

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 2. Approval of Minutes

Date: May 12, 2023

Background

The August 12, 2022 CGA/GGA Joint TAC Meeting minutes were approved by the CGA TAC on September 9, 2022. The GGA TAC was unable to take action due to lack of a quorum.

The September 9, 2022 CGA/GGA Joint TAC Meeting minutes were approved by the CGA TAC on October 14, 2022. The GGA TAC was unable to take action due to lack of a quorum.

The October 14, 2022 CGA/GGA Joint TAC Meeting minutes were approved by the CGA TAC on March 10, 2023. The GGA TAC was unable to take action due to lack of a quorum.

The March 10, 2023 CGA/GGA Joint TAC Meeting minutes have been prepared for review.

Recommendation

GGA Action Only: Approve the August 12, 2022 CGA/GGA Joint TAC Meeting minutes.

GGA Action Only: Approve the September 9, 2022 CGA/GGA Joint TAC Meeting minutes.

GGA Action Only: Approve the October 14, 2022 CGA/GGA Joint TAC Meeting minutes.

CGA and GGA Action: Approve the March 10, 2023 CGA/GGA Joint TAC Meeting minutes.

Attachments

- August 12, 2022 CGA/GGA Joint TAC Meeting minutes
- September 9, 2022 CGA/GGA Joint TAC Meeting minutes
- October 14, 2022 CGA/GGA Joint TAC Meeting minutes
- March 10, 2023 CGA/GGA Joint TAC Meeting minutes

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

August 12, 2022 | 1:00 p.m.

In Person Meeting Locations:

Sites Project Authority Office, 122 Old Highway 99 W, Maxwell, CA 95955

4485 Spring Meadows Circle, Flagstaff, AZ 86004

Public input was also welcomed in person or remotely via Microsoft Teams.

1. Call to Order, Roll Call, and Introductions

Lisa Hunter called the meeting to order at 1:05 p.m.

In Attendance:

Committee Members:

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

CGA: Denise Carter, Deke Dormer, Darrin Williams, Ben King, and Jim Wallace. Brandon Davison (DWR, ex-officio) attended remotely as a member of the public. Ms. Carter was absent upon roll call but arrived at 2:27 p.m.

Others in Attendance: Lisa Hunter (GGA Staff), Carol Thomas-Keefer (CGA Staff), Grant Davids (Davids Engineering, Inc.), Katie Klug (Davids Engineering), Anna Reimer (West Yost), Hawkeye Sheene (West Yost), Arne Gustafson, Shelly Murphy, Holly Dawley (GCID), Patricia Vellines (DWR), Jenny Scheer, Kamie Loeser, and Ryan Fulton.

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

- a. ***July 8, 2022 CGA/GGA Joint TAC Meeting**
- b. ***March 11, 2022 CGA/GGA Joint TAC Meeting**
- c. ***May 13, 2022 CGA/GGA Joint TAC Meeting**

On motion made by Mr. King, seconded by Mr. Wallace, and unanimously carried, CGA TAC approved the minutes of the July 8, 2022 CGA/GGA Joint TAC Meeting.

On motion made by Mr. Bills, seconded by Mr. Cavagnolo, and unanimously carried, GGA TAC approved the minutes of the July 8, 2022 CGA/GGA Joint TAC Meeting.

On motion made by Mr. Cavagnolo, seconded by Mr. Dickens, and unanimously carried, GGA TAC approved the minutes of the March 11, 2022 and May 13, 2022 CGA/GGA Joint TAC Meetings. It was

noted the CGA TAC approved the March 11, 2022 and May 13, 2022 CGA/GGA Joint TAC minutes at the July 8, 2022 meeting.

3. Period of Public Comment

No public comment was heard.

4. Joint TAC Meeting Schedule for Remainder of 2022

Ms. Hunter reviewed the staff report recommending the Joint TAC schedule monthly meetings through October to meet the DWR grant submittal schedule this fall, with a meeting also scheduled for December. Due to holidays, no meeting was proposed for November. Ms. Hunter also noted that the CGA TAC approved the schedule at the July 8 meeting.

On motion made by Mr. Dickens, seconded by Mr. Lohse, and unanimously carried, the GGA TAC approved the proposed Joint TAC meeting schedule for the remainder of 2022.

5. Discussion of 2022/2023 Grant Application/Project Prioritization

Grant Davids introduced a presentation to review the 2022/2023 SGMA grant funding opportunity, noting that the second solicitation is scheduled to open in October 2022, with approximately \$200 million total available to medium and high priority basins. Only one application per subbasin will be funded, with grants capped at \$20 million per application. Mr. Davids stated that the purpose of today's item was to review the grant application timeline and guidelines, continue discussions on prioritization of potential projects for the grant application, and work to develop a project list that can be brought back to the CGA and GGA boards for recommendation by September or October.

Mr. Davids noted that, as a result of the project prioritization spreadsheet developed and circulated for the last Joint TAC meeting, a few responses from TAC members had been received and the TAC should further that discussion. Mr. King stated that, in preparation for its grant application, Yolo County had sent out a request to stakeholders for additional projects to be considered, and he asked if the same should be done for the Colusa Subbasin application. He noted that he had offered a project last year to staff that was apparently overlooked, and he thought there may be others to consider. Mr. Davids acknowledged the Yolo action and stated that the solicitation had a very condensed timeline. Mr. Williams asked if there was a form available for project submittal that would not require a great deal of outreach.

Mr. Brandon Davison (DWR) reported that the grant solicitation process may be pushed back a month or two, but felt that September/October is still appropriate for finalizing project lists for the application. He also reported that Ms. Kelley List of DWR will host a webinar on August 30 at 11 a.m. regarding the upcoming SGMA implementation grant guidelines, including a question-and-answer period.

Ms. Katie Klug provided details on the upcoming grant opportunity, stating that projects for Disadvantaged, Severely Disadvantaged (SDAC) and Underrepresented Communities would receive higher priority scoring. She also stated that each project within an application would be individually scored, with those scores averaged for the final application score, so all projects within an application should be strong. She noted that projects that would not be eligible for grant funding included water purchases, funding rebate programs, water markets and trading programs, and various travel and expense items. She stated that projects must also comply with any applicable program requirements. Mr. Davison stated that he thought that stormwater discharge requirements (MS4) would not apply due to the size of the communities.

Ms. Klug noted that the following considerations would receive highest priority: applications for basins that have not previously received SGMA Implementation Grant funds; projects that directly benefit SDACs; projects that leverage other funds (private, federal or local) or produce the greatest public benefit, and projects that include water conservation or efficiency, stormwater capture, use of recycled water, or carbon sequestration.

Ms. Klug then reviewed the considerations for prioritization of grant projects, including: support for ongoing development and implementation of Projects and Management Actions (PMAs); support of recharge project implementation; addressing critical data gaps identified in the GSP; updating and improving analytic tools needed to support groundwater management and 5-year GSP updates; supporting interbasin coordination; and addressing GSP deficiencies that may be noted from DWR or others. She pointed out that the potential projects and needs exceed available grant funding, so additional criteria may be considered in the prioritization process, including project cost, eligibility, and time to complete. Some larger projects could potentially be broken into components that could be implemented within the grant timeframe (currently ending June 2025). Other considerations may include broad or basin-wide benefits, benefits in areas of concern (i.e., subsidence), benefits to SDACs and/or Underrepresented Communities, positive impacts to small systems and domestic well owners, cost-sharing potential, shovel-ready status, and quantifiable benefits. Finally, Ms. Klug advised that the group should consider how much funding should be devoted to monitoring (filling data gaps, data management), how much should go to planning, and how much should go toward construction and project implementation. Consideration should also be given to projects proposed by the GSAs versus those proposed by others, and projects with multiple or basin-wide benefits.

Discussion then followed regarding how best to prioritize projects in terms of implementation versus monitoring and planning. Mr. King, Mr. Williams and Mr. Wallace expressed a preference for identifying several strong subbasin projects, preferably shovel-ready, for implementation, and then considering planning and/or monitoring projects. Mr. Davids suggested that a groundwater model update would be very helpful in better evaluating projects and potential benefits. Mr. Bills spoke to the need for additional monitoring wells, and Mr. Williams agreed that additional monitoring was needed along the ephemeral streams, not only for recharge projects but also for general information. Mr. Wallace recommended that TAC members rank their key projects and return the spreadsheet to Mr. Davids to tabulate results.

Discussion followed regarding the use of ag wells for a groundwater level monitoring network; however, Mr. Davids noted that the fluctuations due to seasonal usage would be too great to be useful on a monthly basis. Additional discussion ensued regarding potential ways to make use of ag wells for monitoring data, especially to monitor effectiveness of recharge projects.

Ms. Carter asked about shallow well monitoring and evaluation of Groundwater Dependent Ecosystems, and stated that this is required and should be considered for project implementation soon.

Following additional discussion regarding the evaluation and prioritization process, it was agreed that Davids Engineering would send out the revised prioritization spreadsheet by August 15, and TAC members should complete the rankings and return to the GSA staff by August 22. Results would be reviewed at the September 9 meeting with additional discussion.

6. Discussion of Integrated Regional Water Management (IRWM) Project Submittal

Due to time constraints, this item was tabled for discussion at the next meeting.

7. Drought Update

Due to time constraints, this item was tabled for discussion at the next meeting.

8. Member Reports and Comments

Mr. Bills reported that he has heard from some drillers in the Glenn-Colusa area that some wells are starting to de-gas. Although this has been an existing issue in various areas for many years, drillers are now experiencing it while addressing declining water levels.

Ms. Carter mentioned that Eaton Drilling is consulting with some land owners on recharge projects.

9. Next Meeting: September 9, 2022

10. Adjourn

The meeting was adjourned at 3:47 p.m.

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CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

September 9, 2022 | 1:00 p.m.

In Person Meeting Locations:

Sites Project Authority Office, 122 Old Highway 99 W, Maxwell, CA 95955

4485 Spring Meadows Circle, Flagstaff, AZ 86004

Public participation for this meeting was also available remotely via Teams.

1. Call to Order, Roll Call, and Introductions

Ms. Denise Carter called the meeting to order at 1:02 p.m.

In Attendance:

Committee Members:

GGA: Zac Dickens, Emil Cavagnolo and Don Bills. Tavis Beynon attended remotely as a member of the public. The GGA TAC did not have a quorum.

CGA: Denise Carter, Darrin Williams, Ben King, and Jim Wallace. Thad Bettner and Deke Dormer attended remotely as members of the public.

Others in Attendance: Lisa Hunter (GGA Staff), Carol Thomas-Keefer (CGA Staff), Arne Gustafson, Erin Kizer, Leland Noll, Ryan Fulton, Sajit Singh, Jenny Scheer, Wes Battson, Toni Longley, Patricia Vellines (DWR) and Peter Carr.

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

a. *August 12, 2022 CGA/GGA Joint TAC Meeting Minutes

On motion made by Mr. Jim Wallace, seconded by Mr. Ben King, and unanimously carried, CGA TAC approved the minutes of the July 8, 2022 CGA/GGA Joint TAC Meeting.

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

3. Period of Public Comment

No public comment was heard.

4. Presentation: Orland-Artois Water District Annexation Project

Ms. Jenny Scheer, Water and Land Solutions, gave an overview of the proposed Orland-Artois Water District (OAWD) Annexation Project. The project proposes to annex 11,420 acres of land currently irrigated with groundwater, involving 20 landowners, into the OAWD as a Class 2 annexation. Surface water would be delivered through five or six new turnouts on the Tehama-Colusa Canal, but only when sufficient supplies are available. Ten miles of new pipe would be installed, with a total project cost of

about \$10 million. Ms. Scheer pointed out that the project would reduce groundwater use in one of the Colusa Subbasin's key subsidence areas and is located within disadvantaged and severely disadvantaged communities. She also stated that the project is currently undergoing 30 percent design and environmental review, and construction can be completed by June 2025. TAC members and the public engaged in discussion and clarification regarding the presentation topics.

5. Discussion of 2022/2023 Grant Application/Project Prioritizations.

a. *Recommendation to GSAs on projects to include in the 2022/2023 Sustainable Groundwater Management Round 2 grant application.

Ms. Lisa Hunter provided a brief presentation on the results of the TAC members' project prioritization ranking results based on the project ranking spreadsheet discussed at the August 12 TAC meeting. Ranking scores had been tallied, and the highest scoring projects were identified for further discussion. Additionally, proposed projects were categorized as Projects, Management Actions, or GSP Studies/Updates, and the top-scoring items in each category were identified for review.

Seven Projects, five Management Actions and five GSP Studies/Updates were presented as highest-ranking; additionally, five new Project/Management Action submittals were just received as a result of the recent project solicitation issued by CGA and GGA, and those projects were also presented for consideration. Discussion followed regarding newly submitted project proposals, including project proponents and potential benefits. Mr. Zac Dickens reviewed the conceptual Groundwater Recharge Project proposed by Glenn Colusa Irrigation District, noting that it was in the early stages of development and included an area northeast of Willows to utilize gravel ponds for groundwater recharge.

The group also discussed potential water rights issues associated with recharge projects and agreed that a presentation to the group from MBK or similar consultant would be helpful to understand the issues and potential costs involved. Ms. Carter suggested that the group may want to consider a study.

Mr. Darrin Williams discussed a concept to possibly form a recharge district for the southeast Colusa County area. Various alternatives were also suggested.

Mr. King suggested that the group vote on the newly submitted projects and increase the list to the top 10. Ms. Hunter clarified that the top-ranked projects were presented for review, but there would not be sufficient funds available to include all projects in the application. She added that the list would need to be further narrowed before the final projects could be selected. It was also noted that the grant process would be competitive, and all selected projects, management actions and studies should be strong proposals that support the GSP. It was agreed that all the new project submittals would be considered during the prioritization process. Mr. King requested that Emily Reinhart be invited to the next TAC meeting to make a presentation on the newly submitted Sycamore Slough project.

Following additional discussion, it was agreed that staff would further refine the list of project proposals to better identify costs, needs, and timelines, and bring to the next Joint TAC meeting.

6. Drought Update

Due to time constraints, this item was tabled for discussion at the next meeting.

7. Member Reports and Comments

Mr. Dickens reported that GCID has requested a copy of the GSP groundwater model, along with hydrogeologic data, to help evaluate the district's proposed recharge project. Ms. Hunter noted that clarification was needed with regard to some of the requested data, and, since the data and model would

be provided by the GSAs' consultant, Davids Engineering, GCID may need to pay for the consultants' time as budget within CGA and GGA was very limited for technical support.

8. Next Meeting: October 14, 2022

9. Adjourn

The meeting was adjourned at 3:07 p.m.

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CGA/GGA Joint Technical Advisory Committee

MEETING MINUTES

October 14, 2022 | 1:00 p.m.

In Person Meeting Locations:

225 North Tehama Street, Willows, CA 95988
4485 Spring Meadows Circle, Flagstaff, AZ 86004
3599 Shiloh Road, Modesto, CA 95358
1115 Tess Dr., Arbuckle, CA 95912

The meeting was also held remotely via Teams.

1. Call to Order, Roll Call, and Introductions

Denise Carter called the meeting to order at 1:00 p.m.

In Attendance:

Committee Members:

GGA: Zac Dickens, Emil Cavagnolo and Don Bills. The GGA TAC did not have a quorum.

CGA: Denise Carter, Darrin Williams, Ben King, Jim Wallace, and Deke Dormer. Brandon Davison (DWR – ex-officio) attended remotely.

Others in Attendance: Lisa Hunter (GGA Staff), Carol Thomas-Keefer (CGA Staff), Arne Gustafson, Clarke Ornbaun, Ryan Fulton, Jenny Scheer, Toni Longley, Emily Reinhart, John Brennan, Hilary Reinhard, Pete Dennehy, Shelly Murphy and Jacques DeBra.

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

a. *August 12, 2022 CGA/GGA Joint TAC Meeting (GGA TAC only)

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

b. *September 9, 2022 CGA/GGA Joint TAC Meeting Minutes

On motion made by Mr. Wallace, seconded by Mr. Williams, and carried on the following roll call vote, the CGA TAC approved the September 9, 2022 CGA/GGA Joint TAC Meeting Minutes.

AYES: Carter, Dormer, Wallace, Williams

NOES: None

ABSENT: Vanderwaal, Bettner

ABSTAIN: King

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

3. Period of Public Comment

No public comment was heard.

4. Presentation: Sycamore Slough Reconnection and Recharge PMA Proposal

Ms. Emily Reinhart of Davis Ranches and Mr. John Brennan of LandMBA provided an overview of the Davis Ranches recharge project, including the initial multi-benefit recharge project for shorebird habitat and groundwater recharge, done in conjunction with The Nature Conservancy, CGA, and others. This project resulted in 812 acre-feet of recharge from about 1,514 acre-feet of applied surface water over 30 applied water days annually from 2019 to 2021. Ms. Reinhart and Mr. Brennan then reviewed the proposed project expansion, sponsored by Proctor and Gamble, and with assistance from DWR's FloodMAR program, as well as MBK Engineering, Davids Engineering, The Nature Conservancy, and Somach, Simmons and Dunn. The proposed project will reconnect the Sycamore Slough to provide groundwater recharge in areas south of Davis Ranch that are groundwater-dependent; it will also create wetlands recharge areas and provide habitat restoration. Currently, the project proponents are seeking funding and necessary permits in order to move ahead.

Ms. Denise Carter asked what funding is being requested for the project; Ms. Reinhart noted that CEQA requirements would likely be the project's biggest hurdle, so funding to assist with that component would be most helpful. Mr. Ben King expressed support for the project and the need to prevent the vegetation from dying in Sycamore Slough. Discussion followed regarding the necessary water rights permit for the project, and it was noted that CGA may seek a blanket permit for recharge water under which the Sycamore Slough project could receive water. However, since this was still a conceptual idea, the project proponents were encouraged to continue to move ahead with permitting.

Ms. Carter commended Ms. Reinhart on the project and its benefits to the area.

5. Discussion of 2022/2023 Grant Application/Project Prioritizations.

a. *Recommendation to GSAs on projects or components to include in the 2022/2023 Sustainable Groundwater Management Round 2 grant application.

Ms. Carter stated that the Joint TAC must make a recommendation on project prioritization for the upcoming SGMA Round 2 grant application. Ms. Lisa Hunter reported that a grant writing consultant has been selected for recommendation to the CGA and GGA boards at upcoming board meetings, and the consultant must prepare and submit the application by DWR's November 30 deadline.

Ms. Carter then introduced an excerpt of a presentation provided by Paul Gosselin of DWR to the Integrated Regional Water Management (IRWM) group. The presentation excerpt focused on DWR's priorities in reviewing Groundwater Sustainability Plans and the most common deficiencies or areas of improvement that DWR has identified in reviewing GSPs. These include updating water budgets, improving Communication and Engagement Plans, detailing and providing contingencies for Projects and Management Actions, and addressing depletion of interconnected surface water. Additional areas that are often not sufficiently addressed include subsidence, water quality, drinking water impacts; also, inconsistent data and methodologies as well as lack of coordination among GSPs are areas of concern to

DWR. Ms. Carter noted that the group should consider DWR's priorities in selecting projects and activities for GSP implementation.

Ms. Hunter explained that staff has separated the various PMAs into component groups, so that various activities and projects could be placed into groups for ranking and funding needs. She then reviewed the PMA group list, including notes on project eligibility, budgets and funding need, readiness to begin, and time needed for completion. The group discussed the need for funding of required GSP compliance activities, and staff noted that studies such as the GSAs' upcoming fee study, are eligible for grant funding and can be included in the application.

The group reviewed the various component groups, with considerable discussion on how to prioritize projects. Following additional discussion, on motion made by Ms. Carter, seconded by Mr. King, and unanimously carried, the CGA TAC directed staff to prioritize projects for the SGMA Round 2 grant application, targeting projects with quantifiable benefits in areas of most significant subsidence (i.e., Orland and Arbuckle areas) as well as areas of domestic well impacts.

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

6. Member Reports and Comments

None.

7. Next Meeting

It was agreed to cancel the December 2022 Joint TAC meeting. The next meeting will be determined in 2023.

8. Adjourn

The meeting was adjourned at 3:39 p.m.



CGA/GGA Joint Technical Advisory Committee

MEETING MINUTES

March 10, 2023 | 1:00 p.m.

In Person Meeting Locations:

225 North Tehama Street, Willows, CA 95988
100 Sunrise Blvd., Colusa, CA 95932
4485 Spring Meadows Circle, Flagstaff, AZ 86004

Public participation was also available via Teams.

1. Call to Order, Roll Call, and Introductions

Denise Carter called the meeting to order at 1:00 p.m.

In Attendance:

Committee Members:

GGA: Zac Dickens, Emil Cavagnolo and Mark Lohse. The GGA TAC did not have a quorum.

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

Others in Attendance: Lisa Hunter (GGA Staff), Jeff Davids and Katherine Klug (Davids Engineering), Eddy Teasdale (Luhdorff & Scalmanini), Arne Gustafson, Jaime Lely, Jenny Scheer, and Pete Dennehy

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**

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

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

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

3. Period of Public Comment

No public comment was heard.

4. *Approve 2023 CGA/GGA Joint TAC Meeting Schedule

Ms. Carter reviewed the proposed 2023 meeting schedule for the Joint TAC. Mr. Ben King proposed that future meetings be held at a single meeting location, since technology for multiple meeting locations continues to present challenges. He suggested the Sites Project office for future meetings. By consensus, the group agreed to request use of the Sites location for future meetings.

On motion made by Mr. King, seconded by Mr. Vanderwaal, and carried on the following vote, the CGA TAC approved the CGA/GGA Joint TAC meeting schedule for 2023.

AYES: Carter, Dormer, King, Vanderwaal, Williams

NOES: None

ABSENT: Bettner, Wallace

ABSTAIN: None

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

5. Colusa Subbasin Water Year 2022 Annual Report

a. Receive presentation from consultant team on draft Colusa Subbasin Water Year 2022 Annual Report

Dr. Jeff Davids opened the presentation and introduced Dr. Katie Klug of Davids Engineering and Mr. Eddy Teasdale of Luhdorff & Scalmanini Consulting Engineers. Dr. Klug provided an Overview of the Annual Report, including purpose and information requirements. Dr. Davids then discussed Groundwater Conditions, which were summarized through groundwater elevations, groundwater storage calculations and subsidence data. He stated that 48 representative well monitoring sites provide data for groundwater elevations; this data was used to create contour maps to show changes in groundwater elevations as well as individual well hydrographs to depict actual water levels as compared to Interim Milestones and Minimum Thresholds for basin management purposes. Groundwater storage calculations indicated that the cumulative change in storage from 1968 through 2022 was estimated at -377,000 acre-feet, compared to +197,000 acre-feet in 2019, due in large part to drought conditions. Mr. Teasdale reviewed Subsidence data, noting that there are 10 – 15 benchmark sites in the subbasin that have not been surveyed since 2017. He stated that current subsidence estimates were based on In-SAR data and, the change from WY 2021 to 2022 indicate maximum subsidence in the Willows-Orland area of up to .6 foot (up from .4 foot from WY 2020 to 2021) and .4 to .6 foot in the Arbuckle area (similar to the change from WY 2020 to 2021).

Dr. Klug reviewed the Water Budget for the Colusa Subbasin, reviewing the amount of surface water applied versus amount of groundwater extractions, as well as land use data and corresponding water use estimates, and changes in agricultural water use by area and by crop. Mr. Teasdale then discussed the Drought Impacts Analysis performed for the area, identifying, in particular, impacts to domestic

wells. Finally, Dr. Klug reviewed progress by CGA and GGA in implementing the GSP, noting submission of a new grant application, initiation of a funding plan, and progress on various projects and management actions.

Mr. Ben King asked about minimum thresholds for water quality and stated he felt water quality data should be included in the report. Dr. Klug responded that water quality data is not a requirement for the Annual Report, and inclusion of such data was possible but would need to be at the direction of the CGA and GGA boards.

Mr. Darrin Williams indicated that he felt the report should include background on reductions in water allocations for the Central Valley Project and other regulations that have impacted surface water availability and groundwater use since 1994. He noted that these changes, along with drought conditions, have contributed heavily to current groundwater conditions. Ms. Carter and Mr. King concurred, adding that amounts of fallowed land and jobs lost should be included in the drought impacts analysis. Mr. Teasdale indicated that some of this information could be included, although not in great detail, considering the short timeline to finalize the report.

b. Review next steps to finalize Colusa Subbasin Water Year 2022 Annual Report

Ms. Lisa Hunter stated that comments from TAC members should be directed to her or to CGA Program Manager Carol Thomas-Keefer to forward to the consultant. Comments should be provided by March 17 in order to allow the report to be finalized and submitted to DWR by no later than April 1. Ms. Hunter also noted that the consultant team would provide presentations to both CGA and GGA boards at their respective March meetings, and public meetings to review the Annual Report would be scheduled in mid-April, although final dates had not yet been determined.

6. Discussion: Introduction of Prioritization of Technical Tasks through Groundwater Sustainability Plan five-year update

Ms. Hunter reported that the GSAs were beginning implementation of the GSP, and the Joint TAC should consider review and prioritization of technical tasks. She stated that developing a priority schedule should assist the GSAs in preparing a work plan for key GSP tasks. She further stated that grant awards should be announced by summer, and knowing if grant funds are available for particular tasks should assist in the prioritization. Discussion followed regarding what information should be included in the five-year update and what type of feedback might be expected from DWR during GSP review, and it was suggested to follow up with DWR. Mr. King suggested that voluntary agreements be revisited, and that the GSAs request to receive a presentation on the 2013 DWR report on base of fresh water that was presented to USGS.

7. Member Reports and Comments

Mr. King reported that a GRA call in June included a presentation on AEM technology in Butte County and part of Glenn County, and he recommended that the GSAs obtain a copy of the presentation. Ms. Hunter was asked to include the Joint TAC if Glenn County staff gives a presentation on the project.

Ms. Carter suggested that the slide presentation for the Annual Report public meetings should be prepared for easy use by city councils, boards of supervisors, and other public groups.

8. Next Meeting

The next meeting is scheduled for April 14, 2023. (NOTE: The April meeting was subsequently cancelled. Next meeting is May 12, 2023.)

9. Adjourn

The meeting was adjourned at 3:21 p.m.

DRAFT

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4. Approve 2023 CGA/GGA Joint TAC Meeting Schedule

Date: May 12, 2023

Background

The 2023 CGA/GGA Joint TAC Meeting Schedule was approved by the CGA TAC on March 10, 2023. The GGA TAC was unable to take action due to lack of a quorum.

The proposed meeting schedule has been updated to include meeting locations and reflect the cancelled April meeting.

Recommendation

GGA Action Only: Discuss and approve 2023 CGA/GGA Joint TAC Meeting Schedule.

Attachments

- Draft 2023 CGA/GGA Joint TAC Meeting Schedule



CGA/GGA Joint Technical Advisory Committee 2023 Meeting Schedule

Date	Location	Anticipated Purpose
March 10, 2023	225 N. Tehama St., Willows CIP, 100 Sunrise Blvd., Colusa	<ul style="list-style-type: none"> • Water Year 2022 Annual Report
April 14, 2023	TBD (either 1 location in Willows, 1 location in Colusa OR Sites Project Office)	• Prioritize technical tasks through 5-year update (aligns with budget development)
May 12, 2023	122 Old Highway 99W, Maxwell, CA 95955	<ul style="list-style-type: none"> • Continue prioritizing technical tasks
August 11, 2023	122 Old Highway 99W, Maxwell, CA 95955	<ul style="list-style-type: none"> • Review draft grant awards • Align draft grant awards with prioritized projects
October 13, 2023	122 Old Highway 99W, Maxwell, CA 95955	<ul style="list-style-type: none"> • Final grant awards announcement (if available) • Continue to align prioritized projects and lay out plan/schedule

Staff Report

To: CGA-GGA Joint TAC

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

Date: May 12, 2023

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.

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.

All submitted documents are available for review on the SGMA Portal at:

<https://sgma.water.ca.gov/portal/>

Recommendation

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

No action necessary.

Attachments

- Technical Tasks Prioritization Discussion slides
- Colusa Subbasin Project List

Technical Tasks Prioritization Discussion

CGA/GGA Joint TAC

5/12/23



Overview & Goals

- Review Project & Management Actions
- Begin discussion on preliminary schedule of tasks through 2027
- Focus on Basin-wide compliance tasks
- Revisit discussion following SGM Round 2 grant award notifications



Colusa Subbasin Project Summary-Overall

- 65 Projects & Management Actions
 - 17 GSP Studies
 - 4 GSP Updates, Reporting
 - 10 Management Actions
 - 6 “New”- from SGM Round 2 solicitation (not categorized)
 - 28 Projects



Colusa Subbasin Project Summary-Overall

- 65 Projects & Management Actions
 - 17 GSP Studies
 - 4 GSP Updates, Reporting
 - 10 Management Actions
 - 6 “New”- from SGM Round 2 solicitation (not categorized)
 - 28 Projects

Can revisit the other categories at future meetings if applicable



Colusa Subbasin Technical Tasks Prioritization- Example

Task	2023	2024	2025	2026	2027
Annual Report	X	X	X	X	X
Periodic GSP Update Preparation & Submittal			X	X	X
Data Management System (Select & Procure)	X				
Data Management System (Development & initial setup)		X			
Data Management System (Maintain/Management)			X	X	X



Colusa Subbasin- GSP Studies

Project Number	GSP Study Name
1	Colusa Subbasin Western Boundary Investigation
2	Expand Shallow Groundwater Level Monitoring Network
3	Expand Water Quality Monitoring Network
4	GSA Coordination with Water Quality Coalitions and Regulatory Agencies
5	C2VSimFG- Colusa Model Updates & Enhancements
6	Participation in Interagency Drought Task Forces
7	Evaluate Infrastructure Sensitivity to Subsidence
8	Groundwater Financial Incentives Investigation
9	Increasing GSA Involvement in County Well Permitting and Land Use Planning

Colusa Subbasin- GSP Studies

Project Number	GSP Study Name
10	Groundwater Well Monitoring Program
11	Sacramento Valley Subsidence Interbasin Working Group
12	Sutter Buttes Rampart Water Quality Interbasin Working Group
13	Well Inventory Program
14	Well Registration Program
15	Westside Streams Monitoring Program
16	Other Inter-Basin Coordination Activities
17	Sacramento Valley Interbasin Flow, Interconnected Surface Water Working Group



Colusa Subbasin- GSP Updates, Reporting

Project Number	GSP Updates/Reporting Name
18	GSP Updates and/or Revisions
19	Data Management System
20	GSP Annual Reports
21	Periodic GSP Updates (At Least Every 5 Years)



Colusa Subbasin- “New”- Relevant Uncategorized

Project Number	“New” Name
36	Updated BFW Contour Map and Saline Water Upconing Study
37	Fee Studies



Colusa Subbasin- Other Tasks

- Other Tasks to Consider
 - Grant Administration
 - Consultant Coordination/Administration
 - Other thoughts?



Next Steps

- Continue to refine technical task timeline
- Revisit timeline following SGM Round 2 grant award announcements



Colusa Subbasin Project List

* Information adapted from SGM Round 2 Grant Funding Application Prioritization (which used Tables 6-2, 6-3, and 7-1 of the Colusa Subbasin GSP).

Project Number (not priority)	Project, Management Action, or GSP Study	Planned, Ongoing, or Potential	Status as of 2022	Project & Management Action or GSP Study Name	Project & Management Action Type	Proponent	Brief Description	Approximate Time to Completion (Within Grant Timeline)
1	GSP Study	N/A	Further planning has occurred as part of the Hydrogeologic Investigation	Colusa Subbasin Western Boundary Investigation	GSP Study	CGA and GGA	This study will evaluate data to better understand the physical characteristics and groundwater conditions of the principal aquifer along the western margin of the Subbasin.	Estimated 1-3 years
2	GSP Study	N/A	Further planning has occurred as part of the Hydrogeologic Investigation	Expand Shallow Groundwater Level Monitoring Network	GSP Study	CGA and GGA	To expand the shallow groundwater monitoring network, additional monitoring wells must be evaluated. This includes existing monitoring wells and suitable locations for the construction of new monitoring wells.	Estimated 1-3 years
3	GSP Study	N/A	Further planning has occurred as part of the Hydrogeologic Investigation	Expand Water Quality Monitoring Network	GSP Study	CGA and GGA	This study will evaluate and expand additional groundwater quality monitoring wells.	Estimated 1-3 years
4	GSP Study	N/A	Potential (no change in status noted)	GSA Coordination with Water Quality Coalitions and Regulatory Agencies	GSP Study	CGA and GGA	GSAs will coordinate with the various water quality coalitions, water stakeholders, and regulatory agencies regarding GSP and other regulatory program implementation. This will include helping to identify and address water quality problems across the Subbasin, including those affecting disadvantaged communities (DACs) and severely disadvantaged communities (SDACs), and consideration of opportunities to expand public water systems and consolidate small public systems to improve drinking water quality delivered to DACs and SDACs.	Estimated 1-3 years
5	GSP Study	N/A	Potential (no change in status noted)	CV2SimFG-Colusa Model Updates and Enhancement	GSP Study	CGA and GGA	This program will implement the periodic model data updates necessary to adequately represent near-term and future conditions within the Subbasin, and to support annual and five-year periodic GSP reporting to the DWR.	Estimated 6-12 months
6	GSP Study	N/A	Potential (no change in status noted)	Participation in Interagency Drought Task Forces	GSP Study	CGA and GGA	The CGA and GGA should coordinate their responses to droughts with their respective county and state agency partners through existing Interagency Drought Task Forces established in each county by the Colusa and Glenn County Boards of Supervisors.	Estimated 1-3 years
7	GSP Study	N/A	Potential (no change in status noted)	Evaluate Infrastructure Sensitivity to Subsidence	GSP Study	CGA and GGA	This study will evaluate the sensitivity of infrastructure in the Subbasin to potential subsidence rates.	Estimated 1-3 years
8	GSP Study	N/A	Potential (no change in status noted)	Groundwater Financial Incentives Investigation	GSP Study	CGA and GGA	This analysis will quantify the total costs of groundwater use and switching to surface water. The analysis will also identify grower financial incentives for in-lieu recharge and options for structuring those incentives.	Estimated 1-3 years
9	GSP Study	N/A	Potential (no change in status noted)	Increasing GSA Involvement in County Well Permitting and Land Use Planning	GSP Study	CGA and GGA	CGA and GGA will explore options for allowing GSA input to the counties' well permitting processes and land use planning. The objective of GSA input would be to ensure that wells are permitted and land uses are planned in a manner consistent with sustainable groundwater management according to the GSP.	Estimated 1-3 years

Colusa Subbasin Project List

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10	GSP Study	N/A	Further planning has occurred as part of the Hydrogeologic Investigation	Groundwater Well Monitoring Program	GSP Study	CGA and GGA	This pilot program will evaluate the costs and benefits of continuous groundwater monitoring data collection via six irrigation production wells. Program expansion throughout the Subbasin will be considered based on the data utility and costs of the pilot program.	Estimated 1-3 years
11	GSP Study	N/A	Potential (no change in status noted)	Sacramento Valley Subsidence Interbasin Working Group	Interbasin Coordination	CGA and GGA	The CGA and GGA should consider participating in a Sacramento Valley Subsidence Interbasin Working Group with DWR, the other GSAs in the Sacramento Valley and federal partners. The working group would provide a forum for collaborative discussions, consensus-building, and planning to address inelastic land subsidence in the Sacramento Valley.	Estimated 1-3 years
12	GSP Study	N/A	Potential (no change in status noted)	Sutter Buttes Rampart Water Quality Interbasin Working Group	Interbasin Coordination	CGA and GGA	The CGA, GGA and the GSAs in the Butte, Sutter, Yolo, North Yuba and South Yuba Subbasins should participate in an interbasin working group focused on collaborative discussions, consensus-building and planning to address groundwater quality matters associated with the unique geology of the Sutter Buttes area.	Estimated 1-3 years
13	GSP Study	N/A	Potential (no change in status noted)	Well Inventory Program	GSP Study	CGA and GGA	This program will inventory the estimated 20% of groundwater wells unaccounted for within the Subbasin, and would seek to identify wells that are no longer active.	Estimated 1-3 years
14	GSP Study	N/A	Potential (no change in status noted)	Well Registration Program	GSP Study	CGA and GGA	This study will evaluate the potential of a program for landowners to inventory their well data. This will complement the well inventory program.	Estimated 1-3 years
15	GSP Study	N/A	Further planning has occurred as part of the Hydrogeologic Investigation	Westside Streams Monitoring Program	GSP Study	CGA and GGA	Streams originating from the Coastal Range west of the Subbasin will be evaluated for potential recharge volumes, water quality, and the interconnectedness of the streams and the groundwater system within the Subbasin.	Estimated 1-3 years
16	GSP Study	N/A	Planned	Other Inter-Basin Coordination Activities	Interbasin Coordination	CGA and GGA	The CGA and GGA would participate in other interbasin coordination activities that have yet to be determined. Interbasin coordination would occur with other GSAs in the Sacramento Valley, and potentially together with DWR and federal partners. Interbasin coordination efforts would provide a forum for collaborative discussions, consensus-building, and planning to address interbasin issues in the Sacramento Valley.	Estimated 1-3 years
17	GSP Study	N/A	Planned	Sacramento Valley Interbasin Flow, Interconnected Surface Water Working Group	Interbasin Coordination	CGA and GGA	The CGA and GGA would participate in a the Interbasin Flow and Interconnected Surface Water Working Group with other GSAs in the Sacramento Valley (potentially together with DWR and federal partners). The working group would provide a forum for collaborative discussions, consensus-building, and planning to address interbasin flow and interconnected surface water in the Sacramento Valley.	Estimated 1-3 years
18	GSP Updates, Reporting	N/A	Potential (no change in status noted)	GSP Updates and/or Revisions	GSP Updates, Reporting	CGA and GGA	Complete updates and/or revisions to the GSP, particularly in response to comments and feedback from DWR (anticipated in 2023-2024).	Estimated 6-12 months

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19	GSP Updates, Reporting	N/A	Planned	Data Management System	GSP Updates, Reporting	CGA and GGA	Migrate all GSP-related data to a final DMS platform (solicit a qualified and preferred DMS developer, and contract with them to develop the DMS and migrate all data to the DMS).	Estimated 1-3 years
20	GSP Updates, Reporting	N/A	Planned (annually)	GSP Annual Reports	GSP Updates, Reporting	CGA and GGA	Complete annual reports on GSP implementation activities (required to be prepared annually and submitted by April 1).	Estimated 6 months, recurring annually
21	GSP Updates, Reporting	N/A	Planned (at least every 5 years)	Periodic GSP Updates (At Least Every 5 Years)	GSP Updates, Reporting	CGA and GGA	Conduct periodic evaluations and updates to the Colusa Subbasin GSP, incorporating new information and data available since initial GSP development (required to be prepared and submitted at least once every five years).	Estimated 6-12 months, recurring
22	Management Action	Potential	Potential (no change in status noted)	Domestic Well Mitigation Program	Management Action	CGA and GGA	To mitigate the effects of domestic well stranding due to groundwater level decline, the CGA and GGA will investigate implementing domestic well mitigation programs in their respective portions of the Subbasin.	Unknown (estimated 5+ years)
23	Management Action	Potential	Potential (no change in status noted)	Preservation of Lands Favorable for Recharge	Management Action	CGA and GGA	Working cooperatively with the counties, investigate, design, and implement a program providing incentives to landowners with lands favorable to groundwater recharge to preserve them as agricultural or undeveloped lands on which groundwater recharge.	Unknown (estimated 2-5 years)
24	Management Action	Potential	Potential (no change in status noted)	Review of County Well Permitting Ordinances	Management Action	CGA and GGA	Review and revise the county well permitting processes in the Subbasin to ensure that future well permitting aligns with the Subbasin sustainability goal and that future changes to well permitting are reviewed by the GSAs. The GSAs would work with the counties to review and suggest revisions to ordinances (these are outside of the jurisdiction of the GSAs).	Unknown (estimated 2-5 years)
25	Management Action	Ongoing	Ongoing	Urban Water Conservation in Willows	Management Action	California Water Service – Willow District	This project includes urban water conservation measures through water waste prevention ordinances, metering, conservation pricing, public education, and outreach programs to assess and manage distribution system real loss, water conservation program coordination and staffing support, and other demand management measures.	Ongoing (since 2016)
26	Management Action	Potential	Potential (no change in status noted)	Development of a Dedicated Network of Shallow Monitoring Wells for GDE Monitoring	Management Action, Closing Data Gaps	CGA and GGA	Evaluate and develop a dedicated network of shallow monitoring wells specifically planned and sited for monitoring conditions in areas of the Subbasin where GDEs are most likely to be found. This action is also expected to incorporate biological monitoring to inform the location of new shallow monitoring wells and monitor whether GDEs are being impacted by changing groundwater conditions.	Estimated 1-3 years
27	Management Action	Potential	Potential (no change in status noted)	Long-Term Demand Management Action	Management Action	CGA and GGA	Demand management broadly refers to any water management activity that reduces the consumptive use of irrigation water. A demand management action is one that incentivizes, enables, or possibly requires water users to reduce their consumptive use.	Unknown (estimated 5+ years)
28	Management Action	Potential	Potential (no change in status noted)	Drought Contingency Planning for Urban Areas	Management Action	CGA, GGA, and cities (GSA member agencies)	The CGA and GGA will coordinate with M&I water suppliers dependent on groundwater to encourage drought planning consistent with the GSP.	Unknown (estimated 2-5 years)
29	Management Action	Potential	Potential (no change in status noted)	Strategic Short-Term Demand Management	Management Action	CGA and GGA	Develop a voluntary, flexible, short-run financial incentive program to alleviate impacts of drought in target areas through idling lands in drought-affected areas or in participating surface water-using portions of the Subbasin and conveying the saved surface water to the drought-affected areas.	Unknown (estimated 2-5 years)
30	Management Action	Potential	Potential (no change in status noted)	Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication	Reduce Groundwater Demand, Management Action	CGA and GGA	Removal of invasive, non-native plant species from riparian corridors and other areas to reduce evapotranspiration from shallow groundwater and support native ecosystem restoration.	Unknown (estimated 2-5 years)
31	Management Action	Potential	Potential (no change in status noted)	Well Abandonment Outreach and Funding Program	Management Action	CGA and GGA	Create a program providing outreach and education to landowners regarding the proper procedures for well decommissioning and abandonment, as well as funding sources. This effort would be accomplished by working with well permitting agencies.	Unknown (estimated 2-5 years)

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32	New			City of Colusa Public Supply Hydrochemistry Study			The City of Colusa is in the process of updating its Master Water Plan. As part of this update the City is looking to fund a study on the cause and severity of its current water quality issues regarding manganese, iron MCL violations and the long standing presence of Hydrogen Sulfide in its public supply. The City is also interested in understanding the potential and probability for arsenic contamination that is known to exist in public supply and other wells in the general area surrounding the Sutter Buttes.	
33	New			GCID Groundwater Recharge Project			Long term property lease in combination with GCID and Glenn County owned properties for the intent of groundwater recharge. The project is currently in being researched for feasibility.	
34	New			Spring Valley and Sycamore Multi-Benefit Recharge Project			The Multi-benefit site comprises approximately 760 acres approximately 1 mile north of College City. The primary multi-benefit will be aquifer recharge from storm drain waters flowing west of Arbuckle toward the Colusa Basin Drain and from seasonal Riparian water flows via over 2 miles of recharge ditch basins, the channel of the Sycamore Slough and approximately 310 acres that will be seasonally flooded for the purpose of aquifer recharge. The first phase will be on the west side of the Colusa Basin Drain and include approximately 646 acres and the second phase will be on the east side of the Colusa Basin Drain and will include approximately 116 acres. Phase Two should be done in conjunction with the Sycamore Marsh Multibenefit Project since there is common ownership of Sycamore Slough. Other multibenefits will be domestic well recharge north of College City, pollinator habitat and wildlife habitat restoration and preservation	
35	New			Sycamore Slough Reconnection and Recharge			Davis Ranches, in coordination with neighboring landowners, is proposing a multi-benefit groundwater recharge project. This project is an expansion of an ongoing effort to recharge the Sycamore Slough watershed with water from the Sacramento River, similar to the historic function of the slough. The project will require Davis Ranches to divert surface water from the Sacramento River and/or the Colusa Basin Drain for the purpose of reconnecting the historic remnants of Sycamore Slough, to flood fields and the slough itself to provide groundwater recharge, create habitat for migrating shorebirds/waterfowl, and provide essential support for groundwater dependent ecosystems (GDE) along the path of Sycamore Slough. Additional project description is included in the attached project submittal form.	

Colusa Subbasin Project List

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36	New			Updated BFW Contour Map and Saline Water Upconing Study			Review and update the base of fresh groundwater (BFW) contour map that was created by Stephen Springhorn and his colleagues at the DWR prior to 2013 was to identify the approximate lower limit and the thickness of the fresh groundwater aquifer system in the Sacramento Valley. The BFW is an uneven boundary in the Colusa Subbasin and area near the Sutter Buttes. This is most likely caused by high artesian pressures and upward vertical gradients in deep aquifers in the Sacramento Valley, which have been documented in DWR monitoring wells. This suggests that migration of poor quality water into continental sediments that previously contained freshwater has occurred due to brackish and saline water upconing beneath areas of prolonged groundwater pumping in the Sacramento Valley. Project would be done in conjunction with NSIRWM and would focus on potential negative water quality impacts due to Redox near the Buttes and potential seepage area from the proposed Sites Reservoir	
37	New			Fee Studies			Fee study for each GSA Operate Tehama-Colusa Canal (TCC) existing gates for discharge into ephemeral streams at a rate where they do not flow out of the Subbasin but recharge the groundwater system.	1 year; in progress
38	Project	Potential	Further concept development (proof-of-concept study in 2021)	Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	Direct Groundwater Recharge	RD108	Further concept development has occurred, with identification of potential streams, water sources, and operating strategies. Potential discharge locations have been identified with CCWD and TCCA. Coordination has also occurred with landowners to identify potential project monitoring and funding opportunities. In 2021, a proof-of-concept test of the trickle flow project and benefits was conducted when a portion of the Tehama-Colusa Canal was dewatered.	Estimated 1-2 years (implementation and monitoring during 1-2 dewatering periods)
39	Project	Planned	Active planning in progress	Orland-Artois Water District (OAWD) Land Annexation and Groundwater Recharge	Direct and In-lieu Groundwater Recharge	OAWD	OAWD is planning to annex approximately 12,000 acres of groundwater-dependent agricultural lands. Additional direct recharge may be considered on suitable annexed lands. The project is an area where groundwater levels have been in decline in recent years. It is estimated that a long-term average of approximately 23 taf/yr of surface water would be available, reducing groundwater pumping by approximately 23 taf/yr.	3-5 years (Program operation anticipated in 2025, see GSP Table 6-15)
40	Project	Planned	Planned (no change in status noted)	Colusa County Water District (CCWD) In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	CCWD	CCWD will utilize 30 taf of additional surface water for irrigation in all years but Shasta Critical years for in-lieu recharge. The additional surface water will be made available through full use of the district's existing Central Valley Project (CVP) contract and annual and multi-year water purchase and transfer agreements. Additional surface water deliveries are estimated to be 27 taf/yr, enabling reduction of groundwater pumping by a like amount.	1-3 years (Program implementation anticipated in 2023, see GSP Table 6-5)
41	Project	Planned	Planned (no change in status noted)	Colusa Drain MWC (CDMWC) In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	CDMWC	CDMWC diverters use both ground and surface water because Colusa Drain supplies are insufficient to satisfy all irrigation requirements. This project would provide additional surface supplies averaging approximately 28 taf/yr in the Drain allowing CDMWC diverters to increase their diversions of surface water to provide in-lieu groundwater recharge of a like amount.	1-2 years (Program operation anticipated in 2022, see GSP Table 6-8)
42	Project	Potential	Potential (no change in status noted)	Orland-Artois Water District (OAWD) Direct Groundwater Recharge	Direct Groundwater Recharge	OAWD	OAWD would directly recharge groundwater. A pilot project was conducted in 2017.	Unknown (estimated 3-5 years)

Colusa Subbasin Project List

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43	Project	Potential	Potential (no change in status noted)	Orland Unit Water Users Association (OUWUA) Flood Water Conveyance	Direct Groundwater Recharge	OUWUA	Divert Stony Creek water at OUWUA's south diversion and convey it to various locations for direct recharge within the OUWUA service area.	Unknown (estimated 5+ years, especially if water rights application required)
44	Project	Ongoing	Ongoing (no change in status noted)	Orland Unit Water Users Association (OUWUA) Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	In-lieu Groundwater Recharge	OUWUA	Modernization of OUWUA southside system for more reliable and flexible farm deliveries that will provide incentive for growers to use more surface water and less groundwater.	Ongoing
45	Project	Potential	Potential (no change in status noted)	Enhanced Infiltration of Precipitation on Agricultural Lands	Direct Groundwater Recharge	CGA and GGA	Develop and adoption of on-farm cultural practices to reduce precipitation runoff and increase infiltration, which would result in increased storage of precipitation in the crop root zone, thereby reducing irrigation water requirements and achieving some direct groundwater recharge.	Unknown (estimated 1-3 years)
46	Project	Potential	Potential (no change in status noted)	Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	Direct and In-lieu Groundwater Recharge	CGA and GGA	A portion of western ephemeral stream flows could be diverted for in-lieu or direct groundwater recharge.	Unknown (estimated 5+ years, especially if water rights application required)
47	Project	Ongoing	Ongoing (no change in status noted)	Sycamore Marsh Farm Direct Recharge Project	Direct Groundwater Recharge	Landowner	Sycamore Marsh Farm is developing a groundwater recharge plan to store groundwater. The plan provides for 205 acres of year-round recharge basins and 163 additional acres of winter recharge areas.	Ongoing (since 2020)
48	Project	Ongoing	Ongoing, pending extension (no change in status noted)	Reclamation District 108 (RD108) and Colusa County Water District (CCWD) Agreement for Five-Year In-Lieu Groundwater Recharge Project	In-lieu Groundwater Recharge	RD108 and CCWD	CCWD (and Dunnigan Water District [DWD]) purchases surface water from RD108 for distribution within its service area. The agreement expires in 2022. This project supplies additional surface water to CCWD (and DWD) that provides in-lieu recharge.	Ongoing (5-year agreement ended 2022, extension pending)
49	Project	Planned	Planning for expansion in progress (recharge occurred in fall/winter 2021)	Subbasin Multi-Benefit Groundwater Recharge	Direct Groundwater Recharge	CGA, GGA and TNC	The Nature Conservancy (TNC) is partnering with entities for an on-farm, multi-benefit groundwater recharge incentive program. The pilot program was initiated in Colusa County in 2018 and concluded in the spring of 2021, with plans to expand and continue into the future. DWR is a partner in the Subbasin Multi-Benefit Groundwater Recharge project as it moves into the expanded program.	1-3 years (Program expansion anticipated in 2022/2023 if deemed appropriate, see GSP Table 6-13)
50	Project	Ongoing	Ongoing (no change in status noted)	Glenn-Colusa Irrigation District (GCID) Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	Direct and In-lieu Groundwater Recharge	GCID	GCID holds a water right for winter water. This project will increase the groundwater recharge and habitat enhancement benefits of winter water use by increasing use for rice straw decomposition, irrigation, and frost control provided that certain constraints can be alleviated.	Ongoing (since 2021)
51	Project	Ongoing	Ongoing (no change in status noted)	Glenn-Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	In-lieu Groundwater Recharge	GCID	GCID has developed arrangements to supply district surface water to neighboring non-district agricultural lands that primarily use groundwater. These temporary arrangements expired in 2020. There is interest in continuing and expanding this in-basin surface water use for in-lieu groundwater recharge. Supplies would potentially be available only in Shasta Non-Critical years.	Ongoing (since 2021)
52	Project	Potential	Potential (no change in status noted)	Reclamation District 108 "Boards In" Program	Direct Groundwater Recharge	RD108	RD108 would institute a voluntary or financially incentivized program in which landowners leave spill boards in place during the winter to capture rainfall and hold it on the fields for recharge.	Estimated 1-2 years (implementation and monitoring during at least one off-season)
53	Project	Potential	Potential (no change in status noted)	Westside Off-stream Reservoir and In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	TCCA Contractors	Construct off-stream surface reservoirs along the western edge of the Subbasin and up-slope from the TCC to divert surplus Sacramento River flows (e.g., Section 215 water) into these storage reservoirs. Release stored water on demand to serve lands otherwise served by groundwater.	Unknown (estimated 5+ years)

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54	Project	Potential	Potential (no change in status noted)	Glenn-Colusa Irrigation District In-lieu Groundwater Recharge	In-lieu Groundwater Recharge	GCID	GCID will investigate, develop, and implement measures to incentivize additional use of surface water supplied by GCID, which will provide in-lieu recharge through reduced groundwater pumping.	Unknown (estimated 3-5 years)
55	Project	Potential	Potential (no change in status noted)	Sycamore Slough Colusa Basin-Drain Multi-Benefit Recharge Project	Direct Groundwater Recharge	Landowner	Restoration of portions of Sycamore Slough would support diversion of winter flows from the Colusa Drain for recharge and restoration.	Unknown (estimated 1-3 years)
56	Project	Planned	Active implementation (project is funded by existing P&G grant)	Sycamore Slough Groundwater Recharge Pilot Project	Direct Groundwater Recharge	Landowner	Proctor and Gamble (P&G) and Davis Ranches have entered into an agreement to implement a 10-year groundwater recharge pilot project. A 66-acre field on Davis Ranches will receive surface water for groundwater recharge and provide habitat for migrating shorebirds. Water would be diverted from the Sacramento River during fall/winter months using existing riparian rights or would be available from settlement contract supplies (should the project begin before November 1). An expansion of the project is planned for recharge and revegetation in the neighboring Sycamore and Dry Sloughs.	9 years (existing P&G grant duration 10 years, see GSP Table 6-18)
57	Project	Potential	Potential (no change in status noted)	Subbasin Flood-MAR	Direct Groundwater Recharge	CGA and GGA	The CGA and GGA would investigate, develop, and implement a program to divert flood waters within the Subbasin, when available, for spreading across agricultural lands for direct groundwater recharge.	Unknown (estimated 1-3 years)
58	Project	Potential	Potential (no change in status noted)	Sycamore Marsh Farm In-lieu Recharge Project	In-lieu Groundwater Recharge	Landowner	Sycamore Marsh Farm is developing an in-lieu groundwater recharge plan, and could partner with additional lands in the CDMWC, allowing for diversion of surface water from CDMWC.	Unknown (estimated 3-5 years)
59	Project	Potential	Potential (no change in status noted)	Glenn-Colusa Irrigation District Water Transfers to Tehama-Colusa Canal Authority (TCCA) CVP Contractors	In-lieu Groundwater Recharge	GCID	Evaluate potential for transferring water to CVP contractors served by the TCC for in-lieu groundwater recharge.	Unknown (estimated 3-5 years)
60	Project	Potential	Potential (no change in status noted)	Sites Reservoir	Direct and In-lieu Groundwater Recharge	Sites Project Authority	The Sites Project is a new off-stream storage facility that is currently in development. Depending on project operation and yield, there is potential for groundwater benefits to accrue to the Subbasin from Sites Reservoir.	5+ years
61	Project	Potential	Potential (no change in status noted)	Colusa County Public Water System Water Treatment Plant	In-lieu Groundwater Recharge	Interested Stakeholder	Construct a water treatment plant on the Sacramento River between Colusa and Grimes to provide treated surface water to public water supply systems in Colusa and possibly Sutter and Yolo Counties.	5+ years
62	Project	Potential	Potential (no change in status noted)	Delevan Pipeline Colusa Basin Drainage Canal System (Colusa Drain) Intertie	Direct and In-lieu Groundwater Recharge	Interested Stakeholder	Intertie between proposed Delevan Pipeline component of the Sites Reservoir Project and the Colusa Drain, providing a connection to downstream water users, and providing protection for the ecosystems, and earthquake resilience.	5+ years
63	Project	Potential	Potential (no change in status noted)	Subbasin In-lieu Recharge & Banking Program	In-lieu Groundwater Recharge	South Valley Water Resources Authority	Incentivize taking available contract surface water in-lieu of pumping groundwater, providing dedicated contribution to local groundwater sustainability, with a portion available to San Joaquin Valley partners.	Unknown (estimated 3-5 years)
64	Project	Potential	Planning	Recharge Project	Direct Groundwater Recharge	CGA	Develop plans for a recharge project program, and/or complete the design/construction/implementation of one or more recharge projects identified through these planning efforts.	Estimated 1-3 years
65	Project	Planned	Planning, RFP released, Proposals under review	Recharge Project	Direct Groundwater Recharge	GGA	Develop plans for a recharge project program, and/or complete the design/construction/implementation of one or more recharge projects identified through these planning efforts.	Estimated 1-3 years