CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

STANDING ADVISORY COMMITTEE MEETING

Committee Members

Brenton Kelly (Chair)	Jean Gaillard	Karen Adams
Brad DeBranch (Vice Chair)	Joe Haslett	John Caufield
Jake Furstenfeld	Roberta Jaffe	David Lewis

AGENDA

August 29, 2024

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Standing Advisory Committee meeting to be held on Thursday, August 29, 2024, at 5:00 PM at the **Cuyama Valley Family Resource Center 4689 CA-166, New Cuyama, CA 93254**. Participate via computer at: https://rb.gy/c490p or by going to Microsoft Teams, downloading the free application, then entering Meeting ID: 290 937 651 464 Passcode: z8mi9V, or telephonically at (469) 480-3918, Phone Conference ID: 588 047 246#.

The order in which agenda items are discussed may be changed to accommodate scheduling or other needs of the 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 Committee discussion of all items in which they are interested.

Teleconference Locations:

4689 CA-166, New Cuyama, CA 93254	1601 Bolthouse Dr, Suite 200, Bakersfield, CA 93311	1850 Miranda Canyon, New Cuyama, CA 93254
1135 24th St, Paso Robles, CA 93446	4677 Cebrian Ave, New Cuyama, CA 93254	

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 Wednesday 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 (Kelly) (1 min)
2. Roll Call (Kelly) (1 min)
3. Pledge of Allegiance (Kelly) (2 min)
4. Meeting Protocols (Blakslee) (2 min)
5. Public Comment for Items Not on the Agenda | *At this time, the public may address the Committee on any item not appearing on the agenda that is within the subject matter jurisdiction of the Committee.*

ACTION ITEMS

6. Approval of July 25, 2024, Minutes (Kelly) (3 min)
7. Groundwater Sustainability Plan Implementation
   a) Discuss and Take Appropriate Action on Data Management System Update Options (Van Lienden) (5 min)
8. Groundwater Sustainability Plan Amendment Components
   a) Update on GSP Component Schedule (Blakslee/Van Lienden) (5 min)
   b) Review and Take Appropriate Action on the CMA Operational Boundary (Beck/Van Lienden) (30 min)

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 (Beck) (15 min)

ii. Discuss and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations (Beck/Van Lienden) (30 min)

iii. Discuss and Take Appropriate Action on Baseline Options (Beck/Van Lienden) (30 min)

d) Review Public Comments on Amended GSP (excel matrix) (Beck/Van Lienden) (30 min)

e) Discuss and Take Appropriate Action on Amended GSP [All Chapters] (Beck/Van Lienden) (30 min)

REPORT ITEMS

9. Technical Updates
   a. Update on Groundwater Sustainability Plan Activities (Van Lienden) (5 min)
   b. Update on Grant-Funded Projects (Van Lienden) (5 min)
   c. Update on July 2024 Groundwater Conditions Report (Van Lienden) (5 min)
10. Administrative Updates
   a. Report of the Executive Director (Blakslee) (1 min)
   b. Report of the General Counsel (Dominguez) (1 min)
   c. Board of Directors Agenda Review (Blakslee) (3 min)
11. Items for Upcoming Sessions (1 min)
12. Committee Forum (1 min)
13. Correspondence (1 min)
14. Adjourn (7:32 p.m.)

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

Tech Forum Participants

Participants	**Entity**	**Representing**
Aman Singh Anthony Daus	GSI	Bolthouse / Grimmway
Mack Carlson	BHFS	Coalition of Landowners for Commonsense Groundwater Solution
Derrik 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

Cuyama Basin Groundwater Sustainability Agency
Special Standing Advisory Committee Meeting

July 25, 2024

Draft Meetings Minutes

PRESENT:
DeBranch, Brad – Vice Chair
Adams, Karen
Gaillard, Jean
Jaffe, Roberta
Lewis, Dave

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

ABSENT:
Furstenfeld, Jake
Haslett, Joe

REMOTE PARTICIPATION
Kelly, Brenton – Chair

1. **Call to Order**
   Cuyama Basin Groundwater Sustainability Agency (CBGSA) Standing Advisory Committee (SAC) Vice Chair DeBranch called the meeting to order at 5:07 p.m.

2. **Roll Call**
   Mr. Blakslee called roll of the Committee (shown above).

3. **Pledge of Allegiance**
   Vice Chair DeBranch led the pledge of allegiance.

4. **Meeting Protocol**
   Assistant Executive Director Taylor Blakslee provided direction on the meeting protocols in facilitating a remote meeting.

5. **Public Comment for Items Not on the Agenda**
   No public comments.

6. **Approval of April 25, 2024, Minutes**
   Vice Chair DeBranch opened the floor for comments on the April 25, 2024, CBGSA SAC meeting minutes.

   MOTION
   Committee Member Adams made a motion to approve the April 25, 2024, CBGSA SAC meeting minutes with the noted corrections. The motion was seconded by Committee Member Gillard. A roll call vote was made, and the motion passed.

AYES: Adams, DeBranch, Gaillard, Jaffe, Lewis
NOES: None
ABSTAIN: None
ABSENT: Furstenfeld, Haslett, Kelly

7. Groundwater Sustainability Plan Implementation

a) Update on Fault Investigation Study

Woodard & Curran consultant Jim Strandberg provided an update on the fault investigation study which is provided in the SAC packet. The study provides new insights into the complexity of the Santa Barbara Canyon Fault (SBCF) and the Russell Fault, and how the faults affect groundwater flow and water quality in the basin.

Committee Member Jaffe asked what electrical resistivity is and its significance. Mr. Strandberg explained that it is a natural property of earth materials that reflects their ability to transmit an electrical charge and that it helps to differentiate clay, silt, sand and gravel.

Committee Member Gillard commented that an 11,000-foot exploratory oil well will be drilled soon near North Forks property, and it may provide water quality data. She asked if the GSA could request well water quality data from the California Geologic Energy Management (CalGEM).

Committee Member Lewis commented on the unchanged groundwater level in the graph of electrical resistivity for the Russel Fault. Mr. Strandberg replied that there is saturated alluvium on the east and west side, and there is nothing inhibiting the flow of groundwater across the fault from high pressure to low pressure (the hydraulic gradient).

Vice Chair DeBranch asked if there are plans to further investigate the SBCF, its location, and extent. Mr. Strandberg responded that the technical staff will recommend in the final report that another geophysical transect be run to identify the eastern extent of the fault. The fault may trend in a northeast direction and cross state route 33 north of the transect conducted.

Mr. Strandberg commented that there is a great discrepancy between the water levels at MW-H and TSS #3 wells and the likely explanation is that there is a fault between those two well locations. Mr. Strandberg speculated that a fault might run more toward the northwest and southeast due to the locations of these wells. He suggested a geophysical transect be run south of the transect conducted to identify this fault.

Vice Chair DeBranch opens the floor for public comment.
Stakeholder Steve Gliessman asked if deep well data collected in the west of the Russell Fault would provide enough information to determine how the different Morales layers are affecting the storage capacity on the west side of the fault. He also asked why there is little flow in the river basin.

Mr. Strandberg responded that water quality data from wells on the west side would be used if those wells are at comparable depths to the current monitoring wells (TSS #1 wells) on the east side of the fault. He added that the river basin flow in this area is an output of the water resources model and reflects a limited thickness of saturated alluvium above impermeable rocks and a low hydraulic gradient.

b) Update on Cuyama Basin Water Resources Model

Mr. Beck provided an overview of the model topics to be presented. Mr. Van Lienden introduced Ali Taghavi as the Senior Modeling Consultant at Woodard & Curran. Ali Taghavi, Senior Modeling Consultant at Woodard & Curran, commented his focus has been on the development of the model and the application of the model for sustainable yield.

Mr. Taghavi commented that the committee and stakeholders should consider that the outputs provided are in the context of model uncertainty and an uncertainty analysis will be conducted. There is quality control on the data, and this will cause slight variation in the central management area (CMA) and sustainable yield.

Committee Member Gillard asked if the CMA asked if there is less underground storage for water. Mr. Taghavi responded that there is less storage in the southern part as it has tributary to the main groundwater basin. The CMA is receiving less water from that southern part and from the Badlands areas.

Committee Member Jaffe asked how data from abnormally wet years 2022-2023 will affect the model. Mr. Taghavi responded that sensitivity analysis needs to be performed, but it helps calibrate the model for extreme weather conditions. Data will continuously be collected and with more data, the model can be compared and refined.

Vice Chair DeBranch asked if pumping volumes and crop ET values are by field specific. Mr. Taghavi responded pumping is assumed as the amount of water pumped is equal to the amount of water that is required for the transportation of applied water and pumping data reported by well owners is mapped to the corresponding service areas.

Vice Chair DeBranch asked if the evapotranspiration (ET) rate per crop included in the model is assumed. Mr. Taghavi responded that is it a reasonable assumption to use the historical potential ET rates as pumping data for specific crops by well users is not available.

Committee Member Jaffe commented that there are no wells in the Cottonwood Creek area shown on the pumping wells map. Mr. Van Lienden clarified wells shown are pumping wells used in the model.

Committee Member Adams asked if there is a map of all the wells monitored which would be helpful to have maps of wells included in the model and wells not included. Mr. Van Lienden responded that well maps are available on the Cuyama website and well data collected is accessible on the Data Management System on the Cuyama Basin website

Stakeholder Tara Sailor asked if there is correlation between the idle land from land use map and the pumping wells not included in the map.

Mr. Van Lienden clarified reports of pumping less than 25-acre feet per year is not included in the pumping wells included in the model. The land use is indicated as idle or non-irrigated land, which is not included in the model.
Stakeholder Gliessman commented that management actions that reduce water use should be considered.

Stakeholder Pam Dorion asked about fallowed land and why that is not represented in the land use maps.

Committee Member Adams commented that idle land is a misrepresentation of fallow and grazed land and de minimis users should be shown in a map.

Mr. Beck summarized comments from committee members that there's concern about the appropriate representation of the de minimis users or dry farming. He added SAC could request the Board of Directors request that staff and the future present a plan for addressing that with associated costs and potential impacts in that.

Vice Chair DeBranch opened the floor for committee comments.

Committee Member Jaffe commented that the groundwater levels continually decline as more water is pumped than replenished. She added by not making changes to pumping allocations than the basin is going to be sustainable by 2040. Committee Member Adams seconds this comment.

Mr. Beck clarified that the project pumping estimates represent business-as-usual practices and there is a plan to reduce overdraft estimates through allocations and the glidepath.

Vice Chair DeBranch opened the floor for public comments.

Stakeholder Gliessman commented that the glidepath and pumping reductions data would provide more information to the model which could project groundwater level changes.

Stakeholder Brenton Kelly asked for summary slides to show a distinction between positive and negative numbers for the pumping and overdraft estimates.

Committee Member Jaffe asked for justification for delineations in sustainable yield by region and if regional yields are a part of the model. She commented that she would like clarification on what are the reductions in groundwater levels under sustainable conditions and when they take place.

Mr. Taghavi responded that the model included calculations of small “cells” through the valley using hydrology, rainfall, land use, infiltration, percolation, and groundwater pumping. The groundwater levels under sustainable conditions represent the pumping reductions if regulated now. The map does not include the glidepath reductions.

Stakeholder Gliessman commented on reverse in the direction of groundwater levels and that even with 5%-6% reductions it is still causing overdraft. He commented he would like to see how reduction reduces pumping and changes the groundwater level.

Stakeholder Adam Lovgren asked how deep percolation calculations are calculated.

Mr. Taghavi responded that the calculation uses the crop type, water application, rainfall, and crop coverage. For example, if land is fallow, crop lands are converted to native vegetation, then the ET patterns change and a reduction in pumping results in a reduction in applied water, which means reduction in deep percolation associated with applied water.

Stakeholder Lovgren asked what percentage pumped water for overhead or for drip really goes back to the basin if it is on cultivated crop land. Mr. Taghavi responded under historical conditions approximately 80% and under projected conditions the model assumed 90% crop efficiency.

c) Discuss and Take Appropriate Action on a Monitoring Network Consultant Contract for FY 24-25

Mr. Blakslee provided an overview of the Provst & Pritchard (P&P) contract for monitoring network. P&P have been collecting groundwater level and water quality samples for 64 wells and the contract is to continue these services for a total of $68,000, which is within the budgeted amount approved by the Board on May 1, 2024.

MOTION
Committee Member Jaffe made a motion to approve a groundwater monitoring contract with P&P. The motion was seconded by Committee Member Adams; a roll call vote was made, and the motion passed.

AYES: Adams, Gaillard, Debranch, Jaffe, Kelly, Lewis
NOES: None
ABSTAIN: None
ABSENT: Furstenfeld, Haslett, Kelly

d) Discuss and Take Appropriate Action on Data Management System Update Options
Mr. Van Lienden provided an overview and additional information on the Data Management System (DMS) Update Options, as requested by the Board.

Stakeholder Kelly asked if these DMS updates will include well-depth information. Mr. Van Lienden commented it will include any new data on newly constructed wells, but there is not a budget allocated for staff to fill data gap of wells in DMS without information.

8. Groundwater Sustainability Plan Amendment Components

a) Update on GSP Component Schedule
Mr. Beck provided updates on the Groundwater Sustainability Plan (GSP) Schedule through the rest of the year.

Committee Member Jaffe commented that the amount of information is overwhelming and the schedule.

b) Discuss and Take Appropriate Action on Project and Management Action Options [Final Discussion]
Mr. Van Lienden provided an overview of the project and management action options to be included in the 2025 GSP update.

Committee Member Jaffe commented that previously when the minimum threshold was exceeded, the solution was to adjust the minimum threshold. She commented that the adaptive management wording in the GSP should be stronger to investigate the cause of changing thresholds and determine appropriate actions.

Stakeholder Gliessman commented on the flow and capture and the rangeland and forest management. He asks if there are additional opportunities to provide management action options. He comments he would like to see alternative crop management and vegetation management that conserve water and biodiversity.

Vice Chair DeBranch commented that pumping allocations is not included in the list of project and management action options.

SAC Committee reported no recommendations on the project and management action options.

c) Discuss and Take Appropriate Action on Glidepath Methodology [Final Discussion]

Mr. Van Lienden provided an update on the glidepath methodology and potential options for the central management area. Brian outlined the mathematical equations to reach sustainability with two years at 5% reduction and then all the following years at 6.5% reduction.

Mr. Beck reminded the committee that the Sustainable Groundwater Management Act (SGMA) requires basins to reach sustainability by 2040. The Cuyama Basin Board of Directors decided on a target end date of 2038. Glidepath percentages are also reviewed every five years, so there will be a 6.5% reduction over the next five years for the CMA.

Committee Member Adams asked for proof that there was a 5% reduction in 2023 and that the 5% reduction will be achieved in 2024. Mr. Blakslee responded that a report was provided in March that showed pumpers were 50% under the allocations and the 5% glidepath was reached in 2023. He added that a report on pumping reductions will be provided in March 2025.

Stakeholder Brenton Kelly commented that the percentages may change with model updates and that it would be helpful to see the metric used to show the groundwater levels are on target to meet sustainability goals.
Committee Member Jaffe commented that the glidepath should be looked at overtime and every year the GSA delays allocations, water levels continue to decline. She asked how does the GSA conserve groundwater storage and how does the glidepath connect the difference between the inflow and outflow.
Vice Chair DeBranch asked if the current glidepath achieves sustainable conditions by 2040. Mr. Beck responded that the glidepath for the CMA is the best estimate to achieve sustainability in uniform increments.

Vice Chair DeBranch commented that the GSA is currently meeting sustainability goals and if glidepath adjustments are needed in the future, there is flexibility to make changes. He added groundwater levels are not going to change overnight and that this is a long-term planning process.

Committee Member Jaffee asked for visualization of how the glidepath relates to groundwater levels and how groundwater levels change over this time.

Committee Member Gaillard commented that cattle owners are draining the wells. He would like a more aggressive glidepath to get out of the minimum threshold. Is there grant to help pay small farmers for well repairs from over

Stakeholder Rachel Higgins advocated for a glidepath that allows groundwater levels stay high as possible and like to have more accessible meetings and Latino representation.

MOTION
Committee Member Jaffe made a motion to adjust the glidepath schedule to be correlated to the groundwater levels from the revised model and in conjunction with minimum thresholds, so groundwater levels stay above the minimum threshold. The motion was seconded by Committee Member Adams; a roll call vote was made, and the motion passed.

AYES:	Adams, Gaillard, Jaffe, Lewis
NOES:	DeBranch
ABSTAIN:	None

ABSENT: Furstenfeld, Haslett, Kelly

Stakeholder Brenton Kelly is in favor of the motion.

d) Discuss and Take Appropriate Action on Basin-Wide Water Management Narrative

Mr. Blakslee provided an update on Basin-Wide Water Management Narrative and proposed revision for 2025 GSP Update.

Committee Member Adams commented on if there is a timeline or a limit on how much pumping the Cuyama Community Services District (CCSD) could increase. Mr. Van Lienden responded the CCSD would be assumed to be staying at their current level of pump.

Committee Member Adams commented that the county water usage will not stay at the current level and that there should be collaboration with CCSD to understand upcoming projects and how those might affect the water usage.

MOTION

Committee Member Adams made a motion to approve the redlined GSP Section 7.5.2. and final sentence be modified based on CCSD based on upcoming development. The motion was seconded by Committee Member Jaffe; a roll call vote was made, and the motion passed.

AYES: Adams, Gaillard, Jaffe, Lewis, DeBranch
NOES: None
ABSTAIN: None
ABSENT: Furstenfeld, Haslett, Kelly

Stakeholder Brenton Kelly is in favor of this motion.

e) Discuss and Take Appropriate Action on Updated CMA Boundary, Management Area Criteria, Use of an Operational Boundary and Use of Farm Units [Final Discussion]

Mr. Beck provided an overview of the updated CMA Boundary, Management Area Criteria, Use of an Operational Boundary and Use of Farm Units and questions for Board consideration.

Committee Member Gaillard commented he is in favor of keeping the CMA boundary and is worried about crop rotations shifting the CMA boundary to the west.

Mr. Van Lienden responded that the model incorporates crop rotations, and the CMA boundary will not shift as a result of crop rotations.

Committee Member Jaffe asked about the justification for the two foot per year contour.

Mr. Beck replied that the two-foot per year contour was selected during the original GSP development since it represented a large portion of the overdraft in the basin and was used to establish groundwater allocations.

Committee Member Lewis questioned the validity of the updated CMA boundary due to large growers being removed from the CMA boundary and. He commented that he would like to keep the boundary as is until the model is reviewed and refined.

Vice Chair DeBranch commented he is in favor of adjusting the boundary as recommended by the model.

Committee Member Adams commented she is in favor of leaving the boundary as-is.

Stakeholder Brenton Kelly asked how much acreage is included in CMA with farming units.

Stakeholder Ann Myhre commented that technical consultants provide boundary and Board should not alter boundary as provided by staff

MOTION
Committee Member Adams made a motion to keep CMA boundary as is within the current GSP. The motion was seconded by Committee Member Lewis; a roll call vote was made, and the motion passed.

AYES: Adams, Gaillard, Jaffe, Lewis,
NOES: DeBranch
ABSTAIN: None
ABSENT: Furstenfeld, Haslett, Kelly

Stakeholder Brenton Kelly is in favor of this motion.

f) Discuss and Take Appropriate Action on Groundwater Allocations [Final Discussion]
Mr. Blakslee provided an overview of the groundwater allocation program and questions for members to review for board direction.

Options for the allocation implementation period:
Mr. Blakslee reported the current allocation implementation period is for two years. Staff asked the committee if they support a five-year allocation program or if there is another option. Mr. Beck commented that the pro of the five-year periods would be it aligns with the model updates, but periods longer than five years would eliminate the opportunity to incorporate new data.

Committee Member Adams commented that five years is too long of a period, and it would make more sense to do two-year allocations until the impacts on water levels are determined and the glidepath projections are accurate.

Committee Member Gaillard commented in favor of the five-year period but would like to have a more aggressive glidepath.

Stakeholder Kelly asked about the probability of updating the model in the next five years. He is in favor of the five-year period. Mr. Beck commented there is sufficient data to update the model in two years, but budget and costs for model update will need to be considered.

Poll
In favor of two-year period: Adams, Jaffe, Lewis
In favor of five-year period: Gaillard, DeBranch

Options for who the allocation applies to:
Committee Member Jaffe commented there should be variation for small landowners and pumpers.

Poll
In favor of CMA + Farming units: Adams, Jaffe, Lewis, Gaillard, DeBranch

Options for the baseline allocation amount:
Mr. Blakslee commented that the staff is looking for feedback on the starting point for the starting point or baseline amount for allocations.

Committee Member Jaffe commented that she does not like the inclusion of 2021 water use as it was a drought year and would like to use the 20-year average from that period as the baseline. Committee Member Adams agreed with Committee Member Jaffe's statement

Stakeholder Kelly commented in favor of a broader historical average and use of an average year for average cutback.

Poll
In favor of baseline allocation amount from 2021: Gaillard, DeBranch (or use average)
In favor of historical 20-year average as baseline: Jaffe, Adams
No Comment: Lewis

Options for Sustainable yield provided by the model:

Poll
In favor of using sustainable yield as provided by the model: Jaffe, Lewis, Gaillard, Adams
TBD: DeBranch

Stakeholder Gliessman commented that there should be a peer review period to review the sustainable yield. He would like to see external peer reviews, outside of tech forum.
Vice Chair DeBranch commented he would like to see the updated sustainable yield as staff mentioned quality control issues during the model presentation.

Options allocation methodology:
Committee Member Lewis commented in favor of tiered allocations.

Committee Member Jaffe commented that there should be a variance exemption for small pumping.

Poll
In favor of using long-term historic average: DeBranch, Gaillard
In favor of using historic average with an exception for small pumpers: Adams, Lewis, Jaffe

Stakeholder Kelly commented in favor of exception for small pumpers with potential use of a volumetric amount as opposed to using acreage similar to de minimis.

Stakeholder Gliessman commented that tiered systems should be reviewed and considered.

Incorporation of carryover policy:
Committee Member Gaillard commented there should be a limitation to how much can be carried over.

Committee Member Jaffe commented that she is not in favor of carryover until the basin is sustainable.

Poll
Not in favor of carry over until the basin is sustainable: Adams, Jaffe, Gaillard

In favor of carryover: DeBranch

Stakeholder Kelly commented he is in favor of carryover once sustainable conditions are established.

Stakeholder Gliessman recommended considering a reward system that benefits landowners who have practices for water conservation.

g) Discuss and Take Appropriate Action on Frequency of Changes to Groundwater Allocations [Final Discussion]

Mr. Beck provided an overview of the frequency of changes to groundwater allocations and the potential options for allocations to areas outside the CMA.

Committee Member Jaffe asked if the two foot per year is included in the current GSP and commented she is in favor of a quantitative metric that is connected to minimum thresholds.

Mr. Beck responded that it is included in the current GSP.
Committee Member Lewis commented that an annual report is too frequent and a report every five years is too long.

Stakeholder Kelly is in favor of using a quantitative metric annually

Poll
In favor of quantitative metric (annually): Adams, Jaffe, DeBranch
In favor of quantitative metric (3years): Lewis, Gaillard

h) Discuss and Take Appropriate Action on GSP Draft Chapters: [Final Discussion]

Mr. Van Lienden provided an overview of the updated GSP draft Chapters for review and inclusion in the public draft. He noted the updated chapters include new information that was not available for the 2020 GSP, and incorporates updated policies approved by the Board in January 2024. He presented the following chapters, and now SAC motion was made to approve them.

i. Chapter 2. Basin Setting
ii. Chapter 3. Undesirable Results
iii. Chapter 5. Sustainability Management Criteria
iv. Chapter 6. Data Management System (DMS)

He encouraged Committee Members to provide any written comments on the chapters to staff.

i) Discuss and Take Appropriate Action on GSP Amendment Comment Process

Mr. Blakslee provided an overview of the proposed public comment process which included a formal comment process.

Stakeholder Gliessman commented that the workshop attendance was low, and staff should consider additional efforts to increase community engagement.

MOTION
Committee Member Jaffe made a motion to approve the public comment process. The motion was seconded by Committee Member Adams; a roll call vote was made, and the motion passed.

AYES: Adams, Gaillard, Jaffe, Lewis, DeBranch
NOES: None
ABSTAIN: None
ABSENT: Furstenfeld, Haslett, Kelly

9. Technical Updates

a. **Update on Groundwater Sustainability Plan Activities**
Mr. Van Lienden provided an overview of the GSP activities which is provided in the SAC packet.

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

c. **Update on April 2024 Groundwater Conditions Report**
Mr. Van Lienden provided an overview of the April 2024 Groundwater Conditions Report which is provided in the SAC packet.

10. Administrative Updates

a. **Report of the Executive Director**
Mr. Blakslee provided an overview of the public workshop attendance.

b. **Report of the General Counsel**
Committee Member Jaffe asked how adjudication process impacts the GSA budget. Legal Counsel Alex Dominguez responded that costs have gone up, but that is all the information that can be provided outside of what is already included in the budget.

c. **Board of Directors Agenda Review**
Mr. Blakslee briefly mentioned the July 31, 2024, CBGSA Board Meeting agenda which is provided in the SAC packet.

11. Items for Upcoming Sessions
Nothing to report.

12. Committee Forum
Nothing to report.

13. Correspondence
Nothing to report.

14. Adjourn
Vice Chair DeBranch adjourned the meeting at 11:21 p.m.

STANDING ADVISORY COMMITTEE OF THE
CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

Chair Kelly: _____

ATTEST:
Vice Chair DeBranch:
_____

TO: Standing Advisory Committee
Agenda Item No. 7a

FROM: Brian Van Lienden, Woodard & Curran

DATE: August 29, 2024

SUBJECT: Discuss and Take Appropriate Action on Data Management System Update Options

Recommended Motion
Standing Advisory Committee feedback requested.

Discussion
A presentation on Data Management System (DMS) option enhancements is provided as Attachment 1, and a scope of work and budget breakdown is provided as Attachment 2.

Cuyama Basin Groundwater Sustainability Agency

7d. Data Management System Update Options

August 29, 2024

HALLMARK GROUP Woodard & Curran

Potential DMS Updates

- Available grant budget: ~$40,000
- Staff recommended updates:
  - Implement automated connections to external databases (GAMA, CASGEM)
  - Update DMS input tools
  - Implement SMC displays for TDS
- A scope of work and budget breakdown for the staff recommended updates are provided in the attached document

Woodard & Curran recommends the following data management system (DMS) updates. For each task, Woodard & Curran will implement the upgrades in the development environment and perform user testing. Upon completion, Woodard & Curran will migrate the completed enhancements to the production environment in coordination with the GSA. Woodard & Curran will also update the User Guide as needed to accommodate the enhancements.

Implement Automated Connections to External Databases - $21,290 (80 hours)

Woodard & Curran will integrate with readily available and relevant public datasets via published APIs. Dataset linkages will include GAMA and DWR's Period Groundwater Level Measurements (at a minimum) using published APIs on the California Natural Resources Agency Open Data Portal.

Woodard & Curran will copy measurement data and other relevant data (e.g., reference point elevation, ground surface elevation) that does not exist within the DMS for wells that are included in the DMS. The linkage will be automated to run on a monthly basis. Data pulled from API sources shall be displayed and available through the well's graphs, tables, and well information module.

Deliverables:

- *DMS connection to California Natural Resources Agency Open Data Portal GAMA and DWR Groundwater Level APIs*
- *Updated data visualization to well chart, table, and information module.*

Update DMS Input Tools - $15,960 (60 hours)

Woodard & Curran will update input tools and quality check functionality in the DMS to streamline data entry and quality control, and more closely align with recent work done with DWR to standardize groundwater data reporting formats. The updated import tool includes functionality to allow users to enter field measurements, automate calculations for groundwater elevation and depth to water from ground surface based on available reference point data, and automate calculations based on different measurement methods. Quality control functions will be updated based on the new import functionality. Import templates will be updated as needed to implement the upgrade.

Deliverables:

- *Updated import tool and data quality check functionality*
- *Updated import templates*

Implement Sustainable Management Criteria Displays for TDS - $2,680 (10 hours)

Woodard & Curran will integrate sustainable management criteria (SMC) displays for groundwater quality constituent total dissolved solids (TDS). Updated chart display allows for user to easily distinguish SMC values related to the selected well.

Deliverables:

- *Updated groundwater quality well chart displays*

TO: Standing Advisory Committee
Agenda Item No. 8a

FROM: Jim Beck / Brian Van Lienden

DATE: August 29, 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

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

TO: Standing Advisory Committee
Agenda Item No. 8b

FROM: Taylor Blakslee / Brian Van Lienden

DATE: August 29, 2024

SUBJECT: Review and Take Appropriate Action on the Central Management Area (CMA) Operational Boundary

Recommended Motion
Standing Advisory Committee direction requested.

Discussion
On July 31, 2024, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board directed staff to update the new Central Management Area (CMA) boundary (updated by the 2024 model [v0.3]) using the existing, July 2022, operational boundary criteria which is, “a whole parcel will be part of the CMA if 50 percent or more of the parcel is in the hydrologic boundary or if 1,000 acres or more of a parcel are in the hydrologic boundary.”

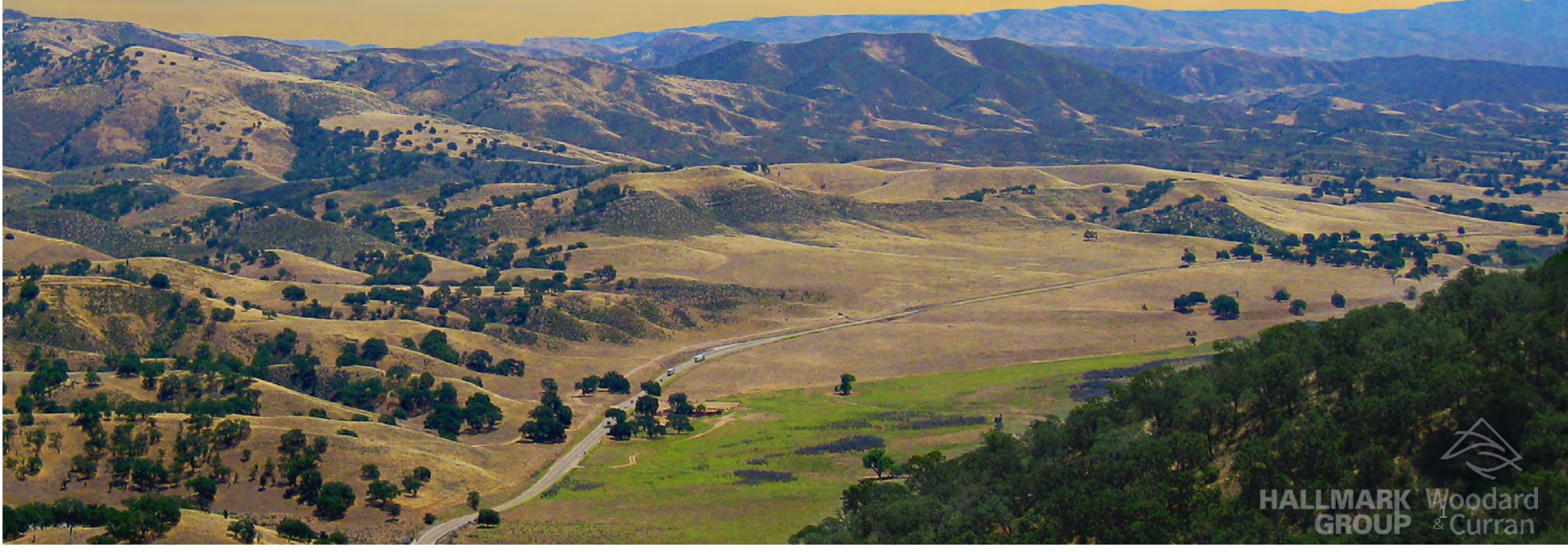
The updated CMA Operational Boundary is provided as Attachment 1.

Cuyama Basin Groundwater Sustainability Agency

8b. Review of CMA Operational Boundary

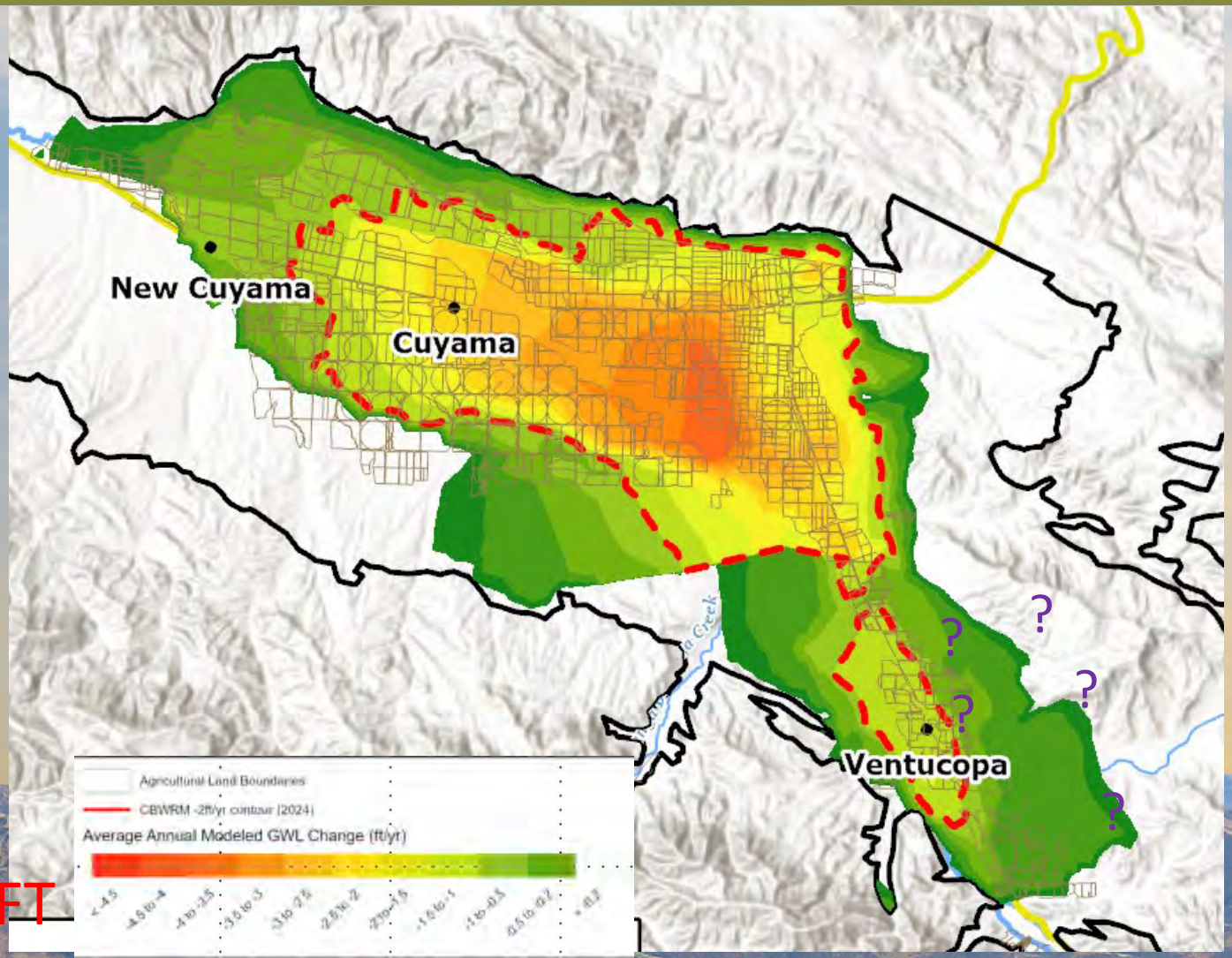
Jim Beck / Brian Van Lienden

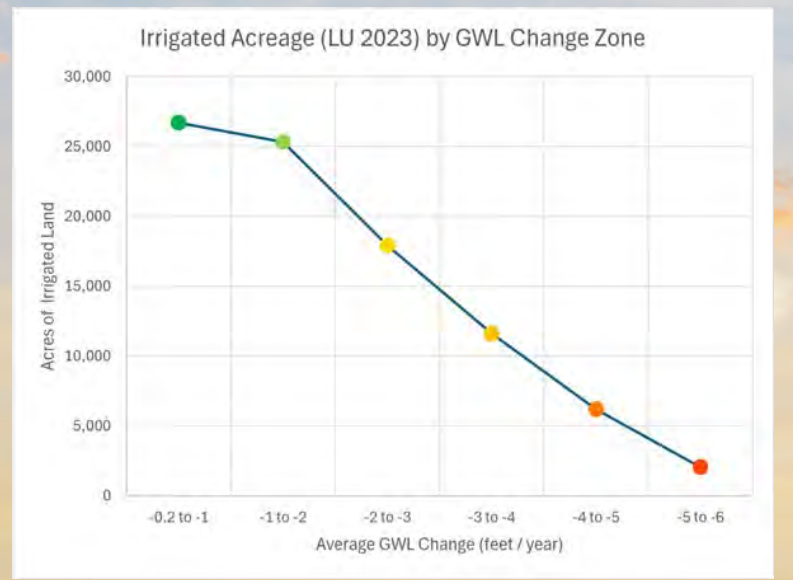
August 29, 2024



Updated Modeled Management Area

Average Annual Groundwater Level Change during Projected BL

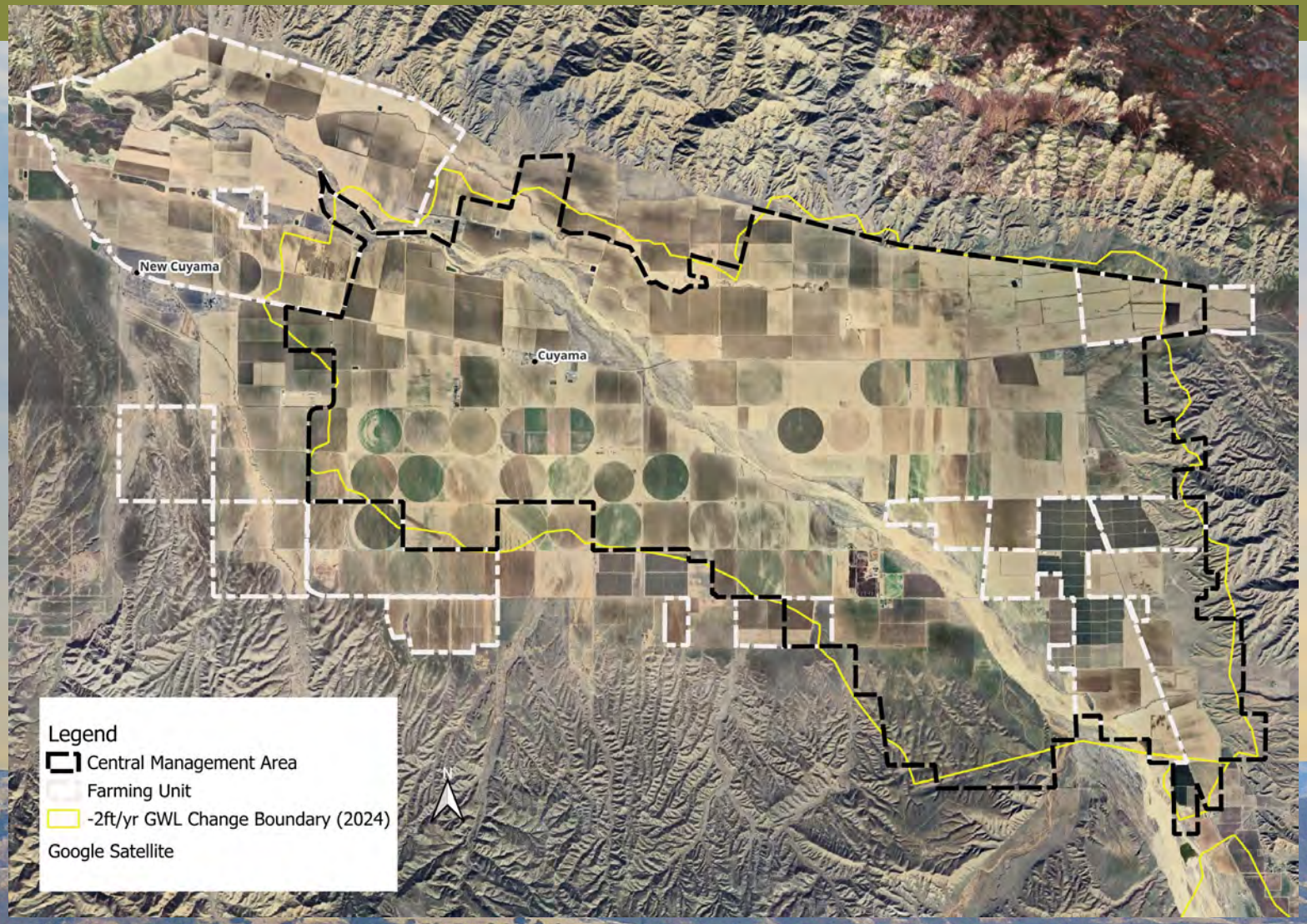




DRAFT

HALLMARK GROUP Woodard & Curran

Updated CMA Operational Boundary with Existing Farming Units



- Parcels are included in the operational boundary if 50 percent or more of the parcel or 1,000 acres of the parcel's area is within the modeled 2-ft per year line
- Map to left shows current farming units; these could potentially change with new CMA area

TO: Standing Advisory Committee
Agenda Item No. 8ci

FROM: Taylor Blakslee / Brian Van Lienden

DATE: August 29, 2024

SUBJECT: Discussion and Take Appropriate Action on Frequency and Extent of Changes to Groundwater Allocations

Recommended Motion
Standing Advisory Committee feedback requested.

Discussion
A presentation outlining options for the frequency and extent of changes to groundwater allocations outside the Central Management Area is considered and provided as Attachment 1.

Cuyama Basin Groundwater Sustainability Agency

8ci. Discuss and Take Appropriate Action on Frequency of Changes to Pumping Reduction Program

Jim Beck / Brian Van Lienden

August 29, 2024

Potential Options

- Staff recommends the Board adopt a policy to determine if and when pumping groundwater allocations would be applied to areas outside of the CMA plus farming units
- Potential options include:
  - Identifying a quantitative metric (e.g. based on groundwater level changes or modeled water budgets) that would trigger consideration of allocations
  - Perform a qualitative assessment of whether groundwater allocations should be considered outside the CMA on one of the following intervals:
    - During each Annual Report
    - During each GSP Periodic Evaluation (i.e. every 5 years)
  - Other
- **Which option does the Board want staff to include in the GSP?**

TO: Standing Advisory Committee
Agenda Item No. 8cii

FROM: Jim Beck / Brian Van Lienden

DATE: August 29, 2024

SUBJECT: Discussion and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations

Recommended Motion
Standing Advisory Committee feedback requested.

Discussion
On July 31, 2024, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board provided final feedback on groundwater allocation options to be included in the amended Groundwater Sustainability Plan (GSP).

However, CBGSA staff needs direction on the implementation of groundwater allocations starting in 2025, and two draft implementation schedule options are provided as Attachment 1, for SAC consideration.

Cuyama Basin Groundwater Sustainability Agency

8cii. Discuss and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations

Jim Beck / Brian Van Lienden

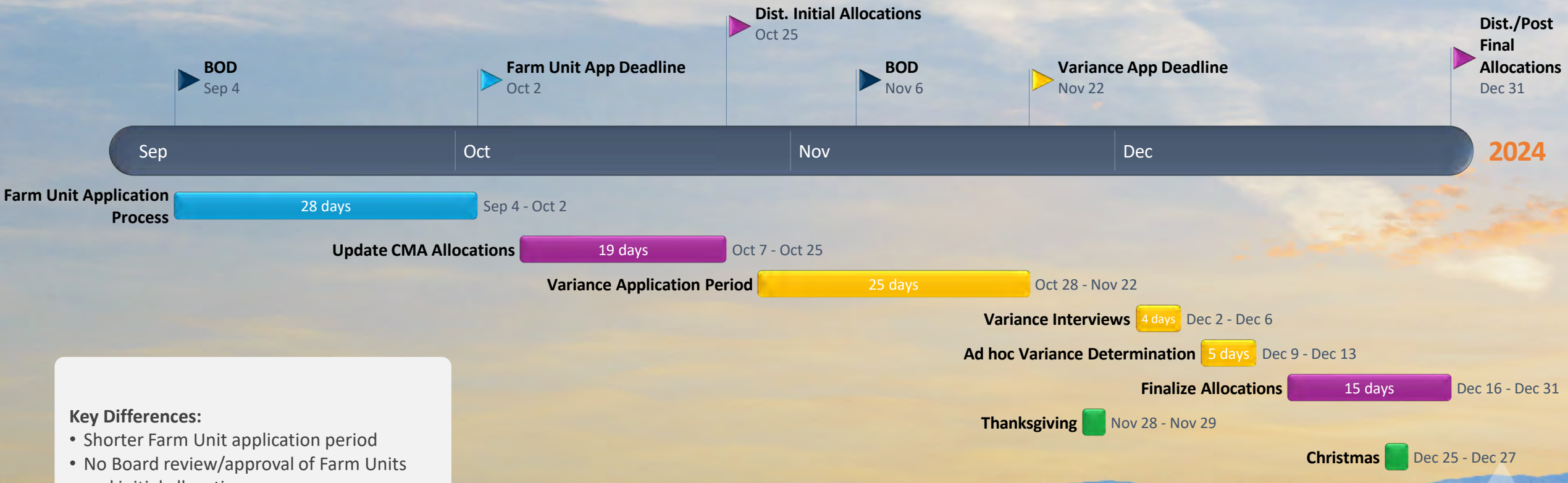
August 29, 2024

2025 Groundwater Allocation Implementation Schedule Options

- Two options for implementing groundwater allocations in the Central Management Area (CMA) are included on the following slides
- As part of either schedule option, staff recommends including a variance process to allow landowners time to review and comment on draft allocations for full Board or an ad hoc of the Board's review and decision of those requests **← Does the SAC/Board agree with including a variance process?**
- Description of draft schedule options:
  - ***Option 1*** is a condensed schedule where the goal is to distribute final 2025-2030 allocations by December 31, 2024. To achieve this goal, staff and a Board ad hoc will perform the review and determination of farm unit and variance requests
  - ***Option 2*** is structured such that the purpose is to allow the full Board to review and provide direction on Farm Unit and variance requests and contemplates a 2nd round variance process (if required). However, final 2025-2030 allocations would not be distributed until February 7, 2025, and may be further delayed if a 2nd variance process is needed
- **Which option does the SAC/Board want staff to implement? Or is there other feedback?**

Option 1 – Condensed

2025 Groundwater Allocation Implementation Schedule



Key Differences:

- Shorter Farm Unit application period
- No Board review/approval of Farm Units and initial allocations
- **Ad hoc** decides on variance requests
- No 2nd round variance process

Option 2 – Expanded

2025 Groundwater Allocation Implementation Schedule

Key Differences

- Longer Farm Unit application period
- **Board** reviews/approves Farm Units and initial allocations in Nov 2024
- **Board** decides on variance requests
- 2nd variance process (if needed)

TO: Standing Advisory Committee
Agenda Item No. 8ciii

FROM: Jim Beck / Brian Van Lienden

DATE: August 29, 2024

SUBJECT: Discussion and Take Appropriate Action on Baseline Options

Recommended Motion
Standing Advisory Committee feedback requested.

Discussion
In July 2024, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board requested that staff draft several groundwater allocation baseline options (single year and multi-year) to review at the September 4, 2024 CBGSA Board meeting, which is provided as Attachment 1 for SAC feedback.

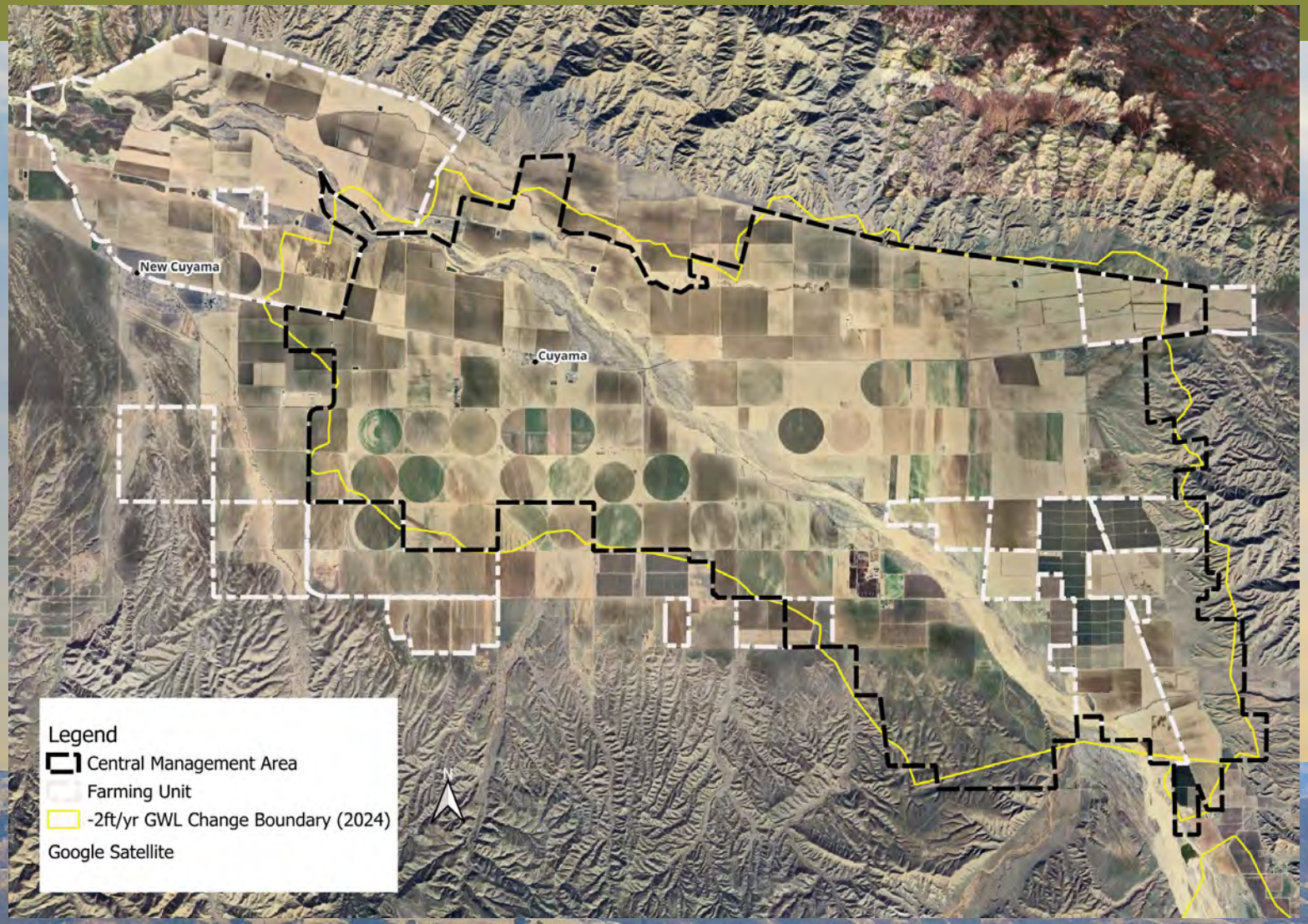
Cuyama Basin Groundwater Sustainability Agency

8ciii. Discuss and Take Appropriate Action on Baseline Options

Jim Beck / Brian Van Lienden

August 29, 2024

Baseline Options were developed for Updated CMA Operational Boundary with Existing Farming Units



- Parcels are included in the operational boundary if 50 percent or more of the parcel or 1,000 acres of the parcel's area is within the modeled 2-ft per year line
- Map to left shows existing farming units; these could potentially change with new CMA area

Central Management Area Baseline Options

- Previous Estimate for CMA plus Farming Units:
  - 2021 model estimate: 50,600 AF
- Updated Model Pumping Estimate for Updated CMA plus Existing Farming Units:
  - 2019: 28,200 AF (above avg year)
  - 2020: 33,700 AF (below avg year)
  - 2021: 34,000 AF (critically dry year)
  - 2022: 33,300 AF (dry year)
  - 2023: 26,100 AF (wet year)
  - 1998-2023 average: 37,800 AF
  - 1998-2017 average: 39,500 AF
- Options for Updated Baseline:
  - Stay at current 50,600 AF
  - Use a modeled estimate:
    - updated 2021 estimate: 34,000 AF
    - use any of the other years from 2019-2023
    - 2019-2023 average: 31,200 AF
    - 2021-2023 average: 33,100 AF
    - 2020-2022 average: 33,700 AF
  - Use reported pumping:
    - 2022: 31,300 AF
    - 2023: 25,900 AF
- Note that these estimates will change once CMA and farming unit boundaries are finalized

TO: Standing Advisory Committee
Agenda Item No. 8d

FROM: Jim Beck / Brian Van Lienden

DATE: August 29, 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 workshop attendees and any comments made on chapters presented in public meetings beginning in 2024.

The matrix includes a draft response from CBGSA staff and is included for Standing Advisory Committee review and direction.

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Topic	Comment	GSA Staff Response	Incorporated in Public Draft 2025 GSP?
Public Workshop (October 2023)	Basin-Wide Pumping	Since the basin is one interconnected watershed, the GSA should consider applying pumping allocations to everyone.	The Board provided direction to apply groundwater allocations to just the CMA and consider additional areas once data gaps are addressed.	Board direction included in the GSP
Public Workshop (July 2024)	Basin-Wide Pumping	The “one-size-fits-all” structure of the program is not appropriate for such a wide range of pumping and uses.	The Board provided direction to apply groundwater allocations to just the CMA and consider additional areas once data gaps are addressed.	Board direction included in the GSP
Public Workshop (October 2023)	General	Add major roads to maps in addition to the Highways.	The basemap was updated to include major roads on newly created GSP figures.	Yes
Public Workshop (October 2023)	Glidepath	Consider making more aggressive glidepath cuts early on to achieve sustainability more quickly.	The Board considered various glidepath scenarios and elected to continue using the origional glidepath.	Board direction included in the GSP
Public Workshop (October 2023)	Glidepath	Consider how the glidepath affects overall aquifer storage.	The Board considered various glidepath scenarios, and impacts to storage, and elected to continue using the origional glidepath.	Board direction included in the GSP
Public Workshop (July 2024)	Glidepath	An analysis of how the gradual reduction in pumping to 2038 will affect groundwater levels is needed.	An analysis was previously performed and presented to the Board, and the analysis was considered in setting groundwater levels sustainable managmenet criteria (Ch 5).	Yes
Public Workshop (October 2023)	Groundwater Allocations	Concerns with historical use in allocation methodology and impacts on landowner use.	The Board considered various allocation methodologies and decided to allocate based on historic use.	Board direction included in the GSP
Public Workshop (July 2024)	Groundwater Allocations	Using historical water use for determining allocation share unfairly disadvantages more recent pumpers and pumpers that have historically conserved water.	The Board considered various allocation methodologies and decided to allocate based on historic use.	Board direction included in the GSP
Public Workshop (July 2024)	Projects and Management Actions	Incentivizing certain irrigation practices could increase recharge.	This topic has previously been raised, but the Board has not directed staff to include as option at this time.	No
SAC Meeting (January 2024)	Plan Area (Ch 1)	Figure 1-17 shows there is water pumping occurring at locations where there is no pumping occurring in that area.	The figure was notated to say that some areas of the basin are supplied with seep and springs, but exact locations are not shown on the map.	Yes
Public Workshop (July 2024)	Projects and Management Actions	Most, if not all, of these projects appear infeasible. Pumping reductions are the only reasonable approach.	Pumping reductions have already been implemented, and the Board directed staff to continue with several projects listed in the GSP.	No
Public Workshop (July 2024)	Groundwater Allocations	The pumping reduction program does not consider actual groundwater levels, the potential for going below minimum thresholds, and impacts of climate change.	While pumping reductions were not set based on impacts to minimum thresholds, they were set to achieve sustainability by 2038 and sustainable management criteria was set for representative wells to be protective of groundwater level declines and impacts to beneficial uses and users. Sustainable yield under climate change was estimated and considered when developing pumping allocations.	Board direction included in the GSP
Public Workshop (October 2023)	Groundwater Allocations	Consider doing stormwater capture and recharge projects in addition to pumping reductions.	Stormwater capture is included as a project in the GSP.	Yes
Public Workshop (October 2023)	Groundwater Allocations	Concern with using historical use as a basis for pumping allocations.	The Board considered various allocation methodologies and decided to allocate based on historic use.	Board direction included in the GSP

Summary of 2025 GSP Public Comments and GSA Staff Response

Date of Comment	Topic	Comment	GSA Staff Response	Incorporated in Public Draft 2025 GSP?
Public Workshop (October 2023)	Groundwater Allocations	Consider requiring a greater pumping reduction by larger pumpers, perhaps by using a tiered system for pumping reductions.	The Board considered various allocation methodologies (including a tiered system) and decided to allocate based on historic use.	Board direction included in the GSP
Public Workshop (October 2023)	Groundwater Allocations	Consider pumping allocations in the Northwestern region.	The Board provided direction to apply groundwater allocations to just the CMA and consider additional areas once data gaps are addressed.	Board direction included in the GSP
Public Workshop (October 2023)	Groundwater Allocations	Farmers should consider transitioning to lower water use crops.	The GSA has authority to manage groundwater in the basin, and it is not the GSA's role or authority to make land use decisions.	No
Public Workshop (July 2024)	Projects and Management Actions	The GSA should consider other types of rangeland management other than prescribed burning.	This is not included in the 2025 GSP, but can be considered in future updates.	No
Public Workshop (October 2023)	Sustainable Management Criteria (SMCs) / Data Management System (DMS)	Consider adding more visual displays of basin sustainability criteria and conditions to GSA website or DMS.	An update is being considered for the DMS, and staff will continue to recommend improvements to the DMS and the website as appropriate.	Yes
BoD Meeting (May 2024)	Sustainable Management Criteria (SMCs)	Concern with the removal of any language related to threshold regions that were eliminated in setting sustainable management criteria using a common methodology.	The updated SMC methodology considers local conditions at each representative well; therefore, threshold regions are no longer needed.	Board direction included in the GSP
Public Workshop (October 2023)	Undesirable Results for GW Levels	Consider including permanent loss of groundwater storage as part of the undesirable results definition.	The Board considered options for groundwater storage SMCs, but decided to continue to use groundwater levels as a proxy for loss of storage.	Board direction included in the GSP
Public Workshop (July 2024)	Groundwater Allocations / Water Quality	The pumping reduction program should consider protection of water quality from arsenic and nitrates.	The groundwater allocations were established to achieve sustainability for groundwater levels. The groundwater monitoring program tracks arsenic and nitrates, and potential issues can be addressed using the adaptive management process.	Board direction included in the GSP
SAC Meeting (April 2024)	Basin Setting (Ch 2)	Update the hydrographs in the vertical gradient section to display 100 feet so the data can be seen.	The y-axis scale in the hydrographs have been reverted to a reduced scale to allow more visibility of the data.	Yes
SAC Meeting (July 2024)	General	Request for better representation of land use in Cuyama (i.e. idle land).	An updated map was included in the July 31, 2024 Board packet, but previous irrigated land use maps may be included in future GSP updates.	No

TO: Standing Advisory Committee
Agenda Item No. 8e

FROM: Jim Beck / Brain Van Lienden

DATE: August 29, 2024

SUBJECT: Discuss and Take Appropriate Action on Amended GSP [All Chapters]

Recommended Motion
Approve the 2025 amended Groundwater Sustainability Plan.

Discussion
The draft Cuyama Basin Groundwater Sustainability Agency (CBGSA) 2025 amended Groundwater Sustainability Plan is included on the CBGSA website (www.cuyamabasin.org/resources) for review and consideration of preliminary approval.

Redline versions of the below Chapters/sections are provided as Attachment 2 for ease of review, while the clean versions of all chapters/sections are hosted on the Cuyama Basin website.

- Executive Summary
- Chapter 7 “Projects and Management Actions”
- Chapter 8 “Implementation Plan”

Final approval of the GSP will occur at a public hearing on November 6, 2024, and a public workshop presenting the final draft GSP is being scheduled for the September/October 2024.

Cuyama Basin Groundwater Sustainability Agency

8e. Discuss and Take Appropriate Action on Amended GSP

Jim Beck / Brian Van Lienden

August 29, 2024

Discuss and Take Appropriate Action on Amended GSP

- The full public review draft of the amended GSP has been posted on the CBGSA website
  - Redline versions of the following chapters have been provided in Board/SAC packets for review:
    - Executive Summary
    - Chapter 7: Projects and Management Actions
    - Chapter 8: Implementation Plan
- Amended GSP chapters reflect:
  - New information not available when 2020 GSP was developed
  - Updated information developed since previous draft was developed (e.g. water budgets)
  - Updated policies approved by the CBGSA Board
  - Responses to comments received on previously provided draft chapters
- Staff is requesting Board approval to begin 30-day public review period
- Comments can be provided by email or by mail to Taylor Blakslee
  - These will be considered when preparing the full Public Draft version of the GSP in September 2024

Chapter 7 Projects and Management Actions

7.1 Introduction

This chapter of the Cuyama Basin Groundwater Sustainability Agency's (CBGSA's) 2025~~Draft~~ *Groundwater Sustainability Plan* (GSP) includes the Projects, Management Actions and Adaptive Management information that satisfies Sections 354.42 and 354.44 of the Sustainable Groundwater Management Act (SGMA) regulations.[1] These projects and their benefits will help achieve sustainable management goals in the Cuyama Groundwater Basin (Basin).

7.2 Management Areas

The CBGSA has designated two areas in the Basin as management areas: the Central Basin Management Area and the Ventucopa Management Area, which are both defined as regions with modeled overdraft conditions greater than 2 feet per year that are projected by the Cuyama Basin Water Resources Model (CBWRM)~~model~~ to drop below minimum threshold levels before 2040 (see Figure 7-1).~~Figure 7-1).~~ Management actions and projects within these management areas may be managed by the Cuyama Basin Water District pursuant to any agreement with the CBGSA. The two management areas are generally separated from one another by the Santa Barbara Canyon Fault. The remaining areas in the Basin are not included in a management area, and generally operate with balanced groundwater pumping and recharge, based on modeling of Basin water budgets. Future changes in management area boundaries will be considered based on updates to numerical modeling as additional information is collected.

As discussed below in Section 7.5.2, pumping allocations have been developed for the Central Management Area and farming units, but not in other portions of the Basin. However, the CBGSA will develop a management plan for the Ventucopa Management Area, which may or may not include pumping restrictions in the future. This decision will be made as more information becomes available and the basin groundwater model is updated.

Central Basin Management Area

The Central Basin Management Area is located in the middle of the CBGSA area~~,~~ and includes the community of Cuyama as well as the surrounding agricultural land uses that are located in areas with greater than 2 feet overdraft. The Central Management Area has been updated for the 2025 GSP by utilizing the updated 2024 CBWRM. While the Cuyama Community Service District (CCSD) service area also has modeled overdraft exceeding 2 feet, it is not included in the management area because it is a domestic user of relatively small quantity (i.e., about 150 AFY).

[1] SGMA's requirements for GSPs can be read here: https://water.ca.gov/LegacyFiles/groundwater/sgm/pdfs/GSP_Emergency_Regulations.pdf

Ventucopa Management Area

The Ventucopa Management Area is located south of the Central Basin Management Area and includes the community of Ventucopa. ~~The two management areas are generally separated from one another by the Santa Barbara Canyon Fault.~~ ~~Both are located nearly entirely within the boundaries of the Cuyama Basin Water District.~~ ~~The remaining areas in the Basin are not included in a management area, and generally operate with balanced groundwater pumping and recharge, based on modeling of Basin water budgets.~~The 2020 GSP noted that the CBGSA intended to re-evaluate the need for pumping reductions in the Ventucopa region of the Basin after further evaluating groundwater conditions over a two-to-five-year period following submission of the GSP. At this time, 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:

- 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 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 area of the Basin, cropping patterns in this portion of the Basin were not provided by local landowners but were 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.
- The magnitude of water budget estimates in the region were relatively small as compared to the Basin as a whole, which meant that a small change in the estimate for a single water budget component could have a large effect on the estimated change in storage (and corresponding estimates of long-term groundwater elevation change). In particular, some Basin stakeholders have raised a concern that the model may be underestimating stream seepage into the aquifer in this stretch of the Cuyama River.
- 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 to ensure 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 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.

Northwestern Region (Not a Management Area)

In the northwestern region, management actions were not included in the GSP because the available information did not indicate a projected overdraft in that region. The following information was considered during development of the 2020 GSP, and continues to be relevant for this updated 2025 GSP:

- The CBWRM model indicated a balance between groundwater inflows and outflows in the region in all of the water budget scenarios that were simulated.
- The Cleath-Harris Geologists (CHG) document Sustainability Thresholds for Northwestern Region, Cuyama Valley, dated December 7, 2018, developed under contract with the North Fork Vineyard. This document identified minimum thresholds for this area that would be protective of groundwater pumping capacity for production wells in this area. CHG proposed minimum thresholds for the region would result in a twenty percent reduction in the saturated thickness screened by the production wells, which would produce a similar reduction in transmissivity and pumping capacity of the production wells. As discussed above, the CBGSA set thresholds that are somewhat more conservative than this, representing a fifteen percent reduction in saturated thickness.

The technical analyses described in Section 5.2 regarding Potential Corrective Action 1 indicates that the potential drawdown due to the minimum thresholds set for wells 841 and 845 could have a small effect on GDEs and domestic wells in the area. However, the thresholds set in the monitoring wells located in the vicinity of these Basin resources are set at protective levels that would be indicative of any issues that may arise, allowing the CBGSA to make an appropriate adaptive management response (Section 7.6). Therefore, the available evidence indicates that management actions are not required in this region at this time.

~~<<Insert Management Area map – this is placeholder map only>>~~

Figure 7-1: CBGSA Management Areas

7.3 Overview of Projects and Management Actions

The CBGSA evaluated a range of potential projects and management actions to help address overdraft and move the Basin toward sustainability. Evaluation of the identified projects and management actions has resulted in a set of proposed activities in the first approved GSP. These proposed activities are shown in Table 7-1Table 7-1Table 7-1, along with their current status, potential timing, and esantimeipated costs.

This list of activities has since been updatedBenefits are summarized in Section 7.2 and expanded throughout implementation. Each annual reported included an updated version of **Table 7-1**, and new projects and management actions have been added. A more through description of each activity, including benefits and justification, are discussed in detail in Sections 7.4 and 7.5.

Table 7-1: Proposed Projects, Management Actions, and Adaptive Management Strategies

Activity	Current Status	Anticipated Timing	Estimated Cost[a]
Project 1: Flood and Stormwater Capture	Water rights analysis of potential water supplies currently underwayConceptual project evaluated in 2015	• Feasibility study: 0 to 85 years • Design/Construction: 85 to 15 years	• Study: $1,000,000 • Flood and Stormwater Capture Project: $600-$800 per AF ($2,600,000 – 3,400,000 per year)
Project 2: Precipitation Enhancement	Initial Feasibility Study completed in August 2024 2016	• Refined project study: 0 to 82 years • Implementation of Precipitation Enhancement: 80 to 155 years	• Study: $200,000 • Precipitation Enhancement Project: $25 per AF ($150,000 per year)
Project 3: Water Supply Transfers/Exchanges	Not yet begun	• Feasibility study/planning: 0 to 85 years • Implementation in 85 to 15 years	• Study: $200,000 • Transfers/Exchanges: $600-$2,800 per AF (total cost TBD)
Project 4: Improve Reliability of Water Supplies for Local Communities	In progress for CCSD; not yet begun for other communitiesPreliminary studies/planning complete	• Feasibility studies: 0 to 52 years • Design/Construction: 51 to 75 years	• Study: $100,000 • Design/Construction: • $1,800,000
Project 5: Flow Meter Calibration Program	Not yet begun	• Implementation: 0 to 6 years	• $50,000 for program setup • $2,500 per meter per year (100 meters) = $250,000

Management Action 1: Basin-Wide Economic Analysis	Completed~~Not yet begun~~	December 2020~~ 2021~~	$60~~100~~,000
Management Action 2: Pumping Allocations in Central Basin Management Area	Allocations developed and implemented for 2023 and 2024 ~~Preliminary coordination begun~~	• ~~Pumping Allocation Study completed: 2022~~ • Allocations implemented: 2023 through 2040	• Plan: $300,000 • Implementation: $150,000 per year
Adaptive Management	~~Not yet begun~~Board ad-hoc committee has been formed and is considering potential actions	Only implemented if triggered; timing would vary	TBD

[a] Estimated cost based on planning documents and professional judgment
AF = acre-feet

7.3.1 Addressing Sustainability Indicators

The ~~proposed~~ projects would contribute toward eliminating the projected groundwater overdraft described in the Chapter 2's Water Budget section and in maintaining groundwater levels above those identified in Chapter 5 by reducing groundwater pumping or enhancing net recharge into the groundwater aquifer. The sustainability indicators are measured directly or by proxy, with groundwater elevation used as either the direct or proxy indicator for all sustainability indicators with the exception of water quality and subsidence. Table 7-2~~Table 7-2~~Table 7-2 summarizes of how the projects and management actions in this GSP will address the applicable sustainability indicators for the Basin. Seawater intrusion is not applicable to the Basin, due to distance from the Pacific Coast.

Physical benefits of the projects and management actions in the GSP are described under each project and action in Section 7.4 and Section 7.5, below.

Activity	Sustainability Indicator				
	Chronic Lowering of Groundwater Levels	Reduction of Groundwater Storage	Degraded Water Quality	Subsidence	Depletions of Interconnected Surface Water
Project 1: Flood and Stormwater Capture	Would increase recharge in the Basin, directly contributing to groundwater levels.	Would increase recharge in the Basin, directly contributing to groundwater storage.	Would contribute to groundwater levels through increased recharge, reducing groundwater quality degradation associated with declining groundwater levels.	Would support maintaining groundwater levels in the Basin, reducing potential for subsidence.	Increasing groundwater recharge with flood and stormwater capture would reduce the potential for groundwater levels to decline and negatively impact surface water flows.
Project 2: Precipitation Enhancement	Increases precipitation and associated groundwater recharge; reduces groundwater pumping because increased precipitation would reduce irrigation needs.	Increases volume of stored groundwater; reduces groundwater pumping	Would increase groundwater recharge, reducing groundwater quality degradation associated with declining groundwater levels.	Reduced groundwater pumping and increased groundwater recharge reduces the cause of subsidence	Would increase surface water flows in the Basin and increase groundwater recharge, which together would reduce the potential for negative surface water flow impacts associated with decreasing groundwater levels.
Project 3: Water Supply Transfers/Exports	Would allow for increased stormwater capture without interfering with downstream water rights, directly contributing to groundwater levels.	Would allow additional groundwater recharge of stormwater, directly contributing to groundwater storage.	Would allow for increased groundwater recharge, reducing groundwater quality degradation associated with lowering of groundwater levels.	Would increase potential groundwater recharge, reducing the potential for subsidence.	Would increase groundwater recharge, which would reduce the potential for negative surface water flow impacts associated with decreasing groundwater levels.
Project 4: Improve Reliability of Water Supplies for Local Communities	Would provide an alternate pumping supply for CCSD, CMWC and VWSC customers to reduce water supply reliability issues caused by historical groundwater level reductions in the Basin.	N/A	Provides for improved water quality in the potable water system, and through construction of compliant wells, reduces potential for groundwater quality impacts of improperly designed/constructed wells and failing wells within CCSD and VWSC systems.	N/A	N/A
Project 5: Flow Meter Calibration Program	Would provide irrigation pump operators more accurate flow data to reduce accidental over pumping and better comply with pumping allocations	Would reduce potential unintentional over-pumping directly contributing to groundwater storage.	Could decrease potential unintentional over-pumping and reducing groundwater extraction therefore reducing groundwater quality degradation associated with declining groundwater levels.	Could mitigate unintentional groundwater extraction, reducing the potential for subsidence.	Could decrease potential unintentional over-pumping and reducing groundwater extraction therefore reducing groundwater quality degradation associated with declining groundwater levels.
Management Action 1: Basin-Wide Economic Analysis	Would evaluate the long-term economic impacts of project implementation, which will allow the region to plan for economic changes if implementation is pursued and help avoid economically catastrophic decision-making that could result in dramatic changes to groundwater use and levels.				
Management Action 2: Pumping Allocations in Central Basin Management Area	Would limit groundwater pumping, with allocations decreasing over time until groundwater pumping reaches sustainability	Reducing groundwater pumping will help decrease the reduction of groundwater storage associated with high levels of pumping.	Reducing groundwater pumping will help alleviate groundwater degradation associated with lowering of groundwater levels.	Reduced groundwater pumping would reduce the risk of subsidence associated with lowering of groundwater levels.	Reduced groundwater pumping would help protect groundwater levels, thereby reducing the potential for negative impacts to surface water flows associated with lowering groundwater levels.
Adaptive Management	Adaptive management actions would be triggered if groundwater levels decrease sufficiently or do not demonstrate adequate recovery as projects are implemented. Adaptive management projects that are implemented would be selected because they would help address these sustainability indicators.				

Notes:
CCSD = Cuyama Community Services District
CMWC = Cuyama Mutual Water Company
VWSC = Ventucopa Water Supply Company

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7.3.2 Overdraft Mitigation

The ~~proposed~~ projects and management actions would support maintenance of groundwater levels above minimum thresholds through increased recharge or through reductions in pumping. Overdraft is caused when pumping exceeds recharge and inflows in the Basin over a long period of time. Improving the water balance in the Basin will help to mitigate overdraft.

7.3.3 Water Balance Management for Drought Preparedness

Communities in the Basin rely on groundwater to meet water needs. During drought, groundwater becomes more important due to limited precipitation. Projects that support groundwater levels through increased recharge help to protect groundwater resources for use during future drought, as well as help protect the Basin from the impacts of drought on groundwater storage. Projects that reduce pumping will help manage the Basin for drought preparedness by reducing demands on the Basin both before and during drought, supporting groundwater levels in non-drought years, and decreasing the impacts of drought on users, reducing the need to increase pumping when precipitation levels are low.

7.4 Projects

Projects included in this GSP are generally capital projects that could be implemented by the CBGSA or its member agencies on a volunteer basis that provide physical benefits to enhance supplies.

7.4.1 Flood and Stormwater Capture

Flood and stormwater capture would include infiltration of stormwater and flood waters to the groundwater basin using spreading facilities (recharge ponds or recharge basins) or injection wells. Spreading basins are generally more affordable than injection wells because water does not need to be treated prior to recharge into the Basin. While specific recharge areas have not yet been selected, areas of high potential for recharge were identified north and east of the Cuyama River near the Ventucopa Management Area, as well as in select areas of the Central Management Area. It is likely that locating spreading facilities near the Cuyama River represents the easiest method of capturing and recharging flood and stormwaters. Agricultural lands may be used in lieu of or in addition to specialized spreading facilities, or installation of "mini dams" on the Cuyama river to slow flows and increase in-stream recharge. The likeliest of these flood and stormwater capture and recharge options to be implemented is the use of spreading basins, because it will maximize volumes of water captured and recharged into the groundwater basin. Agricultural spreading is usually achieved through intentional overirrigation; in the Basin, agricultural irrigation uses groundwater, and new facilities would still be required to implement agricultural spreading that would not negatively impact groundwater levels. Mini dams could have negative environmental impacts and would not capture as much flow as dedicated spreading basins.

This project would include development of a feasibility study to identify specific flood capture and recharge locations and to refine the potential yield and cost, as well as determine the downstream impacts of implementation and how to address those potential impacts.~~..~~

Current Status

The CBGSA received SGMA implementation grant funding from DWR to help understand the feasibility of future flood and stormwater capture. Specifically, the funding was sought to 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. An analysis was performed using Lake Twitchell historical operations data to identify historical periods in which there were managed releases at the lake and therefore water could be diverted upstream without impacting water storage in the lake. This analysis indicated that upstream diversions could be made in approximately 11% of all years (i.e. 7 out of 62 years from 1962-2023). The CBGSA intends to perform additional analyses following submittal of the 2025 GSP to assess the feasibility of implantation of a flood and stormwater capture project. Updates on this project will continue to be included in Annual Reports and future GSP updates.

Public Notice and Outreach

Project notice and outreach would likely be conducted during implementation of a flood and stormwater capture project. Some of this outreach would likely occur as part of the California Environmental Quality Act (CEQA) process (see below), though additional outreach may be conducted depending on public perception of the proposed project. Public notice and outreach is not anticipated during development of the feasibility study, beyond potential outreach to landowners whose property is identified as potential sites for spreading facilities.

Permitting and Regulatory Processes

Completion of a feasibility study would not require any permits or regulatory approvals beyond approval of the governing board for the agency funding the study or contracting with any potential consultant who may be retained to complete the analysis.

Implementation of a flood and stormwater capture and recharge project would require construction permits, streambed alteration agreements from the California Department of Fish and Wildlife for diversions from the Cuyama River, CEQA compliance, and potential 401 permits from U.S. Army Corps of Engineers. Additional permits may be required to complete construction and initiate operation of spreading facilities. The CBGSA would need to secure easements to or purchase the land for the spreading facilities. Additionally, the CBGSA may need to obtain surface water rights agreements from the California State Water Resources Control Board. Any water rights would need to address water rights existing downstream water rights.

Project Benefits

Implementation of flood and stormwater capture projects would provide additional infiltration into the Basin, which would increase the volume of groundwater in the Basin, reducing overdraft and increasing available supply. The 2015 *Long Term Supplemental Water Supply Alternatives Report* (Santa Barbara County Water Agency [SBCWA], 2015), completed an analysis of potential stormwater recharge options along multiple rivers in Santa Barbara County, including Cuyama River. The analysis assumed the

Cuyama River would experience sufficient flows for stormwater recharge three of every 10 years, and a maximum available stormwater volume during those events as 14,700 acre-feet (AF). Capturing this volume of water would require 300 acres of land for spreading facilities, and could provide ~~a~~ up to 4,400 acre-feet per year (AFY) of stormwater (averaged over 10 years), assuming the maximum event year supply is captured. As noted above, the analysis that was recently conducted of inflows into Lake Twitchell indicate that flows could be diverted approximately once every eleven years; therefore, the actual benefits would likely be lower. Benefits of an implemented floodwater/stormwater capture project would be measured by the volume of flow entering the spreading facility, less an assumed percentage of evaporative loss.

Actual benefits could be lower once evaporative loss is accounted for, and if the final design for spreading facilities is not sized for the maximum storm event, or if the maximum event year is not realized as frequently as anticipated. If coupled with precipitation enhancement (see Section 7.3.2), additional benefits may be realized, though some overlap in benefits may occur.

Project Implementation

The circumstance of implementation for a flood or stormwater capture project would be if the refined feasibility study recommends a project and finds it is both cost effective and would result in a meaningful volume of incremental supply.

~~Completion of the feasibility study would be undertaken by the CBGSA, which would hire a consultant to perform the analysis. In addition, the CBGSA would initiate coordination activities with downstream users to evaluate the potential for a stormwater capture project in the Basin to affect downstream users' supply reliability and develop potential projects or actions to offset supplies that may be diverted by stormwater capture and recharge in the Basin.~~

Implementation of spreading facilities for stormwater capture would require land acquisition, construction of spreading facilities, diversion from Cuyama River, and associated pipelines and pumps. If pursued, the CBGSA anticipates implementing the project either directly or through one of its member agencies.

Supply Reliability

The success of a flood and stormwater capture project depends on the frequency of precipitation events that result in sufficient flows for capture and recharge, the recharge capacity of the spreading facilities, and the location of flows in relation to the diversion point to the spreading facilities. Rainfall is generally limited to November through March in the region, and total rainfall is low, averaging 13 inches over the last 50 years (see Water Budget section of Chapter 2). The project would allow for the limited surface water flows to be captured and used, and if implemented, a flood and stormwater capture project would improve supply reliability in the Basin by increasing groundwater recharge, allowing more water to be available to Basin users.

Legal Authority

The CBGSA, through its member water supply agencies, ~~-~~has the legal authority to develop~~conduct~~ a ~~feasibility study for~~ flood and stormwater capture ~~and recharge~~ project. The CBGSA does not have ~~Once a preferred alternative is identified by~~ the authority to increase its stormwater capture at a level that~~feasibility study, the project~~ would impede downstream senior~~be implemented by the CBGSA or one of its member agencies . Implementation of the project would also depend on the outcomes of a~~ water rights holders from accessing their~~evaluation to clarify the CBGSA's ability capture flood and stormwater without impacting downstream water rights. If this project would affect downstream~~ water rights. ~~, the CBGSA would need to negotiate an exchange with downstream users to avoid adverse downstream effects.~~

~~Implementation would require acquisition of targeted land for spreading facilities, which may require purchase or an easement to allow for project implementation. As public water supply agencies, any of the CBGSA members have authority to implement the project once land is acquired and applicable permits secured.~~

Project Costs

Implementation costs would vary depending on the ultimate size and location of the spreading facilities, and any compensatory measures required for downstream users. Per acre-foot costs would also vary depending on the amount of stormwater captured and successfully recharged. The primary cost for implementation of spreading facilities is the land purchase cost. Because the project would capture flood and stormwater (as opposed to imported or purchased water), there would be no supply costs to operate the project. The 2015 report estimated flood and stormwater capture and recharge from Cuyama River using spreading basins would cost $600 to $800 per AF (SBCWA, 2015).

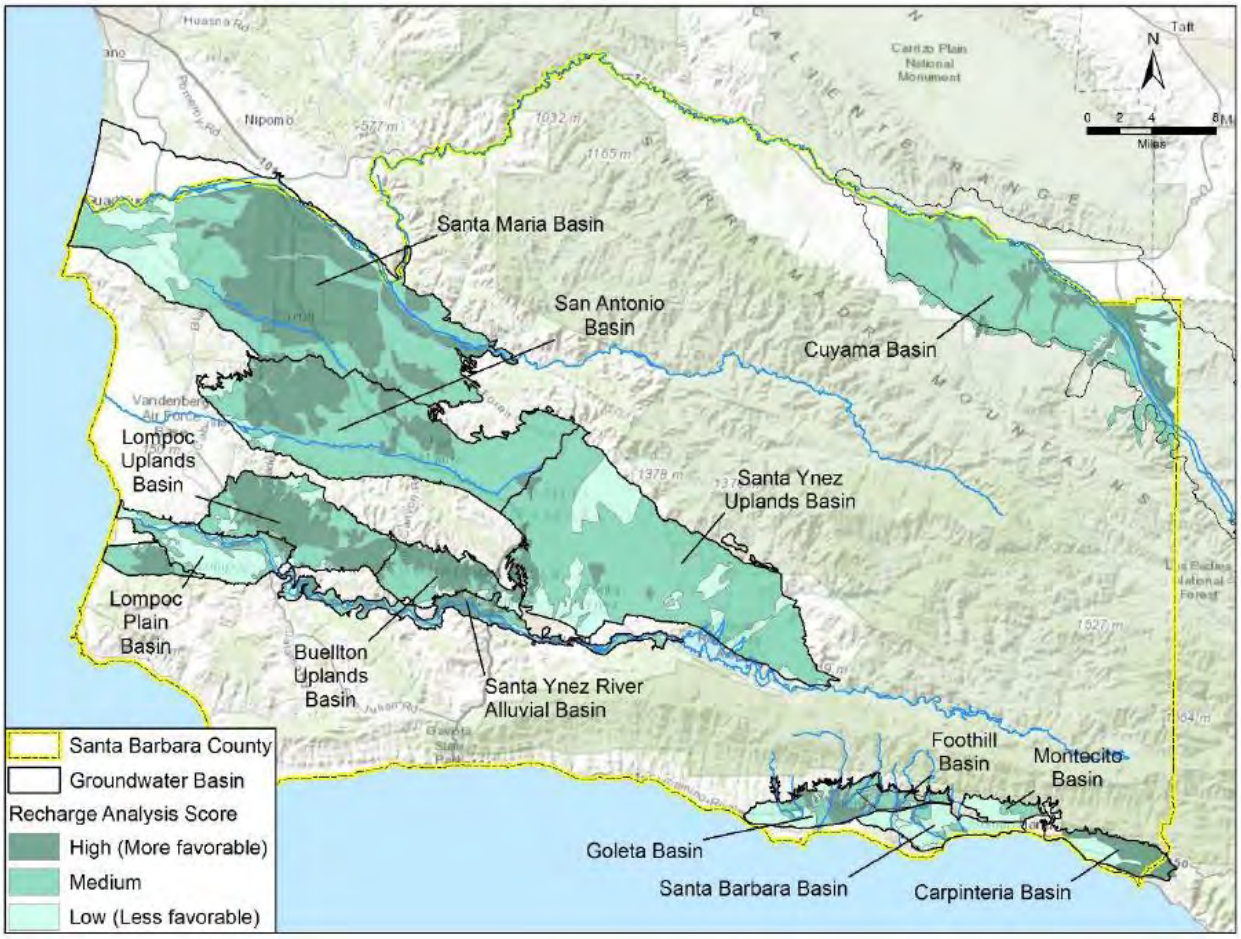
Technical Justification

The use of spreading facilities for groundwater recharge is common in many areas across the state where groundwater basins are used for storage. The 2015 *Long Term Supplemental Water Supply Alternatives Report* (SBCWA, 2015) provides the basis for the estimated maximum volume of water that could be recharged by a flood or stormwater capture and recharge project. The storage potential of the Basin is based on the highest historical storage less the current storage, with the difference being unused storage potential. The Cuyama Basin has a high storage potential, greater than 100,000 AF, meaning it would be able to accommodate recharge of more than 100,000 AF. The size of the spreading facilities is based on the volume of water available for capture, and the recharge factor of a proposed site. The volume of water that could be recharged is based on the volume of water that could be diverted off of the river during peak storm flow events. Recharge potential was determined by analyzing the existing groundwater depth and hydrological soil type, and infiltration rates based on relative infiltration rate for hydrologic soil groups. High recharge potential were areas with hydrologic soils in group A/B, and had infiltration rates of 0.6 feet per day. As shown in Source: SBCWA, 2015

Figure 7-2~~Source: SBCWA, 2015~~

~~Figure 7-2Source: SBCWA, 2015~~

~~Figure 7-2~~, the majority of the Basin located in Santa Barbara County has medium or high potential for groundwater recharge, with the highest potential east of the Cuyama River in the Ventucopa Management Area. The 2015 report was limited to Santa Barbara County and does not cover the portions of the Basin located in Ventura, San Luis Obispo, and Kern counties.



Source: SBCWA, 2015

Figure 7-2: Groundwater Recharge Potential in Santa Barbara County

The 2015 report recommended additional studies to refine the high-level analysis in the report. Under this project, the CBGSA would develop a study to refine the areas of potential recharge, including areas of the Basin with potential to provide land for spreading facilities that were excluded from the 2015 report due to being located outside of Santa Barbara County. The feasibility study would, calculate the potential evaporative loss, evaluate alternatives to determine the preferred size and location of spreading facilities, refine costs for the alternatives, and calculate the potential supply from implementation of the preferred alternative.

Basin Uncertainty

This project would take advantage of the uncertain rainfall in the region and capture it for future use when precipitation levels are high. This would help bolster groundwater supplies and improve supply reliability in the Basin.

CEQA/NEPA Considerations

The feasibility study would not trigger CEQA or National Environmental Policy Act (NEPA) actions because it does not qualify as a project under either program. If a flood and stormwater capture project is implemented, CEQA would be required and completed prior to construction. NEPA would only be required if federal permitting, such as a 401 permit from U.S. Army Corps of Engineers, or if federal funding is pursued.

7.4.2 Precipitation Enhancement

A precipitation enhancement project would involve implementation of a cloud seeding program to increase precipitation in the Basin. This project would target cloud seeding in the upper Basin, southeast of Ventucopa, and would include introduction of silver iodide into clouds to increase nucleation (the process by which water in clouds freeze to then precipitate out). Based on the findings of the *Feasibility/Design Study for a Winter Cloud Seeing Program in the Upper Cuyama River Drainage, California* (SBCWA, 2016), such a program would use both ground-based seeding and aerial seeding to improve the outcomes of the program. Ground-based seeding would be conducted using remote-controlled flare systems, set up along key mountain ridges and could be automated. Aerial seeding would use small aircraft carrying flare racks along its wings to release silver iodide into clouds while flying through and above them.

Precipitation enhancement modeling assumed cloud seeding would increase precipitation by 10 percent from November through March, the time of the year with highest potential for rainfall in the Basin, for an average annual increase in precipitation of about 16,000 AF. With this assumption regarding precipitation increase, the numerical modeling estimated that an increase of 1,500 AF of additional annual average supply within the Basin over 50 years could be achieved. The portion of the increased precipitation would potentially benefit areas downstream of the Cuyama Basin.

This project would complete a detailed study to refine the potential yield and cost of implementation in the Basin.

Current Status

The CBGSA received SGMA implementation grant funding to perform a study to help understand the benefits of a potential precipitation enhancements project and help determine if this action should be pursued and implemented in the Basin. The CBGSA contracted with the Desert Research Institute (DRI) to assess cloud seeding effects on Santa Barbra County and the Cuyama Valley. A proposal was submitted in September 2023 and work was initiated in October 2023. The final report is expected to be competed in October 2023.

Public Notice and Outreach

Completion of the~~a detailed~~ study included status updates~~would include~~ at several~~least one public meeting (potentially at a regularly scheduled~~ CBGSA board meetings. The final results of the study were presented at the MONTH YEAR board meeting. At this time, the CBGSA has not approved the implementation~~Board meeting) to present the details~~ of a precipitation enhancement project~~, costs and benefits, as well as provide an opportunity to receive comments from the public about potential concerns. If a precipitation enhancement project~~ is pursued for implementation, but if it is pursued in the future the project~~it~~ would not require public notice or outreach, except for approval by a governing body for the CBGSA that would occur in a public meeting.

Permitting and Regulatory Processes

Completion of a study to refine the feasibility of a precipitation enhancement project did~~would~~ not require any permits or undergo a regulatory process. If a precipitation enhancement project is pursued for implementation, it is expected to be implemented under the existing SBCWA program, and would be covered under existing permits for that program.

Project Benefits

The *Feasibility/Design Study for a Winter Cloud Seeing Program in the Upper Cuyama River Drainage, California* (SBCWA, 2016) found that cloud seeding activities both in the region and in other locations around the world resulted in increased precipitation. This increase was found to be an increase in duration, rather than intensity. The existing cloud seeding program in Santa Barbara County was estimated to increase precipitation between 9 and 21 percent between December and March. The feasibility study estimated average seasonal increases of 5 to 15 percent if this program is implemented.

Based on a 10 percent increase in precipitation between November and March, modeling demonstrates an average annual benefit of 1,500 AF per year could be achieved over a 50 year period. This includes an annual average of 400 AF of deep percolation, 400 AF available in stream seepage, and 700 AF in boundary flow. There would also be an average annual increase in Cuyama River outflow of 2,700 AF. Figure 7-3 shows the potential long-term benefits of a precipitation enhancement program. Actual benefits would be measured by evaluating rainfall data after seeding compared to long-term average rainfall in non-seeded years.

The project would complete a refined feasibility study to determine the expected precipitation yield and costs of a precipitation enhancement project. Expected benefits would be refined in that study, prior to the CBGSA making a decision to implement a precipitation enhancement program.

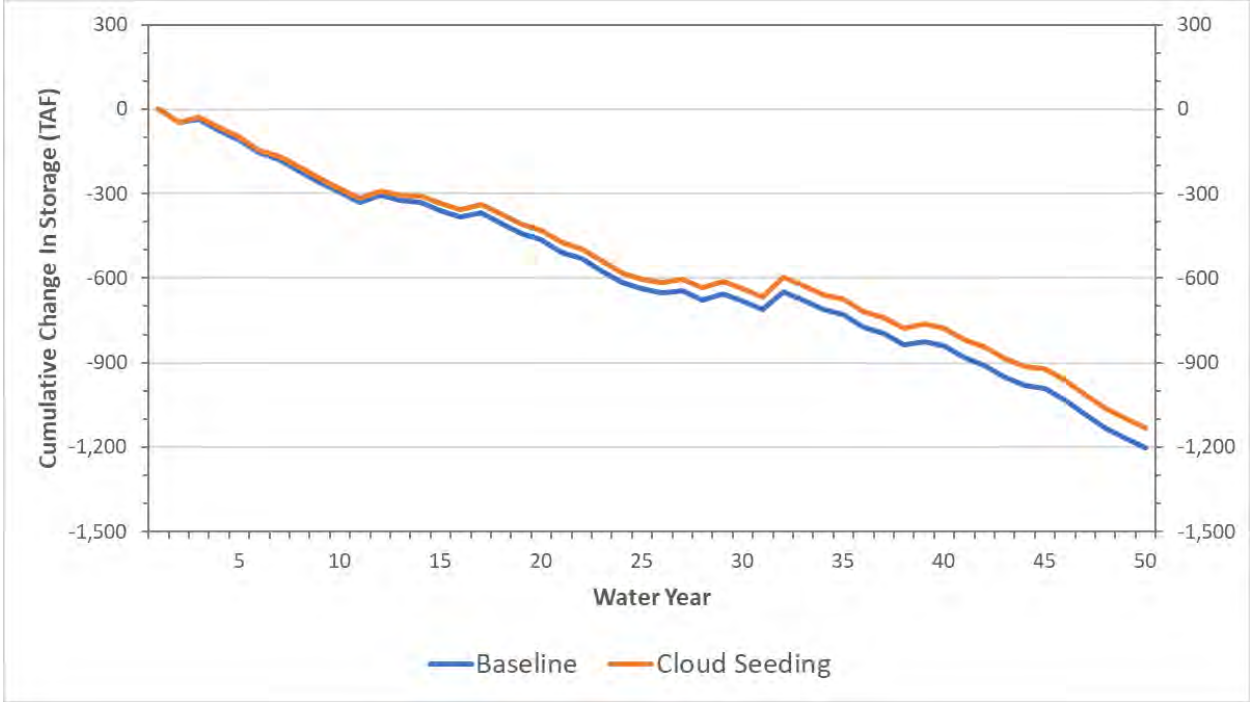


Figure 7-3: Potential Change in Groundwater Storage from Precipitation Enhancement

Project Implementation

The circumstance of implementation for a precipitation enhancement project would be if the refined project study determines it is a cost-effective measure likely to result in meaningful increases in precipitation in the Basin. The circumstance of implementation for the refined study is current conditions, where the CBGSA is ready to consider implementation of precipitation enhancement to support reduced overdraft in the Basin.

Implementation of this project would require installation of two or three additional ground-based seeding sites, referred to as an Automated High Output Ground Seeding System (AHOGS). Each AHOGS site would include:

- Two flare masts, which each hold 32 flares and includes spark arrestors to minimize fire risk
- A control box with communications system, firing sequence relays and controls, data logger, and battery
- A solar panel/charge regulation system to power the site
- Cell phone antenna
- Lightning protection

Aerial seeding would require outfitting the appropriate plane with flare racks.

Implementation of this project would likely be achieved by incorporating it into the existing precipitation enhancement activities being implemented by the SBCWA. Because implementation would be achieved through an existing program, the CBGSA does not anticipate needing to purchase and install new models or control systems beyond those necessary for the additional seeding sites and equipment.

Supply Reliability

Precipitation enhancement has been shown to provide measurable benefit to regions when implemented thoughtfully. Although the amount of precipitation increase that the project could provide is uncertain, evidence suggests potential for an average annual increase of 0.5 to 2.5 inches if this project is implemented (SBCWA, 2016), which would help to improve overall supply reliability in the Basin by increasing precipitation, reducing the need for groundwater pumping and increasing groundwater recharge. This project is not dependent on existing supplies or imported supplies for successful implementation and benefits to the Basin.

Legal Authority

The project would be implemented by the SBCWA, one of the member agencies of the CBGSA. The SBCWA already implements precipitation enhancement in the region, and has the legal authority to expand the program within its service area, which includes the Basin.

Project Costs

The 2016 *Feasibility Study* (SBCWA, 2016) recommended installing two or three AHOGS units for ground-based seeding. Each AHOGS unit would cost $30,000 to build and test, and between $4,000 and $6,000 each to install. Annual maintenance was estimated at $10,000 each. There would be minimal costs associated with initiating aerial seeding for the Basin because it would be implemented as part of the existing precipitation enhancement efforts in the region. Operational costs for aerial seeding would include flight costs ($550 per hour in 2016), and the cost of the seeding flares. Seeding flares in 2016 cost $90 apiece, and up to 50 flares used aerially and approximately 25 flares per AHOGS site in the four-month project period. Annual set-up, take-down, and reporting costs for this project are estimated at $15,000 for a combined ground-based and aerial seeding effort for the Basin, as well as personnel costs of $5,000 per month.

The 2015 *Feasibility Study* estimated that ground-based seeding would cost $45,500 to $67,500 for four months, and aerial seeding would cost $37,750 for four months, assuming that aircraft costs are funded by the existing program.

Total costs are expected to be between $20 and $30 per AF of water under this project, though exact costs would depend on the success of the program in a given year, and market conditions for project materials and aircraft time.

Technical Justification

Cloud seeding as a concept has existed for decades, and target nucleation of supercooled water droplets that exist in clouds. Supercooled water is water that has been cooled below freezing temperatures (0 degrees Celsius or 32 degrees Fahrenheit), but remains in liquid form, rather than frozen. Supercooled water above -39 degrees Celsius must encounter an impurity to freeze, referred to as freezing nuclei. In the 1940s, particles of silver iodide were discovered to be able to cause freezing of supercooled water droplets in clouds. Silver iodide is the most common freezing nuclei used for cloud seeding in which silver iodide is injected into clouds to promote precipitation. A research program in Santa Barbara County on cloud seeding was conducted in the 1960-70s in which silver iodide was released into “convective bands” as random “seeded” or “non-seeded” (no iodide) convective bands, and resulting precipitation measured by a large network of precipitation gauges. This study evaluated both ground-based seeding and seeding by aircraft. Both methods found seeding resulted in a large area of increased precipitation. Additional studies in other regions in the 1990s found that additional precipitation from cloud seeding was a result of the increased duration of the precipitation event, rather than an increase in intensity. Cloud seeding has been conducted most winters since 1981 in portions of Santa Barbara County, which have had an estimated benefit of 9 to 21 percent increase in precipitation. The 2016 *Feasibly Study* for precipitation enhancement in the Upper Cuyama River Basin estimated a potential 5 to 15 percent increase in rainfall if a seeding project was implemented (SBCWA, 2016).

Basin Uncertainty

This project would improve precipitation yields in the Basin, helping to reduce the impacts of variable precipitation and providing for increased opportunities for groundwater recharge and stormwater capture. Further, increased precipitation duration and yields would reduce demands for groundwater for irrigation, reducing the risk of crop failure associated with water supply reliability challenges.

CEQA/NEPA Considerations

If this project is implemented, it is anticipated to be incorporated into the existing cloud seeding program implemented by SBCWA. The existing seeding program achieved CEQA coverage under the Santa Barbara Mitigated Negative Declaration (MND), finalized in 2013. This project would achieve CEQA coverage either under this existing MND, or Santa Barbara Water Agency would be required to prepare an addendum to the MND to incorporate the Cuyama Basin target area for the seeding program. Unless the project pursues federal funding, NEPA is not anticipated to be required.

7.4.3 Water Supply Transfers/Exchanges

This project would evaluate the feasibility of purchasing transferred water and exchanging it with downstream users (downstream of Lake Twitchell) to allow for additional stormwater and floodwater capture in the Basin to protect water rights of downstream users. Because this action is intended only as a complement to a potential stormwater or floodwater capture project, all potential purchase transfer water would originate outside of the Cuyama River watershed, and this action would not include the transfer or sale of existing Cuyama basin groundwater out of the watershed. The study would be coordinated with the floodwater and stormwater capture in Section 7.3.1, as the feasibility of such an exchange would affect the maximum volumes of stormwater that would be captured under that project. If the feasibility study finds there is limited interest from downstream users, implementation would not be pursued.

Current Status

No progress was made toward implementation of this project since completion of the GSP in January 2020. This project will be explored if Project 1 mentioned above: flood and stormwater capture was feasible but greater volumes of water are desired.

Public Notice and Outreach

Public noticing would not be required for the feasibility study though outreach would be conducted as part of the study to determine willingness of downstream users to participate in an exchange.

Permitting and Regulatory Processes

No permits or regulatory processes would be necessary for development of the feasibility study. Agreements would need to be executed to secure additional water supply for use in a transfer/exchange, as well as to exchange water with downstream users. No other permits are anticipated to be required to implemented water transfers/exchanges.

Project Benefits

Implementation of a water transfer/exchange program would allow the CBGSA to increase stormwater capture if the Flood and Stormwater Capture project (see Section 7.3.1) is implemented because it would reduce the potential water rights conflicts that could arise from increased stormwater capture. The Basin does not have a physical connection to supplies outside the Basin, and is therefore limited in the types of projects that could be implemented to increase supplies. This project would allow the CBGSA to maximize the new water supply that could be available to the Basin if flood and stormwater capture is implemented. This project would be limited to the feasibility study, and would not have direct benefits. If a water transfer/exchange program is implemented as a result of the outcomes of the feasibility study, benefits would be measured by the successful execution of transfer/exchange agreements and the increased capacity of the stormwater capture and spreading facilities made possible by these agreements. Water supply benefits would be measured by the volume of water captured above the volume that would have been allowed had the transfer/exchange agreements not been implemented.

Project Implementation

The circumstance for implementation of the feasibility study would be exploration of the feasibility of flood and stormwater capture and recharge (see Section 7.3.1). Implementation of this project would occur if downstream users expressed interest in participation in water transfers/exchanges and the feasibility study determined the potential increase in supply that transfer/exchanges would provide is cost effective for achieving supply reliability and groundwater sustainability goals.

The CBGSA would develop the feasibility study in coordination with the Flood and Stormwater Capture Project's feasibility study. Based on the outcomes of the two feasibility studies and the level of interest of downstream users, the CBGSA would determine whether implementation of a transfer/exchange project is a preferred action for the CBGSA. Implementation of the transfer/exchange program would entail coordination amongst participants: the CBGSA, agencies who own the water to be used in the transfer, and downstream users who participate in the exchange.

Supply Reliability

Transfers and exchanges would require access to a reliable water supply from outside the Basin currently owned by an agency that has sufficient water rights to be willing to sell a portion of their water to the CBGSA for this project. Because this project would be used to increase the capacity of the stormwater capture project, benefits would be experienced only following a heavy precipitation event. It is likely that in years with large precipitation events, other parts of the state will also experience wet winters, increasing available supplies from sources like the State Water project, or other surface water supplies. The feasibility study would require an evaluation of supply reliability, and explore the potential mechanisms for a successful transfer/exchange program that would account for the uncertainty of precipitation events on a year-to-year basis and available supply and potential benefit to the Basin.

Legal Authority

The CBGSA, through its member water supply agencies, has the legal authority to enter into transfer and exchange agreements with other water suppliers and users. The CBGSA does not have the authority to increase its stormwater capture at a level that would impede downstream senior water rights holders from accessing their water rights, making this project a critical component of an expanded capacity stormwater project (beyond what could be achieved without this project).

Project Costs

A feasibility study would likely cost between $100,000 and $200,000 to complete, including outreach to downstream water users and potential sources of supply for the transfer/exchange program. Costs to implement a transfer and exchange program would be evaluated in the feasibility study and are estimated to range from $600 to $2,800 per AF. Costs would vary depending on the details of the transfer/exchange, source of new water, and parties involved.

Technical Justification

A transfer/exchange program would be at minimum a one-to-one exchange, meaning for each AF of water provided to downstream users through the program, the CBGSA could capture an additional AF of stormwater. The feasibility study would identify which supplies could be purchased to exchange with downstream users, based on supply availability, connectivity to downstream users, willingness of supply owners to participate, and cost. One purpose of the feasibility study would be to determine a preferred alternative for the transfer/exchange program, and provide a technical justification of the preferred program. If technical justification cannot be made, the program would be considered infeasible and would not be pursued.

Basin Uncertainty

The transfer/exchange project would help address uncertainty in the basin by allowing the CBGSA to increase groundwater recharge, using years with surplus surface water flows to supplement groundwater during dry years by increasing the volume of stormwater that can be captured without interfering with downstream users' water rights.

CEQA/NEPA Considerations

Development of a feasibility study would not trigger CEQA or NEPA. Water exchanges or transfers are not anticipated to include construction of new facilities. However, since a water exchange or transfer is a discretionary action, they are likely to be considered projects under CEQA or NEPA. NEPA documentation may be required if any of the water being exchanged or transferred is federal agency (i.e. Bureau of Reclamation of Corps of Engineers).

7.4.4 Improve Reliability of Water Supplies for Local Communities

The Basin is experiencing overdraft in the central portion of the ~~Central~~ Basin and Ventucopa ~~management~~ areas, which are the population centers of the Basin. Domestic water users in these areas are experiencing water supply reliability challenges, and in the 2012-2016 drought experienced well failures. While the following actions would not affect the water budget in the Basin, they are intended to address ongoing water supply reliability issues affecting these communities. ~~CCSD only has a single well to serve its customers, and no redundancy in its system.~~ This management action would include consideration of opportunities to improve water supply reliability for Ventucopa and within the CCSD service area. Potential projects that would be considered under this management action include a replacement well for CCSD Well 2, which is currently abandoned, and improvements to Ventucopa Water Supply Company's

(VWSC's) existing well. Specific~~While specific~~ information would be coordinated with the respective community water system entities and is ~~not available for improvements (and are~~ therefore not available for this GSP~~discussed below) for the town of Cuyama, which is served by the CMWC, the CBGSA also supports potential future actions to benefit the town of Cuyama as well~~.

Current Status

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.

CCSD Replacement Well

The CCSD Replacement Well would drill a new 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. Previously, a~~A~~ replacement well for Well 2 was attempted, but found to produce water that was unsuitable for potable use due to the design and construction of the well. 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

Ventucopa Well Improvements

The Ventucopa Well Improvements would construct a new water supply pump, pipelines, and meters for the existing Ventucopa Well 2 and seek approval for the well's use for drinking water from the County of Santa Barbara's Department of Health Services (DHS). These improvements would:

- Install a pump, electrical service, and controls at Well 2
- Construct an 8-inch pipeline from Well 2 to Ventucopa's existing hydropneumatic tank
- Install meters at Well #1 and Well 2
- Install a SCADA system for Well 2
- Install piping, valves, and inline mixer to blend water from Well 1 and Well 2

Public Notice and Outreach

Public notice and outreach would not be required beyond that necessary for approval at a public Board of Directors meeting or applicable CEQA.

Permitting and Regulatory Processes

CCSD's new well construction would require acquisition of a well drilling permit and approval of well design and well completion report. It would also require well testing that demonstrates the new well is

capable of producing water that is suitable for drinking water. In addition to a well drilling permit from Santa Barbara County, CCSD's existing water system permits would need to be revised to include the new well and associated features.

Improvements to VWSC's well would require compliance with Santa Barbara County's regulations for water systems in the unincorporated county. VWSC would need to acquire the appropriate well drilling permits from the County as well as receive DHS certification of the suitability of the upgraded well for potable use before water from Well 2 can be delivered to customers.

Project Benefits

These projects would improve supply reliability for Ventucopa and CCSD residents and customers by creating system redundancies and upgrades to address challenges with meeting existing demands associated with aging and failing infrastructure. As planned, up to 460 gallons per minute could be made available to CCSD and up to 55 gallons per minute available to VWSC as a result of this project. Benefits of this project would be measured by the volume of water produced by the two improved wells and reduction in the number of days system failures threaten access to water supplies.

Project Implementation

The circumstance of implementation for this project is identified need for system improvements to meet public health and safety concerns. Both CCSD and VWSC have documented challenges with their water supply systems, including lack of redundancy, wells that do not adequately meet domestic water supply requirements, and limited capacity (CCSD, 2018; VWSC, 2007).

The two components of this project would be implemented by their respective system owners, CCSD and VWSC. CCSD is~~would be~~ responsible for planning, design, construction, testing, and permitting of the new Well 4, while VWSC would be responsible for planning, design, construction, testing, and permitting of the Well 2 improvements.

Supply Reliability

This project would improve supply reliability to customers through system improvements designed to address known issues with accessing and conveying groundwater suitable for potable use.

Legal Authority

CCSD owns the property for the proposed well site, and has the legal authority to design and construct a new well. As the owner-operator of the CCSD system, CCSD also has the legal authority to connect the new well to its existing distribution system and deliver water from the new well to customers once all appropriate permits have been acquired.

VWSC already owns Well 2 and the other existing components of the proposed project. It has the legal authority to implement projects that serve the water supply needs of its customers, and once all appropriate permits have been acquired, is legally able to connect Well 2 to its existing system.

Project Costs

In total, these improvements are expected to cost approximately $1,175,000.

CCSD's 2018 Engineering Report for Well 4 estimated project costs of $489,800 for drilling and $485,280 for equipping, for a total cost of $975,080 (CCSD, 2018).

VWSC's 2007 *Ventucopa Water System Evaluation Report* estimated the well improvements included in this GSP would cost $191,200 (VWSC, 2007). Costs are assumed to have increased since 2007, and well improvements are currently expected to cost approximately $200,000 to implement.

Technical Justification

Both components of this project have completed initial planning efforts. Preliminary engineering and design has been completed for the CCSD Well 4 improvements, including the 2018 Engineering Report and preliminary design drawings. VWSC's well improvements were described and evaluated in the 2007 Evaluation Report. Implementation of this project would include final design for all components, as well as testing to ensure that well improvements meet the needs they are designed to address.

Basin Uncertainty

These improvements would reduce uncertainty associated with supply reliability in CCSD and VSWC's service areas.

CEQA/NEPA Considerations

Well drilling permits are a discretionary action in Santa Barbara County, which would trigger CEQA. CCSD and VSWC would need to complete the appropriate CEQA document to comply with these requirements prior to construction of this project. The project would not trigger NEPA unless federal funding or permits are required for completion of the project. The size and location of the project indicates it is unlikely to require federal permits, and NEPA is likely to only be required if federal funding is pursued.

7.4.5 Flow Meter Calibration Program

During the implementation of the 2020 GSP, the CBGSA took action to require non-de minimis groundwater users in the Basin to install water meters on all groundwater extraction wells by the end of 2021. Groundwater flow data are used in conjunction with groundwater level data in a variety of ways, including to provide water production data and information on groundwater basin conditions. This is especially important for sustainable regional management of groundwater resources.

The flow meter recalibration program would require all flow meters to be tested for accuracy once every three years. Flow meters will need to be accurate within +/- 5% of actual flows, and testing would need to be conducted by a qualified company or person approved by the GSA.

Current Status

This project has been recently conceptualized and added this GSP for the first time. Work has not commenced on this project and will only commence if the CBGSA decides to pursue it.

Public Notice and Outreach

Public notice and outreach would not be required beyond that necessary for approval at a public Board of Directors meeting or applicable CEQA.

Permitting and Regulatory Processes

No permits or regulatory processes would be necessary for development of the Flow Meter Calibration Program.

Project Benefits

This project will help ensure the accurate reporting of pumping volumes from metered pumps in the in the Basin. Accurate pumping data is used by the CBGSA to ensure compliance with pumping allocations in the Central Management Area and to help calibrate and update the model. Calibration of the flow meters that provide this data will ensure pump owners have the best available flow data and the CBGSA has accurate data for its monitoring. This will help avoid potential accidental and unknown over-pumping if a flow meter begins to underestimate flows, or potential under-pumping (and therefore reduced water volumes for beneficial uses and users) that could impact pump owners detrimentally.

Project Implementation

The circumstance of implementation for this project is an identified need for meter calibration and verification of pumping volumes by applicable groundwater producers. Implementation would require outreach to stakeholders, and a detailed program for the requirements of meter calibration. A timeline and reporting period and methodology would also need to be established to ensure all calibration information is properly collected and reviewed by the CBGSA.

Supply Reliability

This project would not change supply reliability to beneficial uses and users. It would ensure more accurate data on pumping where flow meters are installed.

Legal Authority

The CBGSA has the legal authority to place reporting requirements on groundwater extractors within the Basin.

Project Costs

In total, it is expected that this project would cost approximately $50,000 for the initial set up, and $250,000 annually. The $250,000 was calculated using conservative flow meter calibration cost estimates of $2,500 per flow meter for the 100 flow meters installed in the Basin. The initial set up cost for this

program includes the development of guidance materials and requirements, a reporting system, and analysis of collected data.

Technical Justification

The flow meter calibration program would ensure that accurate data from applicable groundwater producers is provided to the CBGSA which is used for monitoring groundwater extractions and used in GSP implementation and groundwater modeling. The calibration program will ensure data is accurate and can be used by the CBGSA for implementation of the GSP.

Basin Uncertainty

The flow meter calibration program would ensure that accurate data from applicable groundwater producers is provided to the CBGSA which is used for monitoring groundwater extractions and used in GSP implementation and groundwater modeling. This will ensure data used by the CBGSA for GSP implementation leads to equitable and accurate decision making to reach sustainability.

CEQA/NEPA Considerations

Development of a flow meter calibration program would not trigger CEQA or NEPA. A calibration program is not anticipated to include construction of new facilities.

7.5 Water Management Actions

Water management actions are generally administrative locally implemented actions that the CBGSA or its member agencies could take that affect groundwater sustainability. Typically, management actions do not require outside approvals, nor do they generally involve capital projects.

7.5.1 Basin-Wide Economic Analysis

Changes to pumping in the Basin and access to water supplies may have economic consequences given that the Basin is dominated by agricultural land uses that are dependent on groundwater availability. Implementation of stormwater capture may require purchase of agricultural land for the spreading facilities, which could affect agricultural output in the region. The small population of the Basin limits the available revenue to fund projects. This Project entailed~~would entail~~ developing a study of the economic impacts of the projects and management actions included in the GSP. It included~~This would include~~ an evaluation of how implementation of the project could affect the economic health of the region and the~~on~~ local agricultural industry. It would also consider the projected changes to the region's land uses and population and whether implementation of these projects would support projected and planned growth. The economic analysis will~~would~~ be considered by the CBGSA when deciding whether to implement a proposed project and potentially when to implement the projects.

Current Status

A Basin-wide direct economic analysis of proposed GSP actions has been 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 is 100% complete.

Public Notice and Outreach

This project wasis a study and didwould not require public notice or outreach. The results of the economic analysis werewill be presented to the GSPat Stakeholder Advisory Committee (SAC) and CBGSA Board on December 4, 2019meetings.

Permitting and Regulatory Processes

No permits or regulatory approvals werewould be required to complete the economic analysis.

Project Benefits

The economic analysis providedwould provide information to the CBGSA regarding the potential economic benefits and drawbacks to implementation of different projects under the GSP. This project didwould not provide direct benefits as related to water supply or groundwater sustainability, but willwould allow the CBGSA to move forward with implementation of projects that would continue to sustain local economies and would not inadvertently cause substantial economic harm, which could affect the ability of a proposed project to continue to provide benefits.

Project Implementation

The circumstance of implementation for this project were thewould be consideration of the implementation of any project included in this GSP or otherwise considered by the CBGSA. The CBGSA implementedwould implement this project with the assistance of an economic consultant that completedwould complete the analysis based on data for the region and information provided by the CBGSA.

Supply Reliability

This project is a study and diddoes not depend on any water supply for implementation or successful completion.

Legal Authority

The CBGSA is a joint-powers authority with authority to authorize an economic study for the projects in this GSP.

Project Costs

TheA basin-wide economic analysis had a costis expected to range from $50,000 to $100,000 in costs, depending on the available data and level of approximately $60,000. analysis desired. Exact costs would be determined during selection of the economic analyst.

Technical Justification

This project is a study that would use economic methods and analysis tools consistent with the standards and practices of the industry.

Basin Uncertainty

This project willwould help the CBGSA understand the economic uncertainty around implementation of the projects in theis GSP. Improved understanding of the economic implications of a project willwould help the CBGSA decide which projects should move forward to support basin sustainability without unintended consequences that could increase overall uncertainty in the basin, including uncertainty regarding groundwater demands in the basin associated with the local and regional economy.

CEQA/NEPA Considerations

As a study, the basin-wide economic analysis didwould not trigger CEQA or NEPA.

7.5.2 Pumping Allocations in Central Basin Management Area

As described in Section 2.3 of this GSP, the Basin is in overdraft conditions and to achieve balanced pumping and recharge groundwater users must decrease pumping by approximately 6167 percent, in the absence of projects that increase recharge in the Basin or otherwise offset demands. While the projects identified in Section 7.4 would increase the water available to users in the Basin through increased recharge and precipitation, they are not expected to reduce the groundwater deficit sufficiently to achieve the Basin's sustainability goals. As such, the CBGSA has and will continue to implement pumping allocations.

Outlined here is a framework for how CBGSA has developedwould develop and implemented pumping allocations in the Basin. This project would involve development of pumping allocations in the Central Basin Management Area (CMA). As part of implementation of the pumping allocation program, the CBGSA allowed for operators within the CMA to create farming units, which irrigated land areas outside of the CMA that operate in common with areas inside the CMA. . Consistent with the magnitude of projected overdraft estimated by the CBWRMnumerical model, pumping allocations would not apply to the Ventucopa Management Area or to users outside of the Central Management Area and farming units. Potential pumping allocations in other areas of the Basin may be considered in the future as additional data collection and technical analysis is performed to provide a better understanding of water balance conditions in these areas.Management Area. CCSD would be provided allocations based on historical water use, and would not be required to reduce pumping over time, but would be limited in how much pumping could increase in the future.

There are four key steps to developing pumping allocations:

1. Determine the Sustainable Yield of the Basin and the Central Management Area
2. Allocate sustainable yield of native groundwater to users based on:
   a. Historical use
   b. Land uses and irrigated areas
3. Determine how new/additional supplies would be allocated
4. Develop a timeline for reducing pumping to achieve allocations over time

Current Status

Pumping allocations in the CMA were implemented for 2023 and 2024. A notice of final allocations for these years was posted on the CBGSA website in May 2023. The CBGSA determined in its July 31st, 2024, Board Meeting to continue with allocations going forward, with an adjustment to the Central Management Area Boundary to conform with data available from the updated Cuyama Basin Water Resources Model. The CBGSA intends to use the model update in calculating allocations for the foreseeable future starting with 2025 allocations.

Sustainable Yield of the Basin Absent Projects and Water Management Actions

The sustainable yield of the Basin absent projects and water management actions is the volume of water that can be extracted from the Basin annually without affecting overall groundwater storage. and the sustainable yield of the Basin is estimated to be approximately 1720,000 AFY, as described in the Water Budget section of Chapter 2. The sustainable yield of the Basin represents the volume of groundwater that can be allocated. Because pumping allocations would only be imposed on users in the Central Basin Management Area, the CBGSA would need to determine the sustainable yield for only the Central Basin Management Area, which would be less than the overall sustainable yield of the Basin.

Develop Allocations

The CBGSA will continue towould develop allocations based on estimated historical use, existing land uses, orand total irrigated acreage. For the 2023 and 2024 allocations, theThe CBGSA determinedwould determine historical use by analyzing data about water use during the 20-year historical period from 1998 to 2017. This period aligns with the historical period of the water budget analysis described in Chapter 2. For this period, water Water use waswould be estimated using data from the CBWRM model. In the future, the CBGSA intends to continue to use the same methodology; however, use ofeither using remote sensing and land use data to estimate agricultural consumption or offrom data provided by pumpers in the Basin may be considered in the future., including private pumpers and water agencies. CCSD's allocation iswould be based on historical use, with an allowance for changes in population in the CCSD service area. CCSD iswould not be required to reduce use in the future under this action. As such, once CCSD's allocation has been determined, it iswould be removed from the total volume of groundwater available for allocation to non-CCSD users in the Central Basin Management Area.

A specific approach for allocation of pumping volumes among agricultural users in the Central Basin management area has not been determined. Potential options include allocation on the basis of historical use, on irrigated acreage, or on total acreage. The CBGSA would work with landowners and agencies to determine the appropriate approach for pumping allocations for agricultural users.

Determine Allocation of New or Additional Supplies

As the CBGSA implements projects in this GSP, additional groundwater supplies are expected to become available. These supplies would be used to reduce groundwater overdraft. The CBGSA anticipates that any new supplies made available through project implementation would be added to the total volume of water that would be allocated to the beneficiaries of those projects identified during project development. The mechanism for accounting for additional water made available by project implementation would be determined when the allocation method is refined.

Timeline for Implementation

The required decreases in pumping volumes to achieve balanced groundwater use in the Basin may result in substantial reductions in water availability over current use. The CBGSA completedplans to complete the initial pumping allocation plan in 2022, with pumping reductions beginning in 2023 at 5 percent of the total required reduction to achieve sustainability, and an additional 5 percent reduction in 2024. From

2025 to 2038, pumping will~~would~~ be reduced by 6.5 percent annually, so as to achieve sustainability in the Basin in 2038. Figure 7-4 shows the planned pumping reduction in the Basin. Individual users will~~would~~ be expected to reduce pumping at different rates to achieve the overall pumping reductions and meet their individual pumping allocations. The pumping allocation plan will~~would~~ identify how much each user or user-type would be required to reduce pumping annually to achieve the allocation and the overall Basin sustainability goals.

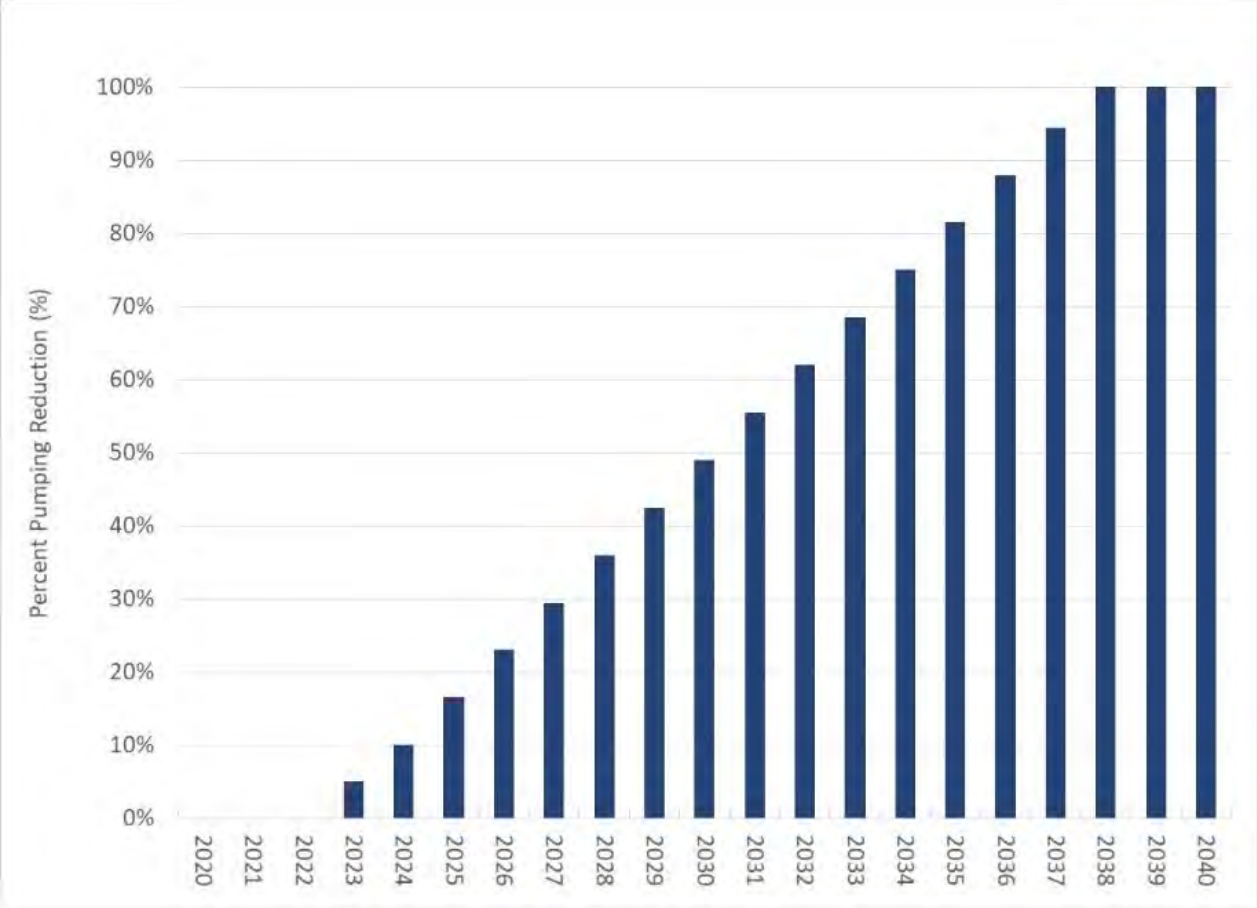


Figure 7-4: Glide Path for Central Basin Management Area Groundwater Pumping Reductions

Public Notice and Outreach

Development of a pumping allocation plan required and will continue to~~would~~ require substantial public input to understand the potential impacts of pumping allocations and baseline needs that should be accounted for. The CBGSA held~~anticipates that public outreach would include multiple~~ public workshops and meetings, updated the~~potential~~ website, and sent out~~/or~~ email announcements and~~, along with~~ other public notices about~~for the~~ workshops. Updates to the~~The~~ pumping allocation plan will~~would~~ be circulated for public comment before finalized, though final approval of the plan would be made by CBGSA in partnership with its member agencies.

Permitting and Regulatory Processes

Development of a pumping allocation plan doeswould not require any permitting, but doeswould require consideration of existing water rights and applicable permits and regulations associated with groundwater pumping in the Basin.

Management Action Benefits

A pumping allocation plan willwould identify how the region will achieve sustainable pumping in the Basin. Implementation and enforcement of a pumping allocation plan willwould directly reduce groundwater pumping. Benefits would be measured by the change in total volume of groundwater pumped from the Basin and how many users are in compliance with their pumping allocations.

Management Action Implementation

The circumstance of implementation for developing a pumping allocation plan is identification of unsustainable groundwater pumping practices in the Basin. The CBGSA recognizeds recharge and pumping in the Basin is and continues to be unbalancedare not balanced, and action must be taken to achieve sustainability. CBGSA developedwould lead development of a pumping allocation plan, in partnership with its member agencies and local groundwater users. The initial planning process was is expected to be completed in 202332, with allocations implemented beginning in 2023. Successful implementation requiredwould require compliance from groundwater users with the pumping allocation plan, and enforcement by the CBGSA and its member agencies. Successful roll-out of the pumping allocation plan requiredwould require substantial public outreach to inform users of their annual allocation and expected annual reduction in groundwater pumping. Mechanisms for enforcement arewould be outlined in the pumping allocation plan, and are expected to be enforced by CBGSA's member agencies.

Supply Reliability

This project does not rely on the supplies from outside the Basin because it is a planning effort that will result in conservation. It will support overall supply reliability by reducing overdraft in the Basin and moving the Basin towards sustainability.

Legal Authority

CBGSA has the authority to develop a pumping allocation plan, and will perform implementation and enforcement of allocations through metering, water accounting, and implementing pumping fees.

Management Action Costs

Development and initiation of a pumping allocation management and tracking program is expected to cost up to $300,000 to conduct the analysis, set up the measurement and tracking system and conduct outreach. Costs to implement the plan would depend on the level of enforcement required to achieve allocation targets and the level of outreach required annually to remind users of their allocation for a

given year. The pumping allocation plan would include a cost estimate for enforcement and implementation. Annual management of the program is estimated to cost about $150,000 per year.

Technical Justification

Pumping allocations will~~would~~ provide direct reductions of groundwater pumping. The pumping allocation plan developed~~would develop~~ allocations based on historical use data and land use data~~,~~ and will~~would~~ clearly describe the methodology and justification for the methodology used when setting pumping allocations.

Basin Uncertainty

The Basin is currently experiencing overdraft, and if current pumping practices continue conditions in the Basin are expected to worsen, increasing uncertainty regarding the availability of reliable groundwater supplies. Development and implementation of a pumping allocation plan will~~would~~ provide an opportunity to reduce overdraft-related uncertainty in the Basin by shifting pumping towards sustainable levels over time.

CEQA/NEPA Considerations

Development and implementation of the~~a~~ pumping allocation plan is ~~most likely~~ not a project as defined by CEQA and NEPA and ~~would~~ therefore did not trigger either. Reducing pumping over time is also not expected to trigger CEQA or NEPA because it does not meet the definition of a CEQA or NEPA project. As any plan is developed, CEQA and NEPA will be considered to determine if compliance is required.

7.6 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 decisions to redirect efforts in the Basin to more effectively achieve sustainability goals. The GSP process under SGMA requires annual reporting and updates to the GSP at minimum every 5 years. These requirements provide opportunities for the CBGSA to evaluate progress towards meeting its sustainability goals and avoiding undesirable results.

Adaptive management triggers are thresholds that, if reached, initiate the process for considering implementation of adaptive management actions or projects. 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.

Adaptive management strategies may also be triggered for other reasons, such as reports by stakeholders of Basin conditions that have impacted beneficial uses or users. Stakeholders may notify the CBGSA of their concerns by (i) submitting a publicly available well reporting form (available on the CBGSA website) to the GSA, (ii) contacting the Basin manager as described in Section 1.1.1 – Contact Information, or (iii) bringing the concerns to public meetings.

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

7.7 References

Cuyama Community Services District (CCSD). 2018. *Well No. 4 Drilling and Equipping Project Engineering Report*. February.

Santa Barbara County Water Agency (SBCWA). 2015. *Long Term Supplemental Water Supply Alternatives Report*. December.

Santa Barbara County Water Agency (SBCWA). 2016. *Feasibility/Design Study for a Winter Cloud Seeding Program in the Upper Cuyama River Drainage, California*. June.

Ventucopa Water Supply Company (VWSC). 2007. *Water System Evaluation Report*. February.

Chapter 8 Implementation Plan

8.1 Plan Implementation

Implementation of this *Groundwater Sustainability Plan* (GSP) includes implementation of the projects and management actions included in Chapter 7, as well as the following:

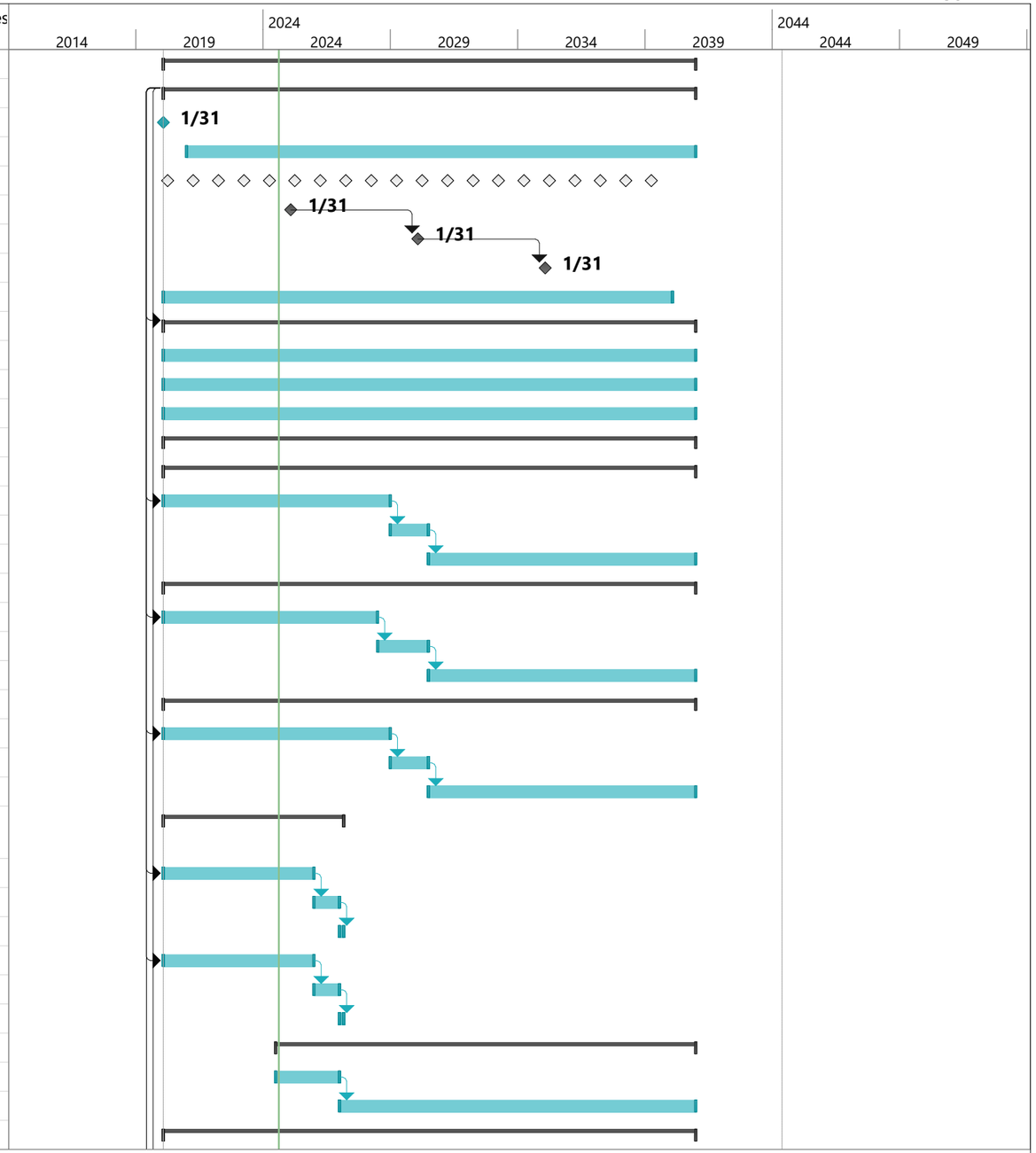
- Cuyama Basin Groundwater Sustainability Agency (CBGSA) administration and management
- Implementing the monitoring program
- Developing annual reports
- Developing required five-year periodic evaluations~~GSP updates~~
- Developing GSP updates as needed

This chapter also describes the contents of both the Annual Report~~annual~~ and five-year Periodic Evaluations~~reports~~ that must be provided to the California Department of Water Resources (DWR) as required by Sustainable Groundwater Management Act (SGMA) regulations.

8.1.1 Implementation Schedule

~~Figure 8-1~~ illustrates the GSP's implementation schedule. Included in the chart are activities necessary for ongoing GSP monitoring and updates, as well as tentative schedules for projects and management actions. Additional details about the activities included in the schedule are provided in these activities' respective sections of this GSP. Adaptive management would only be implemented if triggering events are reached, as described in Chapter 7, and are shown as ongoing in the schedule.

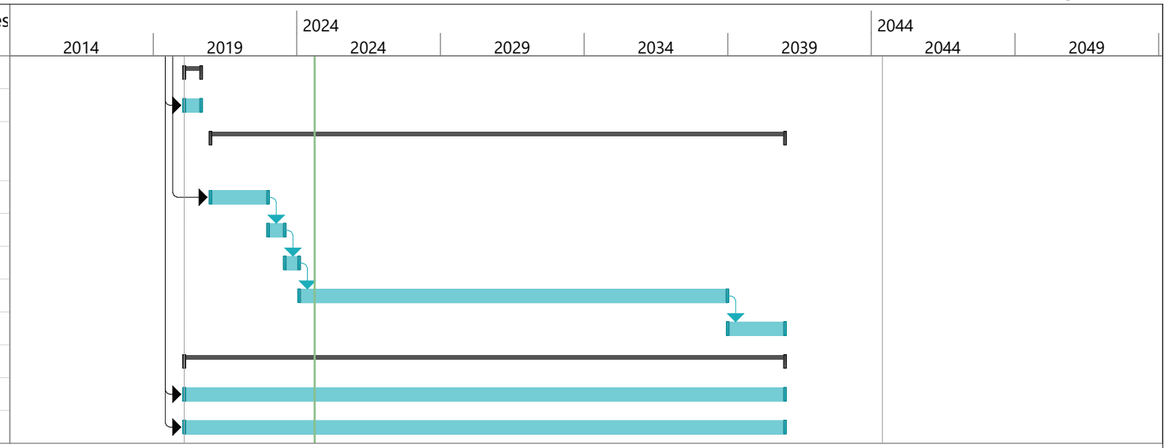
ID	Task Name	Duration	Start	Finish	Predeces
1	**Cuyama GSP Implementation**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	
2	**Plan Implementation**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	
3	Plan submittal to the State	0 days	Fri 1/31/20	Fri 1/31/20	
4	Monitoring	5218 days?	Fri 1/1/21	Mon 12/31/40	
5	**Annual Reports**	**4958 days**	**Wed 4/1/20**	**Fri 4/1/39**	
26	Five Year Report/Intern Target Evaluation 1	0 days	Fri 1/31/25	Fri 1/31/25	
27	Five Year Report/Intern Target Evaluation 2	0 days	Thu 1/31/30	Thu 1/31/30	26
28	Five Year Report/Intern Target Evaluation 3	0 days	Wed 1/31/35	Wed 1/31/35	27
29	Plan Updates (as needed)	5219 days	Fri 1/31/20	Tue 1/31/40	
30	**GSP Administration**	**5458 days**	**Fri 1/31/20**	**Mon 12/31/40**	**2SS**
31	CBGSA Administration	5458 days	Fri 1/31/20	Mon 12/31/40	
32	Stakeholder and Board Engagement	5458 days	Fri 1/31/20	Mon 12/31/40	
33	Outreach	5458 days	Fri 1/31/20	Mon 12/31/40	
34	**Project Implementation**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	
35	**1. Flood and Stormwater Capture**	**5458 days**	**Fri 1/31/20**	**Mon 12/31/40**	
36	Planning	2328 days	Fri 1/31/20	Sun 12/31/28	2SS
37	Construction	391 days	Mon 1/1/29	Mon 7/1/30	36
38	Benefits	2740 days	Tue 7/2/30	Mon 12/31/40	37
39	**2. Precipitation Enhancement**	**5458 days**	**Fri 1/31/20**	**Mon 12/31/40**	
40	Planning	2197 days	Fri 1/31/20	Fri 6/30/28	2SS
41	Construction	522 days	Mon 7/3/28	Tue 7/2/30	40
42	Benefits	2739 days	Wed 7/3/30	Mon 12/31/40	41
43	**3. Water Supply Transfers/Exchanges**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	
44	Planning	2328 days?	Fri 1/31/20	Sun 12/31/28	2SS
45	Agreement Negotiation	391 days?	Mon 1/1/29	Mon 7/1/30	44
46	Implementation of Transfers	2740 days?	Tue 7/2/30	Mon 12/31/40	45
47	**4. Improve Reliability of Water Supplies for Local Communities**	**1850 days**	**Fri 1/31/20**	**Thu 3/4/27**	
48	CCSD Replacement Well - Planning & Design	1544 days	Fri 1/31/20	Wed 12/31/25	2SS
49	CCSD Replacement Well - Construction & Permitting	261 days	Thu 1/1/26	Thu 12/31/26	48
50	CCSD Replacement Well - Testing	45 days	Fri 1/1/27	Thu 3/4/27	49
51	VWSC Well Improvements - Planning & Design	1544 days	Fri 1/31/20	Wed 12/31/25	2SS
52	VWSC Well Improvements - Construction & Permitting	261 days	Thu 1/1/26	Thu 12/31/26	51
53	VWSC Well Improvements - Testing	45 days	Fri 1/1/27	Thu 3/4/27	52
54	**5. Flow Meter Calibration Program**	**4307 days**	**Mon 7/1/24**	**Mon 12/31/40**	
55	Planning	654 days	Mon 7/1/24	Thu 12/31/26	
56	Program Implementation	3653 days	Fri 1/1/27	Mon 12/31/40	55
57	**Management Action Implementation**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	



Project: Figure 8-1
Date: Fri 8/16/24

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

ID	Task Name	Duration	Start	Finish	Predeces
58	**1. Basin-Wide Economic Analysis**	**153 days**	**Fri 1/31/20**	**Tue 9/1/20**	
59	Plan Development	153 days	Fri 1/31/20	Tue 9/1/20	2SS
60	**2. Pumping Allocations in Central Basin Management Area**	**5218 days?**	**Fri 1/1/21**	**Mon 12/31/40**	
61	Develop Allocation Method	522 days	Fri 1/1/21	Sat 12/31/22	2SS
62	Determine Allocatio nof New Water Supplies	151 days	Mon 1/2/23	Mon 7/31/23	61
63	Develop Timeline for Pumping Reduction	132 days	Tue 8/1/23	Wed 1/31/24	62
64	Implement Annual Puming Reductions	3892 days	Thu 2/1/24	Thu 12/30/38	63
65	Maintain Pumping Allocations	522 days?	Sat 1/1/39	Mon 12/31/40	64
66	**Adaptive managemetn Action Implementation**	**5458 days?**	**Fri 1/31/20**	**Mon 12/31/40**	
67	Evaluate Unimplemented Projects	5458 days?	Fri 1/31/20	Mon 12/31/40	2SS
68	Revist Projects not included in GSP	5458 days?	Fri 1/31/20	Mon 12/31/40	2SS



Project: Figure 8-1
Date: Fri 8/16/24

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	

8.2 Implementation Completed

The CBGSA adopted the Cuyama GSP in 2020 and adopted the amended GSP in 2022. Since the adoption of the first GPS, the CBGSA has successfully implemented and continues to implement many components of the plan. Since January 2020, the CBGSA has:

- Submitted the original version of the GSP and resubmitted an amended GSP in 2022 that was approved by DWR
- Submitted Annual Reports for water years 2020, 2021, 2022, and 2023
- Implemented schedule pumping allocations to move the Basin towards sustainability
- Conducted a water rights analysis of potential water supplies has been initiated to support potential flood and stormwater capture
- Performed a study of potential precipitation enhancement in the Basin
- Installed six new multi-completion wells and three shallow groundwater monitoring wells (piezometers)
- The CCSD secured grant funding for a new well
- Completed a Basin-wide Economic Analysis
- Prepared a 2025 GSP update
- Prepared the Periodic Evaluation

~~8.2~~8.3 Implementation~~Costs~~ Budgets and Funding Sources

CBGSA operations and GSP implementation will incur costs, which will require funding by the CBGSA. The five primary activities that will incur costs are listed here. Table 8-1~~Table 8-1~~Table 8-1 summarizes these activities and ~~their~~ estimated ~~costs~~budgets. These estimates~~d~~ will be refined during GSP implementation as more information ~~is~~becomes available.

- Implementing the GSP
- Implementing GSP-related projects and management actions
- CBGSA operations
- Developing annual reports
- Developing five-year periodic evaluations and potential GSP updates~~evaluation reports~~

Table 8-1: CBGSA and GSP Implementation ~~Costs~~Budgets

Activity	Estimated Budget[a] ~~Cost[a]~~
GSP Implementation and GSA Management	
CBGSA Administration and Legal Support	$390,000 annually
Stakeholder and Board Engagement	$140,000 annually
Outreach	$25,000 annually
GSP Implementation Program Management	$75,000 annually for fiscal years (FYs) ~~with no five-year reports; $125,000 annually for FYs with five-year reports.~~
Monitoring Program, including Data Management	$160,000 annually. Additional costs to establish monitoring program in FY 2021 ($150,000) and FY 2021 ($50,000)
Annual Reporting	$50~~40~~,000 annually
Periodic Evaluations	$40,000 every five years
Five-Year GSP Updates	$1,000~~800~~,000 every five years (across two fiscal years)
Projects and Management Actions	
Project 1: Flood and Stormwater Capture	Construction: $46 million Operations and Maintenance: $500,000
Project 2: Precipitation Enhancement	$150,000 annually
Project 3: Water Supply Transfers/Exchanges	$600 to $2,800 per acre-foot (AF) (total cost to be determined)
~~Project 4: Basin-Wide Economic Analysis~~	~~$100,000~~
Project 4~~Management Action 1~~: Improve Reliability of Water Supplies for Local Communities	$1.8 million
Project 5: Flow Meter Calibration Program	$50,000 for program setup $2,500 per meter per year (100 meters) = $250,000
Management Action 1: Basin-Wide Economic Analysis	$50,000 - $100,000 one-time (completed)
Management Action 2: Pumping Allocations in Central Basin Management Area	Allocation development: $300,000 Implementation/maintenance: $150,000 annually
Adaptive Management	As needed~~To be determined~~

[a] Estimates are rounded and based on full implementation years (FY 2021 through FY 2040). ~~Different costs may be incurred in FY 2020 as GSP implementation begins.~~

~~8.2.1~~8.3.1 GSP Implementation and Funding

Costs associated with GSP implementation and CBGSA operations include the following:

- **CBGSA administration and legal support:** Overall program management, coordination activities, and legal services
- **Stakeholder/Board engagement:** Bi-monthly Stakeholder Advisory Committee (SAC) meetings, bi-monthly CBGSA Board meetings, bi-monthly calls with the CBGSA Board ad-hoc committees, and semi-annual public workshops
- **Outreach:** Email communications, newsletters, and website management
- **GSP implementation program management:** Program management and oversight of project and management action implementation, including coordination among GSA Board, staff and stakeholders, coordination of GSA implementation technical activities, oversight and management of CBGSA consultants and subconsultants, budget tracking, schedule management, and quality assurance/quality control of project implementation activities
- **Monitoring:** pump flow meter monitoring and ~~manage~~ satellite imagery analysis to track water usage, conduct groundwater level and quality monitoring, and manage data

Implementation of this GSP is projected to run between $800,000 and $1.3 million per year, and projects and management actions an additional $650,000 to $3.7 million per year. Development of the 2020~~this~~ GSP was funded through a Proposition 1 Sustainable Groundwater Planning Grant. This GSP Update and CBGSA operations are ~~partially~~ funded through the Sustainable Groundwater Implementation Grant and ~~this grant, as well as~~ volunteer ~~contributions from~~ CBGSA collected fees.~~member agencies.~~ Although ongoing operation of CBGSA could include contributions from its member agencies, which are ultimately funded through customer fees or other public funds, additional funding would be required to implement the GSP. Of the implementation activities in the GSP, only project implementation is likely to be eligible for grant or loan funding; funding through grants or loans have varying levels of certainty. As such, the CBGSA has developed and will refine, as needed,~~develop~~ a financing plan that includes~~will include~~ one or more of the following financing approaches:

- **Pumping Fees**: Pumping fees would implement a charge for pumping that would be used to fund GSP implementation activities. To meet the funding needs of the GSP, fees would be lower when pumping is higher, such as current pumping levels, and higher when pumping is lower, such as when sustainable pumping levels are achieved. Although this funding approach would meet the financial needs of the GSP and CBGSA, it may discourage pumping reductions due to cost. The financing plan developed by the CBGSA would evaluate how to balance the need for funding with encouraging pumpers to commit to compliance with desired groundwater pumping reduction goals.
- **Assessments:** Assessments would charge a fee based on land areas. There are two methods for implementing an assessment based on acreage. The first option would assess a fee for all acres in the Basin outside of those in federal lands. This option would not distinguish between land use types. The second option would be to assess a fee only on irrigated acres. Similar to the pumping fee approach, assessment based on irrigated acreage could affect agricultural operations and contribute to land use conversions, which could affect the assessment amount or ability to fully fund GSP implementation.

- **Combination of fees and assessments:** This approach would combine pumping fees and assessments to moderate the effects of either approach on the economy in the Basin. This approach would likely include an assessment that would apply to all acres in the Basin, rather than just to irrigated acreage. It would be coupled with a pumping fee to account for those properties that use more water than others.

During development or refinement of a financing plan, the CBGSA would also determine whether to apply fees across the Basin as a whole or just within the management areas. The CBGSA may choose to apply an assessment across the Basin and a pumping fee within the management areas, or choose to set different levels of assessments or fees based on location within a management area or not, or they may choose another combination of the above approaches based on location. On July 10, 2019, the CBGSA Board voted to use a groundwater extraction fee to provide funding for CBGSA activities during the first year of GSP implementation and, on November 6, 2019, the Board established a groundwater extraction fee for the 2020 calendar year. The CBGSA has continued to apply groundwater extraction fees annually in the years since then. This strategy may be modified in the future by changing to land assessments, modifying fees/assessments based on location or usage, or some other methodology as deemed appropriate to the CBGSA. Prior to implementing any fee or assessment program, the CBGSA would complete a rate assessment study and other analysis consistent with the requirements of Proposition 218.

The CBGSA will pursue grants and loans to help pay for project costs to the extent possible. If grants or loans are secured for project implementation, potential pumping fees and assessments may be adjusted to align with operating costs of the CBGSA and ongoing GSP implementation activities. A potential hurdle to the utilization of state grant funding is that delays in payment by the state can cause hardships for disadvantaged communities such as the Cuyama Basin. Therefore, it would be appropriate to expedite payments associated with grant funding by DWR.

~~8.2.2~~8.3.2 Projects and Management Actions

Costs for the Projects and Management Actions are described in Chapter 7 of this GSP. Financing of the projects and management actions would vary depending on the activity. Potential financing for projects and management actions are provided in Table 8-2~~Table 8-2~~, though other financing may be pursued as opportunities arise or as appropriate.

Table 8-2: Financing Options for Proposed Projects, Management Actions, and Adaptive Management Strategies

Project/Activity		Responsible Entity	Potential Financing Options
	Feasibility Study	CBGSA	• CBGSA Operating Funds

Table 8-2: Financing Options for Proposed Projects, Management Actions, and Adaptive Management Strategies

Project/Activity		Responsible Entity	Potential Financing Options
Project 1: Flood and Stormwater Capture			• CBGSA Member Agencies
	Project Implementation	CBGSA or Member Agencies	• Grants • Loans • CBGSA Operating Funds • CBGSA Member Agencies
Project 2: Precipitation Enhancement	Feasibility Study	CBGSA	• CBGSA Operating Costs • CBGSA Member Agencies
	Project Implementation	CBGSA or Member Agencies	• CBGSA Operating Costs • CBGSA Member Agencies
Project 3: Water Supply Transfers/Exchanges	Feasibility Study	CBGSA	• CBGSA Operating Costs
	Project Implementation	CBGSA	• CBGSA Operating Costs
Project 4: Improve Reliability of Water Supplies for Local Communities	CCSD Well 4	Cuyama Community Services District (CCSD)	• Grants • Loans • CCSD Operating Costs
	VWSC Well 2	Ventucopa Water Supply Company (VWSC)	• Grants • Loans • VWSC Operating Costs
Project 5: Flow Meter Calibration Program	Project implementation	CBGSA	• Grants • CBGSA Operating Costs
Management Action 1: Basin-Wide Economic Analysis	Economic Study*	CBGSA	• CBGSA Operating Costs
Management Action 2: Pumping Allocations in Central Basin Management Area	Allocation Plan	CBGSA	• CBGSA Operating Costs
	Enforcement	CBGSA or Member Agencies	• CBGSA Operating Costs • Member Agency Operating Costs
Adaptive Management	-	CBGSA	• Grants • Loans

Table 8-2: Financing Options for Proposed Projects, Management Actions, and Adaptive Management Strategies

Project/Activity		Responsible Entity	Potential Financing Options
			• CBGSA Operating Costs
** Project/Management Action Completed*			

~~8.3~~8.4 Annual Reports

Annual reports must be submitted by April 1 of each year following GSP adoption per California Code of Regulations. Annual reports must include three key sections as follows

- General Information
- Basin Conditions
- Plan Implementation Progress

An outline of what information will be provided in each of these sections in the annual report is included below. Annual reporting would be completed in a manner and format consistent with Section 356.2 of the SGMA regulations. As annual reporting continues, it is possible that this outline will change to reflect Basin conditions, CBGSA priorities, and applicable requirements.

~~8.3.1~~8.4.1 General Information

General information included in the ~~will include an~~ executive summary ~~that~~ highlights the key content of the annual report. As part of the executive summary, this section includes~~will include~~ a description of the sustainability goals, provides a description of GSP projects and their progress as well as an annually-updated implementation schedule and map of the Basin. Key components as required by SGMA regulations include:

- Executive Summary
- Map of the Basin

~~8.3.2~~8.4.2 Basin Conditions

The b~~B~~asin conditions section describes~~will describe~~ the ~~current~~ groundwater conditions and monitoring results from the applicable water year.~~.~~ This section includes~~will include~~ an evaluation of how conditions ~~have~~ changed in the Basin since~~over~~ the previous water year and compare conditions ~~groundwater data for the year~~ to historical groundwater data. Pumping data, effects of project implementation (e.g.,

recharge data, conservation, if applicable), surface water flows, total water use, and groundwater storage arewill be included. Key components as required by SGMA regulations include:

- Groundwater elevation data from the monitoring network
- Hydrographs of elevation data
- Groundwater extraction data
- Surface water supply data
- Total water use data
- Change in groundwater storage, including maps

8.3.38.4.3 Plan Implementation Progress

Progress toward successful plan implementation iswould be included in the annual report. This section of the annual report describeswould describe the progress made toward achieving interim milestones as well as implementation of projects and management actions. Key components as required by SGMA regulations include:

- Plan implementation progress
- Sustainability progress

8.48.5 Five-Year Periodic Evaluation Report

SGMA requires GSAs to evaluate theirevaluation GSPs to assessregarding their progress toward meeting approved sustainability goals at least every five years or whenever a plan is amended, which must be done through. SGMA also requires developing a written assessment submitted to DWR. and submitting this assessment to DWR. An evaluation must also be made whenever the GSP is amended. A description of the information that will be included in the Periodic Evaluationfive year report is provided below, and willwould be prepared in a manner consistent with Section 356.4 of the SGMA regulations. The CBGSA will submit its first Periodic Evaluation in 2025 along with this 2025 GSP.

8.4.18.5.1 Sustainability Evaluation

This section will contain a description of current groundwater conditions for each applicable sustainability indicator and will include a discussion of overall Basin sustainability. Progress toward achieving interim milestones and measurable objectives will be included, along with an evaluation of groundwater elevations (i.e., those being used as direct or proxy measures for the sustainability indicators) in relation to minimum thresholds. If any of the adaptative management triggers are found to be met during this evaluation, a plan for implementing adaptive management described in the GSP would be included.

~~8.4.2~~8.5.2 Plan Implementation Progress

This section will describe an updated~~the current~~ status of project and management action implementation, and report on whether any adaptive management action triggers had been activated since the previous periodic evaluation.~~five-year report.~~ An updated project implementation schedule~~s~~ will be included, along with any new projects that were developed to support the goals of the GSP and a description of any projects that are no longer included in the GSP. The benefits of projects that have been implemented will be included, and updates on projects and management actions that are underway at the time of the periodic evaluation~~five-year report~~ will be reported.

~~8.4.3~~8.5.3 Reconsideration of GSP Elements

Part of the periodic evaluation~~five-year report~~ will include a reconsideration of GSP elements. As additional monitoring data are collected during GSP implementation, land uses and community characteristics change over time, and GSP projects and management actions are implemented, it may become necessary to revise the GSP. This section of the periodic evaluation~~five-year report~~ will reconsider the Basin setting, management areas, undesirable results, minimum thresholds, and measurable objectives. If appropriate, the periodic evaluation~~five-year report~~ will recommend revisions to the GSP. Revisions would be informed by the outcomes of the monitoring network, and changes in the Basin, including changes to groundwater uses or supplies and outcomes of project implementation.

~~8.4.4~~8.5.4 Monitoring Network Description

A description of the monitoring network will be provided in the periodic evaluation.~~five-year report.~~ Data gaps, or areas of the Basin that are not monitored in a manner commensurate with the requirements of Sections 352.4 and 354.34(c) of the SGMA regulations will be identified. An assessment of the monitoring network's function will also be provided, along with an analysis of data collected to date. If data gaps are identified, the periodic evaluation may~~GSP will be revised to~~ include information or steps~~a program~~ for addressing these data gaps, along with an implemented schedule for addressing gaps and how the CBGSA will incorporate updated data into the GSP.

~~8.4.5~~8.5.5 New Information

New information that becomes available after the last GSP adoption, ~~five-year evaluation or~~ GSP amendment, or periodic evaluation ~~-~~would be described and evaluated. If the new information would warrant a change to the GSP, this would also be included, as described in Section 8.5.3.

~~8.4.6~~8.5.6 Regulations or Ordinances

The Periodic Evaluation~~five-year report~~ will include a summary of the regulations or ordinances related to the GSP that have been implemented by DWR since the previous report, and address how these may require updates to the GSP.

~~8.4.7~~8.5.7 Legal or Enforcement Actions

The Periodic Evaluation will include enforcement~~Enforcement~~ or legal actions taken by the CBGSA or its member agencies in relation to the GSP will be summarized in this section along with how such actions support sustainability in the Basin.

~~8.4.8~~8.5.8 Plan Amendments

A description of amendments to the GSP will be provided in the Periodic Evaluation~~five-year report~~, including adopted amendments, recommended amendments for future updates, and amendments that are underway ~~during development of the five-year report~~.

~~8.4.9~~8.5.9 Coordination

The CBGSA is the only GSA in the Cuyama Basin. It 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 stormwater capture activities by the CBGSA. The CBGSA may need to coordinate with this GSA, and will need to coordinate with various land use agencies and other entities to implement projects. This section of the Periodic Evaluation~~five-year report~~ will describe coordination activities between these entities, such as meetings, joint projects, or data collection efforts. If additional neighboring GSAs have been formed since the previous report, or changes in neighboring basins occurred, that result in a need for new or additional coordination within or outside the Basin, such coordination activities would be included as well.

EXECUTIVE SUMMARY

Introduction

In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California's groundwater resources. The Cuyama Groundwater Basin (Basin) is one of 21 basins and subbasins identified by the California Department of Water Resources (DWR) as being in a state of critical overdraft. SGMA requires preparation of a Groundwater Sustainability Plan (GSP) to address measures necessary to attain sustainable conditions in the Basin. Within the framework of SGMA, sustainability is generally defined as the conditions that result in long-term reliability of groundwater supply, and the absence of undesirable results.

In 2017, in response to SGMA, the Cuyama Basin Groundwater Sustainability Agency (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.

~~This Draft GSP~~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 CBGSA to amend the GSP to address four corrective actions. To address these corrective actions, 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.

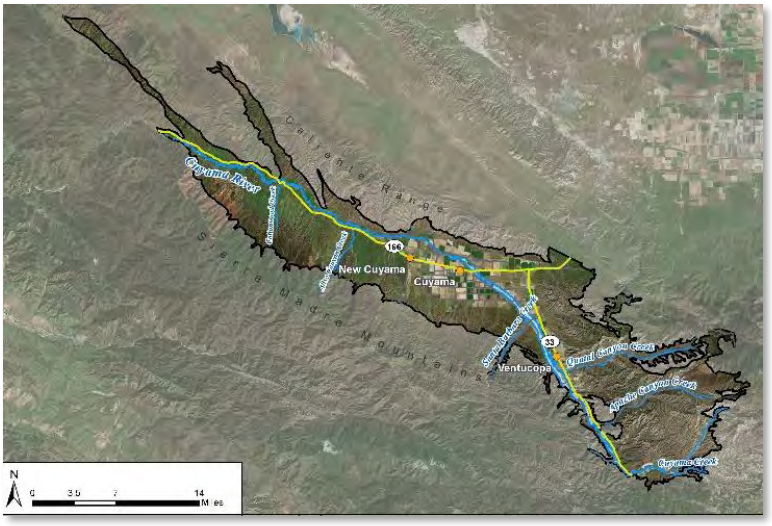


Figure ES- 1: GSP Plan Area

This 2025 GSP Update is now available for public review and comment. SGMA requires the CBGSA to develop a GSP that achieves groundwater sustainability in the Basin by 2040. Although SGMA references 2015 as a basis for groundwater planning, SGMA does not require a GSP to address undesirable results that occurred before 2015. ~~This Draft~~The GSP outlines the need for significant reductions in pumping in the central portion of the Basin~~,~~ and has identified ~~two~~ projects ~~for potential development~~and management actions that could help offset the projected reductions in pumping.

Although current analysis indicates groundwater pumping reductions on the order of ~~50 to 67~~60 percent may be required Basin-wide to achieve sustainability, additional efforts are required to confirm the amount and location of pumping reductions required to achieve sustainability. These efforts include collecting additional data and a review of the Basin's groundwater model, along with other efforts as outlined in this document.

Plan Area

The CBGSA's jurisdictional area is defined by DWR's 2013 Bulletin 118, and in the 2016 Interim Update[1]. The Basin generally underlies the Cuyama Valley, as shown in Figure ES-1, ~~left~~above.

Outreach Efforts

Figure ES- 2: Community Workshops

A stakeholder engagement strategy was developed to ensure that the interests of all beneficial users of groundwater in the Basin were considered. The strategy incorporated monthly CBGSA Standing Advisory Committee (SAC) meetings, monthly CBGSA Board meetings, quarterly community workshops, and information distribution to all property owners and residents in the Basin. A total of ~~55~~131 public meetings were held between June 2017 and ~~July 2019~~August 2024 as summarized in the table below. Figure ES-2 shows attendees at one of the community workshops conducted during development of the GSP.

Public Meeting	Number
Cuyama Basin GSA Board Meetings	59
Cuyama Basin GSA Standing Advisory Committee Meetings	53
Joint Meetings of Cuyama Basin GSA Board and Standing Advisory Committee	10
Community Workshops	9

The SAC was established to encourage active involvement from diverse social, cultural, and economic elements of the population in the Basin. The SAC members represent large and small landowners and growers from different geographic locations in the Basin, longtime residents including Hispanic community members, and a manager of an environmental educational non-

[1] https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118

profit organization. The community workshops were conducted in both English and Spanish creating an opportunity for local individuals to engage in the GSP development process.

Basin Setting

The Basin is at the southeastern end of the California Coast Ranges, near the San Andreas and Santa Maria River fault zones, and is bounded on the north and south by faults. These faults create several constraints on groundwater flow through the Basin. Groundwater and surface water generally flow from the eastern portions of the Basin toward the westernmost portion of the Basin. The major surface stream is the Cuyama River. Multiple smaller streams flow into the Cuyama River; and the Cuyama River flows to the west and eventually joins with the Santa Maria River. The location of the Basin is shown in Figure ES-3.

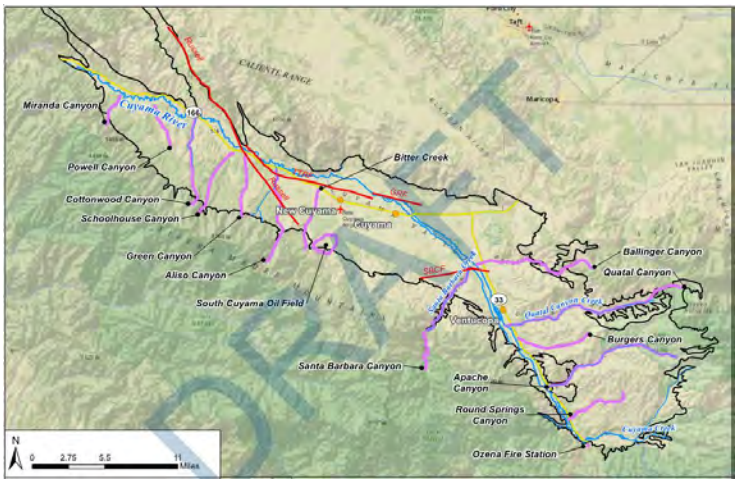


Figure ES- 3: Basin Setting

Existing Groundwater Conditions

Groundwater levels in some portions of the Basin have been declining for many years, while other areas of the Basin have experienced no significant change in groundwater levels. Figure ES-4 shows depth-to-groundwater contours for ~~spring 2018~~fall 2023, which reflects the most recent recorded status of groundwater levels in the Basin. The change in groundwater levels vary across the Basin, with the greatest declines occurring in the central portion of the Basin, where the greatest concentration of irrigated agriculture occurs. The western and eastern portions of the Basin have experienced significantly less change in groundwater levels. However, additional irrigated agricultural acreage has been developed recently in the western portion of the Basin, warranting additional levels of monitoring to determine if there are any impacts to long-term groundwater levels and sustainability.

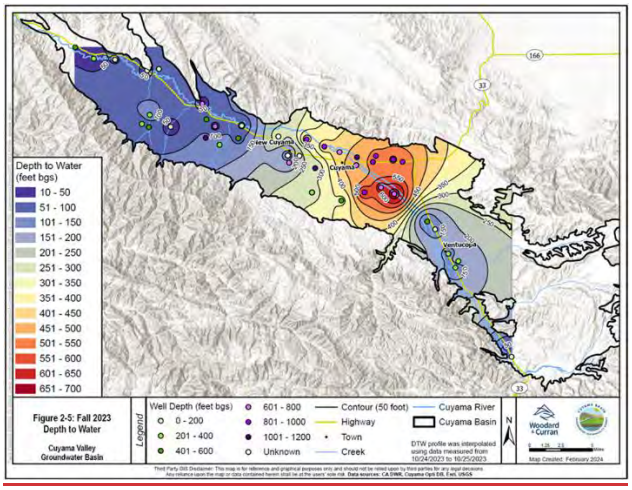


Figure ES-~~4:~~ 4: Depth-to-Groundwater in ~~Spring 2018~~Fall 2023

Groundwater quality in the Basin varies, particularly along the Basin boundary. Water quality in the Basin has historically had high levels of total dissolved solids (TDS) and sulfates. The United States Geological Survey (USGS) has conducted several water quality studies in the Basin. High concentrations of other constituents, including nitrate and arsenic, are generally localized and not widespread. Groundwater quality ranges from hard to very hard and is predominantly of the calcium-magnesium-sulfate type. Average TDS concentrations across the Basin in the last year are ~~as high as~~about 1,~~500~~100 to ~~6,000~~1,300 milligrams per liter (mg/L) along portions of the Basin's southern boundary. These values exceed the California recommended secondary maximum contaminant level (MCL) for drinking water of 500 mg/L.

Undesirable Results

Undesirable results are conditions that cause significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses of the Basin's groundwater. SGMA identifies six defined areas for classification of undesirable results, as shown in the adjacent callout. The one undesirable result that does not impact the Basin is seawater intrusion. Water quality in the Basin is generally poor due to high TDS and other constituents, and there is limited subsidence in the Basin, but the major areas of undesirable results are associated with the following:

- Chronic lowering of groundwater levels
- Significant and unreasonable reduction in groundwater storage
- Depletions of interconnected surface water

Figure ES-5 is a graph showing the modeled annual and cumulative long-term reduction in groundwater storage in the Basin. This reduction in groundwater storage coincides with the observed lowering of groundwater levels.

Undesirable Results Categories

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon
- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion (does not apply in the Basin)
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

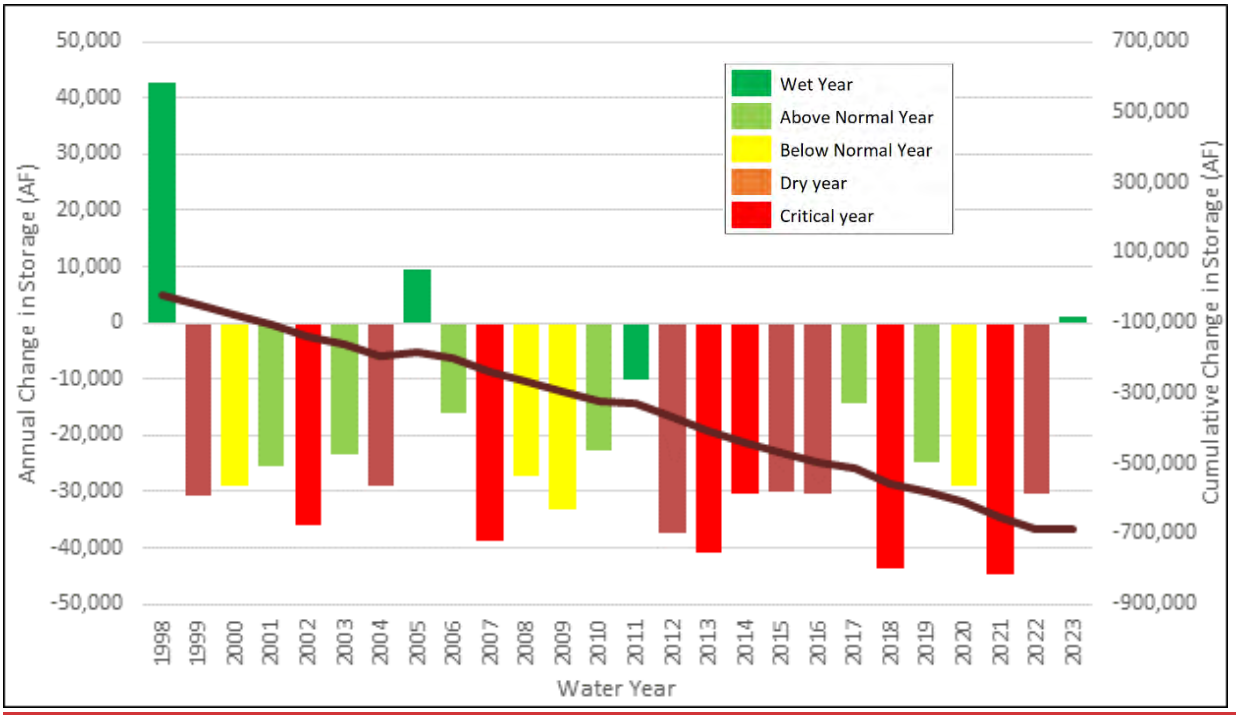


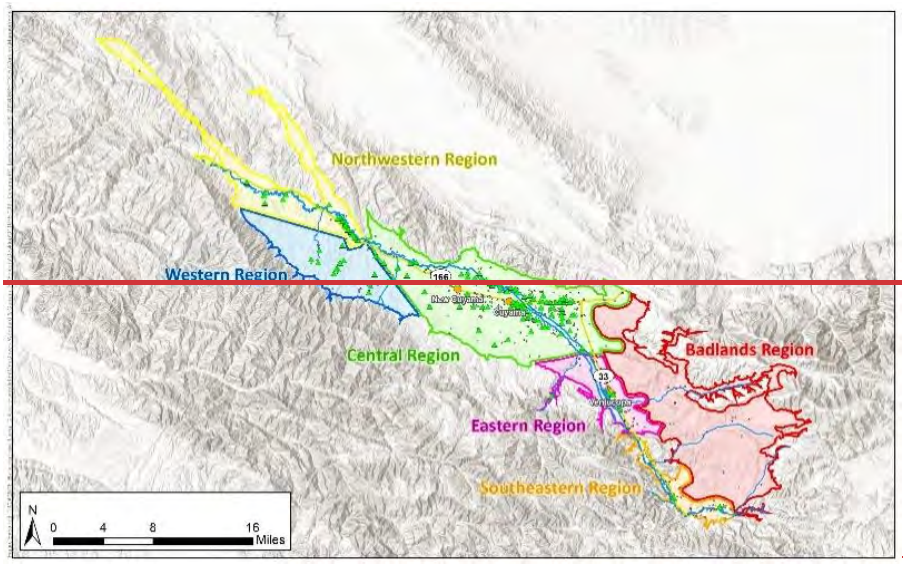
Figure ES- 5: Annual and Cumulative Changes in Groundwater Storage

The lowering of groundwater levels has corresponded with degradation of groundwater quality, and particularly in elevated levels of TDS. Additionally, lowering of groundwater levels has contributed to some subsidence in the central portion of the Basin (i.e., about 1 foot over the past 20 years), and has contributed to depletions in interconnections of surface and groundwater systems.

Sustainability

SGMA introduces several terms to measure sustainability, including the following:

- **Sustainability Goals** – These goals are the culmination of conditions resulting in an absence of undesirable results within 20 years.
- **Undesirable Results** – Undesirable results are the significant and unreasonable occurrence of conditions that adversely affect groundwater use in the Basin.
- **Sustainability Indicators** – ~~Sustanability~~Sustainability indicators refer to any of the adverse effects caused by groundwater conditions occurring throughout the Basin that, when significant and unreasonable, cause undesirable results, including the following:
  - Lowering groundwater levels
  - Reduction of groundwater storage
  - Seawater intrusion (does not apply in the Basin)
  - Degraded water quality
  - Land subsidence
  - Depletion of interconnected surface water
- **Minimum Thresholds** – Minimum thresholds are a numeric value for each sustainability indicator and are used to define when undesirable results occur, including if minimum thresholds are exceeded in a percentage of sites in the Basin's monitoring network.
- **Measurable Objectives** – Measurable objectives are a specific set of quantifiable goals for the maintenance or improvement of groundwater conditions. They will be included in the adopted GSP, and will help the CBGSA achieve their sustainability goal for the Basin.



~~Figure ES-6: Threshold Regions~~

~~The method prescribed by SGMA to measure undesirable results involves setting minimum thresholds and measurable objectives for a series of representative wells. Geologic conditions and land use vary across the Basin. These varying conditions also cause groundwater conditions to vary across the Basin. The CBGSA Board of Directors concluded that one set of minimum thresholds for the entire Basin may not provide the appropriate degree of refinement needed to effectively manage Basin-wide sustainability. As a result, threshold regions were created to establish the appropriate sustainability criteria for separate regions of the Basin. The threshold regions are shown above in Figure ES-6.~~

Representative wells were identified in the Basin to provide a basis for measuring groundwater conditions without having to measure each existing well, which would have been cost prohibitive. Representative wells were selected based on availability, their history of recorded groundwater levels, and their potential to effectively represent groundwater conditions near the identified well. During GSP implementation, well owners ~~will~~ have to consent to the use of their wells for monitoring. During the first four years of GSP implementation, monitoring networks have been revised to provide efficient and adequate coverage of the Basin while expanding data collection efforts.

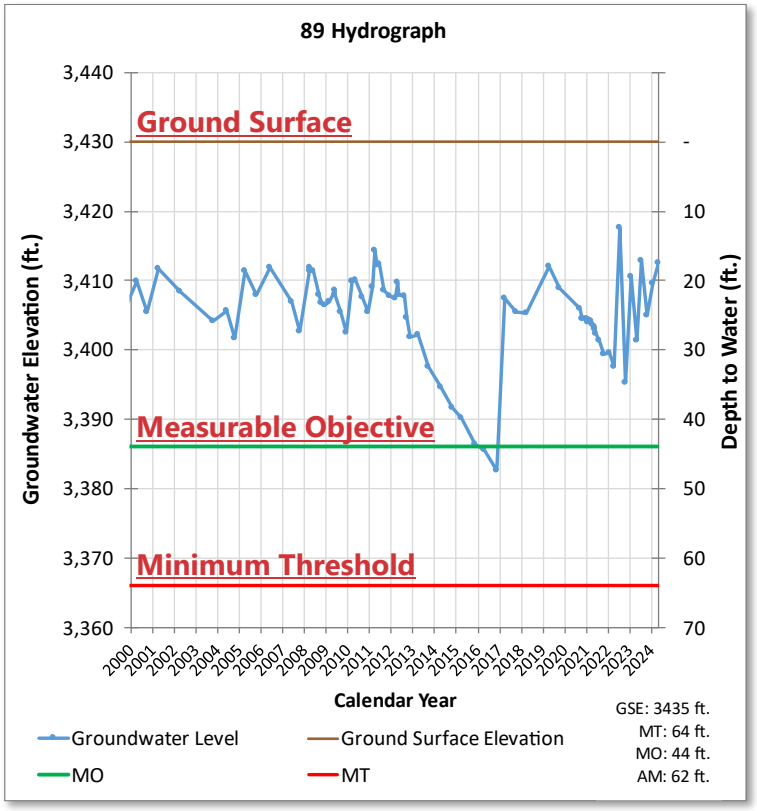


Figure ES- 6: Sample Relationship Between Minimum Threshold and Measurable Objective

~~A total of 60~~The revised groundwater level representative network includes 49 wells ~~have been identified for measurement of groundwater levels in the Basin~~, and ~~64 representative wells have been identified for~~the revised groundwater quality monitoring network includes 27 wells. There are also five selected ground surface subsidence monitoring stations. Using groundwater level data as the basis for measuring change in groundwater storage, these representative wells and subsidence monitoring stations provide the basis for measuring the five potential undesirable results across the Basin.

Minimum thresholds and measurable objectives were developed for each of the identified representative wells. Figure ES-~~7~~6 shows a typical ~~relatonship~~relationship of the minimum thresholds, measurable objectives, and other data for a sample well.

~~Thresholds~~ Minimum thresholds were developed through a stepwise function that utilizes a well/GDE protection depth, historical data, projected modeled glidepath declines, and the saturated thickness in areas with ~~reference to 2015 groundwater levels. In general, measurable~~greater geologic understanding. Measurable objectives were ~~established based on providing a 5-year drought buffer above the~~calculated by using the same margin of operation flexibility as described in the original GSP but utilizing the new minimum ~~threshold. The opposite approach was taken in the southeastern region, where the measurable objective was established based on 2015 groundwater levels and the minimum threshold was determined by providing a 5-year drought buffer below~~thresholds as the ~~established measurable objective based on changes in groundwater levels during the recent extended drought.~~starting value.

A table summarizing minimum thresholds and measurable objectives is included in the ~~Draft~~ GSP Section 5. Graphs showing the minimum threshold and measurable objective for each representative well are in an appendix to the ~~Draft~~ GSP.

Water Budgets

The Basin has been in an overdraft condition for many years. Overdraft conditions in the Basin were first documented in the 1950s. Since then, groundwater pumping has increased in response to increased levels of agricultural production, leading to increased levels of groundwater overdraft.

The current analysis was prepared using the best available information and through development of ~~a new~~ groundwater modeling tool. The groundwater model was significantly updated in advance of the 2025 GSP Update to reflect information collected to date, including updated geologic representation reflecting Airborne Electromagnetic (AEM) survey data and the results of a fault investigation conducted by the CBGSA, updated pumping well location and land use information, and updated evapotranspiration estimates that were calibrated to better match metered pumping data for 2022 and 2023. Although the Basin has been studied for many years, the available data are still not as robust in areas outside the center of the Basin as compared to many other basins, thus leading to some level of uncertainty in the analyses. ~~A data collection program has been designed to augment existing information, and~~ It is ~~included in this Draft GSP. It is anticipated that~~ expected that the model will continue to be refined in the future as ~~additional~~improved and updated monitoring information becomes available~~, the new model can be updated, and more refined estimates of annual pumping and overdraft can be developed~~ for the Basin. These refinements may result in changes in the estimated water budgets in the future.

The groundwater evaluations conducted as a part of this 2025 GSP Update provided estimates of historical, current and future groundwater budget conditions.

These analyses show that at current groundwater pumping levels, the average annual overdraft is estimated to be approximately ~~26~~17,000 acre-feet, and the reduction in groundwater pumping required to achieve sustainability is approximately ~~40~~26,000 acre-feet per year. Future groundwater conditions in the Basin will continue to show decreased groundwater levels based on projections of current land and water uses. Assuming no projected changes in land use or population in the Basin, the projected annual decline in groundwater storage is estimated to be the same as under current conditions.

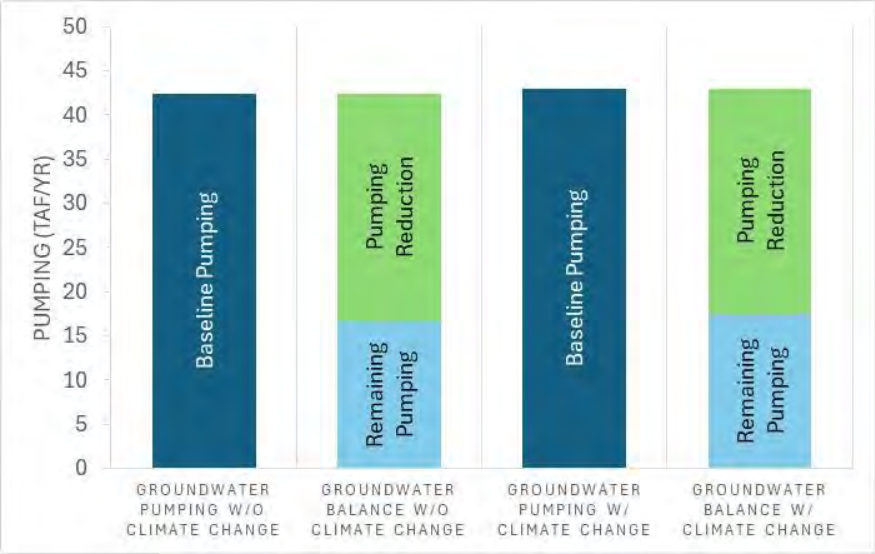


Figure ES-~~8:~~ 7: Basin-Wide Groundwater Pumping and Reductions Required to Achieve Sustainability

The projected Basin water budget was also evaluated under climate change conditions. Under the intermediate climate change scenario prescribed by DWR, the annual groundwater overdraft is projected to increase to approximately ~~27~~20,000 acre-feet, requiring an approximate ~~42~~28,000 acre-feet per year reduction in groundwater pumping to achieve sustainability. These changes are shown in Figure ES-~~8~~7.

Analysis of the Basin as a whole shows that much of the Basin is in hydrologic balance. Existing and projected groundwater levels in the western portions of the Basin, along with the southeastern region, show those areas to be sustainable under current and projected conditions. However, the model results project significant groundwater level reductions in the central portion of the Basin.

Monitoring Networks

~~This Draft~~The GSP outlines the monitoring networks for the five sustainability indicators that apply to the Basin. The objective of these monitoring networks is to monitor conditions across the Basin and to detect trends toward undesirable results. Specifically, the monitoring network was developed to do the following:

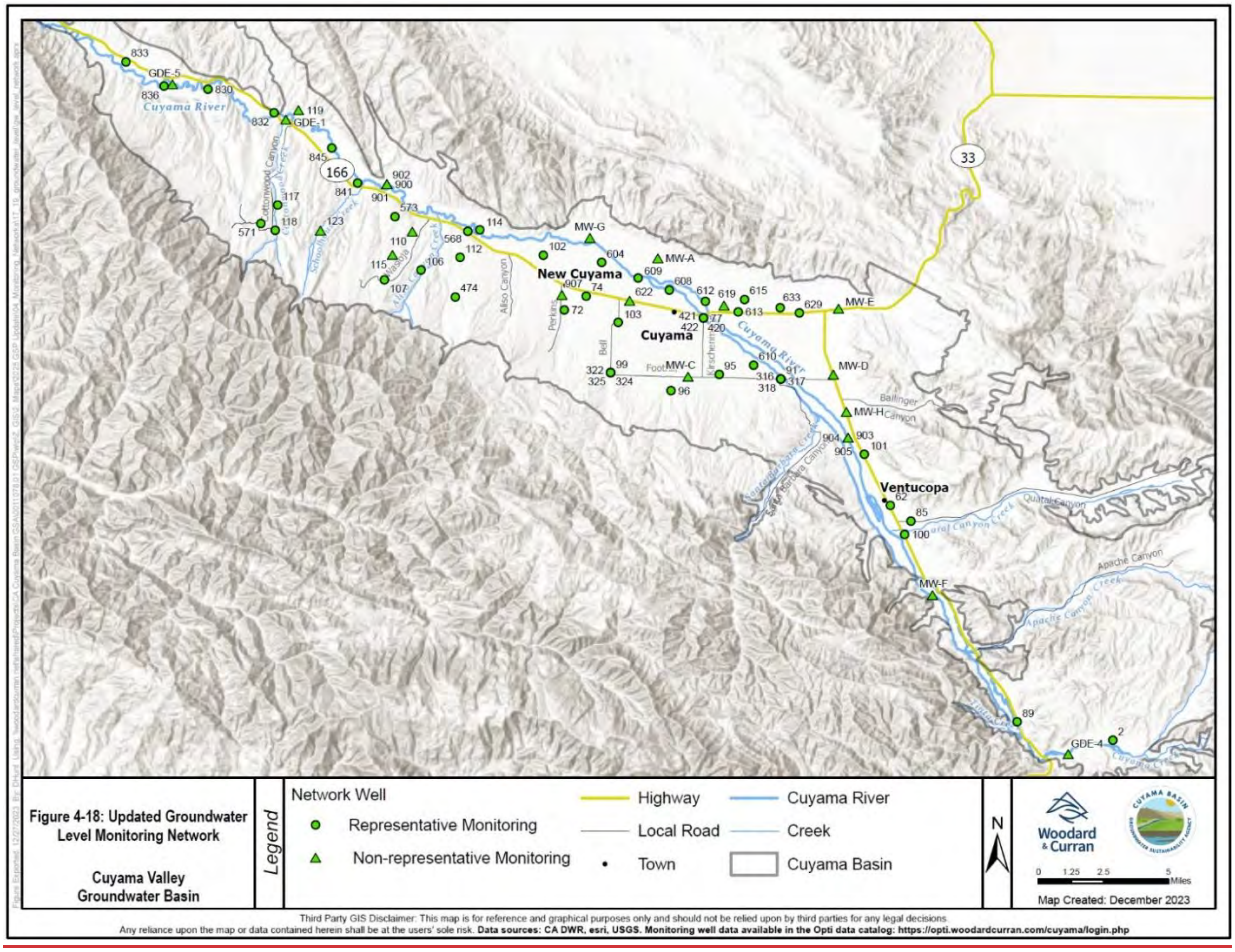
Five Sustainability Indicators Applicable to the Cuyama Groundwater Basin

- Chronic lowering of groundwater levels
- Reduction in groundwater storage
- Degraded water quality
- Land subsidence
- Depletions of interconnected surface water

- Monitor impacts to the beneficial uses or users of groundwater
- Monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds
- Demonstrate progress toward achieving measurable objectives described in the ~~Draft~~ GSP

The monitoring networks, such as the groundwater level monitoring network shown in Figure ES-8, were designed by evaluating data sources provided by DWR, including the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, the USGS, participating counties, and private landowners. The ~~proposed~~ monitoring network consists of wells that are already being used for monitoring in the Basin~~, but there are also current spatial data gaps~~ and was updated in September of 2023 following an evaluation of the ~~Basin~~existing monitoring network~~.~~ by the CBGSA. Additional wells ~~are being~~have been added~~, and there is the potential for installing new dedicated monitoring wells through~~ with DWR grant funding ~~provided~~and by ~~DWR's~~the DWR Technical Support Services program. ~~Most~~The wells in the monitoring network are measured by the CBGSA on either a ~~semi-annual or annual~~quarterly schedule. Historical measurements have been entered into the Basin Data Management System (DMS), ~~and~~as well as data collected during GSP implementation. All future data will also be stored in the Basin DMS.

~~A summary of monitoring wells included in the groudwater levels monitoring network is shown below.~~



~~Number of Wells Selected~~
~~for~~Figure ES- 8: Groundwater Monitoring ~~Network~~Wells

~~CASGEM~~	~~28~~
~~USGS~~	~~43~~
~~Santa Barbara County Water Agency~~	~~36~~
~~San Luis Obispo County Flood Control & Water Conservation District~~	~~2~~
~~Ventura County Watershed Protection District~~	~~5~~
~~Cuyama Community Services District~~	~~1~~
~~Private Landowner~~	~~48~~
~~Total~~	~~101~~
~~Note: Total does not equal sum of rows due to duplicate entries in multiple databases~~	

Data Management System

The Basin DMS was built on a flexible, open software platform that uses familiar Google maps and charting tools. Typical views generated by the Basin DMS are shown in Figure ES-~~10 and ES-11~~9. The Basin DMS serves as a data-sharing portal that enables use of the same data and tools for visualization and analysis. These tools support sustainable groundwater management and create transparent reporting about collected data and analysis results.

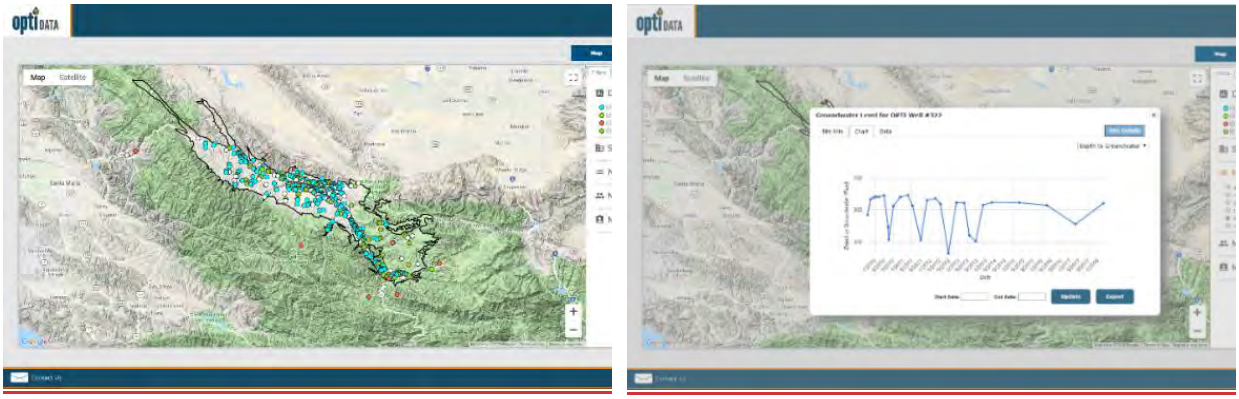


Figure ES- 9: Opti DMS ~~Screenshot~~Screenshots

The Basin DMS is web-based; the public can easily access this portal using common web browsers such as Google Chrome, Firefox, and Microsoft Edge. The Basin DMS is currently populated with available historical data; additional data will be entered into the system as it is collected.

The Basin DMS portal provides easy access and the ability to query information stored in the system. Groundwater data can be plotted for any of the available data points, providing a pictorial view of historical and current data. The DMS can be accessed at https://opti.woodardcurran.com/cuyama/login.php.

Projects and Management Actions

Achieving sustainability in the Basin requires implementation of management actions and, if demonstrated to be feasible, projects that will increase water supply. One management action, reductions in groundwater pumping through pumping allocations, is required to achieve sustainability irrespective of the feasibility of any other water supply projects. The exact amount of required reduction in groundwater pumping ~~will be~~has been reevaluated ~~after additional data are collected~~since the submittal of the original GSP and ~~analyzed.~~updated for the 2025 GSP Update. Based on current information, groundwater pumping ~~in the Basin may have~~reductions are estimated to ~~be reduced by as much as 50~~need to ~~67~~be about 60 percent. Additional evaluations of pumping reductions ~~required to achieve sustainability are planned over the next several years~~will continue during GSP implementation. These additional evaluations may lead to modification of levels of pumping reduction associated with the attainment of reliability.

Additional management actions included in ~~this Draft~~the GSP include the following:

- Monitoring and recording groundwater levels, groundwater quality, and subsidence data
- Maintaining and updating the Basin DMS with newly collected data
- Monitoring groundwater use using satellite imagery
- Annual monitoring of progress toward sustainability
- Annual reporting of Basin conditions to DWR as required by SGMA

Several alternative projects to potentially increase water supply availability in the Basin were identified and considered. The initial set of alternatives were reviewed with the CBGSA SAC and Board of Directors, resulting in two potential water supply projects included in ~~this Draft~~the GSP. These projects require further analysis and permitting to determine feasibility and cost effectiveness, and are listed below.

The first project is rainfall enhancement through what is commonly referred to as cloud seeding. Cloud seeding is a type of weather modification with the objective to increase the amount of precipitation that would fall in the Basin watershed. The concept is to introduce silver iodide, or a similar substance, into the clouds to induce greater rainfall. Cloud seeding has been used in numerous areas throughout California and other western states. Preliminary estimates suggest up to approximately 4,000 acre-feet per year of additional water supply could be added to the Basin. The target area for rainfall enhancement is shown in Figure ES-~~12~~11.

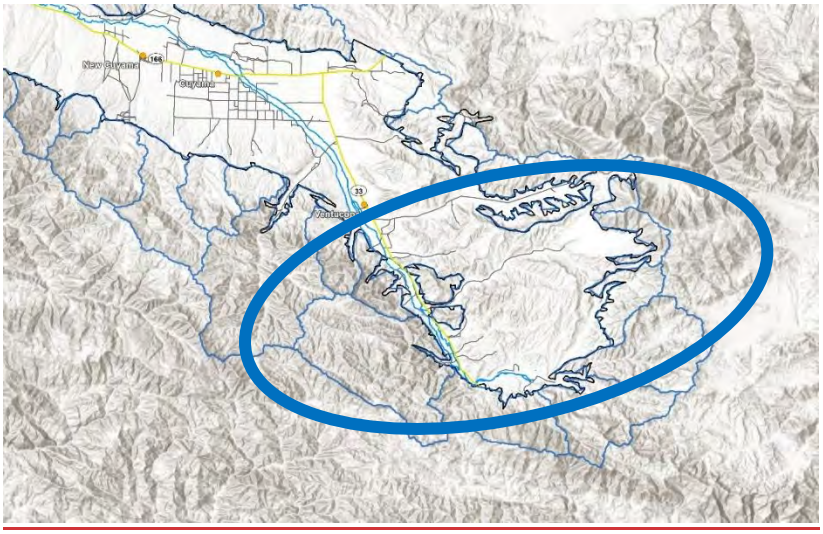


Figure ES- 10: Target Area for Potential Rainfall Enhancement

The next step toward implementation of this water supply project is to refine the analysis to better determine the potential increase in precipitation that could be achieved, and to refine the estimated cost of implementation. ~~The~~An analysis was performed in 2024 to provide updated information. Full implementation of a precipitation enhancement project would require completion of an environmental document consistent with the requirements of the California Environmental Quality Act (CEQA).

The second potential project is capture of high stormwater flows in the Cuyama River and diversion into recharge basins that would be sited in the Central region of the Basin. The captured stormwater flows would percolate into the groundwater basin resulting in increased recharge of groundwater. The potential stormwater recharge project has several challenges associated with it, including water rights availability, managing sediment that will be present in any diverted stormwater flows, and obtaining lands for construction of the recharge basins. Preliminary estimates suggest that up to 4,000 acre-feet per year of additional water supply could be added to the Basin. The general location of the potential recharge basins are shown in Figure ES-~~13~~12.

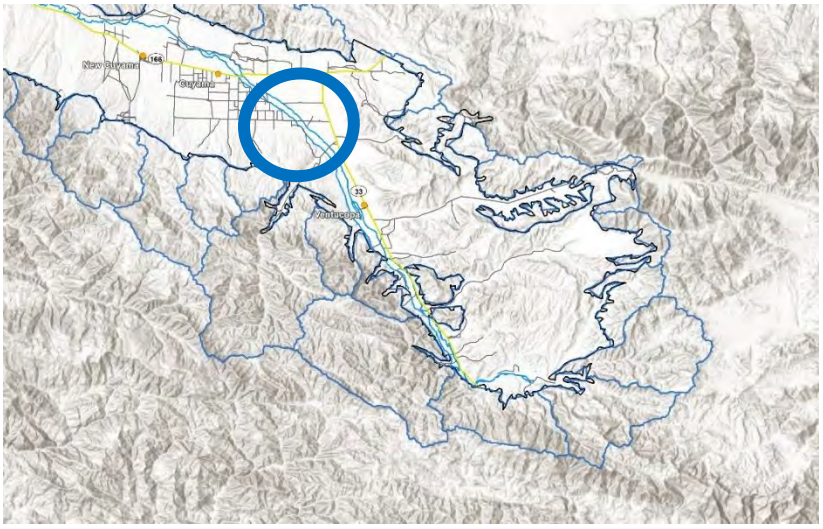


Figure ES- 11: General Location of Potential Recharge Basins

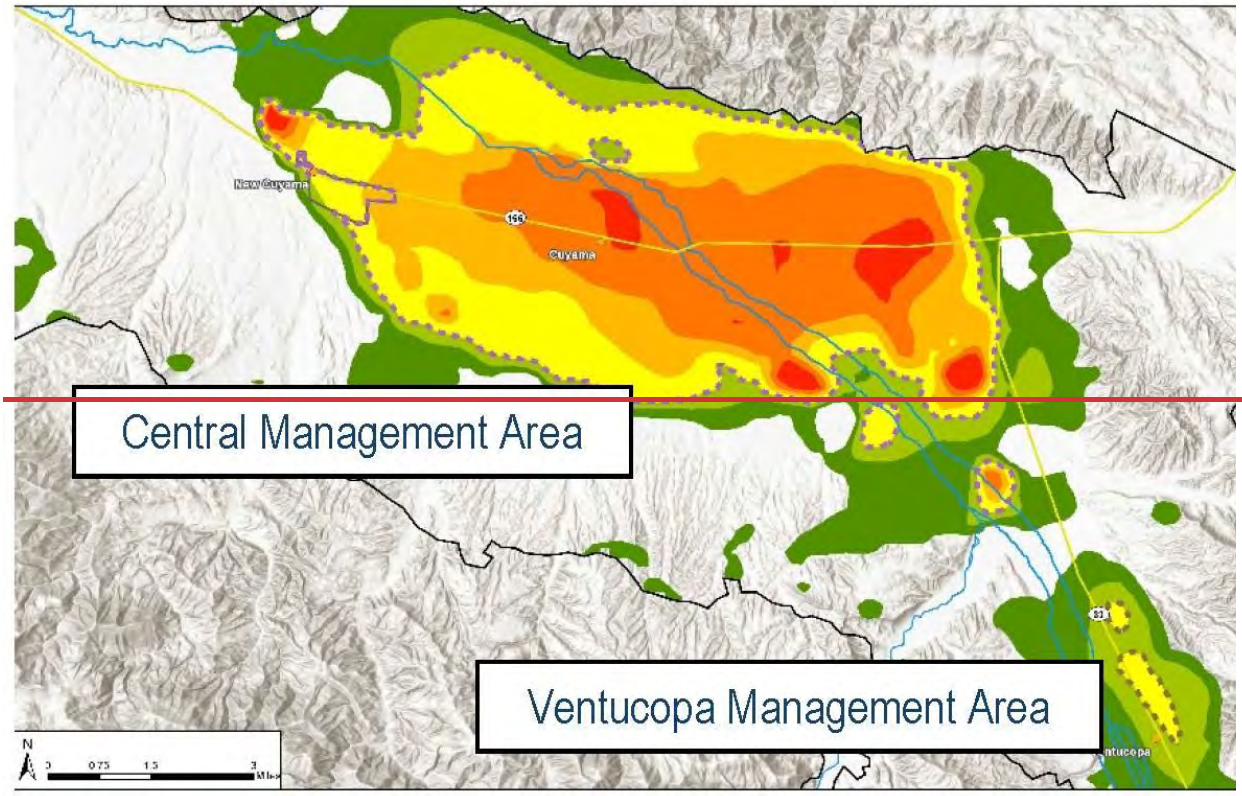
Since the original GSP was submitted, the CBGSA performed an analysis of the frequency of diversions that could be available for diversion, which indicated that upstream diversions could be made in approximately 11% of all years (i.e. 7 out of 62 years from 1962-2023). The next step toward implementation of this potential project is to evaluate each of these areas of uncertainty and to develop more refined estimates of potential water supply benefit and cost.

~~This Draft~~The GSP also includes projects specific to the domestic water systems in Ventucopa, Cuyama, and New Cuyama. These projects include installing new wells to secure reliability of water supply to residents of these communities. Implementation of these community well projects would be the responsibility of each of the three communities, as the projects address reliability of available supply for each community.

GSP Implementation

Achieving sustainability in the Basin requires implementation of management actions and, if demonstrated to be feasible, projects that will increase water supply. One management action, which is

reductions in groundwater pumping, is required to achieve sustainability irrespective of the feasibility of any other water supply projects. Implementing project and management actions can best be achieved through development of Basin Management Areas to focus necessary activities on the areas of the Basin with projected long-term overdraft.


New Cuyama
166
Cuyama
Central Management Area
Ventucopa Management Area
N
0 0.75 1.5 3
Miles

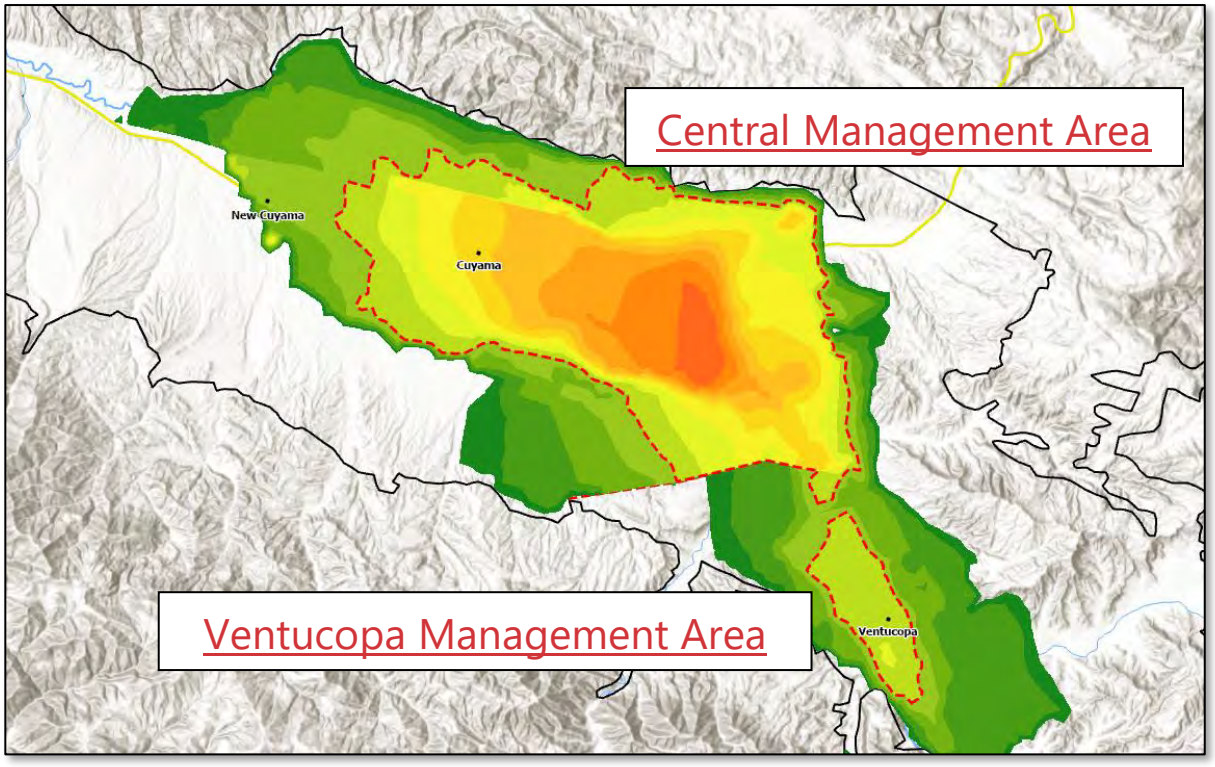


Figure ES-~~14:~~ 12: Location of Central and Ventucopa Management Areas

Two Management Areas have been established in the Basin to aid in administering projects and management actions, as shown in Figure ES-~~14~~13. The Central and Ventucopa management areas were identified based on the model's projection of groundwater levels decreasing at a rate of 2 feet or more per year over ~~over~~ a 50-year hydrologic period.

Figure ES-~~15~~13 depicts the general boundaries of the proposed Management Areas. The highlighted colors show the projected annual change in groundwater levels, with clear and green indicating no change to less than 2 feet of projected annual decline in groundwater levels, and the yellow, orange and red areas indicating areas of increasing projections of annual declines in groundwater levels, ranging from more than 2 feet per year up to more than ~~7~~6 feet per year.

Overdraft conditions in the Central Management Area requires reductions in groundwater pumping. The exact amount of required reduction in groundwater pumping will be reevaluated after additional data are collected and analyzed. However, based on current information, total Basin-wide groundwater pumping may have to be reduced by as much as ~~50 to 67~~60 percent, with the major proportion or reduction required in the Central Management Area.

Both Management Areas will be administered by the CBGSA. However, the CBGSA may elect to delegate administrative responsibility to another party.

Implementing the GSP will require numerous management activities that will be undertaken by the CBGSA, including the following:

- Preparing annual reports summarizing the conditions of the Basin and progress towards sustainability and submitting them to DWR
- Monitoring groundwater conditions for all five sustainability indicators twice each year
- Entering updated groundwater data into the Basin DMS
- Monitoring basin-wide groundwater use using satellite imagery
- Updating the GSP as necessary
- Preparing Periodic Evaluations once every five years and submitting to DWR

The CBGSA Board adopted a preliminary schedule for reduction of groundwater pumping in the Central Management Area.

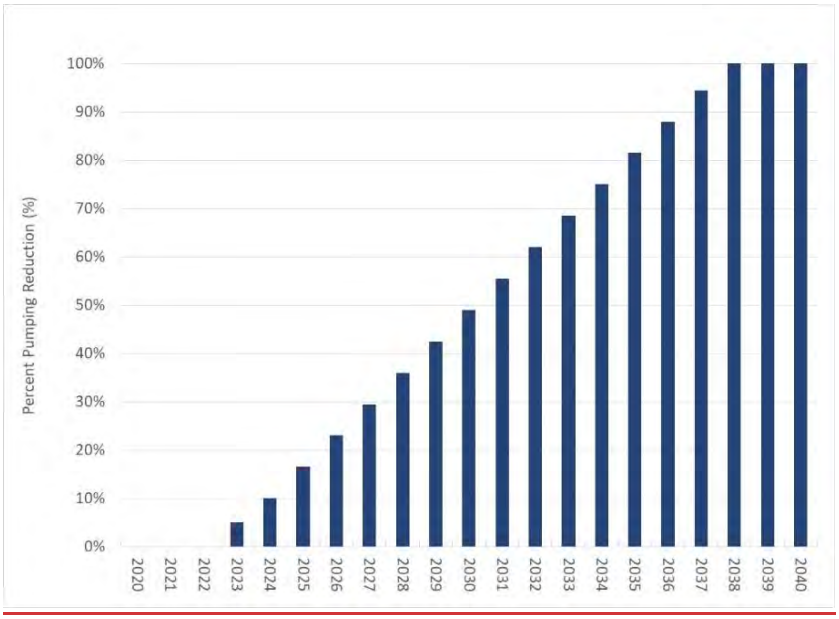


Figure ES-~~15:~~ 13: Schedule for Proposed Reductions in Groundwater Pumping

For the Central Management Area, pumping reductions ~~are scheduled to begin~~began in 2023 with full implementation by 2038, as shown in Figure ES-~~15~~14. This approach provides adequate time to put into place methods necessary to monitor groundwater use and reductions. ~~The specific methods for monitoring and reporting will be developed beginning in 2021, with the target of methods being in place by the end of 2022 to allow effective monitoring and pumping reductions to begin in 2023. Monitoring in 2023 will demonstrate achievement of the proposed levels of pumping reduction by the end of that year~~A pumping reporting program has been established, and a flow meter calibration program is currently being developed.

Pumping reductions are not currently recommended for the Ventucopa Area. The recommendation is to perform additional monitoring, incorporate new monitoring wells, and further evaluate groundwater conditions in the area ~~over the next two to five years.~~. Once additional data are obtained and evaluated, the need for any reductions in pumping will be determined.

~~Evaluation and possible implementation of the two identified projects will also be initiated between 2020 and 2025. Further evaluation of the two projects is necessary to determine technical, economic, and institutional feasibility. A critical aspect of feasibility for the stormwater diversion project will be confirmation of water rights availability. Downstream water right holders will have to be maintained whole for the project to be feasible and will require an in-depth analysis of water flows and availability. As a result, the first step in determining feasibility will be to evaluate the potential for obtaining a right for diversion from the Cuyama River.~~

The CBGSA has also begun implementing other projects and management actions. These include:

- Completing a water rights study for Project 1, Flood and Stormwater Capture
- Completing a preliminary study for Project 2, Precipitation Enhancement.
- Supporting the CCSD in the efforts to replace their supply well (Project 4)
- Completing Management Action 1, Basin-Wide Economic Analysis
- Establishing pumping allocations under Management Action 2 (this will continue)

The table below presents an overall schedule of GSP activities ~~spanning~~over the ~~next~~ 20 ~~years.~~-year planning horizon.

Time Range	2020 to 2024	2025 to 2029	2030 to 2034	2035 to 2040
Phase	Set up and initiate monitoring and pumping allocation programs	Project implementation and GSP evaluation/update	Project implementation and GSP evaluation/update	Achieve Basin sustainability
Tasks	• Establish monitoring network and initiate monitoring and reporting • Evaluate/refine thresholds and monitoring network • Install new wells • Develop pumping monitoring program* • Set up and initiate pumping allocation program* • Project analysis and feasibility • Public outreach	• CBGSA conducts five-year evaluations/update • Monitoring and reporting continues • Evaluate/refine thresholds and monitoring network • Refine water budget • Pumping monitoring program continues* • Continue implementation of pumping allocation program* • Plan/design/construct small- to medium-sized projects* • Public outreach continues	• CBGSA conducts five-year evaluations/update • Monitoring and reporting continues • Evaluate/refine thresholds and monitoring network • Refine water budget • Pumping monitoring program continues* • Continue implementation of pumping allocation program* • Plan/design/construct larger projects* • Public outreach continues	• CBGSA conducts five-year evaluations/update • Monitoring and reporting continues • Evaluate/refine thresholds and monitoring network • Refine water budget • Pumping monitoring program continues* • Pumping allocation program fully implemented* • Project implementation completed* • Public outreach continues
Status	Complete	In Progress	Planned	Planned

*Represents activities that will take place in CBGSA-designated management areas

Funding

Implementation of the GSP requires funding. To the degree they become available, outside grants will be sought to help reduce the cost of implementation. However, funds will need to be collected to support implementation, and costs associated with Basin-wide management and GSP implementation will likely be borne by residents and landowners across the Basin. These costs include the following:

- CBGSA administration
- Groundwater level monitoring and reporting
- Groundwater quality monitoring and reporting
- Ground surface subsidence monitoring and reporting
- Water use estimation
- Data management
- Stakeholder engagement
- Annual report preparation and submittal to DWR
- Funding mechanism development and implementation
- Grant applications
- GSP updates and submittal to DWR (every five years)

For budgetary purposes, the estimated initial cost of these activities ranges from $800,000 to $1.3 million per year. The CBGSA Board of Directors will evaluate options for securing needed funding. Options for funding include instituting fees based on groundwater pumping, acreage, or combinations of these, and pursuit of any available grant funds.

Activities associated with the two Management Areas will be borne by the landowners and water users within the two Management Areas.

~~For the Ventucopa Management Area, costs include monitoring of groundwater level data, evaluating the need for additional or new representative wells, and evaluting the need for pumping allocations. The estimated initial cost of these activities ranges from $40,000 to $80,000 per year.~~

~~For the Central Management Area, costs include the following:~~

- ~~Developing and implementing a system for pumping allocations, tracking, and management~~
- ~~Developing and implementing a funding mechanism~~
- ~~Evaluating and implementing water supply projects~~

~~The estimated initial cost of these activities range from $200,000 to $500,000 per year, plus costs associated with evaluating and implementing either of the two potential water supply projects. Depending~~

~~on feasibility, annual costs of the rainfall enhancement project would be on the order of $150,000 per year. The stormwater water capture project cost is estimated to cost from $3 to $4 million per year to amortize project capital costs and to provide funds for annual operations and maintenance.~~

The CBGSA Board of Directors will evaluate options for securing the needed funding. Similar to the funding options for the CBGSA basin-wide activities, options for funding management area costs include fees based on groundwater pumping, acreage, or combinations of these, and pursuit of any available grant funds.

Funding for new community wells or well improvements is the responsibility of the three Basin communities. There are potential opportunities for securing grant funds, depending on timing and State and federal grant funding availability.

TO: Standing Advisory Committee
Agenda Item No. 9a

FROM: Brian Van Lienden, Woodard & Curran

DATE: August 29, 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.

Jul-Aug Accomplishments

- ✓ Performed installation of two multi-completion monitoring wells
- ✓ Developed and presented results of investigations of Russell and Santa Barbara Canyon Faults
- ✓ Completed update and re-calibration of the Cuyama Basin groundwater model
- ✓ Developed options for projects and management actions for Board consideration
- ✓ Developed updated draft GSP Chapters 7 and 8 and Executive Summary for Board consideration
- ✓ Developed Public Draft of 2025 GSP Update

TO: Standing Advisory Committee
Agenda Item No. 9b

FROM: Brian Van Lienden, Woodard & Curran

DATE: August 29, 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

9b. Update on Grant Funded Projects

Brian Van Lienden

August 29, 2024

HALLMARK GROUP Woodard & Curran

Status of Monitoring Well and Piezometer Installation

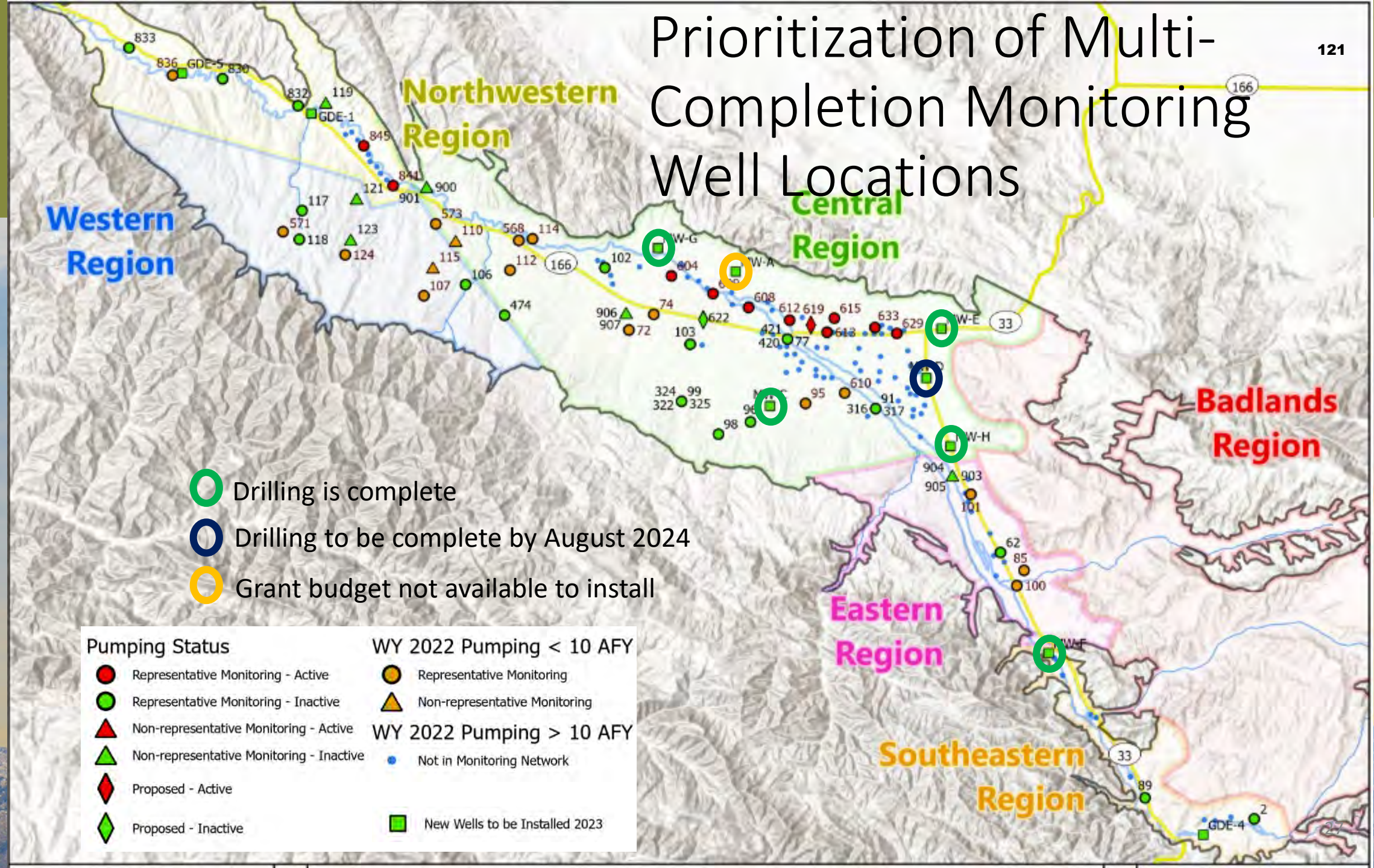
- Piezometer (GDE) Wells:
  - Wells have been constructed at all 3 locations (GDE-1, GDE-4 and GDE-5)
- Multi-Completion Nested Monitoring Wells:
  - MW-F constructed in November 2023. Well screen intervals are 180-200 feet and 350-370 feet.
  - MW-C constructed in February 2024. Well screen interval is 500-520 feet.
  - MW-H constructed in March 2024. Well screen intervals are 660-680 feet and 880-900 feet.
  - MW-E drilling completed in April 2024. Well screen intervals are 610-630 feet and 720-740 feet.
  - MW-G drilling completed in July 2024. Well screen intervals are 280-300 feet and 420-440 feet.
  - MW-D drilling and construction will be complete in August 2024.

Plan and Prioritization for Multi-Completion Monitoring Wells

- Installation of multi-completion wells will be completed at 6 locations with 1 or 2 nested wells at each location

Location	Approximate Depth to Water (Fall 2023)	# of Completions
MW-A	400-500	Removed due to insufficient grant budget
MW-C	480	1
MW-D	600-650	2
MW-E	500-600	2
MW-F	20	2
MW-G	400-500	2
MW-H	610	2

Prioritization of Multi-Completion Monitoring Well Locations



TO: Standing Advisory Committee
Agenda Item No. 9c

FROM: Brian Van Lienden, Woodard & Curran

DATE: August 29, 2024

SUBJECT: Update on July 2024 Groundwater Levels Conditions Report

Recommended Motion
None – information only.

Discussion
The quarterly Groundwater Levels Conditions Report for July 2024 is summarized as Attachment 1. The detailed report is provided as Attachment 2.

Attachment 1

Cuyama Basin Groundwater Sustainability Agency

9c. Update on Quarterly Groundwater Conditions Report

Brian Van Lienden

August 29, 2024

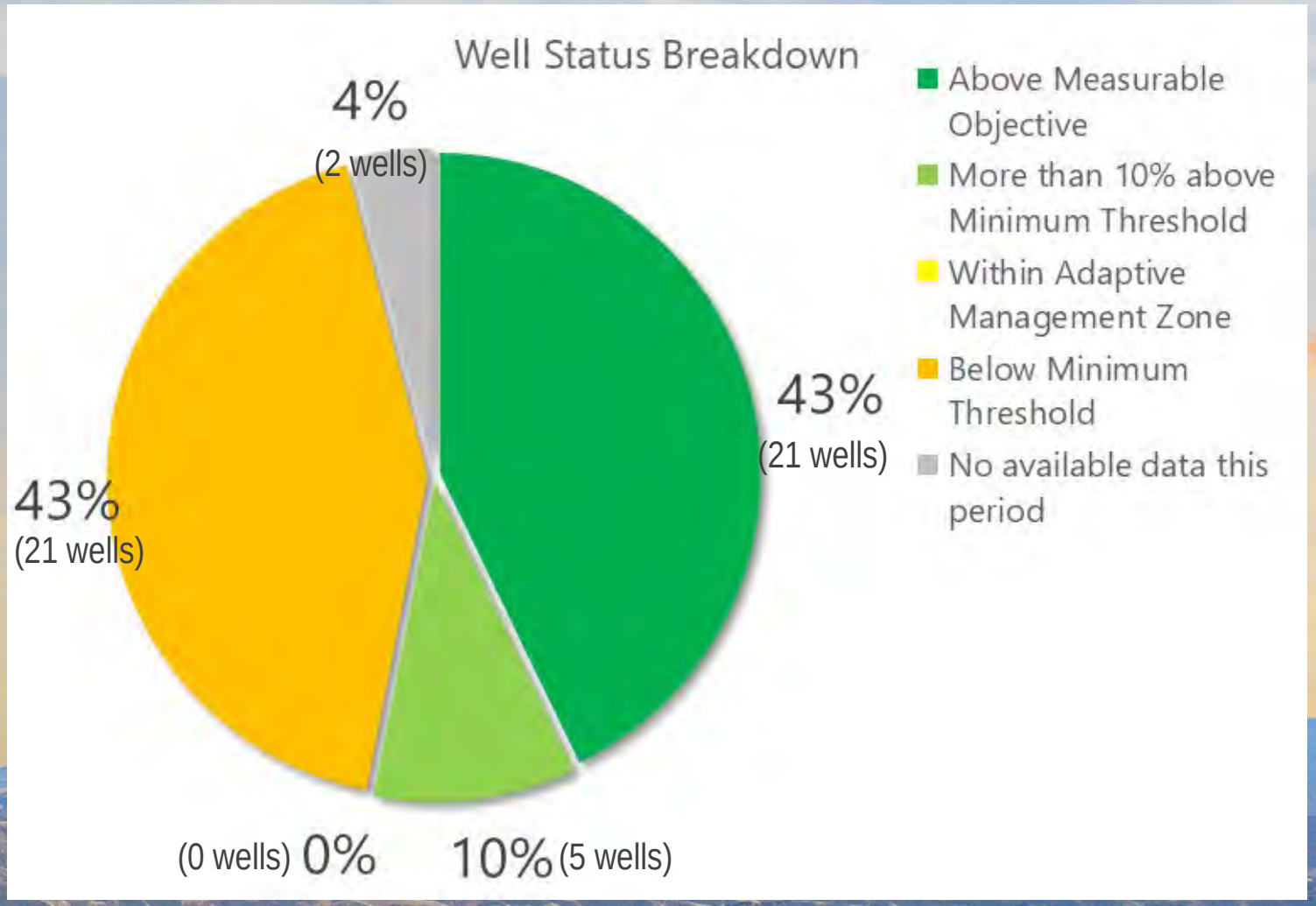
HALLMARK GROUP Woodard & Curran

Groundwater Levels Monitoring Network – Summary of Current Conditions

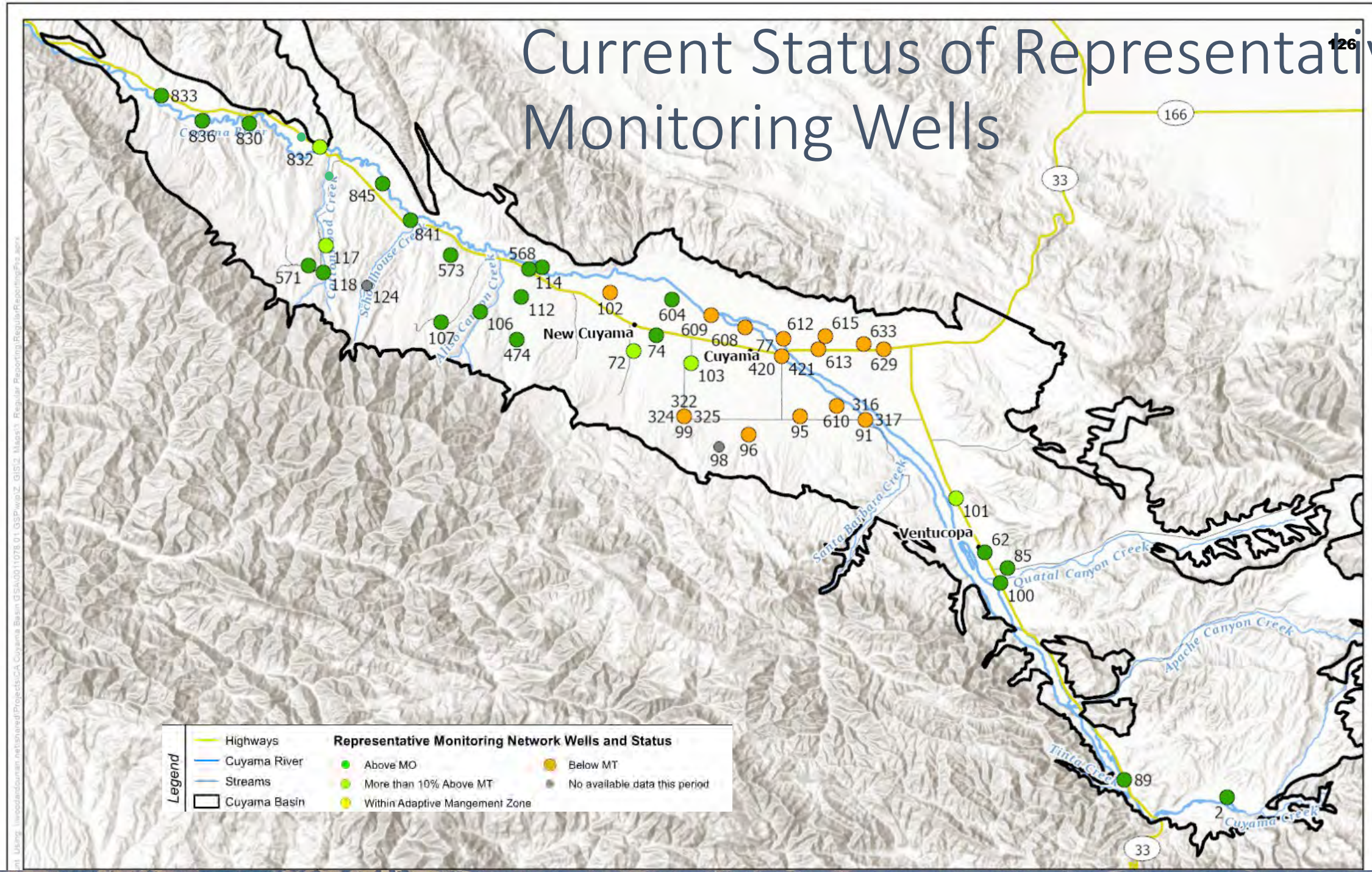
- Monitoring data from January 2024, April 2024 and July 2024 for representative wells is included in the Groundwater Conditions report
- 47 of 49 representative monitoring wells have levels data in at least one out of the previous 12 months
- 21 wells were below the minimum threshold based on latest measurement since October 2023

Summary of Groundwater Well Levels as Compared To Sustainability Criteria

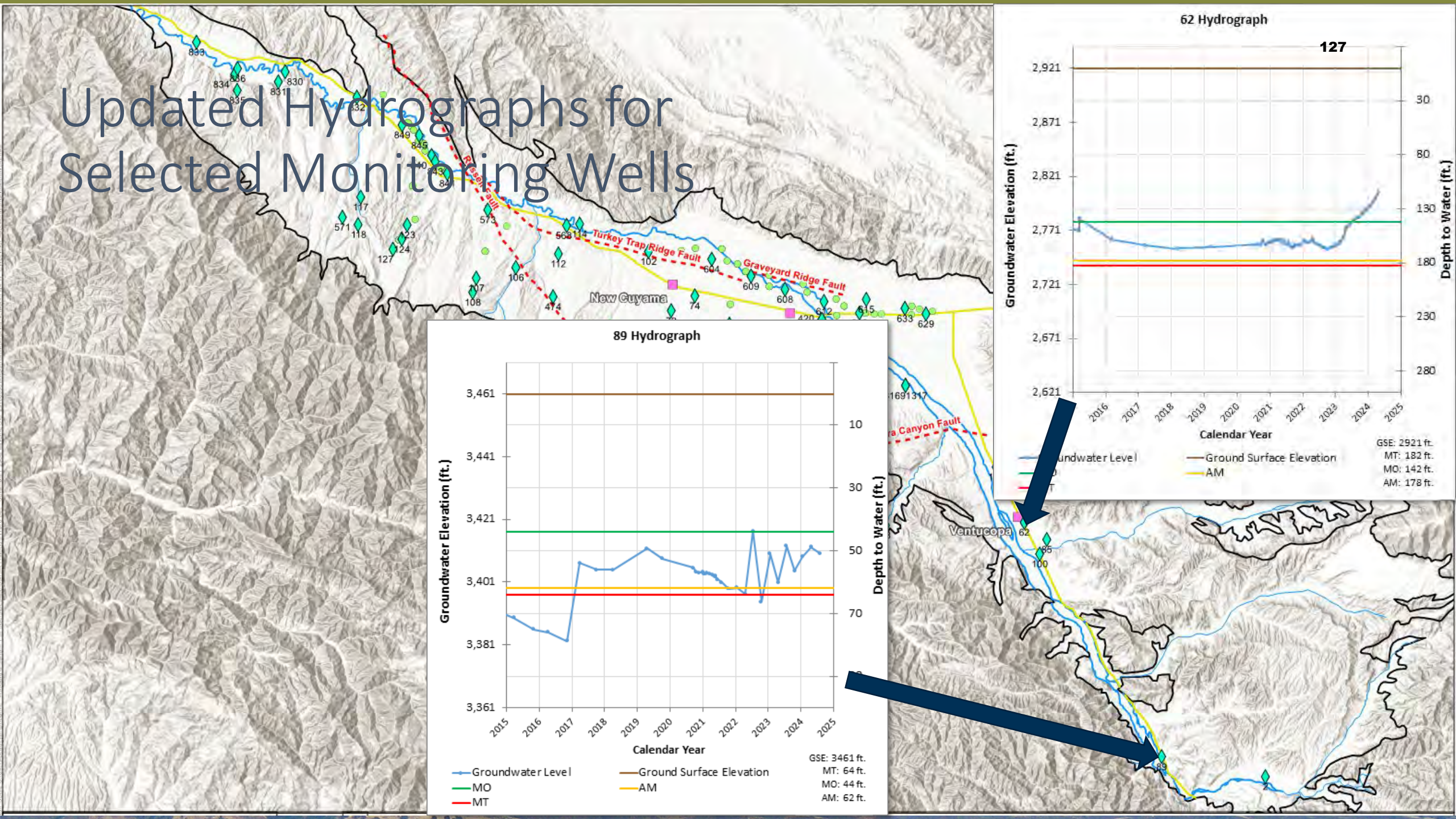
- 21 wells are currently below minimum threshold (MT)
  - 11 wells (22%) have been below the MT for at least 24 months
  - 8 well dropped below the MT this month
  - 0 wells rose above the MT this month



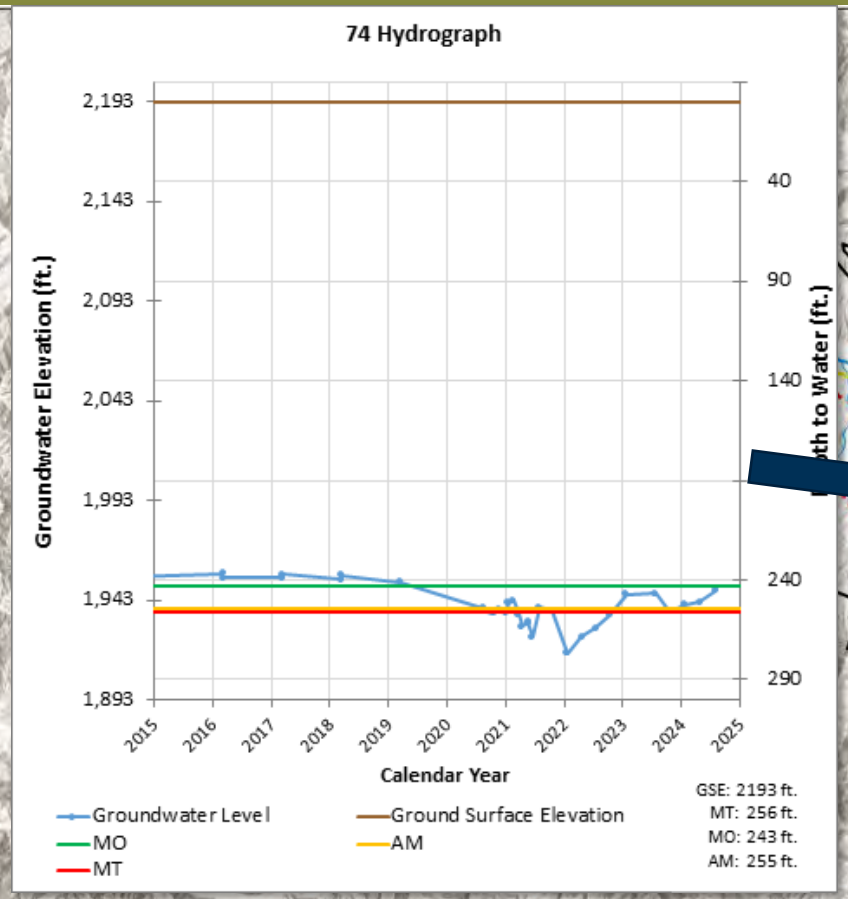
Current Status of Representative Monitoring Wells

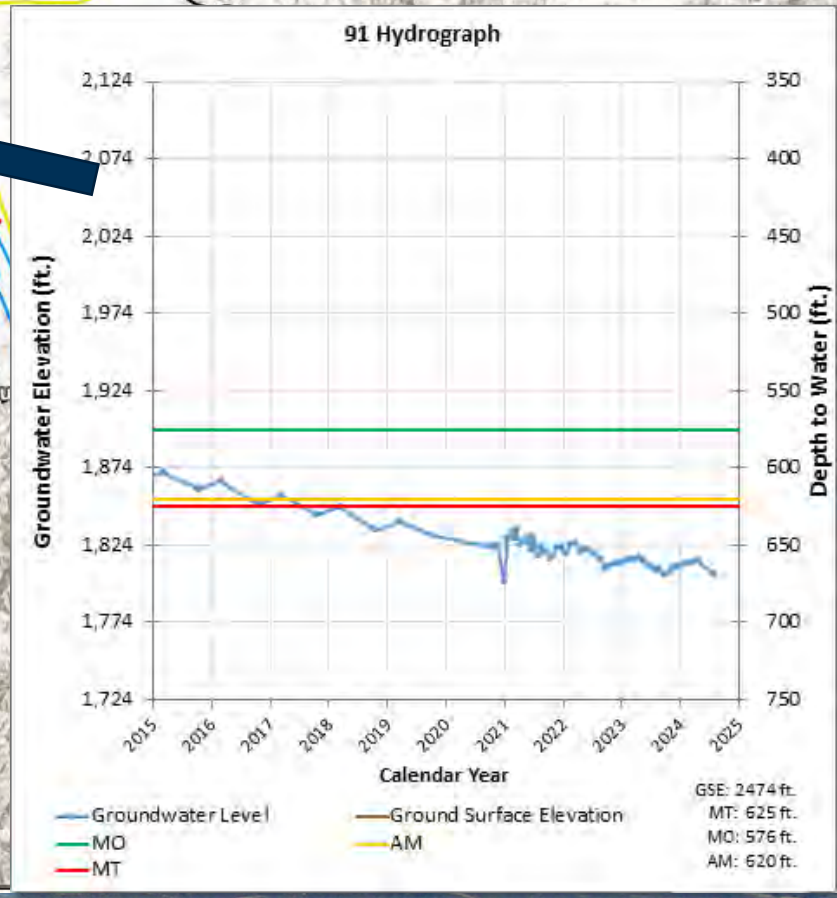


Updated Hydrographs for Selected Monitoring Wells

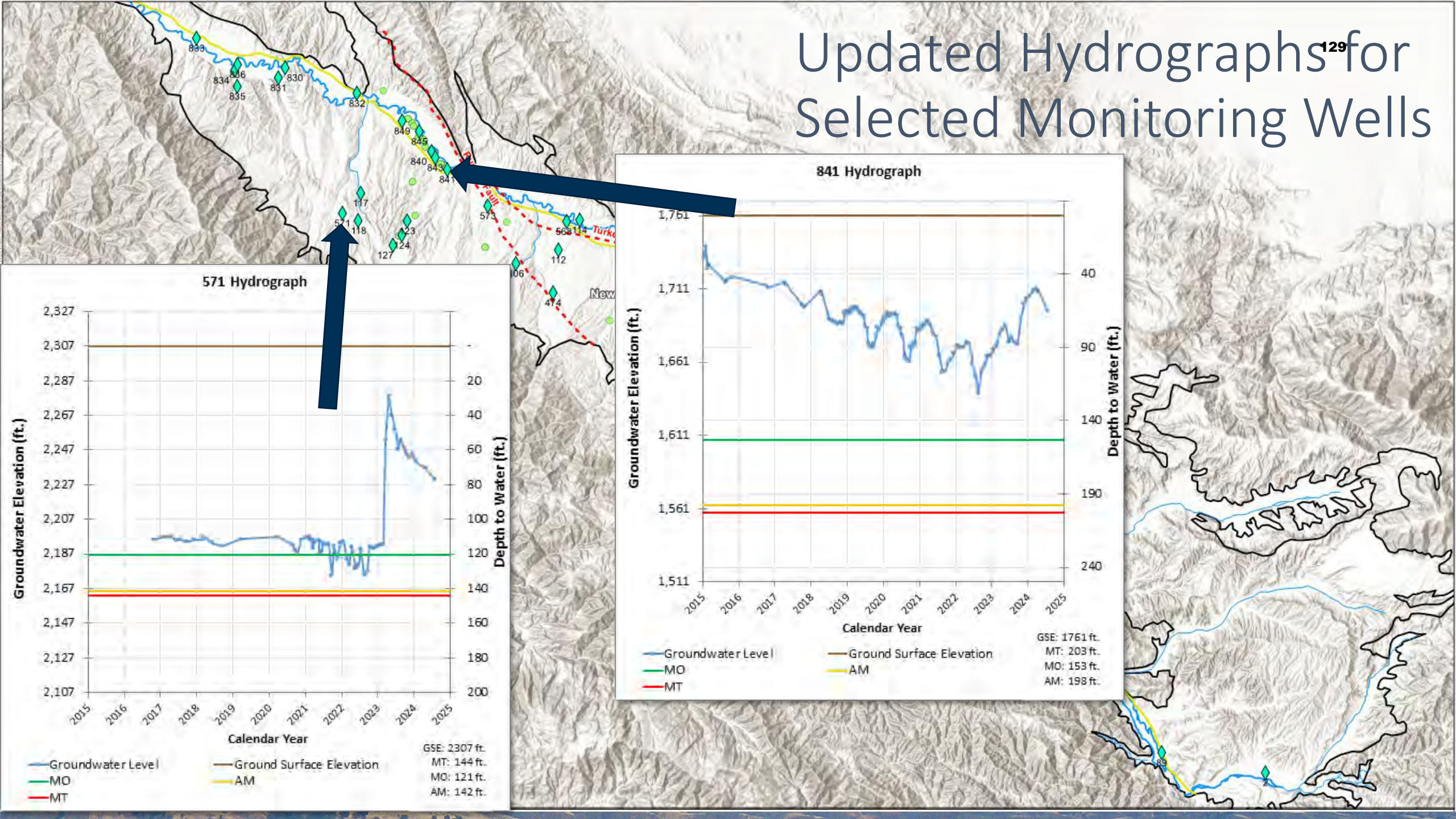


Updated Hydrographs for Selected Monitoring Wells





Updated Hydrographs for Selected Monitoring Wells



GROUNDWATER CONDITIONS REPORT – CUYAMA VALLEY GROUNDWATER BASIN

July 2024

Woodard & Curran

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Sacramento, CA
916.999.8700

woodardcurran.com

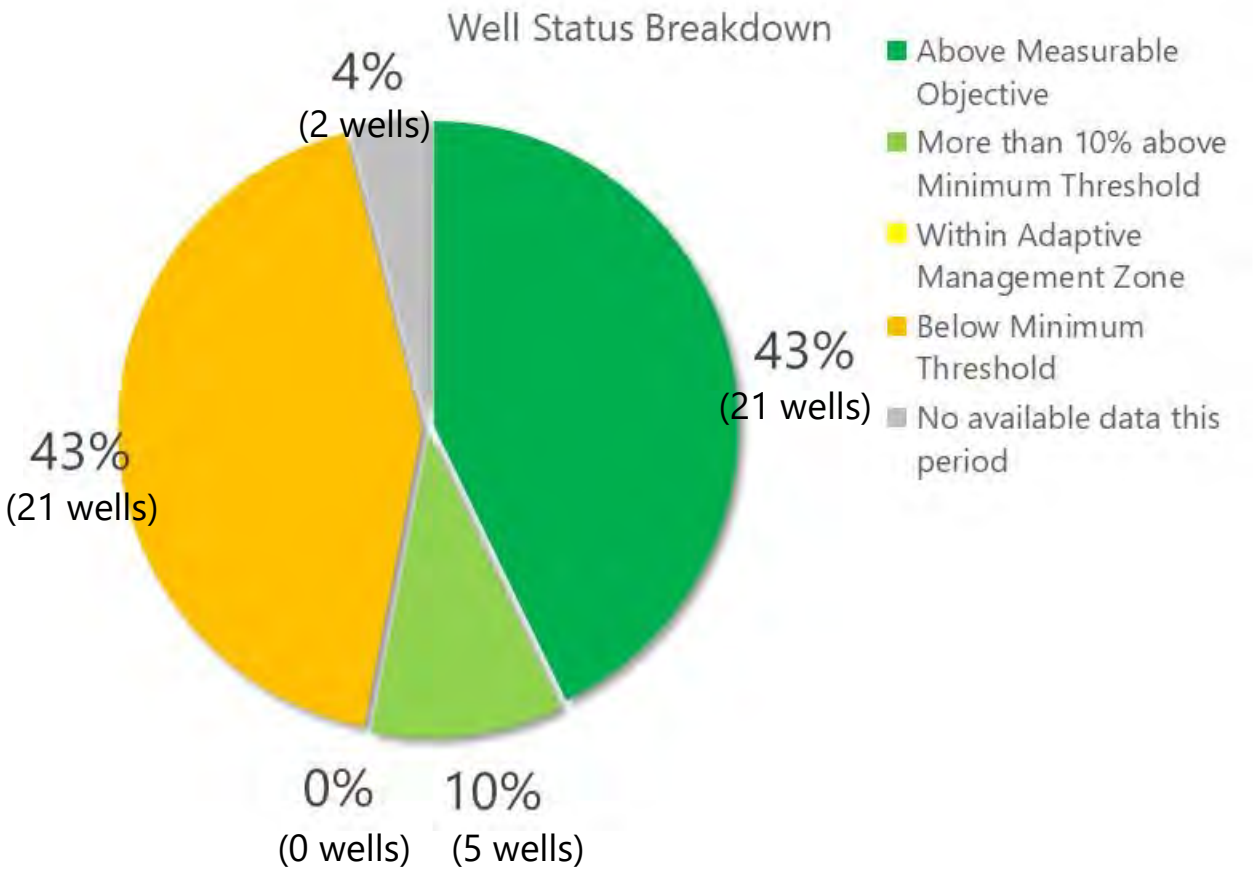
Cuyama Basin Groundwater Sustainability Agency

TABLE OF CONTENTS

1. INTRODUCTION

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

2. SUMMARY STATISTICS



There are currently 21 wells with groundwater levels exceeding minimum thresholds. As outlined in the GSP, undesirable results for the chronic lowering of groundwater levels occurs, "when 30 percent of representative monitoring wells… fall below their minimum groundwater elevation threshold for two consecutive years." (Cuyama GSP, pg. 3-2). Currently, 22% of representative monitoring wells (i.e. 11 wells) have exceeded the minimum threshold for 24 or more consecutive months.

3. CURRENT CONDITIONS

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

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

Table 1: Recent Groundwater Levels for Representative Monitoring Network

Well	Region	Jan-24	Apr-24	Jul-24	Last Year		Elevation Change
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	
72	Central	2027	2034	-	2016	Jul-23	-
74	Central	1940	1941	1947	1949	Jul-23	-1.8
77	Central	1804	1795	1754	1781	Jul-23	-27.7
91	Central	1811	1813	1804	1802	Jul-23	2.5
95	Central	1850	2389	1868	1837	Jul-23	31
96	Central	2273	2269	2266	2269	Jul-23	-3.3
98	Central	-	-	-	-	-	-
99	Central	2216	2218	2137	2181	Jul-23	-43.3
102	Central	-	-	-	1598	Jul-23	-
103	Central	2046	2050	2046	2035	Jul-23	11.3
112	Central	2041	2042	2042	2053	Jul-23	-10.8
114	Central	1879	1880	1881	-	-	-
316	Central	1810	1812	1804	1803	Jul-23	0.9
317	Central	1811	1814	1806	1805	Jul-23	0.7
322	Central	2216	2217	2134	2174	Jul-23	-40.2
324	Central	2215	2216	2168	2189	Jul-23	-21.7
325	Central	2215	2216	2194	2202	Jul-23	-8.1
420	Central	1803	1794	1750	1780	Jul-23	-29.9
421	Central	1802	1800	1778	1787	Jul-23	-9.6
474	Central	2228	2232	2234	2206	Jul-23	28.1

Well	Region	Jan-24	Apr-24	Jul-24	Last Year		Elevation Change
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	
568	Central	1874	1874	1873	1869	Jul-23	4.4
604	Central	1655	1655	1661	1669	Jul-23	-7.7
608	Central	-	1778	1740	1799	Jul-23	-59.3
609	Central	1721	1723	1691	1727	Jul-23	-35
610	Central	1808	1808	1797	1806	Jul-23	-9
612	Central	1797	1796	1780	1779	Jul-23	0.8
613	Central	1799	1797	1814	1780	Jul-23	34
615	Central	1808	1806	1794	1812	Jul-23	-17.7
629	Central	1817	1821	1791	1845	Jul-23	-53.9
633	Central	1796	1800	1794	1851	Jul-23	-56.6
62	Eastern	2793	2806	-	2783	Jul-23	-
85	Eastern	2883	2891	2902	2848	Jul-23	54
100	Eastern	2911	2939	2939	2911	Jul-23	28.8
101	Eastern	2653	2658	2654	2634	Jul-23	20.4
841	Northwestern	1706	1709	1695	1680	Jul-23	15.3
845	Northwestern	1641	1643	1632	1638	Jul-23	-5.6
2	Southeastern	3697	3706	3704	3702	Jul-23	2
89	Southeastern	3390	3413	3411	3440	Jul-23	-29.3
106	Western	2175	2175	2176	2184	Jul-23	-8.3
107	Western	2422	2419	2421	2414	Jul-23	7
117	Western	1947	1947	1945	1947	Jul-23	-2.2

Well	Region	Jan-24	Apr-24	Jul-24	Last Year		Elevation Change
		GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	GWL (ft. msl)	Month/ Year	
118	Western	2211	2213	2212	2216	Jul-23	-4
124	Western	-	-	-	-	-	-
571	Western	2240	2236	2230	2238	Jul-23	-8.6
573	Western	2010	2010	2012	2015	Jul-23	-3.3
830	Far-West Northwestern	1512	1511	1515	1523	Jul-23	-7.5
832	Far-West Northwestern	1604	1604	1606	1596	Jul-23	10.3
833	Far-West Northwestern	1433	1433	1435	1427	Jul-23	8
836	Far-West Northwestern	1479	1479	1478	1459	Jul-23	18.7
*Well 608 is now confirmed to be “destroyed” and is no longer available for monitoring. The landowner and monitoring staff have identified a well within 100 ft that is suitable to continue monitoring in this location, and the groundwater level monitoring network will be modified to remove well 608 and add in this new well. The new well is in the process of being incorporated into Opti and being assigned an ID number.							

Table 2: Well Status Related to Thresholds

Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
72	Central	-	-	169	165	124	790	No available data this period (More than 10% above Mininum Threshold in April 2024)	No
74	Central	240	7/31/2024	256	255	243		Above Measurable Objective	No
77	Central	531	8/1/2024	450	445	400	980	Below Minimum Threshold (47 months)	No
91	Central	677	8/2/2024	625	620	576	980	Below Minimum Threshold (47 months)	No
95	Central	588	8/2/2024	573	570	538	805	Below Minimum Threshold (1 month)	No
96	Central	340	8/1/2024	333	332	325	500	Below Minimum Threshold (4 months)	No
98	Central	-	-	450	449	439	750	No available data this period	No
99	Central	368	7/31/2024	311	310	300	750	Below Minimum Threshold (1 month)	No
102	Central	-	-	235	231	197		No data available this period (Below MT in Oct 2023, 45 months)	No
103	Central	237	8/1/2024	290	285	235	1030	More than 10% above Minimum Threshold	No
112	Central	84	8/2/2024	87	87	85	441	Above Measurable Objective	No
114	Central	44	8/2/2024	47	47	45	58	Above Measurable Objective	No
316	Central	677	8/2/2024	623	618	574	830	Below Minimum Threshold (47 months)	No

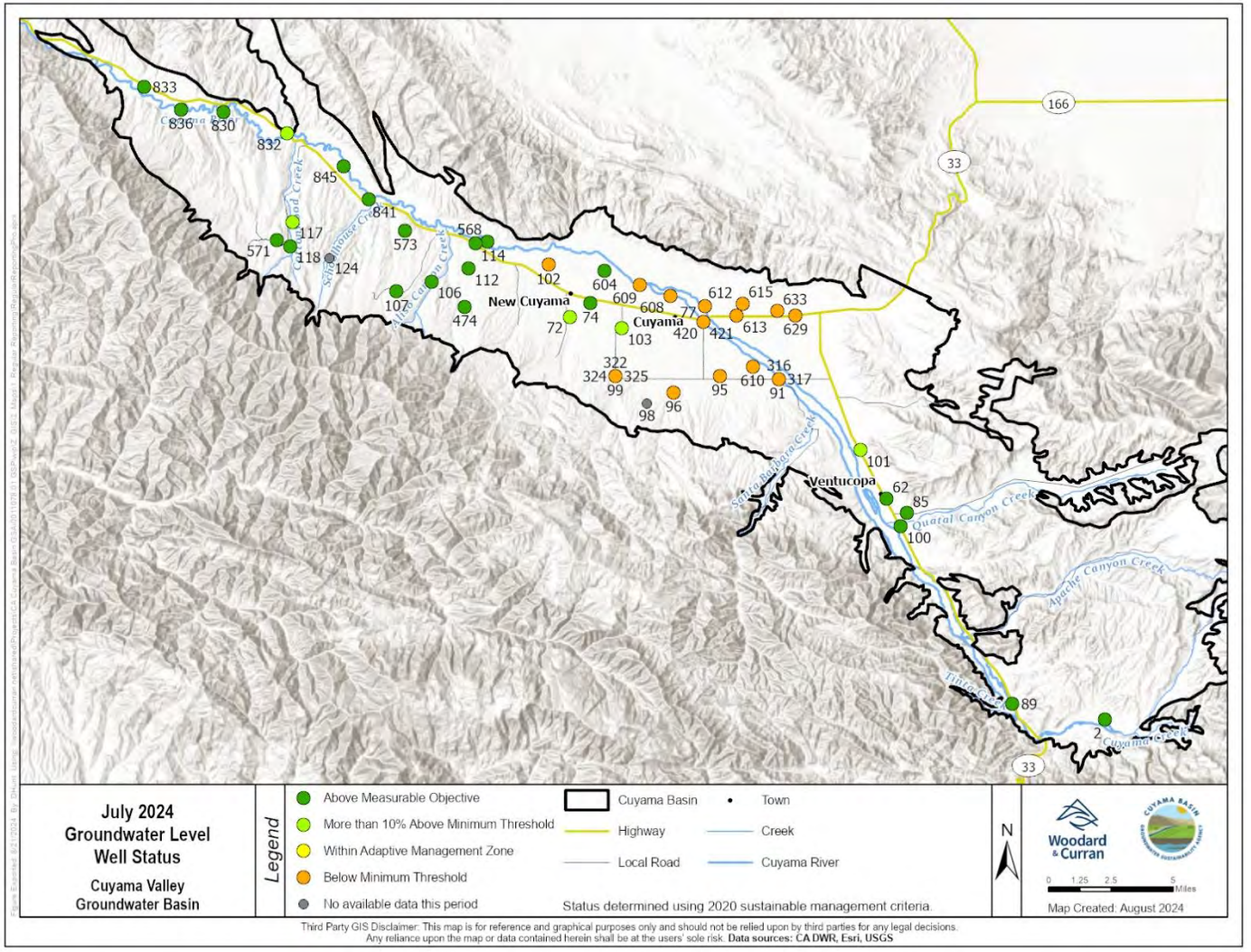
Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
317	Central	675	8/2/2024	623	618	573	700	Below Minimum Threshold (47 months)	No
322	Central	371	7/31/2024	307	306	298	850	Below Minimum Threshold (1 month)	No
324	Central	338	7/31/2024	311	310	299	560	Below Minimum Threshold (1 month)	No
325	Central	311	7/31/2024	300	299	292	380	Below Minimum Threshold (1 month)	No
420	Central	535	8/1/2024	450	445	400	780	Below Minimum Threshold (47 months)	No
421	Central	507	8/1/2024	446	441	398	620	Below Minimum Threshold (47 months)	No
474	Central	128	8/2/2024	188	186	169	213	Above Measurable Objective	No
568	Central	35	7/31/2024	37	37	36	188	Above Measurable Objective	No
604	Central	454	8/1/2024	526	522	487	924	Above Measurable Objective	No
608*	Central	470	8/1/2024	436	433	407	745	Below Minimum Threshold (1 month)	No
609	Central	466	8/1/2024	458	454	421	970	Below Minimum Threshold (1 month)	No
610	Central	641	8/1/2024	621	618	591	780	Below Minimum Threshold (40 months)	No
612	Central	489	8/1/2024	463	461	440	1070	Below Minimum Threshold (31 months)	No
613	Central	510	8/1/2024	503	500	475	830	Below Minimum Threshold (45 months)	No
615	Central	526	8/1/2024	500	497	468	865	Below Minimum Threshold (44 months)	No

Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
629	Central	587	8/1/2024	559	556	527	1000	Below Minimum Threshold (1 month)	No
633	Central	569	8/1/2024	547	542	493	1000	Below Minimum Threshold (10 months)	No
62	Eastern	-	-	182	178	142	212	No data available this period (Above MO in April 2024)	No
85	Eastern	146	8/1/2024	233	225	147	233	Above Measurable Objective	No
100	Eastern	67	8/1/2024	181	175	125	284	Above Measurable Objective	No
101	Eastern	92	8/1/2024	111	108	81	200	More than 10% above Minimum Threshold	No
841	Northwestern	64	7/20/2024	203	198	153	600	Above Measurable Objective	No
845	Northwestern	77	7/20/2024	203	198	153	380	Above Measurable Objective	No
2	Southeastern	16	7/31/2024	72	70	55	73	Above Measurable Objective	No
89	Southeastern	23	7/31/2024	64	62	44	125	Above Measurable Objective	No
106	Western	141	8/1/2024	154	153	141	228	Above Measurable Objective	No
107	Western	70	8/1/2024	91	89	72	200	Above Measurable Objective	No
117	Western	153	7/31/2024	160	159	151	212	More than 10% above Minimum Threshold	No
118	Western	50	7/31/2024	124	117	57	500	Above Measurable Objective	No
124	Western	-	-	73	71	57	161	No available data this period	No
571	Western	85	7/31/2024	144	142	121	280	Above Measurable Objective	No
573	Western	66	8/2/2024	118	113	68	404	Above Measurable Objective	No
830	Far-West Northwestern	45	7/31/2024	59	59	56	77	Above Measurable Objective	No

Well	Region	Current Month		Minimum Threshold	Within 10% Minimum Threshold	Measurable Objective	Well Depth	Status	GSA Action Required?
		GWL (DTW)	Date						
832	Far-West Northwestern	31	7/31/2024	45	44	30	132	More than 10% above Minimum Threshold	No
833	Far-West Northwestern	19	7/31/2024	96	89	24	504	Above Measurable Objective	No
836	Far-West Northwestern	29	7/31/2024	79	75	36	325	Above Measurable Objective	No
*Well 608 is now confirmed to be "destroyed" and is no longer available for monitoring. The landowner and monitoring staff have identified a well within 100 ft that is suitable to continue monitoring in this location, which is where the measurement shown was taken. The groundwater level representative network will be modified to remove well 608 and add in this new well. The new well is in the process of being incorporated into Opti and being assigned an ID number.									

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

Figure 1: Groundwater Level Representative Wells and Status in July 2024



4. HYDROGRAPHS

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

Figure 2: Southeast Region – Well 89

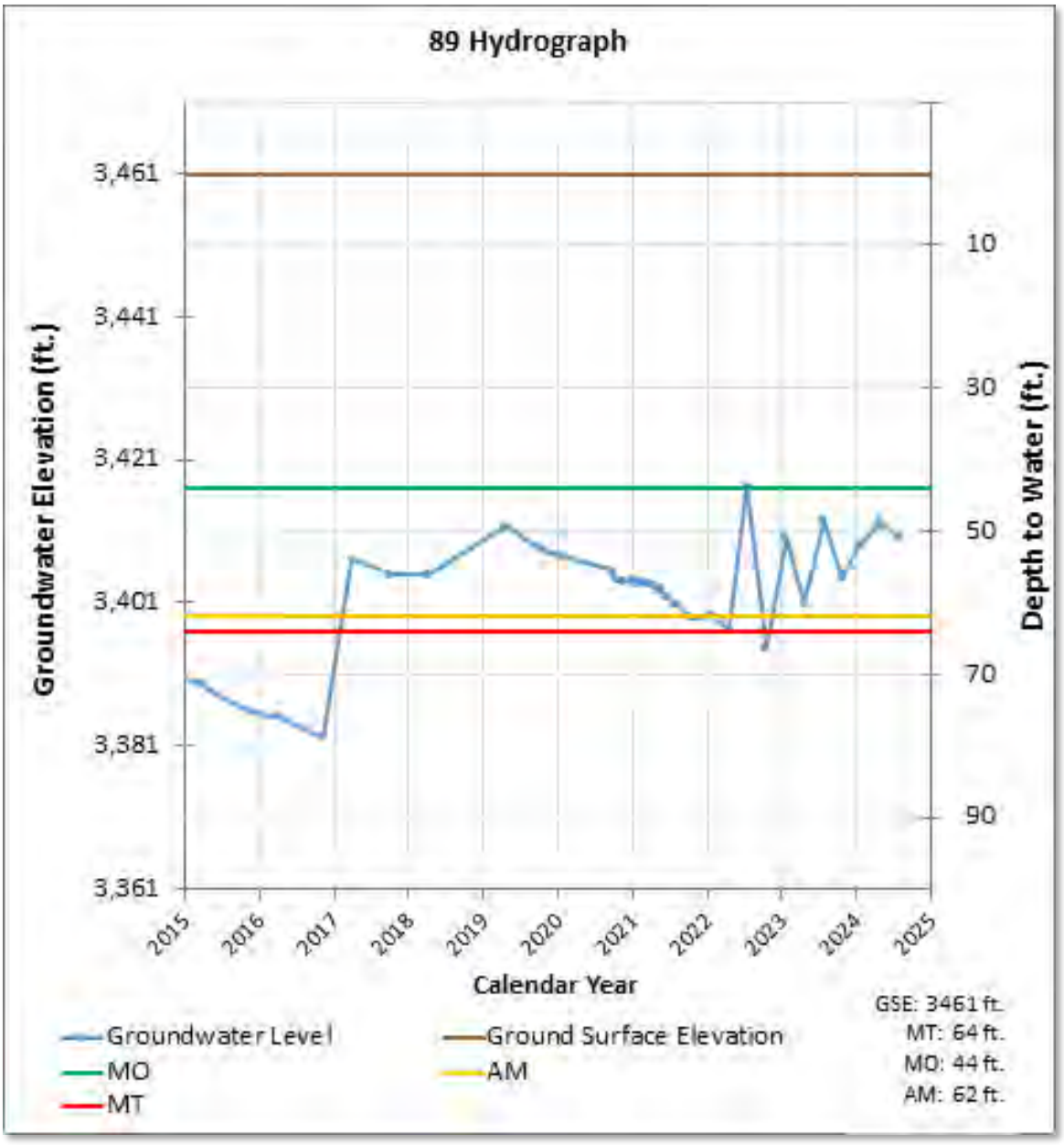


Figure 3: Eastern Region – Well 62

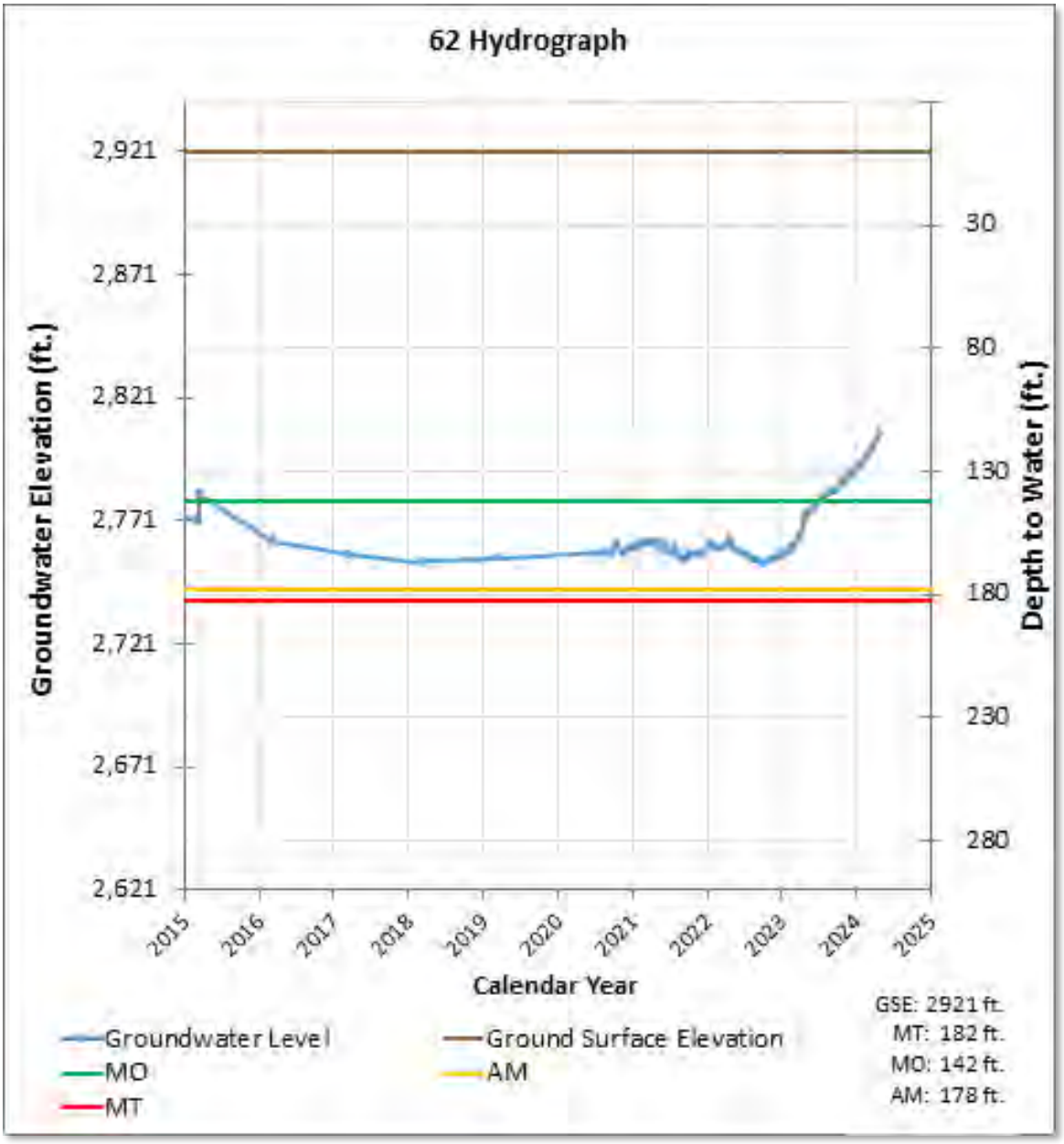


Figure 4: Central Region – Well 91

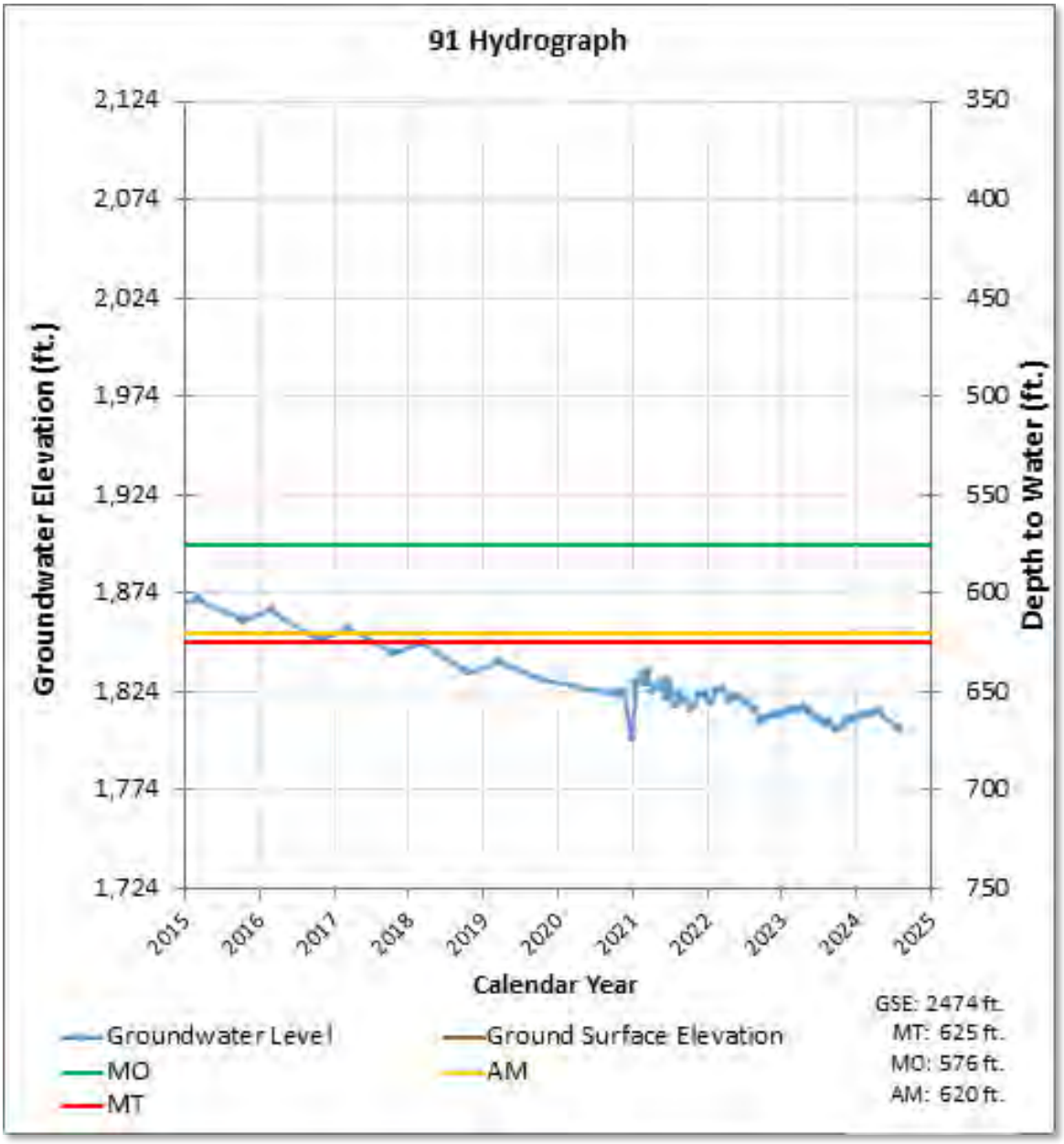


Figure 5: Central Region – Well 74

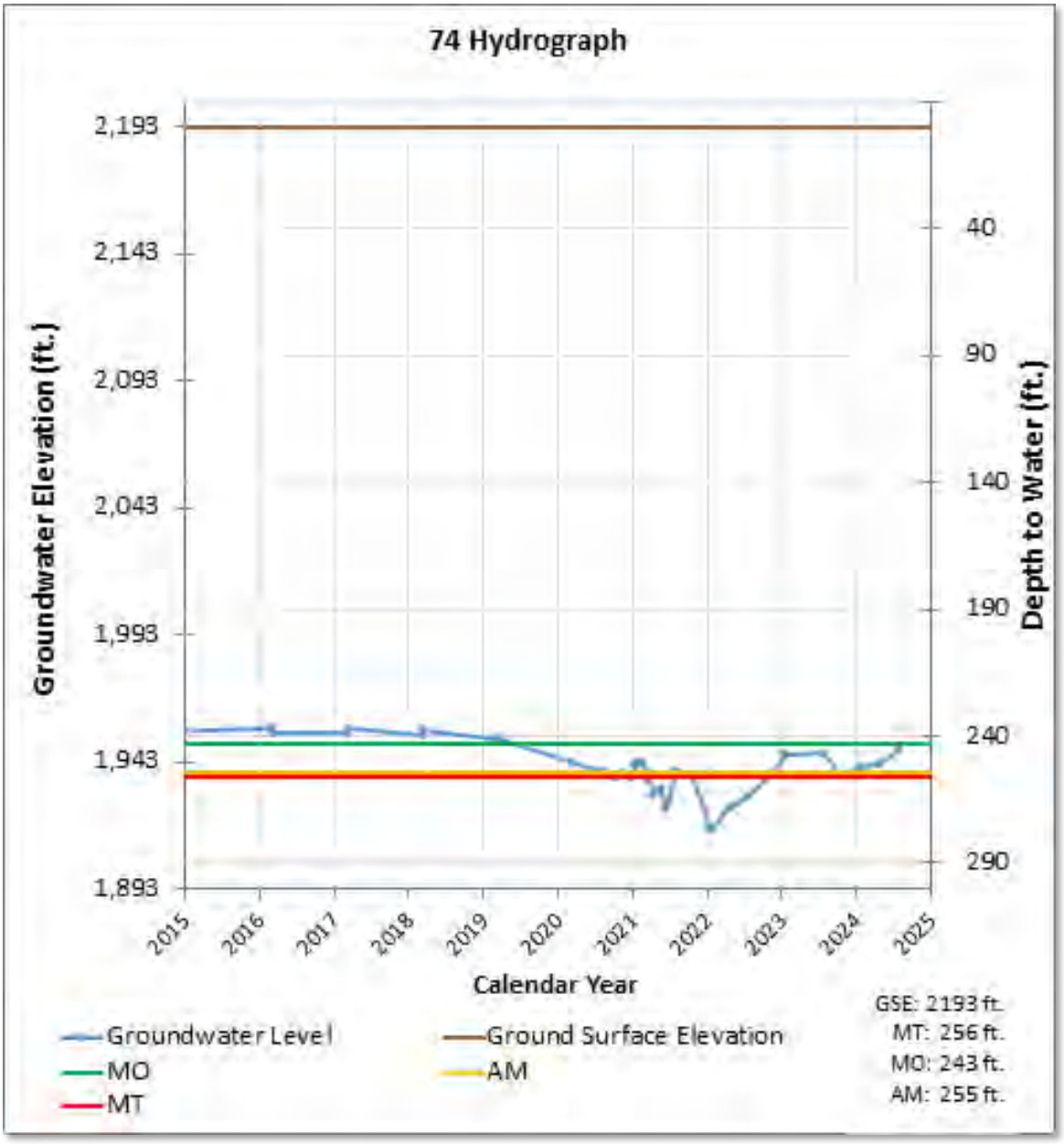


Figure 6: Western Region – Well 571

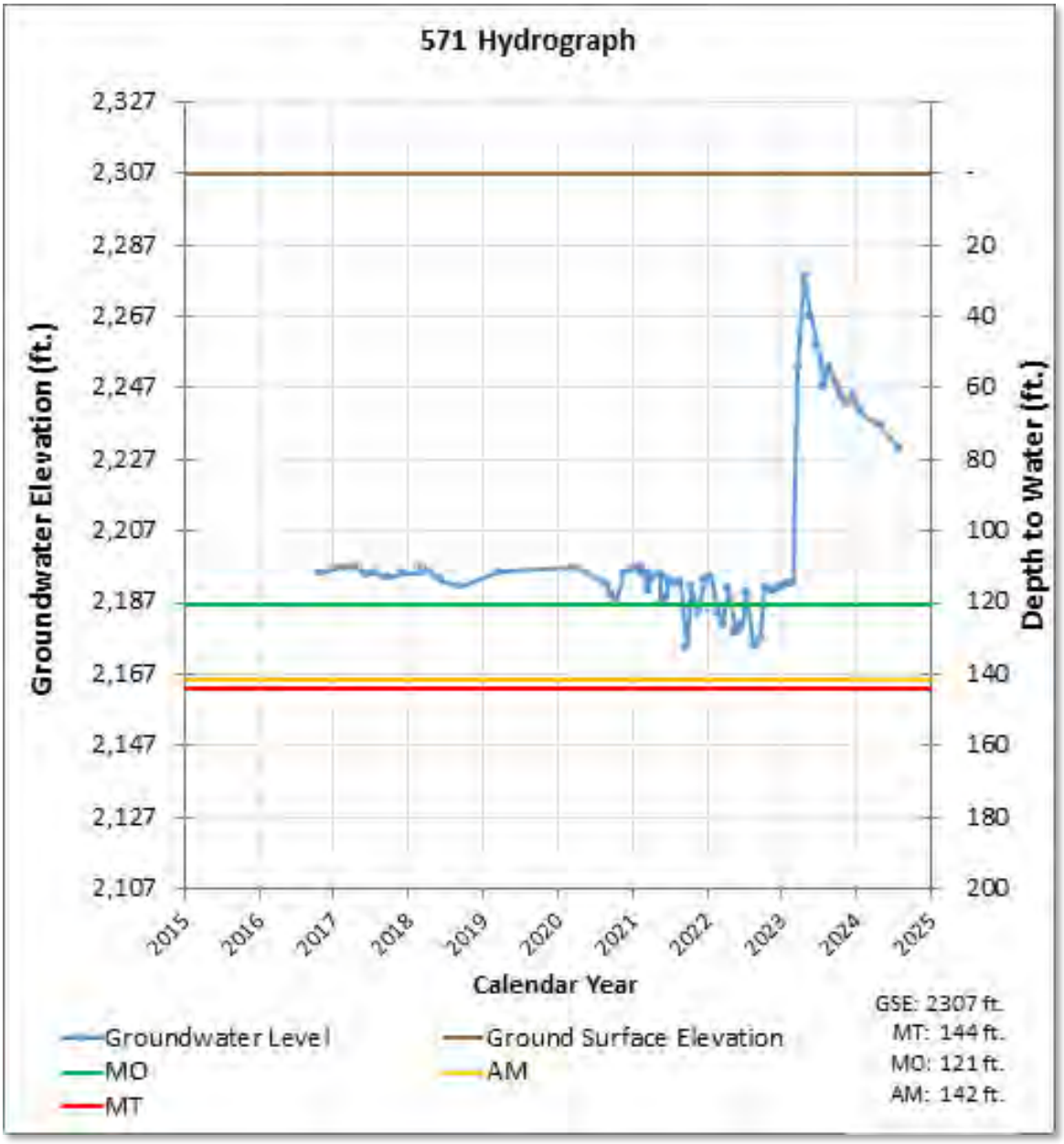
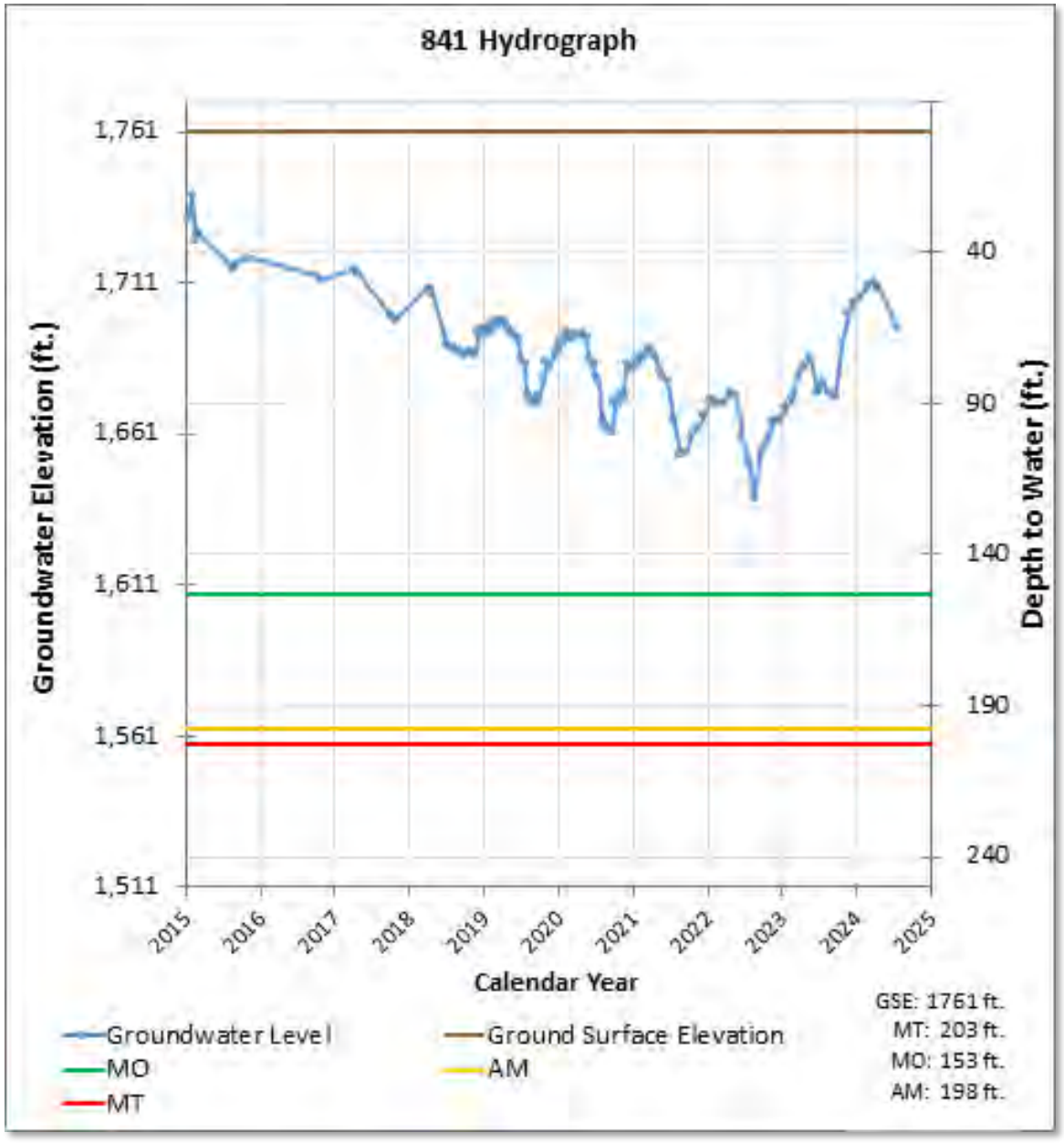


Figure 7: Northwestern Region – Well 841



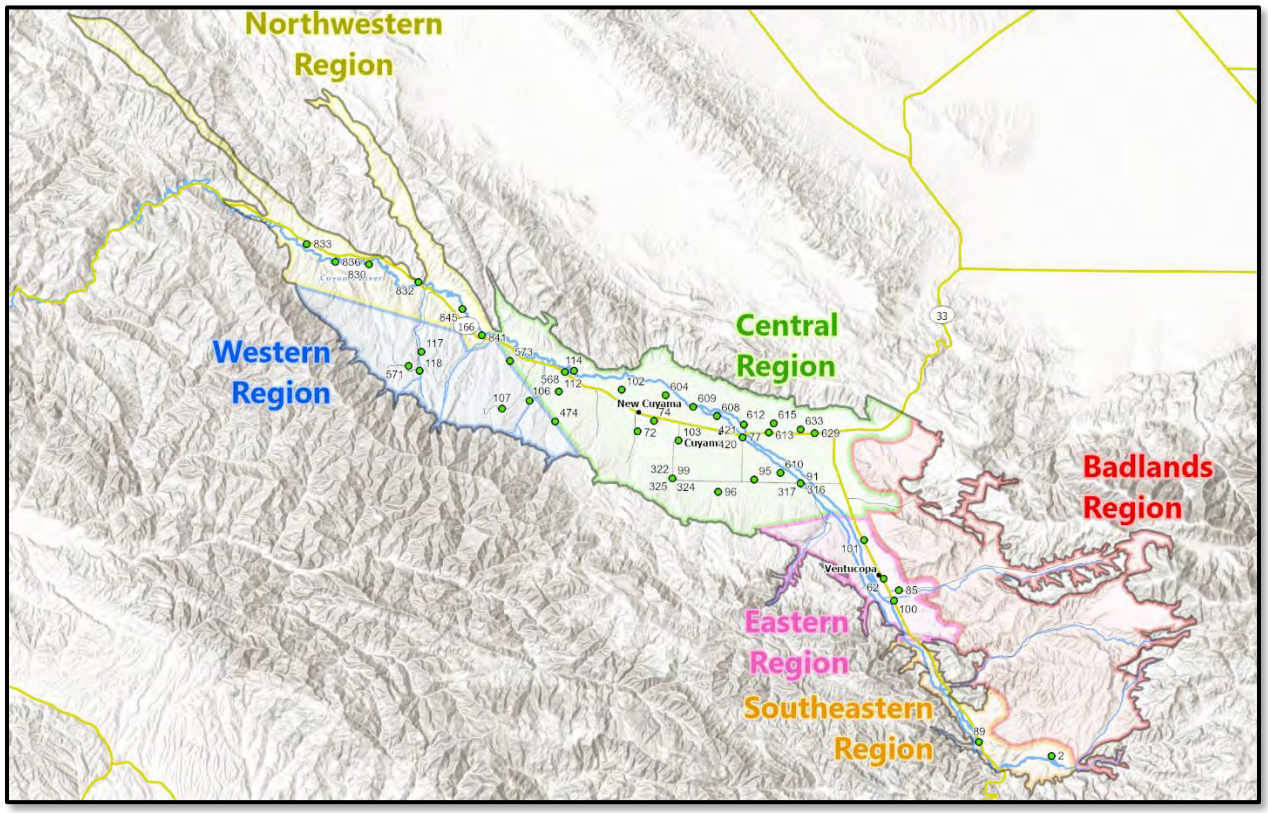


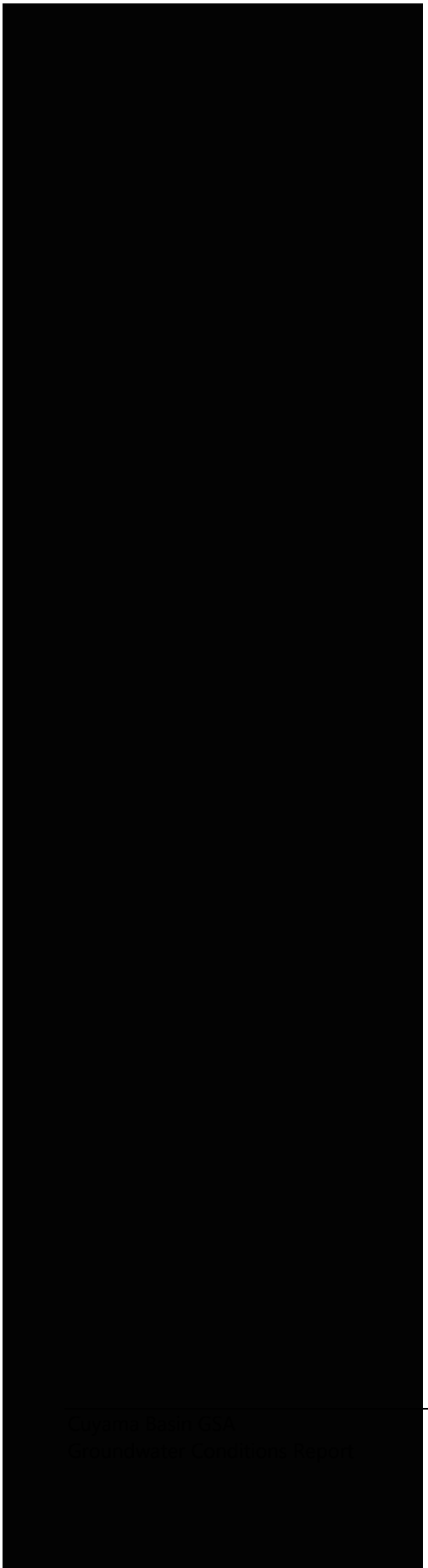
Figure 8: Threshold Regions in the Cuyama Groundwater Basin

5. MONITORING NETWORK UPDATES

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

- Access agreements have not been established with the landowner:
  - Wells 98, 124
- Data not yet available due to transducer malfunction:
  - Wells 62, 102
- Measurement was not possible at the time that the field technician went to take measurements:
  - Well 72

Additionally, well 608 is now confirmed to be "destroyed" and is no longer available for monitoring. The landowner and monitoring staff have identified a well within 100 ft that is suitable to continue monitoring in this location; the data from that new well is reported for well 608 in this version of the report. The groundwater level monitoring network will be modified to remove well 608 and add in this new well. The new well is in the process of being incorporated into Opti. The new well will use historical data from Well 608 as a proxy for future analysis conducted for GSP implementation.




Woodard
& Curran

TO: Standing Advisory Committee
Agenda Item No. 10c

FROM: Taylor Blakslee, Hallmark Group

DATE: August 29, 2024

SUBJECT: Board of Directors Agenda Review

Recommended Motion
None – informational only.

Discussion
The Cuyama Basin Groundwater Sustainability Agency Board of Directors agenda for the September 4th, 2024, Board of Directors meeting is provided as Attachment 1.

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
Zack Scrivner County of Kern
Das Williams Santa Barbara County Water Agency
Deborah Williams Cuyama Community Services District
Jane Wooster Cuyama Basin Water District

AGENDA

September 4, 2024

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Board of Directors to be held on Wednesday, September 4, 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			

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 Meeting Minutes (Bantilan) (1 min)
    a) May 1, 2024, Regular Board
    b) May 23, 2024, Special Board

c) July 31, 2024, Regular Board

7. Approve Payment of Bills for July and August 2024 (Blakslee) (1 min)

8. Approve Financial Reports for July and August 2024 (Blakslee) (1 min)

ACTION ITEMS

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

9. Groundwater Sustainability Plan Implementation

   a) Discuss and Take Appropriate Action on Data Management System Update Options (Van Lienden) (5 min)

10. Groundwater Sustainability Plan Amendment Components

    a) Update on GSP Component Schedule (Blakslee/Van Lienden) (5 min)

    b) Review of CMA Operational Boundary (Beck/Van Lienden) (30 min)

    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 (Beck) (15 min)

       ii. Discuss and Take Appropriate Action on Implementation of 2025-2030* Groundwater Allocations (Beck/Van Lienden) (30 min)

       iii. Discuss and Take Appropriate Action on Baseline Options (Beck/Van Lienden) (30 min)

    d) Review Public Comments on Amended GSP (excel matrix) (Beck/Van Lienden) (15 min)

    e) Discuss and Take Appropriate Action on Amended GSP (Beck/Van Lienden) (30 min)

REPORT ITEMS

13. Administrative Updates

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

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

14. Technical Updates

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

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

    c) Update on July 2024 Groundwater Conditions Report (Van Lienden) (5 min)

15. Report of Ad Hoc Committees (1 min)

16. Directors' Forum (1 min)

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

18. Correspondence (1 min)

CLOSED SESSION

19. 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)

20. Adjourn (x:xx p.m.)