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

April 25, 2024

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Standing Advisory Committee meeting to be held on Thursday, April 25, 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	11601 Bolthouse Drive, Suite 200 Bakersfield, CA 93311	1850 Miranda Canyon 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 February 29, 2024, Minutes (Kelly) (3 min)
7. Groundwater Sustainability Plan Implementation
   a) Discuss and Take Appropriate Action on Data Management System Update Options (Van Lienden) (10 min)
   b) Discuss and Take Appropriate Action on Website Update Options (Blakslee) (10 min) – *Verbal*
8. Groundwater Sustainability Plan Amendment Components
   a) Update on GSP Components Schedule (Beck/Van Lienden) (5 min)
   b) Authorize 90-Day Notice to Cities and Counties for an Amendment to the GSP and Set a Public Hearing on November 6,2024 (Beck/Dominguez) (5 min) – *Verbal*

c) Discuss and Take Appropriate Action on Project and Management Action Options (*Continued Discussion)* (Beck/ Van Lienden) (45 min)

d) Discuss and Take Appropriate Action on Basin-Wide Water Management (Beck/Van Lienden/Dominguez) (75 min)

e) Discuss and Take Appropriate Action on GSP Draft Chapters: [Final Discussion] (Van Lienden) (30 min)

   i. Chapter 3. Undesirable Results

   ii. Chapter 5. Sustainability Management Criteria

REPORT ITEMS

9. Technical Updates
   a. Update on Fault Investigation Study (Van Lienden) (30 min)
   b. Update on the Water Resources Model (Van Lienden) (15 min)
   c. Update on Groundwater Sustainability Plan Activities (Van Lienden) (5 min)
   d. Update on Grant-Funded Projects (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 (9:12 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**
Neil Currie	Cleath-Harris	Grapevine Capital
Matt Klinchuch	Cuyama Basin Water District	Cuyama Basin Water District
Jeff Shaw John Fio Karthik Ramesh	EKI	Cuyama Basin Water District
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 Standing Advisory Committee Special Meeting

February 29, 2024

Draft Meetings Minutes

PRESENT:
Kelly, Brenton – Chair
DeBranch, Brad – Vice Chair
Furstenfeld, Jake
Gaillard, Jean
Haslett, Joe
Jaffe, Roberta
Lewis, Dave

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

ABSENT:
Adams, Karen

1. **Call to Order**
   Cuyama Basin Groundwater Sustainability Agency (CBGSA) Standing Advisory Committee (SAC) Chair Kelly called the meeting to order at 5:01 p.m. and Assistant Executive Director Taylor Blakslee provided direction on the meeting protocols in facilitating a remote meeting.

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

3. **Pledge of Allegiance**
   Chair Kelly led the pledge of allegiance.

4. **Approval of Minutes**
   Chair Kelly opened the floor for comments on the January 4, 2024, CBGSA SAC meeting minutes.

   Committee Member Gaillard made a correction to the minutes on page 12, noting that in the poll for moving forward with the water market he was listed in support and opposition. He said he should have only been listed as opposed on this item.

   Chair Kelly made a correction to agenda item No. 5 (Election of Officers) noting that Committee Member Haslett voted “no” on this item.

   Committee Member Furstenfeld requested to correct a motion that listed him as both the first and second.

Stakeholder Lynn Carlisle asked if public comment could be moved earlier in the agenda due to how late the meetings typically go.

Legal Counsel Alex Dominguez suggested to first approve the agenda item at hand and then consider a motion to move public comment to earlier in the agenda.

MOTION
Committee Member Haslett made a motion to approve the January 4, 2024, CBGSA SAC meeting minutes with the noted corrections. The motion was seconded by Committee Member Furstenfeld, a roll call vote was made, and the motion passed.

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

MOTION
Committee Member Furstenfeld made a motion to move public comment to agenda item no. 5. The motion was seconded by Committee Member Caufield, a roll call vote was made, and the motion passed.

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

CBGSA Executive Director Jim Beck suggested asking for public comment again towards the end of the meeting in case anyone joined with the intention of sharing a public comment and the SAC agreed with this suggestion.

5. Public Comment
Nothing to report.

6. Groundwater Sustainability Plan Implementation

a. Discuss and Take Appropriate Action on Water Year 2023 Annual Report
Mr. Van Lienden provided an overview of the Water Year 2023 Annual Report which is included in the SAC Packet.

Committee Member Lewis asked if all maps could have roads added for reference and staff confirmed this would be done moving forward.

Committee Member Caufield asked that applicable figures in the annual report be annotated with the sustainable management criteria (SMC) version that is being employed and staff said this can be done.

Chair Brenton asked if the hydrographs in Appendix A of the Annual Report could also include a geographic reference to more easily understand where each of the referenced wells are located.

Committee Member Jaffe asked if the Annual Report describes what baseline corrections are due to. Mr. Van Lienden replied that it was a misinterpretation of land use data from last year and generally outlined the correction in the report.

Committee Member Jaffe commented it would be helpful to use symbols that are more visible in the annual report figures and wanted clarification on the reference to "above minimum threshold" on the TDS figure and whether that was a good or bad thing. She also commented on the lack of trends in the annual report and suggested the incorporation of trends could be a helpful addition.

Mr. Van Lienden clarified that any data above the minimum threshold was actually a bad thing, and a said this will be corrected in the annual report.

MOTION
Committee Member Furstenfeld made a motion to approve the Water Year 2023 Annual Report. The motion was seconded by Committee Member Lewis, a roll call vote was made, and the motion passed.

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

b. Discuss and Take Appropriate Action on 2023 Central Management Area Allocation Use

Mr. Blakslee provided an overview of the 2023 Central Management Area Allocation Use which is included in the SAC Packet.

Committee Member Caufield noted that the irrigation application rate seemed to low for the irrigated acreage.

MOTION
Committee Member DeBranch made a motion to approve the 2023 Central Management Area Allocation Use. The motion was seconded by Committee Member Gaillard, a roll call vote was made, and the motion passed.

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

c. Discuss and Take Appropriate Action on Land IQ Scope to Identify Unknown Pumpers and Improve the Groundwater Model

Mr. Blakslee provided an overview of the Land IQ Scope to Identify Unknown Pumpers and Improve the Groundwater Model which is included in the SAC Packet.

Committee Member Haslett commented that you should be able to determine irrigation status using Google Earth rather than having to pay a consultant to do this work.

CBGSA Executive Director Beck commented that this data could help refine existing data which could be beneficial for future use.

Committee Member Haslett commented that you could also determine irrigation status by driving around the basin which would take minimal time and avoid using grants funds that could be used elsewhere.

Mr. Eggleton replied that while Google Earth can be a helpful tool, it is unreliable for data mining since satellite images could be from different times of the year depending on weather conditions and other factors.

Committee Member Caufield asked how we are going to ensure we receive a new and different data set to examine irrigation status so we do not end up in the same place.

Committee Member Jaffe asked why land that has already been verified as fallowed or irrigated not been taken off the map. Mr. Blakslee replied that the displayed map has not been updated since last year and parcels that have been verified as fallowed or irrigation have already been noted by staff.

MOTION
Committee Member Furstenfeld made a motion to approve the Land IQ Scope. The motion was seconded by Committee Member DeBranch, a roll call vote was made, and the motion passed.

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

7. Groundwater Sustainability Plan Amendment Components

a. Update on GSP Components Schedule
CBGSA Executive Director Beck provided an update on Groundwater Sustainability Plan (GSP) components schedule which is included in the SAC Packet.

Chair Kelly asked if data from the model update would be available for the public workshops. Mr. Beck replied that the changes to the schedule were made to ensure the data would be available.

b. Discuss and Take Appropriate Action on Project and Management Action Options
Mr. Van Lienden provided an overview of the Project and Management Action options which are included in the SAC Packet.

Committee Member Jaffe commented that it is important to only consider projects that could have a meaningful impact to the basin and knowing whether projects are feasible. Mr. Beck replied that projects have not reached the no-go portion of the analysis and are being analyzed for all possible benefits to the basin.

Committee Member Gaillard commented that Twitchell Dam has all of the water rights when it comes to flood and stormwater capture. He said Cuyama was primarily used for cattle grazing when the reservoir was built and the Board needs to changes laws to benefit Cuyama and avoid possible litigation when trying to pursue these projects.

Committee Member Furstenfeld suggested adding prescribed burns as a potential project.

Stakeholder Lynn Carlisle asked what triggers these projects and management actions. Mr. Beck replied that the original projects were adopted as part of the GSP development process and are reviewed on an annual basis.

Committee Member Jaffe commented that adaptive management projects need a timeline and a decision-making process outlined in the GSP.

Stakeholder Adam Lovgren commented that a project to investigate how different farming operations impact groundwater management could be beneficial.

c. Discuss and Take Appropriate Action on Sustainable Yield Methodology

Mr. Beck provided an overview of the sustainable yield methodology which is included in the SAC Packet.

Committee Member Haslett commented that the Central Management Area (CMA) is the problem area and efforts should only focus there. He said other areas in the basin do not impact the CMA.

Committee Member Jaffe commented that the sustainable yield should be based by area or subregion, similar to a tiered approach.

Committee Member Furstenfeld commented that concentrating on where the problem is important but also making sure what the sustainable yield is on opposite sides of the basins is important even if there is not a problem presently.

Committee Member DeBranch was in favor of a basin-wide approach for determining the sustainable yield because it is one basin that is connected, not broken up by subbasins.

Stakeholder Adam Lovgren asked how the 20,000 acre-feet (AF) sustainable yield number was developed. Mr. Van Lienden replied that it was estimated by the model during the 2020 GSP development process. He said in 2022, the updated model estimated the sustainable yield to be about 21,000 AF. He said staff is currently working on another model update and calibration and will have an updated sustainable yield for the July 2024 board meeting.

d. Discuss and Take Appropriate Action on Basin-Wide Water Management and Allocation Program Components (*Continued Discussion*)

Mr. Beck provided an overview of the Basin-wide water management and allocation program components which is included in the SAC Packet.

Committee Member Haslett commented that the criteria for overdraft should be set at 1 foot per year which would be 50 feet of overdraft over 50 years.

Committee Member Caufield asked where the data for the map was coming from, was it Land IQ 2022 data or model data. Mr. Caufield added that some of the areas that are displayed in green on the map have water levels in that area that have not changed in years. Mr. Caufield continued to add that oversight and management approach at the basin level would be important but tailored to where the problems are.

Committee Member DeBranch commented that he does not know if he would agree to a tiered

approach but would like to see allocations spread further than the current CMA.

Chair Kelly said decisions are being made based on the model data and asked how the data is gathered. Mr. Van Lienden replied that the map Mr. Kelly is referring to is not of overdraft but of model groundwater level change. Mr. Van Lienden added that the model is using data that has been input and is trying to simulate what is happening within the basin even where sufficient monitoring data may not be available.

Chair Kelly said he would like to see a focus on basin-wide irrigated lands. Mr. Kelly added creating a management area outside of the current CMA with just irrigated lands would be beneficial.

Committee Member Gaillard commented that the entire basin is impacted by the CMA and a second management area is not needed in order to manage the area.

Below is a summary of SAC feedback on the presented options:

- Brenton Kelly: Prefers option 3, but green zones of just irrigated land.
- Robbie Jaffe: Prefers option 2b focused on irrigated acres but consider separating by subregions, she clarified a preference for a sustainable yield for different areas with a focus on irrigated lands and subregions.
- Brad DeBranch: Let data define these decisions and all irrigated acreage should be considered (option 2b).
- Joe Haslett: Prefers option 1 (current CMA).
- Jean Gaillard: Prefers option 2b, over irrigated areas.
- David Lewis: Prefers option 2b but advocated for tiered usage.
- Jake Furstenfeld: Prefers option 1.
- John Caufield: Stated a priority for option 1b, with a secondary level of concern for option 3b. He noted focus should remain on critical overdraft areas, but not to lose sight of areas that could end up in overdraft.

Mr. Beck provided an overview of the Latecomers Pool which is included in the SAC Packet.

Committee Members Jaffe, Furstenfeld, Gaillard, Haslett, DeBranch and Kelly said they do not see the need for additional latecomers pool analysis.

Committee Member Caufield said he does not oppose a latecomers pool but if allocated it would need to be considered in the following allocation year. He added that he does not support a standing pool.

Mr. Beck provided an overview of the carryover option which is included in the SAC Packet. Legal Counsel Alex Dominguez provided an overview of carryover key takeaways.

Committee Member Caufield commented that groundwater sustainability agencies (GSAs) that consider carryover are able to bring in surface water while the Cuyama Basin is not.

Committee Member Jaffe said carry over should not be considered until the basin is at a point where it is sustainable.

Committee Member DeBranch commented that carryover is used all over the State and can be a benefit for growers if and when it is considered.

e. Direction on Remaining Public Workshops
Mr. Blakslee provided an overview of the remaining public workshops which is included in the SAC Packet.

The SAC agreed with the workshop date change and proposed topics.

Stakeholder Lynn Carlise commented that workshops need to provide more background information on topics and said the Rec Hall that was used for the last workshop made it hard to hear and proposed using the school. Ms. Carlise added that Spanish interpretation was not implemented well and should be improved and suggested providing child care during workshops.

Committee Member Haslett suggested developing a frequently asked questions handout to improve stakeholder education of the basin and issues.

8. Technical Updates

a. Update on Groundwater Sustainability Plan Activities
Mr. Van Lienden provided an overview of the Groundwater Sustainability Plan Activities which is included in the SAC Packet.

b. Update on Grant-Funded Projects
Mr. Van Lienden provided an overview of Grant-Funded Projects which is included in the SAC Packet.

c. Update on January 2024 Groundwater Levels Conditions Report
Mr. Van Lienden provided an overview of the January 2024 Groundwater Levels Conditions Report which is included in the SAC Packet.

9. Administrative Updates

a. Report of the Executive Director

Mr. Blakslee reported the California Department of Water Resources point of contact is changing. Mr. Blakslee added he will continue to update the committee as information becomes available.

b. Report of the General Counsel
Nothing to report.

Committee Member Jaffe asked for a status update of phase 1 adjudication.

Legal Counsel Alex Dominquez replied that the court issued its decision last week and updates will be added to the CBGSA website. He said at a very high level, the court agreed with the DWR bulletin-118 boundaries.

c. Board of Directors Agenda Review
Mr. Blakslee provided an overview of the Board of Directors Agenda which is included in the SAC Packet.

10. Items for Upcoming Sessions
Nothing to report.

11. Committee Forum
Nothing to report.

12. Public Comment
Chair Kelly shared details regarding a laundry-to-landscape greywater workshop that is coming up.

13. Correspondence
Nothing to report.

14. Adjourn
Chair Kelly adjourned the meeting at 9:38 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: April 25, 2024

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

Recommended Motion
SAC feedback requested.

Discussion
A presentation on Data Management System (DMS) option enhancements is provided as Attachment 1.

Attachment 1

Cuyama Basin Groundwater Sustainability Agency

7a. Discuss and Take Appropriate Action on Data Management System Update Options

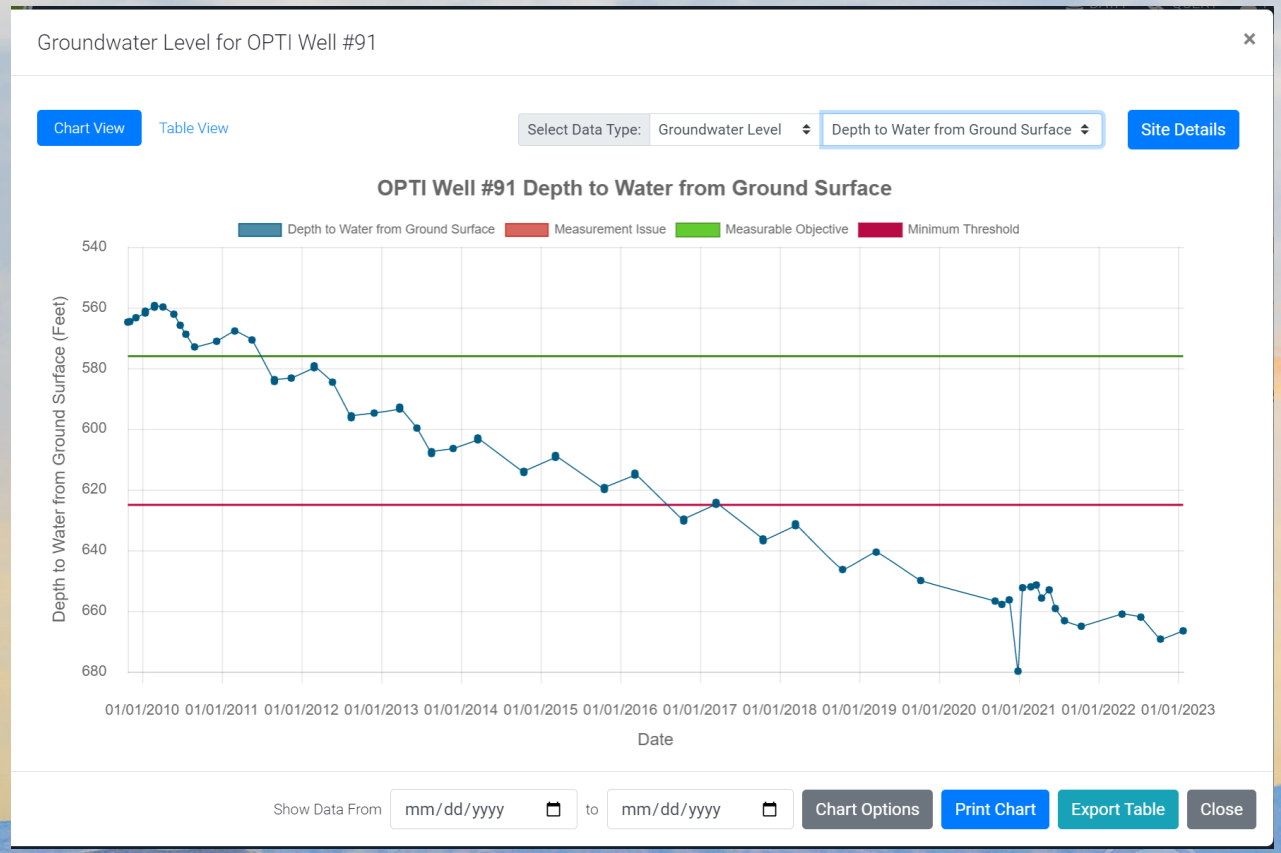
Brian Van Lienden

April 25, 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
  - Improve well mapping, sorting and querying
- Other update options:
  - Pumping portal to track allocations
  - Update DMS landing page
  - Well registration module



Tech Forum Feedback: 2-9-24

Comment by	Jeff Shaw, EKI (Cuyama Basin Water District)	Matt Young (Santa Barbara County Water Agency)
Comment	1. Consider developing unique DMS login for tech forum members to download data 2. Improve searchability of data (e.g. farming unit/operator/parcel owner) 3. Pumping data tracking could be useful; however, concerns with data privacy	1. Generally supportive of including allocation tracking
Staff Notes	NA	NA

TO: Standing Advisory Committee
Agenda Item No. 8a

FROM: Taylor Blakslee / Brian Van Lienden

DATE: April 25, 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.

Cuyama Basin Groundwater Sustainability Agency

8a. Update on GSP Components Schedule

Blakslee / Van Lienden

April 25, 2024

HALLMARK GROUP Woodard & Curran

GSP Update and Board Policy Discussions Schedule

Previous 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 --- 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	
GSP Chapter Review:				**Ch 1.** Agency Info/Plan Area **Ch 4.** Monitoring Network		**Ch 2.** Basin Setting **Ch 3.** URs **Ch 5.** SMCs	**Ch 6.** DMS **Ch 7.** PMAs	**Ch 8.** Plan Implementation Executive Summary		
Public Workshop		✓			✓			✓		

GSP Update and Board Policy Discussions Schedule

Updated/New Schedule

✸ *Changes from original 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. 8c

FROM: Jim Beck / Brian Van Lienden

DATE: April 25, 2024

SUBJECT: Discuss and Take Appropriate Action on Project and Management Action Options

Recommended Motion
Standing Advisory Committee feedback requested.

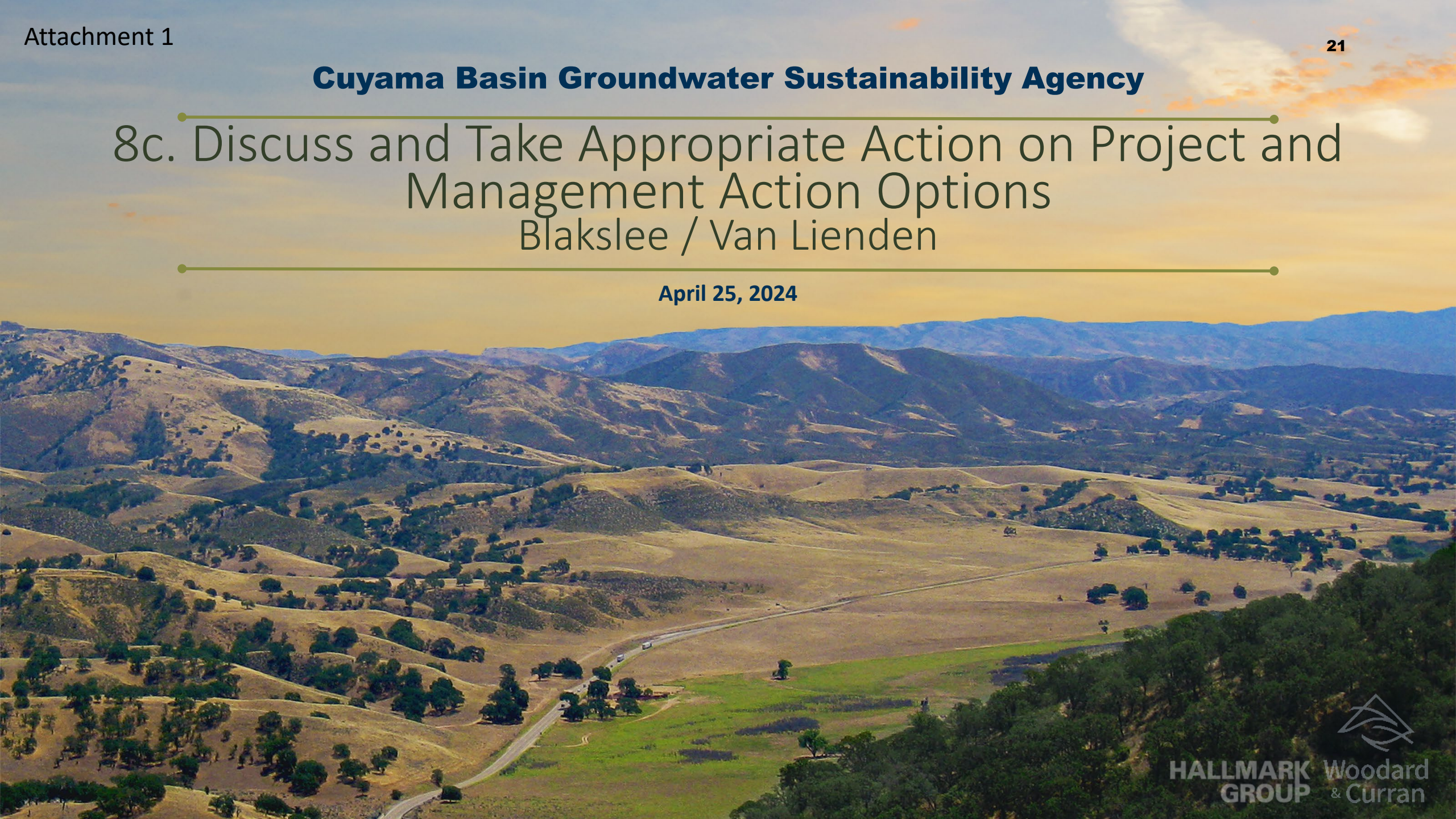
Discussion
On March 6, 2024, Cuyama Basin Groundwater Sustainability Agency (CBGSA) staff presented draft projects and management action options to the Standing Advisory Committee (SAC) and Board. The Board directed staff to consider potentially including two new projects and additional staff analysis on those two projects is provided as Attachment 1.

Cuyama Basin Groundwater Sustainability Agency

8c. Discuss and Take Appropriate Action on Project and Management Action Options

Blakslee / Van Lienden

April 25, 2024



Projects and Management Action Options

- Projects and Management Actions Included in the GSP
  - Flood and Stormwater Capture
  - Water Supply Transfers/Exchanges
  - Precipitation Enhancement
  - Improve Reliability of Water Supplies for Local Communities
  - Basin-Wide Economic Analysis - completed
  - Pumping Allocations in Central Management Area
  - Adaptive Management
- **New Projects for Consideration**
  - **Flow Meter Recalibration Program**
  - **Rangeland and Forest Management**
- The Board will need to decide which projects to include in the 2025 GSP Update

Flow Meter Recalibration Program

- The flow meter recalibration program would require all flow meters to be tested for accuracy once every three years to demonstrate accuracy within +/- 5%
  - Testing would be performed by a qualified flow meter testing company or other person approved by the GSA
  - Approved testing methods would also be approved by the GSA
  - Consider exceptions for low capacity/usage wells
- A similar program has been implemented by Fox Canyon GSA
- This program could be implemented as a policy by the GSA, without being identified as a specific project in the GSP

Rangeland and Forest Management

- Description: Removal of native vegetation in forest or rangeland areas through controlled burning could reduce water consumption through decreased evapotranspiration
- Potential Benefit: Reduction in ET consumption from native vegetation
- Potential Implementation Issues: potential adverse effects on wildlife habitat; air quality concerns from smoke and dust; potential increase in flood flows due to reduced water interception
- Estimated Cost: $500-600/acre-foot
- Project was considered for 2020 GSP but was not included
- Staff Recommendation: Do not include in GSP Update portfolio of projects due to uncertain benefits and potential wildlife and air quality impacts

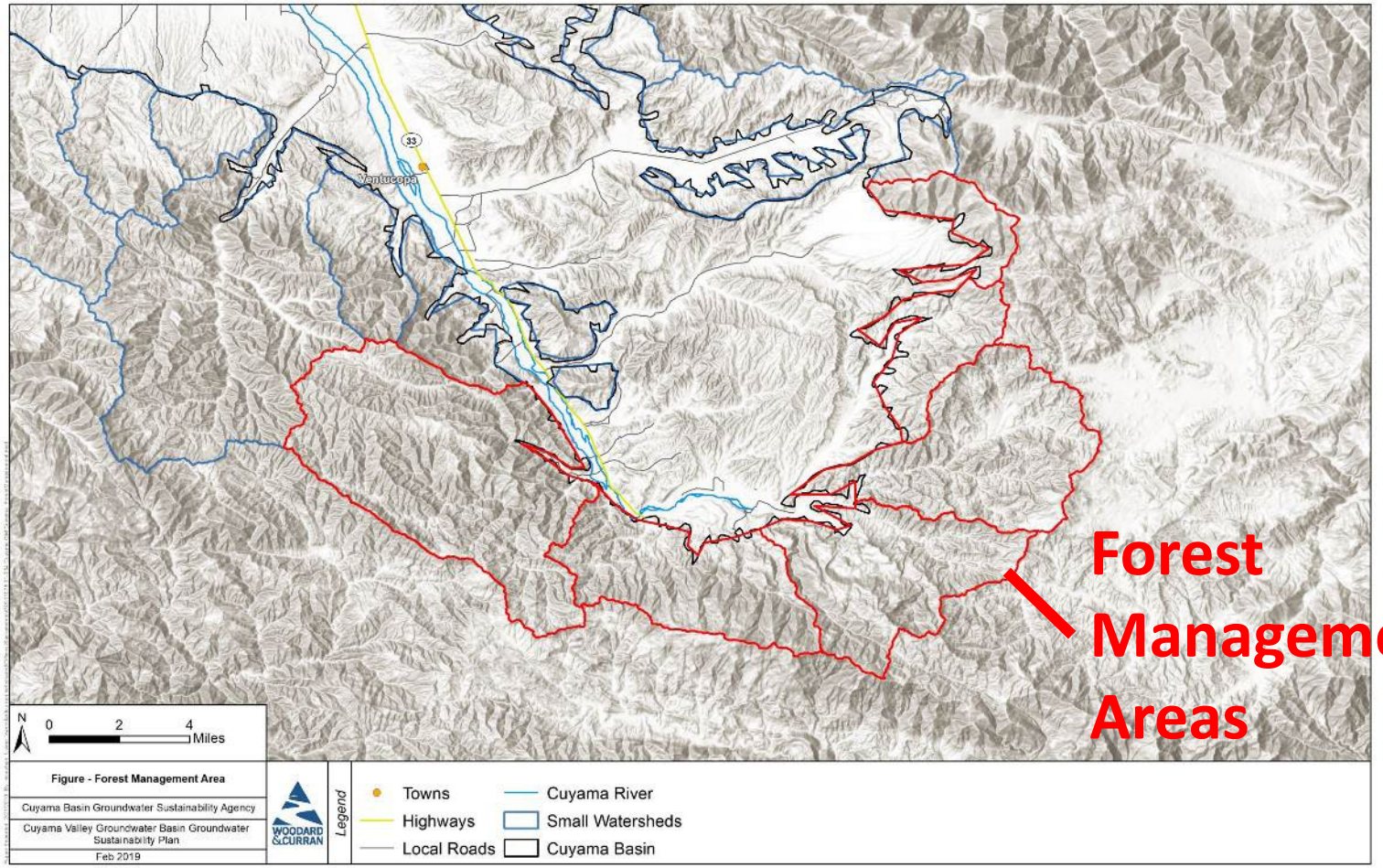
Forest/Rangeland Management Modeling Analysis Performed in 2019

DRAFT

Assumptions:

- 4% decrease in native vegetation ET at the eastern small watersheds.

Cost: $500-600/AF

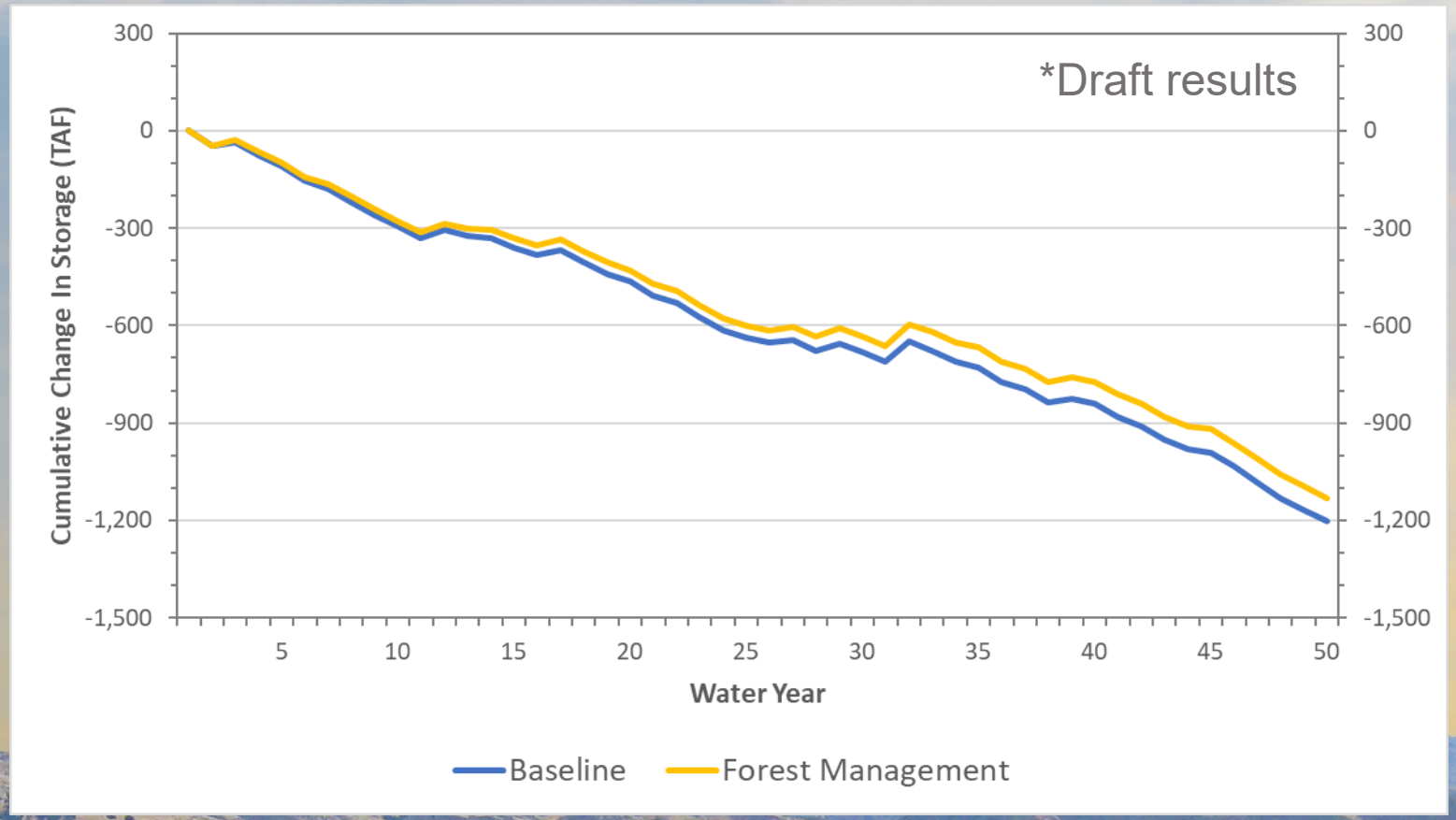


Sources:

- USBR, *Truckee Basin Study*, Dec 2015
- Bales et al., *Forests and Water in the Sierra Nevada*, Nov 2011

Forest/Rangeland Management Basin-Wide Cumulative Storage Change (2019 Analysis)

DRAFT



Average Annual (50 years)

Inflows:

- Boundary Flow +2,300 AF
- Stream Seepage -800 AF
- **Change in Sto. +1,500 AF**

Change in Cuyama River Outflow +1,400 AF

Total Potential Benefit: 2,900 AF

HALLMARK GROUP Woodard & Curran

Tech Forum Feedback: 2-9-24

Comment by	Jeff Shaw, EKI (Cuyama Basin Water District)	Matt Young (Santa Barbara County Water Agency)
Comment	1. *Flow meter*: Recommend keeping as a project for grant funding opportunities 2. *Rangeland*: Concerns with permitting feasibility	1. *Rangeland*: Concerns with permitting feasibility
Staff Notes	NA	NA

TO: Standing Advisory Committee
Agenda Item No. 8d

FROM: Taylor Blakslee / Brian Van Lienden

DATE: April 25, 2024

SUBJECT: Discussion and Take Appropriate Action on Basin-Wide Water Management

Recommended Motion
Standing Advisory Committee feedback requested.

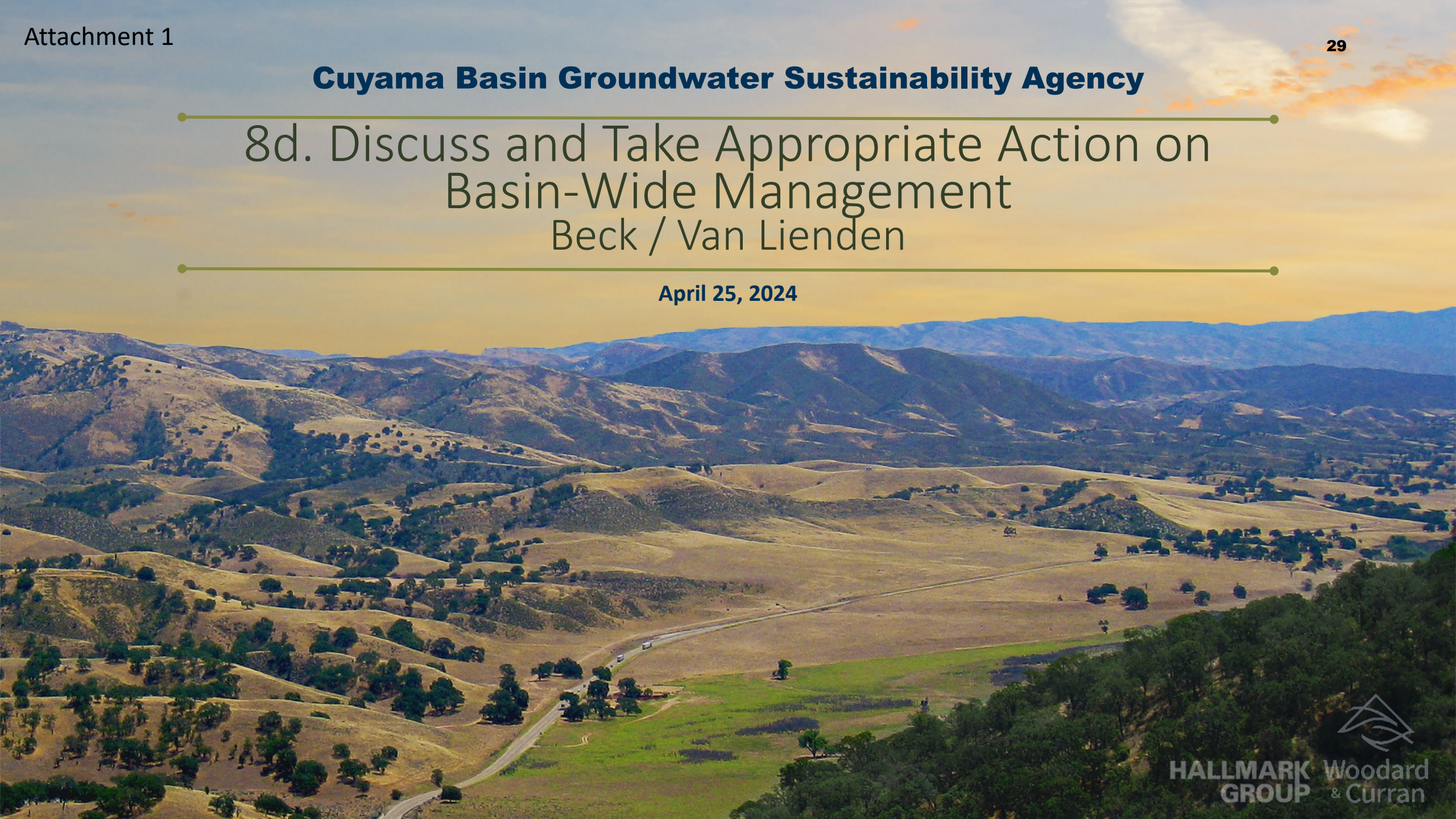
Discussion
Options for basin-wide water management are provided as Attachment 1. Final direction on this topic is expected to occur in July 2024.

Cuyama Basin Groundwater Sustainability Agency

8d. Discuss and Take Appropriate Action on Basin-Wide Management

Beck / Van Lienden

April 25, 2024



HALLMARK GROUP Woodard & Curran

March 2024 Board Motion and Discussion of Potential Options

- March 2024 Board motion:
  - Continue with cutback in the CMA while we create water budgets based on physical features and modeling data for the entire basin with the view to balance water in the entire basin and treat grazers different than irrigators.
- Updated model would be used to develop water budgets for different regions
- The following maps represent GSA staff's recommendation of potential regions to develop water budgets for once the modeling is completed in late June 2024
- **Does the SAC agree with establishing these four (4) areas as management areas?**

March 2024 Board Motion and Discussion of Potential Options

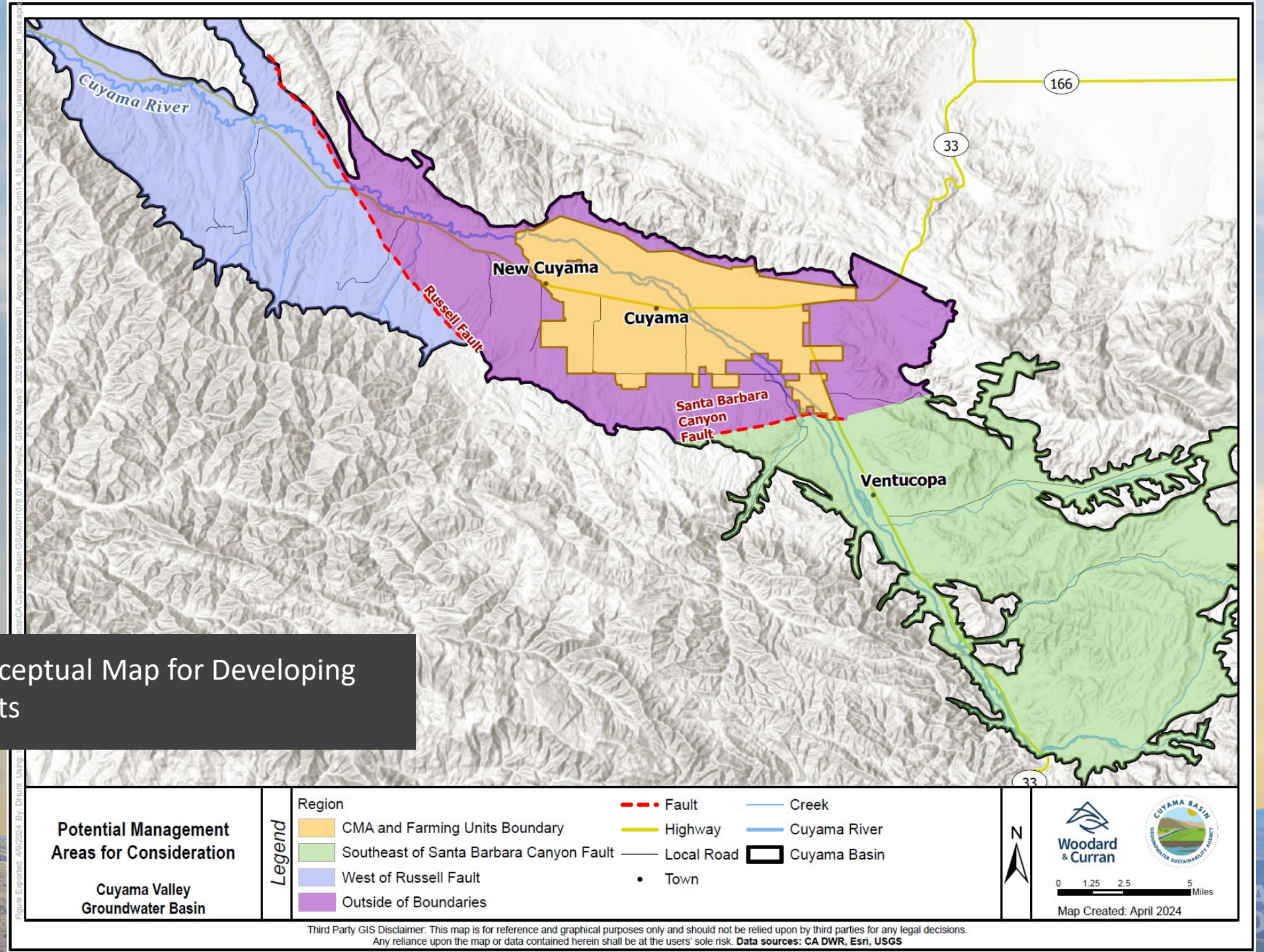
- **Board direction needed in July 2024** on water management policy issues to implement in 2025 and include in 2025 GSP amendment:
  - CMA + Farming Units
    - Hydrologic boundary to be updated by modeling
    - Decisions:
      - Use operational boundary?
      - Change criteria for CMA boundary?
      - Continue with Farming Units?
      - Use same methodology to determine pumping allocations with updated model data?
      - Include carryover?
  - For areas "in-balance"
    - Decisions:
      - No pumping restrictions? Monitor every year? Every 5 years?
      - Should GSA monitor new water usage, and implement pumping allocations if the water budget for the region is exceeded? How to handle annual variations in water use?
  - For areas "overdraft" but outside the CMA + Farming Units
    - Decisions:
      - Implement pumping allocations?
      - Use same methodology as CMA?

Tech Forum Feedback: 2-9-24

Question posed to Tech Forum:

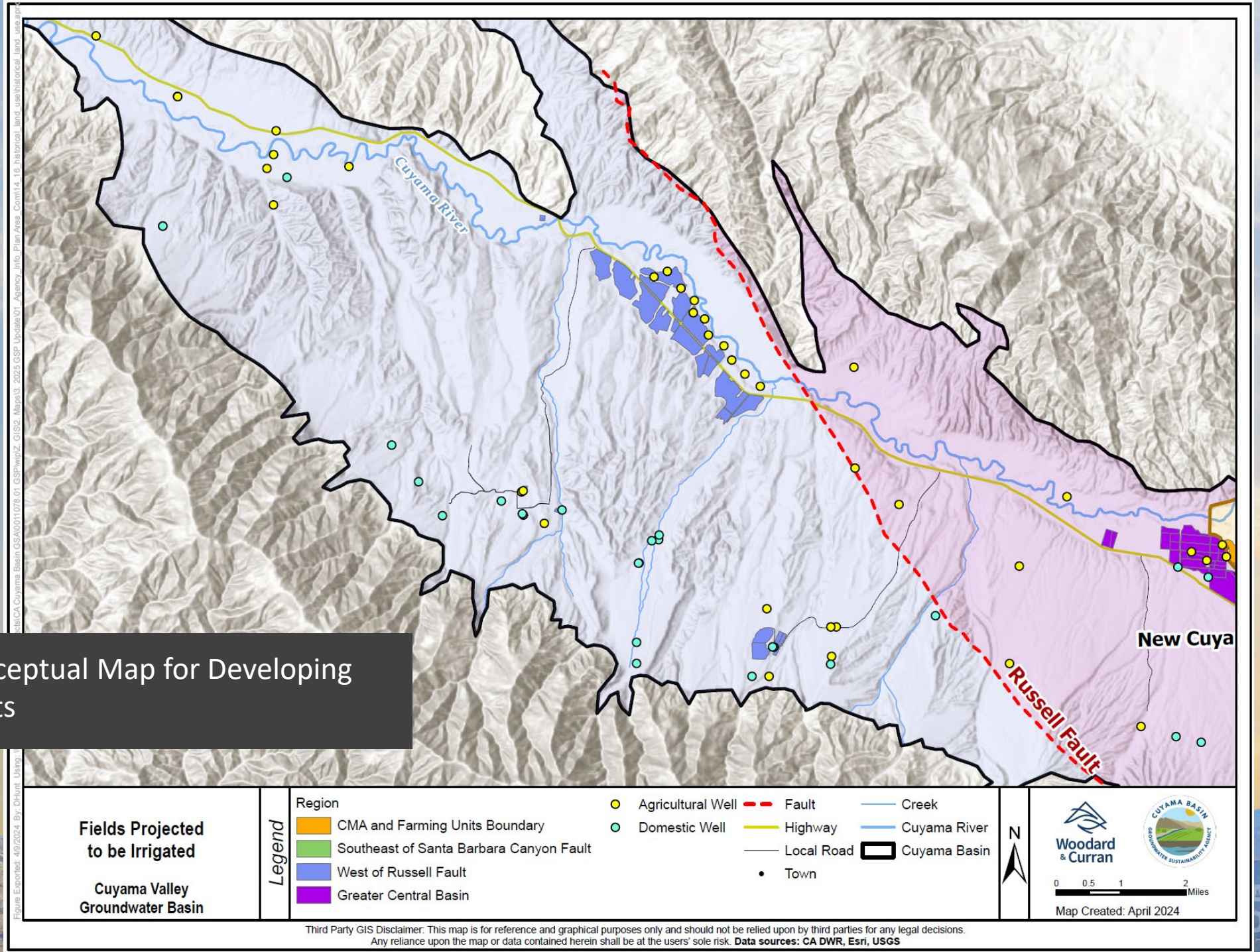
- Does the Technical Forum agree with using the Russell and Santa Barbara Canyon (SBC) faults as the physical features to subdivide the basin?

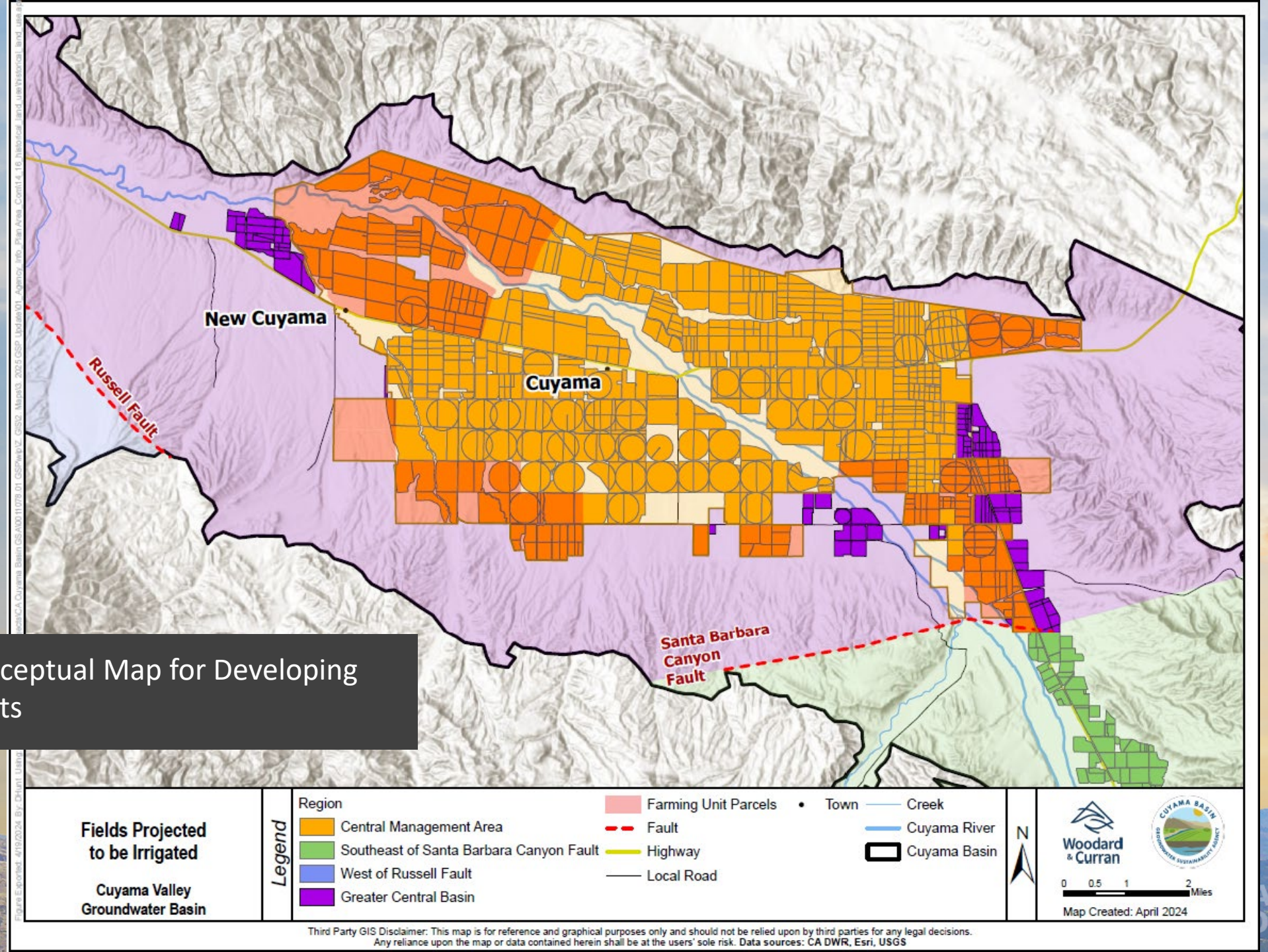
Comment by	Neil Currie, Cleath-Harris (Grapevine Capital)	Matt Young (Santa Barbara County Water Agency)	Bob Abrams, Aquilogic	Jeff Shaw, EKI (Cuyama Basin Water District)
Comment	Yes, but the mapped fault traces are a proxy/line on the map that represent more complex fault zones/fault barrier systems	Yes, in principle	Yes, but has questions on using the SBC fault based on recent geophysical survey results	Reasonable starting point; however, graveyard ridge fault and other faults may be significantly relevant
Staff Notes	NA	NA	NA	NA



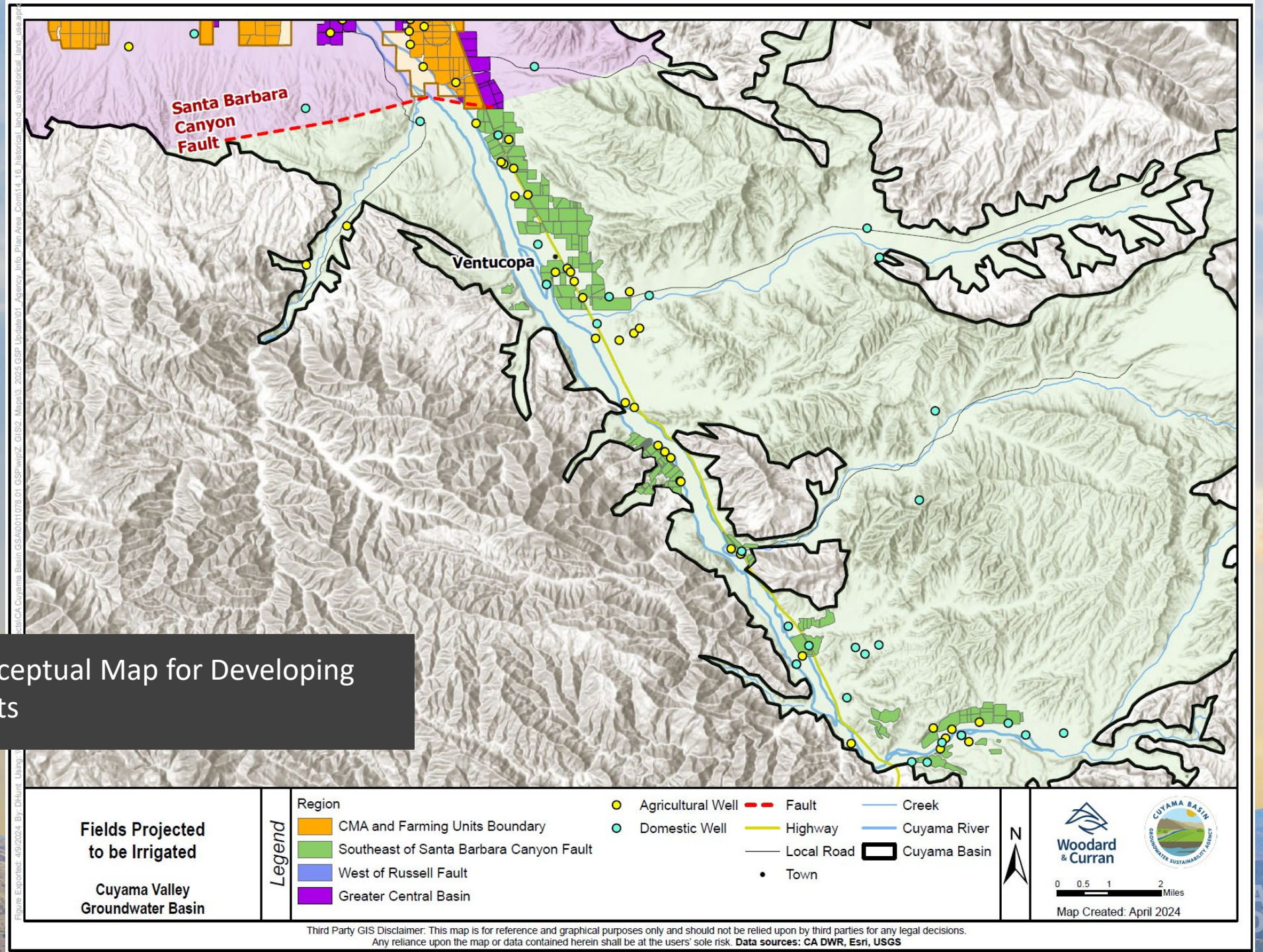
DRAFT – Conceptual Map for Developing Water Budgets

DRAFT – Conceptual Map for Developing Water Budgets





DRAFT – Conceptual Map for Developing Water Budgets



DRAFT – Conceptual Map for Developing Water Budgets

TO: Standing Advisory Committee
Agenda Item No. 8e

FROM: Jim Beck / Brain Van Lienden

DATE: April 25, 2024

SUBJECT: Discuss and Take Appropriate Action on GSP Draft Chapters

Recommended Motion
Approve groundwater sustainability plan chapters 3 and 5.

Discussion
A brief overview of draft Groundwater Sustainability Plan (GSP) chapters 3 and 5 is provided as Attachment 1, and draft final redline GSP chapters are provided as Attachment 2 for consideration of approval. The below draft chapters reflect Cuyama Basin Groundwater Sustainability Agency Standing Advisory Committee, tech forum, public stakeholder, and Board comments and direction from public meetings.

i. Chapter 3. Undesirable Results
ii. Chapter 5. Minimum Thresholds, Measurable Objectives, and Interim Milestones

Attachment 1

Cuyama Basin Groundwater Sustainability Agency

8e. Discuss and Take Appropriate Action on GSP Draft Chapters

Beck / Brian Van Lienden

April 25, 2024

HALLMARK GROUP Woodard & Curran

Discuss and Take Appropriate Action on GSP Draft Chapters

- Updated versions of the following chapters have been provided for approval:
  - Chapter 3: Undesirable Results
  - Chapter 5: Minimum Thresholds, Measurable Objectives, and Interim Milestones
- Updates account for:
  - New information not available when 2020 GSP was developed
  - Updated policies approved by the CBGSA Board at Jan 2024 Board meetings
- Staff is requesting Board approval of these chapters at this Board meeting
- 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

3. Undesirable Results

This chapter presents the Undesirable Results statements for the Cuyama Valley Groundwater Basin (Basin). These statements are based on quantitative thresholds on monitoring points described in Chapter 5, which are used here to indicate where Undesirable Results might occur in the monitoring network.

The first section of this chapter is the draft Undesirable Results section. The second section contains guidance from relevant portions of the Sustainable Groundwater Management Act (SGMA) regulations about Undesirable Results, and lists guidance about addressing Undesirable Results from the *Sustainable Management Criteria Best Management Practices* (BMPs) (DWR, 2017).

On June 6, 2018, a public workshop was held where sustainability and undesirable outcomes were discussed with the public. Input from stakeholders at the meeting was tabulated, and stakeholder input was tied to the most relevant GSP component. The sorted results were used to guide creation of the Undesirable Results statements, and are included in Appendix A.

For this 2025 updated GSP, a CBGSA Board meeting was held on January 10th, 2024 and approved retaining the original Undesirable Results definitions included in the original 2020 GSP. This decision was made with review and input from both the Technical Forum and the Stakeholder Advisory Committee.

3.1 Sustainability Goal

Sustainability Goal: To maintain a sustainable groundwater resource for beneficial users of the Basin now and into the future consistent with the California Constitution.

3.2 Undesirable Results Statements

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

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

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- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

Undesirable Results related to seawater intrusion are not present in the Basin, and are not likely to occur in the Basin.

The term "significant and unreasonable" is not defined by SGMA regulations. Instead, the conditions leading to this classification are determined by the GSA, beneficial users, and other interested parties in each basin. In the Basin, the identification of URs were developed through an extensive stakeholder-driven process that included:

- Careful consideration of input from local stakeholders and landowners;
- A conceptualization of the hydrogeological conceptual model;
- An assessment of current and historical conditions and best available data; and
- Local knowledge and professional opinion.

The CBGSA recognizes the lack of reliable historical data and acknowledges the limitations and uncertainties it causes (see Data Gaps and Plan to Fill Data Gap subsections of Section 4 – Monitoring Networks and Section 8 – Implementation Plan for addressing those limitations). However, the re-assessment of thresholds and UR statements has been a component of the redevelopment of this updated GSP and have taken recent data, information, stakeholder input, and modeling updates/calibration into consideration.

Information is provided below for each effect as it applies to the Basin. For the sustainability indicators relevant to the Basin, the discussion does the following:

- Describes the Undesirable Result
- Identifies Undesirable Results
- Identifies potential causes of Undesirable Results
- Identifies potential effects of Undesirable Results on beneficial uses

For any indicator not present, a justification for not establishing Undesirable Results is provided. This information was developed based on the California Water Code, SGMA regulations, BMPs, and stakeholder input.

3.2.1 Chronic Lowering of Groundwater Levels

Description of Undesirable Results

The Undesirable Result for the chronic lowering of groundwater levels is a result that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

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Identification of Undesirable Results

This result is considered to occur during GSP implementation when 30 percent of representative monitoring wells (i.e., 158 of ~~6047~~ wells) fall below their minimum groundwater elevation thresholds for two consecutive years.

The 30 percent of wells exceeding their MT for 24 consecutive months criteria included in the GSP allows the CBGSA the flexibility to identify the cause of MT exceedances and to develop a plan for response (per the Adaptive Management approach described in Section 7.6). Potential causes of MT exceedances could include:

- Prolonged drought;
- Pumping nearby the representative well; and
- Unreliable and non-representative data used to calculate the MT.

Minimum threshold exceedances in multiple wells is considered more indicative of a basin-scale decline in groundwater levels and potential adverse impacts on groundwater infrastructure, as opposed to more localized groundwater level declines, which could be associated with nearby pumping. Furthermore, groundwater levels in areas of the Basin change in response to climatic conditions and therefore sustained exceedances of minimum thresholds are considered to be more significant than short-term exceedances. Setting the Identification of Undesirable Results criteria at 30 percent or more of wells exceeding their MT is intended to reflect undesirable results at the basin-scale and using 24 consecutive months allows the GSA time to address issues, perform investigations, and implement projects and management actions as needed.

Potential Causes of Undesirable Results

Potential causes of Undesirable Results for the chronic lowering of groundwater levels are groundwater pumping that exceeds the average sustainable yield in the Basin, and changes in precipitation in the Cuyama Watershed in the future.

Potential Effects of Undesirable Results

If groundwater levels were to reach Undesirable Results levels, the Undesirable Results could cause potential de-watering of existing groundwater infrastructure, starting with the shallowest wells, could potentially adversely affect groundwater dependent ecosystems, and could potentially cause changes in irrigation practices, crops grown, and adverse effects to property values. Additionally, reaching Undesirable Results for groundwater levels could adversely affect domestic and municipal uses, including uses in disadvantaged communities, which rely on groundwater in the Basin.

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3.2.2 Reduction of Groundwater Storage

Description of Undesirable Results

The Undesirable Result for the reduction in groundwater storage is a result that causes significant and unreasonable reduction in the viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

Justification of Groundwater Elevations as a Proxy

Use of groundwater elevation as a proxy metric for Undesirable Results is appropriate for groundwater storage. The change in storage is directly correlated to changes in groundwater elevation. By setting minimum thresholds for levels, storage is also effectively managed.

Identification of Undesirable Results

This result is considered to occur during GSP implementation when 30 percent of representative monitoring wells (i.e., 15~~18~~ of 47~~60~~ wells) fall below their minimum groundwater elevation thresholds for two consecutive years.

The 30 percent of wells exceeding their MT for 24 consecutive months criteria included in the GSP allows the CBGSA the flexibility to identify the cause of MT exceedances and to develop a plan for response (per the Adaptive Management approach described in Section 7.6). Potential causes of MT exceedances could include:

- Prolonged drought;
- Pumping nearby the representative well; and
- Unreliable and non-representative data used to calculate the MT.

Minimum threshold exceedances in multiple wells is considered more indicative of a basin-scale decline in groundwater levels and potential adverse impacts on groundwater infrastructure, as opposed to more localized groundwater level declines, which could be associated with nearby pumping. Furthermore, groundwater levels in areas of the Basin change in response to climatic conditions and therefore sustained exceedances of minimum thresholds are considered to be more significant than short-term exceedances. Setting the Identification of Undesirable Results criteria at 30 percent or more of wells exceeding their MT is intended to reflect undesirable results at the basin-scale and using 24 consecutive months allows the GSA time to address issues, perform investigations, and implement projects and management actions as needed.

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Potential Causes of Undesirable Results

Potential causes of Undesirable Results for the reduction in groundwater storage are groundwater pumping that exceeds the average sustainable yield in the Basin, and decreases in precipitation in the Cuyama Watershed in the future.

Potential Effects of Undesirable Results

If reduction of groundwater in storage were to reach Undesirable Results levels, the Undesirable Results could cause potential de-watering of existing groundwater infrastructure and springs, starting with the shallowest wells, could potentially adversely affect groundwater dependent ecosystems, and potentially cause changes in irrigation practices, crops grown, and adverse effects to property values. Additionally, reaching Undesirable Results for reduction of groundwater in storage could adversely affect domestic and municipal uses, which rely on groundwater in the subbasin.

3.2.3 Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator in the Basin, because seawater intrusion is not present and is not likely to occur due to the distance between the Basin and the Pacific Ocean, bays, deltas, or inlets.

3.2.4 Degraded Water Quality

Description of Undesirable Results

The Undesirable Result for degraded water quality is a result stemming from a causal nexus between SGMA-related groundwater quantity management activities and groundwater quality that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

Identification of Undesirable Results

This result is considered to occur during GSP implementation when 30 percent of the representative monitoring points (i.e., 920 of 2964 sites) exceed the minimum threshold for a constituent for two consecutive years.

The 30 percent of wells exceeding their MT for 24 consecutive months criteria included in the GSP allows the CBGSA the flexibility to identify the cause of MT exceedances and to develop a plan for response (per the Adaptive Management approach described in Section 7.6). Potential causes of MT exceedances could include:

- Prolonged drought;
- Pumping nearby the representative well; and

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- Unreliable and non-representative data used to calculate the MT.

Minimum threshold exceedances in multiple wells is considered more indicative of a basin-scale decline in groundwater levels and potential adverse impacts on groundwater infrastructure, as opposed to more localized groundwater level declines, which could be associated with nearby pumping. Furthermore, groundwater levels in areas of the Basin change in response to climatic conditions and therefore sustained exceedances of minimum thresholds are considered to be more significant than short-term exceedances. Setting the Identification of Undesirable Results criteria at 30 percent or more of wells exceeding their MT is intended to reflect undesirable results at the basin-scale and using 24 consecutive months allows the GSA time to address issues, perform investigations, and implement projects and management actions as needed.

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Potential Causes of Undesirable Results

Potential causes of Undesirable Results for the degraded water quality are conditions where groundwater pumping degrades the groundwater quality.

Potential Effects of Undesirable Results

If groundwater quality were degraded to reach Undesirable Results levels, the Undesirable Results could potentially cause a shortage in supply to groundwater users, with domestic wells being most vulnerable as treatment costs or access to alternate supplies can be high for small users. Water quality degradation could cause potential changes in irrigation practices, crops grown, and adverse effects to property values. Additionally, reaching Undesirable Results for groundwater quality could adversely affect municipal uses, including disadvantaged communities, which could have to install treatment systems.

3.2.5 Land Subsidence

Description of Undesirable Results

The Undesirable Result for land subsidence is a result that causes significant and unreasonable reduction in the viability of the use of infrastructure over the planning and implementation horizon of this GSP.

Identification of Undesirable Results

This result is detected to occur during GSP implementation when 30 percent of representative subsidence monitoring sites (i.e., 1 of 2 sites) exceed the minimum threshold for subsidence over two years.

The 30 percent of wells exceeding their MT for 24 consecutive months criteria included in the GSP allows the CBGSA the flexibility to identify the cause of MT exceedances and to develop a plan for response (per the Adaptive Management approach described in Section 7.6). Potential causes of MT exceedances could include:

- Prolonged drought;

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- Pumping nearby the representative well; and
- Unreliable and non-representative data used to calculate the MT.

Potential Causes of Undesirable Results

Potential causes of future Undesirable Results for land subsidence are likely tied to groundwater pumping resulting in dewatering of compressible clays in the subsurface.

Potential Effects of Undesirable Results

If land subsidence conditions were to reach Undesirable Results, the Undesirable Results could potentially cause damage to infrastructure, including water conveyance facilities and flood control facilities roads, utilities, buildings, and pipelines.

3.2.6 Depletions of Interconnected Surface Water

~~3.2.6~~ This will be developed once guidance documents are provided by DWR.

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~~**Description of Undesirable Results**~~

~~The Undesirable Result for depletions of interconnected surface water is a result that causes significant and unreasonable reductions in the viability of agriculture or riparian habitat within the Basin over the planning and implementation horizon of this GSP.~~

~~**Identification of Undesirable Results**~~

~~This result is considered to occur during GSP implementation when 30 percent of representative monitoring wells (i.e., 18 of 60 wells) fall below their minimum groundwater elevation thresholds for two consecutive years.~~

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~~**Justification of Groundwater Elevations as a Proxy**~~

~~Use of groundwater elevation as a proxy metric for Undesirable Results is necessary given the difficulty and cost of direct monitoring of depletions of interconnected surface water. The depletion of interconnected surface water is driven by a gradient between water surface elevation in the surface water body and groundwater elevations in the connected, shallow groundwater system. By setting minimum thresholds on shallow groundwater wells near surface water, the CBGSA can to monitor and manage this gradient, and in turn, manage potential changes in depletions of interconnected surface.~~

~~**Potential Causes of Undesirable Results**~~

~~Potential causes of future Undesirable Results for depletions of interconnected surface water are likely tied to groundwater production, which could result in lowering of groundwater elevations in shallow aquifers near surface water courses. This could change the hydraulic gradient between the water surface~~

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elevation in the surface water course and the groundwater elevation, resulting in an increase in depletion of surface water to groundwater.

Potential Effects of Undesirable Results

If depletions of interconnected surface water were to reach Undesirable Results, groundwater dependent ecosystems could be affected.

3.3 Evaluation of the Presence of Undesirable Results

DWR developed the *Sustainable Management Criteria* BMP (DWR, 2017) to help GSAs develop their sustainability criteria, and to identify the presence of Undesirable Results. The *Sustainable Management Criteria* BMP states: "Undesirable results will be defined by minimum threshold exceedances." The *Sustainable Management Criteria* BMP helps GSAs identify the presence of an Undesirable Result by identifying a quantitative number and location of monitoring points that may be below the minimum threshold prior to a GSA identifying conditions as an Undesirable Result.

This section evaluates current conditions and compares them with the minimum thresholds established in Chapter 5. Using the method identified above for each sustainability indicator, a GSA can identify the presence of Undesirable Results. For the Basin, Undesirable Results are identified at the Basin scale; this scale may be modified by the CBGSA Board if appropriate or necessary in the future.

3.3.1 Chronic Lowering of Groundwater Levels

The Undesirable Result for the chronic lowering of groundwater levels is considered to occur during GSP implementation when 30 percent of representative monitoring wells (i.e., 18 of 60 wells) fall below their minimum groundwater elevation thresholds for two consecutive years (Section 3.2.1).

Chapter 5 discusses how minimum thresholds were selected. Appendix A of Chapter 5 presents the hydrographs of groundwater levels through 2018 and the established depth of the minimum threshold for each monitoring site. Of the 60 monitoring sites, nine were below the minimum threshold in the latest measurement in 2018, which is 15 percent of representative monitoring wells (i.e., 9 of 60), indicating that the Basin does not currently exceed the requirements for an undesirable condition for the chronic lowering of groundwater levels.

3.3.2 Reduction of Groundwater Storage

The Undesirable Result for the reduction of groundwater storage is monitored by proxy using groundwater levels and groundwater level minimum thresholds (Section 3.2.2). Because measurements show that levels are not in an undesirable condition, reduction of groundwater storage is not identified to be in an undesirable condition.

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3.3.3 Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator, because seawater intrusion is not present and is not likely to occur due to the distance between the Basin and the Pacific Ocean, bays, deltas, or inlets (Section 3.2.4). Therefore, there is no possibility of an undesirable result due to seawater intrusion.

3.3.4 Degraded Water Quality

The Undesirable Result for degraded water quality is considered to occur during GSP implementation when 30 percent of representative monitoring wells (i.e., 20 of 64 wells) for water quality exceed minimum threshold levels for two consecutive years (Section 3.2.4).

Discussion of how minimum thresholds were selected is presented in Chapter 5. Table 5-2 in Chapter 5 shows the minimum thresholds and the most recent measurement for each monitoring site. Of the 64 monitoring sites, none were worse than the minimum threshold in the latest measurement in 2018, which is 0 percent of representative monitoring wells (i.e., 0 of 60), indicating that the Basin does not currently meet the requirements for an undesirable condition for degraded water quality.

3.3.5 Land Subsidence

The Undesirable Result for land subsidence is considered to occur during GSP implementation when 30 percent of representative subsidence monitoring sites (i.e., 1 of 2 sites) exceed the minimum threshold for subsidence over two consecutive years (Section 3.2.5).

Chapter 5 discussed how minimum thresholds were selected.~~.~~ The minimum threshold for subsidence has been set at 2 inches per year.

The rate of subsidence at the Cuyama Valley High School (CVHS) station is measured daily. Subsidence at the CVHS station cycles annually, with elastic rebound occurring in the winter, indicated by an annual high. Highs during the period of rebound occur between January 1 and March 10 each year. Measurements taken from January 1, 2017 to March 10, 2017 were compared with measurements from January 1, 2018 to March 10, 2018. Each daily measurement was compared and the difference between each day was averaged. The average decline from a day in 2017 during that period and the same day in 2018 during that period was 33 millimeters (1.3 inches).

The rate of subsidence on the Ventucopa station was 0 inches over the same period. Because neither station showed a rate of subsidence over 2 inches per year, the Basin does not currently meet the requirements for an undesirable condition for land subsidence.

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3.3.6 Depletions of Interconnected Surface Water

This will be developed once guidance documents are provided by DWR.

~~The Undesirable Result for the depletion of interconnected surface water is monitored by proxy using groundwater levels and groundwater level minimum thresholds (Section 3.2.6). Because measurements show that levels do not currently meet the requirements for an undesirable condition, depletion of interconnected surface water is not identified to be in an undesirable condition.~~

3.4 References

California Department of Water Resources (DWR). 2018. *Sustainable Management Criteria Best Management Practice.* Sustainable Groundwater Management Program. November. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/BMP-6-Sustainable-Management-Criteria-DRAFT.pdf. Accessed March 30, 2018.

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Chapter 5 Minimum Thresholds, Measurable Objectives, and Interim Milestones

This chapter of the Cuyama Groundwater Basin (Basin) *Groundwater Sustainability Plan* (GSP) defines the sustainability criteria used to avoid undesirable results during GSP implementation. The Sustainable Groundwater Management Act (SGMA) requires the application of minimum thresholds (MTs), measurable objectives (MOs), and interim milestones (IMs) to all representative monitoring sites identified in the GSP. These values, or thresholds, will help the Cuyama Basin Groundwater Sustainability Agency (CBGSA) and other groundwater users in the Basin identify sustainable values for the established SGMA sustainability indicators, and will help identify progress indicators over the 20-year GSP implementation period.

5.1 Useful Terms

There are several terms used in this chapter that describe Basin conditions and the values calculated for the representative sites. These terms are intended as a guide for readers, and are not a definitive definition of any term.

- **Interim Milestones** – IMs are a target value representing measurable conditions, set in increments of five years. They are set by the CBGSA as part of the GSP; IMs will help the Basin reach sustainability by 2040.
- **Measurable Objectives** – MOs are specific, quantifiable goals for maintaining or improving specified groundwater conditions that are included in the adopted GSP to achieve the Basin's sustainability goal.
- **Minimum Thresholds** – MTs are a numeric value for each sustainability indicator, which are used to define when undesirable results occur if minimum thresholds are exceeded in a percentage of sites in the monitoring network.
- **Sustainability Goals** – Sustainability goals are the culmination of conditions in the absence of undesirable results within 20 years of the applicable statutory deadline.
- **Undesirable Results** – Undesirable results are the significant and unreasonable occurrence of conditions that adversely affect groundwater use in the Basin, as defined in Chapter 3.

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- **Sustainability Indicators** – These indicators refer to any of the effects caused by groundwater conditions occurring throughout the Basin that, when significant and unreasonable, cause undesirable results, as described in Water Code Section 10721(x). These include the following:
  - Lowering groundwater levels
  - Reduction of groundwater storage
  - Seawater intrusion
  - Degraded water quality
  - Land subsidence
  - Depletion of interconnected surface water

Both MOs and MTs are applied to all sustainability indicator representative sites. Sites in the Basin's monitoring networks that are not classified as representative sites are not required to have MOs or MTs. All of the Basin's representative sites will also have IMs calculated for 2025, 2030, and 2035 to help guide the CBGSA toward its 2040 sustainability goals. All wells meeting the representative well criteria outlined in this GSP are included in the Basin's monitoring network, although participation in the SGMA monitoring program is dependent upon agreements between the CBGSA and the well owners.

The following subsections describe the process of establishing MOs, MTs, and IMs for each of the sustainability indicators described above. They also discuss the results of this process.

5.2 Chronic Lowering of Groundwater Levels

The undesirable result for the chronic lowering of groundwater levels is a result that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

Groundwater conditions, as discussed in Chapter 2, Section 2.2, vary across the Basin. Groundwater conditions are influenced by geographic attributes, geologic attributes, and overlying land uses in the Basin. Because of the variety of conditions, six threshold regions were established in the Basin so appropriate sustainability criteria could be set more precisely for each region.

5.2.1 Threshold Regions

The previous GSP utilized~~six~~ threshold regions that were defined to allow areas with similar conditions to be grouped together for calculation of MOs, MTs, and IMs. However, for this GSP Update the CBGSA has utilized new threshold calculations that incorporate historical data, potential impacts to beneficial uses and users of groundwater, and variations in local conditions in a consistent manner across the Basin. Therefore,~~These~~ threshold regions are no longer being used~~shown in Figure 5-1. The following subsections discuss threshold region characteristics and boundaries~~.

~~Southeastern Threshold Region~~

~~The Southeastern Threshold Region lies on the southeastern edge of the Basin, and is characterized as having moderate agricultural land use with steep geographic features surrounding the valley. Groundwater is generally high in this area, with recent historical data showing levels around 50 feet or less below ground surface, which indicates that this region is likely currently in a full condition. Groundwater levels in this region are subject to declines during drought periods, but have typically recovered back to previous levels during historically wet periods. The northern boundary of this region is the narrows at the Cuyama River approximately at the boundary with U.S. Forest Service lands, and the eastern boundary is the extent of alluvium. The southern and western extent of this region is defined by the groundwater basin boundary.~~

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~~Figure 5-1: Threshold Regions~~

Eastern Threshold Region

The Eastern Threshold Region lies southeast of the central part of the Basin and encompasses Ventucopa and much of the surrounding agricultural property. This part of the Basin has agricultural pumping. Hydrographs in this region indicate that groundwater levels have historically ranged widely and repeatedly over the last 50 years, and in general, are declining over the past 20 years. However, these levels are generally higher than those in the Central Threshold Region. The northern boundary of this region is the Santa Barbara Canyon Fault, and the southern boundary is where the Cuyama Valley significantly narrows due to geographic changes. The eastern boundary is the extent of the boundary, and the western boundary is defined by the groundwater basin boundary.

Central Threshold Region

The Central Threshold Region incorporates the majority of agricultural land use in the Basin, as well as the towns of Cuyama and New Cuyama. The greatest depths to groundwater are also found in the Central Threshold Region, and groundwater levels have generally been declining in this region since the 1950s. The southeastern boundary is defined by the Santa Barbara Canyon fault, and the western boundary by the Russell Fault. The northern and southern boundary of this region is defined by the Basin boundary.

Western Threshold Region

The Western Threshold Region is characterized by shallow depth to water, and recent historical data and hydrographs in this region indicate that it is likely this portion of the Basin is currently in a full condition. Land uses in this area generally include livestock and small agricultural operations. It lies primarily on the north facing slope of the lower Cuyama Valley. The eastern boundary is defined by the Russell Fault, and the northern boundary was drawn to differentiate distinct land uses. The southwestern boundary is defined by the groundwater basin boundary.

Northwestern Threshold Region

The Northwestern Threshold Region is the bottom of the Cuyama Basin and has undergone changes in land use from small production agricultural and grazing to irrigated crops over the last four years. Recent historical data and hydrographs in this portion of the Basin indicate that this portion is likely currently in a full condition. The southern border was drawn to differentiate between the land uses of the Western and Northwestern Threshold regions, resulting in different kinds of agricultural practices. The rest of the region is defined by the Basin boundary.

~~**Badlands Threshold Region**~~

~~The Badlands Threshold Region includes the areas east of the Central, East, and Southeast Threshold regions on the west facing slope of the Cuyama Valley. There are no active wells and there is little groundwater use in this area. There is no monitoring in this region, and no sustainability criteria were developed for this region.~~

5.2.2 Minimum Thresholds, Measurable Objectives, and Interim Milestones

This section describes how MTs, MOs, and IMs were established for each representative well~~by threshold region,~~ and explains the rationale behind the~~each~~ selected methodologies~~methodology~~.

The minimum threshold calculation uses a stepwise function that takes a conservative approach to protect wells (production and domestic) across the Basin while providing flexibility when possible, to accommodate the CBGSA planned pumping allocations and reductions strategy. The stepwise function has four potential calculation outcomes:

1. **Combined Well protection and GDE protection depth:** The well protection depth and GDE protection depth were merged together in a GIS analysis process that interpolated the data into a 3-dimensional coverage across the Basin, in the same process elevation points make a topographic map of the surface elevation. For each RMW's location, the interpolated protection depth was then extracted to get the final Well Protection / GDE protection depth value.

    a. **Well Protection Depth**: The well protection depth is used to ensure that active production and domestic wells within the Basin are protected from harm to their beneficial uses. The well protection depth is a numerical value representing the approximate depth at which, if exceeded, beneficial uses could be impacted in a well. This value is unique and calculated for each active production and domestic well within the Basin where there is available data. Where data is not available, generalized or regional proxy data is utilized. Some wells are screened from this analysis either because they are too far removed from the representative well network (and therefore conditions at the nearest RWM are not indicative of conditions at the active well because of distance and/or other conditions such as geology or topology) or wells were already dry in 2015. The well protection depth is calculated for each pumping well as a four-part stepwise function, with a slight difference in the fourth step between domestic and production wells (**Figure 5-1**).

    b. **GDE Protection Depth**: GDEs are incorporated two ways into the well protection depth GIS analysis. First, RMW wells within 2,000 feet of potential GDEs (with two exceptions due to local topography) were automatically assigned a well protection depth of 30 ft bgs. These RMWs are Opti wells 2, 114, 568, 830, 832, 833, and 836. Second, all potential GDE locations in the Basin were assigned a protection depth of 30 ft bgs via a dense spatial point-cloud within each GDE polygon in GIS. The point-clouds allow GIS to

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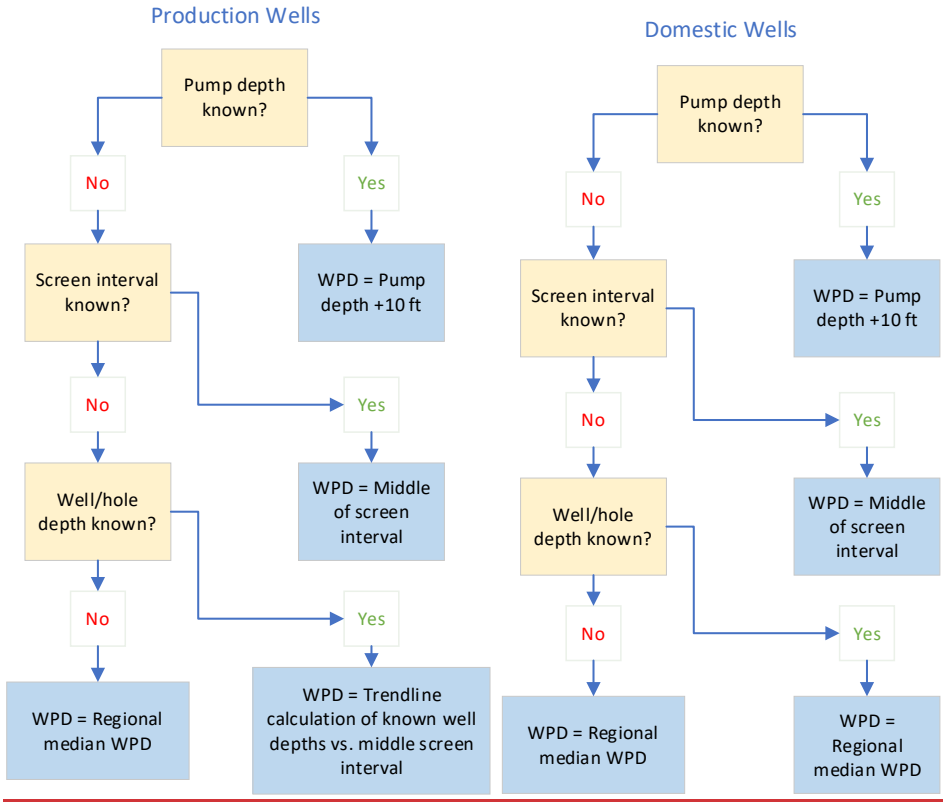
utilize the same data type (points instead of polygons) in the processing required for the protection depth calculation.



~~Southeastern Threshold Region~~

~~Monitoring in this threshold region indicates groundwater levels are static except during drought conditions from 2013 to 2018. Static groundwater levels indicate this area of the Basin is generally at capacity; therefore, the MT is protective of domestic, private, public, and environmental uses.~~

~~The MO for the Southeastern Threshold Region's wells was calculated by finding the measurement taken closest to (but not before) January 1, 2015 and not after April 30, 2015. If no measurement was taken during this four-month period, then a linear trendline was applied to the data and the value for January 1, 2015 was extrapolated.~~

To provide an operational flexibility range, the MT was calculated by subtracting five years of groundwater storage from the MO. Five years of storage was calculated by finding the decline in groundwater levels from 2013 to 2018, which was considered a period of drought. If measurements were insufficient for this time period, a linear trendline was used to extrapolate the value decline value.

IMs were set to equal the MT in 2025, with a projected improvement to one-third the distance between the MT and MO in 2030 and half the distance between the MT and MO in 2035. As a result, IMs will a way to measure progress toward sustainability over the GSP's planning horizon.

Groundwater levels will be measured using the protocols documented in Chapter 4's Appendix A.

Eastern Threshold Region

Monitoring in this threshold region indicates a downward trend in groundwater levels. However, much of this downward trend is due to hydrologic variability and may be recovered in the future. Therefore, MTs have been set to allow for greater flexibility as compared to other regions. The MT for wells in this region intends to protect domestic, private, public and environmental uses of the groundwater by allowing for managed extraction in areas that have beneficial uses and protecting those with at risk infrastructure.

Stakeholders reported concern about the dewatering of domestic wells in this region, and groundwater levels have been declining in monitoring wells. Both the MT and MO consider the sustainability of water levels in regard to both domestic and agricultural users.

The MT was calculated by taking the total historical range of recorded groundwater levels and used 35 percent of the range. This 35 percent was then added below the value closest to January 1, 2015 (as described above).

MOs were calculated by subtracting five years of groundwater storage from the MT. Five years of storage was found by calculating the decline in groundwater levels from 2013 to 2018 (a drought period). If measurements were insufficient for this time period, a linear trendline was used to extrapolate the value.

IMs were set to equal the MT in 2025, with a projected improvement to one-third the distance between the MT and MO in 2030 and half the distance between the MT and MO in 2035. As a result, IMs will a way to measure progress toward sustainability over the GSP's planning horizon.

Groundwater levels will be measured using the protocols documented in Chapter 4's Appendix A.

Central Threshold Region

Monitoring in this threshold region indicates a decline in groundwater levels, indicating an extraction rate that exceeds recharge rates. The MT for this region is set to allow current beneficial uses of groundwater while reducing extraction rates over the planning horizon to meet sustainable yield. The MO is intended to allow sufficient operational flexibility for future drought conditions.

The MT for representative wells in the Central Threshold Region was calculated by finding the maximum and minimum groundwater levels for each representative well, and calculating 20 percent of the historical range. This 20 percent was then added to the depth to water measurement closest to, but not before, January 1, 2015, and no later than April 30, 2015. If no measurement was taken during this four-month period, then a linear trendline was applied to the wells data, and the value for January 1, 2015 was extrapolated.

The MO was calculated by subtracting five years of groundwater storage from the MT. Five years of storage was found by calculating the decline in groundwater levels from 2013 to 2018 (a drought period). If measurements were insufficient for this time period, a linear trendline was used to extrapolate the value.

For Opti Wells 74, 103, 114, 568, 609, and 615, a modified MO calculation was used where the MO used the linear trendline of the full range of measurements to extrapolate a January 1, 2015 value. This modification was made because measurements from 2013 to 2018 in these wells did not provide sufficient data to provide an adequate trendline for calculating the MO.

IMs were set to equal the in 2025, with a projected improvement to one-third the distance between the MT and MO in 2030 and half the distance between the MT and MO in 2035. As a result, IMs will a way to measure progress toward sustainability over the GSP's planning horizon.

Groundwater levels will be measured using the protocols documented in Chapter 4's Appendix A.

Western Threshold Region

Monitoring in this threshold region indicates groundwater levels are stable, and levels varied significantly depending on where representative wells were in the region. The most common use of groundwater in this region is for domestic use. Due to these hydrologic conditions, the MT was set to protect the water levels from declining significantly, while allowing beneficial land surface uses of the groundwater and protection of current well infrastructure. The MT was calculated by taking the difference between the total well depth and the value closest to mid-February, 2018, and calculating 15 percent of that depth. Values from 2018 are used because data collected during this time represent a full basin condition. That value was then subtracted from the mid-February, 2018 measurement to calculate the MT. This allows users in this region to use their groundwater supply without increasing the risk of running a well beyond acceptable limits, and this methodology is responsive to the variety of conditions and well depths in this region.

The MO was then calculated by finding the measurement closest to mid-February, 2018, which monitoring indicates is likely a full condition.

Opti Well 474 uses a modified MO calculation where the historical high elevation measurement was used as the MO. This was done to allow for a sufficient operational flexibility based on historical data for the well.

~~IMs were set to equal the in 2025, with a projected improvement to one-third the distance between the MT and MO in 2030 and half the distance between the MT and MO in 2035. As a result, IMs will a way to measure progress toward sustainability over the GSP's planning horizon.~~

~~Groundwater levels will be measured using the protocols documented in Chapter 4's Appendix A.~~

~~Northwestern Threshold Region~~

~~Monitoring in this threshold region indicates levels are stable, with some declines in the area where new agriculture is established. Due to these hydrologic conditions, the MT was set to protect the water levels from declining significantly, while allowing beneficial land surface uses (including domestic and agricultural uses) and using the storage capacity of this region. The MT for the this region was found by determining the region's total average saturated thickness for the primary storage area, and calculating 15 percent of that depth. This value was then set as the MT.~~

~~The MO for this region was calculated using 5 years of storage. Because historical data reflecting new operations in this region are limited, 50 feet was used as 5 years of storage based on local landowner input.~~

~~There are several representative wells in this region that were reclassified as far-west northwestern wells, and include Opti Wells 830, 831, 832, 833, 834, 835, and 836. These wells have total depths that are shallower, and they use the same strategies as the Western Threshold Region for their MOs and MTs to be more protective of these wells and ensure levels do not drop below the total well depth.~~

~~IMs were set to equal the MT in 2025, with a projected improvement to one-third the distance between the MT and MO in 2030 and half the distance between the MT and MO in 2035. As a result, IMs will a way to measure progress toward sustainability over the GSP's planning horizon.~~

~~Groundwater levels will be measured using the protocols documented in Chapter 4's Appendix A.~~

~~Badlands Threshold Region~~

~~This threshold region has no groundwater use or active wells. As a result, no MO, MT, or IM was calculated.~~

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Figure 5-1: Well Protection Depth Stepwise Diagram for Production and Domestic Wells

2. **Recent deepest measurement plus 10 ft or 5% buffer (whichever is greater):** Historical data for the last ten years (2013-2023 based on the timing of the development of this methodology) was analyzed to find the deepest depth to water during that period. A buffer of the greater of either 10 ft or 5% of the depth to water value was then added to the max depth. This methodology

helps utilize, where appropriate, historical and recently collected data that captures both wet and dry periods. This criteria allows for the flexibility for regions of the Basin that experience significant drawdown and recovery during dry and wet hydrologic cycles to manage those variations in groundwater elevation.

3. **Projected depth of water in 2040 based on modeled glidepath**: The Cuyama Basing Groundwater Model (updated in 2024) was used to project the depth of water in 2040 based on the CBGSA's planned allocation and glidepath pumping reductions. In regions of the Basin where there is significant pumping, this allows for groundwater levels to decline to where the model predicts they will be in 2040 given the anticipated schedule for pumping reductions.

4. **Saturated thickness in areas of greater geologic understanding:** The calculation for this strategy uses the localized region's total average saturated thickness for the primary storage area and calculating 15 percent of that depth. Because there is an area in the northwestern portion of the Basin with greater geological research and understanding, the saturated thickness provides a measurable and defined direct relationship between available water in the aquifer, storage capacity, and undesirable conditions. As discussed in the following section, additional analysis has also been conducted to ensure that the calculated MTs in this area do not impact beneficial uses or uses at any nearby active wells or potential GDEs.

Using these four options above, the stepwise function to determine the appropriate MT for each RMW is as follows:

1. For RMWs that used the saturated thickness approach in the approved 2020 GSP, utilize that same approach.
2. For RMWs that did not utilize the saturated thickness approach in the approved 2020 GSP,
    a. First find the deeper of these two values:
        i. Deepest depth to water (DTW) from 2013-2023 + buffer
        ii. Cuyama Basin groundwater model projected DTW in 2040
    b. Then find the shallower value between Step 2a, the WPD and the GDE protection depth

Figure 5-2 shows the groundwater level SMC minimum threshold methodology that resulted from the stepwise function above for all representative wells.

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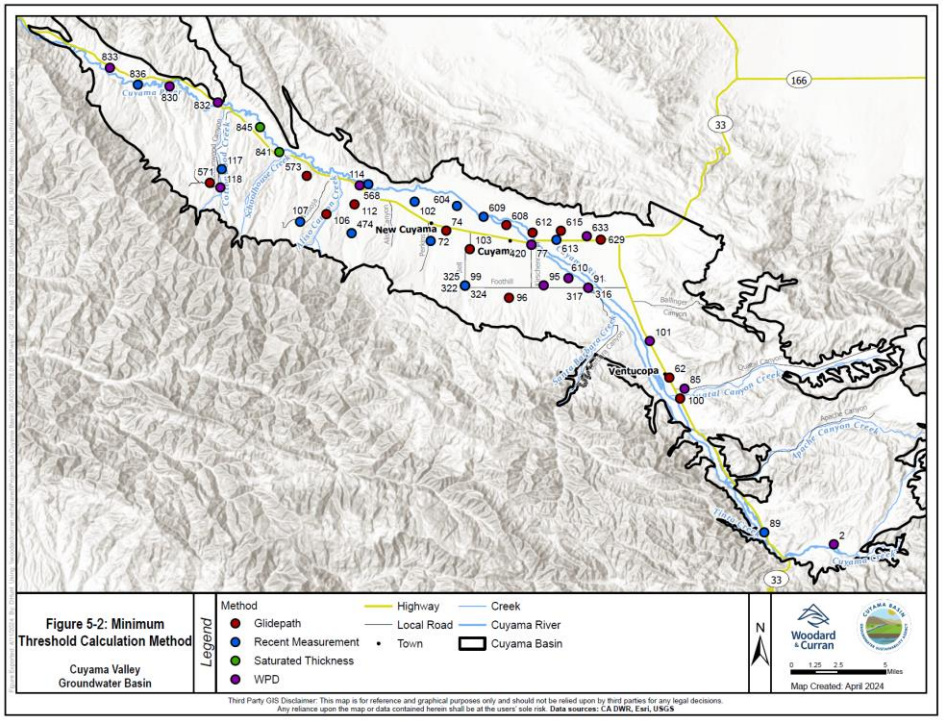
The CBGSA determined that the same margin of operational flexibility (MoOF) utilized in the 2020 GSP should be used again, unless that margin was less than 10 feet in which the MoOF would be equal to 10 feet.

In summary, this approach achieves the CBGSA's goal of allowing for operational and hydrologic flexibility in all parts of the Basin while also ensuring that groundwater pumping wells and GDEs are protected from negative impacts.

Figure 5-2: Groundwater Level SMC Minimum Threshold Methodology



Analysis of Northwestern Region Minimum Thresholds

DWR's consultation letter expressed concern about whether the thresholds established using the saturated thickness methodology (applied to RMW Opti wells 841 and 845) are protective of nearby beneficial users of water. Specifically, DWR questioned what impact(s) may occur to nearby domestic wells and GDEs if groundwater levels were to reach MTs in representative wells. To address this, the Cuyama Basin Water Resources Model (CBWRM) was used to simulate groundwater level conditions by artificially dropping groundwater levels near Opti Wells 841 and 845 to the set MTs. This was done by assigning specified head boundary conditions at the MT levels for the model nodes near these well locations. The simulation was run for 10 years over the historical period between water years (WY) 2011 to 2020 during which the specified head boundary conditions at the MT levels were continuously active.

Figure 5-3 shows the modeled change in groundwater elevations resulting from setting groundwater levels at the MTs at wells 841 and 845. Areas shaded in red or tan color on the figure had reduced groundwater elevations as compared to the baseline condition. Areas shaded in lime green were unaffected by the change in groundwater elevations at well 841 and 845 locations. As shown in the figure, there are no active domestic wells within the area affected by the lowered groundwater elevations at wells 841 and 845. The only GDE which may be affected is the GDE located at the confluence of Cottonwood Creek and the Cuyama River, which has an expected impact of less than 5 feet. However, even with this difference, the estimated depth to water at this GDE location would be shallower than 30 feet and therefore should not have a detrimental impact on these potential GDEs. Potential impacts on this GDE location will be monitored at nearby Opti well 832.

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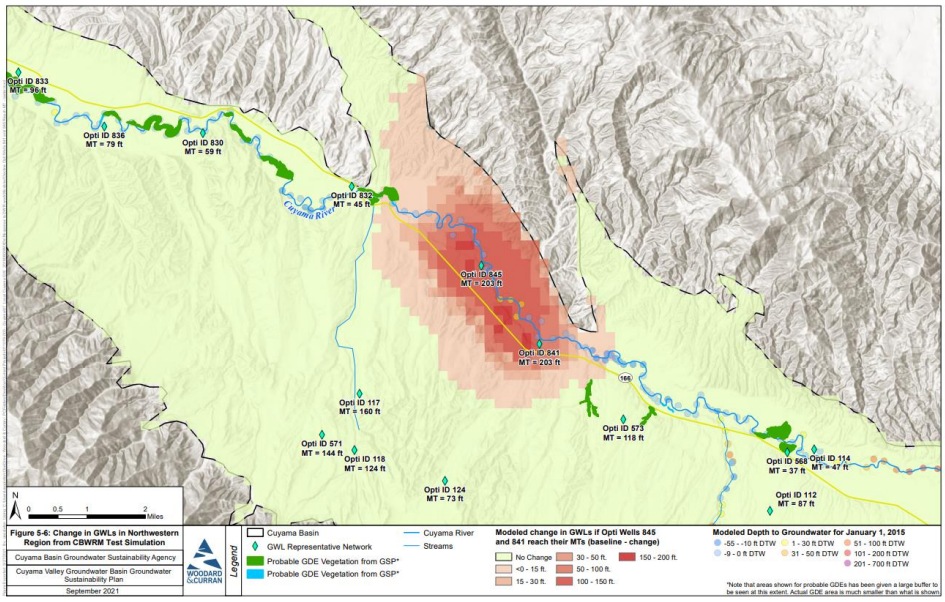
As noted above, the other potential beneficial use that may be affected comes from Cuyama River inflows into Lake Twitchell. The model simulation also showed an increase in stream depletion in the affected portion of the aquifer of about 1,200 acre-feet per year. This represents about 12 percent (out of 10,200 AFY) of the modeled streamflow in the Cuyama River at this location during the WY 2011-2020 model simulation period. However, the actual change in inflows into Lake Twitchell would be less than 1,200 AFY because of stream depletions that would occur between Cottonwood Creek and Lake Twitchell. For comparison, during the same period the USGS gage on the Cuyama River just upstream of Lake Twitchell (11136800) recorded an average annual flow of 7,900 AFY, only a portion of which comes from the Cuyama Basin. Given the lack of data regarding the hydrology and stream seepage between Cottonwood Creek and Lake Twitchell, it is uncertain how much of an impact this would have on the flows that ultimately are stored in Lake Twitchell.

Figure 5-3: Change in Groundwater Levels for Wells that Utilize the Saturated Thickness Methodology for MTs from CBWRM Test Simulation



5.2.3 Selected MT, MO, and IM Graphs, Figures, and Tables

Figure 5-4 shows an example hydrograph with indicators for the MT and, MO, and IM over the hydrograph. The left axis shows elevation above mean sea level, the right axis shows depth to water below ground surface. The brown line shows the ground surface elevation, and time in years is shown on the bottom axis. Each measurement taken at the monitoring well is shown as a blue dot, with blue lines connecting between the blue dots indicating the interpolated groundwater level between measurements. The MT and IM are shown as a red line, and the MO is shown as a green line. Appendix A includes hydrographs with MT, MO and IM for each representative monitoring well.

Table 5-1 shows the representative monitoring network and the numerical values for the MT, MO, and IM for each representative well.

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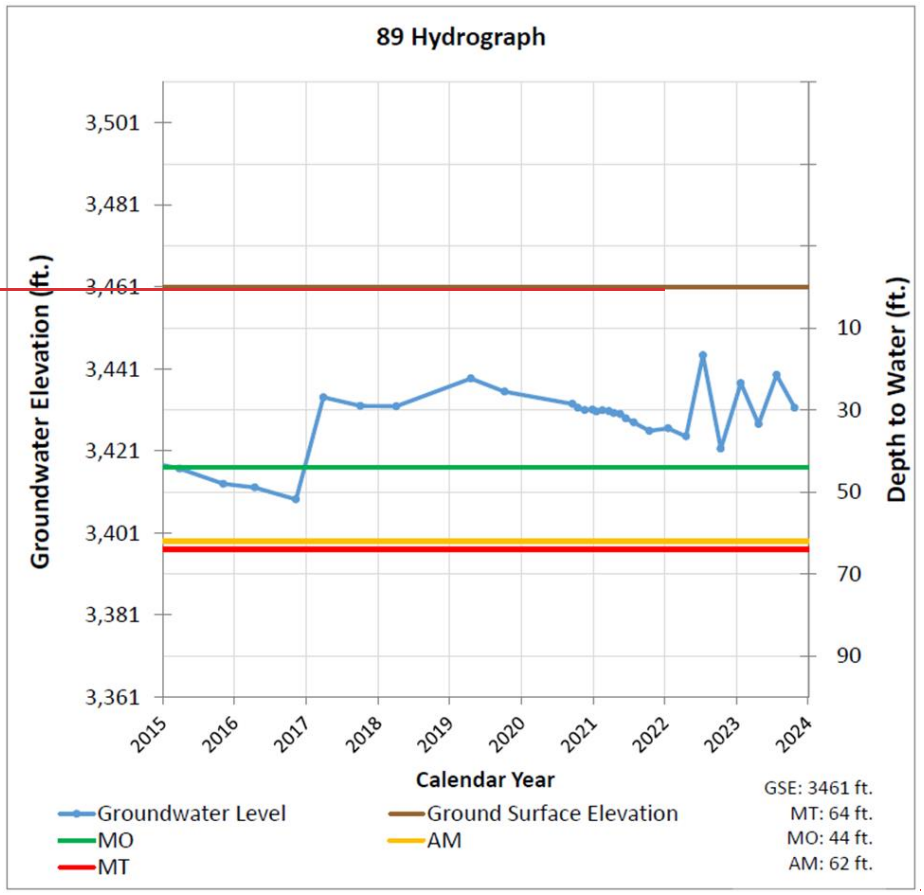
89 Hydrograph
Groundwater Elevation (ft.)
3,501
3,481
3,461
3,441
3,421
3,401
3,381
3,361
Depth to Water (ft.)
10
30
50
70
90
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
Calendar Year
Groundwater Level
Ground Surface Elevation
MO
AM
MT
GSE: 3461 ft.
MT: 64 ft.
MO: 44 ft.
AM: 62 ft.

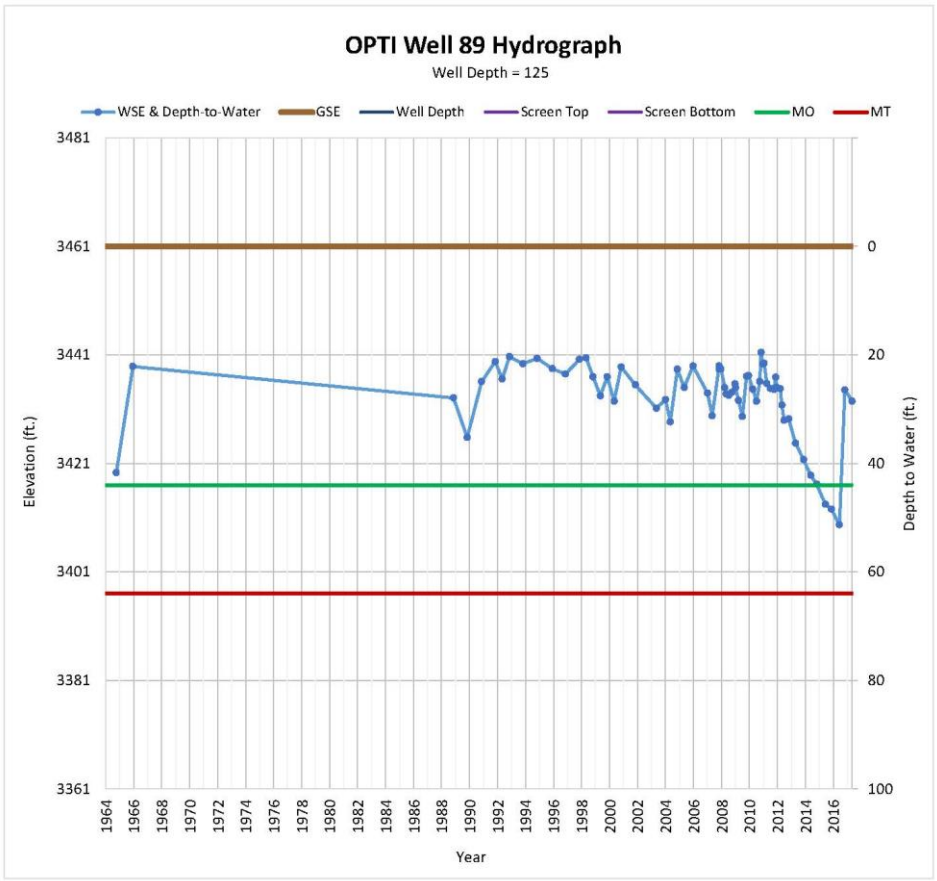

Figure 5-4: Example Hydrograph

Table 5-1: Representative Monitoring Network and Sustainability Criteria

OPTI Well	Region		Final MT	Final MO	2025 IM		2030 IM	2035 IM	Well Depth (feet)	Screen Top (feet)	Screen Bottom (feet)	GSE (feet)
72	Central			373169	328124	362169	350154	339147	790	340	350	2,171
74	Central			322256	309243	319256	316252	312250	--	--	--	2,193
77	Central			514450	464400	501450	489433	476425	980	960	980	2,286
91	Central			730625	681576	718625	705609	693601	980	960	980	2,474
95	Central			597573	562538	588573	580561	571556	805	--	--	2,449
96	Central			369333	361325	367333	365330	363329	500	--	--	2,606
98	Central			450	439	450	446	445	750	--	--	2,688
99	Central			379311	368300	377311	374307	371306	750	730	750	2,513
102	Central			470235	432197	461235	451222	442216	--	--	--	2,046
103	Central			379290	324235	365290	351272	338263	1,030	--	--	2,289
112	Central			10287	10085	10187	10186	10086	441	--	--	2,139
114	Central			5847	5645	5847	5746	5746	58	--	--	1,925
316	Central			731623	682574	719623	706607	694599	830	--	--	2,474
317	Central			700623	650573	688623	675606	663598	700	--	--	2,474
322	Central			387307	378298	385307	383304	381303	850	--	--	2,513
324	Central			365311	353299	362311	359307	356305	560	--	--	2,513
325	Central			331300	323292	329300	327297	325296	380	--	--	2,513
420	Central			514450	464400	501450	489433	476425	780	--	--	2,286

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Table 5-1: Representative Monitoring Network and Sustainability Criteria

OPTI Well	Region		Final MT	Final MO	2025 IM		2030 IM	2035 IM	Well Depth (feet)	Screen Top (feet)	Screen Bottom (feet)	GSE (feet)
421	Central			514446	466398	502446	490430	478422	620	--	--	2,286
422	Central			444	397	444	428	421	460	--	--	2,286
474	Central			197188	178169	192188	188182	183179	213	--	--	2,369
568	Central			4737	4636	4737	4737	4637	188	--	--	1,905
604	Central			544526	505487	534526	524513	515507	924	454	924	2,125
608	Central			504436	475407	497436	490426	483422	745	440	745	2,224
609	Central			499458	462421	490458	480446	471440	970	476	970	2,167
610	Central			557621	527591	549621	542611	534606	780	428	780	2,442
612	Central			513463	490440	507463	502455	496452	1,070	657	1070	2,266
613	Central			578503	550475	571503	564494	557489	830	330	830	2,330
615	Central			588500	556468	580500	572489	564484	865	480	865	2,327
620	Central			606	566	606	593	586	1,035	550	1035	2,432
629	Central			613559	581527	605559	597548	589543	1,000	500	1000	2,379
633	Central			605547	551493	591547	578529	564520	1,000	500	1000	2,364
62	Eastern			212182	187157	206182	199169	193170	212	--	--	2,921
85	Eastern			200233	176209	194233	188204	182221	233	--	--	3,047
100	Eastern			186181	157152	179181	172162	164167	284	--	--	3,004
101	Eastern			138111	11588	133111	127101	121100	200	--	--	2,741

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Table 5-1: Representative Monitoring Network and Sustainability Criteria

OPTI Well	Region	Final MT	Final MO	2025 IM		2030 IM	2035 IM	Well Depth (feet)	Screen Top (feet)	Screen Bottom (feet)	GSE (feet)
~~840~~	~~Northwestern~~		~~203~~	~~153~~	~~203~~	~~186~~	~~178~~	~~900~~	~~200~~	~~880~~	~~1,713~~
841	Northwestern		203	153	191~~203~~	178~~186~~	166~~178~~	600	170	580	1,761
~~843~~	~~Northwestern~~		~~203~~	~~153~~	~~203~~	~~186~~	~~178~~	~~620~~	~~60~~	~~600~~	~~1,761~~
845	Northwestern		203	153	191~~203~~	178~~186~~	166~~178~~	380	100	360	1,712
~~849~~	~~Northwestern~~		~~203~~	~~153~~	~~203~~	~~186~~	~~178~~	~~570~~	~~150~~	~~550~~	~~1,713~~
2	Southeastern		52~~72~~	35~~55~~	48~~72~~	44~~66~~	39~~64~~	73	--	--	3,720
89	Southeastern		62~~64~~	42~~44~~	57~~64~~	52~~57~~	47~~54~~	125	--	--	3,461
106	Western		164~~154~~	152~~141.4~~	161~~154~~	158~~150~~	155~~148~~	227.5	--	--	2,327
107	Western		122~~91~~	103~~72.23~~	117~~91~~	113~~85~~	108~~82~~	200	--	--	2,482
~~108~~	~~Western~~		~~165~~	~~135.62~~	~~165~~	~~155~~	~~150~~	~~328.75~~	~~--~~	~~--~~	~~2,629~~
117	Western		163~~160~~	154~~150.82~~	161~~160~~	158~~157~~	156~~155~~	212	--	--	2,098
118	Western		40~~124~~	10~~57.22~~	24~~124~~	7~~102~~	-10~~91~~	500	--	--	2,270
~~123~~	~~Western~~		~~31~~	~~12.59~~	~~31~~	~~25~~	~~22~~	~~138~~	~~--~~	~~--~~	~~2,165~~
~~124~~	~~Western~~		~~73~~	~~57.12~~	~~73~~	~~68~~	~~65~~	~~160.55~~	~~--~~	~~--~~	~~2,287~~
~~127~~	~~Western~~		~~42~~	~~31.74~~	~~42~~	~~39~~	~~37~~	~~100.25~~	~~--~~	~~--~~	~~2,364~~
571	Western		142~~144~~	118~~120.5~~	136~~144~~	130~~136~~	124~~132~~	280	--	--	2,307
573	Western		93~~118~~	42~~67.5~~	80~~118~~	68~~101~~	55~~93~~	404	--	--	2,084
830	Far-West Northwestern		63~~59~~	60~~56~~	62~~59~~	62~~58~~	61~~58~~	77.2	--	--	1,571

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Table 5-1: Representative Monitoring Network and Sustainability Criteria

OPTI Well	Region		Final MT	Final MO	2025 IM		2030 IM	2035 IM	Well Depth (feet)	Screen Top (feet)	Screen Bottom (feet)	GSE (feet)	
~~831~~	~~Far-West Northwestern~~		~~77~~	~~52~~	~~77~~		~~69~~	~~65~~	~~213.75~~	~~--~~	~~--~~	~~1,557~~	
832	Far-West Northwestern		5045	3530	4645		4340	3938	131.8	--	--	1,630	Formatted Table
833	Far-West Northwestern		4896	1024	3096		1272	-660	503.55	--	--	1,457	
~~834~~	~~Far-West Northwestern~~		~~84~~	~~42~~	~~84~~		~~70~~	~~63~~	~~320~~	~~--~~	~~--~~	~~1,508~~	
~~835~~	~~Far-West Northwestern~~		~~55~~	~~36~~	~~55~~		~~49~~	~~46~~	~~162.2~~	~~--~~	~~--~~	~~1,555~~	
836	Far-West Northwestern		4979	1036	3879		2865	1758	325	--	--	1,486	Formatted Table

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5.3 Reduction of Groundwater Storage

The undesirable result for the reduction in groundwater storage is a result that causes significant and unreasonable reduction in the viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

Direct measurement of the reduction of groundwater storage in the Basin is not needed because monitoring in several areas of the Basin (i.e., the western, southeastern, and portions of the north facing slope of the Cuyama Valley near the center of the Basin) indicate that those regions are likely near, or at full conditions. Additionally, the Basin's primary aquifer is not confined and storage closely matches groundwater levels.

SGMA regulations define the MT for reduction of groundwater storage as "…the total volume of groundwater that can be withdrawn from the basin without causing conditions that may lead to undesirable results."

Undesirable results for groundwater storage volumes in this GSP will use groundwater levels as a proxy, as the groundwater level sustainability criteria are protective of groundwater in storage.

~~5.3.1 Threshold Regions~~

~~Groundwater storage is measured by proxy using groundwater level thresholds, and thus uses the same methodology and threshold regions as groundwater levels.~~

~~5.3.2~~5.3.1 Proxy Monitoring

Reduction of groundwater storage in the Basin uses groundwater levels as a proxy for determining sustainability, as permitted by Title 23 of the California Code of Regulations in Section 354.26 (d), Chapter 1.5.2.5. Additionally, there are currently no state, federal, or local standards that regulate groundwater storage. As described above, any benefits to groundwater storage are expected to coincide with groundwater level management.

5.4 Seawater Intrusion

Due to the geographic location of the Basin, seawater intrusion is not a concern, and thus is not required to establish criteria for undesirable results for seawater intrusion, as supported by Title 23 of the California Code of Regulations in Section 354.26 (d), Chapter 1.5.2.5.

5.5 Degraded Water Quality

The undesirable result for degraded water quality is a result stemming from a causal nexus between SGMA-related groundwater quantity management activities and groundwater quality that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses over the planning and implementation horizon of this GSP.

The SGMA regulations specify that, "minimum thresholds for degraded water quality shall be the degradation of water quality, including the migration of contaminant plumes that impair water supplies or other indicator of water quality as determined by the Agency that may lead to undesirable results."

Salinity (measured as total dissolved solids [TDS]), arsenic, and nitrates were~~have all been~~ identified during the development of the 2020 GSP as potential constituents~~potentially being~~ of concern. ~~for water quality in the Basin.~~ However, recent data analysis has led the CBGSA to conclude that thresholds for TDS are warranted and thresholds for ~~as noted in the Groundwater Conditions section, there have only been two~~ nitrate ~~measurements and three arsenic measurements in recent years that exceeded MCLs. In the case of arsenic, all of the high concentration measurements have been taken at groundwater depths of greater than 700 feet, outside of the range of pumping. Furthermore, unlike with salinity, there is no evidence to suggest a causal nexus between potential GSP actions~~ and arsenic are~~or salinity. Therefore, the groundwater quality network has been established to monitor for salinity (measured as TDS) but does~~ not aligned with the CBGSAs role within the Subbasin. ~~include arsenic or nitrates at this time.~~

TDS is being monitored by the GSA for several reasons. Local stakeholders identified TDS as one of the constituents of concerns in the GSP development processes, and TDS has had several exceedance measurements near domestic and public supply wells. Although high TDS concentrations are naturally occurring within the Basin, it is believed that management of groundwater levels may help improve TDS concentration levels towards levels reflective of the natural condition.

~~5.5.1 Threshold Regions~~

~~Groundwater quality monitoring does not use threshold regions. because the same approach is used for all wells in the Basin. Figure 5-3 shows groundwater quality representative well locations in the Basin.~~

~~Figure 5-3:~~ The CBGSA will continue to monitor TDS and utilize the undesirable results statement and UR triggers identified in Section 3.2.4 to determine the appropriate actions and timing of applicable actions to address water quality concerns. As discussed in Section 7.6 Adaptive Management, the CBGSA has also set adaptive management triggers. Adaptive management triggers are thresholds that, if reached, initiate the process for considering implementation of adaptive management actions or projects. During GSP implementation, regular monitoring reports will be prepared for the CBGSA that summarize and provide updates on groundwater conditions, including groundwater quality.

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Nitrates and Arsenic

Nitrates are the result of fertilizer application on agricultural land. The CBGSA does not have the regulatory authority granted through SGMA to regulate the application of fertilizer. This regulatory authority is held by the SWRCB through the Irrigated Lands Regulatory Program (ILRP). The CBGSA can encourage agricultural users in the Basin to use best management practices when using fertilizers but cannot limit their use. Because the CBGSA has no mechanism to directly control nitrate concentrations, the GSA believes that setting thresholds for nitrates is not appropriate. However, it should be noted that GSP implementation will likely have an indirect effect on nitrates in the central portion of the Basin due to the reduction in pumping allocations that were included in the GSP. This will likely reduce the application of fertilizers in the central part of the Basin as agricultural production in the Basin is reduced over time.

Similarly, because arsenic is naturally occurring, the CBGSA does not believe the establishment of thresholds for arsenic is appropriate. As shown in Figure 2-79, wells with high arsenic concentrations are located in a relatively small area of the Basin south of New Cuyama. A review of production well data provided by the counties (discussed in Section 2) indicates that there are no active private domestic wells located in this part of the Basin. The only operational public well that that is located in this part of the Basin serves the Cuyama Community Services District (CCSD). As described in Chapter 7, the CCSD is currently pursuing the drilling of a new production well, which was included as a project in the GSP. Once this well is completed, it is not believed that any domestic water users will be using a well that accesses groundwater with known high arsenic concentrations.

Commented [CE3]: Link this and confirm this is the correct reference number when document is combined.

Monitoring Approach for Nitrates and Arsenic

The CBGSA will continue to coordinate and work with the Regional Water Quality Control Board and other responsible regulatory programs on a regular basis for the successful and sustainable management of water resources that protect against undesirable conditions related to nitrates and arsenic. As discussed in Chapter 4, the CBGSA will take nitrate and arsenic measurements once every five years as part of its monitoring program and will use existing monitoring programs for nitrates and arsenic, in particular ILP for nitrates and USGS for arsenic.

In the event groundwater conditions related to nitrate and arsenic begin to impact the beneficial uses and users of groundwater in the Basin, the CBGSA will notify the appropriate regulatory program and/or agency and initiate more frequent coordination to address those conditions and support their regulatory actions to address those conditions. If undesirable groundwater

conditions for nitrate and arsenic are found to be the result of Basin management by the CBGSA, a process may be developed to help mitigate or assist those uses and users by utilizing adaptive management strategies, including pumping management or well rehabilitation or replacement. At this time, however, the CBGSA will rely on the current processes and programs set forth to manage nitrate and arsenic in a sustainable manner.~~Groundwater Quality Representative Wells~~

~~5.5.2~~5.5.1 Proxy Monitoring

Proxy monitoring is not used for groundwater quality monitoring in the Basin.

~~5.5.3~~5.5.2 Minimum Thresholds, Measurable Objectives, and Interim Milestones

The CBGSA has decided to address TDS within the Basin by setting MTs, MOs, and IMs as shown in **Table 5-2**. TDS does not have a primary maximum contaminant level (MCL), but does have both a California Division of Drinking Water and U.S. Environmental Protection Agency. Secondary standard of 500 milligrams per liter (mg/L), and a short-term standard of 1,500 mg/L. Current levels in the Basin range from 84 to 4,400 mg/L. This is due to saline conditions in the portions of the watershed where rainfall percolates through marine sediments that contain large amounts of salt.

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Due to this natural condition, additional data has been and will continue to be collected during GSP implementation to increase the CBGSA's understanding of TDS sources in the Basin. It should be noted however, that TDS levels in groundwater may not detrimentally impact the agricultural economy of the Basin. Much of the crops grown in the Basin, including carrots, are not significantly affected by the kinds of salts in the Basin.

Due to these factors, the MT for representative well sites was set to be the 20 percent of the total range of each representative monitoring site above the 90th percentile of measurements for each site. For example, Opti Well 72 has a minimum recorded TDS value of 955 mg/L and a maximum of 1,020 mg/L. This is a range of 65 mg/L, and 20 percent of that range is 13 mg/L. The 90th percentile for Opti Well 72 is 1,010 mg/L. The MT is then calculated by taking the 90th percentile of 1,010 mg/L and adding 13mg/L to reach a final MT of 1,023 mg/L.

To provide for an acceptable margin of operational flexibility, the MO for TDS levels in the Basin have been set to the temporary MCL of 1,500 mg/L for each representative well where the latest measurements as of 2018 are greater than 1,500 mg/L. For wells with recent measurements of less than 1,500 mg/L, the MO was set to the most recent measurement as of 2018.

GSP regulations require GSAs to avoid undesirable results by 2040, which means they must meet or exceed the MTs. The CBGSA also recognizes that reaching an MO is a priority, but meeting or exceeding the MT is required by SGMA. For this reason, the IMs for 2025 has been set as the same value as the MT, with a projected improvement to one-third of the distance between the MT and MO in 2030 and one-half of the distance between the MT and MO in 2035.

Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)
61	357	Unknown	36813~~,681~~	585	10004~~68~~	896~~602~~	793~~26.8~~	68958~~8.4~~	~~585~~	~~615.2~~	~~615~~	~~605~~	~~600~~
72	790	340 – 350	21712~~,171~~	~~900~~996	11069~~55~~	105510~~20~~	100 3~~13~~	95210~~10~~	~~996~~	~~1,023~~	~~1023~~	~~1014~~	~~1010~~
~~73~~	~~880~~	~~Unknown~~	~~2,252~~	~~805~~	~~777~~	~~844~~	~~13.4~~	~~842.5~~	~~805~~	~~855.9~~	~~856~~	~~839~~	~~830~~
74	--	Unknown	21932~~,193~~	13101~~,550~~	18721~~,530~~	17321~~,820~~	159 1~~58~~	14511~~775~~	~~1,500~~	~~1,833~~	~~1833~~	~~1722~~	~~1667~~
~~76~~	~~720~~	~~Unknown~~	~~2,277~~	~~1,700~~	~~1,280~~	~~2,190~~	~~182~~	~~2,124.9~~	~~1,500~~	~~2,306.9~~	~~2307~~	~~2038~~	~~1903~~
77	980	960 – 980	22862~~,286~~	1,12052~~0~~	16821~~,520~~	15421~~,580~~	140 1~~12~~	12611~~580~~	~~1,500~~	~~1,592~~	~~1592~~	~~1561~~	~~1546~~
79	600	Unknown	23742~~,374~~	~~2,140~~	~~1,810~~	~~2,280~~	~~94~~	~~2226~~	1,500	23182~~,320~~	21142~~320~~	19092~~047~~	17051910
~~81~~	~~155~~	~~Unknown~~	~~2,698~~	~~2,620~~	~~2,620~~	~~2,760~~	~~28~~	~~2760~~	~~1,500~~	~~2,788~~	~~2788~~	~~2359~~	~~2144~~

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Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)		
83	198	Unknown	~~28582,858~~	1,~~120660~~	~~18161,660~~	~~16421,720~~	1468~~12~~	~~12941714~~	~~1,500~~	~~1,726~~	~~1726~~	~~1651~~	~~1613~~		
~~85~~	~~233~~	~~Unknown~~	~~3,047~~	~~618~~	~~491~~	~~1,500~~	~~201.8~~	~~1,189.4~~	~~618~~	~~1,391.2~~	~~1391~~	~~1133~~	~~1005~~		
~~86~~	~~230~~	~~Unknown~~	~~3,141~~	~~969~~	~~912~~	~~969~~	~~11.4~~	~~963.3~~	~~969~~	~~974.7~~	~~975~~	~~973~~	~~972~~		
~~87~~	~~232~~	~~Unknown~~	~~3,546~~	~~1,090~~	~~891~~	~~1,160~~	~~53.8~~	~~1,111~~	~~1,090~~	~~1,164.8~~	~~1165~~	~~1140~~	~~1127~~		
88	400	Unknown	~~35493,549~~	~~320302~~	~~1000302~~	~~830302~~	~~6600~~	~~490302~~	~~302~~	~~302~~	~~302~~	~~302~~	~~302~~		
90	800	Unknown	~~25522,552~~	1,~~400530~~	~~15961,440~~	~~1,580~~	~~28~~	~~1,565~~	~~1,500~~	~~1,593~~	~~1593~~	~~1562~~	1547	1498	1449
91	980	960 – 980	~~24742,474~~	1,~~020410~~	~~15581,410~~	~~14241,480~~	1289~~14~~	~~11551,473~~	~~1,410~~	~~1,487~~	~~1487~~	~~1461~~	~~1449~~		
~~94~~	~~550~~	~~Unknown~~	~~2,456~~	~~1,050~~	~~1,050~~	~~1,230~~	~~36~~	~~1,209~~	~~1,050~~	~~1,245~~	~~1245~~	~~1180~~	~~1148~~		
95	805	Unknown	~~24492,449~~	~~13401,710~~	~~19501,710~~	~~17981,840~~	1645~~26~~	~~14931,840~~	~~1,500~~	~~1,866~~	~~1866~~	~~1744~~	~~1683~~		

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Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)	
96	500	Unknown	26062~~,606~~	1100~~1,500~~	16761~~,500~~	1532~~1,620~~	1388~~24~~	12441~~,608~~	~~1,500~~	~~1,632~~	~~1632~~	~~1588~~	~~1566~~	
~~98~~	~~750~~	~~Unknown~~	~~2,688~~	~~2,220~~	~~2,220~~	~~2,370~~	~~30~~	~~2,370~~	~~1,500~~	~~2,400~~	~~2400~~	~~2100~~	~~1950~~	
99	750	730 – 750	25132~~,513~~	1,14049~~0~~	16581~~,490~~	1529~~1,550~~	1399~~12~~	12701~~,550~~	~~1,490~~	~~1,562~~	~~1562~~	~~1538~~	~~1526~~	Formatted Table
101	200	Unknown	27412~~,741~~	1210~~1,550~~	17351~~,550~~	1604~~1,680~~	147~~326~~	13411~~,667~~	~~1,500~~	~~1,693~~	~~1693~~	~~1629~~	~~1597~~	
102	--	Unknown	20462~~,046~~	~~1,970~~	~~1,920~~	~~2,290~~	~~74~~	~~2,277~~	1,500	2551~~2,351~~	2288~~2351~~	2026~~2067~~	1763~~1926~~	
~~130~~	~~--~~	~~Unknown~~	~~3,536~~	~~1,800~~	~~1,800~~	~~1,850~~	~~10~~	~~1,845~~	~~1,500~~	~~1,855~~	~~1855~~	~~1737~~	~~1678~~	
~~131~~	~~--~~	~~Unknown~~	~~2,990~~	~~1,850~~	~~1,850~~	~~1,970~~	~~24~~	~~1,958~~	~~1,500~~	~~1,982~~	~~1982~~	~~1821~~	~~1741~~	
157	71	Unknown	37553~~,755~~	~~1,930~~	~~1,910~~	~~2,320~~	~~82~~	~~2,278~~	~~1,500~~	12,360	2468~~2360~~	2191~~2073~~	1914~~1930~~	1637 Formatted Table
~~196~~	~~741~~	~~Unknown~~	~~3,117~~	~~851~~	~~682~~	~~868~~	~~37.2~~	~~866.5~~	~~851~~	~~903.7~~	~~904~~	~~886~~	~~877~~	

Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)
204	--	Unknown	36933 ~~,693~~	380~~253~~	10002 ~~53~~	845~~266~~	690 ~~2.6~~	5352~~66~~	~~253~~	~~268.6~~	~~269~~	~~263~~	~~261~~
~~226~~	~~--~~	~~Unknown~~	~~2,945~~	~~1,760~~	~~1,760~~	~~1,830~~	~~14~~	~~1,830~~	~~1,500~~	~~1,844~~	~~1844~~	~~1729~~	~~1672~~
242 ~~227~~	155~~--~~	Unknown	29333 ~~,002~~	~~1,~~780	16561 ~~,780~~	14372~~,200~~	121 884	9992~~,146~~	~~1,500~~	~~2,230~~	~~2230~~	~~1987~~	~~1865~~
~~242~~	~~155~~	~~Unknown~~	~~2,933~~	~~1,470~~	~~1,470~~	~~1,510~~	~~8~~	~~1,510~~	~~1,470~~	~~1,518~~	~~1518~~	~~1502~~	~~1494~~
~~269~~	~~--~~	~~Unknown~~	~~2,756~~	~~1,570~~	~~1,570~~	~~1,690~~	~~24~~	~~1,678~~	~~1,500~~	~~1,702~~	~~1702~~	~~1635~~	~~1601~~
~~309~~	~~1,100~~	~~Unknown~~	~~2,513~~	~~1,410~~	~~1,410~~	~~1,500~~	~~18~~	~~1,491~~	~~1,410~~	~~1,509~~	~~1509~~	~~1476~~	~~1460~~
316	830	Unknown	24742 ~~,474~~	1,06038~~0~~	15241 ~~,380~~	14081~~,460~~	129 216	11761 ~~,452~~	~~1,380~~	~~1,468~~	~~1468~~	~~1439~~	~~1424~~
317	700	Unknown	24742 ~~,474~~	6921~~,260~~	14441 ~~,260~~	12561~~,330~~	106 814	8801~~,323~~	~~1,260~~	~~1,337~~	~~1337~~	~~1311~~	~~1299~~
322 ~~318~~	85061~~0~~	Unknown	25132 ~~,474~~	~~1,080~~	~~1,080~~	1,140	1504 ~~12~~	14131 ~~,140~~	1322~~1~~ ~~,080~~	1231~~1~~ ~~,152~~	~~1152~~	~~1128~~	~~1116~~

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Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)	
~~322~~	~~850~~	~~Unknown~~	~~2,513~~	~~1,350~~	~~1,350~~	~~1,380~~	~~6~~	~~1,380~~	~~1,350~~	~~1,386~~	~~1386~~	~~1374~~	~~1368~~	
324	560	Unknown	2513~~2,513~~	~~740~~746	1000~~746~~	935~~772~~	870 ~~5.2~~	805~~772~~	~~746~~	~~777.2~~	~~777~~	~~767~~	~~762~~	Formatted Table
325	380	Unknown	2513~~2,513~~	1,070~~470~~	1687~~1,470~~	1533~~1,560~~	137 8~~18~~	1224~~1,551~~	~~1,470~~	~~1,569~~	~~1569~~	~~1536~~	~~1520~~	
~~400~~	~~2,120~~	~~Unknown~~	~~2,298~~	~~918~~	~~680~~	~~948~~	~~53.6~~	~~922~~	~~918~~	~~975.6~~	~~976~~	~~956~~	~~947~~	
420	780	Unknown	2286~~2,286~~	1,080~~430~~	1560~~1,430~~	1440~~1,480~~	132 0~~10~~	1200~~1,480~~	~~1,430~~	~~1,490~~	~~1490~~	~~1470~~	~~1460~~	Formatted Table
421	620	Unknown	2286~~2,286~~	1,280~~520~~	1761~~1,520~~	1640~~1,600~~	152 0~~16~~	1400~~1,600~~	~~1,500~~	~~1,616~~	~~1616~~	~~1577~~	~~1558~~	
~~422~~	~~460~~	~~Unknown~~	~~2,286~~	~~1,810~~	~~1,810~~	~~1,930~~	~~24~~	~~1,918~~	~~1,500~~	~~1,942~~	~~1942~~	~~1795~~	~~1721~~	
424	1000~~1,000~~	Unknown	2291~~2,291~~	1,260~~540~~	1658~~1,540~~	~~1,580~~	~~8~~	~~1,580~~	~~1,500~~	~~1,588~~	~~1588~~	1559	145915~~44~~	1360 Formatted Table
467	1140~~1,140~~	Unknown	2224~~2,224~~	1070~~1,630~~	1846~~1,530~~	1652~~1,730~~	145 8~~40~~	1264~~1,724~~	~~1,500~~	~~1,764~~	~~1764~~	~~1676~~	~~1632~~	

Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)
568	188	Unknown	19051~~,905~~	860~~871~~	11188~~71~~	10541~~,180~~	98961.8	9251~~29.6~~	~~871~~	~~1,191.4~~	~~1191~~	~~1085~~	~~1031~~
~~702~~	~~--~~	~~Unknown~~	~~3,539~~	~~110~~	~~48~~	~~1,900~~	~~370.4~~	~~1,704~~	~~110~~	~~2,074.4~~	~~2074~~	~~1420~~	~~1092~~
~~703~~	~~--~~	~~Unknown~~	~~1,613~~	~~400~~	~~16~~	~~4,500~~	~~896.8~~	~~3,200~~	~~400~~	~~4,096.8~~	~~4097~~	~~2865~~	~~2248~~
~~710~~	~~--~~	~~Unknown~~	~~2,942~~	~~1,040~~	~~1,040~~	~~1,040~~	~~0~~	~~1,040~~	~~1,040~~	~~1,040~~	~~1040~~	~~1040~~	~~1040~~
~~711~~	~~--~~	~~Unknown~~	~~1,905~~	~~928~~	~~928~~	~~928~~	~~0~~	~~928~~	~~928~~	~~928~~	~~928~~	~~928~~	~~928~~
~~712~~	~~--~~	~~Unknown~~	~~2,171~~	~~977~~	~~972~~	~~977~~	~~1~~	~~9,76.5~~	~~977~~	~~977.5~~	~~978~~	~~977~~	~~977~~
~~713~~	~~--~~	~~Unknown~~	~~2,456~~	~~1,200~~	~~1,200~~	~~1,200~~	~~0~~	~~1,200~~	~~1,200~~	~~1,200~~	~~1200~~	~~1200~~	~~1200~~
~~721~~	~~--~~	~~Unknown~~	~~2,374~~	~~2,170~~	~~2,170~~	~~2,170~~	~~0~~	~~2,170~~	~~1,500~~	~~2,170~~	~~2170~~	~~1947~~	~~1835~~
~~758~~	~~--~~	~~Unknown~~	~~3,537~~	~~900~~	~~760~~	~~923~~	~~32.6~~	~~9,21.7~~	~~900~~	~~954.3~~	~~954~~	~~936~~	~~927~~

Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)
~~840~~	~~900~~	~~200 – 880~~	~~1,713~~	~~559~~	~~559~~	~~559~~	~~0~~	~~559~~	~~559~~	~~559~~	~~559~~	~~559~~	~~559~~
841	600	170 – 580	1761~~1,761~~	561	1000~~561~~	890~~561~~	781~~0~~	671~~561~~	~~561~~	~~561~~	~~561~~	~~561~~	~~561~~
~~842~~	~~450~~	~~60 – 430~~	~~1,759~~	~~547~~	~~547~~	~~547~~	~~0~~	~~547~~	~~547~~	~~547~~	~~547~~	~~547~~	~~547~~
~~843~~	~~620~~	~~60 – 600~~	~~1,761~~	~~569~~	~~569~~	~~569~~	~~0~~	~~569~~	~~569~~	~~569~~	~~569~~	~~569~~	~~569~~
~~844~~	~~730~~	~~100 – 720~~	~~1,713~~	~~481~~	~~481~~	~~481~~	~~0~~	~~481~~	~~481~~	~~481~~	~~481~~	~~481~~	~~481~~
845	380	100 – 360	1712~~1,712~~	1,250	1250~~1,250~~	~~1,250~~	~~0~~	~~1,250~~	~~1,250~~	~~1,250~~	1250	1250	1250
~~846~~	~~610~~	~~130 – 590~~	~~1,715~~	~~918~~	~~918~~	~~918~~	~~0~~	~~918~~	~~918~~	~~918~~	~~918~~	~~918~~	~~918~~
~~847~~	~~600~~	~~180 – 580~~	~~1,733~~	~~480~~	~~480~~	~~480~~	~~0~~	~~480~~	~~480~~	~~480~~	~~480~~	~~480~~	~~480~~
~~848~~	~~390~~	~~110 – 370~~	~~1,694~~	~~674~~	~~674~~	~~674~~	~~0~~	~~674~~	~~674~~	~~674~~	~~674~~	~~674~~	~~674~~

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Table 5-2: MOs, MTs, and Interim Milestones for Groundwater Quality Representative Sites - TDS

Opti Well	Well Depth (feet below GSE)	Screen Interval (feet below GSE)	Well Elevation (feet above MSL)	~~Most Recent Measurement (feet)~~	~~Minimum Value (mg/L)~~	~~Maximum Measurement Value (mg/L)~~	~~20% of Range (mg/L)~~	~~90th Percentile (mg/L)~~	MO (mg/L)	MT (mg/L)	2025 IM (mg/L)	2030 IM (mg/L)	2035 IM (mg/L)
~~849~~	~~570~~	~~150 – 550~~	~~1,713~~	~~1,780~~	~~1,780~~	~~1,780~~	~~0~~	~~1,780~~	~~1,500~~	~~1,780~~	~~1780~~	~~1687~~	~~1640~~
~~850~~	~~790~~	~~180 – 780~~	~~1,759~~	~~472~~	~~472~~	~~472~~	~~0~~	~~472~~	~~472~~	~~472~~	~~472~~	~~472~~	~~472~~

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5.6 Subsidence

The undesirable result for land subsidence is a result that causes significant and unreasonable reduction in the viability of the use of infrastructure over the planning and implementation horizon of this GSP.

~~5.6.1 Threshold Regions~~

~~Subsidence monitoring does not use threshold regions, because the same approach is used for all wells in the Basin.~~

~~Figure 5-4 shows representative locations of subsidence in the Basin.~~

~~5.6.2~~5.6.1 Representative Monitoring

As discussed in ~~Chapter 4,~~ Section 4.9, all monitoring network subsidence monitoring stations in the Basin, and three additional sites outside of the Basin are designated as representative monitoring sites. ~~(~~ ~~Figure 5-4).~~ Detrimental impacts of subsidence include groundwater storage reductions and potential damage to infrastructure, such as large pipelines, roads, bridges, and canals. However, the Basin does not currently have infrastructure of this type, and storage losses are small enough they are unlikely to have a meaningful effect on the Basin water budget. ~~.~~

Subsidence in the central portion of the Basin is approximately 0.9~~5~~ inches per year, as shown in ~~Section~~ Chapter 2, Section 2.2. Currently, there are no state, federal, or local standards that regulate subsidence rates.

~~5.6.3~~5.6.2 Minimum Thresholds, Measurable Objectives, and Interim Milestones

Although several factors may affect subsidence rates, including natural geologic processes, oil pumping, and groundwater pumping, the primary influence within the Basin is due to groundwater pumping. Because current subsidence rates (approximately 0.9~~8~~ inches per year) are not significant and unreasonable, the MT rate for subsidence was set at 2 inches per year to allow for flexibility as the Basin works toward sustainability in 2040. This rate is applied ~~primarily~~ to the two stations in the Basin (CUHS and VCST), as the other stations in the monitoring network represent ambient changes in vertical displacement, primarily due to geological influences. This level of subsidence is considered unlikely to cause a significant and unreasonable reduction in the viability of the use of infrastructure over the planning and implementation horizon of this GSP.

Subsidence is expected to be influenced through the management of groundwater pumping through the groundwater level MOs, MTs, and IMs. Thus, the MO for subsidence is set for zero lowering of ground surface elevations.

IMs are not needed for the subsidence sustainability indicator because the current rate of subsidence is above the MT.

Subsidence rates will be measured in the frequency of measurement and monitoring protocols documented in Section 4's Appendix A.

~~Figure 5-4: Subsidence Representative Locations~~

5.7 Depletions of Interconnected Surface Water

This section will be developed once guidance documents are available from DWR.~~The undesirable result for depletions of interconnected surface water is a result that causes significant and unreasonable reductions in the viability of agriculture or riparian habitat in the Basin over the planning and implementation horizon of this GSP.~~

~~SGMA regulations define the MT for interconnected surface water as "…the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on the beneficial uses of the surface water and may lead to undesirable results." Under normal surface water conditions in the Basin as of January 1, 2015, surface flows infiltrate into the groundwater system and are used by phreatophytes, except in the most extreme flash flood events, when surface water flows out of the Basin. Historically, these flash flood events flow for less than one week of the year. Conditions have not changed since January 1, 2015, and surface flows continue to infiltrate into the groundwater system for use by local phreatophytes.~~

~~Because current Basin conditions have not varied from January 1, 2015 conditions, the groundwater level thresholds established in Section 5.2 will act to maintain depletions of interconnected surface water at similar levels to those that existed in January 1, 2015. Therefore, groundwater level thresholds are used by proxy to protect the Basin from undesirable results related to depletion of interconnected surface water.~~

5.8 References

California Water Boards Irrigated Land Regulatory Program (ILRP) website. https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/. Accessed January 11, 2019.

TO: Standing Advisory Committee
Agenda Item No. 9a

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 25, 2024

SUBJECT: Update on Fault Investigation Study

Recommended Motion
None – information only.

Discussion
An update on the fault investigation study is provided as Attachment 1.

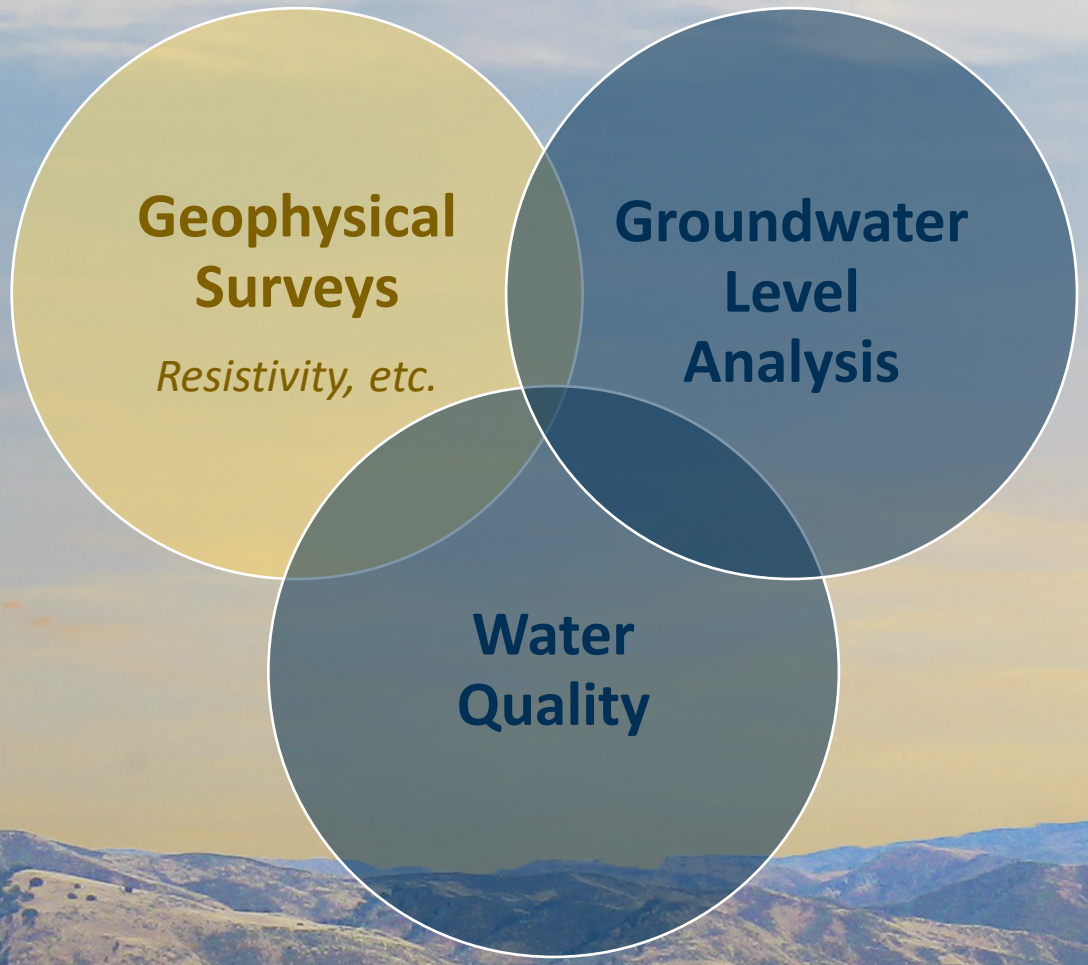
Cuyama Basin Groundwater Sustainability Agency

9a. Update on Fault Investigation Study

Brian Van Lienden

April 25, 2024

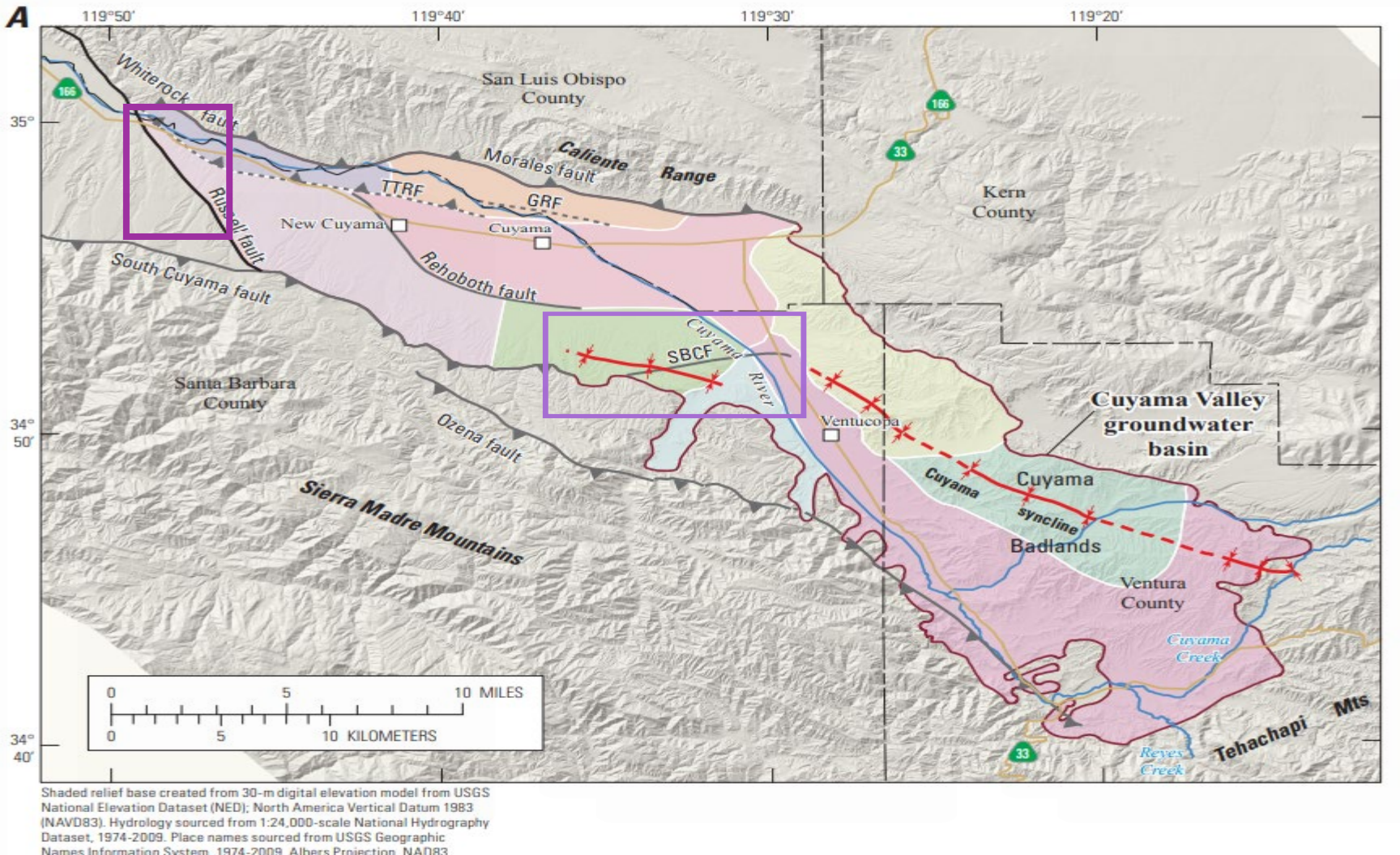
Fault Investigation Methodology: *Three-Pronged Approach*



Groundwater flow calculations and modelling

HALLMARK GROUP Woodard & Curran

Update on Streamlined Groundwater-Fault Interaction Investigation



Groundwater hydrologic subregions and related geologic structures; B, simplified Cuyama major groundwater regions; and C, groups of landscape water-balance subregions for 1943–2010 in Cuyama Valley, California (USGS, 2015)

Cuyuma groundwater basin subregions (table 1)

- Caliente/Northern-Main (CNMZ)
- Central Sierra Madre Foothills (CSMFH)
- Northeast Ventucopa Uplands (NEVU)
- Northwestern Sierra Madre Foothills (NSMFH)
- Northern Ventucopa Uplands (NVU)
- Southern Sierra Madre Foothills (SSMFH)
- Southern Ventucopa Uplands (SVU)
- Southern-Main (SMZ)
- Western-Main (WMZ)

See table 1 for subregion designation

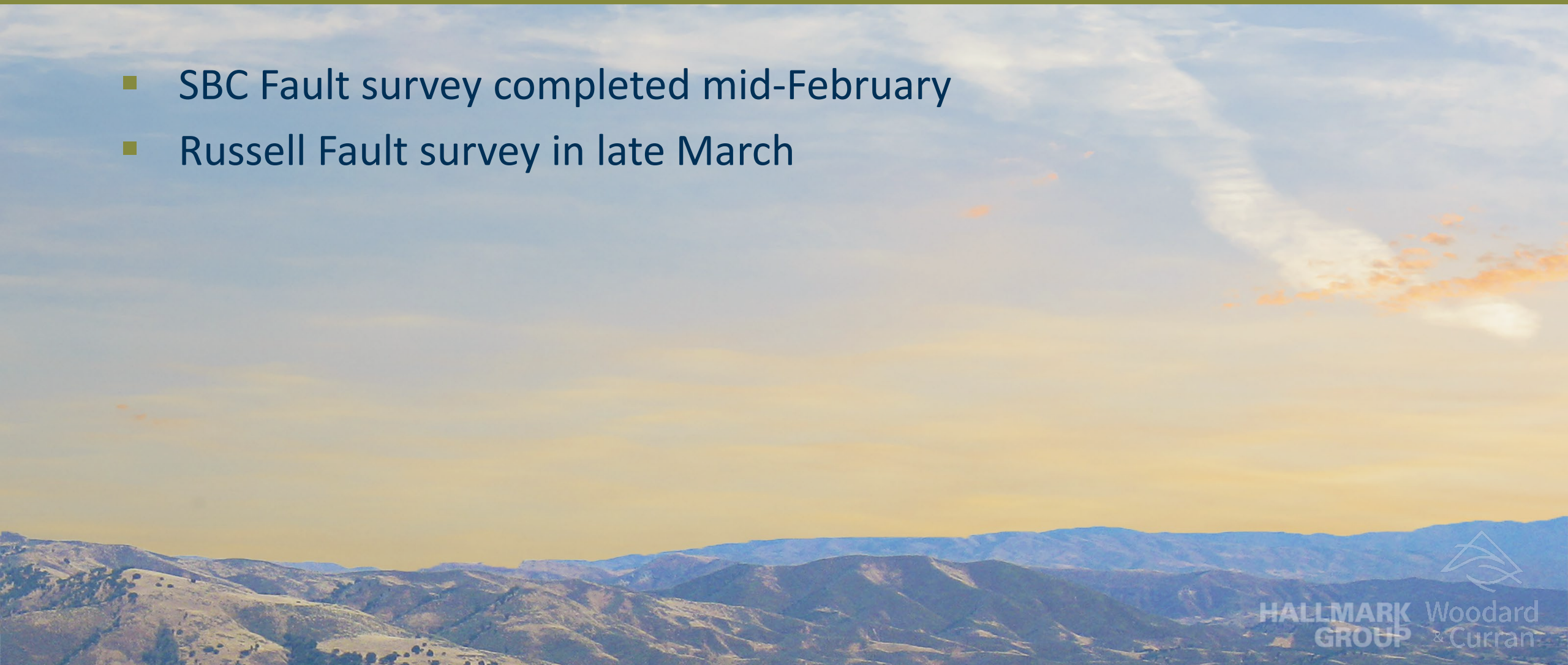
- Normal fault
- Thrust fault
- Thrust fault, concealed
- Syncline
- Syncline, concealed

GRF, Graveyard fault;
SBCF, Santa Barbara Canyon fault;
TTRF, Turkey Trap Ridge fault

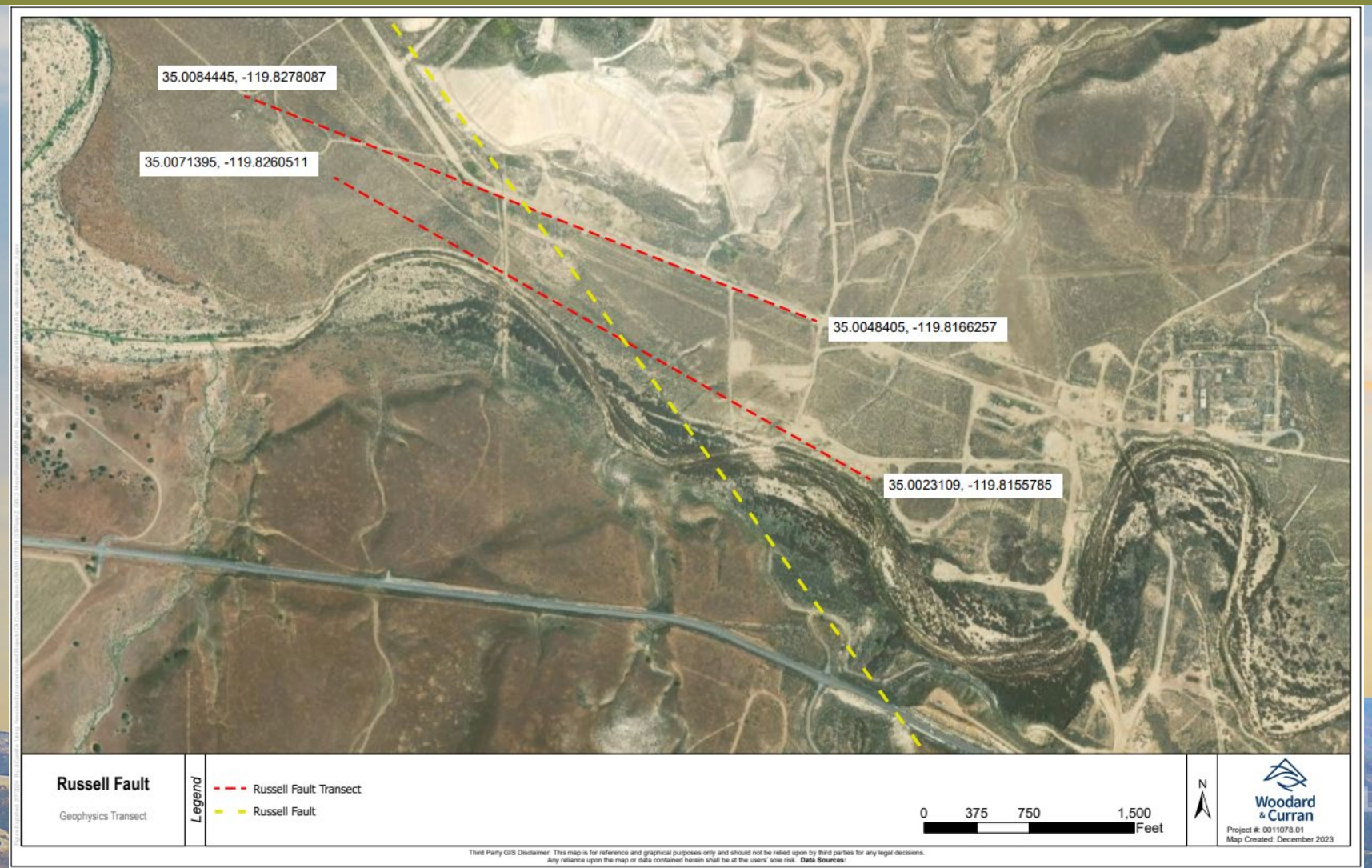
HALLMARK GROUP Woodard & Curran

Schedule

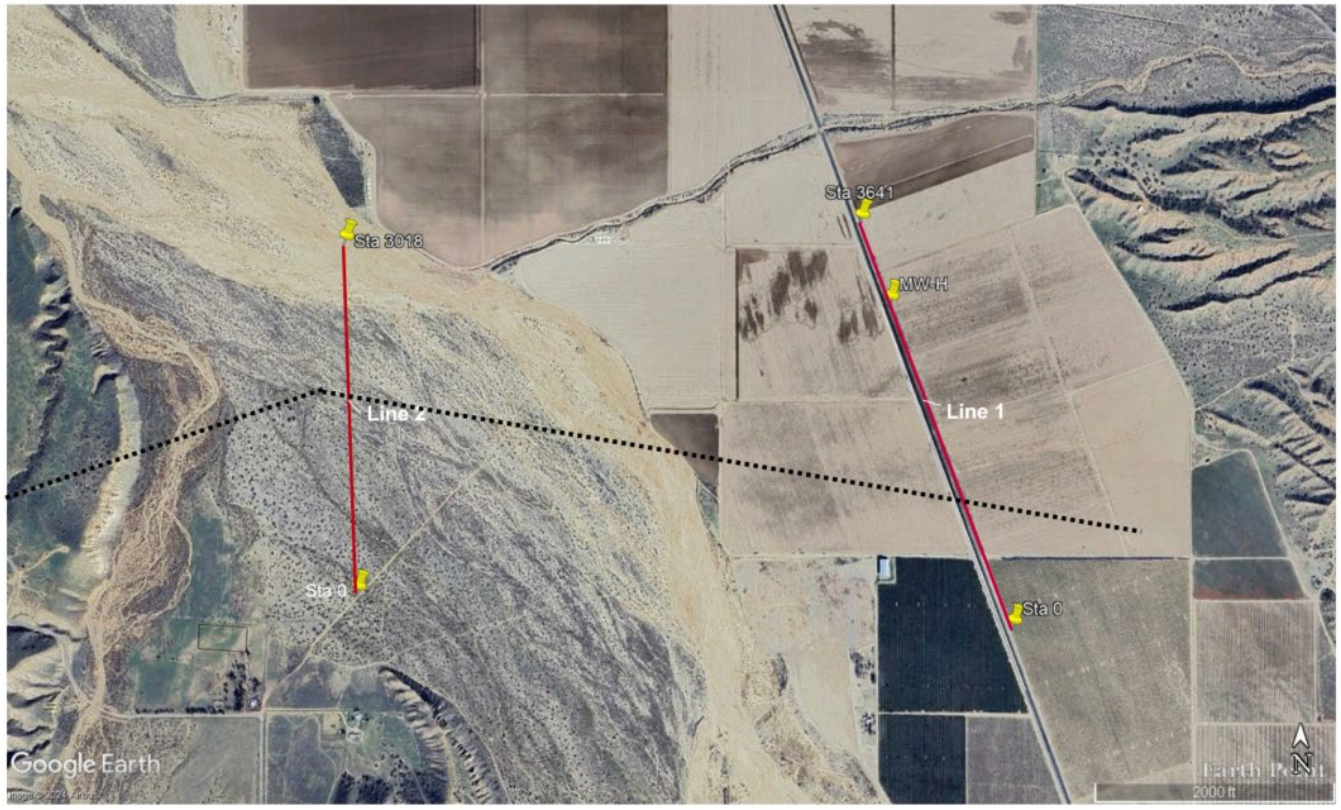
- SBC Fault survey completed mid-February
- Russell Fault survey in late March



Groundwater-Fault Interaction Investigation – Geophysical Surveys – Russell Fault



Groundwater-Fault Interaction Investigation – Geophysical Surveys - SBC Fault



Electrical Resistivity Transect

SBC Fault Mapped by the USGS (Inferred)

spectrum geophysics

16691 GOTHARD STREET, SUITE L
HUNTINGTON BEACH, CA 92647
(714) 435-1073
www.spectrum-geophysics.com

Geophysical Survey Location Map - SBCF

Cuyama Valley Groundwater Basin
San Luis Obispo County, California

Prepared For: Woodard & Curran
Walnut Creek, California

SCALE	DRAWN BY	REVIEWED BY	DATE
NOT TO SCALE	BAU	LCD	04/02/24

FIGURE NO. 1

PROJECT NO.

LANDMARK GROUP

Woodard & Curran

SBC Fault Summary

- SBC Fault was not encountered at Line 1 along Highway 33
- SBC Fault apparently trends to the northeast rather than easterly as inferred by the USGS
- SBC Fault was encountered at Line 2 beneath the Cuyama River
- Appears to be vertical to subvertical steeply north-dipping
- Low resistivity data to the south juxtaposed with high resistivity to the north
- Another subvertical steeply dipping fault or fault splay to the north
- Depth to water appears to be offset across the fault and deeper to the north

Next Steps

- Russell Fault/Fault Zone
  - Develop resistivity profiles for both transects (800 feet)
  - Review E logs and lith logs from nearby oil & gas wells and TSS #1
  - Review AEM data (both faults)
- Evaluate Available Groundwater Data in Investigation Areas
- Measure Groundwater Levels and Collect Samples
- Analyze Samples for:
  - Major cations (Ca, Mg, K, Na)
  - Major anions (HCO_3, Cl, NO_3, SO_4, PO_4, Br)
  - TDS
  - Stable and Radioactive Isotopes (hydrogen, oxygen, carbon)
- Groundwater flow calculations and modelling

Tech Forum Feedback: 2-9-24

Comment by	Bob Abrams, Aquilogic
Comment	Will there be an additional investigation to further evaluate the Santa Barbara Canyon fault location?
Staff Notes	NA

TO: Standing Advisory Committee
Agenda Item No. 9b

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 25, 2024

SUBJECT: Update on Water Resources Model

Recommended Motion
None – information only.

Discussion
An presentation on the Water Resources Model update progress is provided as Attachment 1.

Cuyama Basin Groundwater Sustainability Agency

9b. Update on the Water Resources Basin Model

Brian Van Lienden

April 25, 2024

HALLMARK GROUP Woodard & Curran

Schedule for Technical Work Required for GSP Amendment and Periodic Evaluation

Cuyama Basin Model Update Timeline

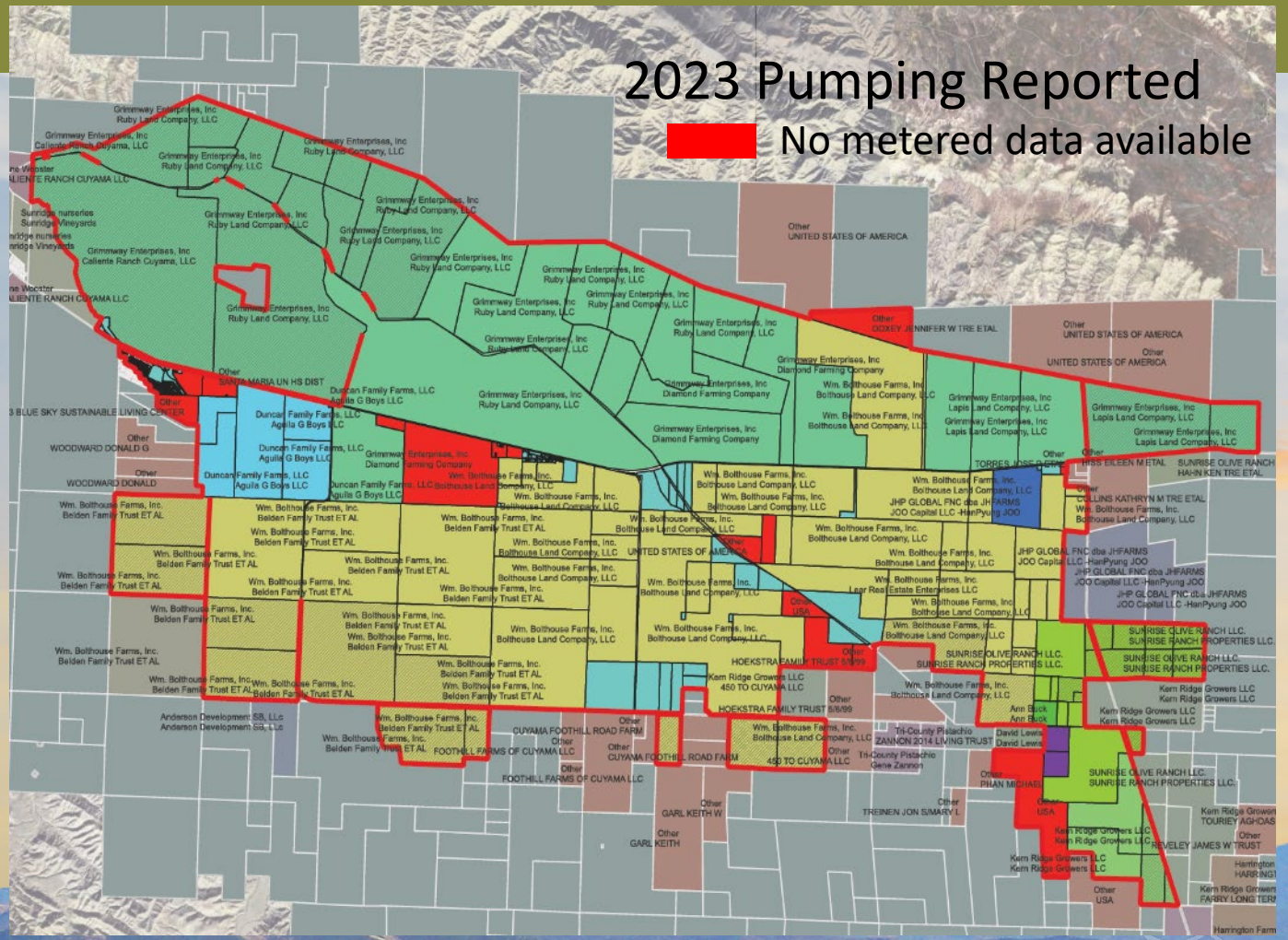
- Feb-mid Apr: Develop Updated Model Inputs for Calibration Period:
  - River channel survey
  - Geologic layers
  - Pumping Well locations
  - Land Use
  - Crop water use estimates
- Mid Apr-May: Perform Re-Calibration of Model Parameters
- Mid June: Complete Future Baseline Simulations
- Mid-Late June: Technical Forum meeting (review calibration & Baseline)

Cuyama Basin Model Land and Water Use Updates

- Analysis is finished for the 2022 & 2023 reported pumping volumes.
- Preliminary updates for the service areas and wells are ready
  - Some of the reported wells are missing location info
- Preliminary identification of non-irrigated fields is done (ground truth by Land IQ done in September 2024)
- The analysis from two years of reported pumping will be used to refine crop water use estimates
  - Verify crop water use estimates
  - Identify non-irrigated crop types
  - A new land use category will be defined for non-irrigated crops
  - Refine idle land water use

Model Estimated vs User-reported Pumping

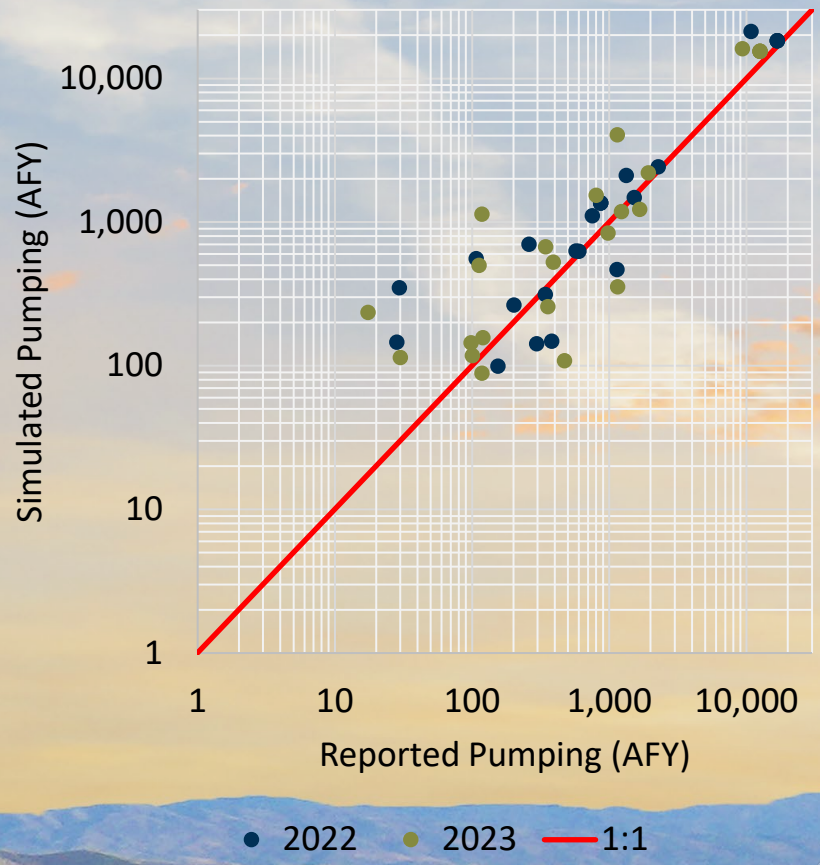
- Modeled pumping estimate was compared to reported pumping for WY 2022 and 2023
- Data was compared for each reporting operating company
- Previous issues about the reported APNs are resolved



DRAFT – For internal discussion purposes

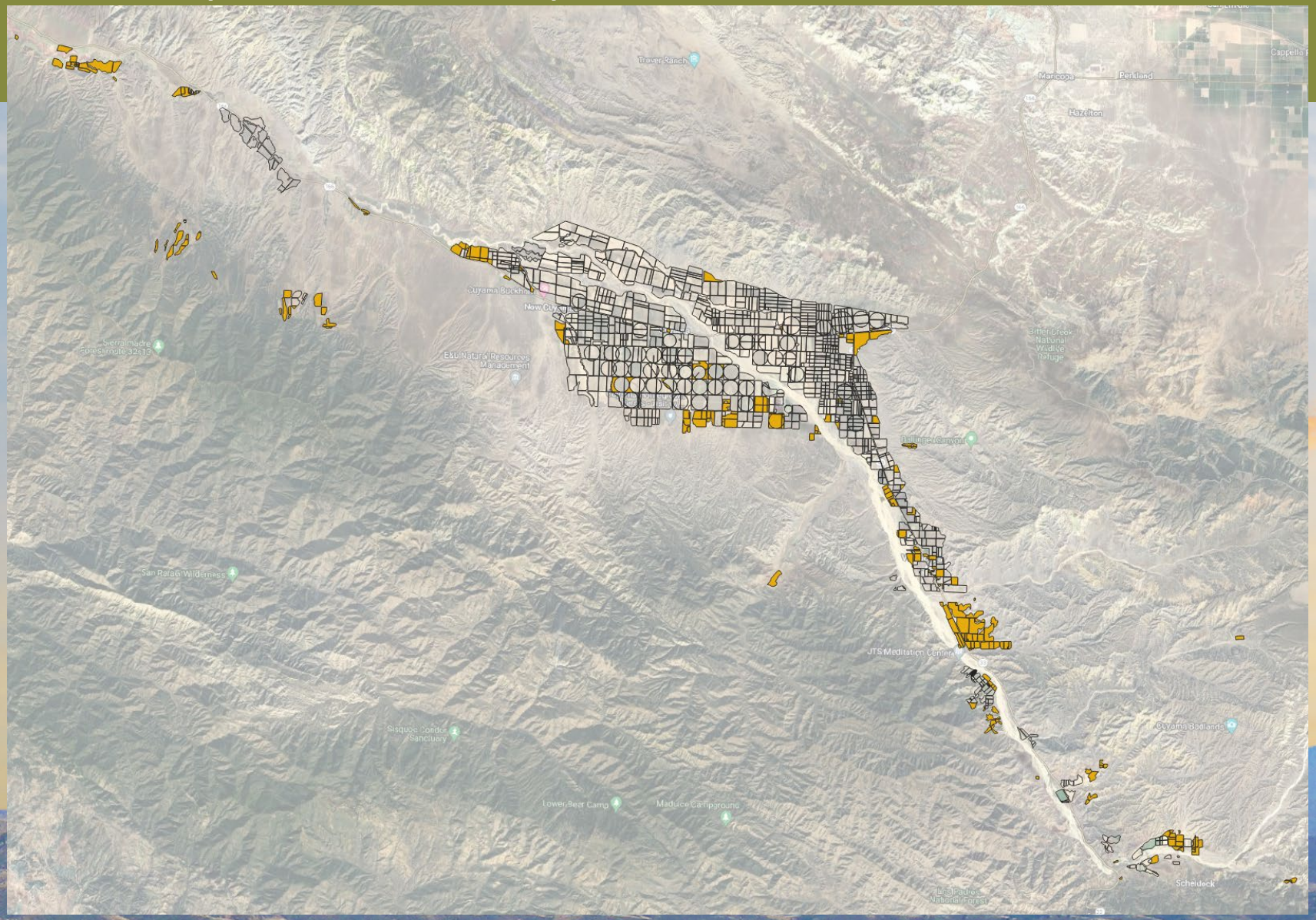
Test Run for Non-irrigated Land Use Types (continued)

Agricultural Pumping	Annual Report Model Estimate (AF)	Landowner Reported (AF)	Test Run by using non-irrigated LU category (AF)
2022 – Jan-Sep	**54,700**	**38,400**	**32,700**
2023 – Jan-Sep	**46,000**	**33,500**	**29,300**



Non-Irrigated Fields (preliminary W&C estimate)

- White = Irrigated
- Gold = Non-irrigated
- To be updated when Land IQ completes irrigated status work in September 2024



Next Steps to Finalize Land and Water Use for Calibration

- Review the preliminary well and service area datasets provided by EKI and provide feedback
- Finalize the land use revision
- Using 2022 and 2023 pumping data as a target, adjust crop water demands

Tech Forum Feedback: 2-9-24

Comment by	Neil Currie, Cleath-Harris (Grapevine Capital)	Jeff Shaw, EKI (Cuyama Basin Water District)
Comment	1. Consider oilfield data 2. Review DeLong surface maps 3. Consider using the AEM data to verify the location of the Rehoboth, Turkey Trap and Graveyard Ridge faults	1. Recommend presenting calibration error maps 2. Consider adjusting model to a monthly timestep to sync monthly ET demand with actual pumping 3. Ensure old flow meters are not contributing to variance between model and reported pumping
Staff Notes	Will perform these activities	NA

TO: Standing Advisory Committee
Agenda Item No. 9c

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 25, 2024

SUBJECT: Update on Groundwater Sustainability Plan Activities

Recommended Motion
None – information only.

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

Cuyama Basin Groundwater Sustainability Agency

9c. Update on Groundwater Sustainability Plan Activities

Brian Van Lienden

April 25, 2024

HALLMARK GROUP

Woodard & Curran

March-April Accomplishments

- ✓ Performed installation of two multi-completion monitoring wells
- ✓ Performed geophysical survey at Russell Fault
- ✓ Developed options for projects and management actions for Board consideration
- ✓ Developed updated draft GSP Chapters 3 and 5 for Board consideration
- ✓ Performed ongoing updates to Cuyama Basin groundwater model
- ✓ Prepared grant invoice for submittal to DWR

TO: Standing Advisory Committee
Agenda Item No. 9d

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 25, 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

9d. Update on Grant Funded Projects

Brian Van Lienden

April 25, 2024

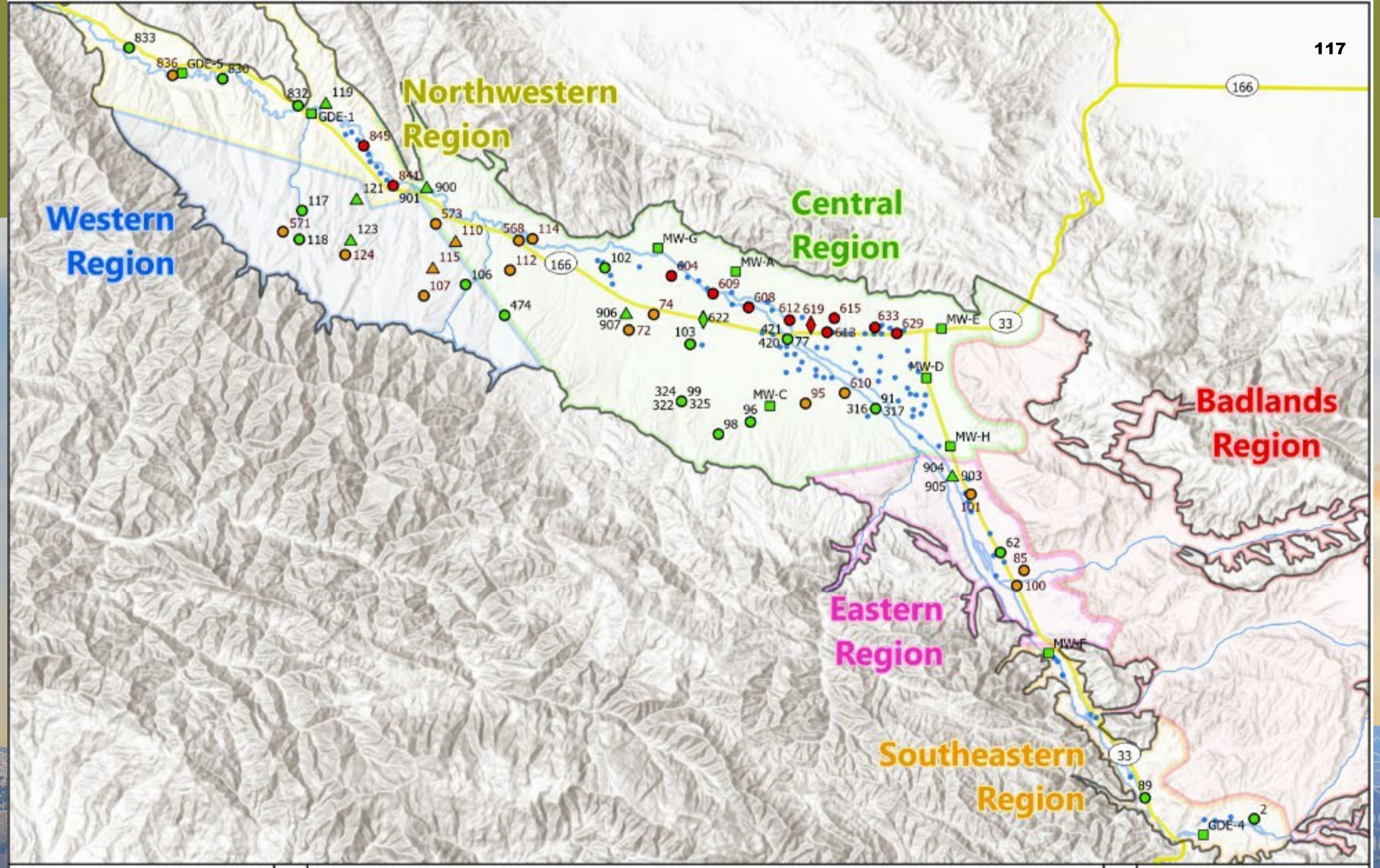
Next Steps to Finalize Land and Water Use for Calibration

- 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 on April 18, 2024. Well design and construction pending results of E logs.

Next Steps to Finalize Land and Water Use for Calibration

- Revised objective is to install at least 1 well at each of 6 locations
  - Installation at 6 locations is achievable within the budget by constructing 1 or 2 nested wells instead of 3 wells at most locations; this should be acceptable because of the deep depth to water at some locations
  - One location cannot be completed due to budgetary constraints – staff recommends not installing MW-A

Location	Approximate Depth to Water (Fall 2023)	# of Completions
MW-A	400-500	2 (recommended for removal due to 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


Northwestern Region
Western Region
Central Region
Badlands Region
Eastern Region
Southeastern Region
833
836
GDE-5
830
832
119
GDE-1
845
841
121
901
900
117
571
118
123
124
573
110
568
114
115
112
166
106
107
474
102
MW-G
804
MW-A
609
608
612
619
615
633
629
MW-E
33
906
907
72
74
622
103
421
420
77
618
MW-D
610
324
322
99
325
MW-C
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96
98
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316
317
MW-H
904
905
903
101
62
85
100
MW-F
89
GDE-4
2

TO: Standing Advisory Committee
Agenda Item No. 10c

FROM: Taylor Blakslee, Hallmark Group

DATE: April 25, 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 May 1, 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
Vacant 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
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
Derek Yurosek Cuyama Basin Water District

AGENDA

May 1, 2024

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Board of Directors to be held on Wednesday, May 1, 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#.

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
2. Roll Call
3. Pledge of Allegiance
4. Meeting Protocols
5. Election of Vice Chair
6. Standing Advisory Committee Meeting Report
7. Approve Woodard & Curran Contract Change Order for Monitoring Well Installation

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.

8. Approve March 6, 2024, Meeting Minutes
9. Approve Payment of Bills for February and March 2024
10. Approve Financial Reports for February and March 2024

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.

11. Groundwater Sustainability Plan Implementation
    a) Discuss and Take Appropriate Action on the Fiscal Year 2024-2025 Budget and Cash Flow **[Supermajority Vote]**
    b) Discuss and Take Appropriate Action on Strategy for Setting Future Groundwater Extraction Fees
    c) Discuss and Take Appropriate Action on Consultant Task Orders for Fiscal Year 2024-2025
    d) Discuss and Take Appropriate Action on Data Management System Update Options
    e) Discuss and Take Appropriate Action on Website Update Options
12. Groundwater Sustainability Plan Amendment Components
    a) Update on GSP Component Schedule
    b) Authorize 90-Day Notice to Cities and Counties for an Amendment to the GSP and Set a Public Hearing on November 6, 2024
    c) Discuss and Take Appropriate Action on Project and Management Action Options (*Continued Discussions*)
    d) Discuss and Take Appropriate Action on Basin-Wide Water Management
    e) Discuss and Take Appropriate Action on GSP Draft Chapters: [**Final** Discussion]
        i. Chapter 3. Undesirable Results
        ii. Chapter 5. Sustainability Management Criteria

REPORT ITEMS

13. Administrative Updates
    a) Report of the Executive Director
    b) Report of the General Counsel
14. Technical Updates
    a) Update on Fault Investigation Study
    b) Update on the Water Resources Model
    c) Update on Groundwater Sustainability Plan Activities
    d) Update on Grant-Funded Projects
15. Report of Ad Hoc Committees
16. Directors' Forum
17. Public Comment for Items Not on the Agenda
18. Correspondence

PUBLIC HEARING

13. **PUBLIC HEARING** – Groundwater Extraction Fee (4:30 p.m.)
14. Consider for Approval Resolution No. 2024-051 Setting a Groundwater Extraction Fee for Fiscal Year 2024-2025 and Authorize Invoicing of Landowners

CLOSED SESSION

19. Conference with Legal Counsel – Existing Litigation

    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