



# CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY STANDING ADVISORY COMMITTEE MEETING

## Committee Members

Brenton Kelly (Chair)	Jake Furstenfeld	Roberta Jaffe
Brad DeBranch (Vice Chair)	Jean Gaillard	<i>Vacant</i>
Louise Draucker	Joe Haslett	<i>Vacant</i>

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## AGENDA

April 28, 2022

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Standing Advisory Committee meeting to be held on Thursday, April 28, 2022, at 5:00 PM at the **Cuyama Recreation District, 4885 Primero St, New Cuyama, CA 93254**. Participate via computer at: <https://global.gotomeeting.com/join/203153453>, or telephonically at (646) 749-3122, code: 203-153-453#.

### Teleconference Locations:

4885 Primero St, New Cuyama, CA 93254	12340 Foothill Road New Cuyama, CA 93254
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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.

*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
2. Roll Call
3. Pledge of Allegiance
4. Update on SAC Membership
5. Approval of Minutes
6. Groundwater Sustainability Plan
  - a. Direction on Reconciling Differences in Groundwater Sustainability Plan Versions
  - b. Direction on Amended Groundwater Sustainability Plan
  - c. Direction on Governor's Executive Order N-7-22 Regarding Well Permits
  - d. Direction on Central Management Area Policies
  - e. Direction on Basin-Wide Water Management Policies
  - f. Direction on Adaptive Management Actions
  - g. Direction on Effort to Identify Potential Non-Reporting Pumpers
  - h. Direction on Data Management System (DMS) Enhancements
  - i. Direction on Public Workshop Format
  - j. Update on Groundwater Sustainability Plan Activities

- k. Update on Model Refinement
  - l. Update on Monitoring Network Implementation
  - m. Update on Quarterly Groundwater Conditions Report for April 2022
7. Groundwater Sustainability Agency
    - a. Report of the Executive Director
    - b. Report of the General Counsel
    - c. Board of Directors Agenda Review
  8. Items for Upcoming Sessions
  9. Committee Forum
  10. 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.*

11. Correspondence
12. Adjourn

# Cuyama Basin Groundwater Sustainability Agency Standing Advisory Committee Meeting

February 24, 2022

## Draft Meetings Minutes

**PRESENT:**

- Kelly, Brenton – Chair
- DeBranch, Brad – Vice Chair
- Furstenfeld, Jake
- Gaillard, Jean
- Haslett, Joe
- Beck, Jim – Executive Director
- Blakslee, Taylor – Project Manager
- Dominguez, Alex – Legal Counsel
- Van Lienden, Brian – Woodard & Curran
- Pope, Aaron – Catalyst Group

**ABSENT:**

- Draucker, Louise
- Jaffe, Roberta

**1. Call to Order**

Cuyama Basin Groundwater Sustainability Agency (CBGSA) Standing Advisory Committee (SAC) Chair Brad Kelly called the meeting to order at 5:03 p.m. and Hallmark Group Project Manager Taylor Blakslee provided direction on the meeting protocols in facilitating a remote meeting.

**2. Roll Call**

Hallmark Group Project Manager Taylor Blakslee called roll of the Committee (shown above).

**3. Pledge of Allegiance**

Chair Kelly led the pledge of allegiance.

**4. Adopt Resolution No. 21-111 Authorizing Use of Teleconferencing for Public Meetings Under AB 361**

CBGSA legal counsel Alex Dominguez presented a resolution authorizing the use of teleconferencing under assembly bill 361.

**MOTION**

Committee Member DeBranch made a motion to adopt Resolution 21-111 authorizing use of teleconferencing for public meetings under AB 361. The motion was seconded by Committee Member Haslett, a roll call vote was made, and the motion passed.

- AYES: DeBranch, Furstenfeld, Gaillard, Haslett, Kelly
- NOES: None
- ABSTAIN: None

ABSENT: Draucker, Jaffe

## 5. Update on SAC Membership

Chair Kelly reported that there remain two vacancies for representatives of the Hispanic community and said if anyone knows someone that is interested in serving to let himself or Mr. Blakslee know.

## 6. Approval of Minutes

Chair Kelly opened the floor for comments on the January 4, 2022, CBGSA SAC meeting minutes.

### MOTION

Committee Member DeBranch made a motion to adopt the January 4, 2022, CBGSA SAC meeting minutes. The motion was seconded by Committee Member Furstenfeld, a roll call vote was made, and the motion passed.

AYES: DeBranch, Furstenfeld, Gaillard, Haslett, Kelly

NOES: None

ABSTAIN: None

ABSENT: Draucker, Jaffe

## 7. Groundwater Sustainability Plan

### a. Review of Official DWR GSP Determination and Direction for Addressing DWR-Identified Issues by July 20, 2022

Executive Director Jim Beck provided background on the California Department of Water Resources (DWR) official Groundwater Sustainability Plan (GSP) comments received on January 21, 2022. Mr. Blakslee provided additional background on DWR's comments and a February 10, 2022, consultation meeting to review the technical memo submitted by the CBGSA in November 2021.

Woodard & Curran technical Project Manager Brian Van Lienden provided an overview of DWR's feedback from the four (4) deficiencies.

Stakeholder Lynn Carlisle commented that a local group met with DWR after the consultation letter was received and reported that DWR said the Adaptive Management process was a plan to make a plan.

Legal counsel Alex Dominquez provided an overview of the GSP resubmittal process which is included in the SAC packet. He let the SAC know staff recommends setting a public hearing in July 6, 2022, following a 90-day notice to counties and cities. He commented that once DWR receives the final amended plans, they have up to two (2) years to make a final determination.

Chair Kelly asked about the feasibility of potentially moving the SAC and Board July 6, 2022, meeting date.

Stakeholder Lynn Carlisle asked if the tech memo would amend the GSP as written. Mr. Beck replied that the GSP would need to be amended per the guidance received by DWR and a draft amended version would be provided for review at the May 4, 2022, Board meeting.

### b. Set Date for Public Hearing on GSP Amendment

Mr. Dominquez reported that a public hearing will be set on July 6, 2022, to amend the GSP.

**c. Direction on Historic Pumping Analysis in the Central Management Area**

Mr. Beck provided an overview of the direction the Board provided on January 5, 2022, to analyze historic water use per parcel for irrigated acres in the Central Management Area

Committee Member DeBranch asked if the analysis only included the portion of the parcel in the Central Management Area boundary and Mr. Van Lienden confirmed this.

**d. Direction on Central Management Area Policies**

Mr. Beck let the SAC know staff is presenting the below seven (7) Management Area

Committee Member Gaillard asked if meters are required for just the Central Management Area or the whole basin and Mr. Beck replied it is for the entire basin.

1. Pumping Reduction Baseline/Starting Point

Committee Member DeBranch asked if the historic analysis could be used to set the baseline and Mr. Beck said it could be.

Committee Member Gaillard said he is concerned that using the most recent year overstates the water use due to drought conditions.

Chair Kelly commented that it is shocking how many responsible pumpers used such little water use and they should not be burdened by a proportional reduction.

Committee Member Furstenfeld said local landowners are doing the right things and the corporate water users have not and will not do the right thing until forced to do so.

Committee Member DeBranch commented that there are only roughly 30 pumpers, he also noted that the table does not show total acreage. Chair Kelly asked if the acreage could be added to the table. He also asked if the Grimmway's water use could be aggregated on the table. Mr. Beck replied that it was the Board's intent to reach an equitable solution.

Committee Member DeBranch said the Central Management Area will force additional water use outside the Central Management Area and sustainability needs to be addressed at the basin level.

2. Increased Water Use Inside the Central Management Area

No specific SAC discussions.

3. Increased Water Use Outside the Central Management Area

Committee Member DeBranch asked about the GSA authority to limit pumping outside the Central Management Area. Mr. Dominguez said the GSA can limit pumping, but it is important to link actions to what is listed in the GSP.

4. Central Management Area Boundary (Hydrologic vs Operational)

Chair Kelly asked if the model could be used to create an operational boundary. He said that he recommends an operational boundary based on roads and wells.

5. Management Area Criteria Evaluation

No specific SAC discussions.

6. Administration of Pumping Reduction

No specific SAC discussions.

7. Non-Compliance/Over-Pumping Enforcement

No specific SAC discussions.

Committee Member Gaillard said it would be valuable to find out how other GSAs in the California has dealt with these issues.

Stakeholder Carlisle asked why staff analyzed historic water usage. Mr. Beck replied that the Board directed staff to consider this as a potential method for allocating the pumping reduction. Ms. Carlisle said she is concerned the GSA is developing an approach that aligns with adjudication methodologies and asked for the reason and motivation for potentially using this methodology be noted and recorded in the Board meeting minutes at the March 2, 2022, Board meeting.

**e. Approval of Water Year 2021 Annual Report**

Mr. Van Lienden presented the draft Water Year 2021 Annual Report for consideration of approval. He provided an overview of updated groundwater contours, change in groundwater levels, and change in groundwater storage.

Chair Kelly commented that not including the minimum threshold updates seems like an omission and recommends adding this.

No recommendation was made by the SAC to approve this report.

**f. Direction on Adaptive Management Actions**

Mr. Van Lienden reported that the Board provided direction for W&C to reach out to well owners of wells that are potentially dry to verify information about those wells. He reported that of the 18 potentially dry, or nearly dry wells, he had reached 10 owners and reported that groundwater level consultant Provost & Pritchard will perform field investigations with those landowners during their next measurement in April 2022.

**g. Update on Groundwater Sustainability Plan Activities**

Mr. Van Lienden provided an updated on recent GSP activities which is included in the SAC packet.

**h. Update on Model Progress**

Mr. Van Lienden provided an update on the model update an aquifer test which is included in the SAC packet.

**i. Update on Monitoring Network Implementation**

Mr. Van Lienden provided an update on implementation activities which is summarized in the SAC packet.

**j. Update on Quarterly Groundwater Conditions Report for January 2022**

Mr. Van Lienden presented the groundwater level measurements for January 2022.

Committee Member DeBranch asked how many wells were already below their minimum thresholds

when the GSP was submitted and Mr. Van Lienden replied eight (8) of the 20 were.

## 8. Groundwater Sustainability Agency

### a. Report of the Executive Director

Mr. Blakslee reported on the following items:

- Department of Conservation Multibenefit Land Repurposing Program grant opportunity.
- DWR aerial electromagnetic preliminary data available.
- DWR's Cal Live Groundwater Conditions resource.
- Meeting in-person guidance.

### b. Report of the General Counsel

Mr. Dominguez reported on the status of AB 361 as it relates to meeting remotely.

### c. Board of Directors Agenda Review

Mr. Blakslee provided an overview of the March 2, 2022, CBGSA Board of Directors meeting agenda which is provided in the SAC packet.

## 9. Items for Upcoming Sessions

Nothing to report.

## 10. Committee Forum

Nothing to report.

## 11. Public Comment for Items Not on the Agenda

Ms. Carlisle commented that that Cuyama community is very concerned with the impacts the adjudication may have on the work the GSA is doing and requests the GSA host a workshop to answer community questions on the adjudication. Mr. Beck suggested Ms. Carlisle to bring this up during the SAC report at the Board meeting or during the public comment portion of the Board meeting. Ms. Carlisle requested that legal counsel Joe Hughes update the community on the conflict of interest with having two Directors on the Board of Directors and the Water District Board who are suing the GSA. Mr. Beck suggested Chair Kelly will report on this under his SAC report to the Board and legal will discuss this internally.

## 12. Correspondence

Nothing to report.

## 13. Adjourn

Chair Kelly adjourned the meeting at 7:56 p.m.

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Minutes approved by the Standing Advisory Committee of the Cuyama Basin Groundwater Sustainability Agency the 24th day of February 2022.

STANDING ADVISORY COMMITTEE OF THE  
CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

Chair: \_\_\_\_\_

ATTEST:

Vice Chair: \_\_\_\_\_

DRAFT





TO: Standing Advisory Committee  
Agenda Item No. 6a

FROM: Jim Beck / Joe Hughes / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Reconciling Differences in Groundwater Sustainability Plan Versions

### **Issue**

Reconciling differences between Groundwater Sustainability Plan versions.

### **Recommended Motion**

Recommend: (1) Submitting the correct version of Section 7 as part of the amended GSP in July, and (2) updating the GSP Executive Summary on the CBGSA website with the GSP version submitted to DWR.

### **Discussion**

Staff was recently made aware that the Groundwater Sustainability Plan (GSP) submitted to the California Department of Water Resources (DWR) is slightly different from the GSP version approved by the Cuyama Basin Groundwater Sustainability Agency Board.

Staff performed a PDF comparison between the two versions (provided as Attachment 2) and determined the following:

- An incorrect draft of Section 7 was inadvertently included in the GSP package submitted to DWR in January 2020.
- Almost all of the differences between the final version posted on the CBGSA website and the version provided to DWR were editorial or formatting changes that did not substantively alter the GSP.
- The only substantive differences that were found include the following statements that should be added to the version submitted to DWR:
  - Page 7-1: “Management actions and projects within these management areas may be managed by another party pursuant to any agreement with the CBGSA”
  - Page 7-16: Water Supply Transfers/Exchanges section – “Because this action is intended only as a complement to a potential stormwater or floodwater capture project, all potential purchase transfer water would originate outside of the Cuyama River watershed, and this action would not include the transfer or sale of existing Cuyama Basin groundwater out of the watershed.”
- The final paragraph on page ES-13 in the Executive Summary submitted to DWR states the following: “Both Management Areas will be administered by the CBGSA. However, the CBGSA

Agenda Item No. 6a  
Cuyama Basin GSA Standing Advisory Committee  
Thursday, April 28, 2022  
Page 2 of 2

- may elect to delegate administrative responsibility to another party.” In this case, the version provided to DWR was correct and staff recommends updating the CBGSA website version with this text.
- All other sections and appendices contained only very minor, editorial changes that resulted in slight differences between the two versions.

Attachment 1 provides background information and recommendations for reconciling these two versions.

## Cuyama Basin Groundwater Sustainability Agency

# 6a. Direction on Reconciling Differences in Groundwater Sustainability Plan Versions

Jim Beck / Brian Van Lienden

April 28, 2022



# Reconciling Differences in GSP Versions

- GSP submitted to DWR is slightly different from GSP approved by CBGSA Board:
  - An incorrect draft of Chapter 7 was inadvertently included in the GSP package submitted to DWR
  - The Executive Summary was updated per Board direction prior to DWR submittal, but the CBGSA website was not updated
  - All other sections had only very minor, editorial differences.
- Recommendations:
  - Submit the correct version of Section 7 as part of the amended GSP in July.
  - Update the Executive Summary on the CBGSA website with the version submitted to DWR.

3/24/2022 4:38:12 PM

## Compare Results

Old File: <b>DWR Portal - ES .pdf</b> 16 pages (921 KB) 3/24/2022 8:08:35 AM	versus	New File: <b>CBGSA Website - ES.pdf</b> 16 pages (932 KB) 3/24/2022 8:08:40 AM
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Total Changes

26

Content

- 11 Replacements
- 1 Insertion
- 2 Deletions

Styling and Annotations

- 7 Styling
- 5 Annotations

[Go to First Change \(page 1\)](#)

## Summary of Comments on Cuyama Valley Groundwater Basin Groundwater Sustainability Plan NOI

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**EXECUTIVE SUMMARY**

**Introduction**

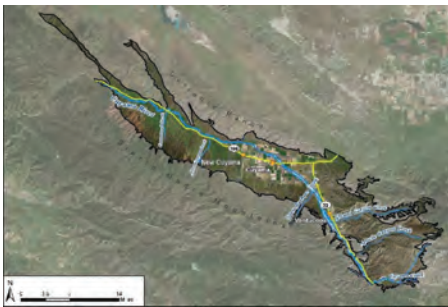
In 2014, the California legislature enacted the Sustainable Groundwater Management Act (SGMA) in response to continued overdraft of California’s groundwater resources. The Cuyama Groundwater Basin (Basin) is one of 21 basins and subbasins identified by the California Department of Water Resources (DWR)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

In 2017, in response to SGMA, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) was formed. The CBGSA is a joint-powers agency that is comprised of Kern, Santa Barbara, San Luis Obispo and Ventura counties, the Cuyama Community Services District and the Cuyama Basin Water District. The CBGSA is governed by an 11-member Board of Directors, with one representative from Kern, San Luis Obispo and Ventura counties, two representatives from Santa Barbara County, one member from the Cuyama Community Services District, and five members from the Cuyama Basin Water District.

- Critical Dates for the Cuyama Basin**
- 2020 By January 31: submit GSP to DWR
  - 2025 Review and update GSP
  - 2030 Review and update GSP
  - 2035 Review and update GSP
  - 2040 Achieve sustainability for the Basin

This Draft GSP is now available for public review and comment. SGMA requires the CBGSA to develop a GSP that achieves groundwater sustainability in the Basin by 2040. Although SGMA references 2015 as a basis for groundwater planning, SGMA does not require a GSP to address undesirable results that occurred before 2015. This Draft GSP outlines the need for significant reductions in pumping in the central portion of the Basin, and has identified two projects for potential development that could help offset the projected reductions in pumping. Although current analysis indicates groundwater pumping reductions on the order of 50 to 67 percent may be

required Basin-wide to achieve sustainability, additional efforts are required to confirm the amount and location of pumping reductions required to achieve sustainability. These efforts include collecting additional data and a review of the Basin’s groundwater model, along with other efforts as outlined in this document.



**Figure ES-1: GSP Plan Area**

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**Plan Area**

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

**Outreach Efforts**

A stakeholder engagement strategy was developed to ensure that the interests of all beneficial users of groundwater in the Basin were considered. The strategy incorporated monthly CBGSA Standing Advisory Committee (SAC) meetings, monthly CBGSA Board meetings, quarterly community workshops, and information distribution to all property owners and residents in the Basin. A total of 55 public meetings were held between June 2017 and July 2019 as summarized in the table below.



**Figure ES 2: Community Workshops**

Figure ES-2 shows attendees at one of the community workshops conducted during development of the GSP.

Public Meeting	Number
Cuyama Basin GSA Board Meetings	23
Cuyama Basin GSA Standing Advisory Committee Meetings	19
Joint Meetings of Cuyama Basin GSA Board and Standing Advisory Committee	7
Community Workshops	6

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

creating an opportunity for local individuals to engage in the GSP development process.

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<https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118>



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### Basin Setting

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



Figure ES-3: Basin Setting

### Existing Groundwater Conditions

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





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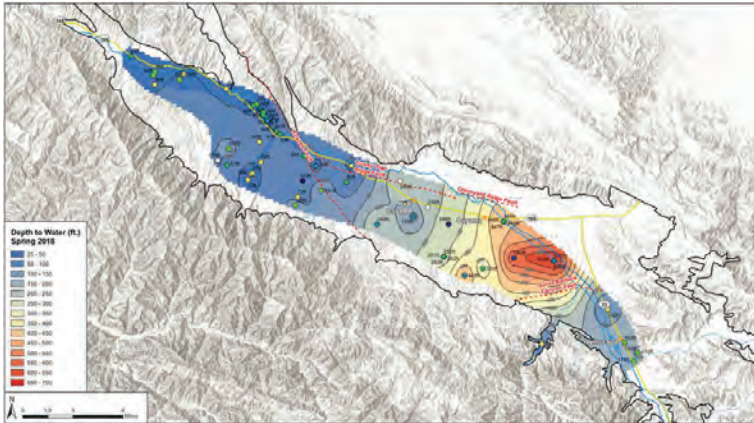


Figure ES-4: Depth-to-Groundwater in Spring 2018

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



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**Undesirable Results**

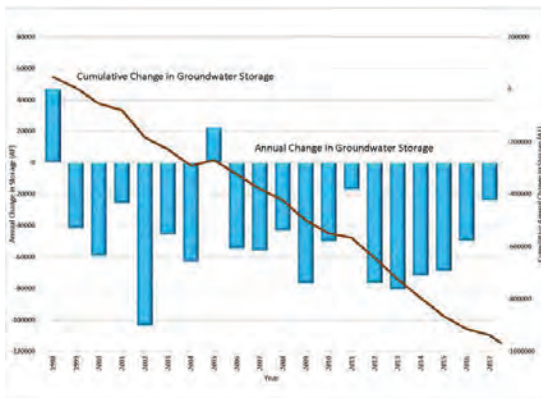
Undesirable results are conditions that cause significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses of the Basin’s groundwater. SGMA identifies six defined areas for classification of undesirable results, as shown in the adjacent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

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

**Undesirable Results Categories**

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

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



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

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



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## Sustainability

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

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

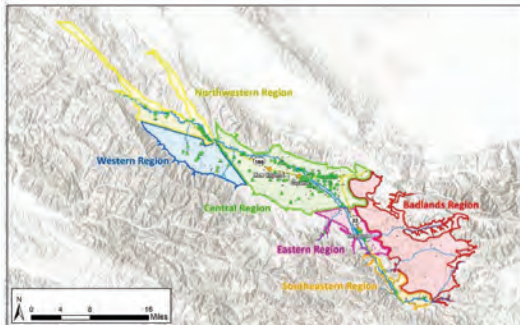


Figure ES-6: Threshold Regions

The method prescribed by SGMA to measure undesirable results involves setting minimum thresholds and measurable objectives for a series of representative wells. Geologic conditions and land use vary across the Basin. These varying conditions also cause groundwater conditions to vary across the Basin. The CBGSA Board of Directors concluded that one set of minimum thresholds for the entire Basin may not provide the appropriate degree of refinement needed to effectively manage Basin-wide

sustainability. As a result, threshold regions were created to establish the appropriate sustainability criteria for separate regions of the Basin. The threshold regions are shown above in Figure ES-6.



Representative wells were identified in the Basin to provide a basis for measuring groundwater conditions without having to measure each existing well, which would have been cost prohibitive. Representative wells were selected based on availability, their history of recorded groundwater levels, and their potential to effectively represent groundwater conditions near the identified well. During GSP implementation, well owners will have to consent to the use of their wells for monitoring.

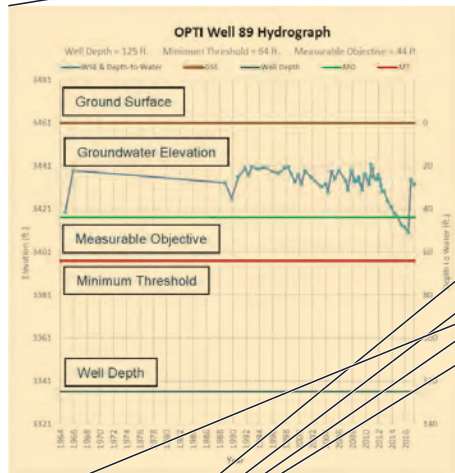


Figure ES-7: Sample Relationship Between Minimum Threshold and Measurable Objective

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

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

Thresholds were developed with reference to 2015 groundwater levels. In general, measurable objectives were established based on providing a 5-year drought

buffer above the minimum threshold. The opposite approach was taken in the southeastern region, where the measurable objective was established based on 2015 groundwater levels and the minimum threshold was determined by providing a 5-year drought buffer below the established measurable objective based on changes in groundwater levels during the recent extended drought.

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

Image Resized

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[New]: "ble Bet Ob ween jective"

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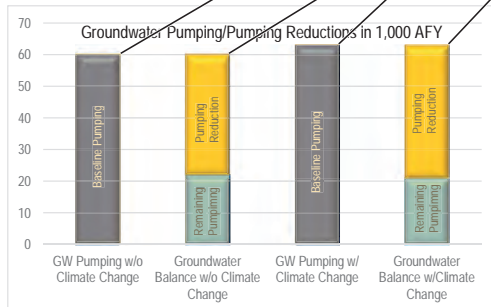
Water Budgets

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

The current analysis was prepared using the best available information and through development of a new groundwater modeling tool. Although the Basin has been studied for many years, the available data are not as robust in areas outside the center of the Basin as compared to many other basins, thus leading to some level of uncertainty in the analyses. A data collection program has been designed to augment existing information, and is included in this Draft GSP. It is anticipated that as additional information becomes available, the new model can be updated, and more refined estimates of annual pumping and overdraft can be developed.

The groundwater evaluations conducted as a part of Draft GSP development provided estimates of historical, current and future groundwater budget conditions.

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



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

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

Analysis of the Basin as a whole shows that much of the Basin is in hydrologic balance. Existing and projected groundwater levels in the western portions of the Basin, along

with the southeastern region, show those areas to be sustainable under current and projected conditions. However, the model results project significant groundwater level reductions in the central portion of the Basin.

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## Monitoring Networks

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

- Five Sustainability Indicators Applicable to the Cuyama Groundwater Basin
- Chronic lowering of groundwater levels
  - Reduction in groundwater storage
  - Degraded water quality
  - Land subsidence
  - Depletions of interconnected surface water

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

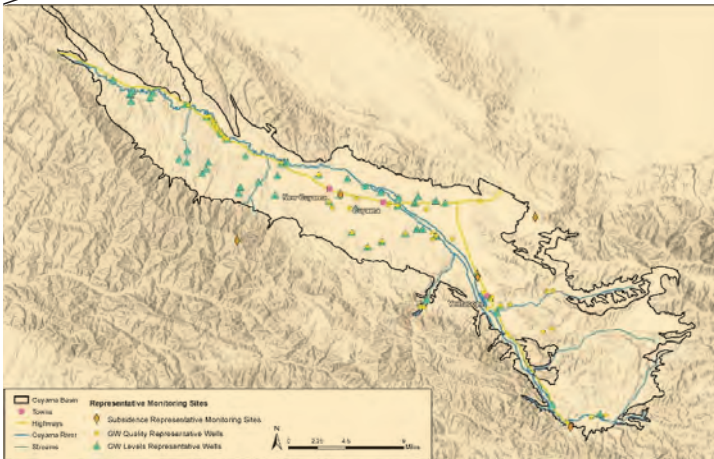


Figure ES-9: Groundwater Monitoring Wells

The monitoring networks were designed by evaluating data sources provided by DWR, including the California Statewide Groundwater Elevation Monitoring (CASGEM) Program, the USGS, participating counties, and private landowners. The proposed monitoring network consists of wells that are already being used for monitoring in the Basin, but there are also current spatial data gaps in the Basin monitoring network. Additional wells are being added, and there is the potential for installing new dedicated monitoring wells through funding provided by DWR's Technical Support Services program. Most wells in the monitoring network are measured on either a semi-annual or annual schedule. Historical measurements have been entered into the Basin Data Management System (DMS), and future data will also be stored in the Basin DMS.



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

Monitoring Data Maintaining Entity	Number of Wells Selected for Monitoring Network
CASGEM	28
USGS	43
Santa Barbara County Water Agency	36
San Luis Obispo County Flood Control & Water Conservation District	2
Ventura County Watershed Protection District	5
Cuyama Community Services District	1
Private Landowner	48
Total	101

Note: Total does not equal sum of rows due to duplicate entries in multiple databases

### Data Management System

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

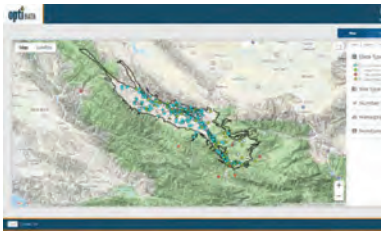


Figure ES-10: Opti DMS Screenshot



Figure ES-11: Typical DMS Data Display

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

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

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## Projects and Management Actions

Achieving sustainability in the Basin requires implementation of management actions and, if demonstrated to be feasible, projects that will increase water supply. One management action, reductions in groundwater pumping, is required to achieve sustainability irrespective of the feasibility of any other water supply projects. The exact amount of required reduction in groundwater pumping will be reevaluated after additional data are collected and analyzed. Based on current information, groundwater pumping in the Basin may have to be reduced by as much as 50 to 67 percent. Additional evaluations of pumping reductions required to achieve sustainability are planned over the next several years. These additional evaluations may lead to modification of levels of pumping reduction associated with the attainment of reliability.

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

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

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

The first project is rainfall enhancement through what is commonly referred to as cloud seeding. Cloud seeding is a type of weather modification with the objective to increase the amount of precipitation that would fall in the

Basin watershed. The concept is to introduce silver iodide, or a similar substance, into the clouds to induce greater rainfall. Cloud seeding has been used in numerous areas throughout California and other western states. Preliminary estimates suggest up to approximately 4,000 acre-feet per year of additional water supply could be added to the Basin. The target area for rainfall enhancement is shown in Figure ES-12.

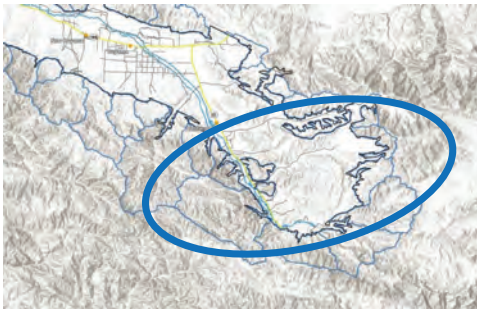


Figure ES-12: Target Area for Potential Rainfall Enhancement





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

The second potential project is capture of high stormwater flows in the Cuyama River and diversion into recharge basins that would be sited in the Central region of the Basin. The captured stormwater flows would percolate into the groundwater basin resulting in increased recharge of groundwater. The potential stormwater recharge project has several challenges associated with it, including water rights availability, managing sediment

that will be present in any diverted stormwater flows, and obtaining lands for construction of the recharge basins. Preliminary estimates suggest that up to 4,000 acre-feet per year of additional water supply could be added to the Basin. The general location of the potential recharge basins are shown in Figure ES-13.



Figure ES-13: General Location of Potential Recharge Basins

The next step toward implementation of this potential project is to evaluate each of these areas of uncertainty and to develop more refined estimates of potential water supply benefit and cost.

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

#### GSP Implementation

Achieving sustainability in the Basin requires implementation of management actions and, if demonstrated to be feasible, projects that will increase water supply. One management action, which is reductions in groundwater pumping, is required to achieve sustainability irrespective of the feasibility of any other water supply projects. Implementing project and management actions can best be achieved through development of Basin Management Areas to focus necessary activities on the areas of the Basin with projected long-term overdraft.



Two Management Areas have been established in the Basin to aid in administering projects and management actions, as shown in Figure ES-14. The Central and Ventucopa management areas were identified based on the

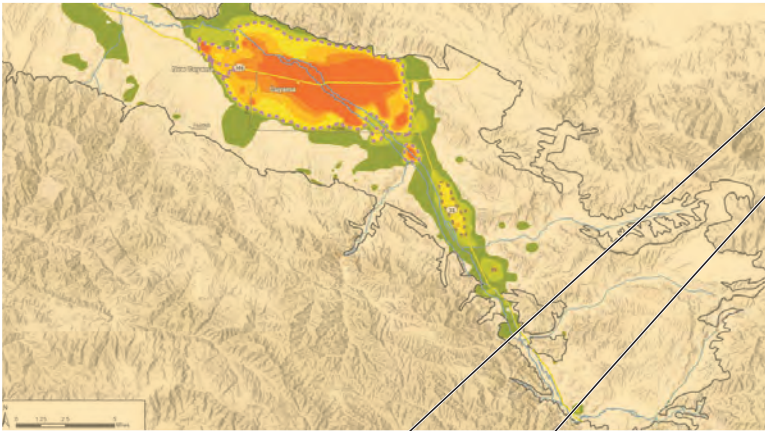


Figure ES-14: Location of Central and Ventucopa Management Areas

model's projection of groundwater levels decreasing at a rate of 2 feet or more per year over a 50-year hydrologic period.

Figure ES-14 depicts the general boundaries of the proposed Management Areas. The highlighted colors show the projected annual change in groundwater levels, with clear and green indicating no change to less than 2 feet of projected annual decline in groundwater levels, and the yellow, orange and red areas indicating areas of increasing projections of annual declines in groundwater levels, ranging from more than 2 feet per year up to more than 7 feet per year.

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

Management actions and projects in the Cuyama Basin Water District (CBWD) may be managed by the CBWD if agreed to by the CBGSA.

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"However, the CBGSA may elect to delegate administrative responsibility to another party."



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

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

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

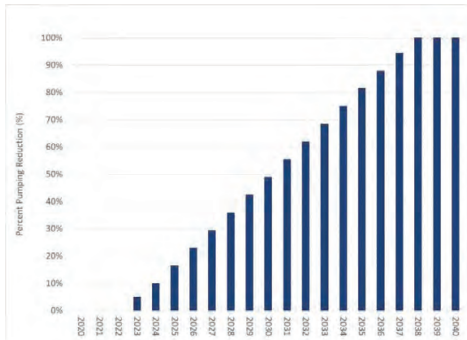


Figure ES-15: Schedule for Proposed Reductions in Groundwater Pumping

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

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

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



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The table below presents an overall schedule of GSP activities spanning the next 20 years.

Time Range	2020 to 2024	2025 to 2029	2030 to 2034	2035 to 2040
Phase	Set up and initiate monitoring and pumping allocation programs	Project implementation and GSP evaluation/update	Project implementation and GSP evaluation/update	Achieve Basin sustainability
Tasks	<ul style="list-style-type: none"> <li>Establish monitoring network and initiate monitoring and reporting</li> <li>Evaluate/refine thresholds and monitoring network</li> <li>Install new wells</li> <li>Develop pumping monitoring program*</li> <li>Set up and initiate pumping allocation program*</li> <li>Project analysis and feasibility</li> <li>Public outreach</li> </ul>	<ul style="list-style-type: none"> <li>CBGSA conducts five-year evaluations/update</li> <li>Monitoring and reporting continues</li> <li>Evaluate/refine thresholds and monitoring network</li> <li>Refine water budget</li> <li>Pumping monitoring program continues*</li> <li>Continue implementation of pumping allocation program*</li> <li>Plan/design/construct small- to medium-sized projects*</li> <li>Public outreach continues</li> </ul>	<ul style="list-style-type: none"> <li>CBGSA conducts five-year evaluations/update</li> <li>Monitoring and reporting continues</li> <li>Evaluate/refine thresholds and monitoring network</li> <li>Refine water budget</li> <li>Pumping monitoring program continues*</li> <li>Continue implementation of pumping allocation program*</li> <li>Plan/design/construct larger projects*</li> <li>Public outreach continues</li> </ul>	<ul style="list-style-type: none"> <li>CBGSA conducts five-year evaluations/update</li> <li>Monitoring and reporting continues</li> <li>Evaluate/refine thresholds and monitoring network</li> <li>Refine water budget</li> <li>Pumping monitoring program continues*</li> <li>Pumping allocation program fully implemented*</li> <li>Project implementation completed*</li> <li>Public outreach continues</li> </ul>

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

Funding

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

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



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

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

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

For the Central Management Area, costs include the following:

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

The estimated initial cost of these activities range from \$200,000 to \$500,000 per year, plus costs associated with evaluating and implementing either of the two potential water supply projects. Depending on feasibility, annual costs of the rainfall enhancement project would be on the order of \$150,000 per year. The stormwater water capture project cost is estimated to cost from \$3 to \$4 million per year to amortize project capital costs and to provide funds for annual operations and maintenance.

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

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

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## Compare Results

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### Total Changes

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### Content

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30 Insertions  
35 Deletions

### Styling and Annotations

118 Styling  
7 Annotations

[Go to First Change \(page 1\)](#)

## Summary of Comments on Cuyama Valley Groundwater Basin Groundwater Sustainability Plan NOI

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## 7. Projects and Management Actions

### 7.1 Introduction

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

### 7.2 Management Areas

The CBGSA has designated two areas in the Basin as management areas: the Central Basin Management Area and the Ventucopa Management Area, which are both defined as regions with modeled overdraft conditions greater than 2 feet per year that are projected by the model to drop below minimum threshold levels before 2040 (see Figure 7-1). Management actions and projects within these management areas may be managed by the CBWD pursuant to any agreement with the CBGSA. Future changes in management area boundaries will be considered based on updates to numerical modeling as additional information is collected. The Central Basin Management Area is located in the middle of the CBGSA area and includes the community of Cuyama as well as the surrounding agricultural land uses that are located in areas with greater than 2 feet overdraft. While the Cuyama Community Services District (CCSD) service area also has modeled overdraft exceeding 2 feet, it is not included in the management area because it is a domestic user of relatively small quantity (i.e., about 150 acf/yr). The Ventucopa Management Area is located south of the Central Basin Management Area and includes the community of Ventucopa. The two management areas are generally separated from one another by the Santa Barbara Canyon Fault. Both are located nearly entirely within the boundaries of the Cuyama Basin Water District. The remaining areas in the Basin are not included in a management area, and generally operate with balanced groundwater pumping and recharge, based on modeling of Basin water budgets.

<sup>1</sup> SGMA's requirements for GSPs can be read here: [https://water.ca.gov/legacy/files/groundwater/gsm/pdfs/GSP\\_Emergency\\_Regulations.pdf](https://water.ca.gov/legacy/files/groundwater/gsm/pdfs/GSP_Emergency_Regulations.pdf)

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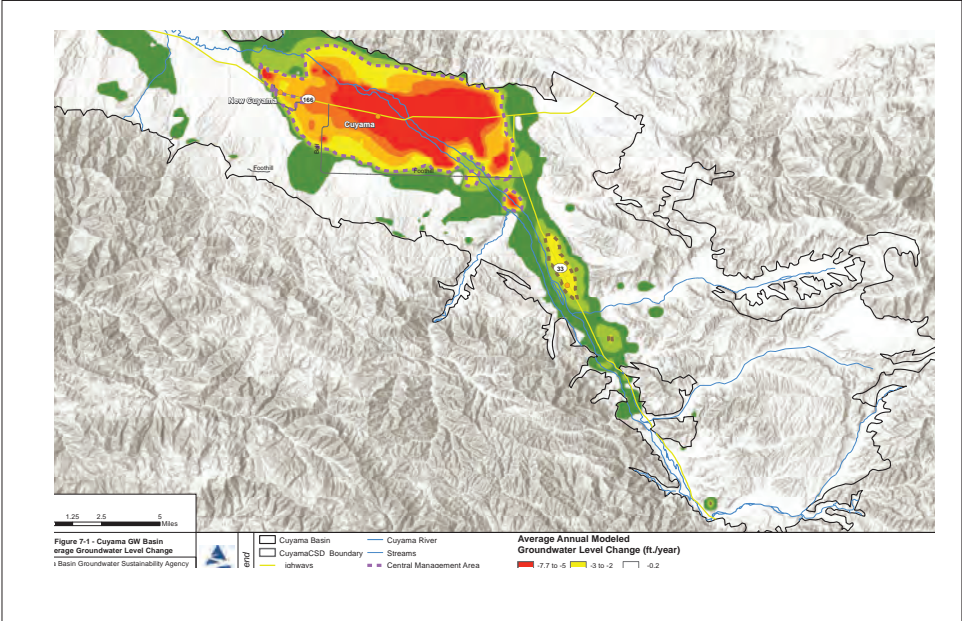




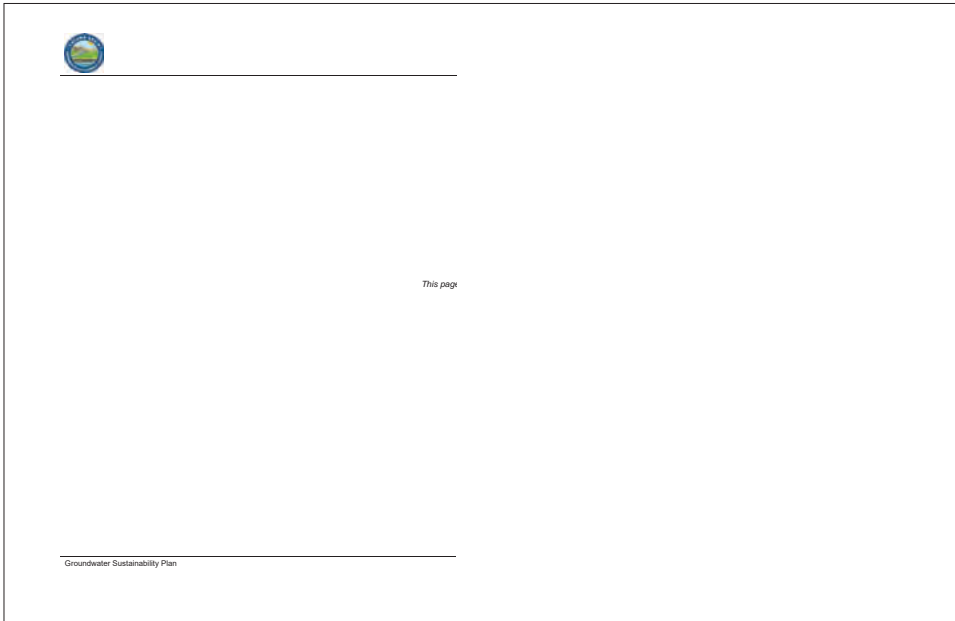
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### 7.3 Overview of Projects and Management Actions

The CBGSA evaluated a range of potential projects and management actions to help address overdraft and move the Basin toward sustainability. Evaluation of the identified projects and management actions has resulted in a set of proposed activities. These proposed activities are shown in Table 7-1, along with their current status, potential timing, and anticipated costs. Benefits are summarized in Section 7.2 and discussed in detail in Sections 7.3 and 7.4.

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

Activity	Current Status	Anticipated Timing	Estimated Cost <sup>a</sup>
Project 1: Flood and Stormwater Capture	Conceptual project evaluated in 2015	<ul style="list-style-type: none"> <li>Feasibility study: 0 to 5 years</li> <li>Design/Construction: 5 to 15 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$1,000,000</li> <li>Flood and Stormwater Capture Project: \$600-\$800 per AF (\$2,600,000 – 3,400,000 per year)</li> </ul>
Project 2: Precipitation Enhancement	Initial Feasibility Study completed in 2016	<ul style="list-style-type: none"> <li>Refined project study: 0 to 2 years</li> <li>Implementation of Precipitation Enhancement: 0 to 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$276,000</li> <li>Precipitation Enhancement Project: \$26 per AF (\$150,900 per year)</li> </ul>
Project 3: Water Supply Transfers/Exchanges	Not yet begun	<ul style="list-style-type: none"> <li>Feasibility study/planning: 0 to 5 years</li> <li>Implementation in 5 to 15 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$200,000</li> <li>Transfers/Exchanges: \$600-\$2,800 per AF (total cost TBD)</li> </ul>
Project 4: Improve Reliability of Water Supplies for Local Communities	Preliminary studies/planning complete	<ul style="list-style-type: none"> <li>Feasibility studies: 0 to 2 years</li> <li>Design/Construction: 1 to 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$100,000</li> <li>Design/Construction: \$1,800,000</li> </ul>
Management Action 1: Basin-Wide Economic Analysis	Not yet begun	2020-2021	\$100,000
Management Action 2: Pumping Allocations in Central Basin Management Area	Preliminary coordination begun	<ul style="list-style-type: none"> <li>Pumping Allocation Study completed: 2022</li> <li>Allocations implemented: 2023 through 2040</li> </ul>	<ul style="list-style-type: none"> <li>Plan: \$300,000</li> <li>Implementation: \$150,000 per year</li> </ul>
Adaptive Management	Not yet begun	Only implemented if triggered; timing would vary	TBD

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Project 1: Flood and Stormwater Capture	Conceptual project evaluated in 2015	<ul style="list-style-type: none"> <li>Feasibility study: 0 to 5 years</li> <li>Design/Construction: 5 to 15 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$1,000,000</li> <li>Flood and Stormwater Capture Project: \$600-\$800 per AF (\$2,600,000 – 3,400,000 per year)</li> </ul>
Project 2: Precipitation Enhancement	Initial Feasibility Study completed in 2016	<ul style="list-style-type: none"> <li>Refined project study: 0 to 2 years</li> <li>Implementation of Precipitation Enhancement: 0 to 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$200,000</li> <li>Precipitation Enhancement Project: \$25 per AF (\$150,000 per year)</li> </ul>
Project 3: Water Supply Transfers/Exchanges	Not yet begun	<ul style="list-style-type: none"> <li>Feasibility study/planning: 0 to 5 years</li> <li>Implementation: 5 to 15 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$200,000</li> <li>Transfers/Exchanges: <del>\$600-\$2,800</del> per AF (total cost TBD)</li> </ul>
Project 4: Improve Reliability of Water Supplies for Local Communities	Preliminary studies/planning complete	<ul style="list-style-type: none"> <li>Feasibility studies: 0 to 2 years</li> <li>Design/Construction: 1 to 5 years</li> </ul>	<ul style="list-style-type: none"> <li>Study: \$100,000</li> <li>Design/Construction: \$1,800,000</li> </ul>
Management Action 1: Basin-Wide Economic Analysis	Not yet begun	2020-2021	\$100,000
Management Action 2: Pumping Allocations in Central Basin Management Area	Preliminary coordination begun	<ul style="list-style-type: none"> <li>Pumping Allocation Study completed: 2022</li> <li>Allocations implemented: 2023 through 2040</li> </ul>	<ul style="list-style-type: none"> <li>Plan: \$300,000</li> <li>Implementation: \$150,000 per year</li> </ul>
Adaptive Management	Not yet begun	Only implemented if triggered; timing would vary	TBD

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

Activity	Current Status	Anticipated Timing	Estimated Cost <sup>a</sup>
<sup>a</sup> Estimated cost based on planning documents and professional judgment AF = acre-feet			

7.3.1 Addressing Sustainability Indicators

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

Physical benefits of the projects and management actions in the GSP are described under each project and action in Section 7.3 and Section 7.4 below.

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**Table 7-2: Summary of How Proposed Management Actions Address Sustainability Indicators**

Activity	Sustainability Indicator				
	Chronic Lowering of Groundwater Levels	Reduction of Groundwater Storage	Degraded Water Quality	Subsidence	Degraded/Disconnected Surface Water
Project 1: Flood and Stormwater Capture	Would increase recharge in the Basin, directly contributing to groundwater levels.	Would increase recharge in the Basin, directly contributing to groundwater storage.	Would contribute to groundwater levels through increased recharge, reducing groundwater quality degradation associated with declining groundwater levels.	Would support maintaining groundwater levels in the Basin, reducing potential for subsidence.	Increasing groundwater recharge with flood and stormwater capture would reduce the potential for groundwater levels to decline and negatively impact surface water flows.
Project 2: Precipitation Enhancement	Increases precipitation and associated groundwater recharge; reduces groundwater pumping because increased precipitation would reduce irrigation needs.	Increases volume of stored groundwater; reduces groundwater pumping.	Would increase groundwater recharge, reducing groundwater quality degradation associated with declining groundwater levels.	Reduce groundwater pumping and increased groundwater recharge reduces the cause of subsidence.	Would increase surface water flows in the Basin and increase groundwater recharge, which together would reduce the potential for negative surface water flow impacts, associated with decreasing groundwater levels.
Project 3: Water Supply Transfer/Exports	Would allow for increased stormwater capture without interfering with downstream water rights, directly contributing to groundwater levels.	Would allow additional groundwater recharge of stormwater, directly contributing to groundwater storage.	Would allow for increased groundwater recharge, reducing groundwater quality degradation associated with lowering of groundwater levels.	Would increase potential groundwater recharge, reducing the potential for subsidence.	Would increase stormwater recharge, which would reduce the potential for negative surface water flow impacts associated with decreasing groundwater levels.
Project 4: Improve Reliability of Water Supplies for Local Communities	Would provide an alternate pumping supply for CCSD, CMMC, and WWSC customers to reduce water supply reliability issues caused by historical groundwater level reductions in the Basin.	N/A	Provides for improved water quality in the potable water system, and through construction of compliance wells, reduces potential for groundwater quality issues from improperly designed/commissioned and/or failing wells within CCSD and WWSC service areas.	N/A	N/A
Management Action 1: Basin-Wide Economic Analysis	Would evaluate the long-term economic impacts of project implementation, which would allow the region to plan for economic changes if implementation is pursued and help avoid economically catastrophic decision-making that could result in dramatic changes to groundwater use and levels.				
Management Action 2: Pumping Allocations in Central Basin Management Area	Would limit groundwater pumping, with allocations decreasing over time as groundwater storage recovers.	Reducing groundwater pumping will help decrease the reduction of groundwater storage associated with high levels of pumping.	Reducing groundwater pumping will help alleviate groundwater degradation associated with lowering of groundwater levels.	Reduced groundwater pumping would reduce the risk of subsidence associated with lowering of groundwater levels.	Reduced groundwater pumping would help protect groundwater levels, thereby reducing the potential for negative impacts to surface water flows associated with lowering groundwater levels.
Adaptive Management	Adaptive management actions would be triggered if groundwater levels decrease sufficiently or do not demonstrate adequate recovery as projects are implemented. Adaptive management projects that are implemented would be selected because they would help address these sustainability indicators.				
<b>Notes:</b> CCSD = Coyama Community Services District CMMC = Coyama Mutual Water Company WWSC = Ventucopa Water Supply Company					

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Groundwater Sustainability Plan  
Projects and Management Actions





7.3.2 Overdraft Mitigation

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

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7.3.3 Water Balance Management for Drought Preparedness

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

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7.4 Projects

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

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7.4.1 Flood and Stormwater Capture

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

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



Public Notice and Outreach

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

Permitting and Regulatory Processes

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

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

Project Benefits

Implementation of flood and stormwater capture projects would provide additional infiltration into the Basin, which would increase the volume of groundwater in the Basin, reducing overdraft and increasing available supply. The 2015 Long Term Supplemental Water Supply Alternatives Report (Santa Barbara County Water Agency [SBCWA], 2015), completed an analysis of potential stormwater recharge options along multiple rivers in Santa Barbara County, including Cuyama River. The analysis assumed the Cuyama River would experience sufficient flows for stormwater recharge three of every 10 years, and a maximum available stormwater volume during those events as 14,700 acre-feet (AF). Capturing this volume of water would require 300 acres of land for spreading facilities, and could provide a up to 4,400 acre-feet per year (AFY) of stormwater (averaged over 10 years), assuming the maximum event year supply is captured. Benefits of an implemented floodwater/stormwater capture project would be measured by the volume of flow entering the spreading facility, less an assumed percentage of evaporative loss.

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

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### Project Implementation

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

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

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

### Supply Reliability

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

### Legal Authority

The CBGSA has the legal authority to conduct a feasibility study for flood and stormwater capture and recharge project. Once a preferred alternative is identified by the feasibility study, the project would be implemented by the CBGSA or one of its member agencies. Implementation of the project would also depend on the outcomes of a water rights evaluation to clarify the CBGSA's ability capture flood and stormwater without impacting downstream water rights. If this project would affect downstream water rights, the CBGSA would need to negotiate an exchange with downstream users to avoid adverse downstream effects.

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

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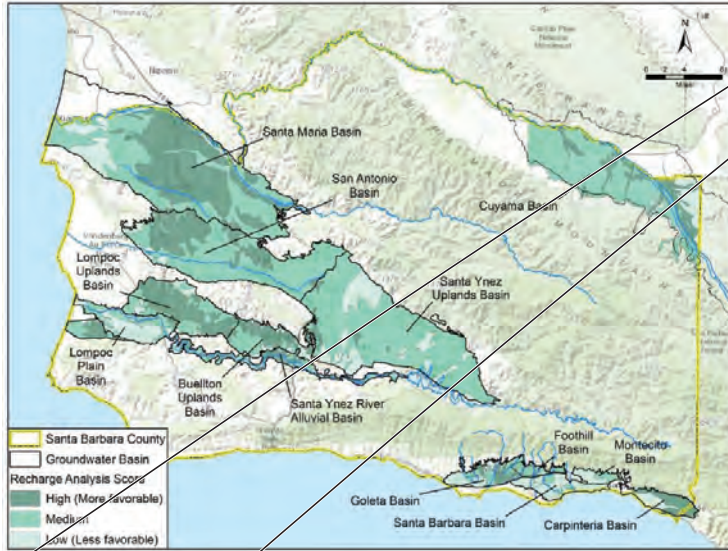
Project Costs

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

Technical Justification

The use of spreading facilities for groundwater recharge is common in many areas across the state where groundwater basins are used for storage. The 2015 *Long Term Supplemental Water Supply Alternatives Report* (SBCWA, 2015) provides the basis for the estimated maximum volume of water that could be recharged by a flood or stormwater capture and recharge project. The storage potential of the Basin is based on the highest historical storage less the current storage, with the difference being unused storage potential. The Cuyama Basin has a high storage potential, greater than 100,000 AF, meaning it would be able to accommodate recharge of more than 100,000 AF. The size of the spreading facilities is based on the volume of water available for capture, and the recharge factor of a proposed site. The volume of water that could be recharged is based on the volume of water that could be diverted off of the river during peak storm flow events. Recharge potential was determined by analyzing the existing groundwater depth and hydrological soil type, and infiltration rates based on relative infiltration rate for hydrologic soil groups. High recharge potential were areas with hydrologic soils in group A/B, and had infiltration rates of 0.6 feet per day. As shown in Figure 7-2, the majority of the Basin located in Santa Barbara County has medium or high potential for groundwater recharge, with the highest potential east of the Cuyama River in the Ventucopa Management Area. The 2015 report was limited to Santa Barbara County and does not cover the portions of the Basin located in Ventura, San Luis Obispo, and Kern counties.

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Source: SBCWA, 2015

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

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

**Basin Uncertainty**

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

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CEQA/NEPA Considerations

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

7.4.2 Precipitation Enhancement

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

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

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

Public Notice and Outreach

Completion of a detailed study would include at least one public meeting (potentially at a regularly scheduled CBGSA Board meeting) to present the details of a precipitation enhancement project, costs and benefits, as well as provide an opportunity to receive comments from the public about potential concerns. If a precipitation enhancement project is pursued for implementation, it would not require public notice or outreach, except for approval by a governing body for the CBGSA that would occur in a public meeting.

Permitting and Regulatory Processes

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

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Project Benefits

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

Based on a 10 percent increase in precipitation between November and March, modeling demonstrates an average annual benefit of 1,500 AF per year could be achieved over a 50 year period. This includes an annual average of 400 AF of deep percolation, 400 AF available in stream seepage, and 700 AF in boundary flow. There would also be an average annual increase in Cuyama River outflow of 2,700 AF.

Figure 7-3 shows the potential long-term benefits of a precipitation enhancement program. Actual benefits would be measured by evaluating rainfall data after seeding compared to long-term average rainfall in non-seeded years.

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

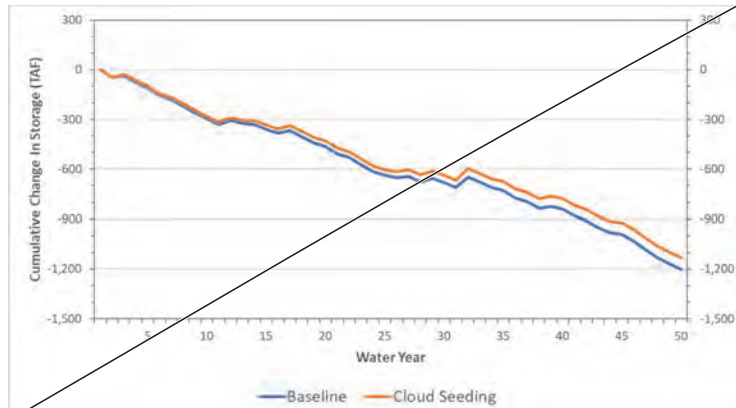


Figure 7-3: Potential Change in Groundwater Storage from Precipitation Enhancement

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**Project Implementation**

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

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

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

Aerial seeding would require outfitting the appropriate plane with flare racks

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

**Supply Reliability**

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

**Legal Authority**

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

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### Project Costs

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

The 2015 *Feasibility Study* estimated that ground-based seeding would cost \$45,500 to \$67,500 for four months, and aerial seeding would cost \$27,750 for four months, assuming that aircraft costs are funded by the existing program.

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

### Technical Justification

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

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Basin Uncertainty

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

CEQA/NEPA Considerations

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

7.4.3 Water Supply Transfers/Exchanges

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

Public Notice and Outreach

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

Permitting and Regulatory Processes

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

Project Benefits

Implementation of a water transfer/exchange program would allow the CBGSA to increase stormwater capture if the Flood and Stormwater Capture project (see Section 7.3.1) is implemented because it would reduce the potential water rights conflicts that could arise from increased stormwater capture. The Basin does not have a physical connection to supplies outside the Basin, and is therefore limited in the types of

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projects that could be implemented to increase supplies. This project would allow the CBGSA to maximize the new water supply that could be available to the Basin if flood and stormwater capture is implemented. This project would be limited to the feasibility study, and would not have direct benefits. If a water transfer/exchange program is implemented as a result of the outcomes of the feasibility study, benefits would be measured by the successful execution of transfer/exchange agreements and the increased capacity of the stormwater capture and spreading facilities made possible by these agreements. Water supply benefits would be measured by the volume of water captured above the volume that would have been allowed had the transfer/exchange agreements not been implemented.

#### Project Implementation

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

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

#### Supply Reliability

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

#### Legal Authority

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

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Project Costs

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

Technical Justification

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

Basin Uncertainty

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

CEQA/NEPA Considerations

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

7.4.4 Improve Reliability of Water Supplies for Local Communities

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

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well. While specific information is not available for improvements (and are therefore not discussed below) for the town of Cuyama, which is served by the CMWC, the CBGSA also supports potential future actions to benefit the town of Cuyama as well.

**CCSD Replacement Well**

The CCSD Replacement Well would drill a new well in CCSD's service area to replace Well 2, which has been abandoned due to an electrical failure that damaged the well and pumping equipment and subsequent damage the well incurred when an attempt was made to remove the pump. A replacement well for Well 2 was attempted, but found to produce water that was unsuitable for potable use due to the design and construction of the well. Construction of the new well would include:

- Drilling, installing, and testing a new well
- Installing a well head, submersible well pump, and electrical panel
- Construction of an 8-inch pipeline to connect the new well to CCSD's system

**Ventucopa Well Improvements**

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

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

**Public Notice and Outreach**

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

**Permitting and Regulatory Processes**

CCSD's new well construction would require acquisition of a well drilling permit and approval of well design and well completion report. It would also require well testing that demonstrates the new well is capable of producing water that is suitable for drinking water. In addition to a well drilling permit from Santa Barbara County, CCSD's existing water system permits would need to be revised to include the new well and associated features.

Improvements to VWSC's well would require compliance with Santa Barbara County's regulations for water systems in the unincorporated county. VWSC would need to acquire the appropriate well drilling

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permits from the County as well as receive DHS certification of the suitability of the upgraded well for potable use before water from Well 2 can be delivered to customers.

Project Benefits

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

Project Implementation

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

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

Supply Reliability

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

Legal Authority

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

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

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Project Costs

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

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

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

Technical Justification

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

Basin Uncertainty

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

CEQA/NEPA Considerations

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

7.5 Water Management Actions

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

7.5.1 Basin-Wide Economic Analysis

Changes to pumping in the Basin and access to water supplies may have economic consequences given that the Basin is dominated by agricultural land uses that are dependent on groundwater availability. Implementation of stormwater capture may require purchase of agricultural land for the spreading facilities, which could affect agricultural output in the region. The small population of the Basin limits the available revenue to fund projects. This Project would entail developing a study of the economic impacts

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of the projects and management actions included in the GSP. This would include an evaluation of how implementation of the project could affect the economic health of the region and on local agricultural industry. It would also consider the projected changes to the region's land uses and population and whether implementation of these projects would support projected and planned growth. The economic analysis would be considered by the CBGSA when deciding whether to implement a proposed project and potential when to implement the projects.

**Public Notice and Outreach**

This project is a study and would not require public notice or outreach. The results of the economic analysis will be presented at Stakeholder Advisory Committee (SAC) and CBGSA Board meetings.

**Permitting and Regulatory Processes**

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

**Project Benefits**

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

**Project Implementation**

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

**Supply Reliability**

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

**Legal Authority**

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

**Project Costs**

A basin-wide economic analysis is expected to range from \$50,000 to \$100,000 in costs, depending on the available data and level of analysis desired. Exact costs would be determined during selection of the economic analyst.

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### Technical Justification

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

### Basin Uncertainty

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

### CEQA/NEPA Considerations

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

### 7.5.2 Pumping Allocations in Central Basin Management Area

As described in Section 2.3 of this GSP, the Basin is in overdraft conditions and to achieve balanced pumping and recharge groundwater users must decrease pumping by approximately 67 percent, in the absence of projects that increase recharge in the Basin or otherwise offset demands. While the projects identified in Section 7.3 would increase the water available to users in the Basin through increased recharge and precipitation, they are not expected to reduce the groundwater deficit sufficiently to achieve the Basin's sustainability goals. As such, the CBGSA will implement pumping allocations.

Outlined here is a framework for how CBGSA would develop and implement pumping allocations in the Basin. This project would involve development of pumping allocations in the Central Basin Management Area. Consistent with the magnitude of projected overdraft estimated by the numerical model, pumping allocations would not apply to the Ventucopa Management Area or to users outside of a Management Area. CCSD would be provided allocations based on historical water use, and would not be required to reduce pumping over time, but would be limited in how much pumping could increase in the future.

There are four key steps to developing pumping allocations:

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

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Sustainable Yield of the Basin Absent Projects and Water Management Actions

The sustainable yield of the Basin absent projects and water management actions is the volume of water that can be extracted from the Basin annually without affecting overall groundwater storage. and the sustainable yield of the Basin is estimated to be approximately 20,000 AFY, as described in the Water Budget section of Chapter 2. The sustainable yield of the Basin represents the volume of groundwater that can be allocated. Because pumping allocations would only be imposed on users in the Central Basin Management Area, the CBGSA would need to determine the sustainable yield for only the Central Basin Management Area, which would be less than the overall sustainable yield of the Basin.

Develop Allocations

The CBGSA would develop allocations based on estimated historical use, existing land uses, and total irrigated acreage. The CBGSA would determine historical use by analyzing data about water use during the 20-year historical period from 1998 to 2017. This period aligns with the historical period of the water budget analysis described in Chapter 2. Water use would be estimated either using remote sensing and land use data to estimate agricultural consumption or from data provided by pumpers in the Basin, including private pumpers and water agencies. CCSD's allocation would be based on historical use, with an allowance for changes in population in the CCSD service area. CCSD would not be required to reduce use in the future under this action. As such, once CCSD's allocation has been determined, it would be removed from the total volume of groundwater available for allocation to non-CCSD users in the Central Basin Management Area.

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

Determine Allocation of New or Additional Supplies

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

Timeline for Implementation

The required decreases in pumping volumes to achieve balanced groundwater use in the Basin may result in substantial reductions in water availability over current use. The CBGSA plans to complete the pumping allocation plan in 2022, with pumping reductions beginning in 2023 at 5 percent of the total required reduction to achieve sustainability, and an additional 5 percent reduction in 2024. From 2025 to 2038, pumping would be reduced by 6.5 percent annually, so as to achieve sustainability in the Basin in 2038. Figure 7-4 shows the planned pumping reduction in the Basin. Individual users would be expected

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to reduce pumping at different rates to achieve the overall pumping reductions and meet their individual pumping allocations. The pumping allocation plan would identify how much each user or user-type would be required to reduce pumping annually to achieve the allocation and the overall Basin sustainability goals.

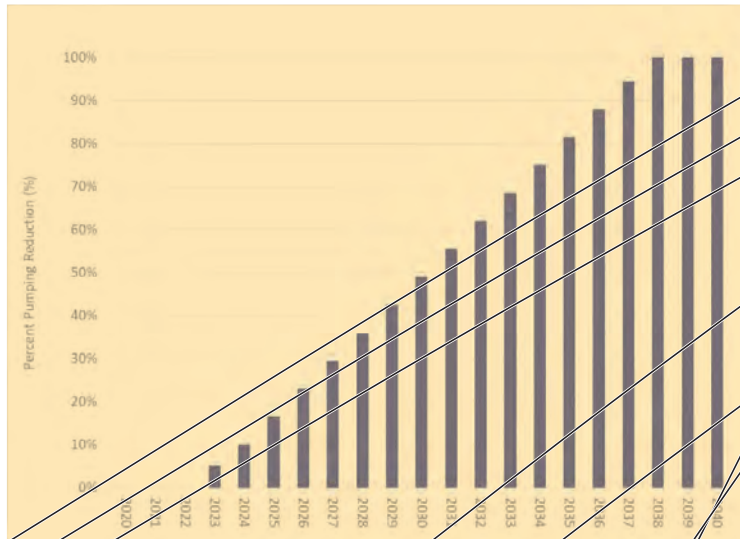


Figure 7-4: Glide Path for Central Basin Management Area Groundwater Pumping Reductions

Public Notice and Outreach

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

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Permitting and Regulatory Processes

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

Management Action Benefits

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

Management Action Implementation

The circumstance of implementation for developing a pumping allocation plan is identification of unsustainable groundwater pumping practices in the Basin. The CBGSA recognizes recharge and pumping in the Basin are not balanced, and action must be taken to achieve sustainability. CBGSA would lead development of a pumping allocation plan, in partnership with its member agencies and local groundwater users. The planning process is expected to be completed in 2022, with allocations implemented beginning in 2023. Successful implementation would require compliance from groundwater users with the pumping allocation plan, and enforcement by the CBGSA and its member agencies. Successful roll-out of the pumping allocation plan would require substantial public outreach to inform users of their annual allocation and expected annual reduction in groundwater pumping. Mechanisms for enforcement would be outlined in the pumping allocation plan, and are expected to be enforced by CBGSA's member agencies.

Supply Reliability

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

Legal Authority

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

Management Action Costs

Development and initiation of a pumping allocation management and tracking program is expected to cost up to \$300,000 to conduct the analysis, set up the measurement and tracking system and conduct outreach. Costs to implement the plan would depend on the level of enforcement required to achieve allocation targets and the level of outreach required annually to remind users of their allocation for a given year. The pumping allocation plan would include a cost estimate for enforcement and implementation. Annual management of the program is estimated to cost about \$150,000 per year.

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**Technical Justification**

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

**Basin Uncertainty**

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

**CEQA/NEPA Considerations**

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

**7.6 Adaptive Management**

Adaptive management allows the CBGSA to react to the success or lack of success of actions and projects implemented in the Basin and make management decisions to redirect efforts in the Basin to more effectively achieve sustainability goals. The GSP process under SGMA requires annual reporting and updates to the GSP at minimum every 5 years. These requirements provide opportunities for the CBGSA to evaluate progress towards meeting its sustainability goals and avoiding undesirable results.

Adaptive management triggers are thresholds that, if reached, initiate the process for considering implementation of adaptive management actions or projects. For CBGSA, the trigger for adaptive management and CBGSA's next steps would be as follows:

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

**7.7 References**

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

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[New]: "7-27"



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

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

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

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[New]: "7-28"



TO: Standing Advisory Committee  
Agenda Item No. 6b

FROM: Jim Beck / Alex Dominguez / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Amended Groundwater Sustainability Plan

**Issue**

Review of Amended GSP.

**Recommended Motion**

Advisory feedback requested.

**Discussion**

The Cuyama Basin Groundwater Sustainability Agency (CBGSA) submitted its Groundwater Sustainability Plan (GSP) to the California Department of Water Resources (DWR) on January 28, 2020. On June 3, 2021, DWR provided a consultation letter outlining four (4) deficiencies with the GSP. The CBGSA Board developed a technical memo responding to DWR's consultation letter and submitted it to DWR on August 5, 2021. On January 21, 2022, DWR made an "incomplete" determination of the GSP in its official review of the GSP; however, this determination did not consider the technical memo.

On February 10, 2022, the DWR/CBGSA Coordination ad hoc met with DWR for a consultation meeting to review the technical memo submitted to DWR in August 2021 and a summary of DWR's feedback was presented at the February 24, 2022, SAC meeting.

Staff updated the technical memo based on DWR's feedback from the February 10, 2022, consultation meeting and is provided as Attachment 2 for review and comment. A second DWR consultation meeting is scheduled for April 28, 2022, and staff will update the SAC on the feedback received from that meeting. Background information, the resubmittal process and the timeline is provided as Attachment 1.

The final, amended GSP will be presented for consideration of approval at a public hearing on July 6, 2022.

**Cuyama Basin Groundwater Sustainability Agency**

6b. Direction on Amended Groundwater Sustainability Plan  
Jim Beck / Alex Dominguez / Brian Van Lienden

April 28, 2022





# Official DWR GSP Determination

- **January 28, 2020:** Cuyama Basin GSP submitted to DWR
- **June 3, 2021:** DWR Consultation Letter
  - Four (4) deficiencies identified
- **November 5, 2021:** GSA tech memo submitted to DWR
- **January 21, 2022:** Official DWR GSP determination
  - “Incomplete”
  - Same information from June 3<sup>rd</sup> consultation letter
  - Did not account for tech memo in review of GSP
- **February 10, 2022:** Consultation with DWR to review tech memo
- **March 2, 2022:** CBGSA Board provides direction on updating tech memo
- **April 28, 2022:** Consultation with DWR on updated tech memo

# GSP Resubmittal Process

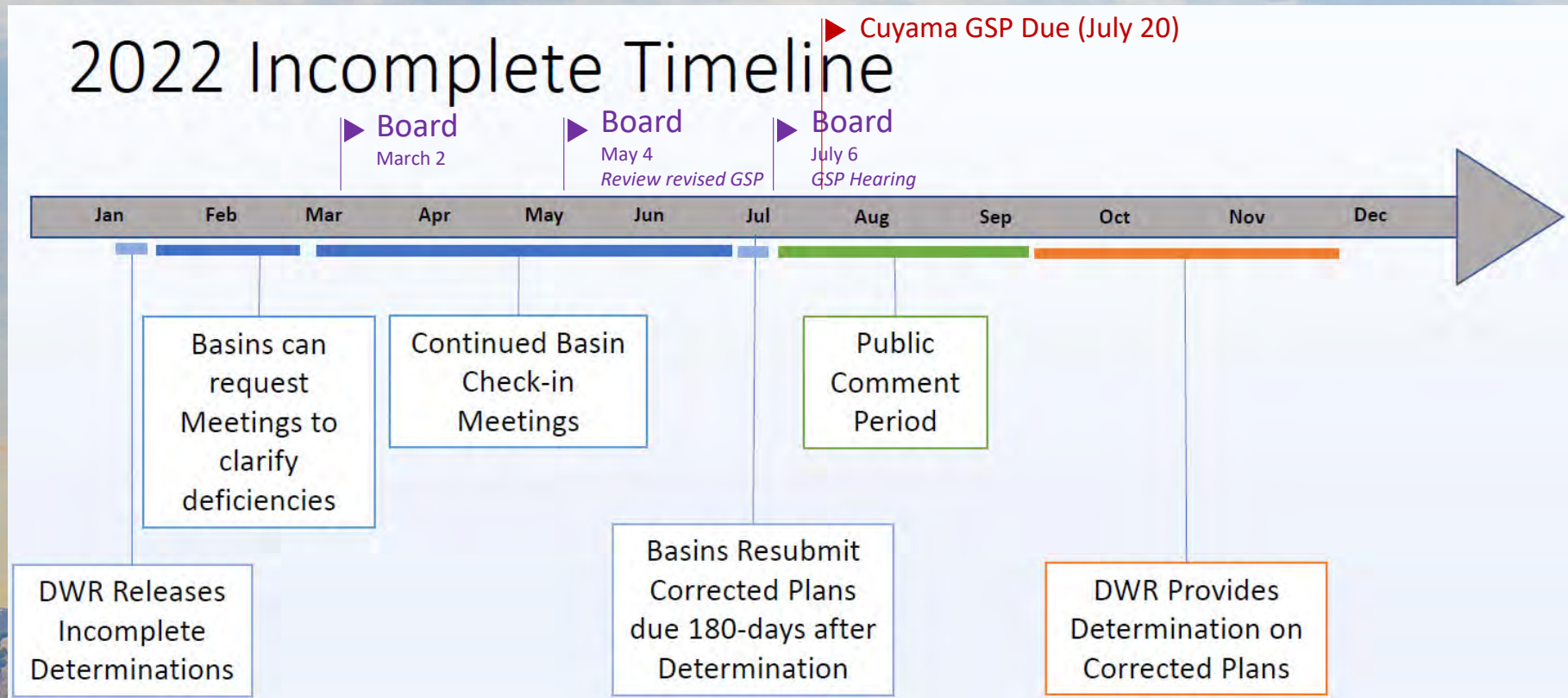
## DWR Guidance/Direction

- The GSA's legal counsel should consider if re-adoption of the GSP is necessary
- If re-adoption is needed, GSAs should follow processes laid out in SGMA and the Regulations, such as a 90-day advance notice to Cities and Counties can be done well in advance of finalizing amendments
- Materials to be submitted:
  - Clean and redline-strikeout version of revised GSP(s)
  - Updated GSP elements guide to identify those sections modified
  - Edits must be clear part of GSP and planned implementation
  - If re-adopted, provide those materials
- Upload revised GSP to portal

## Cuyama Basin GSA Proposed Plan

- Provide 90-day notice and set hearing date for July 6, 2022
- Develop draft revised GSP with an ad hoc
- Review revised GSP with Board and stakeholders at May 4, 2022, Board meeting
- Hold public hearing to adopt revised GSP on July 6, 2022
- Submit revised GSP that will include:
  - Revised GSP sections with inserts from revised technical memo directly in GSP document
  - Entire revised technical memo as Appendix

# Timeline





## DRAFT TECHNICAL MEMORANDUM

TO: ~~Craig Altare, California Department of Water Resources~~ Paul Gosselin, California Department of Water Resources Deputy Director

PREPARED BY: Woodard & Curran on Behalf of the Cuyama Valley Groundwater Basin Groundwater Sustainability Agency

DATE: ~~November 5, 2021~~ May 4, 2022

RE: ~~Cuyama Basin GSA Response to DWR's June 3, 2021, Consultation Letter~~

RE: Cuyama Basin GSA Response to DWR's January 21, 2022, Determination Letter

### 1. INTRODUCTION

The Cuyama Valley Groundwater Basin Groundwater Sustainability Agency (CBGSA) received a ~~Consultation Initiation~~ GSP Determination Letter (Letter) on ~~June 3, 2021~~ January 21, 2022 (Attachment 1), from the California Department of Water Resources (DWR). The Letter ~~was intended to provide~~ provided the CBGSA with ~~a preview of potential corrective actions that could be included in the official review letter~~ final determination of the Cuyama Basin Groundwater Sustainability Plan (GSP) ~~from DWR. Receiving this Letter also allows~~ and the necessary corrective actions required for approval. Per SGMA regulations, the CBGSA ~~additional time to address potential corrective actions before the official review is released, which triggers~~ was given a 180-day correction period to update and address any deficiencies in the GSP.

DWR previously provided an initial consultation letter on June 3, 2021, previewing the results specified in the Letter. During the August 18, 2021, Board Meeting, the CBGSA laid out a framework for responding to the ~~Letter~~ initial consultation letter and provided that framework in a ~~letter~~ response addressed to Mr. Craig Altare (Groundwater Sustainability Plan Review Section Chief), dated August 27, 2021 ~~(Attachment 2).~~

This memorandum ~~includes~~ is the culmination of the analysis and work outlined in the framework provided to Mr. Altare. ~~This memorandum, as well as additional analysis based on direction provided by the CBGSA, and~~ is intended to supplement the Cuyama Basin GSP that was submitted in January 2020 and fill potential gaps identified in the Letter provided by DWR. ~~Future updates to the GSP will include the information and analysis, or an updated version of the information and analysis, provided in this memorandum~~ While this memorandum is attached to the GSP as Appendix X, sections of text from this memorandum are included in revised GSP sections where appropriate in blue font to indicate which text has been added. Those reading the GSP will be able to see what text and analysis has been added to ensure the GSP addresses the deficiencies identified by DWR while reviewing the original text. No additional changes have been made to the GSP submitted in January 2020.

~~This technical memorandum provides~~ The following sections provide a thorough response to each ~~potential~~ corrective action ~~in the sections below.~~

## 2. POTENTIAL CORRECTIVE ACTION 1: PROVIDE JUSTIFICATION FOR, AND EFFECTS ASSOCIATED WITH, THE SUSTAINABLE MANAGEMENT CRITERIA

DWR requests additional information regarding the justification for the sustainable management criteria included in the GSP and the effects of those criteria on beneficial users in the Basin. DWR identified two issues ~~that should be addressed~~ as part of this corrective action:

1. ~~Providing~~Provide a more detailed description of the criterion used to identify undesirable results (URs); ~~and~~
2. ~~Providing~~Provide additional information regarding how the groundwater level minimum thresholds (MTs) are consistent with avoiding undesirable results, with a particular emphasis on the MTs in the Northwestern Region.

The following subsections address each of these issues by providing:

- A summary of this Potential Corrective Action in the Letter
- A brief review of information, justification, and data provided in the GSP
- A discussion with supplemental information, justification, and data as needed to support the GSP.

### 2.1 Defining the Criterion Used to Identify Undesirable Results

#### 2.1.1 Initial Review and Opinion Provided by DWR

~~In the~~The Letter, ~~DWR~~ states that UR statements do not, "~~identifying~~identify] the specific significant and unreasonable effects that would constitute undesirable results... [~~and~~does do] not provide an explanation for the specific significant and unreasonable condition(s) that the GSA intends to avoid in the Basin through implementation of the GSP." Although the GSP includes subsections in Section 3: Undesirable Results, titled *Identification of Undesirable Results*, the Letter states there is no, "explanation for why the criterion is consistent with avoiding significant and unreasonable effects that constitute undesirable results."

#### 2.1.2 Review of Information and Data Provided in Submitted GSP

The ~~Cuyama~~ GSP provides a description of URs and Identification of URs for each of the applicable sustainability indicators in Section 3. For example, UR subsections for groundwater levels are as follows:

##### *"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.*

##### *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.*

Quantifiable  
Criterion

### *Potential Causes of Undesirable Results*

Cause

*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*

Potential Effects

*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."*

Each applicable sustainability indicator has been provided the same level of discussion in the GSP. The following are the *Identification of Undesirable Results* statements for each of the applicable sustainability indicators.

- **Chronic Lower of Groundwater Levels** - 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.
- **Reduction of Groundwater Storage** - 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.
- **Degraded Water Quality** - This result is considered to occur during GSP implementation when 30 percent of the representative monitoring points (i.e., 20 of 64 sites) exceed the minimum threshold for a constituent for two consecutive years.
- **Land Subsidence** - 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.
- **Depletions of Interconnected Surface Water** - 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.

It should be noted that as planned in the GSP Implementation, some monitoring networks have been modified for efficiency, access agreement obstructions, and to minimize burden on the GSA and its operating budget. These adjustments are ongoing and the CBGSA has continued to utilize the same percent criteria as above in its management of the Basin.

### 2.1.3 Supplemental GSP Information in Response to DWR Letter

[A review of SGMA regulations](#); [The following text has been added to the GSP:](#)

Supplemental to Section 354.26 (3.3 – Evaluation of the Presence of Undesirable Results) provides three descriptive characteristics about

SGMA requires the description of URs (subsections (b) (1-3)) to include the following information:

1. The cause of the UR.
2. A quantifiable criterion used to describe when a UR occurs.
3. Potential effects on beneficial uses and users, on land uses and property interests, and other potential effects that may occur from URs.

(Cal. Code Regs., tit. 23, § 354.26, subd. (b)(1) – (3).)

The information currently provided in the Section 3 of the GSP satisfies ~~these regulations~~this regulation by providing the text, explanations, and quantitative descriptions and justifications for URs. Each of these three descriptive characteristics are labeled in the excerpt from Section 3 of the GSP provided above in Subsection 2.1.2 of the Technical Memorandum using the left-hand bubble callout labels. Furthermore, the GSP ~~provided~~provides a quantifiable criterion (ratio of wells) to describe the conditions it would expect to see the potential effects as described.

To address the concerns raised in the ~~DWR~~ Letter, the following additional information is provided regarding the rationale for the criteria used in the GSP (i.e. “30% of exceedances over 24 consecutive months”) to define the point at which Basin conditions cause *significant and unreasonable* effects to occur.

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 Cuyama Basin, the identification of ~~undesirable results~~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 will be a likely component of future GSP updates. These future revisions will utilize the detailed and reliable data collected by the GSA during the first five years of GSP implementation.

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 of the GSP). 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 a 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.

With respect to the Depletions of Interconnected Surface Water (ISW) – in conjunction with a representative monitoring network specific to ISW - the UR for ISW has been modified to be considered to occur during GSP implementation when 30 percent of representative ISW monitoring wells (i.e. 3 of 9) fall below their minimum groundwater elevation thresholds for 2 consecutive years.

### Supplemental to Section 7.6 Adaptive Management

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

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

## 2.2 Additional Information on Groundwater Level Minimum Thresholds

### 2.2.1 Initial Review and Opinion Provided by DWR

The second part of this potential corrective action seeks additional information to explain how each threshold region's groundwater level MTs are consistent with avoiding ~~undesirable results~~URs, "particularly... in the Northwestern threshold region." For every threshold region, DWR requests that the ~~GSAC~~CBGSA evaluate and provide the potential effects that MTs and URs would have on:

- Well infrastructure, including domestic, community, public, and agricultural wells; and
- Environmental uses and users of groundwater.

### 2.2.2 Review of Information and Data Provided in Submitted GSP

The CBGSA developed six specific Threshold Regions for the development of thresholds for chronic lowering of groundwater levels. The six threshold regions were defined to allow areas with similar conditions to be grouped together for calculating Measurable Objectives (MOs), MTs, and Interim Milestones (IMs). These threshold regions are shown in Figure 2-1, and a detailed description of each threshold region is provided in *GSP Section 5.2 – Chronic Lower of Groundwater Levels*. ~~Table 2-1~~Table 2-1 provides a summary of the approach used to establish the MT for chronic lowering of groundwater levels for each ~~threshold region~~Threshold Region.



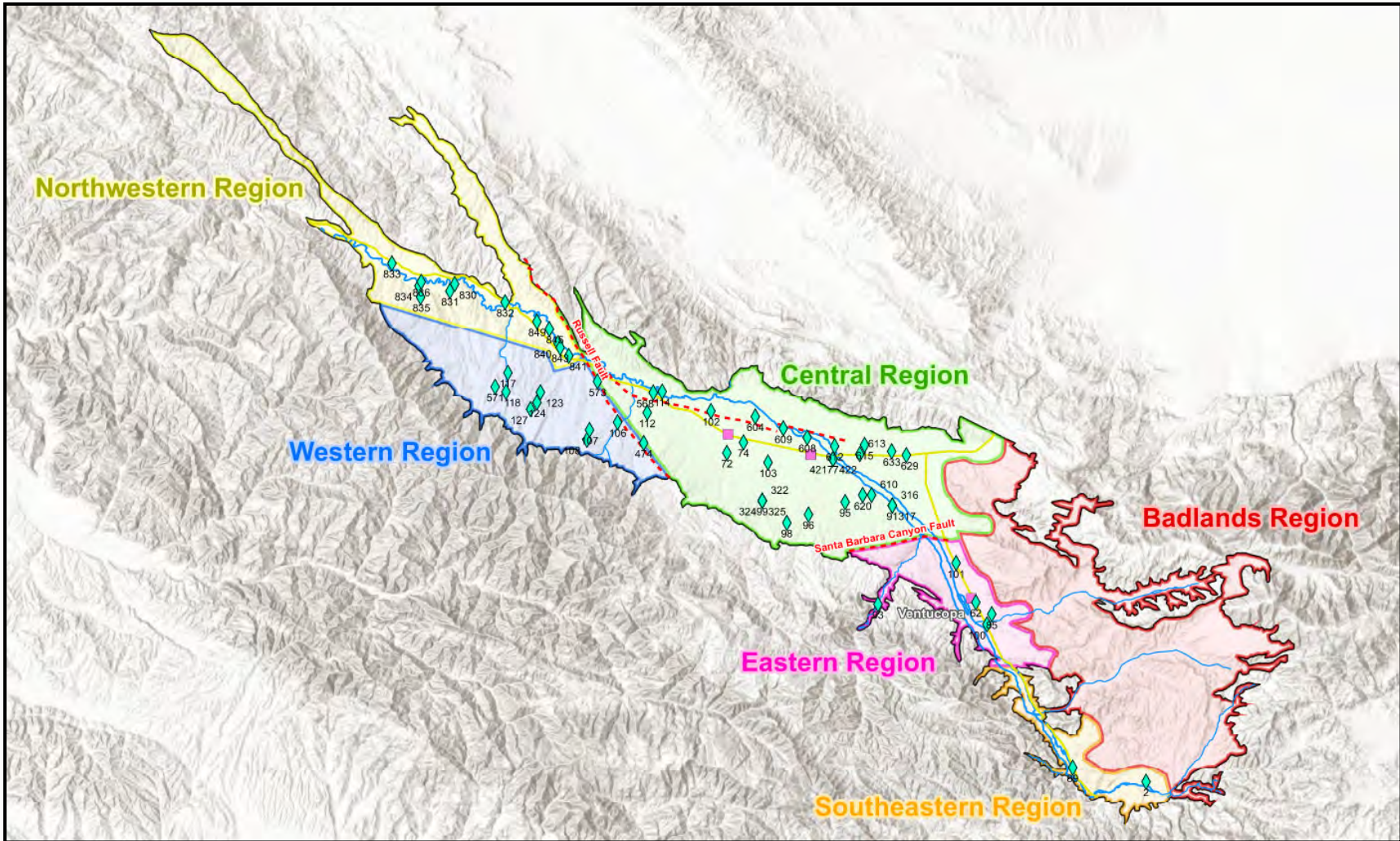


Figure 2-1. Cuyama Basin Threshold Regions

Table 2-1. Summary of MT Calculations for Chronic Lowering of Groundwater Levels for Each Threshold Region

Threshold Region	MT Calculation Approach	Justification
Northwestern	The MT for 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.	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.
Western	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. That value was then subtracted from the mid-February, 2018 measurement to calculate the MT.	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. Values from mid-February, 2018, are used because data collected during this time represent a full <a href="#">basinBasin</a> condition. This calculation 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.
Central	MT 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.	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.
Eastern	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).	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.

Threshold Region	MT Calculation Approach	Justification
Southeastern	MT was calculated by subtracting five years of groundwater storage from the MO. MO was calculated by finding the measurement taken closest to (but not before) January 1, 2015 and not after April 30, 2015.	Per SGMA Regulations, the CBGSA is not required to improve conditions prior to those seen when SGMA was enacted on January 1, 2015. Historical data also shows that groundwater levels are static except during drought conditions (experienced from 2013 to 2018) indicating this area of the Basin is generally at capacity. Because URs were not experienced during this last drought, setting MTs at five years of drought storage will provide the CBGSA a threshold that is protective of domestic, private, public, and environmental uses while providing operational flexibility during drought conditions.
Badlands	None	This threshold region has no groundwater use or active wells. As a result, no MO, MT, or IM was calculated.

## 2.2.3 Supplemental GSP Information in Response to DWR Letter

[The following text has been added to the GSP:](#)

### [Supplemental to Section 5.2 – \[Minimum Thresholds, Measurable Objectives and Interim Milestones for the Chronic Lowering of Groundwater Levels\]](#)

The groundwater levels ~~minimum thresholds~~MTs included in the GSP were developed with the intention of avoiding the ~~undesirable results~~URs of excessive drawdowns in the ~~basin~~Basin while minimizing the number of domestic wells that go dry and the potential impacts on GDEs in the ~~basin~~Basin. Following receipt of DWR's letter, two technical analyses were performed to provide additional information related to the effects of the ~~GSPs~~GSP's groundwater levels ~~minimum thresholds~~MTs and ~~undesirable results~~URs definitions on well infrastructure (i.e., domestic, public, and other production wells) and on environmental uses of groundwater (i.e., GDEs).

The results of these analyses demonstrate that the ~~minimum thresholds~~MTs included in the GSP achieve the goals of avoiding ~~undesirable results~~URs in the ~~basin~~Basin. In particular, the following conclusions can be made:

- The sustainability criteria are protective of production wells (including domestic wells) in the Basin. Only ~~five~~ wells (~~2%~~two percent of all wells in the ~~basin~~Basin) are at risk of going dry if ~~minimum thresholds~~MTs are reached throughout the ~~basin~~Basin (i.e., at all representative wells). The CBGSA will strive to prevent domestic wells in the ~~basin~~Basin from going dry through the Adaptive Management approach included in the GSP (Section 7.6) which ~~calls~~calls for an investigation of ~~the potential issues if causes of~~groundwater levels ~~approach minimum thresholds. level declines and the development of appropriate response strategies.~~ Therefore, the potential for a small number of domestic wells to be at risk is not considered to be a significant and unreasonable result.
- A numerical modeling analysis of proposed ~~minimum thresholds~~MTs at Wells 841 and 845 show that these thresholds would have no negative impact on local domestic wells and only minimal impact at a single GDE location. Stream depletions could potentially increase by a small amount.

The results of these technical analyses demonstrate that the ~~minimum thresholds~~MTs included in the GSP are protective against significant and unreasonable results for production wells and GDEs in the ~~basin~~Basin. The approach and results of each technical analysis are described below.

#### Assessment of Minimum Thresholds as Compared to Domestic and Production Well Screen Intervals

An assessment was performed of the ~~minimum threshold~~MT levels included in the GSP as compared to the well screen intervals of production wells throughout the ~~basin~~Basin to try to determine how many production wells may be at risk of going dry if the groundwater levels were to fall to ~~minimum threshold~~MT levels at monitoring well locations throughout the ~~basin~~Basin. The assessment was performed using well location and construction information provided by the counties that overlie the ~~basin~~Basin, including Santa Barbara, San Luis Obispo, Ventura, and Kern. To accomplish this, the CBGSA collected all available well data from public sources and the four ~~Counties~~counties in tabular formats. In the ~~northwestern region~~Northwestern Region, well completion reports were also individually collected, processed, and included in the analysis.

Wells were processed in GIS by utilizing their screen interval, ~~and where (or well depth if~~ screen interval ~~information~~data was unavailable, ~~their well depths,~~) to compare those values with ~~minimum thresholds~~MTs at monitoring wells located throughout for the Basin. Some basic filtering criteria were applied to the analysis to remove wells from consideration, including those ~~wells~~ that are destroyed or non-compliant in the county datasets, wells that are far away from active

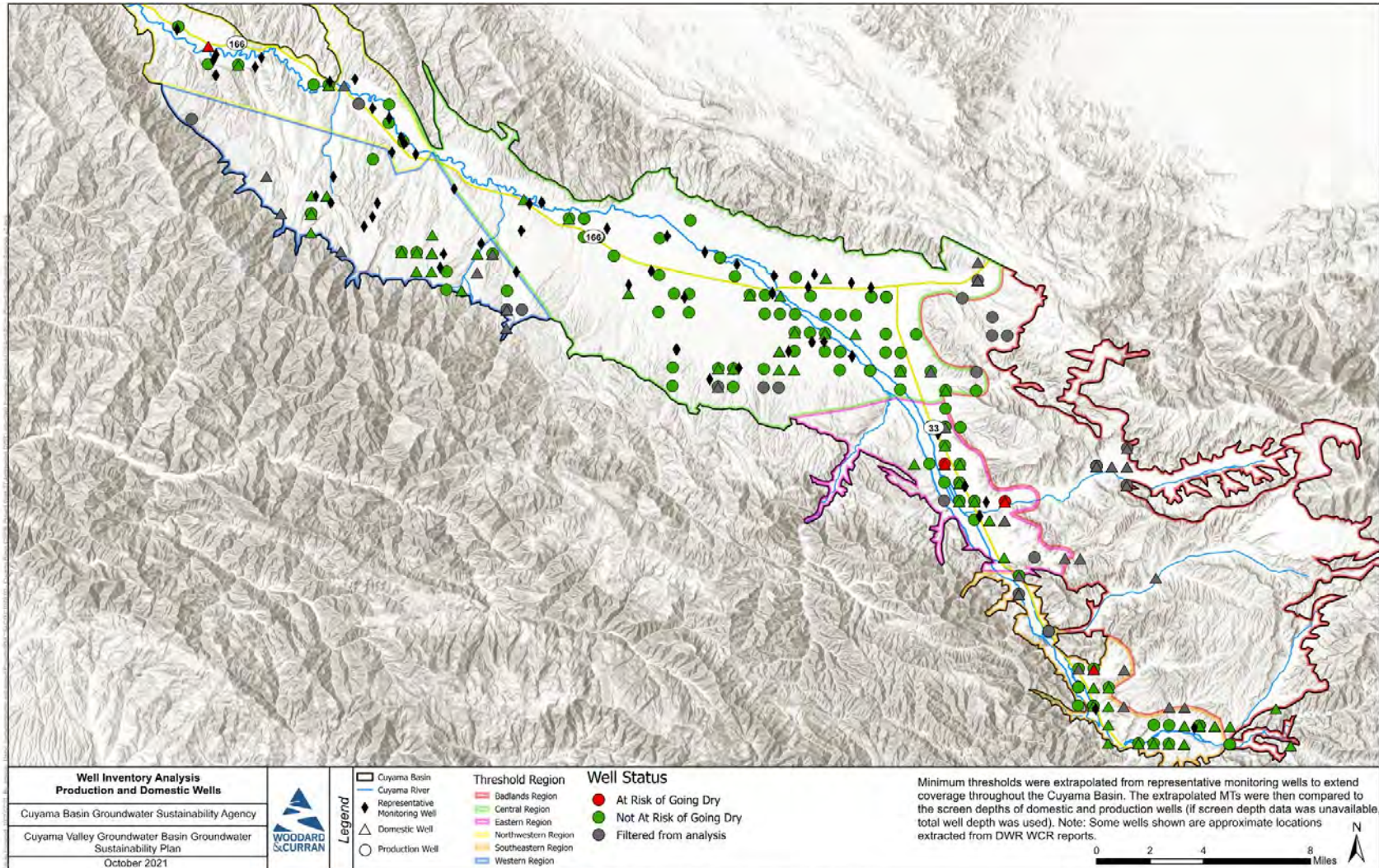
groundwater management and monitoring (e.g., the Badlands region), and ~~these wells~~ that were already dry as of January 1, 2015.

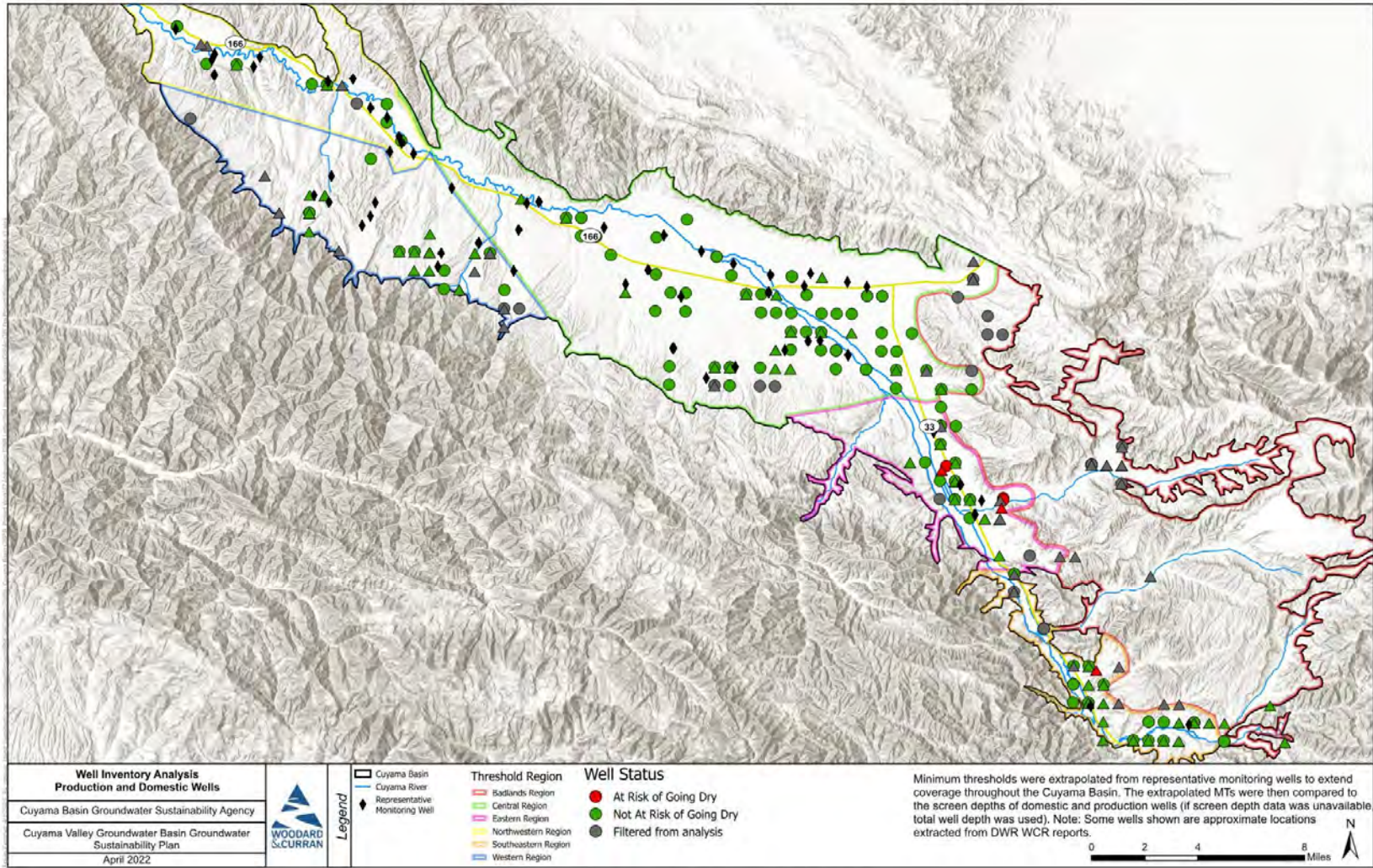
The results of the analysis are shown in Table 2-2 and Figure 2-2. Out of a total of 250 production wells that were evaluated, a total of ~~seven (3% five (two percent~~ of the total) are at risk of going dry if ~~minimum thresholds~~ MTs are reached. ~~Four~~ ~~Three~~ of these ~~seven~~ ~~five~~ wells are domestic wells. As noted above, the CBGSA will strive to use adaptive management to prevent these domestic wells from going dry.

The CBGSA conducted an investigation to determine the potential impacts if these wells were to go dry. The three domestic wells appear to serve approximately four or five households between them. The two production wells serve vineyards with a total irrigated acreage of approximately two acres. Given that the entire basin encompasses about 18,000 irrigated acres, two acres represents about 0.01 percent and would appear to be a less than significant impact. Based on data developed for the direct economic impact analysis conducted for the Cuyama Basin, it is estimated that loss of production in these acres would represent a loss of about \$10,000-15,000 per year.

**Table 2-2. Domestic and Production Wells and MT Summary Statistics**

Threshold Region	Total Number of Production Wells	Domestic Wells at Risk to Go Dry if GWLs reach MTs	Total Production Wells at Risk to Go Dry if GWLs reach MTs	Percentage of Wells at Risk of Going Dry
Northwestern	16	<del>10</del>	<del>10</del>	<del>60%</del>
Western	40	0	0	0%
Central	89	0	0	0%
Eastern	39	2	<del>54</del>	<del>1310%</del>
Southeastern	66	1	1	2%
<i>Whole Basin</i>	<i>250</i>	<del>43</del>	<del>75</del>	<del>32%</del>





Supplemental Figure 2-2. Well Status Based on Minimum Threshold Analysis

## Modeling Analysis of Northwestern Threshold Groundwater Levels Minimum Thresholds

Concern was presented in DWR's Letter about whether the thresholds established in the ~~northwestern threshold region~~ [Northwestern Threshold Region](#) at Opti wells 841 and 845 are protective of nearby beneficial users of water. Specifically, ~~concern was raised that~~ [DWR questioned what impact\(s\) may occur to nearby domestic wells and GDEs](#) if groundwater levels were to reach MTs in representative wells ~~what impact may occur to nearby domestic wells and GDEs~~. 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 2-3 shows the modeled change in groundwater elevations resulting from setting groundwater levels at the [minimum thresholds](#) [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 the 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. Potential impacts on this GDE location will be monitored at nearby Opti well 832.

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 [afyAFY](#)) 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 [afyAFY](#) 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 [afyAFY](#), 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.



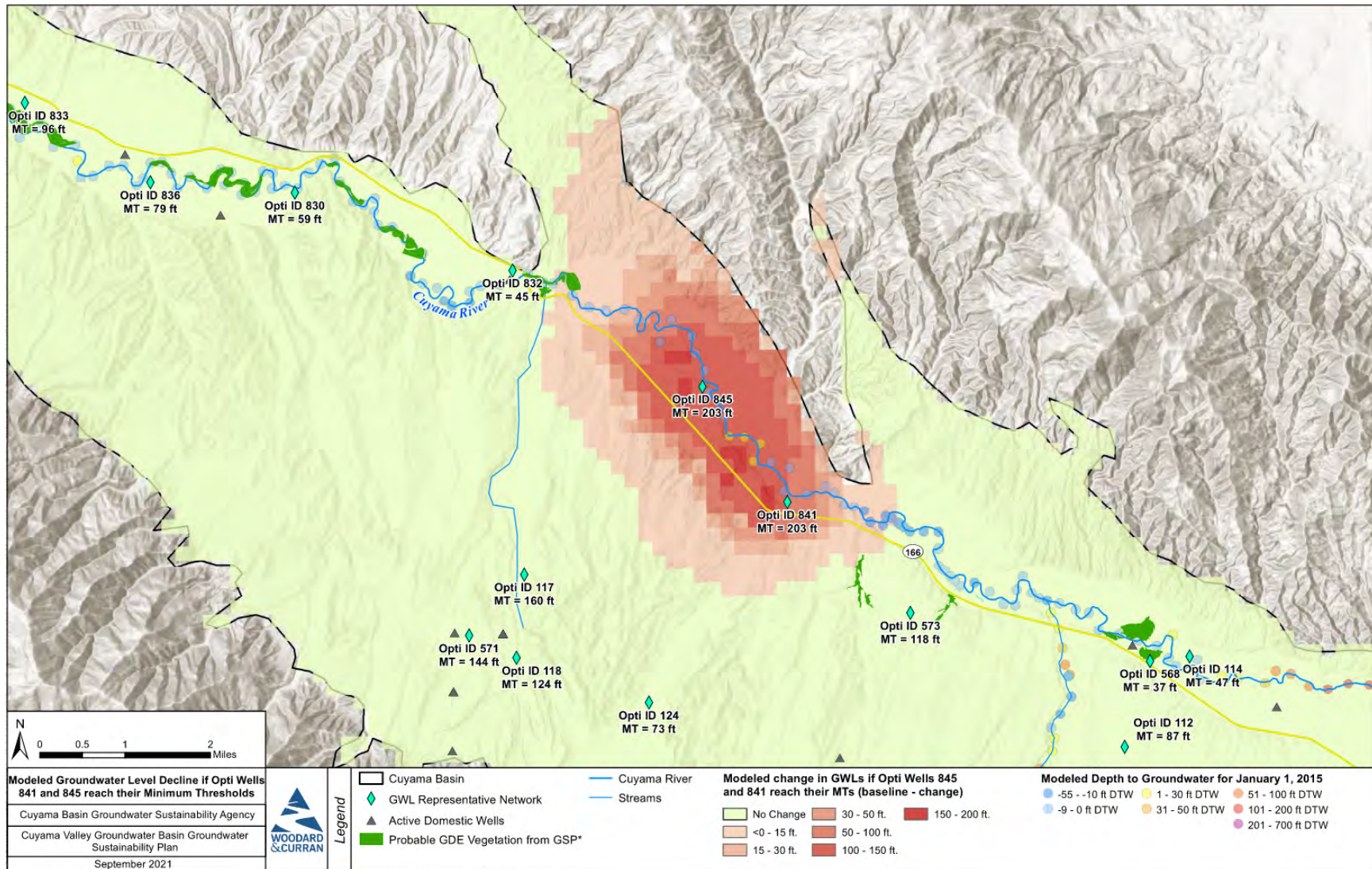


Figure 2-3. Change in Groundwater Levels in Northwestern Region from CBWRM Test Simulation

### 3. POTENTIAL CORRECTIVE ACTION 2: USE OF GROUNDWATER LEVELS AS A PROXY FOR DEPLETION OF INTERCONNECTED SURFACE WATER

#### 3.1 Initial Review and Opinion Provided by DWR

As described in the Letter, DWR requests supporting evidence to justify the CBGSA's use of the basin-wide groundwater level ~~minimum thresholds~~ MTs as a reasonable proxy for thresholds for depletions of ~~interconnected surface water (ISW)~~. It is the understanding of the CBGSA that the primary objection to the CBGSA's approach was the utilization of the entire groundwater level representative network as a one-for-one proxy for ~~interconnected surface waters~~ ISWs. This is because not all groundwater representative monitoring sites are necessarily appropriate for monitoring for depletion of ~~interconnected surface waters~~ ISWs.

#### 3.2 Review of Information and Data Provided in Submitted GSP

As stated in the SGMA regulations, as well as mentioned in the Letter, utilizing a sustainability indicator as a proxy for another is allowed if supported by adequate evidence. The submitted GSP provides justification for using groundwater levels thresholds as a proxy for ~~interconnected surface waters~~ ISWs in Sections 3.2.6 and 5.7 with supporting descriptions of surface water and groundwater interactions in Sections 2.1.9 and 2.2.8.

As described in Sections 2.1.9 of the GSP, the primary surface water body in the Basin is the Cuyama River. Flows in the Cuyama River are perennial, with most dry seasons seeing little to no flow. There are also four main contributing streams and other ~~more~~ minor contributing streams. The Cuyama River and all ~~of the~~ contributing streams are dry during most of the year, with flows occurring only during precipitation events during the winter months. Nearly all precipitation in the Basin and contributing watersheds percolate into the primary aquifer. The Cuyama River and four primary contributing streams were modeled, with the estimates of gaining and losing quantities provided in Table 2-2 of the GSP.

As noted in the plan, there is limited data available pertaining to the shallow aquifer system or to the quantity and timing of streamflows in the Basin. To help address this deficiency, the CBGSA recently installed new streamflow gages on the Cuyama River. In addition, in Section 2.2.9, the GSP recommended the installation of piezometers in the vicinity of the streambed to provide additional shallow aquifer groundwater level measurements.

#### 3.3 Updates to GSP in Response to DWR Letter

~~The CBGSA agrees that additional evidence and/or description may be warranted for justifying the use of groundwater levels as a proxy for interconnected surface waters. Specifically, the CBGSA feels~~ The following text has been added to the GSP:

##### Supplemental to Section 4.10 – Depletions of Interconnected Surface Water Monitoring Network

The CBGSA believes that identifying a subset of groundwater level representative monitoring wells for use in ISW monitoring, and providing a rationale for their selection, adequately addresses concerns provided in the Letter. ~~– and provides adequate data collection and monitoring for ISWs.~~

##### 3.3.1 Summary of Potential Undesirable Results for Interconnected Surface Waters

Depletions of ISW are related to chronic lowering of groundwater levels via changes in the hydraulic gradient. Therefore, declines in groundwater elevations in portions of the river system that are hydrologically connected to the river system can lead to increased depletions of surface water. As shown in Figure 3-1, an analysis of the results of the historical simulation of the Cuyama Basin Water Resources Model (CBWRM) reveals that many portions of the

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stream system in the ~~basin~~Basin were already disconnected as of 2015 and, therefore, ISW flows in these stream reaches would not be affected by changes in groundwater levels. The primary areas of concern for ISW are on stretches of the Cuyama River upstream of Ventucopa and downstream of the Russell Fault.

Because the Cuyama River does not flow during most days of the year and the river is not subject to environmental flow regulations, the primary beneficial uses of Cuyama River streamflows are GDEs and water users who utilize water that may flow into Lake Twitchell downstream of the ~~basin~~Basin boundary. Lowering groundwater levels could result in reduced streamflows for beneficial use by these users. Therefore, the intent of the ISW monitoring network and sustainability criteria is to ensure that long-term groundwater level declines do not occur in the vicinity of the connected stretches of the Cuyama River.



Figure 3-1. Potential Stream Interconnectivity using Historical Modeled Groundwater Levels in January -2015

### 3.3.2 Approach for ISW Monitoring and Sustainability Criteria

To develop an ISW monitoring network, a subset of wells from the groundwater levels representative monitoring network has been used to create a depletion of [interconnected surface water/ISW](#) representative monitoring network. Wells not included in the groundwater levels monitoring network were also considered; but no additional wells were identified that would be suitable for ISW monitoring. After consulting [DWR's DWR's BMPs for Monitoring Networks and Identification of Data Gaps](#), the following criteria were used to select wells to be included in the [interconnected surface water/ISW](#) representative network:

1. [TheyWells that](#) are within 1.5-miles of the Cuyama River and/or 1-mile of one of the four major contributing streams to the Cuyama River, including Aliso Creek, Santa Barbara Creek, Quantal Canyon Creek, and Cuyama Creek,
2. [TheyWells that](#) have screen intervals within 100 feet below ground surface (bgs). In some cases, wells without screen interval information but with well depths greater than 100 feet bgs were included, under the assumption that the screen interval was less than 100 feet bgs. In many of these wells, recent groundwater depth to water measurements were 40 feet bgs or less.

DWR BMP *Monitoring Networks and Identification of Data Gaps*, provides the following guidance for well selection: "Identify and quantify both timing and volume of groundwater pumping within approximately 3 miles of the stream or as appropriate for the flow regime." However, the CBGSA has chosen to use a 1.5-mile buffer around the Cuyama River and a 1-mile buffer around the major contributing streams because the Basin's unique and dynamic geological and topographical conditions require a narrower window so that the ISW monitoring network wells would cover just the portion of Valley in the vicinity of the River system (and not extend into the foothill areas with significant topographical changes).

In addition, depletions of [interconnected surface waters/ISWs](#) occur at the interaction of surface and groundwater, which is in the shallow portion of the aquifer. In general, wells with completions or depths within 100 [#feet](#) bgs are preferable to provide more useful information about this near surface interaction. Common practice is to also only include wells that are in areas of interconnectivity or areas where interconnectivity conditions are close to those that define interconnectivity (for example, areas with groundwater levels between 30 to 50-feet below ground surface). Due to the limited number of available wells in the Cuyama Basin with screen intervals (or where screen interval data is not available, well depth) of less than 100 [#feet](#) bgs, the proposed ISW network includes only five wells. Additional monitoring locations will need to be identified to fill data gaps in the ISW network as discussed below.

The resulting ISW monitoring network is shown in Table 3-1 and Figure 3-2 below. The monitoring network includes 12 wells, nine of which are representative wells for which minimum thresholds and measurable objective have been defined. [Minimum thresholdsThe MT, MO, and UR criteria \(30 percent of representative wells below their MTs for two consecutive years\) are the same as those calculated and provided in the groundwater level representative network for the groundwater level monitoring. MTs](#) at the representative well locations are protective of GDE locations in the upper and lower portions of the river, with [minimum thresholdsMTs](#) less than 30 feet from the bottom of the river channel in the vicinity of four wells (89, 114, 830 and 832). Note that [wellWell](#) 906 is part of a new multi-completion well that was constructed in the summer of 2021 under DWR's Technical Support Services; while [willWell](#) 906 is a representative well, sustainability criteria will not be developed for this well until a history of groundwater level measurements has been established. While the three non-representative wells in the central [basinportion of the Basin](#) are too deep for direct monitoring of ISW flows, they are included to allow the GSA to monitor potential groundwater level increases that could result in reconnection between the river and aquifer in the central [basinBasin](#) going forward.

Table 3-1. Interconnected Surface Water Monitoring Network

Opti ID	Threshold Region	Well Depth (feet bgs)	Screen Interval	Minimum Threshold (feet bgs)	Measurable Objective (feet bgs)
<b>Representative Wells</b>					
2	Southeastern	73	Unknown	72	55
89	Southeastern	125	Unknown	64	44
114	Central	58	Unknown	47	45
568	Central	188	Unknown	37	36
830	Northwestern	77	Unknown	59	56
832	Northwestern	132	Unknown	45	30
833	Northwestern	504	Unknown	96	24
836	Northwestern	325	Unknown	79	36
906	Northwestern	Unknown	50-70	TBD	TBD
<b>Other Monitoring Network Wells</b>					
101	Central	200	Unknown	n/a	n/a
102	Central	Unknown	Unknown	n/a	n/a
421	Central	620	Unknown	n/a	n/a

The proposed network includes [the following](#) data gaps which will need to be filled in the future:

- Due to the shortage of shallow monitoring wells available to include in the network, additional shallow aquifer measurement devices will be needed. As noted above, the CBGSA has called for the installation of piezometers in the vicinity of the streambed.
- A spatial data gap exists along the Cuyama River in between Well 89 and Ventucopa. Note that significant stretches of the Cuyama River (particularly in the [Central area of the Basin](#)) were already disconnected from the groundwater aquifer in 2015 (as discussed in Section 2.2.8 of the GSP).

[The CBGSA has requested funding for the installation of six piezometers under the recently awarded DWR SGMA grant. The specific locations for these additional piezometers will be determined through technical analysis and stakeholder and landowner engagement with the goals of filling gaps in the ISW monitoring network and of providing better information regarding the condition of GDEs in the Basin.](#)

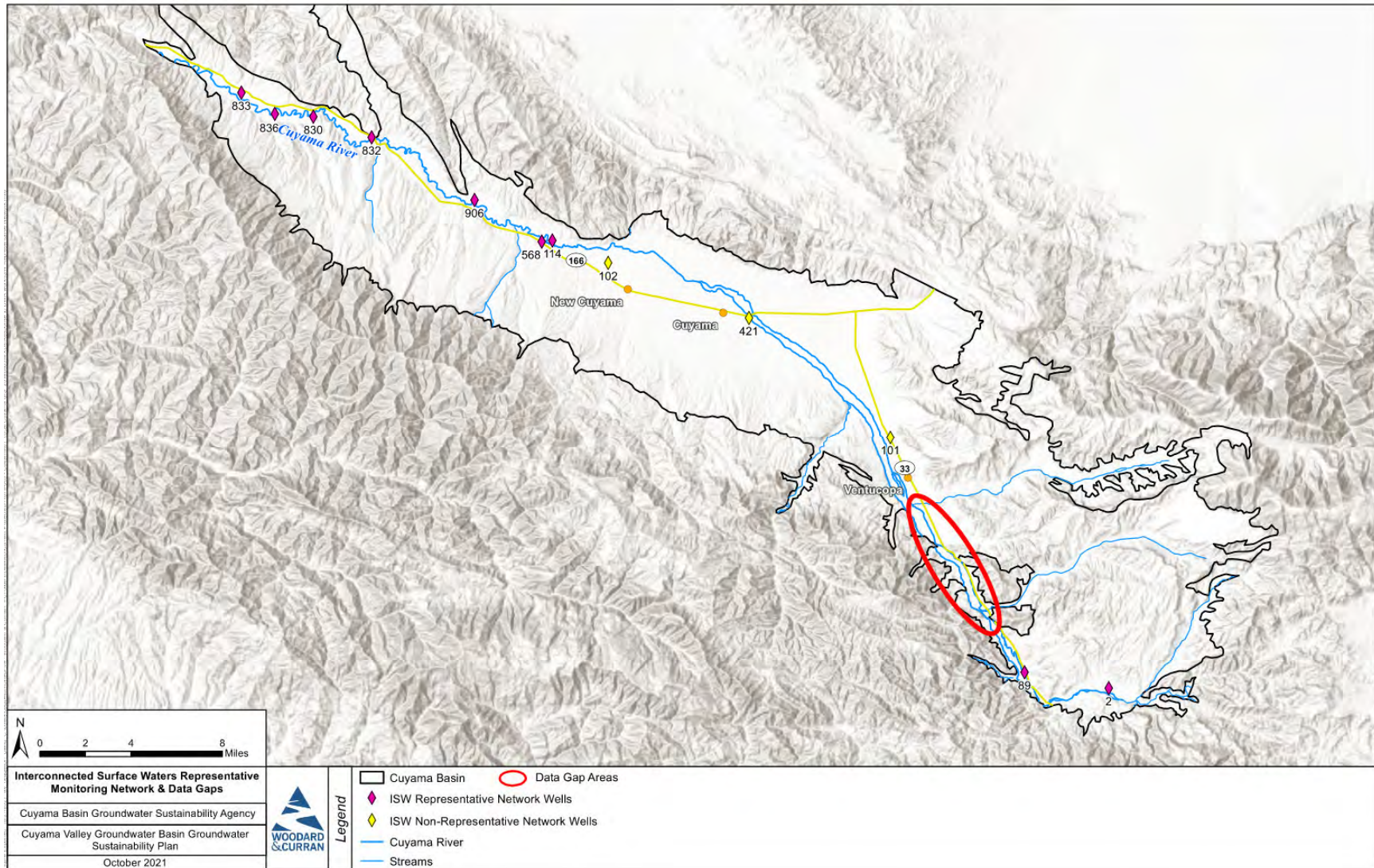


Figure 3-2. Interconnected Surface Water Monitoring Network

## 4. POTENTIAL CORRECTIVE ACTION 3: FURTHER ADDRESS DEGRADED WATER QUALITY

### 4.1 Initial Review and Opinion Provided by DWR

DWR's Letter expressed two main concerns about the water quality analysis and constituent thresholds used in the GSP. First, the GSP acknowledges that nitrate and arsenic have been historical constituents of concern, but due to regulatory limitations, did not set thresholds for these two constituents. Second, based on feedback provided in a public comment, there was concern that some public data was not included in the water quality analysis conducted for the Basin. DWR believes that the GSA may have approached the management strategies differently (through setting thresholds for these constituents) if this data had been utilized. DWR recommended the following to address the concerns raised in the letter:

- Groundwater conditions information related to water quality should be updated to include all available data, in particular as recommended by the Regional Water Quality Control Board, so as to reflect the best available information regarding water quality.
- The GSA should either develop sustainable management criteria for arsenic and nitrate or provide a thorough, evidence-based description for why groundwater management is unlikely to cause significant and unreasonable degradation of groundwater.
- The GSA should appropriately revise its monitoring network based on the above updates. At a minimum, the GSA should include monitoring for arsenic and nitrates as they have been identified as constituents of concern in the [basinBasin](#).

### 4.2 Review of Information and Data Provided in Submitted GSP

As discussed in Section 4.3.3 of the GSP, water quality data for the Basin was collected from the Irrigated Lands Program (ILP), Groundwater Ambient Monitoring and Assessment (GAMA) Program, United States Geological Survey (USGS), Cuyama Community Services District (CCSD), Ventura County Water Protection District, and private landowners. Staff performed detailed analysis to ensure that wells included in multiple datasets were paired correctly at to the best of their ability, remove duplicate measurements and data.

The GSP includes a monitoring network (Section 4.8) and sustainability criteria (Section 5.5) for management of TDS in the [basinBasin](#).

The GSP discussion noted that the CBGSA does not have the ability or authority to perform actions to address nitrate or arsenic levels in the Basin. Nitrate concentrations are directly related to fertilizer application on agricultural crops, and SGMA regulations do not provide GSAs the regulatory authority to manage fertilizer application. This regulatory authority is, however, held by the SWRCB through the ILP. Additionally, arsenic is naturally occurring, and has only been measured in limited regions of the [basinsBasin](#).

### 4.3 Updates to GSP in Response to DWR Letter

The following sections provided updated information in response to the three actions recommended by DWR.

#### 4.3.1 Updates to Groundwater Conditions Descriptions

[The following text has been added to the GSP:](#)



### [Supplemental to Section 2.2.7 \[Basin Settings: Groundwater Conditions for\] Groundwater Quality](#)

Additional data collection efforts were performed for nitrate and arsenic measurements, including collecting updated data from publicly available data portals such as GAMA, CEDEN, GeoTracker, and the National Water Quality Monitoring Council that were previously accessed during GSP development. In addition to accessing the public portals for each program, staff coordinated with RWQCB staff to ensure that all publicly available data was collected. It was confirmed by RWQCB staff that all available data for the ILP program were included in the online GAMA data portal download. Some of these public portals have overlapping data that, where possible, were removed, to develop a comprehensive data set for the Basin.

Summary statistics for nitrate (as N) and arsenic measurements taken from 2010-2020 are shown in Table 4-1. For nitrates, 41 of the 102 wells with measurements during this period recorded a measurement exceeding the MCL of 10 mg/L. For arsenic, [five](#) of the 23 wells with measurement recorded a measurement exceeding the MCL of 10 µg/L. Figures 4.1 and 4.2 show the locations of wells with monitoring measurements for nitrates and arsenic during the 2010-2020 period and the average concentrations measured in each well. In each case, the wells with average values exceeding the MCLs correspond with the wells tabulated in Table 4-1. A review of the data for wells with measurements both before and after 2015 showed little change with no wells showing degradation of nitrate or arsenic such that a well that was below the MCL before 2015 was above the MCL afterwards.

**Table 4-1. Summary Statistics for Nitrate (as N) and Arsenic**

	Nitrate (as N)	Arsenic
Number of monitoring wells	102	23
Number of wells with recorded MCL exceedances from 2010-2020	41	5

As shown in Figures 4-1 and 4-2, most wells with nitrate and arsenic concentrations exceeding MCLs are located in the central threshold region. The locations of high arsenic concentrations are focused to the south of the town of New Cuyama near the existing Cuyama Community Services District (CCSD) well. This is a known issue for the CCSD that will be mitigated by the construction of a replacement well for the district, which was included as a project in the GSP (see section 7.4.4).

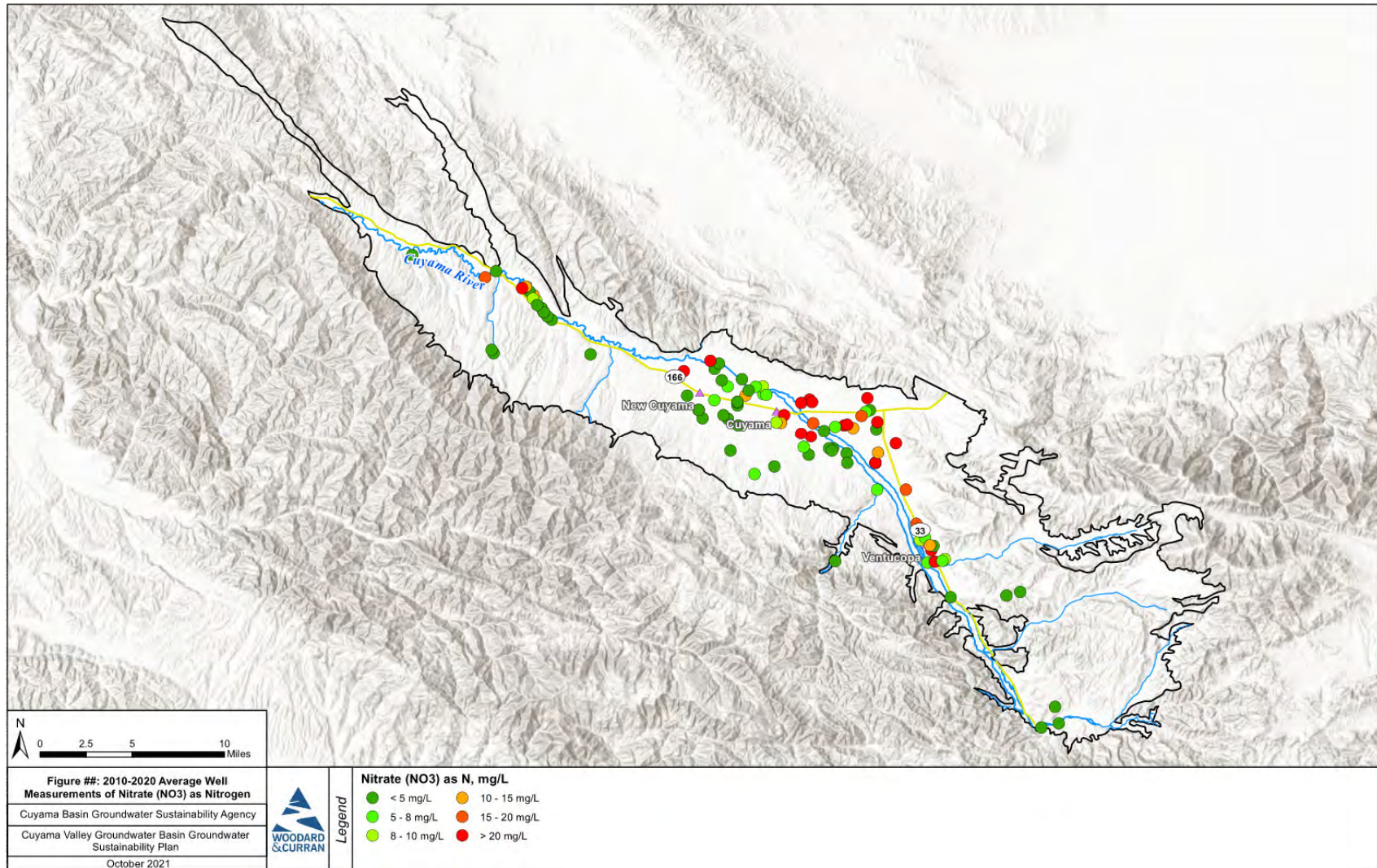


Figure 4-1. Average Well Measurements of Nitrate (as N) from 2010 through 2020

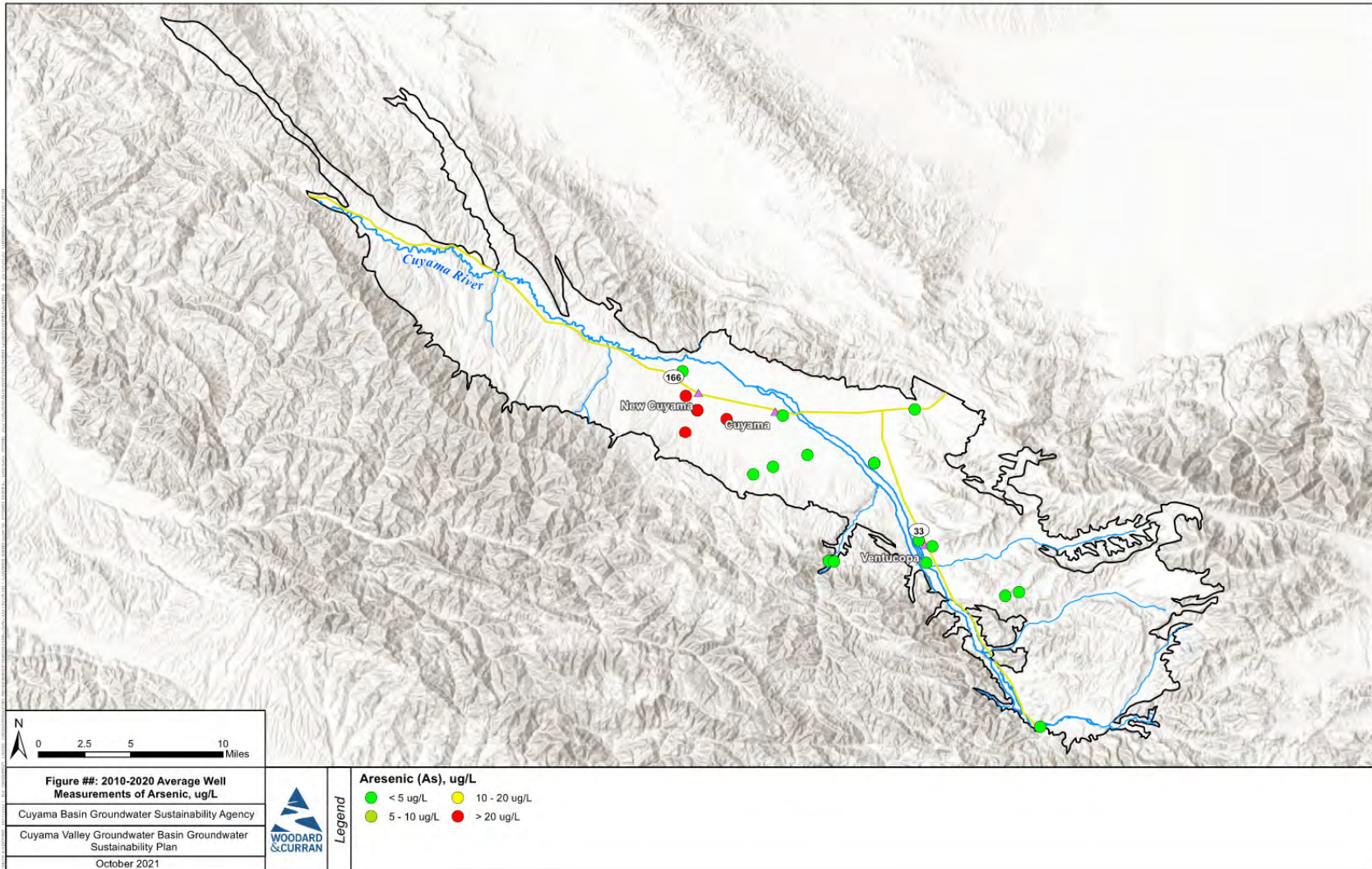


Figure 4-2. Average Well Measurements of Arsenic from 2010 through 2020

[The following text has been added to the GSP:](#)

[Supplemental to Section 5.5 \[Minimum Thresholds, Measurable Objectives, and Interim Milestones for Degraded Water Quality\]](#)

#### 4.3.2 Why Groundwater Management is Unlikely to Affect Nitrate and Arsenic Concentrations

As discussed in the submitted GSP, 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, it is believed 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 ~~basin~~ Basin due to the pumping allocations that were included in the GSP. This will likely reduce the application of fertilizers in the central part of the ~~basin~~ 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 4-2, wells with high arsenic concentrations are located in a relatively small area of the ~~basin~~ 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~~ Basin. The only operational public well that is located in this part of the ~~basin~~ Basin serves the Cuyama Community Services District (CCSD). As noted above, 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.

#### 4.3.3 Monitoring Approach for Nitrates and Arsenic

The CBGSA intends to leverage and make use of existing monitoring programs for nitrates and arsenic, in particular ILP for nitrates and USGS for arsenic. ~~The wells~~ Wells in the ~~basin~~ Basin where recent monitoring data is available for these constituents are shown in Figures 4-1 and 4-2. ~~To supplement the understanding of nitrate and arsenic concentrations in the basin, the GSP intends to perform an additional measurement of~~ The CBGSA intends to collect data from ~~the ILP and USGS these sources and programs~~ and perform analysis at each 5-year GSP update to monitor constituent level changes and reassess their impacts on the Basin and its beneficial uses and users. ~~In addition to the planned data collection and analysis efforts, the CBGSA plans to collect water quality data for~~ nitrate and arsenic at each water quality well identified in the GSP (GSP Figure 4-20) during calendar year 2022. This will provide a baseline constituent level in all groundwater quality representative monitoring network locations that can be utilized for future ~~basin~~ Basin planning. Additional measurements may be considered by the GSA in the future in anticipation of future five-year updates.

[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.](#)

[Although nitrate and arsenic levels do not currently fall within the regulatory authority of the CBGSA, as stated above, nitrates are regulated by ILP. In addition, the CBGSA will reevaluateion of the of nitrate and arsenic concentrations at](#)

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~~will be conducted at~~ each 5-year GSP update. 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.

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 or even pumping management or well rehab 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.

## 5. POTENTIAL CORRECTIVE ACTION 4: PROVIDE EXPLANATION FOR HOW OVERDRAFT WILL BE MITIGATED IN THE BASIN

### 5.1 Initial Review and Opinion Provided by DWR

This potential corrective action is related to the lack discussion of how overdraft will be mitigated in the entire ~~basin~~Basin. In particular, DWR requests additional information for why the GSP does not include pumping reductions in the Ventucopa management area (where the Cuyama Basin Water Resources Model (CBWRM) predicts long-term groundwater level declines) and why projects and management actions are not included to prevent groundwater level declines in the northwest region.

### 5.2 Review of Information and Data Provided in Submitted GSP

The Water budget section of the GSP (~~section~~Section 2.3) includes a sustainability analysis that estimates that basin-wide groundwater pumping (currently estimated at about 60-64 ~~ta~~TAF per year) would need to be reduced by somewhere between 55% and 67% (depending on whether climate change and/or water supply projects are included).

The GSP defined management areas in central ~~basin~~Basin and in the Ventucopa region because those were the two regions in which the model predicted long-term overdraft (Section 7.1). The modeling results did not predict overdraft or groundwater declines in any other portion of the ~~basin~~Basin, including the northwest region. The Projects and Management Actions section includes an action to implement pumping allocations in the Central Basin management area to address projected overdraft in that portion of the ~~basin~~Basin. However, as described in the Executive Summary, pumping reductions were not recommended in the Ventucopa management area because of the need to “perform additional monitoring, incorporate new monitoring wells, and further evaluate groundwater conditions” before the need for pumping reductions can be determined.

The CBWRM model documentation (Appendix 2-C) estimated the range of uncertainty of ~~basinwide~~basin wide model results and included recommendations for future model updates, including additional hydrogeological characterization, improved streamflow data collection, an assessment of groundwater pumping levels and incorporating future collected data into model calibration – each of which is relevant to the model’s representation of the Ventucopa region.

### 5.3 Updates to GSP in Response to DWR Letter

[The following text has been added to the GSP:](#)

#### [Supplemental to Section 7 Projects and Management Actions](#)

The following sections provide additional information regarding the Ventucopa management area and the northwestern region [of the Basin](#).

#### 5.3.1 Ventucopa Management Area

As noted in the Executive Summary of the GSP, the ~~GSAC~~CBGSA intends to re-evaluate the need for pumping reductions in the Ventucopa region [of the Basin](#) after further evaluating groundwater conditions over a two-to-five-year period following submission of the GSP. At the time that the GSP was submitted, the CBGSA felt that it was premature to prescribe pumping reductions in the Ventucopa region on the basis of CBWRM model results because the development of the model in that portion of the ~~basin~~Basin posed significant challenges:

- Limited groundwater level data was available for model calibration. Only three calibration wells were available in that area of the ~~basin~~Basin (wells 62, 85, and 617). Since submission of the GSP, a new multi-completion

monitoring well has been installed in the area, which will provide additional information for model calibration going forward.

- Characterization of streamflows and their effect on the groundwater aquifer was challenging because there were no streamflow gages on the Cuyama River with measurements taken during the calibration period and limited information was available regarding stream geometry in the region. Since submission of the GSP, a new streamflow gage has been installed on the Cuyama River upstream of the Ventucopa region.
- Groundwater pumping levels in the region were based on estimates from available land use information. However, unlike the central [basin area of the Basin](#), cropping patterns in this portion of the [basin was Basin](#) were not provided by local landowners but [was were](#) instead estimated using satellite imagery. Furthermore, specific well locations were not available in this portion of the [basin Basin](#). The CBGSA has addressed these shortcomings through the requirement of landowners to install meters on production wells and to report well information starting in calendar year 2022.
- The magnitude of water budget estimates in the region were relatively small as compared to the [basin Basin](#) as a whole, which meant that a small change in the estimate for a single water budget component could have a large effect on the estimated change in storage (and corresponding estimates of long-term groundwater elevation change). In particular, some [basin Basin](#) stakeholders have raised a concern that the model may be underestimating stream seepage into the aquifer in this stretch of the Cuyama River.
- Due to time and budget constraints during GSP development, model development and calibration prioritized development of an accurate representation of the central [basin Basin](#) portion of the aquifer (where long-term overdraft was known to occur) with lesser emphasis on other parts of the model. The primary model calibration objective during CBWRM development of the Ventucopa region was on ensuring that groundwater levels matched historical trends at the boundary of the central [basin Basin](#) and Ventucopa region.

Table 5-1 shows the average annual groundwater budget in the Eastern threshold region for the 50-year current and projected simulation (without climate change) included in the GSP. While the historical simulation showed a small surplus in the region, the future projected simulation showed a deficit of about 700 acre-feet per year (AFY), which corresponded to the groundwater level declines shown in Figure 7-1 of the GSP. This quantity is small compared to an overall [basin Basin](#) groundwater storage deficit of 25,000 AFY, and it is approximately 10% of the total groundwater inflow in this region. This can be well within the range of uncertainties in any of the water budget components, and the range of overdraft can be +/- 10%. In light of the uncertainties, and lack of sufficient data on the water budget components to verify the model projected water budget, the CBGSA determined that implementing a management action in the region at this early stage may be too premature. Instead, the CBGSA is determined to compile and analyze additional data and information on groundwater levels, surface water flows, groundwater pumping, as well as information on channel geometry and subsurface conditions. This information will be used to further enhance the capabilities of the model for analysis of projected water budgets and groundwater conditions in the region, and determination of possible management actions to address any possible projected overdraft conditions.

**Table 5-1. Eastern Region Groundwater Budget Summary (Acre-feet per year)**

	Current and Projected Simulation (2018-2067)
<b>Inflows</b>	
Deep percolation	4,100
Stream seepage	1,300
Subsurface inflow	700
<b>Total Inflows</b>	<b>6,100</b>
<b>Outflows</b>	
Groundwater pumping	6,800

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Total Outflows	6,800
Change in Storage	-700

### 5.3.2 Northwestern Region

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

- The CBWRM model indicated a balance between groundwater inflows and outflows in the region in all of the water budget scenarios that were simulated.
- The Cleath-Harris Geologists (CHG) document *Sustainability Thresholds for Northwestern Region, Cuyama Valley*, dated December 7, 2018<sup>1</sup>, developed under contract with the North Fork Vineyard. This document identified minimum thresholds for this area that would be protective of groundwater pumping capacity for production wells in this area. CHG estimated that the minimum thresholds proposed for the region would result in a fifteen percent reduction in the saturated thickness screened by the production wells, which would correspond in very general terms to a similar reduction in transmissivity and pumping capacity of the production wells.

The technical analyses described in Section 2 regarding ~~potential corrective action~~[Potential Corrective Action](#) 1 indicates that the potential drawdown due to the minimum thresholds set for wells 841 and 845 could have a small effect on GDEs and domestic wells in the area. However, the thresholds set in the monitoring wells located in the vicinity of these ~~basin~~[Basin](#) resources are set at protective levels that would be indicative of any issues that may arise, allowing the CBGSA to make an appropriate adaptive management response (per section 7.6 of the GSP). Therefore, the available evidence indicates that management actions are not required in this region at this time.

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<sup>1</sup> Posted at the Cuyama Basin GSA website here: <https://cuyamabasin.org/assets/pdf/Cleath-Harris-Sustainability-Thresholds-for-Northwestern-Region.pdf>





TO: Standing Advisory Committee  
Agenda Item No. 6c

FROM: Jim Beck / Alex Dominguez / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Governor's Executive Order N-7-22 Regarding Well Permits

#### Issue

Direction Executive Order N-7-22 regarding well permits.

#### Recommended Motion

Standing Advisory Committee feedback requested.

#### Discussion

On March 28, 2022, the Governor issued Executive Order N-7-22 in response to ongoing drought conditions (Attachment 1).

Section 9 of the Executive Order provides requirements for new and/or modified wells as summarized below. However, these requirements do not apply to de minimis users (wells that provide less than 2 acre-feet per year of groundwater for non-commercial purposes) or wells that exclusively provide groundwater to public water supply systems.

- Section 9a – New well permits require written authorization **from a GSA** that groundwater extraction will not be inconsistent with any sustainable groundwater management program and not decrease likelihood of achieving sustainability.
- Section 9b – New well permits or alteration of existing well require a determination **by permitting agencies** that the well will (1) not likely interfere with production and functioning of existing nearby wells, or (2) not likely cause subsidence that would adversely impact or damage nearby infrastructure.

An ad hoc is being scheduled to discuss and recommend potential policy options regarding this new requirement and the SAC and Board will be updated as soon as this information is available.

EXECUTIVE DEPARTMENT  
STATE OF CALIFORNIA

EXECUTIVE ORDER N-7-22

**WHEREAS** on April 12, 2021, May 10, 2021, July 8, 2021, and October 19, 2021, I proclaimed states of emergency that continue today and exist across all the counties of California, due to extreme and expanding drought conditions; and

**WHEREAS** climate change continues to intensify the impacts of droughts on our communities, environment, and economy, and California is in a third consecutive year of dry conditions, resulting in continuing drought in all parts of the State; and

**WHEREAS** the 21st century to date has been characterized by record warmth and predominantly dry conditions, and the 2021 meteorological summer in California and the rest of the western United States was the hottest on record; and

**WHEREAS** since my October 19, 2021 Proclamation, early rains in October and December 2021 gave way to the driest January and February in recorded history for the watersheds that provide much of California's water supply; and

**WHEREAS** the ongoing drought will have significant, immediate impacts on communities with vulnerable water supplies, farms that rely on irrigation to grow food and fiber, and fish and wildlife that rely on stream flows and cool water; and

**WHEREAS** the two largest reservoirs of the Central Valley Project, which supplies water to farms and communities in the Central Valley and the Santa Clara Valley and provides critical cold-water habitat for salmon and other anadromous fish, have water storage levels that are approximately 1.1 million acre-feet below last year's low levels on this date; and

**WHEREAS** the record-breaking dry period in January and February and the absence of significant rains in March have required the Department of Water Resources to reduce anticipated deliveries from the State Water Project to 5 percent of requested supplies; and

**WHEREAS** delivery of water by bottle or truck is necessary to protect human safety and public health in those places where water supplies are disrupted; and

**WHEREAS** groundwater use accounts for 41 percent of the State's total water supply on an average annual basis but as much as 58 percent in a critically dry year, and approximately 85 percent of public water systems rely on groundwater as their primary supply; and

**WHEREAS** coordination between local entities that approve permits for new groundwater wells and local groundwater sustainability agencies is important to achieving sustainable levels of groundwater in critically overdrafted basins; and

**WHEREAS** the duration of the drought, especially following a multiyear drought that abated only five years ago, underscores the need for California to redouble near-, medium-, and long-term efforts to adapt its water management and delivery systems to a changing climate, shifting precipitation patterns, and water scarcity; and

**WHEREAS** the most consequential, immediate action Californians can take to extend available supplies is to voluntarily reduce their water use by 15 percent from their 2020 levels by implementing the commonsense measures identified in operative paragraph 1 of Executive Order N-10-21 (July 8, 2021); and

**WHEREAS** to protect public health and safety, it is critical the State take certain immediate actions without undue delay to prepare for and mitigate the effects of the drought conditions, and under Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Proclamation would prevent, hinder, or delay the mitigation of the effects of the drought conditions.

**NOW, THEREFORE, I, GAVIN NEWSOM**, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, Government Code sections 8567, 8571, and 8627, do hereby issue the following Order to become effective immediately:

**IT IS HEREBY ORDERED THAT:**

1. The orders and provisions contained in my April 21, 2021, May 10, 2021, July 8, 2021, and October 19, 2021 Proclamations remain in full force and effect, except as modified by those Proclamations and herein. State agencies shall continue to implement all directions from those Proclamations and accelerate implementation where feasible.
2. To help the State achieve its conservation goals and ensure sufficient water for essential indoor and outdoor use, I call on all Californians to strive to limit summertime water use and to use water more efficiently indoors and out. The statewide Save Our Water conservation campaign at [SaveOurWater.com](http://SaveOurWater.com) provides simple ways for Californians to reduce water use in their everyday lives. Furthermore, I encourage Californians to understand and track the amount of water they use and measure their progress toward their conservation goals.
3. By May 25, 2022, the State Water Resources Control Board (Water Board) shall consider adopting emergency regulations that include all of the following:
  - a. A requirement that each urban water supplier, as defined in section 10617 of the Water Code, shall submit to the Department of Water Resources a preliminary annual water supply and demand assessment consistent with section 10632.1 of the Water Code no later than June 1, 2022, and submit a final annual water

supply and demand assessment to the Department of Water Resources no later than the deadline set by section 10632.1 of the Water Code;

- b. A requirement that each urban water supplier that has submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, the shortage response actions adopted under section 10632 of the Water Code for a shortage level of up to twenty percent (Level 2), by a date to be set by the Water Board; and
- c. A requirement that each urban water supplier that has not submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, shortage response actions established by the Water Board, which shall take into consideration model actions that the Department of Water Resources shall develop for urban water supplier water shortage contingency planning for Level 2, by a date to be set by the Water Board.

To further conserve water and improve drought resiliency if the drought lasts beyond this year, I encourage urban water suppliers to conserve more than required by the emergency regulations described in this paragraph and to voluntarily activate more stringent local requirements based on a shortage level of up to thirty percent (Level 3).

- 4. To promote water conservation, the Department of Water Resources shall consult with leaders in the commercial, industrial, and institutional sectors to develop strategies for improving water conservation, including direct technical assistance, financial assistance, and other approaches. By May 25, 2022, the Water Board shall consider adopting emergency regulations defining "non-functional turf" (that is, a definition of turf that is ornamental and not otherwise used for human recreation purposes such as school fields, sports fields, and parks) and banning irrigation of non-functional turf in the commercial, industrial, and institutional sectors except as it may be required to ensure the health of trees and other perennial non-turf plantings.
- 5. In order to maximize the efficient use of water and to preserve water supplies critical to human health and safety and the environment, Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended, with respect to the directives in paragraphs 3 and 4 of this Order and any other projects and activities for the purpose of water conservation to the extent necessary to address the impacts of the drought, and any permits necessary to carry out such projects or activities. Entities that desire to conduct activities under this suspension, other than the directives in paragraphs 3 and 4 of this Order, shall first request that the Secretary of the Natural Resources Agency make a determination that the proposed activities are eligible to be conducted under this suspension. The Secretary shall use sound discretion in applying this Executive Order to ensure that the suspension serves the purpose of accelerating conservation projects that are necessary to address impacts of the drought, while at the same time

protecting public health and the environment. The entities implementing these directives or conducting activities under this suspension shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

6. To support voluntary approaches to improve fish habitat that would require change petitions under Water Code section 1707 and either Water Code sections 1425 through 1432 or Water Code sections 1725 through 1732, and where the primary purpose is to improve conditions for fish, the Water Board shall expeditiously consider petitions that add a fish and wildlife beneficial use or point of diversion and place of storage to improve conditions for anadromous fish. California Code of Regulations, title 23, section 1064, subdivisions (a)(1)(A)(i)-(ii) are suspended with respect to any petition that is subject to this paragraph.
7. To facilitate the hauling of water for domestic use by local communities and domestic water users threatened with the loss of water supply or degraded water quality resulting from drought, any ordinance, regulation, prohibition, policy, or requirement of any kind adopted by a public agency that prohibits the hauling of water out of the water's basin of origin or a public agency's jurisdiction is hereby suspended. The suspension authorized pursuant to this paragraph shall be limited to the hauling of water by truck or bottle to be used for human consumption, cooking, or sanitation in communities or residences threatened with the loss of affordable safe drinking water. Nothing in this paragraph limits any public health or safety requirement to ensure the safety of hauled water.
8. The Water Board shall expand inspections to determine whether illegal diversions or wasteful or unreasonable use of water are occurring and bring enforcement actions against illegal diverters and those engaging in the wasteful and unreasonable use of water. When access is not granted by a property owner, the Water Board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of conducting an inspection pursuant to this directive.
9. To protect health, safety, and the environment during this drought emergency, a county, city, or other public agency shall not:
  - a. Approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well is proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by that Groundwater Sustainability

Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan; or

- b. Issue a permit for a new groundwater well or for alteration of an existing well without first determining that extraction of groundwater from the proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure.

This paragraph shall not apply to permits for wells that will provide less than two acre-feet per year of groundwater for individual domestic users, or that will exclusively provide groundwater to public water supply systems as defined in section 116275 of the Health and Safety Code.

10. To address household or small community drinking water shortages dependent upon groundwater wells that have failed due to drought conditions, the Department of Water Resources shall work with other state agencies to investigate expedited regulatory pathways to modify, repair, or reconstruct failed household or small community or public supply wells, while recognizing the need to ensure the sustainability of such wells as provided for in paragraph 9.
11. State agencies shall collaborate with tribes and federal, regional, and local agencies on actions related to promoting groundwater recharge and increasing storage.
12. To help advance groundwater recharge projects, and to demonstrate the feasibility of projects that can use available high water flows to recharge local groundwater while minimizing flood risks, the Water Board and Regional Water Quality Control Boards shall prioritize water right permits, water quality certifications, waste discharge requirements, and conditional waivers of waste discharge requirements to accelerate approvals for projects that enhance the ability of a local or state agency to capture high precipitation events for local storage or recharge, consistent with water right priorities and protections for fish and wildlife. For the purposes of carrying out this paragraph, Division 13 (commencing with section 21000) of the Public Resources Code and regulations adopted pursuant to that Division, and Chapter 3 (commencing with section 85225) of Part 3 of Division 35 of the Water Code and regulations adopted pursuant thereto are hereby suspended to the extent necessary to address the impacts of the drought. This suspension applies to (a) any actions taken by state agencies, (b) any actions taken by local agencies where the state agency with primary responsibility for the implementation of the directives concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b). The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.
13. With respect to recharge projects under either Flood-Managed Aquifer Recharge or the Department of Water Resources Sustainable

Groundwater Management Grant Program occurring on open and working lands to replenish and store water in groundwater basins that will help mitigate groundwater conditions impacted by drought, for any (a) actions taken by state agencies, (b) actions taken by a local agency where the Department of Water Resources concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b), Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended to the extent necessary to address the impacts of the drought. The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

14. To increase resilience of state water supplies during prolonged drought conditions, the Department of Water Resources shall prepare for the potential creation and implementation of a multi-year transfer program pilot project for the purpose of acquiring water from willing partners and storing and conveying water to areas of need.
15. By April 15, 2022, state agencies shall submit to the Department of Finance for my consideration proposals to mitigate the worsening effects of severe drought, including emergency assistance to communities and households and others facing water shortages as a result of the drought, facilitation of groundwater recharge and wastewater recycling, improvements in water use efficiency, protection of fish and wildlife, mitigation of drought-related economic or water-supply disruption, and other potential investments to support short- and long-term drought response.

**IT IS FURTHER ORDERED** that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

**IN WITNESS WHEREOF** I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 28th day of March 2022.



GAVIN NEWSOM  
Governor of California

**ATTEST:**

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SHIRLEY N. WEBER, PH.D.  
Secretary of State



TO: Standing Advisory Committee  
Agenda Item No. 6d

FROM: Jim Beck / Alex Dominguez

DATE: April 28, 2022

SUBJECT: Direction on Central Management Area Policies

**Issue**

Discussion on Central Management Area policies.

**Recommended Motion**

Standing Advisory Committee feedback requested.

**Discussion**

On January 5, 2022, the Cuyama Basin Groundwater Sustainability Agency Board of Directors (CBGSA) voted to develop specific allocation methodologies for pumping reductions in the Central Management Area for 2023 and 2024. The Board also directed staff to analyze historic water use in the Central Management Area from 1998 to 2014 as the potential basis for allocating the pumping reduction in 2023 and 2024. Staff presented the results of this analysis at the March 2, 2022, CBGSA Board meeting, and the Board directed staff to refine this work with the ad hoc.

Additionally, several other technical and policy points were raised by Directors at previous Board meetings or by Management Area Policy Ad hoc members (Directors Bantilan, Chounet, Shephard, Wooster, Vickery) and are listed below for SAC discussion and feedback.

1. Pumping Reduction Baseline/Starting Point
2. Allocation Methodology
3. Changed Water Use Inside the Central Management Area
4. Central Management Area Boundary (Hydrologic vs Operational)
5. Management Area Criteria Evaluation
6. Management Area Update
7. Administration of Pumping Reduction
8. Non-Compliance/Over-Pumping Enforcement



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### 1. Pumping Reduction Baseline/Starting Point

Three key components are required to implement the pumping reductions for 2023 and 2024 in the Central Management Area which is 5 percent each year of the difference between the baseline/starting point and the sustainable yield.

No.	Component	Status
1	Sustainable Yield for Central MA	Refined by model update due July 2022
2	Baseline/Starting Point for Reduction	<i>Need to determine this</i>
3	Allocation Methodology for Pumping Reduction for 2023 and 2024	Discussed under Item No. 2

#### *Ad hoc Recommendation*

- Use the most recent calendar year, updated by the model (Attachment 1)

### 2. Allocation Methodology

Review of allocation methodology.

#### *Ad hoc Recommendation*

- Allocate groundwater based on the average water use from the 1998-2017 period (corresponds with the GSP specified period for the water budget) (Attachment 2)
- Develop a process for landowners to correct information and review corrected information/special circumstances with ad hoc and the Board

### 3. Changed Water Use Inside the Central Management Area

If water use changes occur inside the Central Management Area (i.e., fallow fields are planted, new production) how will that impact allocation?

#### *Ad hoc Recommendation*

- Develop water budgets for each landowner and they have to manage to that allocation.
- Review special circumstances with ad hoc and Board
- Develop a specific variance policy (i.e., permanent, or temporary reallocation, identification of additional water supply, etc.)

### 4. Central Management Area Boundary (Hydrologic vs Operational)

The Central Management Area boundary is a hydrologic boundary determined by a model output. The model is being updated and will be finalized in July 2022. At that time, staff expects a new model boundary will be produced. The Cuyama Basin Water District has requested that the boundary be adjusted to follow roads and parcel boundaries for ease of administration.

#### *Ad hoc Recommendation*

- Use an operational boundary for 2023 and 2024 (i.e., follow roads and parcel boundaries)
- Based on hydrologic boundary

### 5. Management Area Criteria Evaluation

The Management Area was set using the criteria of areas experiencing a drawdown greater than two (2) feet per year over a projected 50-year period using current demand assumptions. The Cuyama Basin

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Water District requested the GSA consider other criteria and compare maps showing those different options once the model is updated in July 2022.

*Ad hoc Recommendation*

- Review additional Management Area criteria options based on current model update
- Consider implementing in 2025

**6. Management Area Update**

The Management Area is updated periodically using the model. Staff is looking for feedback on how often the Board would like to update the model to determine potential changes to existing Management Area boundaries and creation of potential new management areas.

*Ad hoc Recommendation*

- Update the Management Area at a minimum of 5 years

**7. Administration of Pumping Reduction**

How should the pumping reduction be administered by the GSA?

*Ad hoc Recommendation*

- GSA to develop water allocation for each landowner
- Allocation is managed at the wellhead
- Require annual landowner water use reports and meter readings
- Report pumping results at March Board meeting

**8. Non-Compliance/Over Pumping Enforcement**

If pumping reduction targets are not met how will the Board enforce compliance?

*Ad hoc Recommendation*

- Options
  - Pumping over the allocation would be reduced from the following year allocation
  - Unused water would be credited to the following year allocation
  - Over pumping carries a tiered financial penalty
    - Tier 1 – 5 percent over pumping = \$250/af
    - Tier 2 – >5 percent pumping = \$500/af
  - The GSA may pursue litigation for landowners that repeat over pumping (i.e., stop well from pumping for period of time, etc.)
- Develop a specific policy

**DRAFT**

ESTIMATE OF PUMPING REDUCTION IN THE CENTRAL MANAGEMENT AREA

Model Numbers

User-Reported Numbers

<b>(1) Groundwater Pumping Estimates/Actuals</b>	Acre-feet
Estimate - Model 2020 Pumping (basin-wide)	56,636
Estimate - Model 2020 Pumping (Central MA)	39,845
Estimate - Model 2021 Pumping (basin-wide)	59,273
Estimate - Model 2021 Pumping (Central MA)	42,164
Water User - Reported - 2020 Water Use (ET)	28,387
Water User - Reported - 2020 Water Use (gross; calculated as 1.52 * ET)	43,148
Average from 1998-2014 Pumping (Central MA)	34,499
Average from 1998-2017 Pumping (Central MA)	33,130
Other	60,000

<b>(2) Calculations to Determine Base Amount to Reduce</b>	Acre-feet
Estimate - Model 2021 Pumping (Central MA)	42,164
Central Management Area Sustainable Yield	9,600
Base amount to reduce from Central MA	<b>32,564</b>

Groundwater Assumption: Estimate - Model 2021 Pumping (Central MA) **42,164**

<b>(3) Estimated Reduction in Pumping</b>					
Year	Glide path	Amount to Reduce (af)	Maximum Annual Pumping (af)	Remaining Overdraft (af)	
2023	5.0%	1,628	40,536	30,936	
2024	5.0%	1,628	38,908	29,308	
2025	6.5%	2,117	36,791	27,191	
2026	6.5%	2,117	34,674	25,074	
2027	6.5%	2,117	32,558	22,958	
2028	6.5%	2,117	30,441	20,841	
2029	6.5%	2,117	28,324	18,724	
2030	6.5%	2,117	26,208	16,608	
2031	6.5%	2,117	24,091	14,491	
2032	6.5%	2,117	21,974	12,374	
2033	6.5%	2,117	19,858	10,258	
2034	6.5%	2,117	17,741	8,141	
2035	6.5%	2,117	15,624	6,024	
2036	6.5%	2,117	13,508	3,908	
2037	6.5%	2,117	11,391	1,791	
2038	5.5%	1,791	9,600	(0)	
2039	0.0%	-	9,600	(0)	
2040	0.0%	-	9,600	(0)	

100%

### Annual Pumping by Property Owner (AF/year)

Parcels that cross the MA boundary counted in proportion to the percentage of the parcel located within the MA.

Row Labels	Land		Pumping	
	Total Parcel Acres	Percent of CMA Acreage	WY 1998-2014 Average	Percent of Annual Average
1 501C3 BLUE SKY SUSTAINABLE LIVING CENTER	7.44	0.03%	1.21	0.00%
2 AGUILA G BOYS LLC	69.92	0.29%	57.52	0.17%
3 AGUILA G-BOYS LLC	843.29	3.47%	808.88	2.34%
4 AMETHYST PROPERTIES INC	3,096.26	12.75%	3,126.69	9.06%
5 ANN M BUCK	40.60	0.17%	110.04	0.32%
6 BELDEN FAM TR ET AL	3,076.81	12.67%	4,998.12	14.49%
7 BOLTHOUSE LAND COMPANY LLC	5,542.85	22.83%	10,362.36	30.04%
8 BOLTHOUSE PROPERTIES LLC	276.85	1.14%	538.87	1.56%
9 BRAY ROBERT B/JUDY A	0.41	0.00%	0.43	0.00%
10 BROOKOVER NELLIE F S	0.21	0.00%	0.22	0.00%
11 CALIENTE RANCH CUYAMA LLC	721.59	2.97%	745.47	2.16%
12 CALLAWAY ERIC	13.48	0.06%	19.35	0.06%
13 CARSON MARVIN J EST/OF	0.39	0.00%	0.35	0.00%
14 CONSTANCE G HAWKINS	148.20	0.61%	28.14	0.08%
15 COOPERS PETROLEUM DISTRIBUTOR INC	0.67	0.00%	0.45	0.00%
16 COUNTY OF SANTA BARBARA	2.13	0.01%	0.31	0.00%
17 CUEVAS DELFINO CORTEZ	2.06	0.01%	2.44	0.01%
18 CUEVAS GUSTAVO CORTES	0.34	0.00%	0.23	0.00%
19 CUYAMA COMMUNITY SERVICES DISTRICT	6.52	0.03%	3.71	0.01%
20 CUYAMA SOLAR LLC	205.85	0.85%	331.95	0.96%
21 CUYAMA UNION SCHOOL DISTRICT	20.01	0.08%	18.83	0.05%
22 DIAMOND FARMING CO A CA CORP	1,615.48	6.65%	2,544.44	7.38%
23 DIAMOND FARMING COMPANY	412.65	1.70%	485.87	1.41%
24 DIAZ JOSE CANUTO	40.92	0.17%	36.68	0.11%
25 EHLI VIOLET M	2.02	0.01%	2.41	0.01%
26 ENGRISER MARTIN	2.40	0.01%	1.61	0.00%
27 ERRO THERESA	0.01	0.00%	-	0.00%
28 FELICITAS I OCAMPO	5.03	0.02%	5.39	0.02%
29 GILL MICHAEL L 2016 TRUST 11/15/16	20.04	0.08%	16.82	0.05%
30 GRIMM RUSSELL LLC	3,364.94	13.86%	3,454.64	10.01%
31 GRIMMWAY ENTERPRISES INC	100.15	0.41%	211.62	0.61%
32 HARRINGTON JASON M & MARY JO REVOCABLE LIVING TRUST	16.97	0.07%	34.73	0.10%
33 HERMRECK PROPERTIES LLC	1.75	0.01%	0.47	0.00%
34 HOEKSTRA FAMILY TRUST 5/6/99	264.57	1.09%	319.69	0.93%
35 JASON D & THANY T VOSBURGH	44.54	0.18%	39.47	0.11%
36 JENNIFER W DOXEY	143.00	0.59%	45.47	0.13%
37 JOO CAPITAL PARTNERS LLC	277.89	1.14%	294.79	0.85%
38 JOYENO ELIAS	0.53	0.00%	0.33	0.00%
39 KERN RIDGE GROWERS LLC	204.03	0.84%	217.64	0.63%
40 LAPIS LAND CO LLC	418.09	1.72%	772.96	2.24%
41 LAPIS LAND COMPANY LLC	824.04	3.39%	1,919.05	5.56%
42 LEAR REAL ESTATE ENTERPRISES LLC	525.26	2.16%	778.41	2.26%
43 LEWIS DAVID G	18.82	0.08%	11.11	0.03%
44 MCCABE FRANCIS J TRUSTEE (for) MCCABE FRANCIS J REV TR 8-5-9	14.82	0.06%	0.66	0.00%
45 MCDONELL EARL CLETTUS	20.23	0.08%	31.00	0.09%
46 PACIFIC GAS AND ELECTRIC CO	0.97	0.00%	1.29	0.00%
47 RATZKE WILLIAM WALTER	0.25	0.00%	0.17	0.00%
48 ROSCAMP EARL JR/MARY	0.96	0.00%	1.10	0.00%
49 ROSCAMP RHODA	0.37	0.00%	0.34	0.00%
50 RUSSELL RICHARD TRUST	56.58	0.23%	21.90	0.06%
51 SADIQ ZAHID	11.50	0.00	11.67	0.03%
52 SANTA MARIA UN HS DIST	0.96	0.00	0.39	0.00%
53 SAWYER LINDSEY C HEIRS OF	22.95	0.00	15.06	0.04%
54 SOUTHERN CALIFORNIA GAS COMPANY	1.25	0.00	1.32	0.00%
55 STEVEN A PRITZ	12.71	0.00	25.87	0.07%
56 SUNRIDGE VINEYARDS LP	71.15	0.00	54.21	0.16%
57 SUNRISE RANCH PROPERTIES LLC	245.04	0.01	682.93	1.98%
58 SUNRISE RANCH PROPERTIES LLC (CA)	58.67	0.00	169.47	0.49%
59 TRUJILLO FAMILY TRUST 9/7/17	468.61	0.02	764.81	2.22%
60 UNITED STATES OF AMERICA	220.93	0.01	63.32	0.18%
61 UNKNOWN OWNER	0.26	0.00	0.16	0.00%
62 USA	214.37	0.01	96.32	0.28%
63 WOODWARD DONALD	2.88	0.00	0.41	0.00%
64 ZANNON 2014 LIVING TRUST	105.92	0.00	109.23	0.32%
65 (blank)	366.79	0.02	98.24	0.28%
<b>Grand Total</b>	<b>24,277.21</b>	<b>100.00%</b>	<b>34,499.06</b>	<b>100.00%</b>

## Annual Pumping by Property Owner (AF/year)

Parcels that cross the MA boundary counted in proportion to the p

Row Labels	Pumping		Est. Model 2021 Pumping (Central MA)	
	WY 1998-2017	Percent of Annual	42,164.00 Acre-feet	
	Average	Average	1998-2014 Pumping	1998-2017 Pumping
1 501C3 BLUE SKY SUSTAINABLE LIVING CENTER	1.47	0.00%	1.48	1.87
2 AGUILA G BOYS LLC	57.77	0.17%	70.30	73.52
3 AGUILA G-BOYS LLC	800.24	2.42%	988.59	1,018.45
4 AMETHYST PROPERTIES INC	3,037.16	9.17%	3,821.38	3,865.35
5 ANN M BUCK	106.04	0.32%	134.48	134.95
6 BELDEN FAM TR ET AL	4,769.98	14.40%	6,108.60	6,070.69
7 BOLTHOUSE LAND COMPANY LLC	9,825.97	29.66%	12,664.66	12,505.38
8 BOLTHOUSE PROPERTIES LLC	505.56	1.53%	658.59	643.42
9 BRAY ROBERT B/JUDY A	0.41	0.00%	0.53	0.52
10 BROOKOVER NELLIE F S	0.20	0.00%	0.27	0.26
11 CALIENTE RANCH CUYAMA LLC	733.06	2.21%	911.10	932.96
12 CALLAWAY ERIC	18.17	0.05%	23.65	23.12
13 CARSON MARVIN J EST/OF	0.33	0.00%	0.43	0.42
14 CONSTANCE G HAWKINS	32.24	0.10%	34.39	41.04
15 COOPERS PETROLEUM DISTRIBUTOR INC	0.45	0.00%	0.55	0.57
16 COUNTY OF SANTA BARBARA	0.38	0.00%	0.38	0.48
17 CUEVAS DELFINO CORTEZ	2.42	0.01%	2.98	3.08
18 CUEVAS GUSTAVO CORTES	0.23	0.00%	0.28	0.29
19 CUYAMA COMMUNITY SERVICES DISTRICT	3.69	0.01%	4.54	4.69
20 CUYAMA SOLAR LLC	292.23	0.88%	405.71	371.92
21 CUYAMA UNION SCHOOL DISTRICT	18.31	0.06%	23.02	23.30
22 DIAMOND FARMING CO A CA CORP	2,455.37	7.41%	3,109.76	3,124.91
23 DIAMOND FARMING COMPANY	495.98	1.50%	593.82	631.22
24 DIAZ JOSE CANUTO	35.68	0.11%	44.83	45.40
25 EHLI VIOLET M	2.36	0.01%	2.95	3.00
26 ENGRISER MARTIN	1.60	0.00%	1.96	2.04
27 ERRO THERESA	0.00	0.00%	-	0.00
28 FELICITAS I OCAMPO	5.21	0.02%	6.58	6.63
29 GILL MICHAEL L 2016 TRUST 11/15/16	17.49	0.05%	20.56	22.26
30 GRIMM RUSSELL LLC	3,396.34	10.25%	4,222.18	4,322.48
31 GRIMMWAY ENTERPRISES INC	203.53	0.61%	258.64	259.03
32 HARRINGTON JASON M & MARY JO REVOCABLE LIVING TRUST	33.77	0.10%	42.45	42.98
33 HERMRECK PROPERTIES LLC	0.50	0.00%	0.57	0.64
34 HOEKSTRA FAMILY TRUST 5/6/99	331.31	1.00%	390.72	421.65
35 JASON D & THANY T VOSBURGH	38.68	0.12%	48.24	49.23
36 JENNIFER W DOXEY	48.55	0.15%	55.57	61.79
37 JOO CAPITAL PARTNERS LLC	297.21	0.90%	360.29	378.26
38 JOYENO ELIAS	0.33	0.00%	0.41	0.42
39 KERN RIDGE GROWERS LLC	215.39	0.65%	266.00	274.13
40 LAPIS LAND CO LLC	762.18	2.30%	944.70	970.02
41 LAPIS LAND COMPANY LLC	1,773.26	5.35%	2,345.42	2,256.81
42 LEAR REAL ESTATE ENTERPRISES LLC	752.99	2.27%	951.35	958.32
43 LEWIS DAVID G	11.44	0.03%	13.58	14.57
44 MCCABE FRANCIS J TRUSTEE (for) MCCABE FRANCIS J REV TR 8-5-9	1.57	0.00%	0.80	2.00
45 MCDONELL EARL CLETTUS	29.12	0.09%	37.89	37.06
46 PACIFIC GAS AND ELECTRIC CO	1.18	0.00%	1.58	1.51
47 RATZKE WILLIAM WALTER	0.17	0.00%	0.21	0.22
48 ROSCAMP EARL JR/MARY	1.00	0.00%	1.34	1.27
49 ROSCAMP RHODA	0.32	0.00%	0.42	0.40
50 RUSSELL RICHARD TRUST	22.35	0.07%	26.76	28.45
51 SADIQ ZAHID	10.91	0.03%	14.26	13.89
52 SANTA MARIA UN HS DIST	0.39	0.00%	0.48	0.50
53 SAWYER LINDSEY C HEIRS OF	15.64	0.05%	18.40	19.91
54 SOUTHERN CALIFORNIA GAS COMPANY	1.27	0.00%	1.61	1.61
55 STEVEN A PRITZ	24.38	0.07%	31.61	31.02
56 SUNRIDGE VINEYARDS LP	51.54	0.16%	66.26	65.59
57 SUNRISE RANCH PROPERTIES LLC	600.78	1.81%	834.66	764.61
58 SUNRISE RANCH PROPERTIES LLC (CA)	148.33	0.45%	207.12	188.78
59 TRUJILLO FAMILY TRUST 9/7/17	732.12	2.21%	934.74	931.76
60 UNITED STATES OF AMERICA	67.99	0.21%	77.38	86.53
61 UNKNOWN OWNER	0.16	0.00%	0.20	0.21
62 USA	100.73	0.30%	117.73	128.19
63 WOODWARD DONALD	0.51	0.00%	0.50	0.65
64 ZANNON 2014 LIVING TRUST	125.19	0.38%	133.50	159.33
65 (blank)	108.80	0.33%	120.06	138.47
<b>Grand Total</b>	<b>33,129.92</b>	<b>100.00%</b>	<b>42,164.00</b>	<b>42,164.00</b>



TO: Standing Advisory Committee  
Agenda Item No. 6e

FROM: Jim Beck / Alex Dominquez

DATE: April 28, 2022

SUBJECT: Direction on Basin-Wide Water Management Policies

**Issue**

Review of Basin-wide water management policies topics.

**Recommended Motion**

Standing Advisory Committee feedback requested.

**Discussion**

During discussions of Central Management Area groundwater policies with the Cuyama Basin Groundwater Sustainability Agency (CBGSA) ad hoc and feedback received from Directors and Standing Advisory Committee (SAC) members at public meetings, staff has identified the below basin-wide water management topics for further direction and discussion at SAC and Board meetings.

*Basin-Wide Water Management Policy Topics:*

1. Increased water use outside the Central Management Area
2. Water market/trading discussions



TO: Standing Advisory Committee  
Agenda Item No. 6f

FROM: Jim Beck / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Adaptive Management Actions

**Issue**

Discussion on adaptive management actions for groundwater level wells in the Cuyama basin.

**Recommended Motion**

SAC feedback requested.

**Discussion**

The Cuyama Basin Groundwater Sustainability Agency's Groundwater Sustainable Plan (GSP) established adaptive management actions for representative wells that are below their minimum threshold or within 10 percent of the minimum threshold (Section 7.6 of the GSP).

On January 5, 2022, the Board directed staff to perform additional data gathering and analysis to confirm condition of wells identified in the well status analysis including (1) desktop analysis and phone outreach to be performed by Woodard & Curran (W&C), and (2) field verification to be performed by Provost & Pritchard (P&P) if required.

On March 2, 2022, staff let the Board know P&P would attempt to field verify potential wells going dry. Staff also noted that a number of representative wells were below their minimum thresholds and undesirable results for the chronic lowering of groundwater levels could be potentially observed by April 2023. The Board directed staff to continue working with an ad hoc to present a recommendation for addressing this issue at the May 4, 2022, Board meeting.

Staff met with the Adaptive Management ad hoc on April 7, 2022, and the ad hoc meeting material and draft recommendation is provided as Attachment 1.

**Cuyama Basin Groundwater Sustainability Agency**

6f. Direction on Adaptive Management Actions

Jim Beck / Brian Van Lienden





# March 2, 2022, Board Discussion

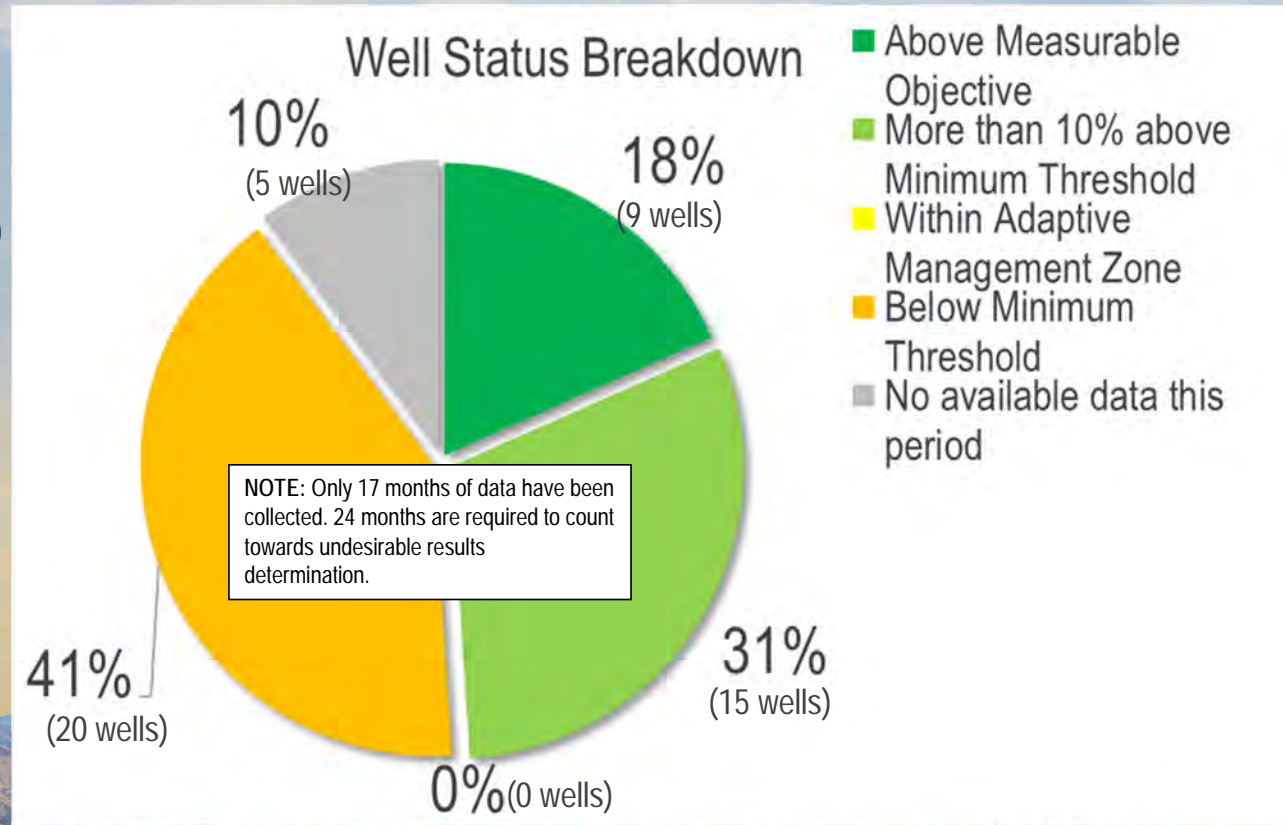
- Confirm condition of wells identified in the well status analysis
  - Landowners/operators for 10 of 18 wells identified were successfully contacted
    - 2 wells have experienced problems in recent years
    - 3 wells exist but are no longer in use
    - In 5 cases, no well could be identified in the location identified by the County database
- P&P to provide field verification in April

# March 2, 2022, Board Discussion, Cont.

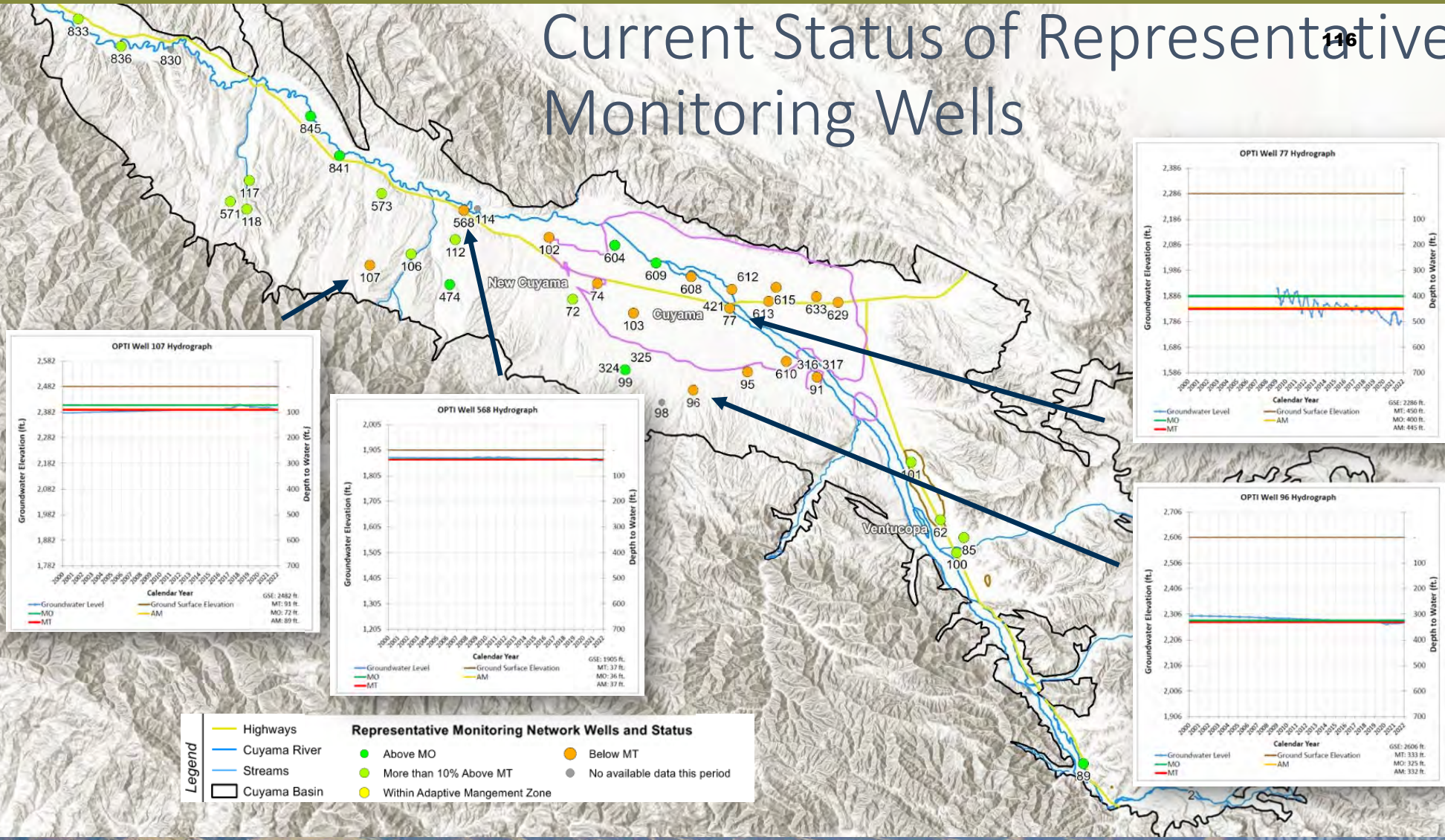
- Undesirable results expected to occur in April 2023
- Adaptive Management actions will be required well in advance to avoid undesirable results
- Options previously reviewed with ad hoc
  - Restrict pumping in individual wells
  - Adjust the 30% over 2 years criteria
  - Adjust thresholds
  - Accelerate glidepath
- Recommended next steps
  - Work with the Adaptive Management Ad hoc to select appropriate adaptive management actions to be implemented in 2022
  - The Adaptive Management Ad hoc met on April 7, 2022

# Summary of Groundwater Well Levels as Compared To Sustainability Criteria

- 20 wells are currently below minimum threshold (MT)
  - 30% of wells (i.e. 15 wells) below MT for 10 months
  - 8 of these were already below MT at time of GSP adoption
- Adaptive management ad-hoc committee has been formed to discuss potential options



# Current Status of Representative Monitoring Wells



# Potential Strategies to Address Undesirable Results Discussed by Ad hoc

- Undesirable Results likely to be identified with April 2023 groundwater level monitoring
- Staff discussed process with DWR:
  - DWR recommended including additional background information in Annual Reports (i.e., drought impact, adaptive management work, etc.)
  - Basin not immediately turned over to Water Board (6–12-month process with hearings, etc.)
  - Have to follow our GSP (currently being amended)

# Potential Strategies to Address Undesirable Results Discussed by Ad hoc

## ■ Potential Options to address undesirable results:

No.	Options	Pros	Cons	Potential Next Steps
1	<b>Restrict Pumping in Individual Wells</b>	If effective, may stop water level declines in localized area and avoid undesirable results	May not bring levels up to the Minimum Thresholds. Will reduce water supply for extractors. Potential economic impact	Identify potential wells to reduce pumping and perform technical analysis to determine potential effect of pumping reductions
2	<b>Accelerate the Glidepath</b>	May stop water level declines, but currently limited to the Central MA	Will not bring levels up to the Minimum Thresholds and may not impact wells outside of the Central MA, potential increased economic impact	W&C to perform technical analysis to determine potential effect of glidepath acceleration
3	<b>Revise (Lower) Minimum Thresholds</b>	Will prevent a determination of undesirable results from occurring which may affect GSP compliance	Will allow water levels to decrease which may impact beneficial uses/users	Perform additional analysis and/or develop mitigation plan to protect beneficial uses and users (GDEs and domestic well owners) – write up in amended GSP
4	<b>Revise Undesirable Results Trigger (30% for 2-years)</b>	Will prevent a determination of undesirable results from occurring which may affect GSP compliance	Will allow water levels to decrease which may impact beneficial uses/users	Perform additional analysis and/or develop mitigation plan to protect beneficial uses and users (GDEs and domestic well owners) – write up in amended GSP

# Potential Strategies to Address Undesirable Results

## Ad hoc Recommendation

119

- Ad hoc Members: Directors Bantilan, Shephard, Vickery, Yurosek
- Pumping reductions may not be able to increase groundwater levels above the minimum thresholds by April 2023
- Ad hoc recommends implementing options 3 and/or 4
- Potential technical approaches to support options 3 and 4 include:
  - GIS-based analysis to assess potential impacts to beneficial uses and users
  - CBWRM analysis to estimate future groundwater levels as pumping reductions are implemented following the glidepath



TO: Standing Advisory Committee  
Agenda Item No. 6g

FROM: Jim Beck / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Effort to Identify Potential Non-Reporting Pumpers

**Issue**

Discuss effort to identify potential non-reporting pumpers.

**Recommended Motion**

SAC feedback requested.

**Discussion**

On March 2, 2022, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board directed staff to strategize how to identify potential non-reporting pumpers.

An ad hoc was appointed and a meeting is being scheduled to develop potential options. Once information is developed it will be distributed to the CBGSA Standing Advisory Committee and Board.





TO: Standing Advisory Committee  
Agenda Item No. 6h

FROM: Jim Beck / Brian Van Lienden

DATE: April 28, 2022

SUBJECT: Direction on Data Management System (DMS) Enhancements

**Issue**

Review potential, grant-funded Data Management System (DMS) enhancements.

**Recommended Motion**

SAC feedback requested.

**Discussion**

The Cuyama Basin Groundwater Sustainability Agency (CBGSA) applied for grant funding through the California Department of Water Resources (DWR) totaling \$7.6 million for a three-year period and staff is finalizing the grant agreement with DWR.

One of the grant-funded items is enhancements to the Data Management System (DMS) and Attachment 1 provides discussion of developing potential options for CBGSA Standing Advisory Committee and Board consideration.

**Cuyama Basin Groundwater Sustainability Agency**

6h. Direction on Data Management System Enhancements

Jim Beck / Brian Van Lienden

April 28, 2022



# Data Management System Enhancements

- FY 2022-23 Budget for Data Management System (grant funded):
  - Ongoing Maintenance: \$5,000 (\$15,000 total for 3-year, grant-funded period)
  - Enhancements: \$20,000 (\$60,000 total for 3-year, grant-funded period)
- Potential enhancement options:
  - **Sustainability dashboard:** automatically produce reports for critical sustainability indicators; logic to compare the current water levels for each well to sustainability criteria; displaying performance of representative monitoring wells against sustainability criteria at each well, both in summary form and on a map
  - **Well meter reporting:** logins for users to report data; monthly, bi-annual, or annual reporting of meter data; well meter owner information and messaging system to facilitate billing
- Potential Next Steps:
  - Staff will develop specific DMS enhancements options, including costs, for review with an ad hoc and present to the SAC on June 30<sup>th</sup> for a recommendation and consideration of approval at the July 6<sup>th</sup> Board meeting



TO: Standing Advisory Committee  
Agenda Item No. 6i

FROM: Jim Beck

DATE: April 28, 2022

SUBJECT: Direction on Public Workshop Format

**Issue**

Review of public workshop format.

**Recommended Motion**

SAC feedback requested.

**Discussion**

The Cuyama Basin Groundwater Sustainability Agency (CBGSA) has attempted to host an informational workshop for landowners for the past two years but has been unable to due to the COVID-19 pandemic.

Since meeting restrictions have begun to lift across the State, staff is looking for feedback on a public workshop to discuss a variety of GSA-related issues.

Draft topics and meeting format options for Standing Advisory Committee consideration is provided as Attachment 1.

# Cuyama Basin Groundwater Sustainability Agency

## 6i. Direction on Public Workshop Format

Jim Beck

April 28, 2022



# Proposed Community Workshop

- **Purpose:** Update and discussion of GSA activities as they relate to landowners
- **Audience:** Landowners and groundwater users less engaged in GSA activities
- **Draft, Potential Topics:**
  - GSP purpose, approach, and update
  - Basin conditions, monitoring, and modeling
  - Metering and well information collection
  - Management Area and two-year pumping allocation approach
  - Grant funding and pumping fees
  - 5-year update
    - Potential changes to groundwater management
- **Timing:**
  - After GSP update submittal – August or September?
  - On Board/SAC day or on a separate day (weekend, etc.)?
  - What time works best?
  - In-person, with online/call-in option?



TO: Standing Advisory Committee  
Agenda Item No. 6j

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 28, 2022

SUBJECT: Update on Groundwater Sustainability Plan Activities

**Issue**

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**

6j. Update on Groundwater Sustainability Plan Activities

Brian Van Lienden

April 28, 2022





# March-April Accomplishments

- ✓ Developed final Annual Report for Water Year 2020-2021 and submitted to DWR
- ✓ Performed follow-on analysis of wells in support of adaptive management program
- ✓ Developed revised Tech Memo in response to DWR Basin GSP determination
- ✓ Worked with DWR to develop draft agreement for DWR COD grant opportunity
- ✓ Began work on Cuyama Basin model update
- ✓ Performed aquifer testing at one location

# Cuyama Basin DWR Grant Schedule of Tasks <sup>130</sup>

(not including 3-year ongoing tasks)





TO: Standing Advisory Committee  
Agenda Item No. 6k

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 28, 2022

SUBJECT: Update on Model Refinement

**Issue**

Update on model refinement.

**Recommended Motion**

None – information only.

**Discussion**

On May 5, 2021, the Cuyama Basin Groundwater Sustainability Agency (CBGSA) Board approved a model update as part of the Fiscal Year 2021-2022 budget adoption which is expected to be completed by July 2022.

An update on the model refinement is provided as Attachment 1.

# Cuyama Basin Groundwater Sustainability Agency

## 6k. Update on Model Refinement

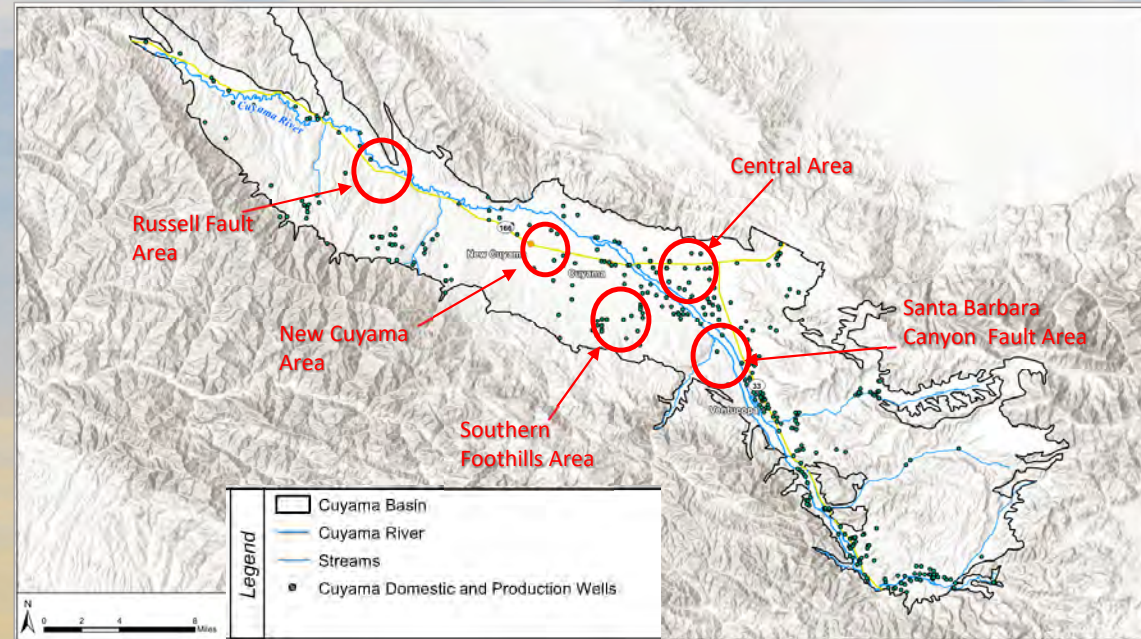
Brian Van Lienden

April 28, 2022



# Current Status of Aquifer Testing Program

Status	Location	Update
●	Russell Fault	<ul style="list-style-type: none"> <li>Analyzed data from previous tests (11 wells)</li> <li>Analysis complete</li> </ul>
●	Santa Barbara Fault	<ul style="list-style-type: none"> <li>Aquifer testing complete (72 hour)</li> <li>Analysis in progress</li> </ul>
●	New Cuyama Area	<ul style="list-style-type: none"> <li>Use results of previous (2019) CCSD aquifer testing</li> </ul>
●	Southern Foothills	<ul style="list-style-type: none"> <li>Could not identify appropriate wells for testing</li> </ul>
●	Central Area	<ul style="list-style-type: none"> <li>Pre-irrigating</li> <li>Landowners unable to accommodate testing</li> </ul>



# Model Refinement Tasks

- Update model data to incorporate additional data and to extend to 2021
- Perform model-recalibration
- Develop updated historical and projected water budget estimates
- Evaluation of range of uncertainty of re-calibrated model
- Update Crop evapotranspiration estimates

# Model Refinement Outreach and Engagement Schedule

135

- Technical Forum – 4 meetings
  - **March 1:** Kick-off call to discuss work plan and task sequence and the updated input data; any additional data that may be needed
  - **Mid-late Apr:** Discuss calibration targets (i.e., locations, trends, and periods of greatest water-level residual error) and parameters to be adjusted to reduce residual error
  - **May:** Discuss changes in parameters made by W&C during recalibration and preliminary final model results
  - **Jun:** Discuss final model and any observations or qualifiers to be noted
- Sac & Board Meetings:
  - March, May: progress reports
  - July: present final updated modeling results



TO: Standing Advisory Committee  
Agenda Item No. 6I

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 28, 2022

SUBJECT: Update on Monitoring Network Implementation

**Issue**

Update on Monitoring Network Implementation.

**Recommended Motion**

None – information only.

**Discussion**

An update regarding the monitoring network implementation is provided as Attachment 1.



## Cuyama Basin Groundwater Sustainability Agency

# 6I. Update on Monitoring Network Implementation

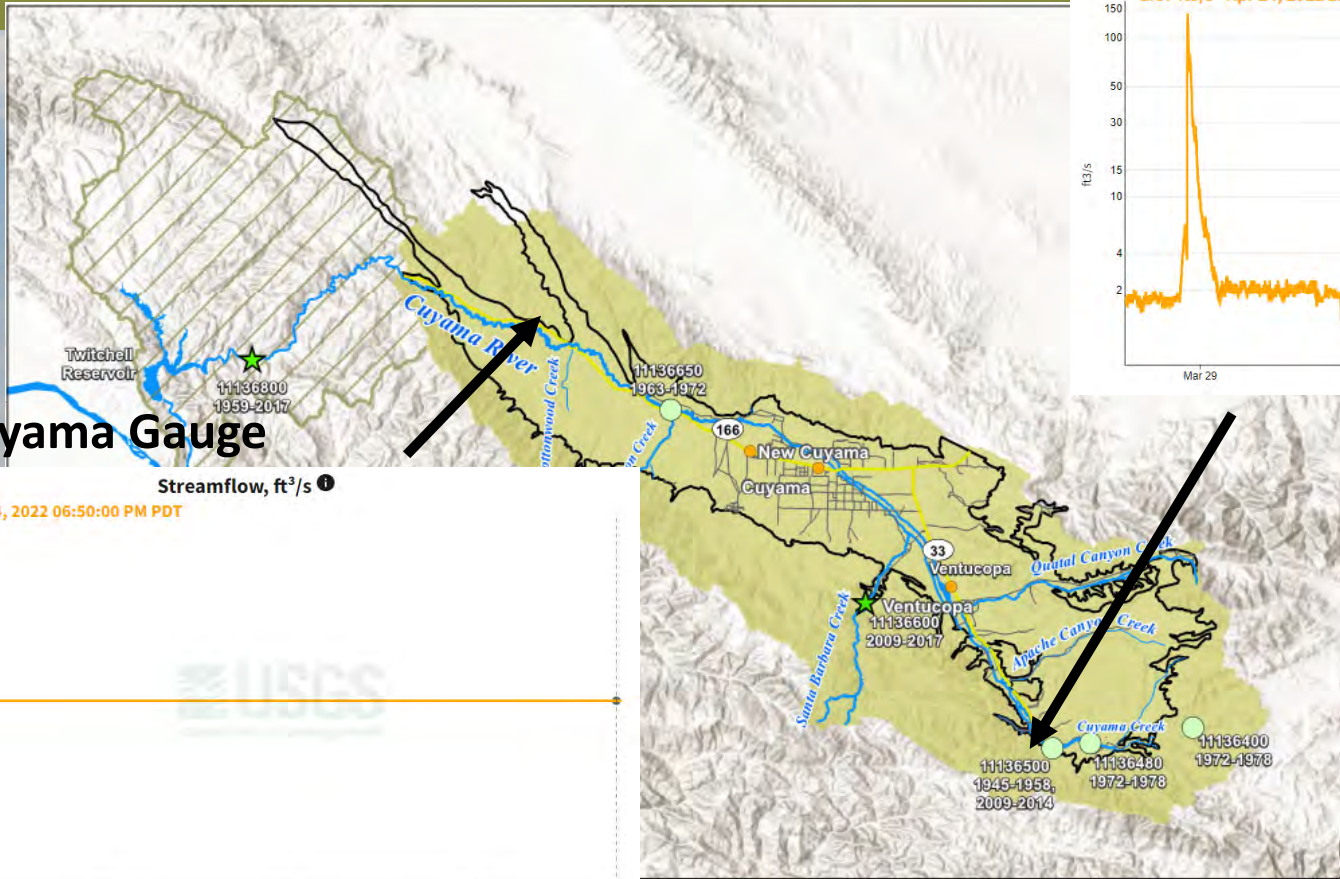
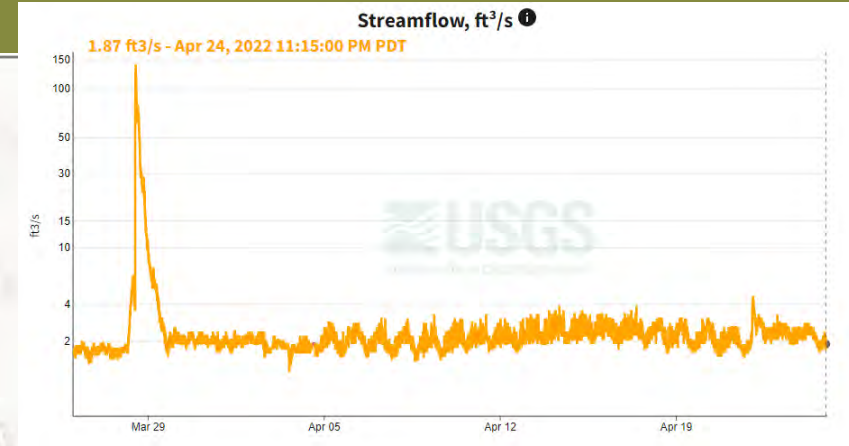
Brian Van Lienden

April 28, 2022

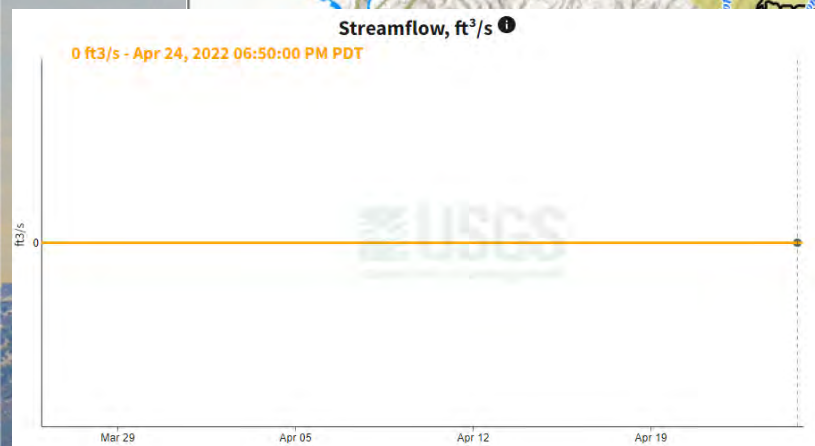


# Stream Gauge Data

## Ventucopa Gauge



## New Cuyama Gauge



## USGS DATA

Spanish Ranch Location

[https://waterdata.usgs.gov/ca/nwis/uv?site\\_no=11136710](https://waterdata.usgs.gov/ca/nwis/uv?site_no=11136710)

Ventucopa Location

[https://waterdata.usgs.gov/ca/nwis/uv?site\\_no=11136500](https://waterdata.usgs.gov/ca/nwis/uv?site_no=11136500)

# Schedule for Cuyama Basin Monitoring in 2022

- Quarterly groundwater levels monitoring:
  - January, April, July, November
- Water quality testing:
  - Per the GSP, perform a single EC measurement in July
  - As discussed in response letter to DWR, the CBGSA would perform a single measurement and lab testing for nitrates, arsenic and TDS
    - Staff proposed performing this sampling and testing during July

# Update on DWR TSS Program

- DWR installed three new multi-completion monitoring wells in the Cuyama Basin in 2021
  - Staff is currently working with DWR to install transducers in these wells



TO: Standing Advisory Committee  
Agenda Item No. 6m

FROM: Brian Van Lienden, Woodard & Curran

DATE: April 28, 2022

SUBJECT: Update on Quarterly Groundwater Conditions Report for April 2022

**Issue**

Update on Quarterly Groundwater Conditions Report for April 2022.

**Recommended Motion**

None – information only.

**Discussion**

An update on the groundwater levels representative monitoring network and select hydrographs is provided as Attachment 1 and the detailed April 2022 Groundwater Conditions Report is provided as Attachment 2.

***Attachments will be provided once finalized.***



TO: Standing Advisory Committee  
Agenda Item No. 7c

FROM: Jim Beck, Executive Director

DATE: April 28, 2022

SUBJECT: Board of Directors Agenda Review

**Issue**

Board of Directors Agenda Review.

**Recommended Motion**

None – information only.

**Discussion**

The Cuyama Basin Groundwater Sustainability Agency Board of Directors agenda for the May 4, 2022, Board of Directors meeting is provided as Attachment 1 for review.



# CUYAMA BASIN GROUNDWATER SUSTAINABILITY AGENCY

## BOARD OF DIRECTORS MEETING

### Board of Directors

**Derek Yurosek** Chair, Cuyama Basin Water District

**Paul Chounet** Vice Chair, Cuyama Community Services District

**Cory Bantilan** Secretary, Santa Barbara County Water Agency

**Matt Vickery** Treasurer, Cuyama Basin Water District

**Byron Albano** Cuyama Basin Water District

**Lynn Compton** County of San Luis Obispo

**Zack Scrivner** County of Kern

**Glenn Shephard** County of Ventura

**Lorena Stoller** Cuyama Basin Water District

**Das Williams** Santa Barbara County Water Agency

**Jane Wooster** Cuyama Basin Water District

### AGENDA

MAY 4, 2022

Agenda for a meeting of the Cuyama Basin Groundwater Sustainability Agency Board of Directors to be held on Wednesday, May 4, 2022, at 4:00 PM at the **Cuyama Recreation District, 4885 Primero St, New Cuyama, CA 93254**. Participate via computer at: <https://global.gotomeeting.com/join/203153453>, or telephonically at (646) 749-3122, code: 203-153-453#.

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. Standing Advisory Committee Meeting Report

### CONSENT AGENDA

5. Approval of Minutes – March 2, 2022
6. Approval of Payment of Bills for February and March 2022
7. Approval of Financial Report for February and March 2022

### ACTION ITEMS

8. Direction on Reconciling Differences in Groundwater Sustainability Plan Versions
9. Direction on Amended Groundwater Sustainability Plan
10. Direction on Governor's Executive Order N-7-22 Regarding Well Permits
11. Direction on Central Management Area Policies

12. Direction on Basin-Wide Water Management Policies
13. Direction on Adaptive Management Actions
14. Direction on Effort to Identify Potential Non-Reporting Pumpers
15. Direction on Meter Requirement Compliance
16. Approval of Fiscal Year 2022-2023 Budget and Review of Cash Flow
17. Approval of Fiscal Year 2022-2023 Consultant Task Orders
18. Direction on Data Management System (DMS) Enhancements
19. Direction on Public Workshop Format

#### **REPORT ITEMS**

20. Administrative Updates
  - a) Report of the Executive Director
  - b) Report of the General Counsel
  - c) Update on Development of FY 22-23 Groundwater Extraction Fee
21. Technical Updates
  - a) Update on Groundwater Sustainability Plan Activities
  - b) Update on Model Refinement
  - c) Update on Monitoring Network Implementation
  - d) Update on Quarterly Groundwater Conditions Report for April 2022
22. Report of the Ad Hoc Committee
23. Directors' Forum
24. Public comment for Items Not on the Agenda
25. Correspondence

#### **PUBLIC HEARING**

26. **PUBLIC HEARING** – Groundwater Extraction Fee (8 p.m.)
27. Consider for Approval Resolution No. 2022-051 Setting a Groundwater Extraction Fee for Fiscal Year 2022-23 and Authorize Invoicing of Landowners
28. Adjourn