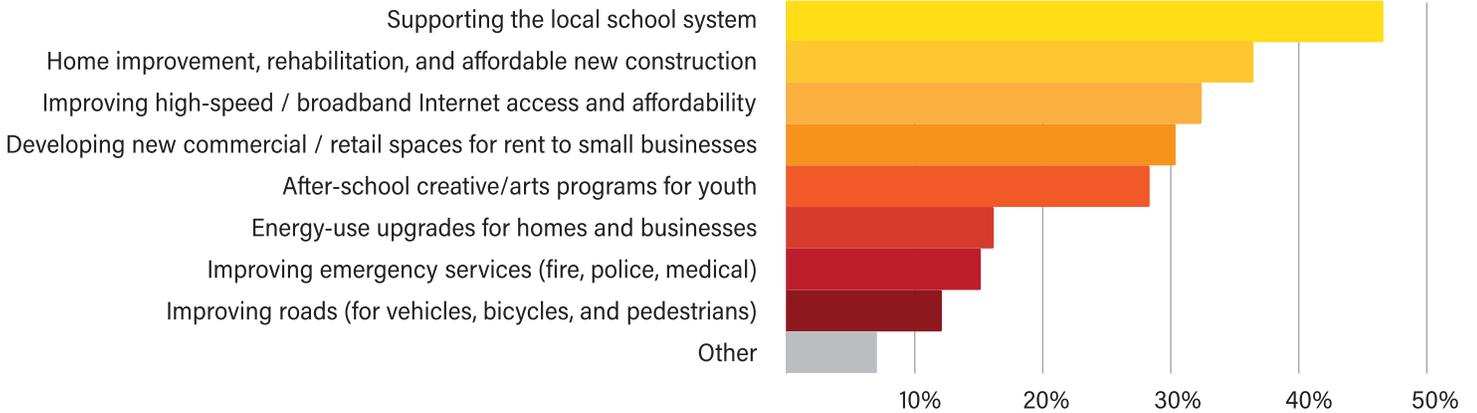
Water quality and availability are seen as critical for the valley's future, especially given the region's reliance on agriculture. Ensuring sustainable water resources is essential for maintaining both the local economy and the quality of life.

OPPOSITE: Cuyama middle-schoolers rehearse a song for the "Cuyama Drama" theater camp led by visiting artists from PlaceBase Productions (April 2024).

FUTURE DEVELOPMENT

Cuyamans support priorities of future community development including 1) **supporting the local school system** with more options for areas of study and administrative support, 2) **home improvement, rehab, and new construction**, and 3) **improving high-speed / broadband Internet access and affordability**.

If there was money available for services, projects, or infrastructure, what would you choose to direct those funds toward?



What is your vision for Cuyama in 20 years?

“I hope to see a better education system and more job opportunities.”

“El pueblo pequeño con los recursos necesario para vivir y hermoso lleno de naturaleza cultivos y riquezas silvestres que no se pueda todo estos que no lo encontramos en las grandes ciudades — esa paz y tranquilidad — el ver un atardecer y la salida.”

“A place where culture thrives and the land is treated with care. The people who tend the land are able to grow crops of their desire.”

“Esperemos que no se vaya acabando el trabajo para el sostenimiento de las familias.”

“More populated, fair water rights, good businesses/ stores available.”

“¡Que haya más negocios!”

“The town grows a bit but remains small. The current authenticity is preserved. Some local arts and crafts are provided a space for commerce. The economy grows to provide a source of income for residents. Clean energy provides power. A farmer's market that supports local farmers and residents attracts tourists.”

“Es un pueblito pintoresco con muchas oportunidades y muy buena calidad de vida.”

“A valley that has figured out how to manage its water supply, built new industry, has affordable housing, thriving schools with multiple programs for all youth.”

“Que sea un pueblo próspero con mucho trabajo.”

“A valley robust with small businesses and small farms able to sustain a small population.”

“En mi visión cuyama es más grande con más cosas, con muchos pequeños negocios, muy pintorescos, lleno de árboles. Veo un cuyama super bonito, muy tranquilo y me veo disfrutando su tranquilidad.”



What We Learned

The Cuyama Valley's future prosperity hinges on diversifying the economy. The US Census Bureau identifies 20 distinct industry sectors. In Cuyama however, the one industry of agriculture employs 38% of workers and the education industry 14% — over half the jobs in just two industries. An economically vibrant community is able to handle disruptions when an industry fluctuates or struggles, but Cuyama does not currently have this economic diversity. In survey selections and narrative responses, the Cuyama Valley Economic Futures survey data reveals a community deeply connected to its agricultural roots, yet increasingly aware of the need for broader economic opportunities, especially in the face of groundwater scarcity and the realities of this limited precious resource that life depends on. There is a growing concern about the sustainability of the large-scale agricultural industry and the limited variety of job opportunities available locally.

Most Cuyamans believe that there are not enough well-paying jobs, with many noting a decrease in good jobs over the past few years. This sentiment is coupled with the reality that a significant portion of employed respondents struggle to meet their individual basic needs, much less to raise a family, go on vacation, donate to causes they believe in, or save for retirement, highlighting the economic precarity faced by a majority of the population.

However, the survey also uncovers a resilient community with a high quality of life and optimism about the future. The vast majority of Cuyamans believe they will be the same or better off in a year, and there is a positive vision for the future, centered around improved job opportunities, education, and youth engagement. The people of Cuyama Valley care about their neighbors, and they envision a future where the community can flourish in new and

diverse ways. The valley's natural beauty, cultural heritage, and close-knit social fabric are assets that are unique to this community and landscape.

This optimism suggests that there is an appetite for change and a readiness to embrace new futures. Key areas of potential growth identified by the community include tourism, sustainable agriculture, health services, and local business expansion. The desire for better infrastructure, educational resources, and improved Internet access indicates a community seeking to enhance its appeal both to current residents and to potential newcomers. Investment in these areas would not only create new jobs but also address the pressing concerns about water availability, economic sustainability, and the retention of younger generations in the valley.

This community has long relied on the land's ability to sustain its people. The Cuyama Valley's future hinges on its ability to embrace change while protecting its most precious resources, especially water. However, with water resources becoming increasingly scarce and the traditional agricultural economy showing signs of strain, there is a palpable sense that the Cuyama Valley must adapt to new realities. By prioritizing sustainable development and investing in the community's potential, there is a real opportunity to create a more diversified economy that offers not just jobs, but fulfilling careers that can sustain families and allow them to stay in the valley they love and continue to build collective futures together.

OPPOSITE: Participants in the Jardines Victoria program prepare empanadas at a workshop led by a community member (March 2024).

Next Steps

This report's audience includes both Cuyama residents and locally-operating businesses as well as regional, state, and federal stakeholders. This report and the data collected will be used to inform these stakeholders as to the realities of Cuyama and the desires of local residents and businesses. The report will be leveraged to secure federal, state, and private funding that can invest in Cuyama's community-defined economic priorities.

LOCAL NEXT STEPS

In line with its mission to strengthen our rural communities within the Cuyama Valley by supporting entrepreneurs and building our regional creative and economic resources, Blue Sky Center supports locally-led efforts to identify and implement investable economic development projects in the Cuyama Valley. A U.S. Department of Agriculture Rural Business Enterprise Grant has been secured (for 2023-2025) to provide one-on-one technical assistance and group-based workshops for new and existing local businesses and entrepreneurs. This work focuses on asset-based economic development, building from the skills, interests, and passions of local residents to support home-grown businesses that are more likely to support and retain a local workforce. In 2024, Blue Sky Center secured an Economic Recovery Corps fellow (see below) and an American Connection Corps AmeriCorps position to support local efforts to improve Internet access and economic opportunity.

As a collaborative, Quail Springs, Blue Sky Center, the County of Santa Barbara, and the Community Environmental Council secured a Transformative Climate Communities (TCC) grant that invests in community resilience projects related to food access, water use, energy resilience, and community leadership. Quail Springs has also secured a California Environmental Protection Agency (CalEPA) grant that seeks to meaningfully involve and engage the residents of the Cuyama Valley on issues of groundwater and water justice that directly affect their lives. Beyond these secured grants, more are in process.

ECONOMIC RECOVERY CORPS' NEXT STEPS

The Economic Recovery Corps program connects a network of 65 fellows and organizations nationwide, pioneering innovative economic development strategies. By building capacity in under-resourced areas, fellows drive economic development tailored to community needs.

Our fellow in Los Angeles and Santa Barbara Counties is working to ensure alignment with broader local, regional, and national dialogues. She is focused on growth areas like tourism, sustainable agriculture, and local business expansion, all through a climate resilience lens.

The program aims to enhance economic opportunities and quality of life — particularly for Cuyamans — on state and national levels, ensuring diversified economic prospects and rural resilience.

UPLIFT CENTRAL COAST'S NEXT STEPS

PHASE 1: PLANNING

Uplift Central Coast is now finishing a 16-month planning phase. This involved building out the Central Coast ecosystem to include additional voices and perspectives, implementing an inclusive outreach and engagement plan, and developing a regional plan with collaborative partnerships. The regional plan is due to the state in August 2024, and the Planning Phase will officially end in September 2024.

PHASE 2: PROGRAMS & PROJECTS

Uplift was awarded \$9 million to implement the Catalyst Predevelopment Phase (formerly referred to as the "Catalyst Program" or "Catalyst Fund") for project predevelopment activities. These investments are intended to bridge the gap between planning and implementation and enable regions to develop ready-to-go projects that can compete for funding opportunities from federal, state, and private sources. The Catalyst Program would also help the California Jobs First program funding reach communities sooner while providing the flexibility to develop projects that meet regional needs. The goal of funding Catalyst Predevelopment Phase projects — as shared by the state of California — is to invest in industries that will advance priorities identified during the Planning Phase, fund projects that ensure workers and disinvested communities are the primary beneficiaries, and leverage federal, state, and private dollars. Tentatively, Uplift will open the request of proposals period in the fall of 2024.

Going forward, Uplift will work to advance and implement projects and programs resulting from the inclusive regional planning efforts. The state has set aside \$50 million for the 13 regions, though the planning phase is also intended as a catalyst to compete for a range of other federal, philanthropic, and state funding.



Appendices

This report, along with links to the appendices listed below, can be found at madeincuyama.com

APPENDIX A

Cuyama Valley Economic Futures Survey ([English](#) / [Spanish](#))

2024, Blue Sky Center, Quail Springs, Uplift Central Coast

APPENDIX B

[Cuyama Valley Economic Futures Survey Results](#)

2024, Blue Sky Center, Quail Springs, Uplift Central Coast

APPENDIX C

[Cuyama Valley Community Action Plan](#)

2020, Blue Sky Center, RCAC, and CCRH

APPENDIX D

[Listening Session Presentation](#)

2024, Uplift Central Coast, Quail Springs

APPENDIX E

[Inclusivity Fund Form](#)

2023, Uplift Central Coast

APPENDIX F

[Uplift's Informational Pamphlet](#)

2023, Uplift Central Coast

APPENDIX G

[Paso a Paso Report](#)

2024, Blue Sky Center, Central Coast Creative Corps

OPPOSITE: Land Steward Sandra Uribe discusses her life and job in Cuyama with Assemblymember Gregg Hart, Senator Monique Limón, and their staff on a June 2024 visit to the Cuyama Valley.

Acknowledgements

PROJECT LEADS

Uplift Central Coast received the initial investment from the California Jobs First initiative that provided the grant opportunity for local community-based organizations to assist with the development of the Central Coast regional plan. Quail Springs and Blue Sky Center's collaborative application was selected to gather the insights of Cuyamans about Cuyama. More at www.upliftcentralcoast.org.

Quail Springs is an educational non-profit established in 2004 on a 450-acre permaculture site in Cuyama Valley, California advances environmental justice and fosters positive ecological and social change through community engagement and sustainable land stewardship. Learn more at www.quailsprings.org.

Blue Sky Center is a rural, place-based nonprofit organization with the mission to strengthen our rural communities within the Cuyama Valley by supporting entrepreneurs and building our regional creative and economic resources. We envision resilient, thriving, and inclusive rural economies in the Cuyama Valley. More at www.blueskycenter.org.

Do you have questions, feedback, or want to join a local working group to get things done together? Contact hello@blueskycenter.org and we can get you connected!

REPORT ACKNOWLEDGEMENTS

Report design by Cereal Box Studio:

www.cerealbox.studio

Translation into Spanish by Maria Carpenter.

Report printed by Eastwood Print & Copy,
Birmingham, Ala.

Photo credits:

Pages 6, 19, 25, 29, 32, and 36 by Liz Fish of Blue Sky Center

Pages 1, 2, 4, 7, and 16 by Chris Burkard

Pages 12 by Noé Montes

Reproduction, quotation, or referencing of this report is permissible with proper credit and sourcing ("Cuyama Futures Report, 2024, Quail Springs, Blue Sky Center, et al."); the authors request contact be made when this plan will be referenced in other publications by emailing hello@blueskycenter.org.



PARTNER ORGANIZATIONS & FUNDERS

[California Jobs First](#) - CJF's Regional Investment Initiative is a new approach to economic development that seeks to center disadvantaged communities as part of California's transition to a clean energy, carbon neutral economy, creating good-paying jobs and prosperous communities for all.

[Uplift Central Coast](#) - Uplift is a six-county coalition working to attract investment and expand opportunities for Central Coast residents.

[REACH Central Coast](#) - REACH is working to transform the quality of life on the Central Coast through an unprecedented regional pursuit of inclusive economic prosperity.

[Economic Development Collaborative](#) - EDC is creating empowered business owners, connected community partners, and informed civic leaders in the greater Ventura and Santa Barbara County region.

[Monterey Bay Economic Partnership](#) - MBEP works to improve the economic health and quality of life in the tri-county region of Monterey, San Benito, and Santa Cruz.

[Economic Recovery Corps](#) - ERC is an initiative of the U.S. Economic Development Administration designed to accelerate recovery from the COVID-19 pandemic in distressed communities and regions by connecting organizations with the talent and capacity needed to advance new ways of doing economic development that promote economic resilience and transformative change.

PROJECT DEVELOPMENT CONTRIBUTING ORGANIZATIONS & STAKEHOLDERS

The following organizations were contacted in the process of developing the survey and discussing the development of this report. Some entities provided suggestions for survey questions that would help inform their work while others met with the Project Leads by video or in-person in Cuyama to connect about the project and economic future of the Cuyama Valley. All will receive a copy of this report and follow-up conversations about how they can participate to implement and invest in Cuyama's economic future.

- [Assemblymember Gregg Hart](#)
- [California Forward](#)
- [California Governor's Office of Business and Economic Development](#)
- [The California Office of Small Business Advocate](#)
- [County of Santa Barbara Community Services](#)
- [Cuyama Valley Community Association](#)
- [EconAlliance](#)
- [Economic Development Collaborative](#)
- [Housing Authority of the County of Santa Barbara](#)
- [Jones Lang LaSalle Americas Inc. \(JLL\)](#)
- [Santa Barbara County Association of Governments](#)
- [Senator Monique Limón](#)



Join in Cuyama's Futures at madeincuyama.com



TO: Board of Directors
Agenda Item No. 19

FROM: Jim Beck / Joe Hughes

DATE: November 6, 2024

SUBJECT: Consider for Approval Resolution No. 2024-111 Adopting an Amended Groundwater Sustainability Plan

Recommended Motion

Approve the amended GSP and submit to DWR.

Discussion

The full public review draft of the amended Groundwater Sustainability Plan (GSP) was posted on the Cuyama Basin Groundwater Sustainability Agency (CBGSA) website in advance of the September Board meeting. The GSP updates prior to submittal (relative to Public Draft) include the finalization of appendices (e.g. model documentation, DWR checklist, response to comment matrix).

A resolution to adopt the amended GSP is provided as Attachment 1 for consideration for approval.

RESOLUTION NO. 2024-111**A RESOLUTION OF
THE BOARD OF DIRECTORS OF
CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY
ADOPTING AN AMENDED GROUNDWATER SUSTAINABILITY PLAN FOR
THE CUYAMA VALLEY GROUNDWATER BASIN**

WHEREAS, the California Legislature passed a statewide framework for sustainable groundwater management, known as the Sustainable Groundwater Management Act (Wat. Code, § 10720 *et seq*) that went into effect on January 1, 2015; and,

WHEREAS, the Sustainable Groundwater Management Act (SGMA) requires all high-priority groundwater basins, as designated by the California Department of Water Resources (DWR) Bulletin 118, to be managed by a Groundwater Sustainability Agency (GSA) or multiple GSAs; and,

WHEREAS, the Cuyama Valley Groundwater Basin (Basin) has been designated by DWR as a high-priority basin in critical overdraft (DWR Bulletin 118 Groundwater Basin: 3-013); and,

WHEREAS, on June 6, 2017, Cuyama Basin Water District, Cuyama Community Services District, County of Kern, County of San Luis Obispo, Santa Barbara County Water Agency, and County of Ventura elected to become a GSA for the Basin; and,

WHEREAS, SGMA requires that a Groundwater Sustainability Plan (GSP) or multiple GSPs be developed and implemented by January 31, 2020 for each high-priority basin; and,

WHEREAS, on December 9, 2019, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) adopted a GSP for the Basin; and,

WHEREAS, on January 28, 2020, the CBGSA submitted its adopted GSP to DWR for review; and,

WHEREAS, on January 21, 2022, DWR provided the CBGSA with a Determination Letter informing the CBGSA that its adopted GSP was “incomplete” and recommending that the CBGSA amend its GSP to address four corrective actions; and,

WHEREAS, on July 6, 2022, the CBGSA held a hearing for the purpose of receiving public comment and considering the amendment of its GSP, adopted the amended GSP, and submitted the adopted amended GSP to DWR; and,

WHEREAS, on May 25, 2023, DWR provided the CBGSA with a Determination Letter informing the CBGSA that its adopted amended GSP was “approved;” and,

WHEREAS, in July 2023, the CBGSA Board of Directors directed staff to begin work to revise its GSP in response to additional data collected, including a significant model update and geologic

studies to be submitted by January 2025; and,

WHEREAS, on November 6, 2024, the CBGSA held a hearing for the purpose of receiving public comment and considering the adoption of the revised GSP; and,

WHEREAS, it is the intent of the CBGSA Board of Directors to adopt the amended GSP, attached hereto and incorporated herein as **Exhibit A**.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Cuyama Basin Groundwater Sustainability Agency as follows:

- (1) The foregoing is true and correct.
- (2) The amended GSP, attached hereto and incorporated herein as Exhibit A, is hereby approved and adopted.
- (3) The Executive Director, or his designee, is hereby authorized and directed to provide timely notification of this approval and adoption to the Department of Water Resources, including a copy of this Resolution, the amended GSP, and any additional information required by law.

PASSED, APPROVED, and ADOPTED by the Board of Directors of the Cuyama Basin GSA, this 6th day of November 2024 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Cory Bantilan, Chairperson

ATTEST:

James M. Beck
Executive Director

CERTIFICATE OF SECRETARY

The undersigned, Secretary of the Cuyama Basin Groundwater Sustainability Agency, hereby certifies that the foregoing Resolution was adopted by the Board of Directors of said GSA at a meeting thereof, duly and specially held on November 6, 2024 at which meeting a quorum of the Board of Directors was at all times present and acting.

IN WITNESS WHEREOF, I have set my hand this 6th day of November 2024.

Byron Albano, Secretary



TO: Board of Directors
Agenda Item No. 20

FROM: Jim Beck / Brian Van Lienden

DATE: November 6, 2024

SUBJECT: Discuss and Take Appropriate Action on the GSP 5-year Periodic Evaluation

Recommended Motion

Approve the GSP 5-year Periodic Evaluation and submit to DWR.

Discussion

The California Department of Water Resources (DWR) requires a Groundwater Sustainability Plan (GSP) Periodic Evaluation to be submitted a minimum of five years or whenever the GSP is amended. An overview of the periodic evaluation is provided as Attachment 1 and the Periodic Evaluation is provided as Attachment 2.

Cuyama Basin Groundwater Sustainability Agency Staff is requesting a recommendation from the Board for the approval of the periodic evaluation.

Cuyama Basin Groundwater Sustainability Agency

20. Discuss and Take Appropriate Action on the GSP 5-year
Periodic Evaluation

Jim Beck / Brian Van Lienden

November 6, 2024



Overview of Periodic Evaluation

- Required by SGMA regulations to be submitted every 5 years
- The purpose of the Periodic Evaluation is to provide an assessment of the progress the CBGSA has made toward achieving the Basin's sustainability goal.
- Think of it as a MEGA Annual Report
 - Provides update on implementation
 - Changes to the GSP
 - New information
 - Current conditions of the Basin
 - How the GSA/GSP has responded to comments from DWR

Cuyama Valley Groundwater Basin

Draft Groundwater Sustainability Plan

Periodic Evaluation 2025

Prepared by:



MONTH 2024

The Periodic Evaluation Provides:

- An assessment of the progress the CBGSA has made toward achieving the Basin's sustainability goal
- DWR, interested parties, and the public with the progress the CBGSA has made on implementing the revised GSP
- Discussion of changes to the GSP (including recommended corrective actions)
- Guided by feedback received by the CBGSA, Standing Advisory Committee, Technical Forum, stakeholders, and the public.

Periodic Evaluation Outline

ES. Executive Summary

1. Intro – Plan Area and Authority
2. New Information Collected
3. Current Basin Conditions by Each Applicable Sustainability Indicator
4. Status of Projects and Management Actions
5. Basin Setting Based on New Information or Changes in Water Use
6. Monitoring Networks
7. GSA Authorities and Enforcement Actions
8. Outreach, Engagement, and Coordination with Other Agencies
9. Other Information
10. Summary of Proposed or Completed Revisions to Plan Elements

Periodic Evaluation: Key Points

- No new information or analyses is provided – all discussion is about previous approved or soon to be approved material
- Policy content in Periodic Evaluation reflects what is stated in the Updated 2025 GSP
- Includes discussion about changes incorporated to the Revised 2022 GSP and the Updated 2025 GSP (assumes 2025 GSP will be approved)
- Takes the opportunity to show Cuyama's implementation successes
- Is meant to be a summary of progress and Basin status – GSP components in most cases will contain greater detail

Cuyama Valley Groundwater Basin

Draft Groundwater Sustainability Plan

Periodic Evaluation 2025

Prepared by:



MONTH 2024

This page intentionally left blank.



Table of Contents

ES- EXECUTIVE SUMMARY	I
1. INTRODUCTION.....	1
1.1 Introduction and Plan Authority	1
1.2 Purpose of Periodic Evaluation	1
2. NEW INFORMATION COLLECTED	3
2.1 2022 GSP Update.....	5
2.2 Representative Well Field Survey	6
2.3 Representative Monitoring Network and Monitoring Network Revisions.....	7
2.4 New Monitoring Wells Installed	7
2.5 Airborne Electromagnetic Survey.....	9
2.6 CBGSA Investigation of Russell and Santa Barbara Canyon Faults	11
2.7 Data Collected through CBGSA Monitoring	12
2.8 GDE Study	12
2.9 Active Pumping Well Survey.....	13
2.10 Model Update	13
2.11 2025 GSP Update.....	14
3. CURRENT BASIN CONDITIONS BY SUSTAINABILITY INDICATOR.....	16
3.1 Chronic Lowering of Groundwater Levels	16
3.1.1 Potential Corrective Actions in 2022 Determination Letter	16
3.1.2 Recommended Corrective Actions in 2023 Approval Letter.....	19
3.1.3 Current Conditions and Relation to Thresholds	20
3.1.4 Progress Towards Sustainability	23
3.2 Reduction of Groundwater Storage.....	24
3.2.1 Potential Corrective Actions and Recommended Corrective Actions	24
3.2.2 Current Conditions and Relation to Thresholds	25
3.2.3 Progress Towards Sustainability	27
3.3 Seawater Intrusion.....	27
3.4 Degraded Water Quality	27
3.4.1 Potential Corrective Actions in 2022 Determination Letter	27
3.4.2 Recommended Corrective Actions in 2023 Approval Letter.....	30
3.4.3 Current Conditions and Relation to Thresholds	31
3.4.4 Progress Towards Sustainability	32
3.5 Subsidence.....	33
3.5.1 Potential Corrective Actions and Recommended Corrective Actions	33
3.5.2 Current Conditions and Relation to Thresholds	34



3.5.3	Progress Towards Sustainability	35
3.6	Depletions of Interconnected Surface Waters	35
3.6.1	Potential Corrective Actions in 2022 Determination Letter	35
3.6.2	Recommended Corrective Actions in 2023 Approval Letter	36
3.6.3	Current Conditions and Relation to Thresholds	37
3.6.4	Progress Towards Sustainability	39
4.	STATUS OF PROJECTS AND MANAGEMENT ACTIONS.....	41
4.1	Completed Projects and Other Activities	41
4.1.1	Management Action 1: Basin-Wide Economic Analysis	46
4.2	Projects in Progress.....	46
4.2.1	Management Action 2: Pumping Allocations in Central Basin Management Area	46
4.2.2	Project 1: Flood and Stormwater Capture.....	46
4.2.3	Project 2: Precipitation Enhancement.....	47
4.2.4	Project 4: Improve Reliability of Water Supplies for Local Communities	47
4.2.5	Adaptive Management	47
4.3	Projects Not Begun.....	48
4.3.1	Project 3: Water Supply Transfers/Exchanges	48
5.	BASIN SETTING BASED ON NEW INFORMATION OR CHANGES IN WATER USE ...	49
5.1	Hydrogeologic Conceptual Model	49
5.1.1	New Monitoring Wells and Piezometers	49
5.1.2	Airborne Electromagnetic Surveys	49
5.1.3	CBGSA Investigation of Russell and Santa Barbara Canyon Faults.....	49
5.1.4	GDE Study	50
5.2	Groundwater Conditions	51
5.2.1	Groundwater Levels	51
5.2.2	Groundwater Storage.....	56
5.2.3	Land Subsidence	57
5.2.4	Groundwater Quality	57
5.2.5	Interconnected Surface Waters	63
5.3	Water Use Changes and Associated Water Budget.....	64
5.4	Model Updates	66
6.	MONITORING NETWORK.....	68
6.1	Groundwater Level Representative Network Changes.....	68
6.2	Groundwater Storage Monitoring Network Changes	71
6.3	Seawater Intrusion Monitoring Network Changes	71
6.4	Groundwater Quality Monitoring Network Changes	71



6.5 Land Subsidence Monitoring Network Changes 74

6.6 Depletions of Interconnected Surface Water Monitoring Network Changes 76

7. GSA AUTHORITIES AND ENFORCEMENT ACTIONS.....78

7.1 Relevant Actions..... 78

7.1.1 GSA Compliance with Executive Order N-7-22 Action 9, Drought Well Permitting Requirements..... 78

7.1.2 Pumping Allocations..... 78

7.1.3 Pumping Allocations Enforcement..... 79

7.1.4 Well Metering 79

7.1.5 Actions to Identify Non-Reporters..... 80

7.1.6 Actions Against Non-Reporters / Non-Payers..... 80

7.1.7 Adjudication 81

8. OUTREACH, ENGAGEMENT, AND COORDINATION WITH OTHER AGENCIES..... 82

8.1 Outreach and Engagement..... 82

8.1.1 Public Comments 82

8.1.2 Public Engagement Efforts 83

8.1.3 Outreach and Engagement Activities 84

8.2 Responsibilities of GSA Board 85

8.3 Coordination with Other Agencies..... 88

9. OTHER INFORMATION 89

9.1 Consideration of Adjacent Basins 89

9.2 Challenges Not Previously Discussed..... 89

9.3 Legal Challenges 89

9.4 Completed and Planned GSP Amendments 89

10. SUMMARY OF PROPOSED OR COMPLETED REVISIONS TO PLAN ELEMENTS91

Tables

Table 2-1. Summary of New Information Since Submittal of the 2020 GSP 3

Table 2-2: New Monitoring Wells and Piezometers 8

Table 3-1. Groundwater Level Representative Monitoring Network Wells and Levels Compared to Interim Milestones 22

Table 3-2. Groundwater Budget Estimates for Water years 2019 through 2023 25

Table 3-3: GAMA Databases and Frequency of Updates 29

Table 3-4: Groundwater Quality Representative Monitoring Network Wells and Measurements Compared to Interim Milestones 31

Table 3-5. Interconnected Surface Waters Representative Monitoring Network Wells and Levels Compared to Interim Milestones 39



Table 4-1: Projects and Management Actions Status and Benefits43
 Table 5-1: Average Annual Groundwater Budget66

Figures

Figure 2-1: AEM Survey Flight Lines 10
 Figure 3-1. Groundwater Level Representative Monitoring Network Conditions Compared to 2025 Interim Milestones21
 Figure 3-2. Change in Groundwater Storage by Year, Water Year Type, and Cumulative Water Volume26
 Figure 3-3: Vertical Displacement at Cuyama Groundwater Basin Monitoring Sites35
 Figure 3-4. Interconnected Surface waters Representative Monitoring Network Conditions Compared to 2025 Interim Milestones.....38
 Figure 5-1: Cuyama Basin Wells by Groundwater Surface Elevation in Spring 202454
 Figure 5-2: Cuyama Basin Wells by Depth to Water in Spring 202455
 Figure 5-3: Cuyama Groundwater Storage by Year, Water Year Type, and Cumulative Water Volume56
 Figure 5-4: CBGSA TDS Measurements for 202360
 Figure 5-5: Nitrate Concentrations for 2022 and 202361
 Figure 5-6: Arsenic Concentrations for 2022 and 202362
 Figure 5-7: Glide Path for Central Basin Management Area Groundwater Pumping Reductions65
 Figure 6-1: Revised Groundwater Level Representative Monitoring Network70
 Figure 6-2: Revised Groundwater Quality Representative Monitoring Network73
 Figure 6-3: Subsidence Monitoring Network.....75
 Figure 6-4: Interconnected Surface Waters Monitoring Network77



Acronyms

Basin	Cuyama Valley Groundwater Basin
BGS	below ground surface
CASGEM	California Statewide Groundwater Elevation Monitoring
CBGSA	Cuyama Basin Groundwater Sustainability Agency
CBWD	Cuyama Basin Water District
CCSD	Cuyama Community Services District
CDFW	California Department of Fish and Wildlife
DWR	California Department of Water Resources
GAMA	Groundwater Ambient Monitoring and Assessment
GICIMA	Groundwater Information Center Interactive Map
GSP	Groundwater Sustainability Plan
IRWM	Integrated Regional Water Management
LID	Low Impact Development
NMFS	National Marine Fisheries Service
PBO	Plate Boundary Observatory
RCD	Resource Conservation District
RWQCB	Regional Water Quality Control Board
SAC	Standing Advisory Committee
SBCWA	Santa Barbara County Water Agency
SGMA	Sustainable Groundwater Management Act
SLOCFC&WCD	San Luis Obispo County Flood Control & Water Conservation District
SR	State Route
TDS	total dissolved solids
UNAVCO	University NAVSTAR Consortium
USGS	United States Geological Survey
VCWPD	Ventura County Watershed Protection District
WDL	Water Data Library
WMP	Water Management Plan



This page intentionally left blank.

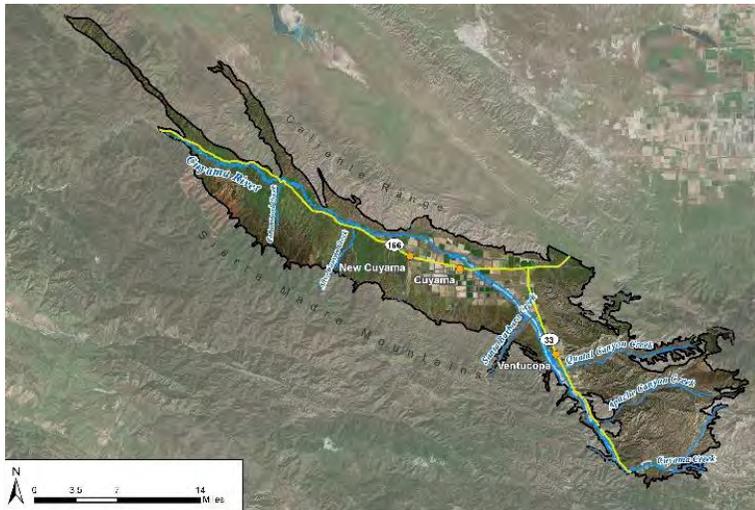


ES- EXECUTIVE SUMMARY

The Sustainable Groundwater Management Act (SGMA), passed in 2014, requires the formation of local Groundwater Sustainability Agencies (GSAs) to oversee the development and implementation of Groundwater Sustainability Plans (GSPs), with the goal of achieving sustainable management of California’s groundwater basins. Additionally, SGMA requires GSPs to be evaluated in the form of a Periodic Evaluations every five years or whenever a GSP is amended. The purpose of this Periodic Evaluation is to provide an update to the Department of Water Resources, interested parties, and the public on the progress the Cuyama Basin Groundwater Sustainability Agency (CBGSA) has made on implementing the Cuyama Valley Groundwater Basin GSP (GSP).

In 2017, in response to SGMA, the CBGSA was formed. The CBGSA is a joint-powers agency that is comprised of Kern, Santa Barbara, San Luis Obispo and Ventura counties, the Cuyama Community Services District and the Cuyama Basin Water District. The CBGSA is governed by an 11-member Board of Directors, with one representative from Kern, San Luis Obispo and Ventura counties, two representatives from Santa Barbara County, one member from the Cuyama Community Services District, and five members from the Cuyama Basin Water District.

SGMA requires that the CBGSA develop a GSP that achieves groundwater sustainability in the Basin by the year 2040. The Draft Cuyama Basin GSP was adopted on December 4, 2019, by the CBGSA Board and submitted to DWR on January 28, 2020. On January 21, 2021, DWR determined that the GSP was “incomplete” and recommended that the CBGSA amend the GSP to address four corrective actions. The



CBGSA developed supplemental sections to the GSP and resubmitted to DWR on July 18, 2022. On March 2, 2023, DWR announced that the revised GSP had been Approved.

Since then, the CBGSA has continued implementation of the GSP and developed the 2025 GSP Update which is now available for public review and comment.

Figure ES- 1: GSP Plan Area

This Periodic Evaluation assesses the implementation period between the water years (WYs) 2020 through 2024 and is accompanied by the updated 2025 Cuyama Groundwater Basin Groundwater Sustainability Plan (referred to as the 2025 GSP Update), which was amended and adopted by the CBGSA in **MONTH YEAR**.



New Information Collected

During the evaluation cycle (Water Years (WYs) 2020 through 2024), significant new information warranted changes to several sections of the GSP. For instance, in 2021, DWR conducted an airborne electromagnetic (AEM) Basin which resulted in processed data that was used to update the and Basin Settings section of the GSP, including the Hydrogeologic Conceptual Model, and help update the Cuyama Basin Water Resources Model (CBWRM).

Much more detail about new information collected is provided in Section 2, but includes:

- 2022 GSP Update
- Representative well field survey
- Representative monitoring network and monitoring network revisions
- New monitoring wells installed
- Airborne Electromagnetic Survey
- CBGSA Investigation of the Russell and Santa Barbara Canyon Faults
- Data collected through CBGSA monitoring
- GDE Study
- Active pumping well survey
- Model update
- 2025 GSP Update

Groundwater Conditions Relative to Sustainable Management Criteria

The CBGSA received a GSP Determination Letter on January 21, 2022, that was intended to provide recommendations on how to revise the GSP before final review and approval. The Determination Letter included four Potential Corrective Actions. In response, the CBGSA developed a revised GSP in 2022 to address these corrective actions. DWR then provided a GSP Approval Letter on May 23, 2023, that approved the plan and included five Recommended Corrective Actions. The 2025 GSP Update addresses all of the potential corrective actions in the 2022 Determination Letter and the recommended corrective actions included in the 2023 Approval Letter. Section 3 below describes the current Basin conditions by each applicable sustainability indicator and includes a discussion of how the 2022 GSP and now the 2025 GSP Update address each corrective action provided by DWR.

The sustainability goal for the Basin is:

To maintain a sustainable groundwater resource for beneficial users of the Basin now and into the future consistent with the California Constitution.

The sustainability goal is supported by the locally defined minimum thresholds that prevent undesirable results. Achievement of the goal is demonstrated by the avoidance of undesirable results. The Cuyama Basin is on track to achieve sustainability by SGMA regulation's timeline of 2040. Managing groundwater resources and related sustainability indicators requires a multifaceted and flexible approach



while adjusting to external independent conditions such as climatic variations. However, the CBGSA's data driven, modeling based, and flexible approach has kept the Basin on the planned path towards sustainability.

Groundwater Levels

CBGSA has conducted regular groundwater level monitoring since the adoption of the 2020 GSP. When comparing the most recent measurements (as of production of this report) from April, 2024, to the new thresholds and interim milestones presented in the 2025 GSP Update, 37 of the 47 groundwater level representative wells (79%) are ahead of the schedule interim milestones for 2025, eight wells (17%) are on schedule and near the 2025 interim milestone, and two wells (4%) are behind their interim milestone targets.

Undesirable results conditions have not been reached within the Basin, however, there have been minimum threshold exceedances. In January 2024, the CBGSA approved revised sustainability criteria, which have been updated based on newly available data. These revised minimum thresholds and measurable objectives are more reflective of potential impacts to beneficial uses and users of water and better reflect conditions and hydrogeologic conditions within the Basin.

Reduction of Groundwater Storage

Groundwater levels are used as proxy for monitoring groundwater storage, as allowed by SGMA regulations. A quantitative estimate of the annual change in groundwater storage was estimated using the CBWRM model, which currently includes data through Water Year 2023. The CBWRM was used to estimate the full groundwater budget for each year in the Cuyama Basin, which consists of a single principal aquifer. Because groundwater levels are used as a proxy and undesirable results conditions have not been met for groundwater levels, the same holds true for groundwater storage.

Degraded Water Quality

In January 2024, the CBGSA approved updated methodology for calculating the groundwater quality minimum thresholds and the measurable objectives. These modifications expanded the available data used to calculate each threshold (i.e. longer period of record) as well as ensured wells that had very low historic TDS levels were not given overly restrictive threshold levels. Data collected by the CBGSA shows that 25 of the 29 representative monitoring sites are ahead of schedule when compared to the 2025 IM, while four wells do not have measurements available for this period. Undesirable results for the degradation of groundwater quality have not occurred within the Basin.

Inelastic Land Subsidence

Subsidence data were collected from five GPS monitoring stations in the area in and around the Basin, including two representative stations located within the Basin and are used to measure subsidence relative to Basin activities. The only significant subsidence is measured at the station in the central portion Basin, which show subsidence trends of approximately 0.876 inches per year, which is much less than the



subsidence minimum threshold is set at 2 inches per year, which has not occurred and is not close to occurring at this time. The measurable objective for subsidence is 0 inches per year, and no interim milestones were set in the GSP because minimum thresholds had not been reached. Undesirable results conditions have not occurred for subsidence within the Basin and are not anticipated to occur in the foreseeable future.

Depletion of Interconnected Surface Waters

During 2024, DWR released three draft papers on the depletion of interconnected surface waters (ISW). A fourth paper on guidance for establishing SMCs for depletion of ISW was expected sometime in 2025. The technical papers released by DWR for the estimation of ISW depletion were not available in time to be used in the 2025 GSP Update. Therefore, the GSP includes the same information that was included in the 2022 GSP for ISW depletions and for the ISW monitoring network and sustainability criteria. The CBGSA will reassess the approaches used for ISW in future years.

The 2022 GSP utilized a subset of groundwater level monitoring wells and sustainability indicators as the monitoring sites for interconnected surface waters and the methodology for setting groundwater level thresholds incorporated considerations and protections for beneficial uses and users of interconnected surface waters. When comparing the most recent measurements (as of production of this report) from April, 2024, to the new thresholds and interim milestones presented in the 2025 GSP Update, six of the seven groundwater level representative wells (79%) are ahead of the schedule interim milestones for 2025, one well (17%) are on schedule and near the 2025 interim milestone, and no wells (0%) are behind their interim milestone targets. Undesirable results conditions have not been reached within the Basin, and there have been no minimum threshold exceedances.

Projects and Management Actions

Since adoption of the original 2020 GSP, one management action has been completed and the other management action has been started and is continuing as a long-term and ongoing activity. Progress has been made on completion of three of the four projects included in the GSP. Because current work is focused on initial analysis of feasibility for each project, quantified benefits were not able to be determined for all projects. However, these projects have allowed the CBGSA to better understand groundwater conditions in the Basin and informed future implementation of planned projects. The status of all projects and management actions included in the GSP is shown in the table below.



Project or Management Action name	Project or Management Action Description	Project Status	Benefits Observed to Date or Anticipated Benefits
Project 1: Flood and Stormwater Capture	Perform a water rights analysis on flood and stormwater capture flows in the Basin to understand the feasibility of further developing a stormwater capture project in the Basin given water availability and existing water rights.	Water rights analysis of potential water supplies currently underway	Understanding of available stormwater potentially available to the Basin if projects were built.
Project 2: Precipitation Enhancement	Perform a feasibility study of the precipitation enhancement action identified in the GSP to determine if this action should be pursued and implemented in the Basin	Feasibility Study currently underway by Desert Research Institute;	Understanding of benefits from potential precipitation enhancement activities
Project 3: Water Supply Transfers/Exchanges	Evaluate the feasibility of purchasing transferred water and exchange it with downstream users. To allow for additional stormwater and floodwater capture in the Basin to protect water rights of downstream users.	Not yet begun	Understanding potential benefits and challenges to water exchanges with downstream users
Project 4: Improve Reliability of Water Supplies for Local Communities	Explores opportunities to improve water supply reliability for Ventucopa within CCSD service area. Potential projects include a replacement well for CCSD and improvement of Ventucopa Water Supply Company (VWSC's) existing well	In progress for CCSD; not yet begun for other communities	Improved water supply to local communities
Management Action 1: Basin-Wide Economic Analysis	Development of a study of the economic impacts of the projects and management actions included in the GSP	Completed	Understanding of Basin to provide economic impacts based on other proposed projects and GSP implementation



Project or Management Action name	Project or Management Action Description	Project Status	Benefits Observed to Date or Anticipated Benefits
Management Action 2: Pumping Allocations in Central Basin Management Area	Implement planned pumping reductions that increase annually until sustainable yield has been reached. These allocations reflect a 5% reduction in 2023 and a 10% reduction in 2024 relative to baseline levels.	Allocations developed for 2023 and 2024 and implemented in 2023 calendar year	Reduction in groundwater production in the Basin during implementation of GSP
Adaptive Management	NA	Board ad-hoc committee has been formed and is considering potential actions	NA

Monitoring Networks

The Original 2020 GSP established monitoring networks for groundwater levels, degraded water quality, inelastic land subsidence, and depletions of interconnected surface waters. Through the implementation of the 2020 GSP and data collection, the CBGSA has modified the monitoring networks for groundwater levels, degraded water quality, and depletions of interconnected surface waters based on data and site availability, filling data gaps, reducing redundancy, making data collection more efficient, and incorporating new monitoring sites.

A high-level summary of monitoring network changes is provided below, with more details in the main body of the Periodic Evaluation:

- **Groundwater Levels:** Monitoring network was refined to reduce redundancy and remove wells no longer suitable for monitoring or accessible. Have added new monitoring wells installed by CBGSA/partners.
- **Groundwater Storage:** continues to use groundwater levels as a proxy.
- **Groundwater Quality:** Monitoring network was refined to reduce redundancy and remove wells no longer suitable for monitoring or accessible. Have added new monitoring wells installed by CBGSA/partners.
- **Land Subsidence:** Remains unchanged from the Original 2020 GSP.
- **Interconnected Surface Waters:** Updated to be a subset of groundwater level monitoring network based on criteria, incorporates new monitoring wells.



Outreach and Engagement

During GSP development, the CBGSA used multiple channels of outreach to communicate SGMA-related information, provide opportunities for engagement, and solicit public input. This included encouraging public participation at public meetings, providing access to GSP information online, and continuing to coordinate with entities conducting outreach to DAC communities within the Basin. As outreach and engagement activities are crucial in the development of the Periodic Evaluation and GSP, the GSAs regularly presented components of these documents during public meetings to gain input from stakeholders and distributed emails as key deliverables were finalized, when opportunities were either available for stakeholder input, or when items of interest to the stakeholder group arose. Topics of discussion included but were not limited to establishment and refinement of sustainable management criteria; modeling efforts used to develop water budgets; changes to basin setting based on new information; and progress updates on PMAs. These meetings allowed the public, local stakeholders, and regulatory agencies to provide input on the CBGSA's approach to developing the GSP and Periodic Evaluation.



1. INTRODUCTION

This section describes the Cuyama Basin Groundwater Sustainability Agency (CBGSA), its authority in relation to the Sustainable Groundwater Management Act (SGMA), and the purpose of this Periodic Evaluation (PE).

1.1 Introduction and Plan Authority

The Sustainable Groundwater Management Act (SGMA), passed in 2014, requires the formation of local Groundwater Sustainability Agencies (GSAs) to oversee the development and implementation of Groundwater Sustainability Plans (GSPs), with the goal of achieving sustainable management of California’s groundwater basins. Additionally, SGMA requires GSPs to be evaluated in the form of Periodic Evaluations every five years and whenever a GSP is amended. The purpose of this Periodic Evaluation is to provide an update to the California Department of Water Resources (DWR), interested parties, and the public on changing conditions in the Merced Subbasin, the progress the GSAs within the Merced Subbasin have made on implementing the Merced Groundwater Subbasin GSP, and the need, if any, for an amendment to the GSP.

The Cuyama Basin is designated as a critically overdrafted, high priority basin by the California Department of Water Resources (DWR), resulting in the Basin being subject to SGMA with a requirement to adopt a GSP by January 31, 2020. In accordance with SGMA requirements, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) was formed and is the sole GSA for the Basin and covers the full extent of the Basin.

In January 2020, the GSAs submitted the first GSP to DWR and received an incomplete determination on January 21, 2022. The GSP was revised and resubmitted to DWR in July 2022 as the July 2022 Revised Groundwater Sustainability Plan (2022 GSP) on July 21, 2022. DWR approved the revised GSP in the determination letter issued to the GSAs on May 25, 2023, which included recommended corrective actions to be addressed in this Periodic Evaluation.

This Period Evaluation assesses the implementation period that covers WYs 2020 through 2024 and is accompanied by the Cuyama Valley Groundwater Basin Updated Groundwater Sustainability Plan, which was amended and re-adopted on MONTH DAY, YEAR.

1.2 Purpose of Periodic Evaluation

The purpose of this Periodic Evaluation is to provide an assessment of the progress the CBGSA has made toward achieving the Basin’s sustainability goal. As stated in the regulations,

Water Code § 10728.2. A groundwater sustainability agency shall periodically evaluate its groundwater sustainability plan, assess changing conditions in the basin that may warrant modification of the plan or management objectives, and may adjust components in the plan. An evaluation of the plan shall focus on determining whether the actions under the plan are meeting the plan’s



management objectives and whether those objectives are meeting the sustainability goal in the basin.

The Periodic Evaluation also provides DWR, interested parties, and the public with the progress the CBGSA has made on implementing the revised 2022 GSP. Further, the Periodic Evaluation also discusses amendments to the 2022 GSP in response to the 2023 DWR Determination Letter that included Recommended Corrective Actions.

The Periodic Evaluation summarizes and assesses new and significant information, groundwater conditions for each applicable sustainability indicator identified in the approved GSP, actions taken to address recommended corrective actions issued by DWR, status of projects and management actions, updates to the basin setting, monitoring network updates, and the authorities and actions taken by the CBGSA during this evaluation cycle.

Development of the information included in the Periodic Evaluation was guided by feedback received by the CBGSA, Standing Advisory Committee, Technical Forum, stakeholders, and the public. Extensive outreach was also conducted to seek input from additional beneficial users of groundwater through multiple venues including public workshops held in locations and times specifically selected to provide access to disadvantaged communities.



2. NEW INFORMATION COLLECTED

Through the implementation of the GSP, significant new data and information have been collected and analyzed by the CBGSA and staff. This includes both regular data collection and detailed studies. Table 2-1 summarizes the new information collected since the submittal of the original GSP in January 2020. Additional detail is provided in the following subsections.

Table 2-1. Summary of New Information Since Submittal of the 2020 GSP

Significant New Information (e.g., new monitoring data, reports, coordination with other agencies, data provided by the Department)	Description	Aspects of Plan Affected (e.g., Basin Setting, Sustainable Management Criteria, Projects and Management Actions, Monitoring Network, Coordination Agreement)	Warrant Change to Any Aspects of the Plan (Yes/No) If yes, include section of the Plan
Monitoring data collected through representative monitoring wells (RMWs)	This includes all monitoring data collected from each applicable sustainability indicators representative monitoring network wells.	The Basin Settings was updated to incorporate new data to reassess trends (e.g., groundwater levels, subsidence, etc.); monitoring data was used to amend the monitoring networks and thresholds and for re-calibration of the Cuyama Basin Water Resources Model (CBWRM)	Yes Chapter 4: Monitoring Networks Chapter 5: Minimum Thresholds, Measurable Objectives, And Interim Milestones



Significant New Information (e.g., new monitoring data, reports, coordination with other agencies, data provided by the Department)	Description	Aspects of Plan Affected (e.g., Basin Setting, Sustainable Management Criteria, Projects and Management Actions, Monitoring Network, Coordination Agreement)	Warrant Change to Any Aspects of the Plan (Yes/No) If yes, include section of the Plan
Monitoring data from new wells	This includes groundwater levels from new wells in areas that did not previously have groundwater level data, and in many cases, comes from multi-completion wells allowing for vertical gradient data. Three of the new wells are in the vicinity of groundwater dependent ecosystems (GDEs)	The updated monitoring networks include the newly installed monitoring wells. Data will be incorporated into future revisions of the GSP and CBWRM	Yes Chapter 4: Monitoring Networks
Airborne Electromagnetic (AEM) Survey	Geophysical data collected in August 2021 and processed by the Department.	Data were incorporated in refining the thickness of layers in the CBWRM.	Yes Chapter 2: Basin Settings
Fault Investigations	Surface geophysical surveys of the Santa Barbara Canyon and Russell faults.	Data were evaluated to better understand potential impacts of the faults on local groundwater conditions.	Yes Chapter 2: Basin Settings
Groundwater dependent ecosystem (GDE) study	This was an assessment of GDE data and field study to determine the locations of potential GDEs.	This study influenced the Basin Conditions section and the SMC thresholds	Yes Chapter 2: Basin Settings Chapter 5: Minimum Thresholds, Measurable Objectives, And Interim Milestones



Significant New Information (e.g., new monitoring data, reports, coordination with other agencies, data provided by the Department)	Description	Aspects of Plan Affected (e.g., Basin Setting, Sustainable Management Criteria, Projects and Management Actions, Monitoring Network, Coordination Agreement)	Warrant Change to Any Aspects of the Plan (Yes/No) If yes, include section of the Plan
Active Well List	The CBGSA conducted a survey and assessment to determine which wells in the Basin are active or abandoned.	This assessment influenced SMC thresholds and will likely influence future assessments or work within the Basin	Yes Chapter 5: Minimum Thresholds, Measurable Objectives, And Interim Milestones
Updated Cuyama Basin Water Resources Model (CBWRM)	The CBWRM was upgraded with newly available data and recalibrated to support the preparation of the 2025 GSP 5-year evaluation.	The updated model was used to develop updated water budgets and sustainable yield estimates	Yes Chapter 2: Basin Settings Chapter 5: Minimum Thresholds, Measurable Objectives, And Interim Milestones

2.1 2022 GSP Update

Following submittal of the Groundwater Sustainability Plan (GSP) in January 2020, the Cuyama Valley Groundwater Basin Groundwater Sustainability Agency (CBGSA) received a Determination Letter (Letter) on January 21, 2022, from the California Department of Water Resources (DWR). The Letter provided the CBGSA with an Incomplete Determination for the GSP and the necessary corrective actions required for approval. Per SGMA regulations, the CBGSA was given a 180-day correction period to update and address any deficiencies in the GSP. DWR's Incomplete Determination identified four areas of deficiency that required revisions to and resubmittal of the GSP. The four deficiencies are summarized as follows:

- Potential Corrective Action 1: Provide justification for, and effects associated with, the sustainable management criteria and how they may affect beneficial users.
- Potential Corrective Action 2: Use of groundwater levels as a proxy for depletion of interconnected surface water.



- Potential Corrective Action 3: Further address degraded water quality by providing additional clarification and justification of available data, monitoring, and thresholds.
- Potential Corrective Action 4: Provide explanation for how overdraft will be mitigated in the basin.

To address these deficiencies, the CBGSA developed supplemental information that was included in the 2022 revised version of the GSP in the form of inserted pages with blue text. Supplemental information has now been fully integrated into the revised 2025 version of the GSP.

Both the original and 2022 version of the GSP are still available on the GSP website.

2.2 Representative Well Field Survey

During the fall of 2021, field surveys were conducted at 75 wells within the Basin. Additional wells were intended to be surveyed, but land access agreements were not granted. For these wells, previous estimates of ground-surface elevation will continue to be used going forward. The survey data measured included:

- Latitude/longitude
- General site or well notes
- Elevation of the center of the well
- Elevation of the top of the concrete well pad
- Primary monitoring point elevation (“reference point elevation”)
- Secondary monitoring point elevation (if applicable)
- Ground-surface elevation
- Elevation of the top of the well vault (if applicable)

The data collected in the survey allows for the analysis and further processing of historical and recently collected data in each of the surveyed wells. This new metadata has been updated in the Cuyama online Opti DMS system, and the GSA is working with DWR to ensure that data submitted in previous uploads through the SGMA Data Portal are also updated appropriately. Notes have been added to each well within Opti explaining when, how, and by how much these data corrections have been performed for public transparency.

Data has been updated using the updated reference point elevations for each surveyed well, more technically described as a vertical datum correction or update. While the depth to water measurements does not change, groundwater elevation values were updated based on the vertical datum corrections.

These vertical datum corrections and updates to the historical data do not impact or alter the GSP in any significant way. Minimum thresholds and measurable objectives described in the submitted GSP were calculated using depth to water, which are not affected by the survey results. While the well survey may cause the elevations of these thresholds to change by a small amount, the same changes are applied to groundwater level measurements at each well, with the result that there are no differences in regard to groundwater level versus threshold comparisons for assessing basin sustainability.



2.3 Representative Monitoring Network and Monitoring Network Revisions

The CBGSA has gone through two representative monitoring network revisions since the adoption of the 2020 GSP. The primary focus during the development of the 2020 GSP development was to ensure that the monitoring network maximized the potential pool of monitoring locations and gain a broad understanding of available data sources. Through this approach, all wells with recent measurements (data taken on or after January 1, 2018) were included in the monitoring network. This resulted in 101 wells in the monitoring network, including 60 representative wells, which achieved a spatial density of 26.7 wells per 100 square miles.

The CBGSA Board determined at its January 2021 meeting to reduce the monitoring network to eliminate spatially redundant wells from the network. This reduced the representative monitoring network to 52 wells at 46 locations (this includes three multi-completion wells). Through the installation of additional wells through DWR's TSS program, the revised network consisted of 61 wells at 49 locations.

The second representative monitoring network revision is for the 2025 GSP Update. The CBGSA completed a comprehensive review of the groundwater levels network and the monitoring program for all representative and non-representative wells. The review included identification of field sampling issues at each well. These included a lack of landowner agreement for monitoring, access issues due to issues at the well site, and access issues due to winter flooding. Other factors were also considered, such as if the well is projected to go dry during implementation, whether the well is an active pumping well and the magnitude of pumping, and whether a nearby or similar well shows similar groundwater level changes and therefore makes the well redundant.

The review concluded that all issues related to onsite access and weather at the wellsite were temporary and did not preclude the well from continued inclusion in the monitoring network. In addition, no wells were identified for removal due to redundancy. However, there were three wells (98, 121, and 124) where the GSA was unable to obtain an access agreement with the landowner; therefore, these three wells have been removed from the monitoring network. Furthermore, monitoring wells that have been identified as active pumping wells are recommended for long-term replacement.

In addition, the CBGSA has worked to address the spatial gaps identified in the 2020 GSP. The CBGSA is using funding available from a SGMA implementation grant agreement with DWR to install three piezometers in the vicinity of groundwater dependent ecosystems (GDEs) as well as multi-completion wells at seven other locations within the Basin. Additional information about the new monitoring wells is provided in the next subsection.

2.4 New Monitoring Wells Installed

The CBGSA has overseen the construction of 19 multi-completion (or multi-depth) nested monitoring wells at nine locations and three piezometers (shallow groundwater monitoring wells) since the adoption of the 2020 GSP (Table 2-2).



In mid-2021, the CBGSA worked with DWR’s Technical Support Services (TSS) to construct nine new multi-completion nested monitoring wells (also referred to as the TSS wells). These nine wells, Opti Wells 900 through 908, each with different completion depths, were constructed in three different locations.

In 2023 and 2024, the CBGSA constructed three new piezometers near mapped GDE locations and new multi-completion nested monitoring wells at six locations using grant funding from DWR. These new wells are located in areas that were identified by the CBGSA as spatial data gaps in the 2020 GSP. Data collection began after the wells were surveyed. The new piezometers and monitoring wells have been integrated into the GSA’s monitoring network, and data collected by these wells will be uploaded to the DMS.

Table 2-2: New Monitoring Wells and Piezometers

Opti Well #	Other Name	Well Type	Latitude	Longitude	Well Depth (Feet bgs*)	Screen Interval (Feet bgs*)
900		TSS Multi-Completion	35.002893	-119.811860	61	50-60
901		TSS Multi-Completion	35.002845	-119.811883	215	165-205
902		TSS Multi-Completion	35.002845	-119.811883	375	325-365
903		TSS Multi-Completion	34.865465	-119.495837	315	265-305
904		TSS Multi-Completion	34.865465	-119.495837	410	360-400
905		TSS Multi-Completion	34.865465	-119.495837	580	540-570
906		TSS Multi-Completion	34.942696	-119.691663	160	130-150
907		TSS Multi-Completion	34.942696	-119.691663	535	515-525
908		TSS Multi-Completion	34.942696	-119.691663	670	650-660
909	GDE-5	Piezometer	35.0564108	-119.958465	90	50-80
910	GDE-1	Piezometer	35.0378602	-119.881735	50	25-45
911	GDE-4	Piezometer	34.760046	-119.417531	45	10-40
912	MW-F (S)	Multi-completion	34.760046	-119.417531	210	180-200
913	MW-F (D)	Multi-completion	34.760046	-119.417531	380	350-370
914	MW-C	Multi-completion	34.8981859	-119.605228	540	500-520
915	MW-H (S)	Multi-completion	34.876228	-119.495663	690	660-680
916	MW-H (D)	Multi-completion	34.876228	-119.495663	900	880-900
917	MW-E (S)	Multi-completion	34.941221	-119.50438	640	610-630
918	MW-E (D)	Multi-completion	34.941221	-119.50438	750	720-740



Opti Well #	Other Name	Well Type	Latitude	Longitude	Well Depth (Feet bgs*)	Screen Interval (Feet bgs*)
919	MW-G (S)	Multi-completion	34.974892	-119.673272	310	280-300
920	MW-G (D)	Multi-completion	34.974892	-119.673272	450	420-440
921	MW-D	Multi-completion	34.900588	-119.506756	850	820-840

*bgs – below ground surface

2.5 Airborne Electromagnetic Survey

To better characterize the subsurface hydrogeology in the Basin, DWR coordinated a regional Airborne Electromagnetic (AEM) Survey. This survey was performed in August 2021 and involved scanning the Basin with helicopter-mounted geophysical equipment to measure electrical resistivity at depths of up to 1,500 feet bgs. Twenty-three survey lines were flown with one line generally parallel to the Cuyama River and the remaining lines perpendicular to the river valley to generate a 3-D cross sectional model of the Basin. Figure 2-1 shows the AEM survey flight lines over the Basin.

The raw survey data were processed by Ramboll on behalf of DWR and released to the public. The released data were provided in cross sections showing resistivity and interpreted ratios of the texture of the subsurface lithology (coarse vs fine grained). Woodard & Curran staff analyzed the public AEM data in both formats to generate a more refined conceptual model of the Basin. The AEM data were used to update the thickness of layers in the CBWRM Model, as well as model parameterization and calibration. Lithologic data gathered from well logs were correlated with the AEM data as well as general knowledge of the geology of the Basin from previous USGS work. Faults were also identified in the AEM data and were taken into consideration in refining model layering and hydraulic conductivity.

Figure Exported: 7/10/2024, By: Acanallie, Using: \woodardcurran\mellebarnd\Projects\CA\Cuyama Basin\GSA0011078\01_GSP\wpkz_GIS\Z_Map\3_2025_GSP_Update\02_Basin_Settling_Overview\geophysical\AEM_lines\AEM_Minas.aprx

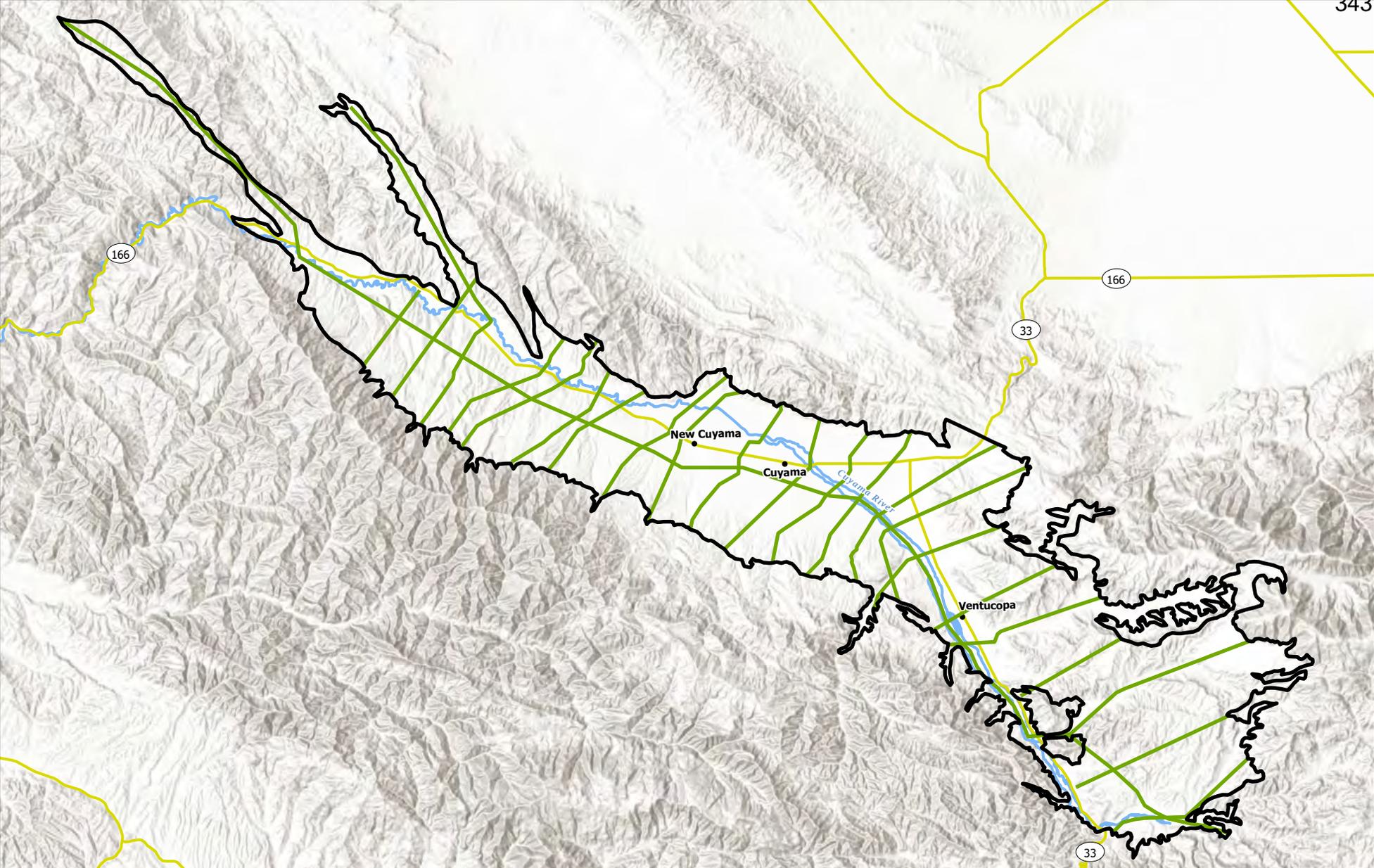


Figure 2-10: Distribution of AEM Flight Lines

Cuyama Valley Groundwater Basin

Legend

- Highway
- AEM Flight Lines
- Town
- Cuyama River
- Cuyama Basin



0 1.75 3.5 7 Miles

Map Created: July 2024

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



2.6 CBGSA Investigation of Russell and Santa Barbara Canyon Faults

In 2024, the CBGSA conducted a geophysical investigation to locate and characterize the Santa Barbara Canyon Fault and the Russell Fault. The objective was to provide a detailed image of the geologic/lithologic units and structural features in each fault zone to depths of 600 to 800 feet below ground surface. The geophysical data were used to evaluate how deep the faults were buried, their orientation (vertical or dipping), historic movement, and the depth to groundwater on both sides of the faults. Some of the information was used in the model recalibration.

The investigation measured two-dimensional direct current (DC) electrical resistivity and induced polarization data along two linear transects of 3,000 to 3,600 feet long across the mapped or suspected fault locations. The electrical resistivity data were presented in cross sections for each transect to show lateral and vertical variations in resistivity and interpreted lithology. In some cases, the variations in electrical resistivity were abrupt, indicating the presence of a fault. By correlating the electrical resistivity measurements with lithologic data from nearby water wells and previous geologic studies, different subsurface units were identified. Depth to groundwater was also identified along each transect.

Analysis of the geophysical data indicates that the Santa Barbara Canyon Fault is present beneath the Cuyama River near the location inferred by the USGS in 1970. The vertical/subvertical north-dipping fault is buried by approximately 200 to 300 feet of alluvium and the Upper Morales. A younger, unnamed south-dipping thrust fault was detected on this transect a short distance to the south. This younger fault appears to be thrusting the Lower Morales over the Upper Morales. Depth to groundwater south of this fault is about 50 to 100 feet bgs and markedly lower to the north. Water bearing zones were not observed north of the buried Santa Barbara Canyon Fault to the investigation depth of about 600 feet bgs. Interpretation of the geophysical data indicates that the fault zone offsets both the Lower and Upper Morales as well as deep alluvium (water bearing units), contrary to published literature. The geophysical data confirm the presence of the fault beneath the Cuyama River and the significant change in groundwater elevations on either side. The Santa Barbara Canyon Fault was not identified on a second transect along Highway 33 where its location was inferred by the USGS in 1970.

Analysis of geophysical data collected across the Russell Fault shows abrupt lateral changes in resistivity that are interpreted to be faults. The Russell Fault appears to be vertical and is buried by approximately 200 to 250 feet. A younger, apparently east-dipping thrust fault identified east of the Russell Fault is interpreted to be the Turkey Trap Ridge Fault. This interpretation is consistent with mapping of the Russell, Turkey Trap Ridge, and Whiterock faults in this area by the USGS and others. The Lower Morales has been mapped east of the Russell Fault. A similarly very low resistivity unit is interpreted to be the Lower Morales west of the fault overlying the older Monterrey Formation. The younger Turkey Trap Ridge Fault appears to be thrusting the older Monterrey Formation over the Lower Morales east of the fault. Groundwater appears to be about 50 feet bgs beneath the two transects and is unaffected by the faults. The thickness of saturated alluvium appears to be greater east of the fault zone.



Abrupt lateral changes in resistivity were also observed beneath the second transect, consistent with the other nearby transect. Groundwater appears to be about 40 feet bgs beneath this transect which is closer to the Cuyama River.

Interpretation of the geophysical data indicates that the Russell Fault offsets the Morales and deep alluvium, contrary to published literature. The Turkey Trap Ridge Fault offsets both the Upper and Lower Morales and deep alluvium. Similar to the investigation of the Santa Barbara Canyon Fault, the geophysical survey identified a more complex fault system than previously reported in published literature. In contrast to the Santa Barbara Canyon Fault, the Russell Fault does not appear to offset the depth to groundwater in saturated alluvium overlying it and does not appear to be a barrier to groundwater flow.

2.7 Data Collected through CBGSA Monitoring

During the development and subsequent submittal of the GSP, the CBGSA has conducted groundwater level and groundwater quality monitoring in the Basin. Data collected by the CBGSA is published and/or submitted in three ways:

Groundwater Conditions Reports – Every quarter, the CBGSA publishes a groundwater conditions report summarizing data collected during the previous quarter, including each wells relative status when compared with the minimum thresholds and the Basin’s overall status relative to undesirable results. Additionally, a groundwater quality conditions report is published once a year with similar data summaries and analytics as it relates to groundwater quality thresholds and undesirable results definitions. All groundwater conditions reports are published on the CBGSA website.

Opti Online DMS – All data collected by the CBGSA is uploaded to the Opti online DMS system, which is the Basin’s regulatorily required online public portal for data. As described in Chapter 6 of the GSP, data is provided in geographical, graphical, and tabular formats for public viewing, can be filtered, and is available for download.

SGMA Portal – As is stipulated in the SGMA regulations, seasonal high and low measurements are submitted to DWR’s SGMA Portal which is also accessible by the public. Data is only reported twice a year to this portal, and all data in the SGMA Portal is also available on the CBGSA’s Opti webpage.

2.8 GDE Study

As part of the development of the 2020 GSP, a GDE study was conducted and included as Appendix D with a summary provided in Chapter 2, *Basin Settings*. A licensed wetland biologist utilized and verified the NCCAG dataset using remote sensing techniques supported by in-person field verification. The analysis was performed by groupings, and the results of analysis concluded that there were 123 probable GDEs and 275 probable non-GDEs in the Basin.



2.9 Active Pumping Well Survey

During the development of the 2020 GSP, data was compiled from as many sources as possible to create a comprehensive dataset of active pumping wells. While this methodology yielded the most comprehensive dataset possible, it also included wells that were no longer functional, destroyed, or could not be confirmed but suspected as duplicates. Due to these foreseen consequences, in mid-2023 the CBGSA began work on an Active Well dataset through a systematic analytical approach using data and a stakeholder survey. Wells that landowners had previously identified to the CBGSA were assumed to be still active, while stakeholders were given the opportunity to fill out surveys confirming either an active or inactive status for wells within their properties or operational responsibilities. The survey also asked for additional well metadata or verification of existing well metadata.

The result of this survey was the establishment of an active pumping well dataset that is being used by the CBGSA moving forward to conduct current and future analysis within the Basin. All wells categorized as inactive are no longer used during data processing or analysis (for example in the assessment of hypothetical well impacts in the event of a modeled groundwater production adjustment). All future analysis will focus only on using active wells, including analyses in the 2025 GSP Update. Through the CBGSA website, all stakeholders have access to a form to update metadata for any well, including the ability to request a wells active/inactive status be updated or changed.

2.10 Model Update

As required by SGMA Regulations, the CBGSA developed the CBWRM model, which is a fully integrated surface and groundwater flow model covering the Basin and used to develop water budgets. The CBWRM was developed in consultation with members of the Technical Forum, which includes technical staff and consultants representing a range of public and private entities in the Basin, with many additional follow-up calls during the subsequent updates. Technical Forum meetings provided opportunities for members to review and comment on all major aspects of model development.

The CBWRM integrates the groundwater aquifer with the surface hydrologic system and land surface processes and operations. The CBWRM was calibrated for the hydrologic period of October 1995 to September 2023 by comparing simulated evapotranspiration, groundwater levels, and streamflow records with historical observed records. Development of the model involved study and analysis of hydrogeologic conditions, agricultural and urban water demands, agricultural and urban water supplies, and an evaluation of regional water quality conditions.

The first version of CBWRM, v0.10, was originally used to develop water budget and sustainability estimates for the 2020 GSP and for the 2020 and 2021 GSP Annual Reports. In July 2022, the CBWRM was updated to version 0.20, which incorporated the updated data available by that time. This version was used for the 2022 and 2023 GSP Annual Reports and the development of Central Management Area allocation tables for 2023 and 2024. Recently, in July 2024, the CBWRM was upgraded with significantly more data and recalibrated to support the preparation of the 2025 GSP Update. The updated model used



for the 2025 GSP Update was developed based on the best available data and information as of September 2023. The data changes include the following:

- Updated geologic representation developed using:
 - The results of a fault investigation conducted by the CBGSA for the Santa Barbara Canyon and Russell faults
 - Airborne Electromagnetic (AEM) survey data collected by the California Department of Water Resources
 - Well log data from new monitoring wells installed in the Basin
- Updated pumping well locations using data provided by landowner surveys
- Updated land use using data and designations of non-irrigated land areas based on information provided by landowners
- Updated evapotranspiration estimates calibrated to better match metered reporting data provided by landowners for 2022 and 2023
- Calibration period extended to incorporate groundwater level measurements taken by the GSA's monitoring program up through WY 2023

It is expected that the model will continue to be refined in the future as improved and updated monitoring information becomes available for the Basin. These refinements may result in changes in the estimated water budgets described in this section.

2.11 2025 GSP Update

Following resubmittal of the Groundwater Sustainability Plan (GSP) in July 2022, the Cuyama Valley Groundwater Basin Groundwater Sustainability Agency (CBGSA) received an Approval letter in May of 2023 from DWR. While DWR approved the plan, they included five recommended corrective actions as provided below:

1. **Recommended Corrective Action 1:**
 - a. Monitor impacts to beneficial uses and users, including impacts to domestic wells, as Plan implementation continues. Provide DWR with an update of impacts and the adaptive management strategies implemented in annual reports and periodic evaluations.
 - b. Explain and justify how and why using a subset of representative wells available in the region is appropriate to simulate the potential impacts to all beneficial uses and users in the region. Consider including additional wells within the region to further assess the impacts to the Northwestern Region and downstream users. If it is identified that overdraft will occur in this scenario, the GSA should clarify whether the implementation of proposed projects and management actions will avoid or mitigate significant and unreasonable impacts to beneficial users.
2. **Recommended Corrective Action 2:** Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, basinwide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the



Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSA should work to address the following items by the first periodic evaluation:

Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.

- a. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.
 - b. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies, as well as interested parties, to better understand the full suite of beneficial uses and users that may be impacted by pumping-induced surface water depletion within the GSA's jurisdictional area.
3. **Recommended Corrective Action 3:** Provide an update regarding the status of the planned project to construct a new replacement production well near the community of New Cuyama, including whether wellhead treatment of arsenic will be performed and whether routine analysis of groundwater samples will be performed to monitor the effectiveness of the arsenic mitigation. If this project is not effective or not implemented by the periodic evaluation, then the GSA should develop sustainable management criteria for arsenic.
 4. **Recommended Corrective Action 4:** By the periodic evaluation to be submitted by 2025, Department staff recommend the GSA develop sustainable management criteria for nitrate.
 5. **Recommended Corrective Action 5:** Clarify the GSA's intent to perform ongoing measurements and analysis of groundwater samples for arsenic and nitrate, which will be important for the GSA to quantitatively demonstrate, using evidence-based analysis, that implementation of the GSP is achieving the intended effect of avoiding significant and unreasonable impacts to beneficial uses and users of groundwater. Discuss the frequency of the ongoing measurements for nitrate and arsenic.

Some of these recommended corrective actions were addressed in the revised 2022 GSP; the remainder have been addressed in the 2025 GSP Update.



3. CURRENT BASIN CONDITIONS BY SUSTAINABILITY INDICATOR

The CBGSA received a GSP Determination Letter on January 21, 2022 (included as Supplemental Appendix A of the revised 2022 GSP) that was intended to provide recommendations on how to revise the GSP before final review and approval. The Determination Letter included four *Potential Corrective Actions*, which were addressed in the 2022 GSP. After submittal of the 2022 GSP by the CBGSA, DWR then provided a GSP Approval Letter on May 23, 2023 that approved the plan and included five *Recommended Corrective Actions*.

The following subsections describe the current Basin conditions by each applicable sustainability indicator. Within each description is a discussion on how the 2022 GSP and the 2025 GSP Update address each applicable *Potential Corrective Actions* and *Recommended Corrective Actions* provided by DWR in both their 2022 and 2023 letters.

3.1 Chronic Lowering of Groundwater Levels

The chronic lower of groundwater levels is arguably the most important and symbolic sustainable management criteria that SGMA addresses, although that does not diminish the importance of other SMCs. However, robust monitoring, data collection, and data analysis is conducted on groundwater levels across the Basin and that data is the most scrutinized by the CBGSA, stakeholders and regulators.

The following subsections provide a summary of groundwater level conditions experienced since the adoption of the 2020 GSP, how those conditions relate to the SMCs and URs defined in the GSP, and how the CBGSA has updated and addressed recommended corrective actions related to groundwater levels in their determination.

3.1.1 Potential Corrective Actions in 2022 Determination Letter

DWR provided three Potential Corrective Actions related to the chronic lowering of groundwater levels. In summary they are:

1. **Potential Corrective Action 1:** Provide justification for, and effects associated with, the sustainable management criteria including:
 - a. Provide a more detailed description of the criterion used to identify undesirable results (URs); and
 - b. Provide additional information regarding how the groundwater level minimum thresholds (MTs) are consistent with avoiding undesirable results, with a particular emphasis on the MTs in the Northwestern Region.
2. **Potential Corrective Action 2:** Use of groundwater levels as a proxy for depletion of interconnected surface water.
3. **Potential Corrective Action 4:** Provide explanation for how overdraft will be mitigated in the Basin.



All Potential Corrective Actions were addressed in the revised 2022 GSP that included supplemental pages and a standalone memorandum (attached as an appendix to the revised 2022 GSP) that provides greater detail on how each were addressed by the CBGSA. This content has been retained in the revised 2025 GSP. A brief summary of the three potential corrective actions related to groundwater levels are provided in the following subsections.

Potential Corrective Action 1

DWR requested additional information regarding the justification for the sustainable management criteria included in the GSP and the effects of those criteria on beneficial users in the Basin. DWR identified two issues as part of this corrective action:

1. Provide a more detailed description of the criterion used to identify undesirable results (URs); and *(applies to all applicable sustainability indicators)*
2. Provide additional information regarding how the groundwater level minimum thresholds (MTs) are consistent with avoiding undesirable results, with a particular emphasis on the MTs in the Northwestern Region *(applicable only to chronic lowering of groundwater levels SMC)*

To address the first part of potential corrective action 1, the CBGSA highlighted where in the original 2020 GSP and in the revised 2022 GSP the cause, quantifiable criterion, and potential effects on beneficial uses and users could be found for each applicable SMC. Additionally, supplemental text was inserted into the revised 2022 GSP providing clarity on the quantifiable criteria used to define an undesirable result.

The second part of this potential corrective action seeks additional information to explain how each threshold region's groundwater level MTs are consistent with avoiding URs, "particularly... in the Northwestern threshold region." For every threshold region, DWR requests that the CBGSA evaluate and provide the potential effects that MTs and URs would have on:

- Well infrastructure, including domestic, community, public, and agricultural wells; and
- Environmental uses and users of groundwater.

The supplemental text included in the revised 2022 GSP includes a detailed table outlining, by threshold region, the MT calculation approach and a detailed description of the justification for each approach. In addition, a detailed analysis was conducted to assess the potential impacts on domestic and production wells based on a worst-case scenario where groundwater levels reached the MT in each RMW. The result of this analysis concluded that in this worst case and highly unlikely scenario, approximately 2% of domestic and production wells (a total of 8 wells) could go dry, although these conditions are not anticipated to occur. A highly detailed description of this analysis including tables and maps is included in the 2022 revised GSP.

Potential Corrective Action 2

As described in the Letter, DWR requests supporting evidence to justify the CBGSA's use of the basin-wide groundwater level MTs as a reasonable proxy for thresholds for depletions of ISW. It was the understanding of the CBGSA that the primary objective of the 2020 GSP approach was to use the entire



groundwater level representative network as a one-for-one proxy for ISWs. However, not all groundwater level representative wells provide data related to interconnected surface waters.

As stated in the SGMA regulations, utilizing a sustainability indicator as a proxy for another is allowed if supported by adequate evidence. As such, the CBGSA conducted analysis to determine the potential locations for interconnected surface waters based on available data and identified a subset of groundwater monitoring wells and has used the groundwater levels from only those wells as a proxy for monitoring interconnected surface waters. The criteria were:

1. Wells that are within 1.5-miles of the Cuyama River and/or 1-mile of one of the four major contributing streams to the Cuyama River, including Aliso Creek, Santa Barbara Creek, Quantal Canyon Creek, and Cuyama Creek,
2. Wells that have screen intervals within 100 feet below ground surface (bgs). In some cases, wells without screen interval information but with well depths greater than 100 feet bgs were included, under the assumption that the top of the screen interval was likely to be less than 100 feet bgs. In many of these wells, recent groundwater depth to water measurements were 40 feet bgs or less.

The monitoring network includes 12 wells, nine of which are representative wells for which minimum thresholds and measurable objective have been defined. The MT, MO, and UR criteria (30 percent of representative wells below their MTs for two consecutive years) are the same as those calculated and provided in the groundwater level representative network for the groundwater level monitoring. MTs at the representative well locations are protective of GDE locations in the upper and lower portions of the river, with MTs less than 30 feet from the bottom of the river channel in the vicinity of four wells (89, 114, 830 and 832). Additional detail including maps is provided in the revised 2022 GSP and the 2025 GSP.

Potential Corrective Action 4

This potential corrective action is related to the lack discussion of how overdraft will be mitigated in the entire Basin. In particular, DWR requested additional information for why the GSP does not include pumping reductions in the Ventucopa management area (where the Cuyama Basin Water Resources Model (CBWRM) predicts long-term groundwater level declines) and why projects and management actions are not included to prevent groundwater level declines in the northwest region.

In response, supplemental text was attached to Section 7, Projects and Management Actions that included the following actions:

- The CBGSA plans to re-evaluate pumping reductions in the Ventucopa region after assessing groundwater conditions over a two-to-five-year period following the GSP submission.
- Challenges in modeling the Ventucopa area included limited groundwater level data for calibration and difficulties characterizing streamflows due to lack of gages and stream geometry information.
- Groundwater pumping levels were estimated from land use data, but specific well locations were unavailable. The CBGSA now requires landowners to install meters on production wells.



- Water budget estimates in the region were relatively small, making small changes impactful. Concerns exist about underestimating stream seepage into the aquifer.
- Model development prioritized the central Basin portion, focusing on historical groundwater levels at the boundary between the central Basin and Ventucopa region.

Additionally, the Ventucopa region faces a projected groundwater deficit of about 700 acre-feet per year (AFY), but this is relatively small compared to the overall storage deficit and falls within the error range of the model. Due to uncertainties, the CBGSA decided that implementing management actions could be premature and decided to wait until additional data would make the modeling results for this area more robust.

3.1.2 Recommended Corrective Actions in 2023 Approval Letter

In the May 23rd, 2023, GSP Approval Letter from DWR, the CBGSA received five recommended corrective actions, one of which relating to groundwater levels:

1. Recommended Corrective Action 1:

- a. Monitor impacts to beneficial uses and users, including impacts to domestic wells, as Plan implementation continues. Provide DWR with an update of impacts and the adaptive management strategies implemented in annual reports and periodic evaluations.
- b. Explain and justify how and why using a subset of representative wells available in the region is appropriate to simulate the potential impacts to all beneficial uses and users in the region. Consider including additional wells within the region to further assess the impacts to the Northwestern Region and downstream users. If it is identified that overdraft will occur in this scenario, the GSA should clarify whether the implementation of proposed projects and management actions will avoid or mitigate significant and unreasonable impacts to beneficial users.

As described in detail in the 2025 GSP Update, the sustainable management criteria thresholds established for monitoring the chronic lowering of groundwater levels takes into consideration beneficial uses and users of groundwater by incorporating and protecting domestic and production wells depths, as well as areas with potential GDEs (as determined by a licensed wetland biologist). Furthermore, the CBGSA has implemented adaptive management strategies (allocations) to reduce groundwater production and bring the Basin into sustainability by the end of the implementation period. As discussed below, the Basin is currently on track with reaching sustainability as established by the interim milestones and has not experienced undesirable results for groundwater levels.

Additionally, as described in more detail in the 2025 GSP Update, a subset of representative wells is appropriate to simulate potential impacts to beneficial uses and users in a region of the Basin because those wells have been selected due to their locations, monitor availability, access, historical record, and because the monitoring network exceeds BMPs for monitoring well density. As described in Section 2.3 and 2.4 above, monitoring network revisions have helped improve and increase CBGSA efficiency while additional wells have been installed in other areas. While the Northwestern Region of the Basin was specifically mentioned for additional monitoring, the CBGSA believes the addition of new



wells/piezometers along with model projections that do not show overdraft are sufficient to keep the monitoring network as provided in the 2025 GSP Update.

3.1.3 Current Conditions and Relation to Thresholds

As discussed in Subsection 2.7 above, the CBGSA has conducted regular groundwater level monitoring since the adoption of the 2020 GSP. Groundwater level data has been posted to the CBGSA's online data management system (DMS) called Opti, the SGMA Portal, and provided via groundwater conditions reports accessible online at the CBGSA's website. Groundwater conditions reports have been posted since November 2020, through April of 2024, and there have been 20 reports posted to the CBGSA website. These reports utilize the thresholds established and described in the 2020 and revised 2022 GSP. The 2025 GSP uses revised thresholds supported by recalibrated models and recent data. Groundwater conditions reports provided after the adoption of the 2025 GSP will utilize these updated thresholds, as does the discussion included in this periodic evaluation.

When comparing the most recent measurements (as of production of this report) from April, 2024, to the new thresholds and interim milestones presented in the 2025 GSP Update, 37 of the 47 groundwater level representative wells (79%) are ahead of the schedule interim milestones for 2025, eight wells (17%) are on schedule and near the 2025 interim milestone, and two wells (4%) are behind their interim milestone targets. These results are shown in Figure 3-1. Data for each well is shown in Table 3-1.

Undesirable results conditions have not been reached within the Basin, however, there have been minimum threshold exceedances. As described in this Periodic Evaluation, the CBGSA intends to revise the minimum thresholds and update them based on new data and the updated model, which is anticipated to provide minimum thresholds and measurable objectives that better reflect conditions and hydrogeologic conditions within the Basin.

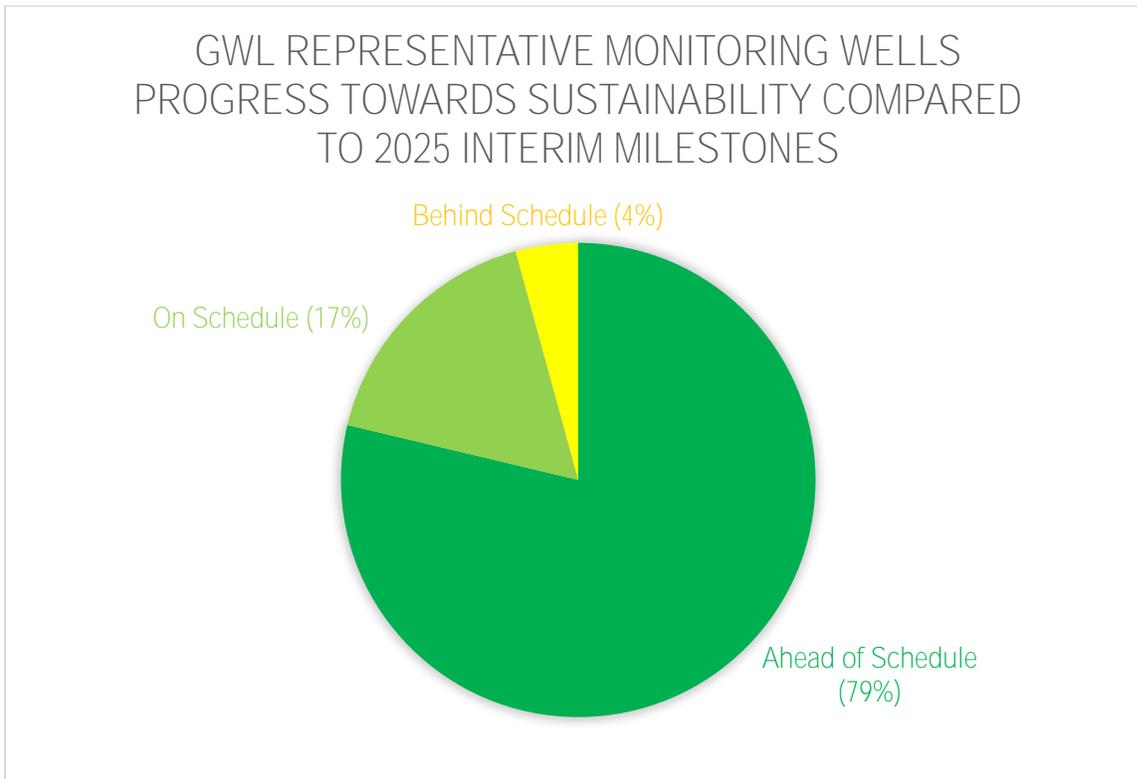


Figure 3-1. Groundwater Level Representative Monitoring Network Conditions Compared to 2025 Interim Milestones



Table 3-1. Groundwater Level Representative Monitoring Network Wells and Levels Compared to Interim Milestones

Opti Well	MT (ft. bgs)	2025 IM (ft. bgs)	2030 IM (ft. bgs)	2035 IM (ft. bgs)	MO (ft. bgs)	April 2024 GWL (ft. bgs)	Status
72	373	362	351	339	328	131.3	Ahead of Schedule
74	322	319	316	312	309	246.06	Ahead of Schedule
77	514	502	489	477	464	489.27	On Schedule
91	730	718	706	693	681	667.34	Ahead of Schedule
95	597	588	580	571	562	67.15	Ahead of Schedule
96	369	367	365	363	361	337.42	Ahead of Schedule
99	379	376	374	371	368	287.81	Ahead of Schedule
102	470	461	451	442	432	288	Ahead of Schedule
103	379	365	352	338	324	233.41	Ahead of Schedule
112	102	102	101	101	100	84.4	Ahead of Schedule
114	58	58	57	57	56	45.18	Ahead of Schedule
316	731	719	707	694	682	668.59	Ahead of Schedule
317	700	688	675	663	650	666.85	On Schedule
322	387	385	383	380	378	288.31	Ahead of Schedule
324	365	362	359	356	353	289.52	Ahead of Schedule
325	331	329	327	325	323	289.59	Ahead of Schedule
420	514	502	489	477	464	490.46	On Schedule
421	514	502	490	478	466	484.66	On Schedule
474	197	192	188	183	178	130.78	Ahead of Schedule
568	47	47	47	46	46	33.95	Ahead of Schedule
604	544	534	525	515	505	460.61	Ahead of Schedule
608	504	497	490	482	475	431.24	Ahead of Schedule
609	499	490	481	471	462	435.09	Ahead of Schedule
610	557	550	542	535	527	629.28	Behind Schedule
612	513	507	502	496	490	472.64	Ahead of Schedule
613	578	571	564	557	550	527.84	Ahead of Schedule
615	588	580	572	564	556	514.74	Ahead of Schedule
629	613	605	597	589	581	557.23	Ahead of Schedule
633	605	592	578	565	551	563.67	On Schedule
62	212	206	200	193	187	110.63	Ahead of Schedule
85	200	194	188	182	176	156.76	Ahead of Schedule
100	186	179	172	164	157	66.88	Ahead of Schedule
101	138	132	127	121	115	87.29	Ahead of Schedule
841	203	191	178	166	153	50.05	Ahead of Schedule



Opti Well	MT (ft. bgs)	2025 IM (ft. bgs)	2030 IM (ft. bgs)	2035 IM (ft. bgs)	MO (ft. bgs)	April 2024 GWL (ft. bgs)	Status
845	203	191	178	166	153	69.11	Ahead of Schedule
2	52	48	44	39	35	14.1	Ahead of Schedule
89	62	57	52	47	42	21.11	Ahead of Schedule
106	164	161	158	155	152	141.36	Ahead of Schedule
107	122	117	113	108	103	72.44	Ahead of Schedule
117	163	161	159	156	154	151.4	Ahead of Schedule
118	40	33	25	18	10	49.62	Behind Schedule
571	142	136	130	124	118	78.29	Ahead of Schedule
573	93	80	68	55	42	67.66	On Schedule
830	63	62	62	61	60	49.14	Ahead of Schedule
832	50	46	43	39	35	32.86	Ahead of Schedule
833	48	39	29	20	10	20.11	On Schedule
836	49	39	30	20	10	27.2	On Schedule

3.1.4 Progress Towards Sustainability

The Cuyama Basin is on track to achieve groundwater level sustainability by SGMA regulation's timeline of 2040. Managing groundwater resources and related sustainability indicators requires a multifaceted and flexible approach while adjusting to external independent conditions such as climatic variations. However, the CBGSA's data driven, modeling based, and flexible approach has kept the Basin on the planned path towards sustainability.

To accomplish this, the CBGSA has:

- Modified the groundwater level representative monitoring network to reduce redundancy while maintaining above SGMA BMP density requirements.
- Recalculated sustainability thresholds (MTs, MOs, and IMs) are more appropriately aligned with the Basin's definition of sustainability, historical and modeled conditions, and based on updated modeling and newly acquired data.
- Installed new monitoring wells to fill data gaps that, may in the future, be incorporated into the groundwater level representative network once enough historical data has been collected.
- Initiated a pumping reduction plan and pumping reduction schedule to reduce overall extractions from the Basin.
- Initiated a groundwater production metering program to ensure accurate data collection and equitable reductions for landowners.
- Held public meetings and workshops to communicate the CBGSA goals, path to achieve those goals, and elicit feedback from stakeholders.



As stated above, 45 of the 47 groundwater level representative wells show conditions that either meet or exceed the interim milestones established in the 2025 GSP. This means two wells (118 and 610) have not yet met the 2025 interim milestones.

It should be noted that although the thresholds for groundwater levels were modified and adopted with the 2025 GSP, the thresholds are protective of beneficial uses and users. As discussed in Section 5.2 of the 2025 GSP, the new thresholds are calculated from a stepwise function that takes into consideration GDEs, the well protection depth (which is used to ensure that active production and domestic wells within the Basin are protected from harm to their beneficial uses), well construction information, beneficial users, projected water depth in 2040, and the saturated thickness in areas of greater geologic understanding.

To ensure potential impacts to beneficial uses or users is monitored and understood, the CBGSA has created a dry well reporting form accessible via the CBGSA website, and tracks dry wells posted to the DWR Dry Well Reporting System (<https://mydrywatersupply.water.ca.gov/report/>). At the time of this report drafting (July 2024), six wells were reported dry since 2020. Five of the six wells were used for agriculture and irrigation, one was for a household. None of these wells were reported through the CBGSA's dry well reporting form.

The CBGSA will continue to monitor groundwater levels and report associated data via the DWR SGMA portal, the Cuyama Basin DMS, Annual Reports, and regular groundwater conditions reports.

3.2 Reduction of Groundwater Storage

The GSP uses groundwater levels as a proxy for monitoring groundwater storage and uses the groundwater model to estimate changes in storage.

3.2.1 Potential Corrective Actions and Recommended Corrective Actions

DWR provided one Potential Corrective Actions in its 2022 Determination Letter related to the chronic lowering of groundwater levels:

1. **Potential Corrective Action 1:** Provide justification for, and effects associated with, the sustainable management criteria including:
 - a. Provide a more detailed description of the criterion used to identify undesirable results (URs)

Because the GSP uses groundwater levels as a proxy for groundwater storage, the response to this potential corrective action is the same as what is described above in the groundwater levels section.

There were no recommended corrective actions included in the 2024 DWR Approval Letter that relate to reductions of groundwater storage.



3.2.2 Current Conditions and Relation to Thresholds

Groundwater levels have been used to create change in storage contour and raster maps for each water year and are included in each annual report. These contours are useful at the planning level for understanding groundwater levels across the Basin, and to identify general horizontal gradients and regional groundwater level trends. The contour map is not indicative of exact values across the Basin because groundwater contour maps approximate conditions between measurement points, and do not account for topography.

A quantitative estimate of the annual change in groundwater storage was estimated using the CBWRM model, which at the time of writing includes data through Water Year 2023. The CBWRM was used to estimate the full groundwater budget for each year in the Cuyama Basin, which consists of a single principal aquifer. The estimated values for each water budget component for all years since GSP adoption and implementation are shown in Table 3-2.

Table 3-2. Groundwater Budget Estimates for Water years 2019 through 2023

Component	Water Year 2019 (AFY)	Water Year 2020 (AFY)	Water Year 2021 (AFY)	Water Year 2022 (AFY) ¹	Water Year 2023 (AFY)
Inflows					
Deep percolation	26,200	25,700	17,500	20,900	33,800
Stream seepage	3,900	2,800	800	4,900	11,700
Subsurface inflow	1,600	1,500	900	1,400	5,300
Total Inflow	31,700	30,000	19,200	27,200	50,800
Outflows					
Groundwater pumping	46,500	53,600	64,000	57,400	49,900
Total Outflow	46,500	53,600	64,000	57,400	49,900
Change in Storage	-14,800	-23,600	-44,800	-30,200	+900

¹ The data for water year 2022 differs from the previous Annual Report due to updates in land use classifications



Figure 3-2 shows the historical change in groundwater storage by year, water year type,¹ and cumulative water volume in each year for the period from 1998 through 2023.² The change in groundwater storage in each year was estimated by the CBWRM model. The color of bar for each year of change in storage correlates a water year type defined by Basin precipitation.

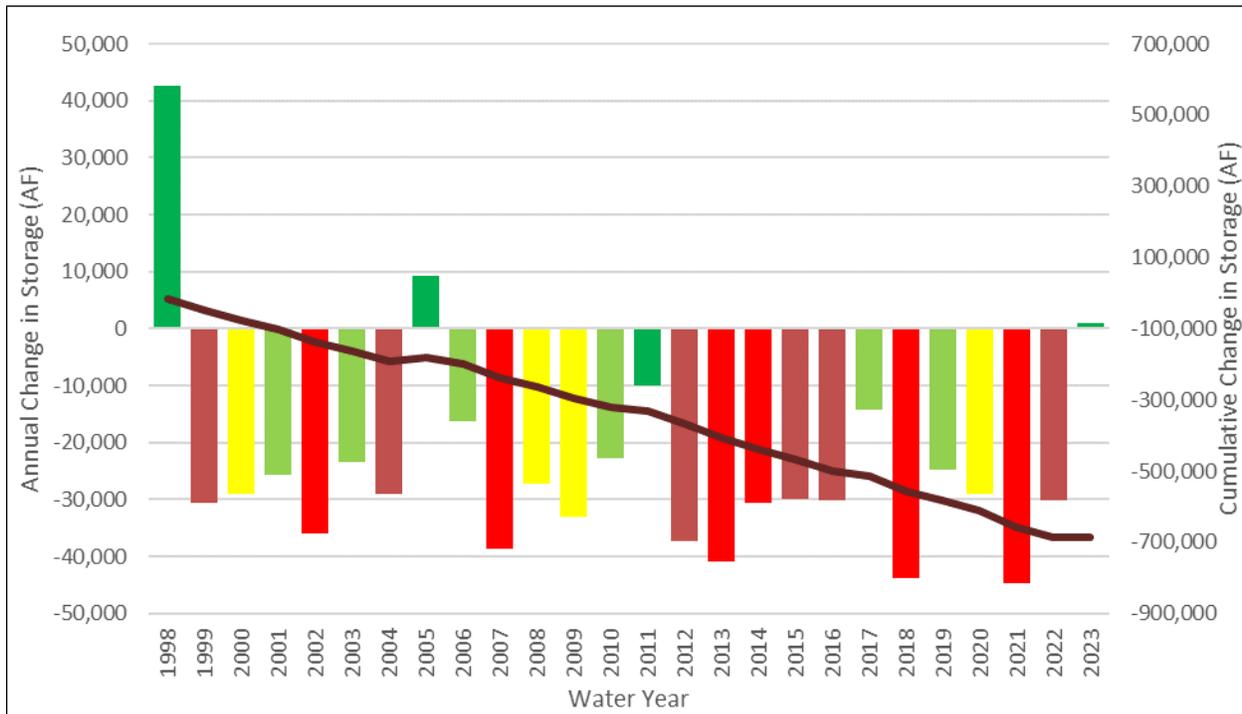


Figure 3-2. Change in Groundwater Storage by Year, Water Year Type, and Cumulative Water Volume

¹ Water year types are customized for the Basin watershed based on annual precipitation as follows:

- Wet year = more than 19.6 inches
- Above normal year = 13.1 to 19.6 inches
- Below normal year = 9.85 to 13.1 inches
- Dry year = 6.6 to 9.85 inches
- Critical year = less than 6.6 inches.

² Groundwater storage change estimates for years 1998 through 2021 differ from estimates reported in previous Cuyama Basin Annual Reports due to model updates using the most recent land use data.



3.2.3 Progress Towards Sustainability

Groundwater levels are used as a proxy for groundwater storage in the Basin. Please see Section 3.1.4 for details.

3.3 Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator for the Cuyama Valley Groundwater Basin.

3.4 Degraded Water Quality

3.4.1 Potential Corrective Actions in 2022 Determination Letter

As described above, the CBGSA received a GSP Determination Letter on January 21, 2022, from DWR. Four potential correct actions were provided in the Letter, one of which relate to the groundwater quality SMC. The corrective action was for the CBGSA to further address degraded water quality. Specifically, DWR's Letter expressed two main concerns about the water quality analysis and constituent thresholds used in the GSP. First, the GSP acknowledges that nitrate and arsenic have been historical constituents of concern, but due to regulatory limitations, did not set thresholds for these two constituents. Second, based on feedback provided in a public comment, there was concern that some public data was not included in the water quality analysis conducted for the Basin. DWR believes that the GSA may have approached the management strategies differently (through setting thresholds for these constituents) if this data had been utilized. DWR recommended the following to address the concerns raised in the letter:

1. Groundwater conditions information related to water quality should be updated to include all available data, in particular as recommended by the Regional Water Quality Control Board, so as to reflect the best available information regarding water quality.
2. The GSA should either develop sustainable management criteria for arsenic and nitrate or provide a thorough, evidence-based description for why groundwater management is unlikely to cause significant and unreasonable degradation of groundwater.
3. The GSA should appropriately revise its monitoring network based on the above updates. At a minimum, the GSA should include monitoring for arsenic and nitrates as they have been identified as constituents of concern in the Basin.

As discussed in Section 4.3.3 of the original 2020 and revised 2022 GSP, as well as Section 4.3.3 of the 2025 GSP Update, water quality data for the Basin was collected from the Irrigated Lands Program (ILP), Groundwater Ambient Monitoring and Assessment (GAMA) Program, United States Geological Survey (USGS), Cuyama Community Services District (CCSD), Ventura County Water Protection District, and private landowners. Staff performed detailed analysis to ensure that wells included in multiple datasets were paired correctly to the best of their ability and remove duplicate measurements and data.

The GSP discussion noted that the CBGSA does not have the ability or authority to perform actions to address nitrate or arsenic levels in the Basin. Nitrate concentrations are directly related to fertilizer application on agricultural crops, and SGMA regulations do not provide GSAs the regulatory authority to



manage fertilizer application. This regulatory authority is, however, held by the SWRCB through the Irrigated Land Program (ILP). Additionally, arsenic is a naturally occurring constituent and has only been measured in limited regions of the Basin.

To specifically respond to the three actions recommended by DWR, supplemental text was included in the revised 2022 GSP that included:

- A more thorough description of groundwater conditions relative nitrates and arsenic including summary statistics and maps showing well and sample locations and a summary of collected data (Supplemental Section 2.2.7)
- A description of why groundwater management is unlikely to affect nitrate and arsenic concentrations (Supplemental Section 4.3.2)
- A monitoring approach for nitrates and arsenic, including how the CBGSA will reevaluate available data (including new monitoring data) at the next GSP update in 2025 (Supplemental Section 4.3.3)

Additional detail is included in the revised 2022 GSP and the 2025 GSP Update.

As further described in Section 4.8 of the 2025 GSP Update, arsenic and nitrate measurements will be taken by the CBGSA at water quality monitoring network wells once every five years.

In addition, to gain a better understanding of nitrate in the Basin, the CBGSA will download arsenic monitoring measurements collected by third party sources, especially SWRCB GAMA Database, on an annual basis. The GAMA database includes data collected by USGS, California Natural Resources Agency, National Quality Monitoring Council Water Quality Portal, as well as other sources as shown in Table 3-3.



Table 3-3: GAMA Databases and Frequency of Updates

Data Set Name	Dataset Abbreviation	Update Frequency (Approximate)
Department of Pesticide Regulation	DPR	Yearly
Department of Water Resources	DWR	Yearly
Division of Drinking Water	DDW	Quarterly
GAMA Domestic Well	GAMA_DOM	No longer updated
GAMA Local Groundwater Projects	GAMA_LOCALGW	Various
GAMA Special Studies	GAMA_SP-STUDY	No longer updated
GAMA US Geological Survey	GAMA_USGS	Quarterly
Local Groundwater Projects	LOCALGW	Monthly
US Geological Survey - National Water Information System	USGS_NWIS	Quarterly
Water Board Cleanup and Permitted Sites	WB_CLEANUP	Monthly
Water Board Irrigated Lands Regulatory Programs	WB_ILRP	Monthly
Water Replenishment District	WRD	Yearly

Figure 4-21 of the 2025 GSP Update shows the locations where nitrate monitoring has occurred over the past 10- and 5-year Periods. A total of 104 wells were sampled over the 10-year period from 2013-2023. The majority of Nitrate data is collected through the California Central Coast Water Board Irrigated Lands Regulatory Program (ILRP). The Central Coast Water Board regulates discharges from irrigated agricultural lands to protect surface water and groundwater through Order 4.0 (RE-2021-0040). In 2023, in the Cuyama Basin, the ILRP program had 16 operations and 88 ranches enrolled in the program reporting Nitrate data. Parties enrolled in the program are required to monitor and report results for the primary irrigation wells to GeoTracker annually, which is updated to GAMA.

The CBGSA will utilize the GAMA database to monitor arsenic water quality in the Basin. Arsenic samples are taken at seven wells, all municipal and domestic. These samples are from DDW, GAMA USGS, and USGS NWIS. The Cuyama Groundwater Basin has two public water systems according to the System Area Boundary Layer (SABL) tool developed by the SWRCB. The first public water system is called the Cuyama Community Services District water system number CA4210009, which serves a population of 700. This public water system is classified as a community water system. The second is Cuyama Mutual Water Company water system number CA4200514, which serves a population of 48 and is classified as a transient noncommunity water system. All wells were sampled in the past five years. These two water systems provide 87% of the sampling results for arsenic in the Basin taken over the 10-year period from 2013-2023. There have been 87 samples from these 7 wells taken over the past 10 years. These locations are shown in Figure 4-22 of the 2025 GSP Update.



3.4.2 Recommended Corrective Actions in 2023 Approval Letter

In the 2023 GSP Approval Letter from DWR, the CBGSA received five recommended corrective actions, three of which related to groundwater quality. They are:

- **Recommended Corrective Action 3:** Provide an update regarding the status of the planned project to construct a new replacement production well near the community of New Cuyama, including whether wellhead treatment of arsenic will be performed and whether routine analysis of groundwater samples will be performed to monitor the effectiveness of the arsenic mitigation. If this project is not effective or not implemented by the periodic evaluation, then the GSA should develop sustainable management criteria for arsenic.
- **Recommended Corrective Action 4:** By the periodic evaluation to be submitted by 2025, Department staff recommend the GSA develop sustainable management criteria for nitrate.
- **Recommended Corrective Action 5:** Clarify the GSA’s intent to perform ongoing measurements and analysis of groundwater samples for arsenic and nitrate, which will be important for the GSA to quantitatively demonstrate, using evidence-based analysis, that implementation of the GSP is achieving the intended effect of avoiding significant and unreasonable impacts to beneficial uses and users of groundwater. Discuss the frequency of the ongoing measurements for nitrate and arsenic.

Recommended Corrective Action 3

As described in Section 7.4.4 of the 2025 GSP Update, the CCSD obtained DWR funding to install a new production well. A replacement well was attempted at the CCSD’s Well 2 location but found to produce water that was unsuitable for potable use due to the design and construction of the well. A new location is currently being identified for a CCSD replacement well in CCSD’s service area to replace Well 2, which has been abandoned due to an electrical failure that damaged the well and pumping equipment and subsequent damage the well incurred when an attempt was made to remove the pump. Construction of the new well is expected to be completed soon and would include:

- Drilling, installing, and testing a new well
- Installing a well head, submersible well pump, and electrical panel
- Construction of an 8-inch pipeline to connect the new well to CCSD’s system

As any new CCSD well would be used for domestic purposes, monitoring for constituents such as arsenic is anticipated as part of normal operations. This data would be requested by the CBGSA for inclusion into its analysis.



Recommended Corrective Action 4

Recommended Corrective Action 4 suggests developing sustainable management criteria for nitrate, which is discussed in detail in Section 3.4.1 above.

Recommended Corrective Action 5

Recommended Corrective Action 5 suggests clarifying the CBGSA's ongoing monitoring and evaluating of arsenic and nitrate. This is discussed in detail in Section 3.4.1 above.

3.4.3 Current Conditions and Relation to Thresholds

In January 2024, the CBGSA voted to modify the calculations methodology for calculating the groundwater quality sustainability thresholds for both the minimum threshold and the measurable objective. The MT was modified so that data sampled between the submittal of the 2020 GSP and the current update would be incorporated into the calculation, as well as putting a minimum cap of 1,000 mg/L for TDS. These modifications were done to expand the available data used to calculate each threshold (i.e. longer period of record) as well as ensure wells that had very low historic TDS levels were not unduly limited in the event of TDS concentration increases that still did not exceed established drinking water standards. The MO was also updated to include recent monitoring data in its methodology calculation. Table 3-4 provides both the updated representative well list and the measurements collected in Q3 of 2024 relative to the 2025 IMs. Provided data shows that 25 of the 29 representative monitoring sites are ahead of schedule when compared to the 2025 IM, while four wells do not have measurements available for this period. Undesirable results for the degradation of groundwater quality have not occurred within the Basin.

Table 3-4: Groundwater Quality Representative Monitoring Network Wells and Measurements Compared to Interim Milestones

Opti Well	Q3 2024 TDS (mg/L)	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)	Status Relative to 2025 IM
61	-	585	1000	896	793	689	NA
72	894	900	1106	1055	1003	952	Ahead of Schedule
74	1360	1310	1872	1732	1591	1451	Ahead of Schedule
77	1165	1,120	1682	1542	1401	1261	Ahead of Schedule
79	1630	1,500	2318	2114	1909	1705	Ahead of Schedule
83	1110	1,120	1816	1642	1468	1294	Ahead of Schedule
88	337	320	1000	830	660	490	Ahead of Schedule
90	1120	1,400	1596	1547	1498	1449	Ahead of Schedule
91	1059	1,020	1558	1424	1289	1155	Ahead of Schedule



Opti Well	Q3 2024 TDS (mg/L)	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)	Status Relative to 2025 IM
95	1310	1340	1950	1798	1645	1493	Ahead of Schedule
96	1220	1100	1676	1532	1388	1244	Ahead of Schedule
99	1060	1,140	1658	1529	1399	1270	Ahead of Schedule
101	1230	1210	1735	1604	1473	1341	Ahead of Schedule
102	1640	1,500	2551	2288	2026	1763	Ahead of Schedule
157	-	1,360	2468	2191	1914	1637	NA
204	348	380	1000	845	690	535	Ahead of Schedule
242	883	780	1656	1437	1218	999	Ahead of Schedule
316	1105	1,060	1524	1408	1292	1176	Ahead of Schedule
317	1068	692	1444	1256	1068	880	Ahead of Schedule
322	1170	1,140	1504	1413	1322	1231	Ahead of Schedule
324	700	740	1000	935	870	805	Ahead of Schedule
325	1040	1,070	1687	1533	1378	1224	Ahead of Schedule
420	1121	1,080	1560	1440	1320	1200	Ahead of Schedule
421	1390	1,280	1761	1640	1520	1400	Ahead of Schedule
424	1270	1,260	1658	1559	1459	1360	Ahead of Schedule
467	1080	1070	1846	1652	1458	1264	Ahead of Schedule
568	841	860	1118	1054	989	925	Ahead of Schedule
841	-	561	1000	890	781	671	NA
845	-	1,250	1250	1250	1250	1250	NA

3.4.4 Progress Towards Sustainability

The Cuyama Basin is on track to achieve groundwater quality sustainability by SGMA regulation's timeline of 2040. Managing groundwater resources and related sustainability indicators requires a multifaceted and flexible approach while adjusting to external independent conditions such as climatic variations. However, the CBGSA's data driven, modeling based, and flexible approach has kept the Basin on the planned path towards sustainability.

To accomplish this, the CBGSA has:

- Recalculated sustainability thresholds (MTs, MOs, and IMs) are more appropriately aligned with the Basin's definition of sustainability, historical and modeled conditions, and based on updated modeling and newly acquired data.



- Installed new monitoring wells to fill data gaps that, may in the future, be incorporated into the groundwater level representative network once enough historical data has been collected.
- Initiated a pumping reduction plan and pumping reduction schedule to reduce overall extractions from the Basin.
- Initiated a groundwater production metering program to ensure accurate data collection and equitable reductions for landowners.
- Held public meetings and workshops to communicate the CBGSA goals, path to achieve those goals, and elicit feedback from stakeholders.

As stated above, 25 of the 29 groundwater quality representative wells show conditions that exceed the interim milestones established in the 2025 GSP. Four wells did not have measurements for the most recent period and could not be assessed.

It should be noted that although the thresholds for groundwater quality were modified and adopted with the 2025 GSP, the thresholds are protective of beneficial uses and users. As discussed in Section 5.5 of the 2025 GSP, the MT was modified so that data sampled between the submittal of the 2020 GSP and the current update would be incorporated into the calculation, as well as putting a minimum cap of 1,000 mg/L for TDS. These modifications were done to expand the available data used to calculate each threshold (i.e. longer period of record) as well as ensure wells that had very low historic TDS levels were not unduly limited in the event of TDS concentration increases that still did not exceed established drinking water standards. The MO was also updated to include recent monitoring data in its methodology calculation.

The CBGSA will continue to monitor groundwater quality and report associated data via the Cuyama Basin DMS, Annual Reports, and regular groundwater quality conditions reports.

3.5 Subsidence

3.5.1 Potential Corrective Actions and Recommended Corrective Actions

DWR provided one Potential Corrective Actions in its 2022 Determination Letter related to subsidence:

1. **Potential Corrective Action 1:** Provide justification for, and effects associated with, the sustainable management criteria including:
 - a. Provide a more detailed description of the criterion used to identify undesirable results (URs)

The response to this potential corrective action is the same as what is described above in Section 3.1.1 in the groundwater levels section.

There were no recommended corrective actions included in the 2024 DWR Approval Letter that relate to subsidence.



3.5.2 Current Conditions and Relation to Thresholds

Subsidence data were collected from the University NAVSTAR Consortium (UNAVCO) database. UNAVCO maintains data on five GPS monitoring stations in the area in and around the Basin. Three stations (P521, OZST, and BCWR) are located just outside the Basin. The three stations' measurements show ground surface level as either staying constant or slightly increasing. The increase is potentially due to tectonic activity in the region. Two stations (VCST and CUHS) are located within the Basin. Station VCST is located near Ventucopa and indicates that subsidence is not occurring in that area. Station CUHS indicates that 339 millimeters (approximately 1.1 feet) of subsidence have occurred in the vicinity of New Cuyama over the 25 years that were monitored (1999 - 2023). The subsidence at this station increases in magnitude following 2010, and generally follows a seasonal pattern. The seasonal pattern is possibly related to water level drawdowns during the summer, and elastic rebound occurring during winter periods.

In the fall of 2024, an investigation was completed of the Cuyama Valley High School (CUHS) station. This station is currently operated and maintained by USGS. An onsite inspection was performed and USGS staff were contacted to investigate the construction, sort term and seasonal fluctuations in all position's displacement components. USGS regularly reviews the data collected and did not identify any data quality issues and the site inspection did not identify any potential issue. It was concluded that the longer-term subsidence is occurring consistent with groundwater pumping and drought. Seasonal fluctuations are likely due to rainfall and possible the absence of bedrock anchoring allowing the station to move up and down on a titled axis.

As shown in Figure 3-3, subsidence trends are approximately 0.073 ft per year, or 0.876 inches per year in the central portion of the Basin. The subsidence minimum threshold is set at 2 inches per year, which has not occurred and is not close to occurring at this time. The measurable objective for subsidence is 0 inches per year, and no interim milestones were set in the GSP because minimum thresholds had not been reached.

Undesirable results conditions have not occurred for subsidence within the Basin and are not anticipated to occur in the foreseeable future.

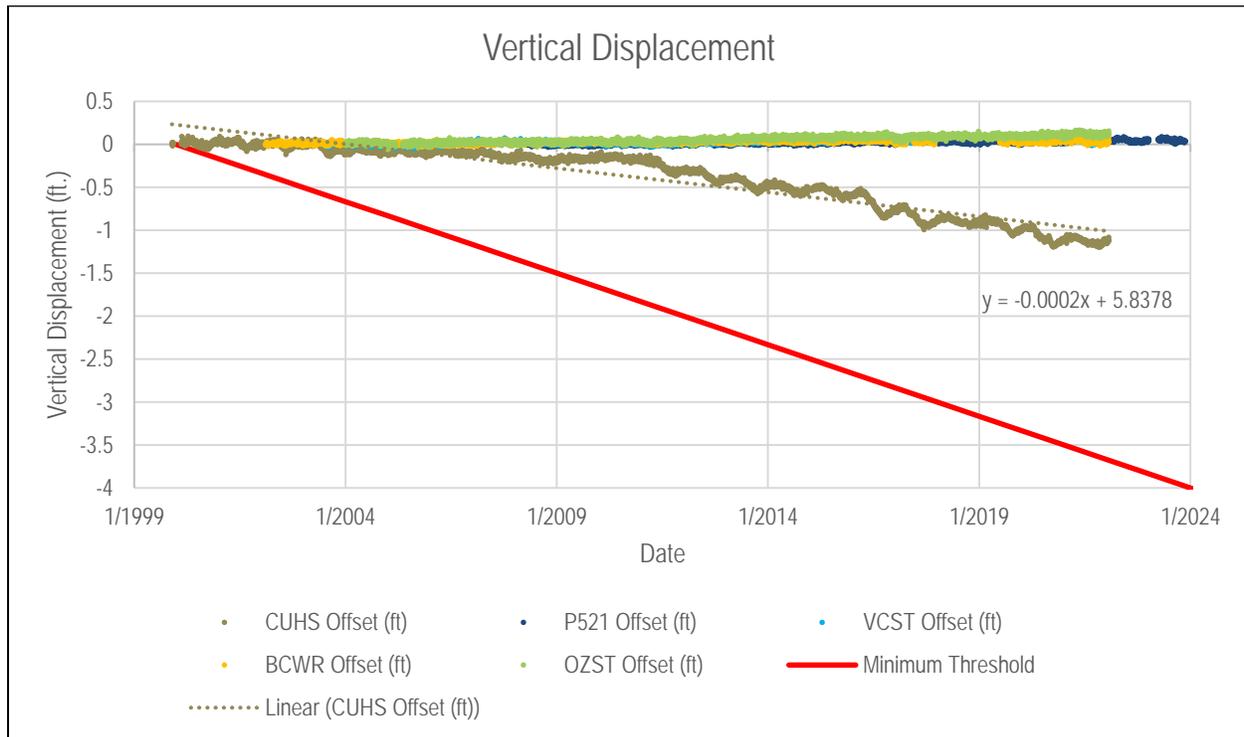


Figure 3-3: Vertical Displacement at Cuyama Groundwater Basin Monitoring Sites

3.5.3 Progress Towards Sustainability

Subsidence within the Basin is already sustainable and does not show signs of reaching or approaching conditions that would trigger undesirable results. No beneficial users or uses have been detrimentally impacted by subsidence in the Basin. Additionally, subsidence trends are likely to decrease (less vertical declination) through the implementation of the GSP and groundwater allocations as the Basin works towards sustainability by the end of the implementation period. The Basin is expected to see a gradual shift towards a decreased rate of subsidence in the future due to the implementation of the GSP.

3.6 Depletions of Interconnected Surface Waters

3.6.1 Potential Corrective Actions in 2022 Determination Letter

DWR provided two Potential Corrective Actions related to interconnected surface waters. In summary they are:

1. **Potential Corrective Action 1:** Provide justification for, and effects associated with, the sustainable management criteria including:



- a. Provide a more detailed description of the criterion used to identify undesirable results (URs); and
2. **Potential Corrective Action 2:** Use of groundwater levels as a proxy for depletion of interconnected surface water.
3. **Potential Corrective Action 4:** Provide explanation for how overdraft will be mitigated in the Basin.

Because the GSP currently uses groundwater levels to establish sustainable management criteria for interconnected surface water, the responses to these potential corrective actions included in the 2022 GSP are the same as what is described above in Subsection 3.1.

3.6.2 Recommended Corrective Actions in 2023 Approval Letter

DWR provided Recommended Corrective Action 2 related to depletions of interconnected surface waters in its approval letter:

Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, basinwide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSA should work to address the following items by the first periodic evaluation:

- a) *Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.*
- b) *Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.*
- c) *Prioritize collaborating and coordinating with local, state, and federal regulatory agencies, as well as interested parties, to better understand the full suite of beneficial uses and users that may be impacted by pumping-induced surface water depletion within the GSA's jurisdictional area.*



At the time of production of the 2025 GSP Update, DWR continues (as of early October 2024) to develop technical papers and eventually guidance documents to assist GSAs in addressing the interconnected surface waters sustainability indicator. The first technical paper, *Depletions of ISW: An Introduction*, was published in February of 2024. Paper 2, *Techniques for Estimating ISW Depletion Caused by Groundwater Use*, and Paper 3, *Examples for Estimating ISW Depletion Caused by Groundwater Use*, were published in September of 2024. Paper 4, *Guidance for Establishing SMCs for Depletions of ISW*, is expected sometime in 2025.

The 2022 GSP uses groundwater levels as a proxy for interconnected surface waters. The 2022 GSP specifies that only a subset of wells, selected based on specific criteria, are used to monitor areas with potential interconnected surface waters. The 2025 GSP Update includes this same subset of groundwater level monitoring wells, with thresholds that incorporate protection for interconnected surface waters and beneficial uses and users such as GDEs. The CBGSA will reassess the monitoring network and sustainability criteria for interconnected surface water once Paper 4 is released.

The technical papers released by DWR for the estimation of ISW depletion were not available in time to be used in the 2025 GSP Update. Therefore, the GSP includes the same information that was included in the 2022 GSP, discussed further in Section 5.2.5 below. The CBGSA will re-assess the estimation of ISW depletion using the approaches contained in the DWR technical papers in future years.

3.6.3 Current Conditions and Relation to Thresholds

As discussed in Subsection 2.7 above, the CBGSA has conducted regular groundwater level monitoring since the adoption of the 2020 GSP. As allowed by SGMA regulations, sustainability indicators may use proxy data for monitoring purposes and the Cuyama GSA utilizes groundwater levels as a proxy for interconnected surface waters. A subset of wells that monitor groundwater levels have been used as the monitoring sites for interconnected surface waters, and the methodology for setting groundwater level thresholds incorporated considerations and protections for beneficial uses and users of interconnected surface waters. Therefore, the subset of wells used as proxy for interconnected surface waters also uses the same thresholds established for groundwater levels.

Groundwater level data has been posted to the CBGSA's online data management system (DMS) called Opti, the SGMA Portal, and provided via groundwater conditions reports accessible online at the CBGSA's website. Groundwater conditions reports have been posted since November 2020, through April of 2024, and there have been 20 reports posted to the CBGSA website. These reports utilize the thresholds established and described in the 2020 and revised 2022 GSP. The 2025 GSP uses revised thresholds supported by recalibrated models and recent data. Groundwater conditions reports provided after the adoption of the 2025 GSP will utilize these updated thresholds, as does the discussion included in this periodic evaluation.

When comparing the most recent measurements (as of production of this report) from April, 2024, to the new thresholds and interim milestones presented in the 2025 GSP Update, six of the seven groundwater level representative wells (79%) are ahead of the schedule interim milestones for 2025, one well (17%)



are on schedule and near the 2025 interim milestone, and no wells (0%) are behind their interim milestone targets. These results are shown in Figure 3-4. Data for each well is shown in Table 3-5.

Undesirable results conditions have not been reached within the Basin, and there have been no minimum threshold exceedances. As described in this Periodic Evaluation, the CBGSA intends to revise the minimum thresholds and update them based on new data and the updated model, which is anticipated to provide minimum thresholds and measurable objectives that better reflect conditions and hydrogeologic conditions within the Basin.

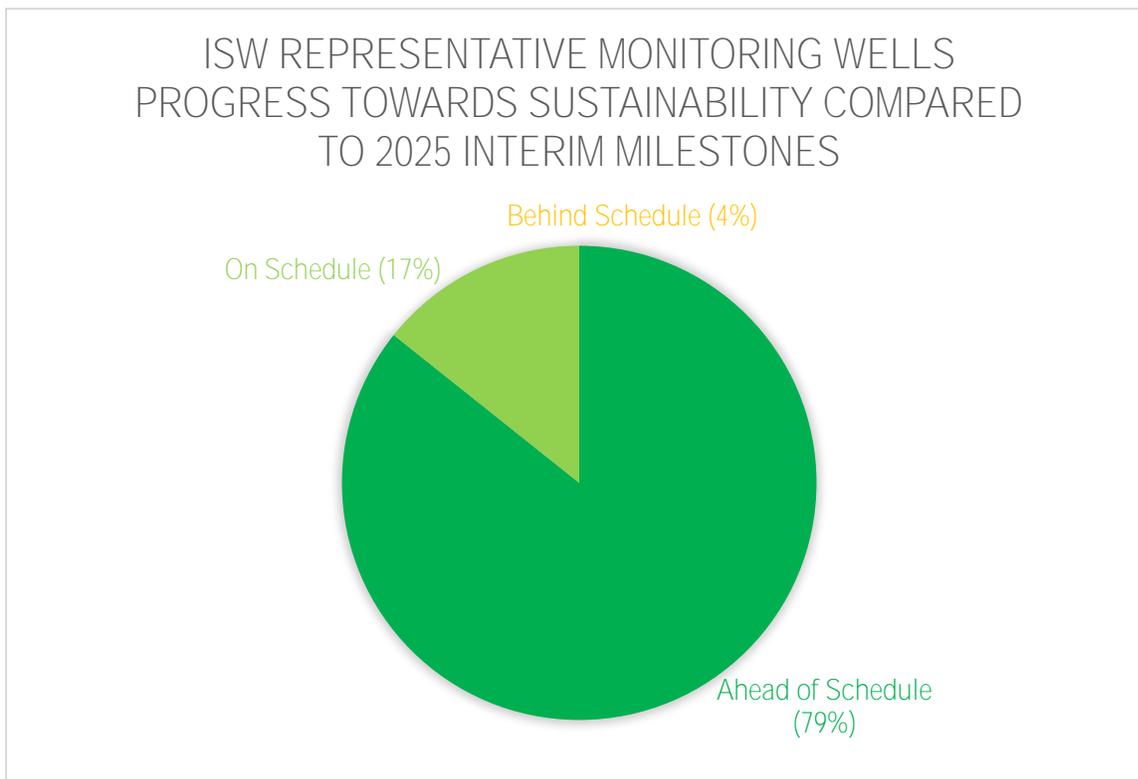


Figure 3-4. Interconnected Surface waters Representative Monitoring Network Conditions Compared to 2025 Interim Milestones



Table 3-5. Interconnected Surface Waters Representative Monitoring Network Wells and Levels Compared to Interim Milestones

Opti Well	MT (ft. bgs)	2025 IM (ft. bgs)	2030 IM (ft. bgs)	2035 IM (ft. bgs)	MO (ft. bgs)	April 2024 GWL (ft. bgs)	Status
114	58	58	57	57	56	45.18	Ahead of Schedule
568	47	47	47	46	46	33.95	Ahead of Schedule
2	52	48	44	39	35	14.1	Ahead of Schedule
89	62	57	52	47	42	21.11	Ahead of Schedule
830	63	62	62	61	60	49.14	Ahead of Schedule
832	50	46	43	39	35	32.86	Ahead of Schedule
833	48	39	29	20	10	20.11	On Schedule

3.6.4 Progress Towards Sustainability

The Cuyama Basin is on track to achieve interconnected surface waters sustainability by SGMA regulation’s timeline of 2040. Managing groundwater resources and related sustainability indicators requires a multifaceted and flexible approach while adjusting to external independent conditions such as climatic variations. However, the CBGSA’s data driven, modeling based, and flexible approach has kept the Basin on the planned path towards sustainability.

To accomplish this, the CBGSA has:

- Recalculated sustainability thresholds (MTs, MOs, and IMs) are more appropriately aligned with the Basin’s definition of sustainability, historical and modeled conditions, and based on updated modeling and newly acquired data.
- Installed new monitoring wells and piezometers to fill data gaps that, may in the future, be incorporated into the interconnected surface waters and groundwater level representative networks once enough historical data has been collected.
- Initiated a pumping reduction plan and pumping reduction schedule to reduce overall extractions from the Basin.
- Initiated a groundwater production metering program to ensure accurate data collection and equitable reductions for landowners.
- Held public meetings and workshops to communicate the CBGSA goals, path to achieve those goals, and elicit feedback from stakeholders.

As stated above, all seven interconnected surface representative wells show conditions that either meet or exceed the interim milestones established in the 2025 GSP.

It should be noted that although the thresholds for groundwater levels (and therefore the subset of wells used to monitor interconnected surface waters) were modified and adopted with the 2025 GSP, the thresholds are protective of beneficial uses and users. As discussed in Section 5.2 of the 2025 GSP, the



new thresholds are calculated from a stepwise function that takes into consideration GDEs, the well protection depth (which is used to ensure that active production and domestic wells within the Basin are protected from harm to their beneficial uses), well construction information, beneficial users, projected water depth in 2040, and the saturated thickness in areas of greater geologic understanding.

The CBGSA will continue to monitor interconnected surface waters and groundwater levels and report associated data via the DWR SGMA portal, the Cuyama Basin DMS, Annual Reports, and regular groundwater conditions reports.



4. STATUS OF PROJECTS AND MANAGEMENT ACTIONS

The 2020 GSP included several projects and management actions (PMAs) that have been either implemented, are planning to be implemented, in design, and/or undergoing initial planning and studies.

Full descriptions of these projects are included in the 2020 GSP. Consistent with SGMA requirements, the project descriptions in the 2020 GSP and contained information regarding:

- Project descriptions,
- Significant new information,
- Reported or expected benefits,
- Evaluation of project impacts or benefits,
- Permitting and regulatory processes,
- Public notice and engagement processes, and
- Estimated costs and funding source.

4.1 Completed Projects and Other Activities

Since adoption of the 2020 GSP, one management action has been completed and another management action has been started and is continuing as a long-term and ongoing activity. Progress has been made on the completion of three of the four projects included in the GSP. Table 4-1 includes all projects and management actions included in the GSP, their status, and anticipated or realized benefits. The completed projects/components include:

- Precipitation enhancement feasibility study
- Water rights analysis for potential stormwater capture project
- Secured funding for new water supply well for CCSD
- Basin-wide economic study
- Pumping allocations for 2023 and 2024

While not included as project and management actions in the 2020 GSP, several other studies and activities have been undertaken to assist in the development of the GSP. Many of these activities are described in further detail in Section 2 and include:

- Investigation of Russell and Santa Barbara Canyon faults
- Model updates and recalibration
- Installation of new monitoring wells and piezometers
- GDE study
- Active well survey



-
- Representative well field survey



Table 4-1: Projects and Management Actions Status and Benefits

Project or Management Action name	Project or Management Action Description	Targeted Sustainability Indicator	Project Status	Expected Schedule	Benefits Observed to Date or Anticipated Benefits	Estimated Accrued Benefits at Completion
Project 1: Flood and Stormwater Capture	Perform a water rights analysis on flood and stormwater capture flows in the Basin to understand the feasibility of further developing a stormwater capture project in the Basin given water availability and existing water rights.	<ul style="list-style-type: none"> • GW Levels • GW Storage • GW Quality • Subsidence • ISW 	Water rights analysis of potential water supplies currently underway	<ul style="list-style-type: none"> • Feasibility study: 0 to 5 years • Design/Construction: 5 to 15 years 	Understanding of available stormwater potentially available to the Basin if projects were built.	NA
Project 2: Precipitation Enhancement	Perform a feasibility study of the precipitation enhancement action identified in the GSP to determine if this action should be pursued and implemented in the Basin	<ul style="list-style-type: none"> • GW Levels • GW Storage • GW Quality • Subsidence • ISW 	Feasibility Study currently underway	<ul style="list-style-type: none"> • Refined project study: 0 to 2 years • Implementation of Precipitation Enhancement: 0 to 5 years 	Understanding of benefits from potential precipitation enhancement activities	NA
Project 3: Water Supply Transfers/Exchanges	Evaluate the feasibility of purchasing transferred water and exchange it with downstream users. To allow for additional stormwater and floodwater capture in the Basin to protect water rights of downstream users.	<ul style="list-style-type: none"> • GW Levels • GW Storage • GW Quality • Subsidence • ISW 	Not yet begun	<ul style="list-style-type: none"> • Feasibility study/planning: 0 to 5 years • Implementation in 5 to 15 years 	Understanding potential benefits and challenges to water exchanges with downstream users	NA



Project or Management Action name	Project or Management Action Description	Targeted Sustainability Indicator	Project Status	Expected Schedule	Benefits Observed to Date or Anticipated Benefits	Estimated Accrued Benefits at Completion
Project 4: Improve Reliability of Water Supplies for Local Communities	Explores opportunities to improve water supply reliability for Ventucopa within CCSD service area. Potential projects include a replacement well for CCSD and improvement of Ventucopa Water Supply Company (VWSC's) existing well	<ul style="list-style-type: none"> • GW Levels • GW Quality 	In progress for CCSD; not yet begun for other communities	<ul style="list-style-type: none"> • Feasibility studies: 0 to 2 years • Design/Construction: 1 to 5 years 	Improved water supply to local communities	NA
Management Action 1: Basin-Wide Economic Analysis	Development of a study of the economic impacts of the projects and management actions included in the GSP	NA	Completed	<ul style="list-style-type: none"> • December 2020 	Understanding of Basin to provide economic impacts based on other proposed projects and GSP implementation	NA
Management Action 2: Pumping Allocations in Central Basin Management Area	Implement planned pumping reductions that increase annually until sustainable yield has been reached. These allocations reflect a 5% reduction in 2023 and a 10% reduction in 2024 relative to baseline levels.	<ul style="list-style-type: none"> • GW Levels • GW Storage • GW Quality • Subsidence • ISW 	Allocations developed and implemented for 2023 and 2024	<ul style="list-style-type: none"> • Allocations implemented: 2023 through 2040 	Reduction in groundwater production in the Basin during implementation of GSP	5% reduction in 2023 and 10% reduction in 2024 in the Central Management Area



Project or Management Action name	Project or Management Action Description	Targeted Sustainability Indicator	Project Status	Expected Schedule	Benefits Observed to Date or Anticipated Benefits	Estimated Accrued Benefits at Completion
Adaptive Management	NA	Variable	Board ad-hoc committee has been formed and is considering potential actions	Only implemented if triggered; timing would vary	NA	NA



4.1.1 Management Action 1: Basin-Wide Economic Analysis

A Basin-wide direct economic analysis of proposed GSP actions was completed. The results of this analysis were presented to the GSP Board on December 4, 2019, and the final report was completed in December 2019. The final Basin-wide economic analysis report was provided in the 2020 Annual Report.

This management action did not require the use of a monitoring network and does not directly impact or influence any specific sustainability indicator or basin conditions but does provide valuable information on the potential economic impacts of future activities and costs associated with GSP implementation. This management action did not negatively impact any beneficial uses or uses of groundwater within the Basin but has the potential to ensure GSP implementation activities provide a better and more detailed understanding of economic impacts within the Basin.

4.2 Projects in Progress

4.2.1 Management Action 2: Pumping Allocations in Central Basin Management Area

CBGSA staff has worked and continues to work with the Board and stakeholders to implement pumping allocations in the Central Management Area, which began in the 2023 calendar year. As directed by the Board, in July 2022, CBGSA staff developed pumping allocations for 2023 and 2024 for each parcel located within the Central Management Area (CMA). These allocations reflect a 5% reduction in 2023 and a 10% reduction in 2024 relative to baseline levels. Actual pumping was reported for most water users in the Central Management Area in 2023, with all users at or below their pumping allocation amount for 2023.

Pumping allocations in 2023 and 2024 reduced allowable pumping in the CMA by approximately 2,000 AF in 2023 and 2024 respectively (from the model estimated WY 2021 for the original CMA area and glidepath reduction schedule) but actual pumping via flow meters showed actual pumping of only 50% of the allocation at 23,454.91 AF total pumped in 2023. This reduction in pumping, along with a wet precipitation year, improved groundwater levels in many parts of the CMA, and did not cause any known negative impacts to beneficial uses or users of groundwater.

Pumping allocations will continue in 2025 and future years, with additional reductions in allowable pumping in the Central Management Area per the glide path specified in the GSP until the sustainable yield is met in 2038.

4.2.2 Project 1: Flood and Stormwater Capture

This project would include the capture of flood and stormwater, which would include infiltration of stormwater and flood waters to the groundwater basin using spreading facilities (recharge ponds or recharge basins) or injection wells. As a first step to determine feasibility for such a project, the CBGSA is performing a water rights analysis on flood and stormwater capture flows in the Basin to understand the availability of water for capture given existing water rights. This includes reviewing reservoir operations



data at Twitchell Reservoir to better understand the frequency of flood releases at the Reservoir, which could potentially be captured upstream in the Cuyama Basin. Current data suggests that this has historically occurred in approximately 11% of all years.

Additional analysis will be done in the coming years to assess the feasibility of implementing a flood and stormwater capture project. The flood and stormwater capture feasibility study will not directly impact groundwater supplies in the Basin but will allow the CBGSA to assess the feasibility of implementing a flood and stormwater capture project in the future. The feasibility study will not impact beneficial uses or users of groundwater in the Basin, but any future potential flood and stormwater capture project the feasibility study addresses may.

4.2.3 Project 2: Precipitation Enhancement

A precipitation enhancement project would involve implementation of a cloud seeding program to increase precipitation in the Basin. As a first step to evaluate the feasibility of precipitation enhancements in the Cuyama Valley Basin, the CBGSA contracted with the Desert Research Institute (DRI) to assess the potential benefits and costs of a cloud seeding project in the Cuyama Valley. A final report which will provide an assessment of the potential increase in precipitation from cloud seeding is expected in late 2024.

The ongoing precipitation enhancement study will not directly impact groundwater supplies in the Basin but allow the CBGSA to assess the feasibility of implementing a precipitation enhancement project in the future. If a cloud seeding project is implemented, it could enhance groundwater supplies by increasing precipitation into the Basin watershed. This would provide a potential benefit for beneficial uses or users of groundwater in the Basin.

4.2.4 Project 4: Improve Reliability of Water Supplies for Local Communities

This management action includes consideration of opportunities to improve water supply reliability for Ventucopa and within the CCSD service area. Potential projects include a replacement well for CCSD and improvement of Ventucopa Water Supply Company (VWSC's) existing well. Since the 2020 GSP adoption, DWR's IRWM program awarded the CCSD a grant to install a new production well. Work by the CCSD to install the new well is ongoing.

This project is not directly implemented by the CBGSA, but the CBGSA fully supports the improvements outlined in this project. If new wells are installed in the future or improvements are made to existing wells, groundwater levels and pumps tests may be able to assess the successful implementation of this project.

4.2.5 Adaptive Management

Adaptive management allows the CBGSA to react to the success or lack of success of actions and projects implemented in the Basin and make management decision to redirect efforts in the Basin to more effectively achieve sustainability goals.



As discussed in some of the Annual Reports, because several wells in the Basin are trending towards undesirable results, the CBGSA Board undertook efforts to review wells with threshold exceedances, investigated potential causes of the exceedances, and identified if any domestic or production wells were affected by declining groundwater levels. During the wet WY 2023, several wells with groundwater levels that previously exceeded minimum thresholds recovered to or above these threshold levels.

The Board considered and continues to consider potential actions to address minimum threshold exceedances, including restricting pumping in individual wells, adjusting minimum thresholds or the undesirable result criteria identified in the GSP to more appropriate levels, and accelerating basin-wide pumping reductions.

4.3 Projects Not Begun

4.3.1 Project 3: Water Supply Transfers/Exchanges

This project has not yet begun and is not scheduled to begin at this time. This project will be explored if the CBGSA decides to pursue Project 1, Flood and Stormwater Capture.

Funding for this project would either come from CBGSA operational funds or from future grant opportunities. If the CBGSA decides to proceed with this project, the public would be informed through the CBGSA website, public meetings and/or workshops, and during Board Meetings which are open to the public.



5. BASIN SETTING BASED ON NEW INFORMATION OR CHANGES IN WATER USE

As discussed in greater detail in Section 2, New Information Collected, the CBGSA oversaw data collection efforts, data processing, physical surveys of the Basin, and integration of this new data into the 2025 GSP Update and CBWRM.

Results of these new sources of information and how they have influenced the Basin Setting are summarized briefly below.

5.1 Hydrogeologic Conceptual Model

The Hydrogeologic Conceptual Model (HCM) of the 2025 GSP Update provides an understanding of the physical characteristics related to regional hydrology, land use, geologic structure, water quality, principal aquifers, and principal aquitards. Below are the new sources of information that assisted with the update of the HCM in the 2025 GSP Update and improved understanding of the Basin.

5.1.1 New Monitoring Wells and Piezometers

Drilling at the new multi-completion nested monitoring well and piezometer locations provided a better understand the geologic and lithologic characteristics of the Basin in areas identified with data gaps. Borehole geophysical logging at the new multi-completion nested monitoring well locations further improved the understanding of subsurface lithology to depths of 1,000 feet bgs.

5.1.2 Airborne Electromagnetic Surveys

As described in Section 2, New Information Collected, the CBGSA coordinated with DWR to conduct an Airborne Electromagnetic (AEM) survey. This survey was performed in August 2021 and involved scanning the Basin with helicopter-mounted geophysical equipment to measure electrical resistivity at depths of up to 1,500 feet bgs.

The AEM data were used to improve the design of the layering in the CBWRM Model, as well as model parameterization and calibration. Lithologic data gathered from well logs were correlated with the AEM data as well as general knowledge of the geology of the Basin from previous work by the USGS and others. Faults were also identified in the AEM data and were taken into consideration in refining model layering and hydraulic conductivity.

5.1.3 CBGSA Investigation of Russell and Santa Barbara Canyon Faults

As described in Section 2, New Information Collected, the CBGSA conducted a streamlined investigation of the Santa Barbara Canyon Fault in the southeastern portion of the Basin and the Russell Fault in the western portion of the Basin. The impact of these faults on groundwater flow has been speculated but not studied. The location of the Santa Barbara Canyon Fault was inferred by the USGS in 1970 based on local



differences in depth to groundwater in widely spaced wells. The location of the Russell Fault, on the other hand, has been mapped by numerous researchers. The investigation consisted of assessing multiple lines of evidence with surface geophysical surveys being the primary component.

The surface geophysical surveys were designed to evaluate the depth of the buried faults since both are reportedly inactive and buried by alluvium after movement ceased, the orientation and historic movement (i.e., normal, strike-slip, or thrust), the juxtaposition of formations with different water transmitting capacities resulting from past movement, and evidence of the presence of groundwater on both sides of the faults.

Results of the fault investigations provided a better understanding of the location and potential impact of the faults on groundwater flow in the vicinity of each fault. The investigations generated new data that showed the faults are not singular features but zones consisting of two or more faults. The inactive, buried Santa Barbara Canyon and Russell faults are apparently overprinted by younger thrust faults. The data provided by the fault investigation informed the updated of the CBWRM and will be incorporated into future updates to the groundwater model.

5.1.4 GDE Study

As described in Section 2, New Information Collected, the CBGSA conducted a groundwater dependent ecosystem (GDE) study within the Basin. A GDE is “ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.” Section 354.16(g) of the same regulations requires identification of GDEs in the Basin using data available from DWR, or the best available information. GDEs are not mentioned elsewhere in the emergency regulations. Because the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset includes a number of possible GDEs, DWR recommends the verification of NCCAG-identified locations by a licensed biologist.

DWR provided the NCCAG dataset through the SGMA data portal at <https://gis.water.ca.gov/app/NCDatasetViewer/>. The NCCAG dataset was compiled using a set of six pre-existing dataset sources and is explained in detail at: <https://gis.water.ca.gov/app/NCDatasetViewer/sitedocs/#>.

A wetlands biologist verified the NCCAG dataset using remote sensing techniques supported by in-person field verification. This work is documented in a Technical Memorandum (Appendix D) of the 2020 GSP. The analysis was performed by groupings, and the results of analysis at the groupings level is shown in the GSP. Analysis concluded that there were 123 probable GDEs and 275 probable non-GDEs in the Basin.

Since the GSP was adopted, the CBGSA has installed three new piezometers in the vicinity of GDEs to measure groundwater levels. These are shallow wells, which are often called piezometers. These wells include:

- Opti well 909 is completed to a depth of 90 feet bgs with a screen interval from 50-80 feet bgs.
- Opti well 910 is completed to a depth of 50 feet bgs with a screen interval from 25-45 feet bgs.



- Opti well 911 is completed to a depth of 45 feet bgs with a screen interval from 10-40 feet bgs.

These three new wells are used in conjunction with seven existing representative monitoring wells to monitor groundwater levels near GDEs. The representative monitoring wells near GDEs have minimum thresholds based on a GDE protection depth as described in Section 5.2.2 of the 2025 GSP Update.

The CBGSA now uses these 10 wells (three new wells and seven existing groundwater level representative monitoring wells) to monitor groundwater levels that help identify potential impacts to groundwater dependent ecosystems.

5.2 Groundwater Conditions

Below is a summary of the groundwater conditions and data presented and used in the 2025 GSP Update for each applicable sustainability indicator. Greater detail about groundwater conditions is provided in the 2025 GSP Update.

5.2.1 Groundwater Levels

Since 2020, the CBGSA has performed monitoring of groundwater levels on a quarterly basis through the development of its own monitoring network. This network is described in detail in Chapter 4 of the 2025 GSP Update. Data collection was begun in August 2020. Additional efforts have improved understanding of the wells in the monitoring network, including a well survey that was completed in 2021, which surveyed the latitude, longitude, and elevation of each monitoring network well. In addition, in October 2022, a well information survey was sent to all landowners in the Basin. Through this survey, landowners provided information on well ownership, location, and completion information (if available), well type (irrigation, residential, etc.), and well status (pumping vs not pumping).

Processing of these data has been refined as additional information on wells from landowners has been received. This information has been included in the public Opti data management system (DMS) for review by Cuyama Basin Stakeholders. In addition to collecting data on wells already identified during GSP development, the CBGSA has constructed three new piezometers near mapped GDE locations and new multi-completion nested monitoring wells at six locations using grant funding from DWR. In addition, DWR constructed three new multi-completion nested wells under its Technical Support Services program. These new wells are located in areas that were identified by the CBGSA as spatial data gaps in the 2020 GSP.

Much of the new information has provided a finer resolution to the data distribution across the Basin and has supported the assumptions and analysis performed by the CBGSA. Groundwater conditions have been reported quarterly since the adoption of the Original 2020 GSP and are available on the CBGSA website. Groundwater conditions have also been reported annually in the Basin's Annual Reports submitted to DWR.

To prepare the groundwater elevation contour maps in the 2020 GSP an inverse distance weighting (IDW) interpolation was conducted and then manually adjusted to conform with standard hydrogeology



practices. A new methodology was used in the 2025 GSP Update that interpolates groundwater elevations using a specialized algorithm to create a ‘hydrologically connected’ potentiometric surface through use of an ArcGIS Topo to Raster tool. This methodology better represents interpolated groundwater elevations as it helps to reduce depressions and variance in areas with limited data. The resulting interpolation and contours were then cropped within the bounding area based on available data using a concave hull. Some minor manual adjustments were applied at the Basin boundaries to reduce or remove contours in areas with sparse data. Contours greater than one mile away from any well were labeled as ‘approximate.’ Conceptual flowlines were added based on the interpolated groundwater elevation contours to represent generalized horizontal groundwater flow directions.

To visualize the depth to groundwater in the Basin and areas with localized drawdown, an IDW was used for interpolation of depth to water measurements. Resulting rasters and contours were then cropped using the same procedure described above.

The new methodology is an improvement over the original methodology because it does not rely on manual contouring except near Basin boundaries. Data can be processed following a set protocol, producing consistent results.

Analysts prepared groundwater contour maps for both groundwater elevation and depth to water for the following periods for the 2025 GSP Update:

- Spring 2024 (*included in this Periodic Evaluation below*)
- Fall 2022
- Fall 2020
- Spring 2018
- Fall 2017
- Spring 2017
- Spring 2015

These years were selected for display because they are representative of current conditions and seasonal patterns. The contour maps are described below.

Each contour map follows the same general format using a 100-foot contour interval, with contour elevations indicated in white numeric labels, and measurements at individual monitoring points indicated in black numeric labels. Areas where the contours are dashed and not colored between are inferred because the available data are spaced far apart and are included for reference only. The groundwater contours were also based on certain assumptions to accumulate enough data points to generate useful contour maps. Assumptions are as follows:

- Measurements from wells of different depths are representative of conditions at that location and there are no vertical gradients. Due to the limited spatial amount of monitoring points, data from wells of a wide variety of depths were used to generate the contours.



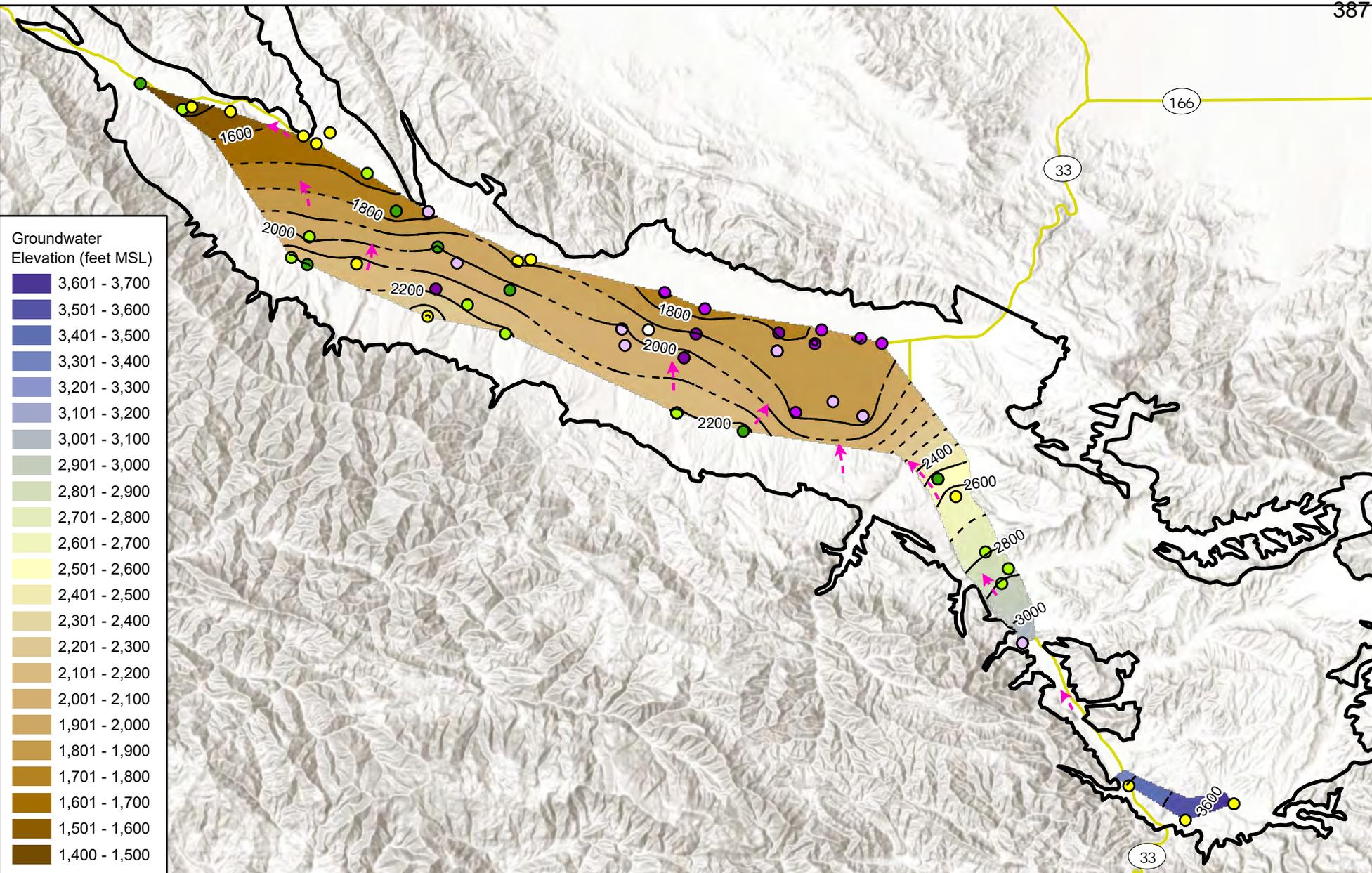
- Measurements from dates that may span up to three months are representative of conditions during the spring or fall season, and conditions have not changed substantially from the time of the earliest measurement used to the latest within that season.

These assumptions allow for the generation of contours that are useful at the planning level for understanding groundwater levels across the Basin, and to identify general horizontal gradients and regional groundwater level trends. The contour maps are not indicative of exact values across the Basin because the interpolated groundwater contours reflect approximate conditions between measurement points.

Figure 5-1 shows groundwater elevation contours for spring of 2024. In the southeastern portion of the Basin near the Ozena fire station, the groundwater gradient indicates flow that follows the Cuyama River. The contour map shows a steep gradient across the Santa Barbara Canyon Fault with groundwater flow to an area of lower groundwater elevations northeast of the town of Cuyama. From the town of New Cuyama to the west, the groundwater elevation contours reflect a gradient and flow to the north-northeast, from areas with higher land surface elevations towards areas with lower land surface elevations and towards the Cuyama River.

Figure 5-2 shows depth to groundwater contours for spring of 2024. South of the SBCF, depth to groundwater is about 100-200 feet bgs. North of the SBCF, depth to groundwater declines rapidly to over 600 feet bgs. Depth to groundwater is shallower to the west towards New Cuyama, where the depth is around 200-300 feet bgs. West of Bitter Creek, groundwater is shallower than 200 feet bgs in many locations and shallower than 100 feet bgs at some well locations.

Figure Exported: 7/18/2024, By: ceapleken, Using: \\woodardcurran.net\shared\Projects\CA Cuyama Basin_GSAU0011078_01_GSP\wp\Z_GIS\2_Maps\3_2025_GSP_Update\02_Basin_Setting_Overview\GSP2025_dfw_gvsa2025_dfw_gvsa.aprx



Groundwater Elevation (feet MSL)

3,601 - 3,700
3,501 - 3,600
3,401 - 3,500
3,301 - 3,400
3,201 - 3,300
3,101 - 3,200
3,001 - 3,100
2,901 - 3,000
2,801 - 2,900
2,701 - 2,800
2,601 - 2,700
2,501 - 2,600
2,401 - 2,500
2,301 - 2,400
2,201 - 2,300
2,101 - 2,200
2,001 - 2,100
1,901 - 2,000
1,801 - 1,900
1,701 - 1,800
1,601 - 1,700
1,501 - 1,600
1,400 - 1,500

Figure 5-1: Spring 2024 Groundwater Elevation

Cuyama Valley Groundwater Basin

Legend

— Groundwater Elevation Contour	— Highway	Well Depth (feet)	● 401 - 600
- - - Approximate Contour	□ Cuyama Basin	○ Unknown	● 601 - 800
- -> Conceptual Flowline		● 0 - 200	● 801 - 1000
		● 201 - 400	● 1001 - 1200



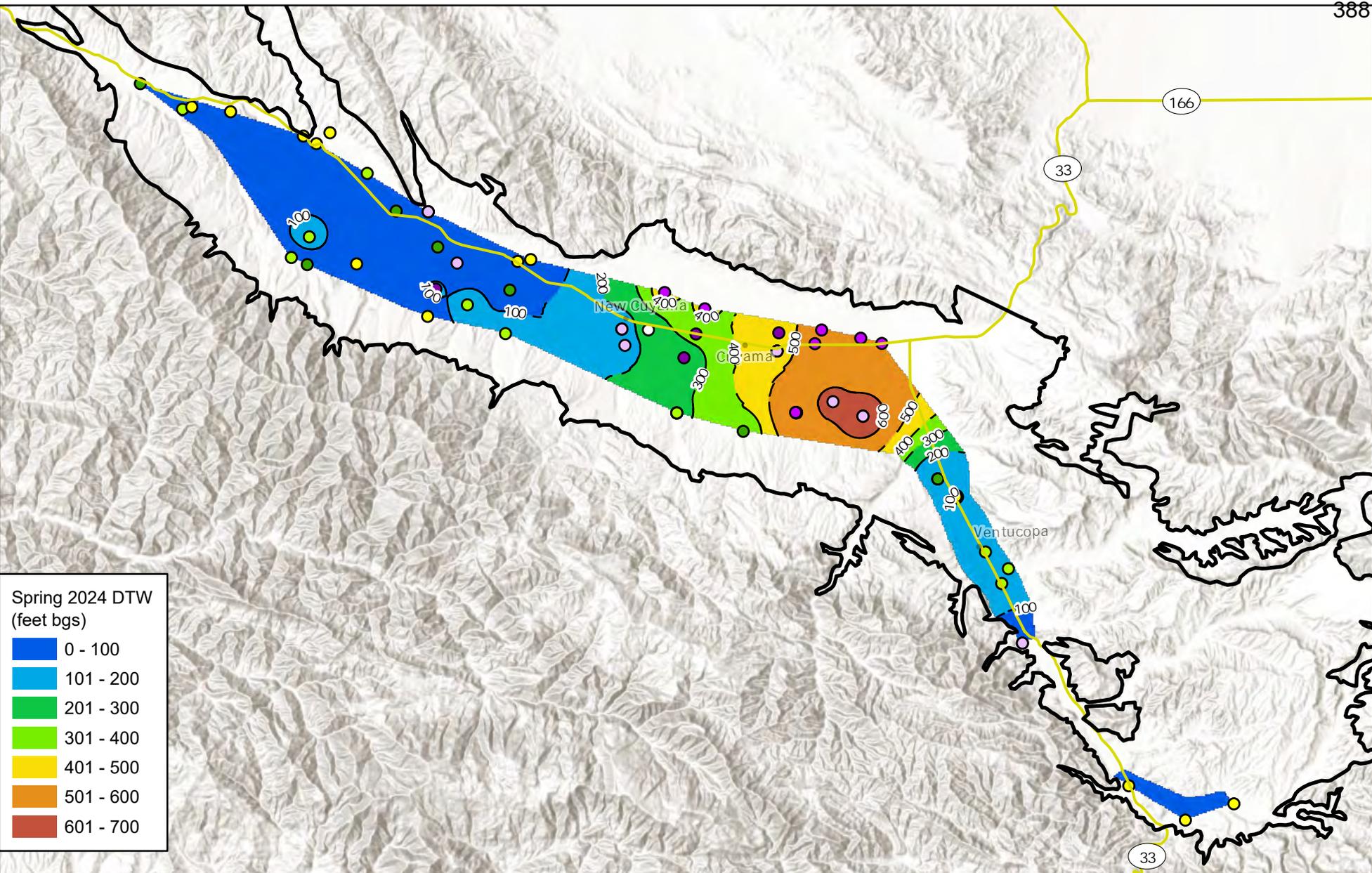


0 1.25 2.5 5 Miles

Map Created: July 2024

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

Figure Exported: 7/18/2024, By: cecep10n, Using: \\woodandcurran.net\shared\Projects\CA Cuyama Basin_GSA\0011078_01_GSP\wp\Z_GIS\2_Maps\3_2025_GSP_Update\02_Basin_Setting_Overview\GSP2025_dtw_gwa.aprx



Spring 2024 DTW (feet bgs)

- 0 - 100
- 101 - 200
- 201 - 300
- 301 - 400
- 401 - 500
- 501 - 600
- 601 - 700

**Figure 5-2: Spring 2024
Depth to Water**

Cuyama Valley
Groundwater Basin

Legend

— Depth to Water Contour	— Highway	Well Depth	○ 601 - 800
- - - Approximate Contour	— Local Road	○ Unknown	○ 801 - 1000
• Town	□ Cuyama Basin	● 0 - 200	● 1001 - 1200
		● 201 - 400	
		● 401 - 600	

N

0 1.25 2.5 5 Miles

Map Created: July 2024

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



5.2.2 Groundwater Storage

Historical changes in groundwater storage in the Basin have shown a consistent decline. Figure 5-3 shows changes in storage by year, water year type,¹ and cumulative water volume for the last 26 years. Change in storage was calculated using the Cuyama Basin Water Resources Model (CBWRM). Average annual depletion of groundwater storage over the 26-year period was -20,300 acre-feet per year. The color of the bar shown for each year of change in storage correlates with the water year type defined by Basin precipitation. Change in storage was negative in 23 of the 26 years, and was positive during three of the four wet years, as designated by the water year type.

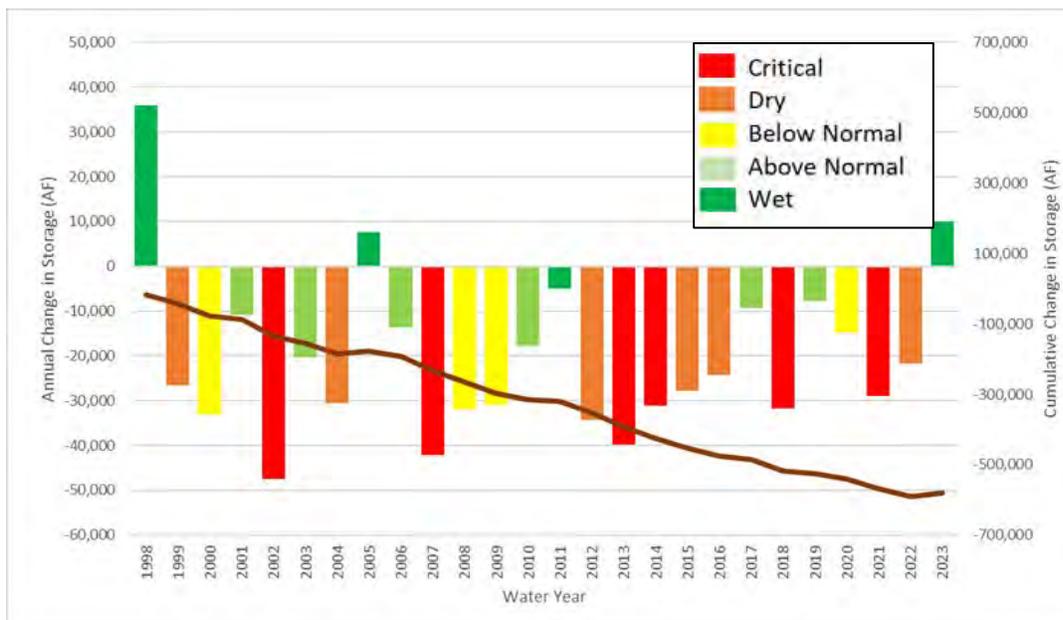


Figure 5-3: Cuyama Groundwater Storage by Year, Water Year Type, and Cumulative Water Volume

¹ Water year types are customized for the Basin watershed based on annual precipitation as follows:

- Wet year = more than 19.6 inches
- Above normal year = 13.1 to 19.6 inches
- Below normal year = 9.85 to 13.1 inches
- Dry year = 6.6 to 9.85 inches
- Critical year = less than 6.6 inches.



5.2.3 Land Subsidence

In 2015, the United States Geologic Survey (USGS) measured land subsidence as part of its technical analysis of the Cuyama Valley. The USGS used two continuous global positioning systems (GPS) sites and five reference point InSAR sites. There are 308 monthly observations from 2000 to 2012, and total subsidence during this period ranged from 0.0 to 0.4 feet. The USGS simulated subsidence using the CUVHM and estimated that inelastic subsidence began in the late 1970s¹.

Subsidence data were collected from the University NAVSTAR Consortium (UNAVCO) database. UNAVCO maintains data on five GPS monitoring stations in and around the Basin. Three stations (P521, OZST, and BCWR) are located just outside the Basin. The three stations' measurements show ground surface level as either staying constant or slightly increasing. The increase is potentially due to tectonic activity in the region. Two stations (VCST and CUHS) are located within the Basin. Station VCST is located near Ventucopa and indicates that subsidence is not occurring in the area. Station CUHS in New Cuyama indicates that 339 millimeters (approximately 1.1 feet) of subsidence have occurred in the area over the 25-year monitoring period (1999 - 2023). The subsidence at this station increases in magnitude following 2010, and generally follows a seasonal pattern. The seasonal pattern is possibly related to water level drawdowns during the summer, and elastic rebound occurring during winter periods.

In the fall of 2024, an investigation was completed of the Cuyama Valley High School (CUHS) station. This station is currently operated and maintained by the USGS. An onsite inspection was performed and USGS staff were contacted to investigate the construction and short term and seasonal fluctuations in the displacement components. The USGS reported that the data are regularly reviewed and no data quality issues had been identified. The site inspection did not identify any potential issues. It was concluded that the longer-term subsidence is occurring consistent with groundwater pumping and drought. Seasonal fluctuations are likely due to rainfall and possibly by the absence of a bedrock anchor that may allow the station to move up and down on a titled axis.

5.2.4 Groundwater Quality

Groundwater quality data were collected and compiled during development of the 2020 GSP from the following sources:

- USGS National Water Quality Monitoring Council. Downloaded data on June 1, 2018, from <https://www.waterqualitydata.us/portal/>
- DWR GeoTracker California Groundwater Ambient Monitoring and Assessment (GAMA) Program. Downloaded data on June 5, 2018 for each county, from <http://geotracker.waterboards.ca.gov/gama/datadownload>

¹ United States Geological Survey (USGS). 2015. Hydrologic Models and Analysis of Water Availability in Cuyama Valley, California. <https://pubs.usgs.gov/sir/2014/5150/pdf/sir2014-5150.pdf>. Accessed June 4, 2018.



- DWR California Natural Resources Agency data. Downloaded on June 14, 2018, from <https://data.cnra.ca.gov/dataset/periodic-groundwater-level-measurements>
- County of Ventura
- Private landowners

In addition to accessing the public portals for each program, CBGSA staff coordinated with the Central Coast Regional Water Quality Control Board (RWQCB) staff to ensure that all publicly available data was collected. It was confirmed by RWQCB staff that all available data for the Irrigated Lands Program (ILP) program was included in the online GAMA data portal download. Some of these public portals have overlapping data that, where possible, were removed, to develop a comprehensive data set for the Basin. Data were then compiled into a database for analysis.

Analysts also compiled references containing groundwater quality information. The information included in these references was used to enhance understanding of groundwater quality conditions beyond the data obtained from the sources listed above. These references included the following:

- Singer and Swarzensky. 1970. *Pumpage and Ground-Water Storage Depletion in Cuyama Valley, 1947-1966*. This report focuses on groundwater depletion, but also includes information about groundwater quality.
- USGS. 2008 *Groundwater-Quality Data in the South Coast Interior Basins Study Unit, 2008: Results from the California Groundwater Ambient Monitoring and Assessment (GAMA) Program*. This study summarizes water quality testing on 12 wells in the Cuyama Valley; wells were tested for a variety of constituents.
- SBCWA. 2011. *Santa Barbara County 2011 Groundwater Report*. This report provides groundwater conditions from throughout the county and provides water quality information for the Cuyama Valley.
- USGS. 2013c. *Geology, Water-Quality, Hydrology, and Geomechanics of the Cuyama Valley Groundwater Basin, California, 2008-12*. This report investigates a wide variety of groundwater conditions in the Cuyama Valley, including water quality.

Since the GSP adoption, the CBGSA has started collecting its own water quality data through the development of a water quality monitoring network. The CBGSA conducts its own sampling for TDS annually and samples for nitrate and arsenic once every five years. In the interim years, the CBGSA leverages existing monitoring programs for nitrate and arsenic data. These data are obtained from the GAMA database, which includes data from the RWQCB's ILP for nitrate.

Figure 5-4 shows TDS measurements from the water quality monitoring network sampled by the CBGSA in 2023. TDS ranges from less than 500 milligrams per liter (mg/L) in the eastern part of the Basin to over 1,700 mg/L in the central part of the Basin, where most of the agricultural production is located.



Figure 5-5 shows nitrate concentrations from 2022 and 2023 from the CBGSA monitoring network and results from the GAMA database. Nitrate concentrations over the MCL occur in the central part of the basin where most of the agricultural production is located.

Figure 5-6 shows arsenic concentrations from 2022 and 2023 from CBGSA monitoring network and results from the GAMA database. All wells with arsenic concentrations exceeding MCLs are located in the central portion of the Basin. High arsenic concentrations occur south of New Cuyama near the existing Cuyama Community Services District (CCSD) well. This issue is being mitigated by the construction of a replacement well for the CCSD, which is included as a project in the GSP (see Chapter 7).

Figure Exported: 3/13/2024, By: DhiJant, Using: WoodardCurran.net\shared\Projects\CA\Cuyama Basin_GSA0011078.01_GSEP\wpz_GIS\2_Maps\2_Annual Reports\WY2023_AR\groundwater_quality\groundwater_quality.aprx

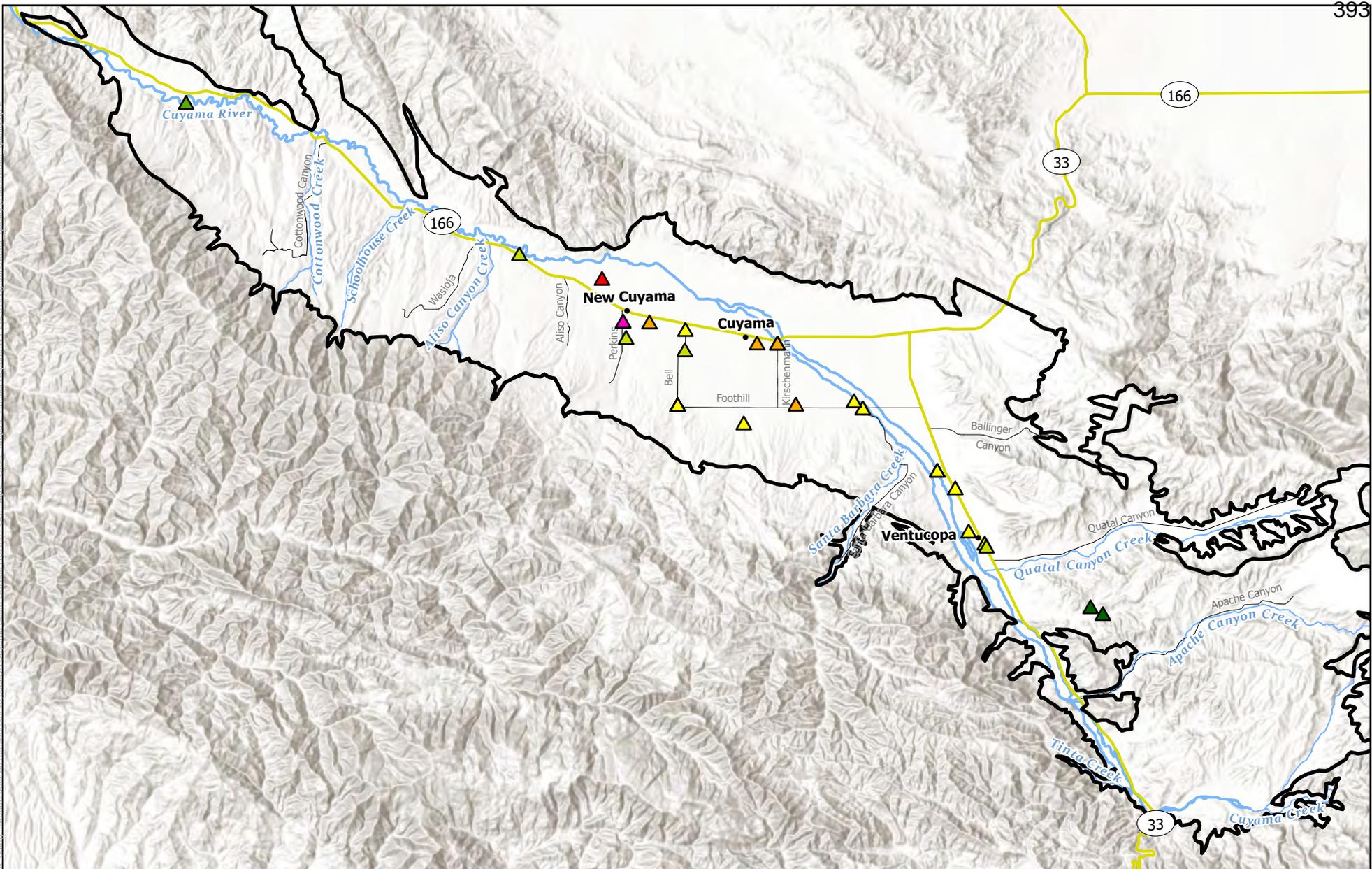


Figure 5-4: Groundwater Quality Measurements - TDS
 2023 Data
 Cuyama Valley Groundwater Basin

Legend	< 500 mg/L	1,251 - 1,500 mg/L	Highway	Creek
	501 - 750 mg/L	1,501 - 1,750 mg/L	Local Road	Cuyama River
	751 - 1,000 mg/L	1,751 - 2,000 mg/L	Town	Cuyama Basin
	1,001 - 1,250 mg/L	2,001 - 2,250 mg/L		

Map Created: March 2024

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

Figure Exported: 4/30/2024, By: D:\h\int..._L\king\WoodardCurran.net\shared\Projects\CA\Cuyama Basin_GSA0011078.01_GSEP\wp\27_GIS\2_Maps\2_Annual Reports\WY2023_AR\groundwater_quality\groundwater_quality.aprx

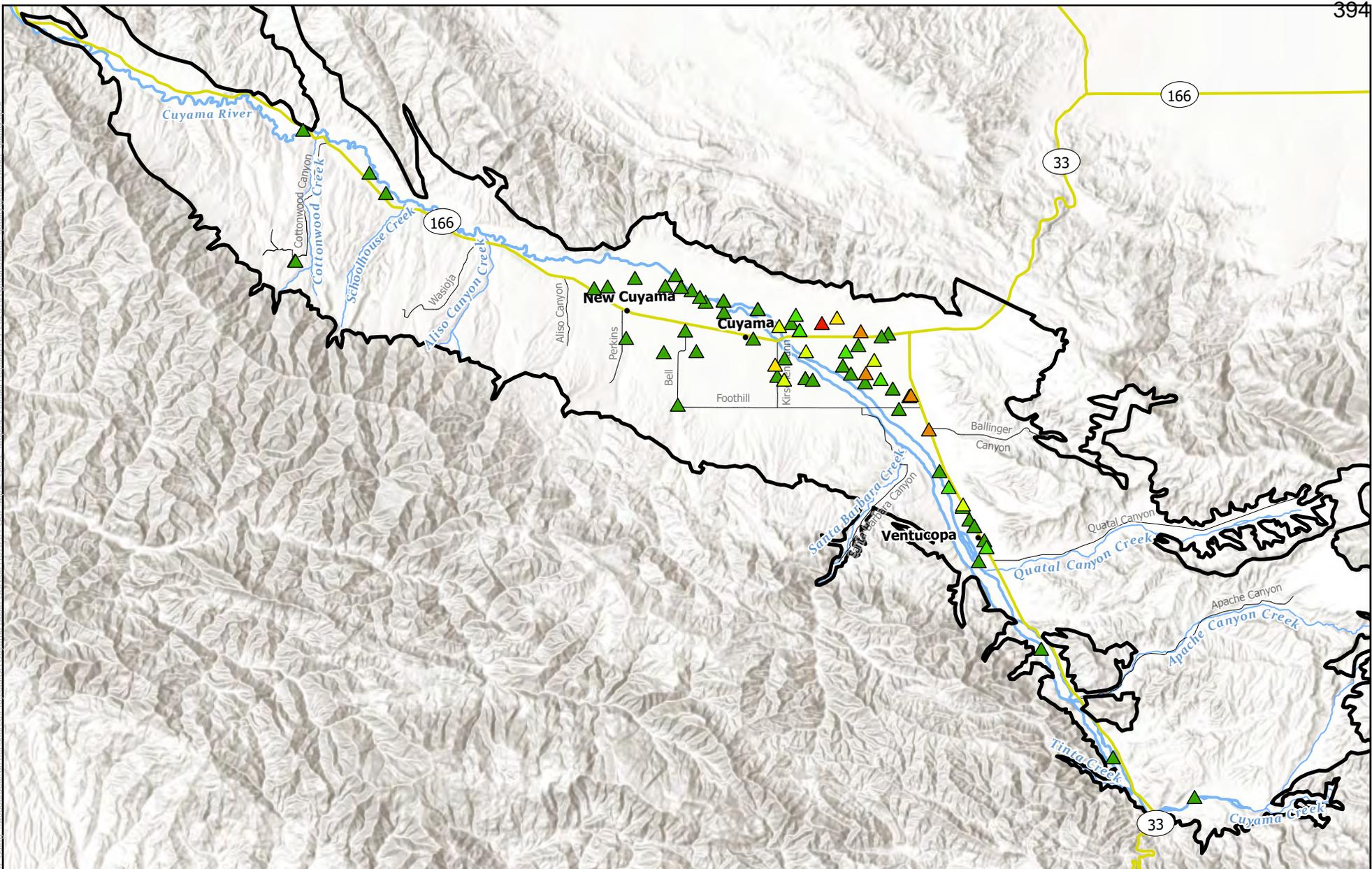


Figure 5-5: Groundwater Quality Measurements - Nitrate
 Years 2022 and 2023
Cuyama Valley Groundwater Basin

Legend	< 5 mg/L	10 - 15 mg/L	Highway	Creek
	5 - 8 mg/L	15 - 20 mg/L	Local Road	Cuyama River
	8 - 10 mg/L	> 20 mg/L	Town	Cuyama Basin

*Values from monitoring wells with multiple observations were averaged with respect to year sampled. **Nestled well at this location.

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**

Map Created: April 2024

Figure Exported: 4/30/2024, By: DHI\jnt... \kings\woodardcurran.net\shared\Projects\CA\Cuyama Basin_GSA0011078.01_GSEP\wpz_GIS\2_Maps\2_Annual Reports\WY2023_AR\groundwater_quality\groundwater_quality.aprx

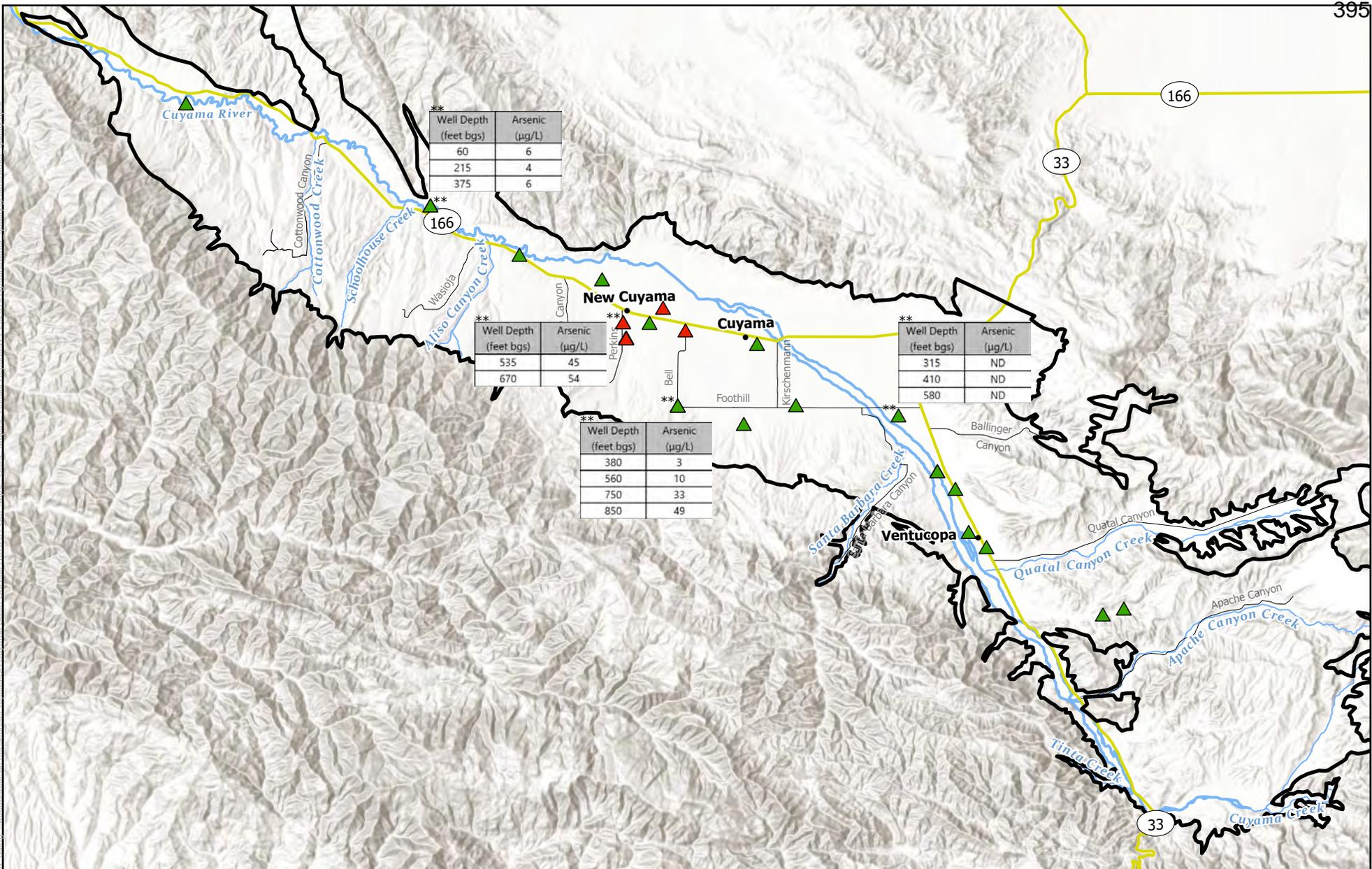


Figure 5-6: Groundwater Quality Measurements - Arsenic
 Years 2022 and 2023
Cuyama Valley Groundwater Basin

Legend	< 5 µg/L	10 - 15 µg/L	Highway	Creek
	5 - 8 µg/L	15 - 20 µg/L	Local Road	Cuyama River
	8 - 10 µg/L	> 20 µg/L	Town	Cuyama Basin

*Values from monitoring wells with multiple observations were averaged with respect to year sampled. **Nested well at this location.
 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**

0 1.25 2.5 5 Miles

Map Created: April 2024



5.2.5 Interconnected Surface Waters

At the time of production of the 2025 GSP Update, DWR continues (as of early October 2024) to develop technical papers and eventually guidance documents to assist GSAs in addressing the interconnected surface waters sustainability indicator. The first technical paper, *Depletions of ISW: An Introduction*, was published in February of 2024. Paper 2, *Techniques for Estimating ISW Depletion Caused by Groundwater Use*, and Paper 3, *Examples for Estimating ISW Depletion Caused by Groundwater Use*, were published in September of 2024. Paper 4, *Guidance for Establishing SMCs for Depletions of ISW*, is expected sometime in 2025.

The 2022 GSP uses groundwater levels as a proxy for interconnected surface waters. The 2022 GSP specifies that only a subset of wells, selected based on specific criteria, are used to monitor areas with potential interconnected surface waters. The 2025 GSP Update includes this same subset of groundwater level monitoring wells, with thresholds that incorporate protection for interconnected surface waters and beneficial uses and users such as GDEs. The CBGSA will reassess the monitoring network and sustainability criteria for interconnected surface water once Paper 4 is released.

The technical papers released by DWR for the estimation of ISW depletion were not available in time to be used in the 2025 GSP Update. Therefore, the GSP includes the same information that was included in the 2022 GSP, which is described below. The CBGSA will reassess the estimation of ISW depletion using the approaches contained in the DWR technical papers in future years. The 2022 GSP utilized the CBWRM to analyze interactions between surface water flows and groundwater in the Basin. Surface water flows in the model were assigned to reaches with five on the Cuyama River and four in creeks that are tributaries to the river (i.e., Reach 1 to Reach 9):

1. **Reach 1 – Alamo Creek:** This reach was gaining in each year analyzed, with an average gain of 380 AF per year. The highest gain of 692 AF was in 1998, and the lowest gain was 192 AF in 2016.
2. **Reach 2 – Cuyama River, from edge of basin to Alamo Creek:** This reach was losing in each year analyzed, with an average loss of 26 AF. The smallest loss was 1 AF in 2007, and the largest loss was -109 AF in 2005.
3. **Reach 3 – Cuyama River from Alamo Creek, to Quatal Canyon Creek:** This reach was mostly gaining in each year and lost in one year. The average of gains and losses was a gain of 931 AF. The highest gain of 2,781 was in 1998, and the loss of 300 AF occurred in 2017.
4. **Reach 4 – Quatal Canyon Creek:** This reach was losing in each year analyzed, with an average loss of 83 AF. The smallest loss was 1 AF in 2007, and the largest loss was -347 AF in 1998.
5. **Reach 5 – Cuyama River from Quatal Canyon Creek to Santa Barbara Canyon Creek:** This reach was losing in each year analyzed, with an average loss of 926 AF. The smallest loss was 180 AF in 2013, and the largest loss was 2,394 AF in 2005.
6. **Reach 6 – Santa Barbara Canyon Creek:** This reach was gaining in each year analyzed, with an average gain of 95 AF per year. The highest gain of 222 AF was in 1999, and the lowest gain was 222 AF in 2016.



7. **Reach 7 – Cuyama River from Santa Barbara Canyon Creek to Schoolhouse Canyon Creek:** This reach was losing in each year analyzed, with an average loss of 5,218 AF. The smallest loss was 797 AF in 2013, and the largest loss was 16,472 AF in 1998
8. **Reach 8 – Schoolhouse Canyon Creek:** This reach was gaining in each year analyzed, with an average gain of 175 AF/year. The highest gain of 249 AF was in 1998, and the lowest gain was 134 AF in 2017.
9. **Reach 9 – Cuyama River west of Schoolhouse Canyon Creek:** This reach was gaining in each year analyzed, with an average gain of 1,333 AF/year. The highest gain of 2,743 AF was in 1998, and the lowest gain was 750 AF in 2015.

5.3 Water Use Changes and Associated Water Budget

Groundwater and surface water use in the Basin has been relatively consistent since the adoption of the 2020 GSP. Primary groundwater use is for agricultural purposes, with a small amount for domestic use. Surface water users include deep percolation (from irrigation and precipitation), runoff, native vegetation, and agriculture. There were no changes to surface water supplies or their reliability since the adoption of the 2020 GSP, although surface water supply numbers have been updated through the model calibration reflecting new data.

Similarly, land use in the Basin has been relatively consistent since the adoption of the 2020 GSP. The 2025 GSP Update includes land use maps for years 1996, 2000, 2003, 2006, 2009, 2012, 2014, 2016, 2018, 2020, 2022, and 2023. The 1996 land use data are from historical DWR county land use surveys while the 2014 through 2022 land use data were developed for DWR using remote sensing data. Data for the remaining years were developed by the CBGSA using the same remote sensing method that DWR used for 2014 through 2022. Agricultural land is located primarily in the New Cuyama and Ventucopa areas, and along the SR 166 and SR 33 corridors between those communities. There were about 34,000 acres of irrigated land in 2023, including about 19,000 acres of idle land. There is a regular rotation of crops with between 9,000 and 19,000 acres of agricultural area left idle each year between 2000 and 2023. Areas that are in active agricultural use primarily produce miscellaneous truck crops, carrots, potatoes and sweet potatoes, miscellaneous grains and hay, and grapes. Various other crop types are produced in the Basin as well, such as fruit and nut trees, though at smaller production scales.

In addition to the crop types shown on the maps, much of the land area in the Basin, particularly in the western and eastern areas, consists of non-irrigated pasture. These are not present on the map because they are not detected by the remote sensing approach. Some recently planted crops may also not be shown on the maps because they were either not detected by the remote sensing approach or were planted subsequent to the most recently mapped year. As data becomes available, these additional land uses will be accounted for in the numerical modeling used to develop water budgets for the GSP.

Since groundwater pumping allocations began in 2023, there have been gradual declines in groundwater pumping within the Central Management Area (CMA) as scheduled in the pumping reductions glidepath (Figure 5-7). This reduction, paired with a wet water year in 2023, caused a small increase in storage for WY 2023 (Figure 5-3).

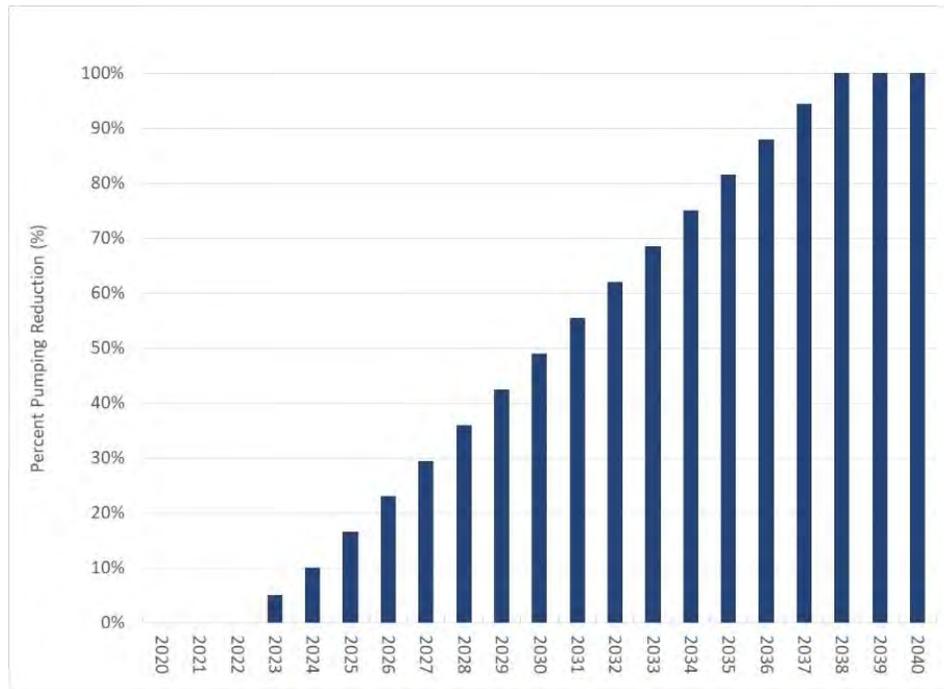


Figure 5-7: Glide Path for Central Basin Management Area Groundwater Pumping Reductions

The CBWRM was updated and re-calibrated in 2024, a process which was able to utilize the first two years of metered groundwater pumping data. This calibration and update, along with extending the “current period” used in the model to extend through 2023, resulted in a reduction in the modeled pumping estimate of about 20,000 AFY compared to previously reported values, with a corresponding reduction in the long-term storage reduction estimate of approximately 14,000 AFY. The updated model results for the historical, current and projected, and projected with climate change conditions are presented in Table 5-1 below. These updated estimates better reflect the metered data that was collected in 2022 and 2023 as compared to previous estimates. The updated sustainable yield estimate for current and projected conditions with planned pumping reduction is now 16,700 AFY which is a 61% reduction compared to baseline pumping.


Table 5-1: Average Annual Groundwater Budget

Component	Historical Water Volume ^a (AFY)	Current and Projected Water Volume ^b (AFY)	Projected Water Volume with Climate Change ^b (AFY)
Inflows			
Deep percolation	19,000	16,700	16,800
Stream seepage	4,010	5,400	6,000
Subsurface inflow	2,800	2,800	3,200
Total Inflow	25,900	24,900	26,000
Outflows			
Groundwater pumping	46,200	42,400	46,000
Total Outflow	46,200	42,400	46,000
Change in Storage	(20,400)	(17,500)	(20,000)
Notes:			
AFY = acre-feet per year			
^a From water years 1998 to 2023			
^b Based on 50-year hydrology			

5.4 Model Updates

As described above in Section 2.10, the CBWRM has been updated multiple times during the period between submittal of the 2020 GSP and the 2025 GSP Update. The first version of CBWRM, v0.10, was originally developed to develop water budget and sustainability estimates for the 2020 GSP and was used for the 2020 and 2021 GSP Annual Reports. Additionally, it helped inform areas within the Basin that would benefit from additional monitoring data, which eventually was used in the initial siting of the new monitoring wells installed described above in Section 2.4 above. In July 2022, the CBWRM was updated to version 0.20, which incorporated the updated data available by that time. This version was used for the 2022 and 2023 GSP Annual Reports and the development of Central Management Area allocation tables for 2023 and 2024. Recently, in July 2024, the CBWRM was upgraded with significantly more data and recalibrated to support the preparation of the 2025 GSP 5-year evaluation. The updated model used for the 2025 GSP Update was developed based on the best available data and information as of September 2023.

This version of the model includes substantial data changes compared to the version that was released in 2020, reflecting additional data and information that was not available at that time. The data changes include the following:

- Updated geologic representation developed using:



-
- The results of a fault investigation conducted by the CBGSA for the Santa Barbara Canyon and Russell faults
 - Airborne Electromagnetic (AEM) survey data collected by the California Department of Water Resources
 - Well log data from new monitoring wells installed in the Basin
 - Updated pumping well locations using data provided by landowner surveys
 - Updated land use using data and designations of non-irrigated land areas based on information provided by landowners
 - Updated evapotranspiration estimates calibrated to better match metered reporting data provided by landowners for 2022 and 2023
 - Calibration period extended to incorporate groundwater level measurements taken by the GSA's monitoring program up through WY 2023

It is expected that the model will continue to be refined in the future as improved and updated monitoring information becomes available for the Basin. These refinements may result in changes in the estimated water budgets described in this section.



6. MONITORING NETWORK

This section discusses and assesses the monitoring networks established in the revised 2022 GSP and changes made to the monitoring network during the evaluation cycle. Section 4 of the 2025 GSP describes the changes to the monitoring network for each applicable sustainability indicator and identifies any additional data gaps.

6.1 Groundwater Level Representative Network Changes

During the implementation period since the GSP adoption in 2020, the CBGSA has continued refining and improving the groundwater monitoring network within the Basin. Based on the information gathered to date, the CBGSA determined at its January 2021 Board meeting to reduce the monitoring network to eliminate spatially redundant wells from the network. This revised the monitoring network to 62 wells at 50 locations, including six multi-completion wells. These included nine new wells at three multi-completion well locations installed as part of DWR's Technical Support Services (TSS) program. The refinement of the monitoring network decreased the spatial density to 16.4 wells per 100 square miles, still greater than the recommended threshold of 0.2-10 wells per 100 square miles. This monitoring network refinement is documented in the Annual Report for the 2019-2020 Water Year¹.

To refine the monitoring network for the 2025 GSP Update, the CBGSA performed a comprehensive review of the groundwater levels network and the monitoring program for all representative and non-representative wells. The review included identification of field sampling issues and other issues for each well, such as:

- A lack of landowner agreement for monitoring
- Access issues due to issues at the well site
- Environmental access issues (such as due to winter flooding)
- Long term trends (such as the well going dry within the implementation period)
- Active vs. inactive well status
- Magnitude of pumping for active wells
- Proximity of nearby wells

The review concluded that all issues related to onsite access and weather at the wellsite were temporary and did not preclude the well from continued inclusion in the monitoring network. In addition, no wells were identified for removal due to redundancy. However, there were three wells (98, 121, and 124) where the GSA was unable to obtain an access agreement with the landowner; therefore, these three wells have been removed from the monitoring network. Furthermore, monitoring wells that have been identified as

¹ https://cuyamabasin.org/assets/pdf/WY-2019-20-Cuyama_GSP_Annual_Report_Compiled.pdf



active pumping wells are recommended for long-term replacement; this is discussed in the data gaps section below.

In addition, the CBGSA has worked to address the spatial gaps identified in the 2020 GSP. The CBGSA used funding available from a SGMA implementation grant agreement with DWR to install three piezometers in the vicinity of groundwater dependent ecosystems (GDEs) as well as multi-completion wells at six other locations within the Basin. The multi-completion wells have 2 to 3 completions at each location. Two existing wells have also been provided to the CBGSA by landowners for monitoring and have been added to the groundwater levels monitoring network. These additional wells fill many of the data gaps identified in the 2020 GSP.

The revised groundwater level representative monitoring network is presented in Figure 6-1.

Figure Exported: 12/27/2023, By: DHunt, Using: \\woodardcurran.net\shared\Projects\CA\Cuyama Basin_GSA\011078\01_GSP\Fwip\Z_GIS2_Map\2023_GSP_Update\04_Monitoring_Networks\17_19_groundwater_level\gw_level_network.aprx

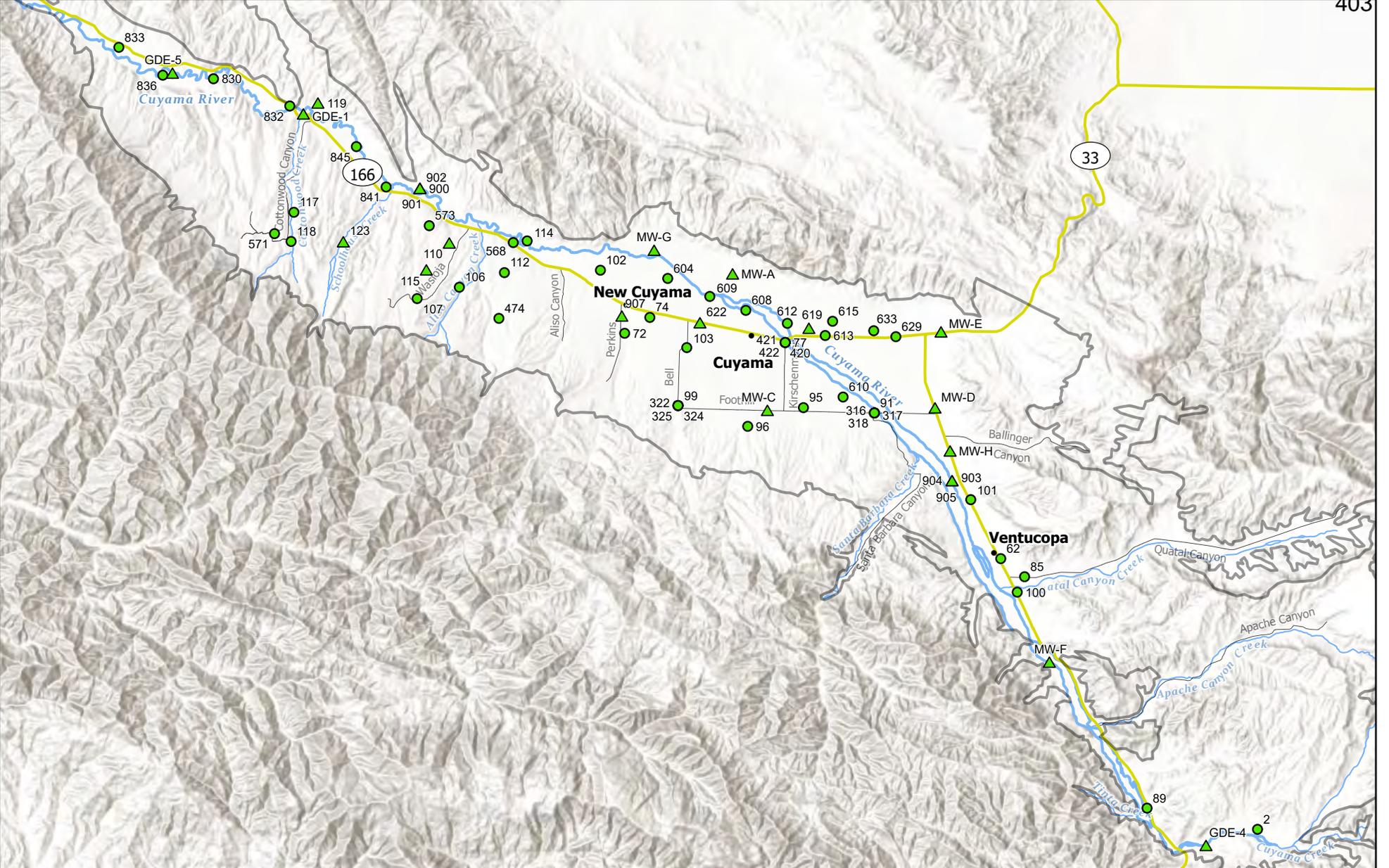


Figure 6-1: Updated Groundwater Level Monitoring Network

Cuyama Valley Groundwater Basin

Legend	Network Well	Highway	Cuyama River
	Representative Monitoring	Local Road	Creek
	Non-representative Monitoring	Town	Cuyama Basin

0 1.25 2.5 5 Miles

Map Created: December 2023

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. Monitoring well data available in the Opti data catalog: <https://opti.woodardcurran.com/cuyama/login.php>



The 2020 GSP identified data gaps in the groundwater level monitoring network. As noted above, the CBGSA has installed new wells to address many of these data gaps using funding from DWR's TSS and SGMA grant programs. These new wells have filled all of the spatial data gaps identified in the 2020 GSP. However, there continue to be some data gaps that should be addressed by the CBGSA in the future:

- Several wells that are currently included in the monitoring network are active pumping wells, some of which are used for a significant level of pumping each year; these wells should be replaced with dedicated monitoring wells.
- Well construction information is not available for many wells in the Basin. Monitoring wells with construction information featuring total depth and screened interval are preferred for inclusion in the monitoring network, because that information is useful in understanding what monitoring measurements mean in terms of Basin conditions at different depths.

To fill these data gaps the GSA has identified the following activities:

- Seek additional grant funding to install monitoring wells to replace active pumping wells that are currently included in the monitoring network. Alternatively, transducers could be installed in these wells to better understand the temporal effects of pumping on groundwater levels.
- Apply for additional assistance from DWR's Technical Support Services (TSS), which provides support to GSAs as they develop GSPs. TSS opportunities include help installing new monitoring wells, and downhole video logging services.
- Improve understanding of well construction information through digital entry of data from well completion reports into the data management system.

6.2 Groundwater Storage Monitoring Network Changes

Groundwater in storage is monitored through the measurement of groundwater levels as a proxy. Therefore, the groundwater storage monitoring network will use the groundwater level monitoring network.

6.3 Seawater Intrusion Monitoring Network Changes

The Basin is geographically and geologically isolated from the Pacific Ocean and any other large source of saline water. As a result, the Basin is not at risk for seawater intrusion. Salinity (i.e., total dissolved solids, or TDS) is monitored as part of the groundwater quality network, but seawater intrusion is not a concern for the Basin.

6.4 Groundwater Quality Monitoring Network Changes

Salinity (measured as TDS), arsenic, and nitrates have all been identified by local stakeholders as potentially being of concern for water quality in the Basin. However, in contrast to salinity, there is no evidence to suggest a causal nexus between potential actions under the CBGSA's authority and arsenic or nitrates. Therefore, the groundwater quality network in the Cuyama Basin only monitors TDS.



The original groundwater quality network consisted of 64 wells compiled from several different monitoring programs and has been used to collect several years of sampling data. For the 2025 GSP, a comprehensive review was conducted on the monitoring network with respect to the following issues:

- A lack of landowner agreement for monitoring
- Access issues due to issues at the well site
- Environmental access issues (such as due to winter flooding)
- Long term trends (such as the well going dry within the implementation period)
- Magnitude of pumping for active wells
- Proximity of nearby wells

Based on this analysis, 32 wells were removed from the network; in most cases because the CBGSA had been unable to secure an agreement with the landowner. In November of 2023, the CBGSA Board approved a revised monitoring network, which will include 58 wells, 27 of which are representative wells. This includes nine new TSS wells that were installed under the DWR's Technical Support Services (TSS) program and will be equipped by DWR with permeant transducers to provide electroconductivity measurements for TDS. In addition, new monitoring wells are currently being installed at 10 locations using grant funding from DWR with 1-3 completions per well. These wells will also be equipped with transducers and be included in the TDS water quality network as non-representative wells.

The revised groundwater level representative monitoring network is presented in Figure 6-2.

Figure Exported: 12/27/2023 8:41:11 AM By: DHunt Using: \woodardcurran\external\Projects\CA\Cuyama Basin\GSA\011078\01\GSP\Map\Z_GIS2_Map\2023_GSP_Update\04_Monitoring_Networks\21_groundwater_quality_network.aprx

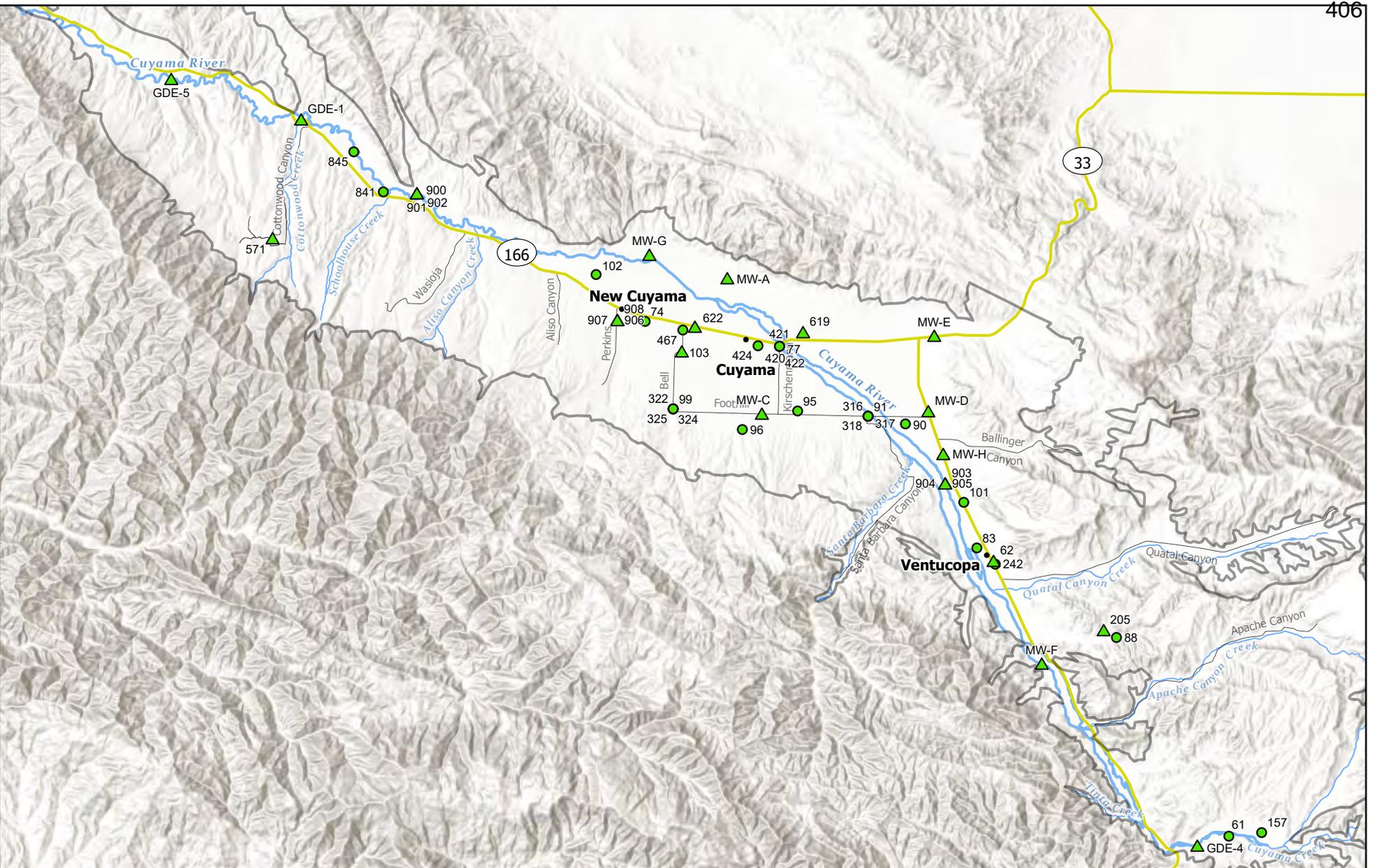


Figure 6-2: Updated Groundwater Quality Monitoring Network

Cuyama Valley Groundwater Basin

Legend	● Network Well	— Highway	— Cuyama River
	▲ Representative Monitoring	— Local Road	— Creek
	▲ Non-representative Monitoring	• Town	□ Cuyama Basin

N

0 1.25 2.5 5 Miles

Woodard & Curran

CUYAMA BASIN
GROUNDWATER SUSTAINABILITY AGENCY

Map Created: December 2023

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. Monitoring well data available in the Opti data catalog: <https://opti.woodardcurran.com/cuyama/login.php>



In the 2020 GSP, the CBGSA identified groundwater quality monitoring data gaps:

- Spatial distribution of the wells
- Well/measurement depths for three-dimensional constituent mapping
- Temporal sampling

With the addition of new wells installed through DWR's TSS program and with grant funding, the spatial distribution of the groundwater quality monitoring network now provides coverage of all of the spatial data gaps that were identified in the 2020 GSP.

With the newly constructed wells, there will now be multiple locations within the Basin that can provide water quality information at multiple depths. This will allow the monitoring network to collect additional information about how salinity may change at different depths in the aquifer. This information needs to be evaluated to determine if additional multi-completion wells will be required to adequately understand three-dimensional constituent mapping within the Basin.

Water quality sampling historically has been inconsistently performed throughout the Basin; as a result, the Basin itself was identified in the 2020 GSP as a groundwater quality monitoring temporal data gap. Since adoption of the GSP, the CBGSA has undertaken its own annual sampling effort, which addressed this previously identified data gap.

The CBGSA has filled the temporal and spatial data gaps identified in the 2020 GSP by implementing its own salinity sampling program and has filled the three-dimensional constituent mapping knowledge gap at least partially through installation of new multi-completion monitoring wells.

The CBGSA will evaluate the data collected by the monitoring program going forward to assess whether additional three-dimensional monitoring is needed. This includes an assessment of nitrate and arsenic data collected from GAMA and other data sources.

6.5 Land Subsidence Monitoring Network Changes

There have been no changes to the subsidence monitoring network. There are two subsidence monitoring stations in the Basin and three outside of the Basin. Figure 6-3 shows the locations of existing subsidence monitoring stations. The two stations in the Basin, sites CUHS and VCST, are both included in the monitoring network as representative sites because they are active and provide Basin-specific data. The three stations located outside of the Basin, sites P521, BCWR, and OZST, are also included in the monitoring network as non-representative sites. These stations are important for understanding general dynamic movement trends in the Basin because they detect tectonic movement in the Basin.

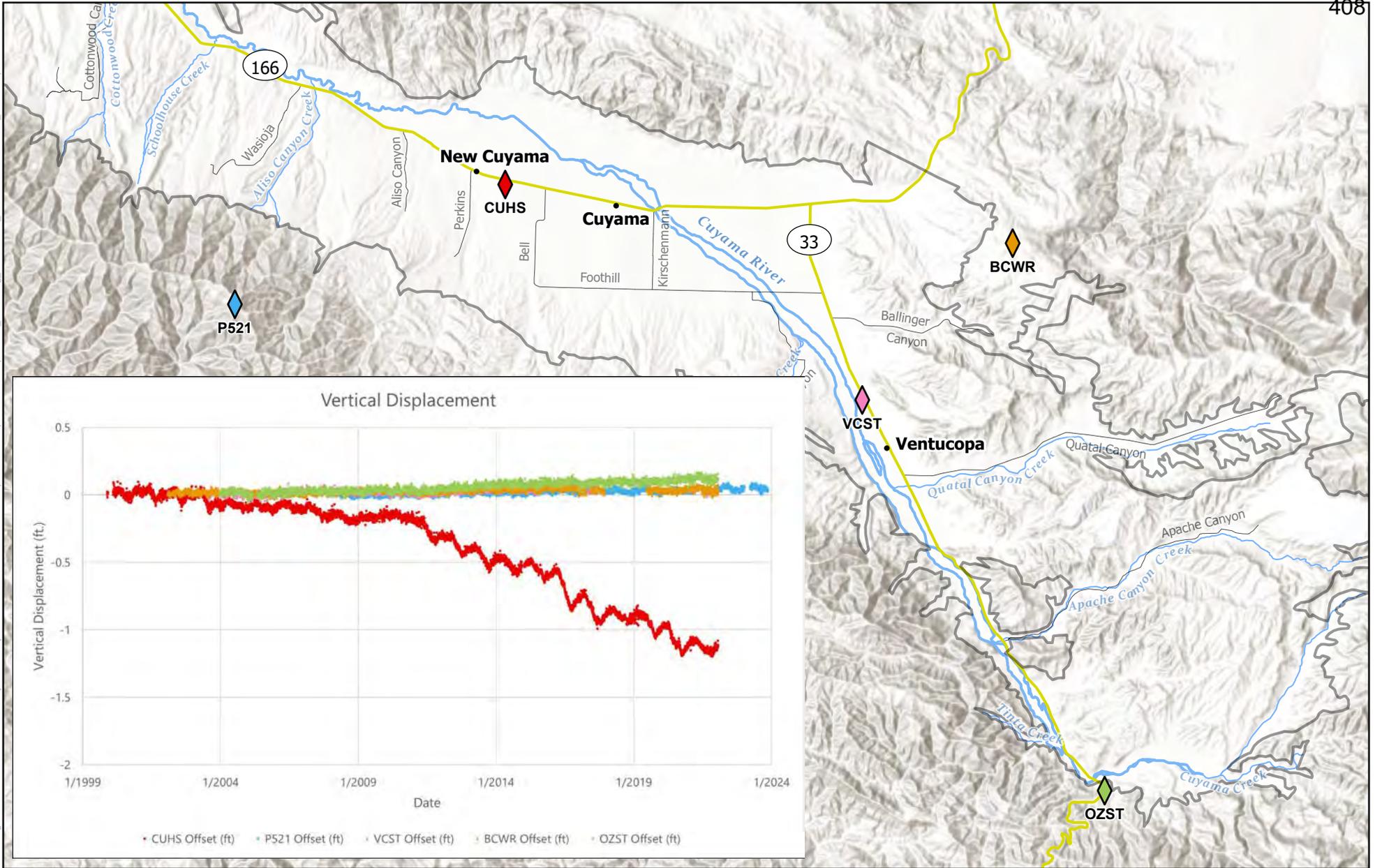


Figure 6-3: Subsidence Monitoring Network

Cuyama Valley Groundwater Basin

Legend

- Plate Boundary Observatory GPS Station
- Town
- Cuyama Basin
- Highway
- Cuyama River
- Creek
- Local Road



0 1 2 4 Miles

Map Created: December 2023

Figure Exported: 12/27/2023 By: DHunt Using: \woodardcurran.net\shared\Projects\CA\Cuyama Basin_GSA\0011078_01_GSP\Fig1078_01_GSP\Fig1078_01_GSP\Fig1078_01_GSP\Fig1078_01_GSP_Update04_Monitoring_Networks\22_subsidence\subsidence_network.aprx

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. UNAVCO gps data access from: https://www.unavco.org/data/gps-gnss/data-access-methods/dai1/perm_sta.php



Subsidence does not currently have any identified data gaps. While more stations could provide additional data on vertical changes in the Basin, current conditions do not indicate subsidence as being a sustainability indicator with negative impacts in the Basin. The 2025 GSP Update includes information about how new monitoring sites and types could be installed, but these are not needed at this time.

6.6 Depletions of Interconnected Surface Water Monitoring Network Changes

In February 2024, DWR published the first of several guidance documents on Interconnected Surface Water called *Depletions of ISW: An Introduction*. In September of 2024, DWR released Papers two and three of the series titled *Techniques for Estimating ISW Depletion Caused by Groundwater Use* and *Examples for Estimating ISW Depletion Caused by Groundwater Use* respectively. The fourth and final paper, *Guidance for Establishing SMCS for Depletions of ISW*, is anticipated during the winter of 2024/2025.

While the guidance documents provided to date of writing (Fall 2024) are helpful and have provided the CBGSA with helpful information and guidance on how to start management and monitoring of ISW, thresholds cannot yet be developed. The CBGSA will evaluate monitoring and management of ISW once all guidance documents have been provided, and plan to provide updates during the next GSP update.

The current subset of wells that are used to monitoring groundwater levels for areas of interconnected surface waters is shown in Figure 6-4.

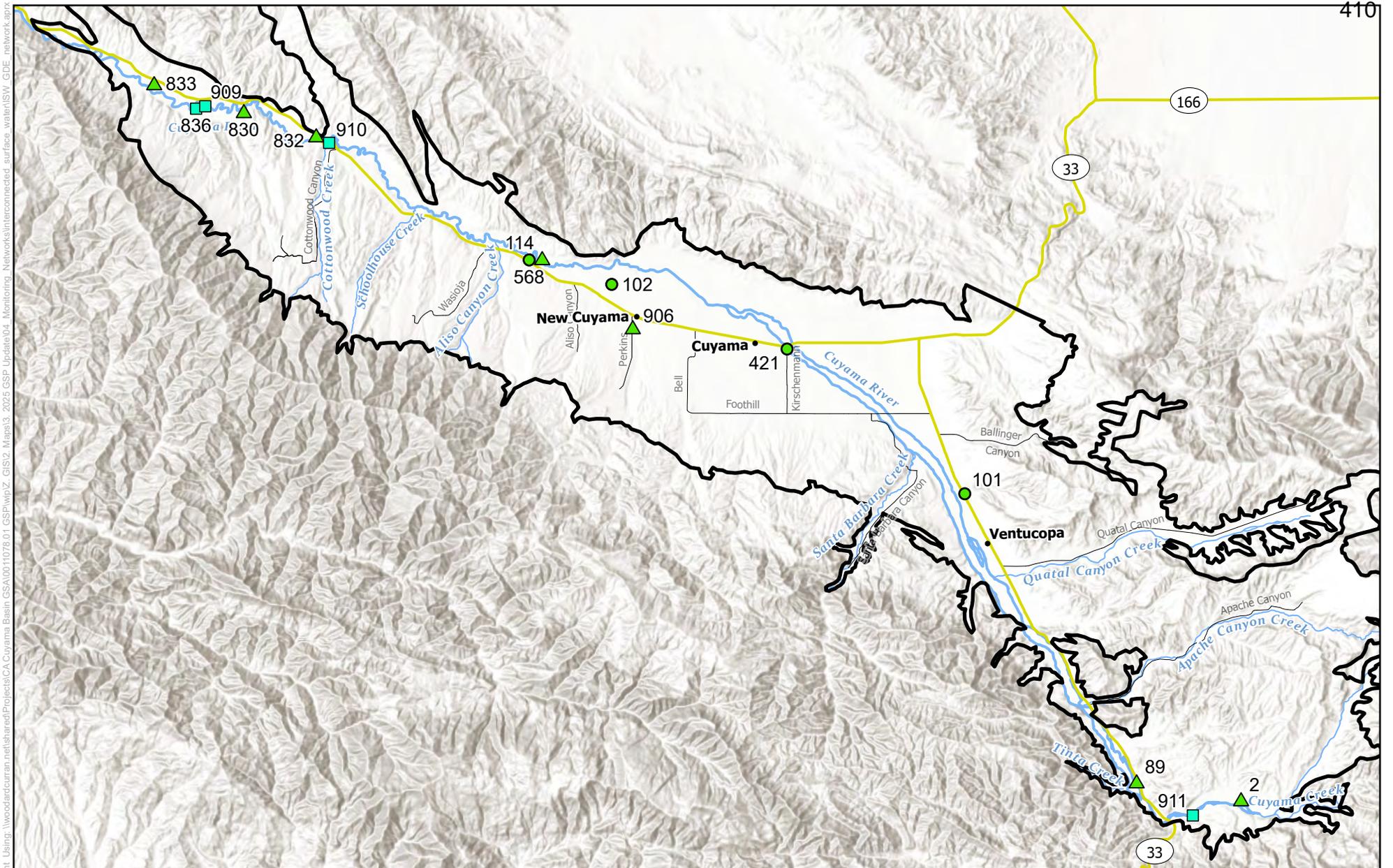


Figure 6-4: Interconnected Surface Water Monitoring Network
Cuyama Valley Groundwater Basin

Legend	Representative Monitoring Well	Highway	Creek
	Non-representative Monitoring Well	Local Road	Cuyama River
	GDE Monitoring Well	Town	Cuyama Basin

0 1.25 2.5 5 Miles

Map Created: August 2024

Figure Exported: 8/13/2024, By: Dhlunt, Using: WoodardCurran.net\shared\Projects\CA Cuyama Basin_GSA0011078.01_GSP\wp\z_GIS\2_2025_GSP_Update\04_Monitoring_Networks\interconnected_surface_water\SW_GDE_network.aprx

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, TNC, USGS**



7. GSA AUTHORITIES AND ENFORCEMENT ACTIONS

7.1 Relevant Actions

The Cuyama GSA has initiated several actions through GSP implementation to support the Basin’s continued effort towards groundwater sustainability. This has included compliance with new and evolving executive orders and legislation, programs to monitor and directly address overdraft, and participation in legal proceedings. The following subsections go into these activities in detail.

7.1.1 GSA Compliance with Executive Order N-7-22 Action 9, Drought Well Permitting Requirements

On March 28, 2022, Governor Gavin Newsom issued Executive Order N-7-22 (Executive Order) in response to ongoing drought conditions throughout the State. The Executive Order requires groundwater sustainability agencies (GSAs) in medium- and high-priority basins to evaluate and determine the impacts of new and replacement wells to the basin’s sustainability goals prior to county approval of well permits.

The CBGSA, in compliance with EO N-7-22, established an application process including a *Replacement Well Form* and *New Well Form* to ensure that any new or replacement wells were in compliance with the executive order. The forms are posted to the CBGSA website and is still accessible.¹

7.1.2 Pumping Allocations

On May 3, 2023, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) approved the final 2023 and 2024 Central Management Area groundwater allocations. Allocations for 2025 through 2029 are currently under development. As part of this development, CBGSA provides each landowner within the Central Management Area with an opportunity to submit a Variance rebutting or otherwise challenging CBGSA’s proposed allocation for said landowner. Generally, CBGSA conducts the Variance process as follows:

1. CBGSA publishes proposed Central Management Area groundwater allocations and provides notice of the opportunity to submit a Variance request.
2. CBGSA staff and relevant consultants review each submitted Variance request and develop a preliminary recommendation regarding how to address the requested Variance for consideration by an ad hoc committee of the CBGSA Board of Directors.
3. CBGSA staff then hold a meeting with an ad hoc committee of the CBGSA Board of Directors to explain CBGSA’s staff’s preliminary recommendation and answer any questions from the committee.

¹ <https://www.cuyamabasin.org/assets/pdf/CBGSA-Well-Permit-Policy.pdf>



4. CBGSA then provides each landowner who submitted a Variance request with an opportunity to meet with CBGSA staff and relevant consultants and the ad hoc committee to explain their request.
5. After this meeting, the ad hoc committee prepares its recommendation regarding how to address the requested Variance for consideration by the CBGSA Board of Directors. CBGSA publishes the ad hoc's recommendation to the public and invites each landowner who submitted a Variance request to address the CBGSA Board of Directors at its next regularly scheduled meeting.

To ensure allocations are met by landowners, CBGSA Board adopted the following administrative policy at the January 18, 2023, Board meeting:

1. The CBGSA will develop a water allocation for each parcel in the CMA and part of a "Farming Unit."
2. Each landowner/operator must submit monthly meter readings for the preceding year by January 31st according to the CBGSA meter reporting instructions (provided at www.cuyamabasin.org)
3. Each landowner must list the APNs the well served and how many acre-feet of water was used on each APN as listed in the water use reporting forms.
4. Staff will develop a water accounting to report at the March Board meeting to confirm annual pumping reduction goals are met for the net water use for landowners/operators.

7.1.3 Pumping Allocations Enforcement

On July 6, 2022, the CBGSA Board established a penalty fee and enforcement options for landowners who pump more than their allocation. If a landowner/farming unit does not meet their annual pumping reduction target (allocation), any and all over-pumped water will be debited against that landowner's allocation for the following year. Additional over-pumping will carry a tiered financial penalty as follows:

- Tier 1: 5 percent over pumping = \$250/acre-foot
- Tier 2: >5 percent pumping = \$500/acre-foot

These penalties fees for over-pumping will be invoiced in March and be due by May 1st of each year and any penalty fees collected will be used for projects in the CMA. If a landowner over-pumps 20% or more of his or her allocation in any given year, the CBGSA may consider legal action.

7.1.4 Well Metering

The CBGSA has utilized groundwater extraction fees to promote sustainable extraction volumes of groundwater from the Basin and help fund the implementation of the GSP. Since the GSP was adopted in January 2020, groundwater pumping volumes were calculated using evapotranspiration data from remote sensing to determine estimated water use on irrigated lands, as this was the only Basin wide method for data collection available at the time. During the November 4th, 2020, CBGSA Board meeting, a motion



was passed to require all non-de minimis groundwater users to install water measuring devices (flow meters) on all groundwater extraction wells no later than December 31, 2021.

Collection and reporting of well flow data are integral to enable proactive and adaptive management of groundwater resources and documentation of seasonal fluctuation in water demand. This data is more accurate than evapotranspiration estimates and will provide additional data for model calibration. In addition to providing an estimate of groundwater production, groundwater flow data may be used by the CBGSA in conjunction with groundwater level data to improve understanding of groundwater basin conditions. This is especially important for sustainable regional management of groundwater resources.

7.1.5 Actions to Identify Non-Reporters

On March 29, 2023, the CBGSA Board directed staff to consider enforcement options for potentially non-reporting pumpers. CBGSA developed the following process to identify potential non-reporting pumpers and while staff has successfully communicated with several previously non-reporting pumpers, additional outreach is required to confirm all pumpers have reported their water use since 2019.

The process to identify potential non-reporting pumpers includes the following:

1. Refine the existing analysis that compared irrigated lands cross-referenced with the parcels of reporting pumpers with 1) Land IQ 2022 water use data and 2) reported 2022 water use.
2. Land IQ to assist in quality assurance/quality control of potential un-reported, potentially irrigated areas.
3. Mail potential out of compliance letters to identified landowners.
4. Attempt to contact landowners (via phone or email, if known).
5. Perform in-field visits to landowners if phone and email attempts are unsuccessful.

7.1.6 Actions Against Non-Reporters / Non-Payers

Following the identification of potentially un-reported pumpers, CBGSA staff developed the below enforcement process.

The process to enforce compliance for potential non-reporting pumpers includes the following:

1. Staff to develop plan for out of compliance landowner(s) to become current on groundwater reporting and fees.
2. Coordinate with ad hoc and communication with landowner(s).
3. Hold hearing with landowner(s) at a Board meeting.
4. If outstanding fees are not paid, place outstanding fees owed on county tax roll.
5. Legal involvement for un-cooperating/un-responsive landowner(s).



7.1.7 Adjudication

On August 17, 2021, Bolthouse Land Company, LLC and Grimmway Enterprises, Inc., et al, filed a “Complaint for Comprehensive Groundwater Adjudication of the Cuyama Valley Groundwater Basin (No. 3-013), Quiet Title, and Preliminary Injunction” (the “Adjudication”) in Kern County Superior Court pursuant to the Streamlined Adjudication Act (Code Civ. Proc., § 830, et seq.). Shortly thereafter, the Adjudication was transferred to Los Angeles County Superior Court and has been litigated there ever since.

The Court set a non-jury trial date for August 7, 2023, to address Phase 1 of the Adjudication, establishing the jurisdictional boundaries of the Cuyama Valley Groundwater Basin (“Basin”). Later, the Court postponed this trial date to January 5, 2024.

On November 13, 2023, CBGSA intervened in the Adjudication.

On January 5, 2024, the parties, including CBGSA, participated in a non-jury trial regarding Phase 1 of the Adjudication.

On February 23, 2024, the Court issued a Statement of Decision and found that “the jurisdiction boundary of this comprehensive groundwater adjudication is coterminous with the boundaries of the [Basin] as described and depicted in Bulletin 118, Basin No. 3-103, and that there are no subbasins within the Basin.” Regarding the phrase, “there are no subbasins within the Basin,” the Court incorporated the following into its Statement of Decision from CBGSA’s trial brief:

“... [this finding] would not foreclose addressing that basin management concerns of the objectors. The Court has been scrupulous to confine Phase 1 of this adjudication to the jurisdictional boundaries of the Court’s in rem jurisdiction. Later phases of this adjudication may be used to determine whether management areas should be utilized (or not) and whether the basin should be differentially or homogenously managed.”

Now, the parties are in Phase 2 of the Adjudication, establishing the “safe yield” of the Basin. Trial regarding this phase of the adjudication is currently scheduled for February 24, 2025.



8. OUTREACH, ENGAGEMENT, AND COORDINATION WITH OTHER AGENCIES

8.1 Outreach and Engagement

Public input was used to help shape the GSP development including the original, resubmitted, and updated GSPs. The input was also used to develop context and content for CBGSA meetings, SAC meetings, community workshops, CBGSA newsletters, and for content posted to the CBGSA website.

On June 30, 2017, the CBGSA Board of Directors met for the first time. The 11-member board is the designated decision-making entity for GSP development and is subject to the Brown Act.¹ According to the requirements of the act, all meetings were noticed 72 hours in advance, were open to the public and included a public comment period. Board membership and meeting agendas, minutes, and materials are available online at <http://cuyamabasin.org/cuyama-gsa-board.html>. Meeting agendas were also posted at the meeting location, the Family Resource Center, in New Cuyama.

In September 2017, the CBGSA Board appointed the seven-member SAC to provide advice and input to the CBGSA Board on GSP development and implementation, and to assist with stakeholder engagement throughout the Cuyama Basin. In March 2018, the CBGSA Board expanded the SAC membership to nine members, including representatives from the Hispanic community in the Basin. One member resigned in March 2019, and the CBGSA Board of Directors is currently considering a replacement process. According to the requirements of the Brown Act, all SAC meetings were noticed 72 hours in advance and were open to the public. SAC membership, agendas, minutes, and meeting materials are available at <http://cuyamabasin.org/standing-advisory-committee.html>.

8.1.1 Public Comments

CBGSA-hosted public meetings were designed to encourage input, discussion, and questions from both the CBGSA Board of Directors and SAC members as well as public audience members. The minutes of CBGSA Board and SAC meetings reflect the questions and comments raised by members and the general public. For each community workshop, public comments were summarized and provided to the CBGSA staff and technical team, the CBGSA Board of Directors, and SAC for further consideration.

Examples of how public input helped shape the GSP are described below.

During the development of the GSP, community input was valuable in identifying and closing groundwater data gaps. Residents and agricultural businesses provided additional data about groundwater levels, historical pumping, and cropping patterns.

¹ http://ag.ca.gov/publications/2003_Intro_BrownAct.pdf



During discussion of projects and management actions, several community members and CBGSA Board members expressed concern about unreliable community water supplies in New Cuyama, Cuyama, and Ventucopa. The GSP's list of projects was revised to include construction of new wells for these communities.

Community input also shaped other actions carried forward for further analysis in the GSP. Two projects to improve water resources in the basin came from public input: cloud seeding and rangeland management. The technical team evaluated each approach and discussed benefits and impacts with the CBGSA Board, SAC, and the community. Cloud seeding as a project is included in the GSP for further evaluation. Rangeland management was not carried forward in the GSP due to concerns about the potential impacts of vegetation management, and institutional concerns about coordination with the United States Forest Service.

Stakeholder input continued to be valuable in the development of the 2025 GSP Update. Many meetings (listed below) allowed for public comment and influence on the plan and how to refine plan elements to better align with stakeholder concerns and input.

Chapter 1 Appendix D of the 2025 GSP Update includes a summary of public comments and responses.

8.1.2 Public Engagement Efforts

Establishment of the SAC in September 2017 was intended to encourage active involvement from diverse social, cultural, and economic elements of the population in the Basin. All meetings of the CBGSA Board and SAC were open to the public and included a public comment period. Community members participated in the public meetings. Community workshops were held in both English and Spanish, provided time for discussion of each topic presented, and provided comment forms for written comments. Workshop materials were also available in English and Spanish. The quarterly CBGSA newsletter was available in English and Spanish and described GSP planning status and opportunities for participation. Notices for community workshops were available in both English and Spanish. Distribution channels included email, hand-delivered postings throughout the Cuyama Valley, and postcard mailings to parcel owners within Basin boundaries. A website (www.cuyamabasin.org) was designed and made available early in the GSP process to assist in keeping stakeholders informed and up to date.

To inform the public about GSP progress and to seek public input, the following methods were used:

- Notice of public meetings, including CBGSA Board meetings, SAC meetings, and community workshops (in both English and Spanish).
- Website (www.cuyamabasin.org).
- Email distribution via a stakeholder email list was maintained throughout the process and grew to 185 contacts.
- Postcards were mailed to 675 parcel owners in the Basin to announce community workshops and provide a link to the website to follow the progress of GSP development.



- A quarterly, four-page CBGSA newsletter was mailed to all New Cuyama, CA post office box holders as a part of the Cuyama Recreation District Newsletter. The newsletter was also distributed via the stakeholder email list.
- Volunteers at the Family Resource Center distributed community workshop notices to locations throughout the Cuyama Basin.
- A member of the SAC posted community workshop notices in some of the finger areas in the west part of the Cuyama Basin.

The development of the mailing list and email list was informed by SGMA Section 10723.2, which calls for consideration of interests for all beneficial uses and users of groundwater. The initial email list of approximately 80 stakeholders grew to 185 stakeholders by March 2019. Additionally, a conventional mailing list was used that included 675 parcel owners in the Cuyama Basin identified by each of the four counties and the 17 agencies and organizations listed in Section 1.3.1 of the GSP.

8.1.3 Outreach and Engagement Activities

Community input was encouraged and received at CBGSA Board meetings, SAC meetings, and community workshops. This GSP was shaped by community input, SAC input, and CBGSA Board direction and decisions.

Public input was used to help shape the GSP development. The input was also used to develop context and content for CBGSA meetings, SAC meetings, community workshops, CBGSA newsletters, and for content posted to the CBGSA website.

CBGSA-hosted public meetings were designed to encourage input, discussion, and questions from both the CBGSA Board of Directors and SAC members as well as public audience members. The minutes of CBGSA Board and SAC meetings reflect the questions and comments raised by members and the general public. For each community workshop, public comments were summarized and provided to the CBGSA staff and technical team, the CBGSA Board of Directors, and SAC for further consideration.

During the development of the GSPs, community input was valuable in identifying and closing groundwater data gaps. Residents and agricultural businesses provided additional data about groundwater levels, historical pumping, and cropping patterns.

During discussion of projects and management actions, several community members and CBGSA Board members expressed concern about unreliable community water supplies in New Cuyama, Cuyama, and Ventucopa. The GSP's list of projects was revised to include construction of new wells for these communities.

Community input also shaped other actions carried forward for further analysis in the GSP. Two projects to improve water resources in the basin came from public input: cloud seeding and rangeland management. The technical team evaluated each approach and discussed benefits and impacts with the CBGSA Board, SAC, and the community. Cloud seeding as a project is included in the GSP for further



evaluation. Rangeland management was not carried forward in the GSP due to concerns about the potential impacts of vegetation management, and institutional concerns about coordination with the United States Forest Service.

Chapter 1 Appendix D of the 2025 GSP Update includes a summary of public comments and responses.

8.2 Responsibilities of GSA Board

The CBGSA is governed by an 11-member Board of Directors that meets approximately six times a year. The Executive Director manages the day-to-day operations of the CBGSA, while Board Members vote on actions of the CBGSA; the Board is the CBGSA's decision-making body. The CBGSA Board of Directors now includes the following individuals:

- Cory Bantilan, Chair, SBCWA
- Steve Jackson, Vice Chair, Cuyama Basin Water District (CBWD)
- Arne Anselm, Secretary, County of Ventura
- Byron Albano, Treasurer, CBWD
- Rick Burnes, CBWD
- Jimmy Paulding, County of San Luis Obispo
- Katelyn Zenger, County of Kern
- Das Williams, SBCWA
- Deborah Williams, Cuyama Community Services District (CCSD)
- Jane Wooster, CBWD
- Derek Yurosek, CBWD

In addition, the following individuals serve as alternatives to regular CBGSA Board members:

- Darcel Elliott – SBCWA
- Steve Lavagnino – SBCWA
- Brad DeBranch – CBWD
- Matt Klinchuch – CBWD
- Blaine Reely – County of San Luis Obispo

During GSP development, a Standing Advisory Committee (SAC) was formed to act in an advisory capacity to the CBGSA Board of Directors. The SAC was established in September 2017 to encourage active involvement from diverse social, cultural, and economic elements of the population within the Basin. The SAC membership reflects this diversity. The members represent large and small landowners and growers from different geographic locations in the Basin, longtime residents of New Cuyama, and a manager of an environmentally centric non-profit organization. SAC's role is described in Section 1.3.4 of the GSP, and includes the following individuals:



- Brenton Kelly (Chair)
- Brad DeBranch (Vice Chair)
- John Caufield
- Jean Gaillard
- Joe Haslett
- Roberta Jaffe
- David Lewis

A technical forum was established to allow for technical input from interested parties within the Cuyama Basin. The forum had no decision-making authority. For the original 2020 GSP, periodic conference calls were held with technical professionals representing a stakeholder in the Basin and the following organizations participated in this effort:

- CBWD and consultants EKI Environment & Water, Inc. (EKI) and Provost & Pritchard Consulting Group (Provost & Pritchard)
- CCSD and consultants Dudek
- Grapevine Capital Partners, North Fork Vineyard and consultants Cleath-Harris Geologists
- San Luis Obispo County
- Santa Barbara Pistachio Company
- SBCWA

For the 2025 GSP Update, periodic conference calls were again held to received technical feedback from professionals in the basin and the representatives listed above, along with the representatives below participated in this effort:

- Bolthouse Farms and Grimmway Farms, and their consultants GSI Water Solutions, Inc.
- Sunrise Olive Ranch, and consultants Stetson Engineers
- Coalition of Landowners for Commonsense Groundwater Solution, and consultants Montgomery & Associates
- Various Cuyama Basin landowners, and consultants Aquilogic, Inc.

The GSP team conducted additional consultations regarding GSP matters via email, telephone, or via in-person meetings with representatives from the following groups:

- Bolthouse Farms
- Community representatives from the Family Resource Center and Blue Sky Center
- Duncan Family Farms
- DWR
- Grimmway Farms



- Individual landowners in the Cuyama Basin
- Kern County
- Santa Barbara County Fire Department, New Cuyama Station
- Santa Barbara County Public Works Department
- Santa Barbara IRWM Program
- United States Department of Agriculture's Forest Service Mount Pinos Ranger District, Los Padres National Forest
- University of California at Santa Barbara
- USGS
- Ventura County
- WellIntel Network

The CBGSA developed a stakeholder engagement strategy to ensure that the interests of all beneficial uses and users of groundwater in the Basin were considered. Multi-organization planning processes can be complex. It can be challenging for community members to understand required decision-making steps, and where and how stakeholder issues and concerns are considered. Groundwater management as a practice is also complex. Educating and engaging groundwater stakeholders and the community about complex issues while simultaneously meeting deadlines established by SGMA, required an organized stakeholder engagement strategy.

An additional challenge to the engagement strategy is that the Basin area is rural and has no news media outlets serving the area. The combined population per the 2010 Census of the three disadvantaged communities is 666 (Ventucopa 92, Cuyama 57, and New Cuyama 517). The engagement strategy relied primarily on mail and email communications about community workshop and GSA meetings. Mailings were sent to 675 parcel owners. Additionally, the CBGSA sent 185 emails to stakeholders, engaged with counters who distributed notices, and word of mouth.

In January 2018, and to inform development of stakeholder engagement strategy, the CBGSA conducted 22 phone interviews with members of the CBGSA Board of Directors, SAC, CBGSA staff, staff from each of the four counties, and community representatives from the New Cuyama Family Resource Center and the Blue Sky Center, which are both located in New Cuyama. Several common themes emerged, which were used to form the basis for constructive stakeholder engagement and planning for the GSP. The prevailing ideas expressed included the following outreach and planning objectives:

- Provide a fair, balanced, and transparent public process that builds trust and understanding towards the common goal of a GSP that can best benefit everyone in the Basin.
- Provide a public meeting environment that is inclusive of all perspectives and all stakeholders.
- Provide education on a range of topics, at key milestones throughout the planning process, beginning with education about SGMA and what a GSP includes.



- Provide education and outreach specifically inclusive of smaller farmers/ranchers and the Hispanic community.
- Develop a GSP that is fair for all stakeholders in the Basin.

The stakeholder engagement strategy was developed to support the themes listed above, and in March 2018, the strategy was approved by the CBGSA Board. The strategy can be found online at: http://cuyamabasin.org/assets/pdf/CBGSP-Engagement-Strategy_May2018.pdf.

8.3 Coordination with Other Agencies

The Cuyama Valley Basin does not share or border any other groundwater basins, nor does it host or intersect the operational boundaries of many other agencies. The CBGSA regularly coordinates with the counties that intersect the Basin, with representatives from each county sitting on the CBGSA Board. However, the CBGSA does have a list of agencies that may or could have interest in the Basin and were notified by mail about GSA-hosted community workshops. These include:

- Cachuma Resource Conservation District in Santa Maria, California
- California Department of Fish and Wildlife, Headquarters in Sacramento, California
- California Natural Resources Agency in Sacramento, California
- California Wildlife Conservation Board in Sacramento, California
- Kern County, Cooperative Extension in Bakersfield, California
- Leadership Council for Justice and Accountability in Bakersfield, California
- Los Padres Forest Watch in Santa Barbara, California
- Morro Coast Audubon Society in Morro Bay, California
- San Luis Obispo County, Cooperative Extension in San Luis Obispo, California
- United States Department of Agriculture's Natural Resource Conservation Service in Fresno, California
- United States Fish and Wildlife Service in Ventura, California
- United States Fish and Wildlife Service, Attention Friends of California Condors Wild and Free in Ventura, California
- United States Forest Service, Bitter Creek National Wildlife Refuge, Refuge Manager, Debora Kirkland in Ventura, California
- United States Forest Service, Los Padres National Forest, Headquarters in Goleta, California
- Ventura County Audubon Society Chapter in Ventura, California
- Ventura County, Cooperative Extension in Ventura, California

The CBGSA does not hold any coordination agreements with any other Agencies but has worked with the USGS for monitoring and stream gage installation, and CalTrans during the installation of new monitoring wells.



9. OTHER INFORMATION

9.1 Consideration of Adjacent Basins

The Cuyama Valley Basin is adjacent to the Carrizo Basin, the Mil Potrero Area Basin, and Lockwood Valley Basin, which are very low priority basins per the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, and not yet required to comply with SGMA. Downstream from the Basin is the Santa Maria River Valley Basin, which is currently undergoing prioritization evaluation under the CASGEM Program. A GSA has formed for the Santa Maria Basin Fringe Areas, which are located downstream from Twitchell Reservoir, and could be affected by a potential stormwater capture project in the Cuyama Basin; if the CBGSA pursues such a project, it may need to coordinate with this GSA in the future.

At this time, no coordination has been needed with adjacent basins, nor is it possible because the basins that share a border with the Cuyama Valley Basin do not have a GSA managing them.

9.2 Challenges Not Previously Discussed

There are no additional challenges to GSP implementation and development of the 2025 GSP beyond those that are already described in other sections of this document.

9.3 Legal Challenges

The only legal challenge currently facing CBGSA that may affect GSP implementation is the comprehensive groundwater adjudication, described in more detail in Section 7.1.7, above.

9.4 Completed and Planned GSP Amendments

The Cuyama Valley Basin GSP was first amended and resubmitted in 2022 based on feedback received from DWR. The revised 2022 GSP did not edit any of the original text submitted in 2020 but provided supplemental “blue” pages to provide clarification on several components based on DWR deficiencies. DWR approved the 2022 GSP in the determination letter issued to the GSAs on May 25, 2023, which included recommended corrective actions to be addressed in this Periodic Evaluation.

Additionally, the CBGSA developed a plan amendment to accompany this Periodic Evaluation. As discussed in previous sections, stakeholders were heavily involved in guiding the amended GSP, along with the CBGSA board, technical analysis based on new data, and data provided from technical studies. Opportunities for public involvement in the 2025 GSP Update are described in greater detail above in Section 8.

A brief summary of the components included in the 2025 GSP Update are:

- **Agency Information, Plan Area and Communication:** updated public meetings, list of public engagement and CBGSA meetings, Board members list, and SAC members list.



- **Hydrologic Conceptual Model:** updated land and water use data, incorporation of new information for technical studies.
- **Basin Settings:** updating and incorporating recent monitoring g data and Basin conditions.
- **Water Budget:** updated groundwater modeling and water budget components and results.
- **Monitoring Networks:** revised monitoring networks focused on new sites and reducing redundancies and problematic sites.
- **Minimum Thresholds, Measurable Objectives, and Interim Milestones:** updated thresholds that incorporate new information, updating modeling, and technical analyses.
- **Projects and Management Actions:** updated status of projects and management actions.
- **Plan Implementation:** Describes progress on plan implementation, completed activities, and planned activities.

Ultimately, the GSP was amended because of the amount of new information, changes to thresholds based on newly available data, additional information and data from technical studies and analysis, and incorporation of the updated CBWRM.



10. SUMMARY OF PROPOSED OR COMPLETED REVISIONS TO PLAN ELEMENTS

SGMA requires GSPs to be evaluated in the form of Periodic Evaluations every five years and whenever a GSP is amended. The purpose of this Periodic Evaluation was to provide an update to the DWR, interested parties, and the public on the progress the CBGSA has made on implementing the Cuyama Valley Groundwater Basin GSP. The Periodic Evaluation includes updates to activities implemented by CBGSA, recent groundwater conditions and their progress towards meeting sustainable management criteria, new information collected and used by the CBGSA, and changes incorporated into the 2025 GSP.

Since the adoption of the 2020 GSP, the Basin has not experienced undesirable results for any applicable sustainability indicator. Although groundwater levels did approach undesirable results conditions, a wet year provided recovery and undesirable results did not occur. However, based on data collected since GSP adoption, thresholds have been adjusted to more accurately represent undesirable conditions and measurable objectives for the Basin, and at this time, undesirable results are not expected or projected to occur.

The implementation of projects and management actions has and continues to occur. Studies have been completed and pumping allocations have begun so that reaching sustainability is on schedule.

Considerable data has been collected and analyzed, with additional studies to increase Basin understanding. The representative network was surveyed leading to revisions, new monitoring wells and piezometers were installed, an airborne electromagnetic survey was conducted, a geophysical survey was conducted, and a study to assess GDEs and active pumping wells were completed. Much of this data has been incorporated into the updated groundwater model as well.

As discussed previously, the 2025 GSP was amended to incorporate new information collected and to address Recommended Corrective Actions included in DWR's 2023 determination letter. The most significant revisions to the 2025 GSP include:

- Revised monitoring networks
- Updated Hydrogeologic Conceptual Model based on new information and studies
- Updated Groundwater Conditions section based on recent monitoring data
- Updated Groundwater budget
- Updated CBWRM incorporation new monitoring data and studies
- Updated sustainability thresholds based on new information and data collected
- Updated Projects and Management Actions based on implementation progress

The CBGSA will continue with implementation of projects and management actions, data collection, and pumping allocations to ensure timely and efficient progress towards sustainability as scheduled in the 2025 GSP Update. The CBGSA will continue to use annual reports and groundwater conditions reports as their primary mechanism for regular updates on the status of the Basin relative to groundwater conditions, water use, and progress on GSP implementation.