



# CGA/GGA Joint Technical Advisory Committee

## Rescheduled Meeting Agenda

December 1, 2023 | 1:00 p.m.  
122 Old Highway 99W, Maxwell, CA 95955

Alternate Meeting Locations:  
4485 Spring Meadows Circle, Flagstaff, AZ 86001

**Public input is welcome in person or via Microsoft Teams**

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\* Indicates an Action Item

1. **Call to Order, Roll Call, and Introductions**
2. **Approval of Minutes (pg. 3)**
  - a. **\*May 12, 2023 CGA/GGA Joint TAC Meeting Minutes (GGA TAC Only) (pg. 4)**
  - b. **\*August 11, 2023 CGA/GGA Joint TAC Meeting Minutes (CGA TAC, GGA TAC) (pg. 7)**
3. **Period of Public Comment**

*At this time, members of the public may address the Technical Advisory Committee (TAC) Members regarding items that are not on the agenda but are of relevance. The TACs may not act on items not on the agenda.*
4. **\*Approval of 2024 Meeting Schedule (pg.10)**
5. **Presentation: United States Bureau of Reclamation WaterSMART Grants**
6. **Discussion: Colusa Subbasin Groundwater Sustainability Plan Incomplete Determination (pg. 12)**
7. **Discussion: Prioritization of Technical Tasks through Groundwater Sustainability Plan five-year update (pg. 43)**
8. **Update on Sustainable Groundwater Management Grant Application Feedback**
9. **Update on Water Year 2023 Annual Report**

## **10. Member Reports and Comments**

## **11. Next meeting**

## **12. Adjourn**

A complete agenda packet, including back-up information, is available for inspection during normal business hours at 1213 Market Street, Colusa, CA 95932 or 225 N. Tehama St., Willows, CA 95988. The full agenda packet can also be found on the CGA and GGA websites: [Agendas and Minutes 2023 | Colusa Groundwater Authority \(CGA\)](#)  
<https://www.countyofglenn.net/dept/planning-community-development-services/water-resources/glenn-groundwater-authority/gga>

In compliance with the Americans with Disability Act, if you require special accommodation to participate in this meeting, please contact the Carol Thomas Keefer, CGA Program Manager, at 650-587-7300 X17 or Glenn County Water Resources Division at 530-934-6540 prior to any meeting and arrangements will be made to accommodate you.

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 2. Approval of Minutes

**Date:** December 1, 2023

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## Background

The May 12, 2023 CGA/GGA Joint TAC Meeting minutes were approved by the CGA TAC on August 11, 2023. The GGA TAC was unable to take action due to lack of a quorum.

The August 11, 2023 CGA/GGA Joint TAC Meeting minutes have been prepared for review.

## Recommendation

GGA Action Only: Approve the May 12, 2023 CGA GGA Joint TAC Meeting minutes.

CGA and GGA Action: Approve the August 11, 2023 CGA/GGA Joint TAC Meeting minutes.

## Attachments

- May 12, 2023 CGA/GGA Joint TAC Meeting minutes
- August 11, 2023 CGA/GGA Joint TAC Meeting minutes



# CGA/GGA Joint Technical Advisory Committee

## MEETING MINUTES

May 12, 2023 | 1:00 p.m.

### In Person Meeting Locations:

122 Old Highway 99W, Maxwell, CA 95955  
4485 Spring Meadows Circle, Flagstaff, AZ 86001

Public participation was also available via Teams.

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### 1. Call to Order, Roll Call, and Introductions

Denise Carter called the meeting to order at 1:07 p.m.

#### **In Attendance:**

##### **Committee Members:**

GGA: Donald Bills, Zac Dickens, Emil Cavagnolo and Mark Lohse.

CGA: Denise Carter, Bill Vanderwaal, Ben King, Jim Wallace and Brandon Davison (DWR – ex-officio).

**Others in Attendance:** Lisa Hunter (GGA Staff), Carol Thomas-Keefer (CGA Staff), Rick Rogers, Michael Bolzowski

### 2. Approval of Minutes (CGA TAC, GGA TAC)

- a. **\*August 12, 2022 CGA/GGA Joint TAC Meeting (GGA TAC only)**
- b. **\*September 9, 2022 CGA/GGA Joint TAC Meeting Minutes (GGA TAC only)**
- c. **\*October 14, 2022 CGA/GGA Joint TAC Meeting Minutes (GGA TAC only)**
- d. **\*March 10, 2023 CGA/GGA Joint TAC Meeting Minutes**

On motion made by Mr. Lohse, seconded by Mr. Dickens, the GGA TAC unanimously approved the August 12, 2022 CGA/GGA Joint TAC Meeting Minutes.

AYES: Bills, Cavagnolo, Dickens and Lohse

NOES: None

ABSENT: Deadmond, Beynon

ABSTAIN: None

On motion made by Mr. Dickens, seconded by Mr. Cavagnolo, the GGA TAC unanimously approved the September 9, 2022 CGA/GGA Joint TAC Meeting Minutes.

AYES: Bills, Cavagnolo, Dickens and Lohse

NOES: None

ABSENT: Deadmond, Beynon  
ABSTAIN: None

On motion made by Mr. Cavagnolo, seconded by Mr. Dickens, the GGA TAC unanimously approved the October 14, 2022 CGA/GGA Joint TAC Meeting Minutes.

AYES: Bills, Cavagnolo, Dickens and Lohse  
NOES: None  
ABSENT: Deadmond, Beynon  
ABSTAIN: None

On motion made by Mr. Lohse, seconded by Mr. Dickens, the GGA TAC unanimously approved the March 10, 2023 CGA/GGA Joint TAC Meeting Minutes.

AYES: Bills, Cavagnolo, Dickens and Lohse  
NOES: None  
ABSENT: Deadmond, Beynon  
ABSTAIN: None

On motion made by Mr. Vanderwaal, seconded by Mr. Wallace, the CGA TAC unanimously approved the March 10, 2023 CGA/GGA Joint TAC Meeting Minutes.

AYES: Carter, King, Vanderwaal, Wallace  
NOES: None  
ABSENT: Bettner, Williams, Dormer  
ABSTAIN: None

### **3. Period of Public Comment**

No public comment was heard.

### **4. \*Approve 2023 CGA/GGA Joint TAC Meeting Schedule (GGA TAC Only)**

Ms. Lisa Hunter reviewed the proposed 2023 meeting schedule for the Joint TAC, noting that the schedule had been updated since the last meeting to show the cancelled meeting in April.

On motion made by Mr. Cavagnolo, seconded by Mr. Dickens, the GGA TAC unanimously approved the CGA/GGA Joint TAC meeting schedule for 2023.

AYES: Bills, Cavagnolo, Dickens and Lohse  
NOES: None  
ABSENT: Deadmond, Beynon  
ABSTAIN: None

## **5. Discussion: Prioritization of Technical Tasks through Groundwater Sustainability Plan five-year update**

Ms. Carol Thomas-Keefer reported that, with the GSP for the Colusa Subbasin completed and awaiting DWR review and approval, the purpose of this agenda item was to assist the GSAs in prioritizing GSP implementation tasks. She stated that the Joint TAC should review the 65 Projects and Management Actions identified in the GSP and begin to develop a preliminary schedule of tasks that would be carried out through 2027. This time frame would correspond to the new fee schedules that the GSAs are developing to include funding for various GSP implementation costs. She added that today's discussion would focus on basin-wide compliance activities – specifically, the GSP studies, GSP updates and reporting, and several new items that had been identified through the SGMA Round 2 solicitation and grant application development. Once DWR has announced its SGMA Round 2 grant awards, the Joint TAC should revisit this discussion to determine available implementation funding.

Considerable discussion then followed regarding the various basin-wide tasks, with emphasis on monitoring programs and data management. Ultimately, the group ranked the 17 GSP studies as either 1, 2 or 3 for priority; the GSP updates and reporting tasks were deemed to be necessary compliance activities. It was agreed that the Joint TAC would review the initial prioritizations in August, in light of available funding, to further refine priorities and recommendations to the GSAs.

## **6. Member Reports and Comments**

Mr. King stated that in reviewing water managements plans for USBR, he had recently found the Colusa National Wildlife Management Plan and noted the references to water quality concerns with constituents such as mercury and hexavalent chromium. He also stated that he recently learned of the City of Willows' chromium concerns and added that investigations into sources of contamination should be considered.

## **7. Next Meeting**

The next meeting is scheduled for August 11, 2023.

## **8. Adjourn**

The meeting was adjourned at 3:24 p.m.



# CGA/GGA Joint Technical Advisory Committee

## MEETING MINUTES

August 11, 2023 | 1:00 p.m.

### In Person Meeting Locations:

122 Old Highway 99W, Maxwell, CA 95955  
4485 Spring Meadows Circle, Flagstaff, AZ 86001

Public participation was also available via Teams.

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### 1. Call to Order, Roll Call, and Introductions

Darrin Williams called the meeting to order at 1:07 p.m.

#### **In Attendance:**

#### **Committee Members:**

GGA: Donald Bills

CGA: Deke Dormer, Bill Vanderwaal, Darrin Williams, and Brandon Davison (DWR – ex-officio).

Mr. Davison indicated that his role in CGA and GGA activities has been diminished and asked to be removed as an ex-officio member.

**Others in Attendance:** Lisa Hunter (GGA Staff), Carol Thomas-Keefer and Denise Carter (CGA Staff), Steve Geiger, Bill Davis, Alfred Sellers, Jr., George Pendell, Shasta Banchio, Toni Longley, Mallory Serrao, Jenny Scheer, Pete Dennehy, Erik Foraker and Monique Gaido (DWR).

### 2. Approval of Minutes (CGA TAC, GGA TAC)

#### a. \*May 12, 2023 CGA/GGA Joint TAC Meeting

The GGA TAC did not take action to approve the minutes due to lack of a quorum.

On motion made by Mr. Vanderwaal, seconded by Mr. Dormer, the CGA TAC approved the May 12, 2023 CGA/GGA Joint TAC Meeting Minutes on the following roll call vote:

AYES: Dormer, Vanderwaal

NOES: None

ABSENT: Bettner, Wallace

ABSTAIN: Williams

### **3. Period of Public Comment**

Mr. Bill Vanderwaal stated that RD 108, Dunnigan Water District and Colusa County Water District are considering pursuing a joint website platform to share real-time monitoring data from their collective sites, similar to the site that Dunnigan Water District now has in place. He noted that the districts will be seeking grants to assist with project funding and will request letters of support from the GSAs. He also noted that the data collected and made available on the website will be readily shared with the GSAs.

### **4. Discussion: Sustainable Groundwater Management Grant Application and Draft Awards**

Ms. Carol Thomas-Keefer reported that DWR had released its draft recommendations for awards for SGMA Round 2 implementation grants, and the application for the Colusa Subbasin was not successful. Both GGA and CGA had submitted comments to DWR requesting reconsideration of some level of funding; however, it was apparent that the GSAs would need to determine how best to move ahead with GSP implementation activities without the benefit of grant funding. Ms. Lisa Hunter added that the DWR determination leads directly into the next agenda item for prioritizing GSP technical tasks for implementation, since the GSAs will also need to consider how to fund those activities.

Chair Williams stated that he has reviewed the scoring summary but would like to meet with DWR representatives to better understand why the Colusa Subbasin application received no funding, how our application fell short, and how we can improve on future applications. Chair Williams asked Mr. Davison if he can assist in arranging an in-person meeting between CGA, GGA and DWR representatives to discuss this matter, and Mr. Davison indicated that he would request the meeting with DWR's SGMA and local region representatives and would include CGA and GGA staff in the correspondence.

### **5. Discussion: Prioritization of Technical Tasks through Groundwater Sustainability Plan five-year update**

Ms. Carol Thomas-Keefer reported that the purpose of this agenda item was to continue the review that the committee began in May to assist the GSAs in prioritizing GSP implementation tasks. She stated that the Joint TAC had previously reviewed the basin-wide compliance activities in the GSP, including 17 GSP studies, four update and reporting actions, and any new items that arose through the SGMA Round 2 project solicitation. She then reviewed the priority ranking that the Joint TAC had previously assigned, with the 17 GSP studies assigned a ranking of 1, 2 or 3 for priority (1 being the highest), and the GSP updates and reporting tasks deemed to be necessary compliance activities. Ms. Thomas-Keefer noted that today the Joint TAC should revisit the prioritization list with the understanding that DWR grant funds would not be available for implementation; the Joint TAC should also recommend a preliminary schedule for implementation for 2024 through 2027 with a focus on compliance tasks. She then reviewed the amount of implementation funding that the two GSAs have built into their budgets as of FY 2023-24 as part of their new fee structure development. Even without DWR grant funding, the two GSAs have allocated a total of more than \$500,000 this year for basin-wide compliance activities, including work on 5-year updates and model calibration, annual reporting, GSA coordination and outreach, data management system upgrades and maintenance, and project implementation and monitoring.

Ms. Thomas-Keefer then asked the Joint TAC to review and refine the technical task timeline based on priorities and budget; she also indicated that the group should consider using consultant on-call services



contracts to help prepare a timeline for task implementation based on priorities and compliance needs, and assist with selection of implementation tasks, considering scope and budget.

Mr. Vanderwaal recommended that the Joint TAC explore opportunities for grant funding through the various WaterSMART programs offered through the U.S. Bureau of Reclamation. He pointed out that applications for many of the WaterSMART programs for the current funding year are due in October 2023. Discussion followed regarding the various types of USBR WaterSMART grants and suggestions for identifying projects and studies for potential funding requests.

The Joint TAC then reviewed the prioritization of technical tasks, and determined that the priorities appeared to be appropriate, except that the water quality monitoring task should perhaps be moved to a 2 or 3, and groundwater well monitoring should be moved up to a 1. It was also agreed that subsidence issues should be a high priority.

To move forward, Ms. Thomas-Keefer recommended that the Joint TAC focus on the top priority (number 1) tasks, and work with a consultant to develop a workplan and budget based on funds available in the GSAs' current budgets. Mr. Don Bills suggested also looking at the number 2 projects to determine what could be funded from that list. Following additional discussion, the Joint TAC agreed that a scope of work and budget should be developed for the number 1 and 2 items and brought back for consideration; additionally, staff should research USBR and other grant opportunities to assist with funding.

Mr. Davison noted that DWR is working to install several continuous subsidence monitors and would be meeting with CGA and GGA staff soon to discuss locations. It was agreed that DWR's work in this area may assist with the GSAs' subsidence studies.

#### **6. \*Consider recommendation to GSAs to utilize existing on-call services contracts for Groundwater Sustainability Plan implementation support**

Ms. Lisa Hunter stated that, in connection with the previous item discussion, the Joint TAC should consider if it would recommend that the CGA and GGA boards use existing on-call services agreements with Davids Engineering to assist with preparing a scope and budget for implementation of the top priority projects. Ms. Thomas-Keefer noted that the existing agreements may need to be revisited or have additional amounts approved, as the original task order authorizations are nearing depletion. The group agreed with staff's recommendation but did not take formal action.

#### **7. Member Reports and Comments**

Mr. Vanderwaal reported that Dunnigan Water District has been conducting recharge activities, with 275 acre-feet recharged in late July and another 80 acre-feet applied in August. He noted that, while the amount of water is fairly modest, it is rewarding to see groundwater levels increasing or at least holding steady through the summer as a result of the recharge efforts.

#### **8. Next Meeting**

The next meeting is scheduled for October 13, 2023 (subsequently rescheduled to December 1, 2023).

#### **9. Adjourn**

The meeting was adjourned at 2:15 p.m.

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 4. Approval of 2024 Meeting Schedule

**Date:** December 1, 2023

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## Background

The CGA/GGA Joint TAC has generally met on the second Friday of the month as needed. In 2023, the TACs were scheduled to meet five times throughout the year.

The proposed 2024 CGA/GGA Joint TAC Meeting Scheduled has been prepared for discussion and possible approval.

## Recommendation

Discuss and approve 2024 CGA/GGA Joint TAC Meeting Schedule.

## Attachments

- Draft 2024 CGA/GGA Joint TAC Meeting Schedule



## CGA/GGA Joint Technical Advisory Committee 2024 Meeting Schedule

Date	Location	Anticipated Purpose
February 9, 2024	TBD- Sites Project Office (pending availability)	<ul style="list-style-type: none"> <li>• Water Year 2023 Annual Report</li> <li>• Draft GSP Revision</li> <li>• Grant application input (if applicable)</li> </ul>
March 8, 2024	TBD- Sites Project Office (pending availability)	<ul style="list-style-type: none"> <li>• Water Year 2023 Annual Report</li> <li>• Draft GSP Revision</li> <li>• Grant application input (if applicable)</li> </ul>
June 14, 2024	TBD- Sites Project Office (pending availability)	<ul style="list-style-type: none"> <li>• TBD</li> </ul>
September 13, 2024	TBD- Sites Project Office (pending availability)	<ul style="list-style-type: none"> <li>• TBD</li> </ul>
December 13, 2024	TBD- Sites Project Office (pending availability)	<ul style="list-style-type: none"> <li>• TBD</li> </ul>

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 6. Discussion: Colusa Subbasin Groundwater Sustainability Plan Incomplete Determination

**Date:** December 1, 2023

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## Background

On October 26, 2023, the state Department of Water Resources notified the Colusa Groundwater Authority and the Glenn Groundwater Authority that the Groundwater Sustainability Plan for the Colusa Subbasin had received a determination of “Incomplete.” DWR also provided a letter outlining the specific deficiencies that the GSAs will need to address in order to resubmit the GSP for reconsideration. The recommended corrective actions include:

- a) Re-evaluation of the overdraft conditions in the Subbasin using the most recent data, and include projects and management actions to mitigate projected overdraft;
- b) Providing a more detailed explanation and justification of the sustainable management criteria for groundwater levels, particularly minimum thresholds and measurable objectives, and quantify the effects of those criteria on beneficial uses; and
- c) Providing a more detailed explanation and justification of sustainable management criteria, monitoring method, and projects and management actions related to land subsidence.

DWR’s letter details the specific actions recommended for each deficiency. The GSAs must address the deficiencies as recommended and must submit the revised GSP by April 23, 2024. Should CGA and GGA fail to sufficiently address the deficiencies by that date, DWR will determine the GSP to be “Inadequate” and may identify additional deficiencies to address as part of SGMA’s state intervention process.

On October 30, 2023, DWR released a guidance document titled [Groundwater Sustainability Plan Implementation: A guide to Annual Reports, Periodic Evaluations, and Plan Amendments](#) and a [Frequently Asked Questions \(FAQ\) and Available Resources](#) document. A document from January 2022 provides FAQs on incomplete determinations (attached).

## Recommendation

Discuss the Colusa Subbasin GSP Incomplete Determination and hear verbal report from staff on next steps.

## Attachments

- Colusa Subbasin GSP Determination Letter
- DWR’s Incomplete Determination & Next Steps Frequently Asked Questions (January 2022)



CALIFORNIA DEPARTMENT OF WATER RESOURCES

# SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

715 P Street, 8<sup>th</sup> Floor | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

October 26, 2023

Lisa Hunter  
County of Glenn Groundwater Sustainability Agency - Corning  
225 North Tehama Street  
Willows, CA 95988  
[lhunter@countyofglenn.net](mailto:lhunter@countyofglenn.net)

RE: Sacramento Valley – Colusa Subbasin - 2022 Groundwater Sustainability Plan

Dear Lisa Hunter,

The Department of Water Resources (Department) has evaluated the groundwater sustainability plan (GSP or Plan) submitted for the Sacramento Valley – Colusa Subbasin. The Department has determined that the Plan is “incomplete” pursuant to Section 355.2(e)(2) of the GSP Regulations.

The Department based its incomplete determination on recommendations from the Staff Report, included as an enclosure to the attached Statement of Findings, which describes that the Subbasin’s Plan does not satisfy the objectives of the Sustainable Groundwater Management Act (SGMA) nor substantially comply with the GSP Regulations. The Staff Report also provides corrective actions which the Department recommends the Subbasin’s groundwater sustainability agencies (GSAs) review while determining how to address the deficiencies.

The Subbasin’s GSAs have 180 days, the maximum allowed by the GSP Regulations, to address the identified deficiencies. Where addressing the deficiencies requires modification of the Plan, the GSAs must adopt those modifications into their respective GSPs and all applicable coordination agreement materials, or otherwise demonstrate that those modifications are part of the Plan before resubmitting it to the Department for evaluation no later than April 23, 2024. The Department understands that much work has occurred to advance sustainable groundwater management since the GSAs submitted their GSPs in January 2022. To the extent to which those efforts are related or responsive to the Department’s identified deficiencies, we encourage you to document that as part of your Plan resubmittal. The Department prepared a [Frequently Asked Questions](#) document to provide general information and guidance on the process of addressing deficiencies in an “incomplete” determination.


Department staff will work expeditiously to review the revised components of your Plan resubmittal. If the revisions sufficiently address the identified deficiencies, the Department will determine that the Plan is “approved”. In that scenario, Department staff will identify additional recommended corrective actions that the GSAs should address

early in implementing their GSPs (i.e., no later than the first required periodic evaluation). Among other items, those corrective actions will recommend the GSAs provide more detail on their plans and schedules to address data gaps. Those recommendations will call for significantly expanded documentation of the plans and schedules to implement specific projects and management actions. Regardless of those recommended corrective actions, the Department expects the first periodic evaluations, required no later than January 2027 – one-quarter of the way through the 20-year implementation period – to document significant progress toward achieving sustainable groundwater management.

If the Subbasin's GSAs cannot address the deficiencies identified in this letter by April 23, 2024, then the Department, after consultation with the State Water Resources Control Board, will determine the GSP to be "inadequate". In that scenario, the State Water Resources Control Board may identify additional deficiencies that the GSAs would need to address in the state intervention processes outlined in SGMA.

Please contact Sustainable Groundwater Management staff by emailing [sgmps@water.ca.gov](mailto:sgmps@water.ca.gov) if you have any questions related to the Department's assessment or implementation of your GSP.

Thank You,

  
\_\_\_\_\_  
Paul Gosselin  
Deputy Director  
Sustainable Groundwater Management

Attachment:

1. Statement of Findings Regarding the Determination of Incomplete Status of the Sacramento Valley – Colusa Subbasin Groundwater Sustainability Plan

**STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES**

**STATEMENT OF FINDINGS REGARDING THE  
DETERMINATION OF INCOMPLETE STATUS OF THE  
SACRAMENTO VALLEY – COLUSA SUBBASIN  
GROUNDWATER SUSTAINABILITY PLAN**

The Department of Water Resources (Department) is required to evaluate whether a submitted groundwater sustainability plan (GSP or Plan) conforms to specific requirements of the Sustainable Groundwater Management Act (SGMA or Act), is likely to achieve the sustainability goal for the Subbasin, and whether the GSP adversely affects the ability of an adjacent basin or subbasin to implement its GSP or impedes achievement of sustainability goals in an adjacent basin or subbasin. (Water Code § 10733.) The Department is directed to issue an assessment of the GSP within two years of its submission. (Water Code § 10733.4.) This Statement of Findings explains the Department's decision regarding the submitted Plan by the Colusa Groundwater Authority Groundwater Sustainability Agency and Glenn Groundwater Authority Groundwater Sustainability Agency (GSAs or Agencies) for the Sacramento Valley – Colusa Subbasin (Subbasin) (Basin No. 5-021.52).

Department management has reviewed the enclosed Staff Report, which recommends that the identified deficiencies should preclude approval of the GSP. Based on its review of the Staff Report, Department management is satisfied that staff have conducted a thorough evaluation and assessment of the Plan and concurs with, and hereby adopts, staff's recommendation and all the corrective actions provided. The Department thus deems the Plan incomplete based on the Staff Report and the findings contained herein. In particular, the Department finds:

- A. The GSAs should revise the GSP to provide a reasonable assessment of overdraft conditions using the best available information and describe a reasonable means to mitigate overdraft. Specifically, the Plan must be amended as follows:
  1. Reevaluate the assessment of overdraft conditions in the Subbasin. Specifically, the GSAs should examine the assumptions that were used to develop the current overdraft and the projected overdraft estimates in the projected water budget considering the results vary greatly from the values reported in the recent annual report data. The assessment should include the latest information for the Subbasin to ensure the GSP includes the required projects and management actions to mitigate overdraft in the Subbasin.

2. Develop and describe a reasonable means to mitigate the overdraft that is continuing to occur in the Subbasin. Specifically, the GSAs should describe proposed management actions that are commensurate with the level of understanding of groundwater conditions in the Subbasin and provide sufficient details for Department staff to be able to clearly understand how the Plan's projects and management actions will mitigate overdraft in the Subbasin under different climate scenarios.
- B. The GSAs must provide a more detailed explanation and justification regarding the selection of the sustainable management criteria for groundwater levels, particularly minimum thresholds and measurable objectives, and quantitatively describe the effects of those criteria on the interests of beneficial uses and users of groundwater. Department staff recommend the GSAs consider and address the following:
1. Refine the description of undesirable results to clearly describe the significant and unreasonable conditions the GSAs are managing the Subbasin to avoid. This must include a quantitative description of the negative effects to beneficial uses and users that would be experienced at undesirable result conditions. The GSAs should fully disclose and describe and explain its rationale for determining the number of wells that may be dewatered and the level of impacts to groundwater dependent ecosystems that may occur without rising to significant and unreasonable levels constituting undesirable results. Lastly, the GSAs should explain how potential alternate supplies of water or well mitigation will be considered by the GSAs during their management of the Subbasin in a project or management action as part of the GSP. Department staff also encourage the GSAs to review the Department's April 2023 guidance document titled *Considerations for Identifying and Addressing Drinking Water Well Impacts*.
  2. Revise minimum thresholds to be set at the level where the depletion of supply across the Subbasin may lead to undesirable results and provide the criteria used to establish and justify minimum thresholds. Fully document the analysis and justifications performed to establish the criteria used to establish minimum thresholds. Clearly show each step of the analysis and provide supporting information used in the analysis.
  3. Provide an evaluation of how minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property



interests.<sup>1</sup> Identify the number and location of wells that may be negatively affected when minimum thresholds are reached. Compare well infrastructure for all well types in the Subbasin with minimum thresholds at nearby, suitably representative, monitoring sites. Document all assumptions and steps clearly so that it will be understood by readers of the GSP. Include maps of potentially affected well locations, identify the number of potentially affected wells by well type, and provide a supporting discussion of the effects.

4. Analyze how groundwater level minimum thresholds, which allow continued declines in the Subbasin, may impact land subsidence conditions.
- C. The GSAs must provide a more detailed explanation and justification regarding the selection of the sustainable management criteria, monitoring method, and projects or management actions related to land subsidence. Department staff recommend the GSAs consider and address the following:
1. Identify facilities and/or structures, land uses and property interests that may be susceptible to impacts from land subsidence and should quantify the amount of land subsidence that would result in functional impacts to that infrastructure. The GSAs should describe the rationale and any analysis performed to inform the quantification of undesirable results in these areas. Provide maps and graphs showing the extent and rate of land subsidence in the basin at the minimum threshold.
  2. Provide the information and criteria relied upon to establish and justify the minimum threshold.<sup>2</sup> Describe how the interests of beneficial uses and users may be affected if conditions reach minimum thresholds.
  3. Revise the individual minimum thresholds to identify the rate and extent of land subsidence that substantially interferes with surface land uses and may lead to undesirable results. Identify a cumulative amount of tolerable subsidence that, if exceeded, would substantially interfere with groundwater and land surface beneficial uses and users in the Subbasin. The GSAs should also explain how the rate and extent of any future subsidence permitted in the Subbasin may interfere with surface land uses.

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<sup>1</sup> 23 CCR 354.28 (b)(4).

<sup>2</sup> 23 CCR § 354.28 (b)(1).

4. Provide a clear schedule for more frequent land subsidence monitoring using the best available data and describe how the monitoring data will be evaluated to determine if undesirable results are occurring in the Subbasin. If the GSAs determine not to use available InSAR data, the GSAs should provide support and justification for why an alternative approach that excludes InSAR data is reasonable and uses the best available information.
5. Provide specific details and schedule for projects or management actions that will be implemented to minimize or eliminate subsidence. The projects or management actions must be supported by best available information and science<sup>3</sup> and take into account the level of uncertainty associated with the Subbasin.

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<sup>3</sup> 23 CCR § 354.44 (c).

Statement of Findings  
Sacramento Valley – Colusa Subbasin (No. 5-021.52)

October 26, 2023

Based on the above, the GSP submitted by the Agencies for the Sacramento Valley – Colusa Subbasin is determined to be incomplete because the GSP does not satisfy the requirements of SGMA, nor does it substantially comply with the GSP Regulations. The corrective actions provided in the Staff Report are intended to address the deficiencies that, at this time, preclude approval. The Agencies have up to 180 days to address the deficiencies outlined above and detailed in the Staff Report. Once the Agencies resubmit its Plan, the Department will review the revised GSP to evaluate whether the deficiencies were adequately addressed. Should the Agencies fail to take sufficient actions to correct the deficiencies identified by the Department in this assessment, the Department shall disapprove the Plan if, after consultation with the State Water Resources Control Board, the Department determines the Plan inadequate pursuant to 23 CCR § 355.2(e)(3)(C).

Signed:

*Karla Nemeth*

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Karla Nemeth, Director

Date: October 26, 2023

Enclosure: Groundwater Sustainability Plan Assessment Staff Report – Sacramento Valley – Colusa Subbasin

**State of California**  
**Department of Water Resources**  
**Sustainable Groundwater Management Program**  
**Groundwater Sustainability Plan Assessment**  
**Staff Report**

Groundwater Basin Name: Sacramento Valley – Colusa Subbasin (No. 5-021.52)  
Colusa Groundwater Authority Groundwater  
Submitting Agency: Sustainability Agency and Glenn Groundwater Authority  
Groundwater Sustainability Agency  
Submittal Type: Initial GSP Submission  
Submittal Date: January 28, 2022  
Recommendation: Incomplete  
Date: October 26, 2023

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The Colusa Groundwater Authority Groundwater Sustainability Agency and Glenn Groundwater Authority Groundwater Sustainability Agency (collectively, the GSAs) submitted the Colusa Subbasin Groundwater Sustainability Plan (GSP or Plan) to the Department of Water Resources (Department) for evaluation and assessment as required by the Sustainable Groundwater Management Act (SGMA)<sup>1</sup> and the GSP Regulations.<sup>2</sup> The GSP covers the entire Sacramento Valley – Colusa Subbasin (Subbasin) for the implementation of SGMA. As presented in this staff report, a single GSP covering the entire basin was adopted and submitted to the Department for review by the GSAs.<sup>3</sup>

Evaluation and assessment by the Department is based on whether an adopted and submitted GSP, either individually or in coordination with other adopted and submitted GSPs, complies with SGMA and substantially complies with the GSP Regulations. Department staff base its assessment on information submitted as part of an adopted GSP, public comments submitted to the Department, and other materials, data, and reports that are relevant to conducting a thorough assessment. Department staff have evaluated the GSP and have identified deficiencies that staff recommend should preclude its approval.<sup>4</sup> In addition, consistent with the GSP Regulations, Department staff have provided required corrective actions<sup>5</sup> that the GSAs should review while determining how and whether to address the deficiencies. The deficiencies and required corrective actions are explained in greater detail in Section 3 of this staff report and are generally related to

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<sup>1</sup> Water Code § 10720 *et seq.*

<sup>2</sup> 23 CCR § 350 *et seq.*

<sup>3</sup> Water Code §§ 10727(b)(1), 10733.4; 23 CCR § 355.2.

<sup>4</sup> 23 CCR §355.2(e)(2).

<sup>5</sup> 23 CCR §355.2(e)(2)(B).

the need to define sustainable management criteria in the manner required by SGMA and the GSP Regulations.

This assessment includes four sections:

- **Section 1 – Evaluation Criteria**: Describes the legislative requirements and the Department’s evaluation criteria.
- **Section 2 – Required Conditions**: Describes the submission requirements, GSP completeness, and basin coverage required for a GSP to be evaluated by the Department.
- **Section 3 – Plan Evaluation**: Provides a detailed assessment of identified deficiencies in the GSP. Consistent with the GSP Regulations, Department staff have provided corrective actions for the GSAs to address the deficiencies.
- **Section 4 – Staff Recommendation**: Provides staff’s recommendation regarding the Department’s determination.

# 1 EVALUATION CRITERIA

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The Department evaluates whether a Plan conforms to the statutory requirements of SGMA<sup>6</sup> and is likely to achieve the basin’s sustainability goal.<sup>7</sup> To achieve the sustainability goal, the Plan must demonstrate that implementation will lead to sustainable groundwater management, which means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.<sup>8</sup> Undesirable results are required to be defined quantitatively by the GSA overlying a basin and occur when significant and unreasonable effects for any of the applicable sustainability indicators are caused by groundwater conditions occurring throughout the basin.<sup>9</sup> The Department is also required to evaluate whether the Plan will adversely affect the ability of an adjacent basin to implement its groundwater sustainability program or achieve its sustainability goal.<sup>10</sup>

For a Plan to be evaluated by the Department, it must first be determined that it was submitted by the statutory deadline<sup>11</sup> and that it is complete and covers the entire basin.<sup>12</sup> If these required conditions are satisfied, the Department evaluates the Plan to determine whether it complies with SGMA and substantially complies with the GSP Regulations.<sup>13</sup> As stated in the GSP Regulations, “[s]ubstantial compliance means that the supporting information is sufficiently detailed and the analyses sufficiently thorough and reasonable, in the judgment of the Department, to evaluate the Plan, and the Department determines that any discrepancy would not materially affect the ability of the Agency to achieve the sustainability goal for the basin, or the ability of the Department to evaluate the likelihood of the Plan to attain that goal.”<sup>14</sup>

When evaluating whether the Plan is likely to achieve the sustainability goal for the basin, Department staff review the information provided for sufficiency, credibility, and consistency with scientific and engineering professional standards of practice.<sup>15</sup> The Department’s review considers whether there is a reasonable relationship between the information provided by the GSA and the assumptions and conclusions presented in the Plan, including: whether the interests of the beneficial uses and users of groundwater in the basin have been considered; whether sustainable management criteria and projects and management actions described in the Plan are commensurate with the level of understanding of the basin setting; and whether those projects and management actions

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<sup>6</sup> Water Code §§ 10727.2, 10727.4, 10727.6.

<sup>7</sup> Water Code § 10733(a).

<sup>8</sup> Water Code § 10721(v).

<sup>9</sup> 23 CCR § 354.26.

<sup>10</sup> Water Code § 10733(c).

<sup>11</sup> 23 CCR § 355.4(a)(1).

<sup>12</sup> 23 CCR §§ 355.4(a)(2), 355.4(a)(3).

<sup>13</sup> 23 CCR § 350 *et seq.*

<sup>14</sup> 23 CCR § 355.4(b).

<sup>15</sup> 23 CCR § 351(h).

are feasible and likely to prevent undesirable results.<sup>16</sup> The Department also considers whether the GSAs have the legal authority and financial resources necessary to implement the Plan.<sup>17</sup>

To the extent overdraft is present in a basin, the Department evaluates whether the Plan provides a reasonable assessment of the overdraft and includes reasonable means to mitigate it.<sup>18</sup> The Department also considers whether the Plan provides reasonable measures and schedules to eliminate identified data gaps.<sup>19</sup> Lastly, the Department's review considers the comments submitted on the Plan and evaluates whether the GSAs have adequately responded to the comments that raise credible technical or policy issues with the Plan.<sup>20</sup>

The Department is required to evaluate the Plan within two years of its submittal date and issue a written assessment.<sup>21</sup> The assessment is required to include a determination of the Plan's status.<sup>22</sup> The GSP Regulations provide three options for determining the status of a Plan: approved,<sup>23</sup> incomplete,<sup>24</sup> or inadequate.<sup>25</sup>

Even when the Department determines a Plan is approved, indicating that it satisfies the requirements of SGMA and is in substantial compliance with the GSP Regulations, the Department may still recommend corrective actions.<sup>26</sup> Recommended corrective actions are intended to facilitate progress in achieving the sustainability goal within the basin and the Department's future evaluations, and to allow the Department to better evaluate whether implementation of the Plan adversely affects adjacent basins. While the issues addressed by the recommended corrective actions in an approved Plan do not, at the time the determination was made, preclude its approval, the Department recommends that the issues be addressed to ensure the Plan's implementation continues to be consistent with SGMA and the Department is able to assess progress in achieving the basin's sustainability goal.<sup>27</sup> Unless otherwise noted, the Department proposes that recommended corrective actions be addressed by the submission date for the first periodic assessment.<sup>28</sup>

After review of the Plan, Department staff may conclude that the information provided is not sufficiently detailed, or the analyses not sufficiently thorough and reasonable, to evaluate whether it is likely to achieve the sustainability goal for the basin. If the

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<sup>16</sup> 23 CCR §§ 355.4(b)(1), (3), (4) and (5).

<sup>17</sup> 23 CCR § 355.4(b)(9).

<sup>18</sup> 23 CCR § 355.4(b)(6).

<sup>19</sup> 23 CCR § 355.4(b)(2).

<sup>20</sup> 23 CCR § 355.4(b)(10).

<sup>21</sup> Water Code § 10733.4(d); 23 CCR § 355.2(e).

<sup>22</sup> Water Code § 10733.4(d); 23 CCR § 355.2(e).

<sup>23</sup> 23 CCR § 355.2(e)(1).

<sup>24</sup> 23 CCR § 355.2(e)(2).

<sup>25</sup> 23 CCR § 355.2(e)(3).

<sup>26</sup> Water Code § 10733.4(d).

<sup>27</sup> Water Code § 10733.8.

<sup>28</sup> 23 CCR § 356.4.

Department determines the deficiencies precluding approval may be capable of being corrected by the GSA in a timely manner,<sup>29</sup> the Department will determine the status of the Plan to be incomplete. A Plan deemed incomplete may be revised and resubmitted to the Department for reevaluation of whether all deficiencies have been addressed and incorporated into the Plan within 180 days after the Department makes its incomplete determination. The Department will review the revised Plan to evaluate whether the identified deficiencies were sufficiently addressed. Depending on the outcome of that evaluation, the Department may determine the resubmitted Plan is approved. Alternatively, the Department may find a formerly deemed incomplete GSP is inadequate if, after consultation with the State Water Resources Control Board, it determines that the GSA have not taken sufficient actions to correct any identified deficiencies.<sup>30</sup>

The staff assessment of the Plan involves the review of information presented by the GSAs, including models and assumptions, and an evaluation of that information based on scientific reasonableness. In conducting its assessment, the Department does not recalculate or reevaluate technical information provided in the Plan or perform its own geologic or engineering analysis of that information. The recommendation to approve a Plan does not signify that Department staff, were they to exercise the professional judgment required to develop a Plan for the basin, would make the same assumptions and interpretations as those contained in the Plan, but simply that Department staff have determined that the assumptions and interpretations relied upon by the submitting GSA are supported by adequate, credible evidence, and are scientifically reasonable.

Lastly, the Department's review and assessment of an approved Plan is a continual process. Both SGMA and the GSP Regulations provide the Department with the ongoing authority and duty to review the implementation of the Plan.<sup>31</sup> Also, GSAs have an ongoing duty to reassess their GSPs, provide annual reports to the Department, and, when necessary, update or amend their GSPs.<sup>32</sup> The passage of time or new information may make what is reasonable and feasible at the time of this review to not be so in the future. The emphasis of the Department's periodic reviews will be to assess the GSA's progress toward achieving the basin's sustainability goal and whether implementation of the Plan adversely affects the ability of GSA in adjacent basins to achieve their sustainability goals.

## 2 REQUIRED CONDITIONS

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A GSP, to be evaluated by the Department, must be submitted within the applicable statutory deadline.<sup>33</sup> The GSP must also be complete and must, either on its own or in coordination with other GSPs, cover the entire basin. If a GSP is determined to be

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<sup>29</sup> 23 CCR § 355.2(e)(2)(B)(i).

<sup>30</sup> 23 CCR § 355.2(e)(3)(C).

<sup>31</sup> Water Code § 10733.8; 23 CCR § 355.6.

<sup>32</sup> Water Code §§ 10728, 10728.2.

<sup>33</sup> Water Code § 10720.7.



incomplete, Department staff may require corrective actions that address minor or potentially significant deficiencies identified in the GSP. The GSA must sufficiently address those required corrective actions within the time provided, not to exceed 180 days, for the GSP to be reevaluated by the Department and potentially approved.

## 2.1 SUBMISSION DEADLINE

SGMA required basins categorized as high- or medium-priority as of January 1, 2017, to submit a GSP no later than January 31, 2022.<sup>34</sup>

The GSAs submitted the Colusa GSP to the Department on January 28, 2022, in compliance with the statutory deadline.

## 2.2 COMPLETENESS

GSP Regulations specify that the Department shall evaluate a GSP if that GSP is complete and includes the information required by SGMA and the GSP Regulations.<sup>35</sup>

The GSA submitted an adopted GSP for the entire Subbasin. Department staff found the Colusa GSP to be complete and include the required information, sufficient to warrant an evaluation by the Department. Therefore, the Department posted the GSP to its website on February 7, 2022.

## 2.3 BASIN COVERAGE

A GSP, either on its own or in coordination with other GSPs, must cover the entire basin.<sup>36</sup> A GSP that intends to cover the entire basin may be presumed to do so if the basin is fully contained within the jurisdictional boundaries of the submitting GSA.

The GSP intends to manage the entire Colusa Subbasin and the jurisdictional boundaries of the submitting GSA appear to cover the entire Subbasin.

# 3 PLAN EVALUATION

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As stated in Section 355.4 of the GSP Regulations, a basin “shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the Act.” The Department’s assessment is based on a number of related factors including whether the elements of a GSP were developed in the manner required by the GSP Regulations, whether the GSP was developed using appropriate data and methodologies and whether its conclusions are scientifically reasonable, and whether the GSP, through the implementation of clearly defined and technically feasible projects and management actions, is likely to achieve a tenable sustainability goal for the basin.

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<sup>34</sup> Water Code § 10720.7(a)(2).

<sup>35</sup> 23 CCR § 355.4(a)(2).

<sup>36</sup> Water Code § 10727(b); 23 CCR § 355.4(a)(3).

Department staff have identified deficiencies in the GSP, the most serious of which preclude staff from recommending approval of the GSP at this time. Department staff believe the GSA may be able to correct the identified deficiencies within 180 days. Consistent with the GSP Regulations, Department staff are providing corrective actions related to the deficiencies, detailed below, including the general regulatory background, the specific deficiency identified in the GSP, and the specific actions to address the deficiency.

Department staff have concluded the GSP as proposed does not conform with the requirements of SGMA and is not likely to achieve the sustainability goals for the basin. The GSP does not sufficiently identify and propose management for current conditions including the overdraft, chronic lowering of groundwater levels, and land subsidence. The GSP does not establish sustainable management criteria that considered effects on the full range of known beneficial uses and users, such as domestic wells and critical infrastructure.

### **3.1 DEFICIENCY 1. THE GSP DOES NOT INCLUDE A REASONABLE ASSESSMENT OF OVERDRAFT CONDITIONS AND REASONABLE MEANS TO MITIGATE OVERDRAFT.**

#### **3.1.1 Background**

For basins where overdraft conditions occur, the GSP Regulations require a Plan to quantify the overdraft over a period of years during which water year and water supply conditions approximate average conditions.<sup>37</sup> Furthermore, the Plan must describe projects or management actions, including quantification of demand reduction or other methods, for the mitigation of overdraft and achievement of the sustainability goal for the basin.<sup>38</sup>

As part of the Department's evaluation, staff assess whether the Plan provides a reasonable assessment of overdraft conditions and includes reasonable means to mitigate overdraft, if present.<sup>39</sup> To substantially comply with the GSP Regulations,<sup>40</sup> the assessment provided in the Plan must be supported with sufficiently detailed information and the analyses must be sufficiently thorough and reasonable. Discussion and analyses in a Plan must be detailed and thorough enough for Department staff to evaluate if any discrepancy in the information provided in the Plan may materially affect the ability of the Agency to achieve the sustainability goal for the basin.

#### **3.1.2 Deficiency Details**

The GSP Regulations require the Department to evaluate whether the Plan includes a reasonable assessment of overdraft conditions and includes a reasonable means to

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<sup>37</sup> 23 CCR § 354.18(b)(5).

<sup>38</sup> 23 CCR §§ 354.44(a) and 354.44(b)(2).

<sup>39</sup> 23 CCR § 355.4 (b)(6).

<sup>40</sup> 23 CCR § 355.4 (b).

mitigate overdraft.<sup>41</sup> While the GSP presents information about overdraft, it is unclear whether this assessment is reasonable or uses the best available information, because the GSP's reported overdraft varies greatly from recent change in groundwater storage data. Furthermore, the projects and management actions proposed in the GSP, which have been developed to address the projected overdraft conditions, do not appear to be sufficient to mitigate the actual overdraft conditions in the Subbasin. Department staff have identified this as a deficiency that should preclude plan approval at this time. The following section describes specific details about the deficiency and outlines one or more corrective actions the GSAs must take to address to correct it.

The GSP presents conflicting information about overdraft occurring in the Subbasin. While the Plan acknowledges overdraft is observed in the Subbasin in the historical and projected water budgets, the current water budget shows a positive change in storage. The historical water budget, which reflects the period from 1990 to 2015, estimates an average negative change in groundwater storage (overdraft) of 28,000 acre-feet per year (AFY).<sup>42</sup> The change in storage figure provided in the GSP shows annual overdraft has increased recently resulting in an overdraft of approximately 1,000,000 acre-feet from 2006 to 2015.<sup>43</sup> However, the Plan's current water budget shows an increase in storage of 1,000 AFY. The projected water budget with future land use and climate change anticipates an increase in groundwater pumping by 58,000 AFY yet presents a lower value of overdraft of 7,300 AFY (cumulative change in groundwater storage of -365,000 acre-feet) over the 50-year implementation horizon.<sup>44</sup>

Since the GSP submittal, annual report data submitted to the Department demonstrates that groundwater storage within the Subbasin has dramatically decreased, deviating from the values reported in the GSP for the historical and projected water budgets. Specifically, the overdraft reported for water year (WY) 2021 (which represents change between October 1, 2020, and September 30, 2021) was -418,000 acre-feet and -377,170 acre-feet for WY 2022.<sup>45</sup> Combined, these values represent a loss of storage of over 795,000 acre-feet in just a two-year period, which is more than double the anticipated overdraft predicted over the 50-year implementation horizon. Department staff recognize WY 2021 and WY 2022 were critically dry years; however, the magnitude of the loss of storage observed during these two years is significantly greater than the average value provided in the historical water budget of -166,000 acre-feet for the previous critically dry water year types, indicating that overdraft is increasing.<sup>46</sup> Based on a review of the information included in the GSP and annual reports, and the discrepancies in the reported projections of overdraft, Department staff are unable to conclude the GSAs have included a

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<sup>41</sup> 23 CCR § 355.4(b)(6).

<sup>42</sup> Colusa Subbasin GSP, Table 3-12, p. 215.

<sup>43</sup> Colusa Subbasin GSP, Figure 3-29, p. 184.

<sup>44</sup> Colusa Subbasin GSP, Section 3.3.6, p. 229.

<sup>45</sup> Department of Water Resources, SGMA Portal, Annual Report Module, WY 2021 and WY 2022 Data, Reported Overdraft, Colusa Subbasin.

<sup>46</sup> Colusa Subbasin GSP, Table 3-13, p. 218.

reasonable assessment of overdraft conditions for the Subbasin based on the best available information. (See [Corrective Action 1a](#)).

GSP Regulations require the Department to evaluate whether the Plan includes a reasonable means to mitigate overdraft.<sup>47</sup> While the GSP documents a projected groundwater overdraft in the Subbasin of 7,300 AFY, Department staff believe the actual overdraft the GSAs will be required to mitigate is likely much more based on information included in the GSP and annual reports. The GSP proposes an adaptive management approach with planned projects and management actions to address groundwater level declines in the Orland and Arbuckle areas and a portfolio of other ongoing and potential projects to achieve sustainability across the Subbasin.<sup>48</sup> The planned projects all involve reducing groundwater pumping by securing more surface water for direct application or in-lieu groundwater recharge.

The GSP states that the expected benefits of all planned projects will provide more than 80,000 AFY to the Subbasin at full implementation and “are expected to address potential sustainability concerns in the projected future conditions water budgets, even under the effects of 2070 CT climate change.”<sup>49</sup> However, Department staff note the GSP states that certain projects will not be available for implementation during critically dry years and two of the projects described as ongoing are described as having expiring contracts so the actual benefits of these projects may be lower than the projected values. Further, given the recent reduction of groundwater storage of 795,000 acre-feet in the last two years, it would take nearly ten years of these projects being fully implemented combined with the Subbasin operating within its sustainable yield to offset this loss of storage. While SGMA states that overdraft during a period of drought is not sufficient to establish an undesirable result for the chronic lowering of groundwater levels, this is contingent on the GSAs managing extractions and recharge as necessary to ensure that reductions in groundwater levels or storage are offset by increases in groundwater levels or storage during other periods.<sup>50</sup> Based on the information contained in the GSP, it does not appear the GSAs have proposed a suite of projects and management actions that will be sufficient to offset the recent overdraft observed in the Subbasin. The GSAs do not appear to have an urgency to implement the necessary projects and management actions to mitigate overdraft and Department staff are concerned that continued overdraft will exacerbate the current problems the basin is experiencing, which include dry wells and worsening land subsidence. Accordingly, for the above reasons, Department staff cannot conclude that the GSP has presented a reasonable means to mitigate overdraft (see [Corrective Action 1b](#)).

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<sup>47</sup> 23 CCR § 355.4(b)(6).

<sup>48</sup> Colusa Subbasin GSP, Chapter 6, p. 301.

<sup>49</sup> Colusa Subbasin GSP, Section 6.2.2, p. 312.

<sup>50</sup> Water Code § 10721(x)(1).

### 3.1.3 Corrective Action 1

The GSAs should revise the GSP to provide a reasonable assessment of overdraft conditions using the best available information and describe a reasonable means to mitigate overdraft. Specifically, the Plan must be amended as follows:

- a. Reevaluate the assessment of overdraft conditions in the Subbasin. Specifically, the GSAs should examine the assumptions that were used to develop the current overdraft and the projected overdraft estimates in the projected water budget considering the results vary greatly from the values reported in the recent annual report data. The assessment should include the latest information for the Subbasin to ensure the GSP includes the required projects and management actions to mitigate overdraft in the Subbasin.
- b. Develop and describe a reasonable means to mitigate the overdraft that is continuing to occur in the Subbasin. Specifically, the GSAs should describe proposed management actions that are commensurate with the level of understanding of groundwater conditions in the Subbasin and provide sufficient details for Department staff to be able to clearly understand how the Plan's projects and management actions will mitigate overdraft in the Subbasin under different climate scenarios.

## 3.2 DEFICIENCY 2. THE GSP DOES NOT ESTABLISH SUSTAINABLE MANAGEMENT CRITERIA FOR CHRONIC LOWERING OF GROUNDWATER LEVELS IN A MANNER SUBSTANTIALLY COMPLIANT WITH THE GSP REGULATIONS.

### 3.2.1 Background

It is up to the GSA to define undesirable results and describe the effect of undesirable results on the beneficial uses and users of groundwater.<sup>51</sup> From this definition, the GSA establishes minimum thresholds, which are quantitative values that represent groundwater conditions at representative monitoring sites that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause the basin to experience undesirable results.<sup>52</sup> Put another way, the minimum thresholds represent conditions that, if not exceeded, should prevent the basin from experiencing the undesirable results identified by the GSA. Minimum thresholds for chronic lowering of groundwater levels are the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results.<sup>53</sup> Quantitative values for minimum thresholds should be supported by information and criteria relied upon to establish and justify the minimum threshold,<sup>54</sup> and a quantitative description of

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<sup>51</sup> 23 CCR § 354.26 (b)(3), § 354.28 (b)(4).

<sup>52</sup> 23 CCR § 354.28, DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

<sup>53</sup> 23 CCR § 354.28 (c)(1).

<sup>54</sup> 23 CCR § 354.28 (b)(1).

how conditions at minimum thresholds may affect the interests of beneficial uses and users of groundwater.<sup>55</sup>

### 3.2.2 Deficiency Details

Based on its review, Department staff conclude the Plan has not defined sustainable management criteria for chronic lowering of groundwater levels in a manner required by SGMA and the GSP Regulations. Generally, the GSP's descriptions of undesirable results are unclear and justification for the establishment of minimum thresholds is not provided with evidence of the consideration of the interests of beneficial uses and users, and sufficient supporting information is not provided in the GSP. The lack of this information limits Department staff's ability to evaluate whether the criteria are reasonable or whether the GSA plans to operate the Subbasin to avoid undesirable results.<sup>56</sup>

GSP Regulations require that GSAs define undesirable results caused by the chronic lowering of groundwater levels by identifying a significant and unreasonable depletion of supply that is present when an undesirable result occurs.<sup>57</sup> The GSP describes an undesirable result as: "if sustained groundwater levels are too low to reasonably satisfy beneficial uses and users within the Subbasin over the planning and implementation horizon of this GSP."<sup>58</sup> The GSP additionally states that an undesirable result would occur "when 25 percent or more of the representative monitoring wells (i.e., 12 of 48 wells) in the Subbasin fall below their minimum groundwater elevation threshold levels for 24 consecutive months."<sup>59</sup>

Department staff have identified deficiencies with how the GSAs have defined undesirable results. The Plan's definition of undesirable results uses undefined qualifying language that renders the meaning indeterminate. The GSP aims to prevent "...levels [that] are too low to reasonably satisfy beneficial uses and users within the Subbasin," as mentioned above. However, the GSP does not define or describe these conditions, or explain who would make this determination. Additionally, without a quantitative definition or clear description of the qualifier "reasonably", it is unclear how the GSAs will identify whether observed impacts would be considered significant and unreasonable. While the GSP includes in its portfolio of potential management actions a domestic well mitigation program, this management action "is currently in the early conceptual stage"<sup>60</sup> and "would only be implemented if determined to be necessary under future monitoring of the Subbasin."<sup>61</sup> The GSP indicates each GSA will investigate implementing a program in its respective portions of the Subbasin and acknowledge details of the potential programs have yet to be determined. Consequently, the GSP presents no details regarding the action's implementation timeline, criteria for implementation, benefits, or costs and

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<sup>55</sup> 23 CCR § 354.28 (b)(4).

<sup>56</sup> 23 CCR §§ 354.28(b)(1), 354.28(b)(2), 354.28(b)(3), 354.28(b)(4), 354.28(c)(1).

<sup>57</sup> 23 CCR § 354.26 (a).

<sup>58</sup> Colusa Subbasin GSP, Section 5.3.1.1, p. 269.

<sup>59</sup> Colusa Subbasin GSP, Section 5.3.1.2, p. 270.

<sup>60</sup> Colusa Subbasin GSP, Table 6-46, p. 384.

<sup>61</sup> Colusa Subbasin GSP, Section 6.5.1, p. 359.



funding. Without more information, Department staff are unable to evaluate when and how the well mitigation program may be implemented or evaluate its potential feasibility and effectiveness at this time.

Additionally, the Plan defines undesirable results as a function of minimum conditions necessary to reasonably satisfy beneficial uses and users of groundwater but does not describe or explain what those conditions would be or how they were determined. This is compounded by the fact that the Plan does not demonstrate how or whether the interests of those beneficial uses and users were considered. As a result, it would not be possible to know whether it was appropriate to the needs of beneficial uses and users in the Subbasin, as determined by the GSAs. The quantification of undesirable results as 25 percent or more of the representative monitoring wells (i.e., 12 of 48 wells) in the Subbasin fall below their minimum groundwater elevation threshold levels for 24 consecutive months is unsatisfactory because the Plan does not explain why this threshold would avoid effects the GSAs have determined to be significant and unreasonable. On the contrary, the values and timing of exceedances appear to be arbitrary.

The lack of specificity in what the GSAs are managing the Subbasin to avoid (i.e., undesirable results) is especially problematic considering current and projected conditions. The Subbasin has already experienced 102 dry wells according to the Household Dry Well Reporting System.<sup>62</sup> The GSAs have proposed minimum thresholds that will allow at least 20 percent of the Subbasin's 3,500 domestic wells<sup>63</sup> (700 wells) to be dewatered. The GSAs have not explained how it was determined the current and projected well outages in the Subbasin are not considered an undesirable result, even though those conditions appear to meet the definition of an undesirable result provided in the GSP (i.e., "sustained groundwater levels are too low to reasonably satisfy beneficial uses and users within the Subbasin"). Department staff conclude the GSAs must reevaluate and clearly define and provide its rationale for when undesirable results occur in the Subbasin, based on a thorough consideration of the interests of beneficial uses and users of groundwater, as required by the GSP Regulations (see [Corrective Action 2a](#)).

The GSP Regulations require GSAs to set the minimum thresholds for chronic lowering of groundwater levels at "the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results."<sup>64</sup> The GSP sets minimum thresholds for the principal aquifer as the deeper value of the 20<sup>th</sup> percentile of shallowest domestic well depths in the monitoring well's Thiessen polygon, or 50 percent of [historical] range below the historical low groundwater elevation.<sup>65</sup> The GSAs use the 20<sup>th</sup> percentile of shallowest domestic well depths for 35 of the 48 representative monitoring sites and 50 percent of the range below the historical low for the remaining 13 representative

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<sup>62</sup> Department of Water Resources, Dry Well Reporting System, Accessed September 2023, <https://mydrywatersupply.water.ca.gov/report/>.

<sup>63</sup> Colusa Subbasin GSP, Section 2.1.2.4, p. 88.

<sup>64</sup> 23 CCR § 354.28(c)(1).

<sup>65</sup> Colusa Subbasin GSP, Section 5.4.1.1, p. 284.

monitoring sites.<sup>66</sup> For these 13 sites, the protection of 80 percent of domestic wells does not apply to their Thiessen polygons, and the GSP explains these minimum thresholds were developed to provide adequate operational flexibility to protect the conjunctive use of groundwater for agricultural production.<sup>67</sup>

The GSAs acknowledge some of the minimum thresholds were not developed to represent a depletion of supply that would lead to undesirable results, but instead developed to “protect the conjunctive use of groundwater for agricultural production.”<sup>68</sup> The GSP does not explain why the value of 50 percent of the range of historical levels was selected or why this threshold represents a depletion of supply. The Plan does not adequately describe the information used to develop the criteria used to establish this minimum threshold,<sup>69</sup> nor explain how managing the Subbasin to this minimum threshold will avoid the undesirable results it describes and defines. The subjective and vague nature of the GSP’s undesirable result definitions (as discussed above) compounds this problem. Department staff conclude that the minimum thresholds must be revised by the GSAs to be based upon the depletion of supply that would lead to undesirable results (see [Corrective Action 2b](#)).

GSP Regulations require GSAs to consider how conditions at minimum thresholds may affect the interests of beneficial uses and users of groundwater<sup>70</sup> and require the Department to evaluate whether the interests of those beneficial uses and users were considered.<sup>71</sup> While the GSAs utilized the 20<sup>th</sup> percentile of domestic well depth to establish the majority of the minimum threshold values, for 13 of the sites they selected a deeper threshold and the potential effects to the beneficial uses and users in these areas is unclear. Further, the GSAs do not describe how allowing more than 20 percent of domestic wells to go dry has considered the interests of these particular beneficial uses and users. Considering that the GSAs have set minimum thresholds substantially below historical lows, the Plan does not provide a clear description of the circumstances under which such impacts would become significant and unreasonable to particular beneficial uses and users. Department staff are unable to determine whether the interests of beneficial uses and users of groundwater, as well as the land uses and property interests potentially affected by the use of groundwater in the Subbasin, have been considered.<sup>72</sup> The GSAs must identify the number, location, and percentage of all wells that may be impacted at the proposed minimum thresholds that will not receive assistance through the well mitigation program and explain how the interests of beneficial uses and users were considered (see [Corrective Action 2c](#)).

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<sup>66</sup> Colusa Subbasin GSP, Table 5-2, p. 285.

<sup>67</sup> Colusa Subbasin GSP, Section 5.4.1.1, p. 284.

<sup>68</sup> Colusa Subbasin GSP, Section 5.4.1.1, p. 284.

<sup>69</sup> 23 CCR 354.28 (a).

<sup>70</sup> 23 CCR 354.28 (b)(4).

<sup>71</sup> 23 CCR 355.4 (b)(4).

<sup>72</sup> 23 CCR § 355.4 (b)(4).



GSP Regulations require GSAs to discuss the relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the GSA has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators.<sup>73</sup> The GSP discusses the relationship between groundwater levels and land subsidence by stating, “The minimum thresholds for groundwater levels are not expected to contribute to undesirable results for inelastic land subsidence, as they are protective of a range around historical groundwater elevations.”<sup>74</sup> The discussion included in the GSP describing the relationship between land subsidence is insufficient, especially considering areas within the Subbasin are prone to, and have active, land subsidence conditions. The GSP proposes minimum thresholds that allow groundwater levels to drop more than 150 feet in portions of the Subbasin, including substantial declines between 100 and 150 feet near Arbuckle and 50 to 100 feet near Orland in areas experiencing land subsidence. Based on the currently proposed thresholds, it is highly likely the Subbasin will experience ongoing and potentially worsening land subsidence as water levels decline during plan implementation. It is imperative the GSAs include a robust discussion of the relationship between the proposed groundwater level thresholds and land subsidence and analyze how allowing continued declines in the Subbasin will impact land subsidence conditions (see [Corrective Action 2d](#)).

### 3.2.3 Corrective Action 2

The GSA must provide a more detailed explanation and justification regarding the selection of the sustainable management criteria for groundwater levels, particularly minimum thresholds, and quantitatively describe the effects of those criteria on the interests of beneficial uses and users of groundwater. Department staff recommend the GSA consider and address the following:

- a. Refine the description of undesirable results to clearly describe the significant and unreasonable conditions the GSA is managing the Subbasin to avoid. This must include a quantitative description of the negative effects to beneficial uses and users that would be experienced at undesirable result conditions.<sup>75</sup> The GSA should fully disclose and describe and explain its rationale for determining the number of wells that may be dewatered and the level of impacts to groundwater dependent ecosystems that may occur without rising to significant and unreasonable levels constituting undesirable results. Lastly, the GSA should explain how potential alternate supplies of water or well mitigation will be considered by the GSA during its management of the Subbasin in a project or management action as part of the GSP. Department staff also encourage the

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<sup>73</sup> 23 CCR § 354.28 (b)(2).

<sup>74</sup> Colusa Subbasin GSP, Section 5.4.1.1.1, p. 286.

<sup>75</sup> 23 CCR § 354.28 (b)(3).

GSAs to review the Department's April 2023 guidance document titled *Considerations for Identifying and Addressing Drinking Water Well Impacts*.<sup>76</sup>

- b. Revise minimum thresholds to be set at the level where the depletion of supply across the Subbasin may lead to undesirable results<sup>77</sup> and provide the criteria used to establish and justify minimum thresholds.<sup>78</sup> Fully document the analysis and justifications performed to establish the criteria used to establish minimum thresholds. Clearly show each step of the analysis and provide supporting information used in the analysis.<sup>79</sup>
- c. Provide an evaluation of how minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests.<sup>80</sup> Identify the number and location of wells that may be negatively affected when minimum thresholds are reached. Compare well infrastructure for all well types in the Subbasin with minimum thresholds at nearby, suitably representative, monitoring sites. Document all assumptions and steps clearly so that it will be understood by readers of the GSP. Include maps of potentially affected well locations, identify the number of potentially affected wells by well type, and provide a supporting discussion of the effects.
- d. Analyze how groundwater level minimum thresholds, which allow continued declines in the Subbasin, may impact land subsidence conditions.

### **3.3 DEFICIENCY 3. THE GSP DOES NOT ESTABLISH SUSTAINABLE MANAGEMENT CRITERIA FOR LAND SUBSIDENCE IN A MANNER SUBSTANTIALLY COMPLIANT WITH THE GSP REGULATIONS.**

#### **3.3.1 Background**

The GSP Regulations state that minimum thresholds for land subsidence should identify the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. These quantitative values should be established in accordance with SGMA and the GSP Regulations, which require information and criteria relied upon to establish and justify the minimum threshold,<sup>81</sup> and how minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests,<sup>82</sup> including maps or graphs showing the rates and extents of

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<sup>76</sup> <https://water.ca.gov/Programs/Groundwater-Management/Drinking-Water-Well>

<sup>77</sup> 23 CCR 354.28 (c)(1).

<sup>78</sup> 23 CCR 354.28 (a).

<sup>79</sup> 23 CCR 354.28 (b)(1).

<sup>80</sup> 23 CCR 354.28 (b)(4).

<sup>81</sup> 23 CCR § 354.28 (b)(1).

<sup>82</sup> 23 CCR § 354.28 (b)(4).

land subsidence defined by the minimum thresholds.<sup>83</sup> Additionally, the legislative intent of SGMA is to avoid or minimize subsidence.<sup>84</sup>

It is up to the GSAs to define undesirable results and the GSAs must describe the effect of undesirable results on the beneficial uses and users of groundwater.<sup>85</sup> From this definition, the GSAs establish minimum thresholds, which are quantitative values that represent groundwater conditions at representative monitoring sites that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause the basin to experience undesirable results.<sup>86</sup> Put another way, the minimum thresholds represent conditions that, if not exceeded, should prevent the Subbasin from experiencing the undesirable results identified by the GSAs.

Minimum thresholds for land subsidence should identify the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. These quantitative values should be supported by the identification of land uses and property interests that have been affected, or are likely to be affected, by land subsidence in the Subbasin, including an explanation of how the GSAs have determined and considered those uses and interests, and the GSAs' rationale for establishing minimum thresholds in light of those effects.<sup>87</sup> Further, quantitative values for minimum thresholds should be supported by information and criteria relied upon to establish and justify the minimum threshold,<sup>88</sup> and a quantitative description of how conditions at minimum thresholds may affect the interests of beneficial uses and users of groundwater.<sup>89</sup>

### 3.3.2 Deficiency Details

Based on its review, Department staff conclude the Plan has not defined sustainable management criteria for land subsidence in a manner required by SGMA and the GSP Regulations. Generally, descriptions of undesirable results are unclear, justification for the establishment of minimum thresholds is not provided with evidence of the consideration of the interests of beneficial uses and users, and sufficient supporting information is not provided in the GSP. The lack of these details does not allow Department staff to evaluate whether the criteria are reasonable or whether the GSAs plan to operate the Subbasin to avoid undesirable results.<sup>90</sup>

The GSP defines undesirable results for land subsidence in the Subbasin as “a result that would cause significant and unreasonable impacts to critical infrastructure over the planning and implementation horizon of this GSP.”<sup>91</sup> Department staff regard this

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<sup>83</sup> 23 CCR § 354.28(c)(5).

<sup>84</sup> Water Code § 10720 (e).

<sup>85</sup> 23 CCR § 354.26 (b)(3), § 354.28 (b)(4).

<sup>86</sup> 23 CCR § 354.28, DWR Best Management Practices for the Sustainable Management of Groundwater: Sustainable Management Criteria (DRAFT), November 2017.

<sup>87</sup> 23 CCR § 354.28 (c)(5)(A).

<sup>88</sup> 23 CCR § 354.28 (b)(1).

<sup>89</sup> 23 CCR § 354.28 (b)(4).

<sup>90</sup> 23 CCR §§ 354.28(b) *et seq.*, 354.28(c)(5) *et seq.*

<sup>91</sup> Colusa Subbasin GSP, Section 5.3.5.1, p. 278.

definition to be problematic. Although the GSP provides a general list of critical infrastructure, the GSP does not identify specific infrastructure that the GSA deems “critical” or indicate what effect subsidence would have on that infrastructure and explain the point at which those impacts would become “significant and unreasonable”. The GSP states that “the Subbasin has extensive networks of pipelines and open canals and drains owned by various surface water suppliers that are used to convey irrigation and drain water. These networks are likely the existing infrastructure most sensitive to land subsidence.”<sup>92</sup> However, the GSP does not identify specific infrastructure susceptible to land subsidence or describe what constitutes significant and unreasonable effects. Without specific information describing the features susceptible to experiencing adverse impacts due to subsidence and the point at which the GSA considers those impacts to be significant and unreasonable, Department staff are not able to evaluate whether the Plan has adopted a reasonable approach to avoid those impacts.

The GSP provides some information about infrastructure that is susceptible to subsidence. The GSP states that “the Subbasin has extensive networks of pipelines and open canals and drains owned by various surface water suppliers that are used to convey irrigation and drain water. These networks are likely the existing infrastructure most sensitive to land subsidence.”<sup>93</sup> The GSP provides a map of streams, rivers, and water conveyance features.<sup>94</sup> However, the GSP does not identify specific infrastructure susceptible to land subsidence or describe what constitutes significant and unreasonable effects. Department staff recommend the GSAs identify critical infrastructure susceptible to land subsidence and describe what constitutes significant and unreasonable effects for land subsidence in the Subbasin (see [Corrective Action 3a](#)).

When updating its definition of undesirable results, the GSA will need to determine conditions that would be significant and unreasonable even if they occur locally. Department staff note that the proposed definition of undesirable results could potentially lead to localized significant and unreasonable impacts within the Subbasin without them being considered undesirable results by the GSAs, and as a result, may end up being insufficiently protective of the interests of beneficial uses and users of groundwater in the Subbasin, including infrastructure features of concern identified by the GSA. Additionally, in reviewing the Department’s InSAR subsidence data, Department staff note that the subsidence rate has increased significantly in localized areas near Orland (up to 0.5 feet per year) and Arbuckle (up to 0.8 feet per year) between July 2021 and July 2023, and that a water-conveyance facility, the Tehama-Colusa Canal, runs through these areas. Department staff recommend the GSAs revise the definition of undesirable results to specifically identify and quantify of subsidence cause significant and unreasonable effects on beneficial uses and users of groundwater caused by land subsidence and define the

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<sup>92</sup> Colusa Subbasin GSP, Section 5.4.5.1, p. 293.

<sup>93</sup> Colusa Subbasin GSP, Section 5.4.5.1, pp. 292-293.

<sup>94</sup> Colusa Subbasin GSP, Figure 3-6, p.129.

narrowest geographic extent of basin conditions that could lead to such results (see [Corrective Action 3b](#)).

Because the legislative intent of SGMA is to avoid or minimize subsidence.<sup>95</sup> Considering the Subbasin has significant recent subsidence and contains infrastructure that the GSP identifies as susceptible to subsidence, that the GSAs should identify the total cumulative amount of subsidence that can occur without causing significant and unreasonable impacts to the beneficial uses and users of groundwater, surface land uses, and property interests, all of which must be clearly defined. The total cumulative amount of subsidence should consider the conditions necessary to minimize or halt subsidence during GSP implementation and maintain those conditions once sustainability has been achieved on or before 2042 (see [Corrective Action 3c](#)).

Additionally, the GSAs do not intend to assess exceedances of minimum thresholds until Sacramento Valley benchmarks are resurveyed and five years of subsidence has been measured. GSAs may use the Sacramento Valley benchmarks data, collected and made available through the Department's Ground Surface Displacement - Land Subsidence Monitoring program, but that monitoring program was not designed for and would not provide information sufficient to track subsidence for SGMA purposes. Despite this, the GSP does not provide any commitment to a monitoring schedule for the land subsidence network, which may lead to periods of more than five years without measurements to assess subsidence and the potential for undesirable results that may require responsive action. Because of the infrequent schedule of monitoring, the Sacramento Valley benchmark surveying network will not be sufficient to detect gradual changes in subsidence or identify the exceedance of minimum thresholds in time to prevent significant impacts to beneficial uses and users of groundwater. As such, the Plan's proposal to monitor subsidence would not provide the short-term information required by the GSP regulations.<sup>96</sup> Considering the Department provides quarterly updates for monthly InSAR subsidence data covering much of the Subbasin, the GSP does not address or explain why the GSAs have decided to not utilize this reliable data source to assess whether management is causing significant and unreasonable effects to surface land uses. Further, Department staff cannot conclude the GSP's proposed monitoring for subsidence during GSP Plan implementation is utilizing the best available information. The GSAs must provide a clear schedule for land subsidence monitoring and describe how the monitoring data will be evaluated to determine if undesirable results are occurring in the Subbasin (see [Corrective Action 3d](#)).

Under SGMA, subsidence must be minimized or eliminated. Given the occurrence and increasing rates of subsidence in the Colusa Subbasin, the GSP must include specific actions that will be taken to minimize subsidence (see [Corrective Action 3e](#)).

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<sup>95</sup> Water Code § 10720 (e).

<sup>96</sup> 23 CCR § 354.34(a).

### 3.3.3 Corrective Action 3

The GSAs must provide a more detailed explanation and justification regarding the selection of the sustainable management criteria, monitoring method, and projects or management actions related to land subsidence. Department staff recommend the GSAs consider and address the following:

- a. Identify facilities and/or structures, land uses and property interests that may be susceptible to impacts from land subsidence and should quantify the amount of land subsidence that would result in functional impacts to that infrastructure. The GSAs should describe the rationale and any analysis performed to inform the quantification of undesirable results in these areas. Provide maps and graphs showing the extent and rate of land subsidence in the basin at the minimum threshold.<sup>97</sup>
- b. Provide the information and criteria relied upon to establish and justify the minimum threshold.<sup>98</sup> Describe how the interests of beneficial uses and users may be affected if conditions reach minimum thresholds.<sup>99</sup>
- c. Revise the individual minimum thresholds to identify the rate and extent of land subsidence that substantially interferes with surface land uses and may lead to undesirable results. Identify a cumulative amount of tolerable subsidence that, if exceeded, would substantially interfere with groundwater and land surface beneficial uses and users in the Subbasin. The GSAs should also explain how the rate and extent of any future subsidence permitted in the Subbasin may interfere with surface land uses.
- d. Provide a clear schedule for more frequent land subsidence monitoring using the best available data and describe how the monitoring data will be evaluated to determine if undesirable results are occurring in the Subbasin. If the GSAs determine not to use available InSAR data, the GSAs should provide support and justification for why an alternative approach that excludes InSAR data is reasonable and uses the best available information.
- e. Provide specific details and schedule for projects or management actions that will be implemented to minimize or eliminate subsidence. The projects or management actions must be supported by best available information and science<sup>100</sup> and take into account the level of uncertainty associated with the Subbasin.<sup>101</sup>

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<sup>97</sup> 23 CCR § 354.28 (c)(5) *et seq.*

<sup>98</sup> 23 CCR § 354.28 (b)(1).

<sup>99</sup> 23 CCR § 354.28 (b)(4).

<sup>100</sup> 23 CCR § 354.44 (c).

<sup>101</sup> 23 CCR § 354.44 (d).



## **4 STAFF RECOMMENDATION**

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Department staff believe that the deficiencies identified in this assessment should preclude approval of the GSP for the Sacramento Valley – Colusa Subbasin. Department staff recommend that the GSP be determined incomplete.



# CALIFORNIA DEPARTMENT OF WATER RESOURCES SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE

## Frequently Asked Questions: Incomplete Determinations & Next Steps

### Purpose

The purpose of this document is to answer questions about groundwater sustainability plan (GSP) assessments and help guide groundwater sustainability agencies (GSAs) through the process following the issuance of an incomplete GSP determination.

### Intended Audience

The intended audience of this document are GSAs in groundwater basins who received an incomplete determination for their GSPs.

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#### 1. What does an incomplete determination mean?

An incomplete determination means the deficiencies identified in a GSP were significant enough to preclude its approval. Once the incomplete determination is released, the GSAs have up to 180 days to address the deficiencies. Should the deficiencies be sufficiently corrected and the Department of Water Resources (DWR) determines the GSP approved, there may be additional recommended corrective actions to be addressed in the GSP's next periodic update.

#### 2. Can a meeting be requested to clarify and discuss the incomplete determination?

Meetings are conducted at the request of GSAs and should follow a GSA-prepared agenda to assure that DWR staff are focused on addressing the GSA's top priorities. For those basins that chose to submit multiple GSPs covering the basin, the basin's Point of Contact should initiate meetings with DWR staff.

#### 3. Who should the GSAs contact to set up meetings with DWR?

Each basin has a DWR Point of Contact who will assist in setting up meetings. You can find your basin's Point of Contact here: [Assistance and Engagement \(ca.gov\)](#). Please email your Point of Contact to set up a meeting with DWR staff.

#### 4. How many meetings can a GSA request?

One or two meetings may be conducted with DWR staff to discuss the GSA's understanding of the deficiencies. These meetings are intended to allow the basin's GSAs to develop a focused scope of work to correct the deficiencies within 180 days. Following these initial meetings, GSAs may schedule one or two check-in meetings with DWR staff



## Frequently Asked Questions: Incomplete Determinations & Next Steps

before submitting revised materials. These meetings should focus on progress and methodologies to address deficiencies and presentation of specific local challenges.

### 5. Will DWR let the GSAs know if their actions to modify the GSP will be sufficient?

Similar to the preparation of the submitted GSP, DWR staff will not provide a preliminary evaluation of written or revised documents intended to modify a GSP. However, DWR staff can discuss general approaches to address those deficiencies and provide feedback on the methodology used, and data relied upon, to support improved basinwide analyses.

### 6. How can a GSA correct the deficiencies identified in a GSP that has been determined incomplete by DWR?

The incomplete determination contains the deficiencies that DWR decided were significant enough to preclude its approval. The GSAs must address the deficiencies in a coordinated manner, consider the corrective actions, and make it clear that the corrections are part of the adopted GSP and will be incorporated into its implementation. GSAs must work locally to address the deficiencies openly and transparently. Incorporation of public input and participation is encouraged.

### 7. What materials does the GSA need to resubmit for DWR to review and reevaluate?

All documents provided to DWR must be uploaded to the SGMA Portal as part of the resubmission package within 180 days of the GSP's incomplete determination. The documents include, at minimum, the following:

- DWR requests both a clean version and a redline strikeout version of the corrected GSP be provided to help expedite its review of the changes and updates.
- The GSP Elements Guide should be updated and included to help DWR staff locate the changes addressing the deficiencies.
- The revised and resubmitted information should clearly state that the modifications are part of the adopted GSP and will be implemented accordingly.
- If the amended GSP has been readopted, the information supporting the readoption must also be uploaded to the SGMA Portal.
- If a coordination agreement is part of the basin's GSP and any information in that agreement has been modified, then the new coordination agreement, signed by all GSAs in the basin, must be uploaded to the SGMA Portal.

### 8. What is the timeline and method for submitting a corrected GSP that was initially issued an incomplete determination?

Following the release of a GSP's incomplete determination, the GSAs will have up to 180 days to submit the required information that addresses the identified deficiencies. GSAs must submit corrected GSPs to DWR on the SGMA Portal.

## Frequently Asked Questions: Incomplete Determinations & Next Steps

### 9. How should the GSAs adopt a corrected GSP?

The GSA's legal counsel should consider if readoption of the GSP is necessary under the authorities granted to the GSA during the initial GSP development. If a GSP must be readopted, the GSA may do so following a public hearing held at least 90 days after providing notice to cities and counties within the GSP area (see California Water Code §10728.4). This notification can be made very early in the process in anticipation that the GSP's revisions will be adopted within the 180-day period allowed to address the GSP's deficiencies.

### 10. After submittal of a corrected GSP, what is the timeline for DWR to review the GSP's adequacy?

There is no specific statutory timeline for DWR to complete its review of responses to an incomplete determination. However, once the GSA submits its corrected GSP, DWR staff will work expeditiously to review the corrected GSP and determine if the GSP is either approved or inadequate. DWR will host a public comment period on the resubmitted GSP for consideration in its reevaluation and reassessment.

### 11. What happens if a GSA cannot correct deficiencies within 180 days?

If a GSA does not submit a corrected GSP within 180 days, or DWR determines that the corrected GSP does not sufficiently address the previously defined deficiencies, DWR will enter into consultation with the State Water Resources Control Board prior to determining a GSP inadequate. The State Water Resources Control Board can step in using a process called State intervention, which is described in detail under SGMA Chapter 11 (California Water Code §10735 *et seq.*). For additional questions on State Intervention, please contact the State Water Resources Control Board at: [SGMA@waterboards.ca.gov](mailto:SGMA@waterboards.ca.gov).

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 7. Discussion: Prioritization of Technical Tasks through Groundwater Sustainability Plan five-year update

**Date:** December 1, 2023

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## Background

The Colusa Subbasin Groundwater Sustainability Plan (GSP) was approved by the CGA and GGA in December 2021 and submitted to DWR in January 2022. The first Annual Report for Water Year 2021 was prepared and submitted to DWR by April 1, 2022. Colusa Subbasin Water Year 2022 Annual Report was submitted to DWR by April 1, 2023. The first five-year update will be due in early 2027. Additionally, the CGA and GGA were notified on October 26, 2023 that the Colusa Subbasin GSP had received an “Incomplete” determination. The revised GSP addressing the identified deficiencies must be submitted by April 23, 2024.

All submitted documents are available for review on the SGMA Portal at: <https://sgma.water.ca.gov/portal/>

These documents outline what is currently known about the Colusa Subbasin and areas in which more information is needed (data gaps) to better characterize basin conditions. The GSP also includes Projects and Management Actions (PMAs) that may be implemented to reach and maintain sustainability in the basin. Annual Reports provide updates on basin conditions, information collected, and progress on PMA implementation.

The GSAs will need to prioritize technical tasks that will provide a reasonable path forward to ensure the basin stays compliant with SGMA, data gaps are filled, and PMAs are implemented as needed. At the May 12, 2023 meeting, the CGA and GGA TACs began a discussion on prioritizing tasks focusing on basin-wide compliance tasks. The TACs reviewed the Colusa Subbasin Project list consisting of 65 Projects and Management Actions. The TACs then discussed and assigned a generalized prioritization of 1, 2, or 3 (one being highest priority) to the 17 GSP Studies, 4 GSP Updates/Reporting, and 6 “New” projects from the SGM Round 2 solicitations that had not been categorized.

It was also noted that the prioritization discussion should be revisited following the SGM Round 2 grant award notifications. The Colusa Subbasin did not receive funding through this program. Grant funding will continue to be evaluated and pursued when appropriate, however, the TACs may wish to assume no grant funding will be available for implementation activities.

At the August 11, 2023 meeting, the CGA and GGA TACs continued discussion on the prioritization of tasks focusing on the previously prioritized tasks assigned a number 1 or number 2 priority. There was also discussion on utilizing consultant on-call services contracts to help prepare a

timeline for task implementation based on priorities and compliance needs, and assist with selection of implementation tasks, considering scope and budget. The group also discussed USBR WaterSMART grants and the desire to research these and other grant opportunities to assist with funding the necessary tasks.

Prioritization of tasks will continue to be a standing TAC meeting topic.

## Recommendation

Continue discussion on preliminary schedule and initial prioritization of technical tasks through the GSP revision and five-year update.

No action necessary.

## Attachments

- None