

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING AGENDA

May 13, 2021 | 10:30 a.m.

Due to safety concerns and directives from the Governor and Federal Government related to COVID-19,
This meeting will be held remotely ONLY.

Join Zoom Meeting

<https://csus.zoom.us/j/86157670337>

Meeting ID: 861 5767 0337

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Please see Meeting Hints and Tips at the end of the agenda.

* Indicates an Action Item

1. Call to Order, Roll Call, and Introductions

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

- a. * April 23, 2021 CGA/GGA Joint TAC Meeting

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. Colusa Subbasin Groundwater Sustainability Plan Development

- a. Sustainable Management Criteria
- i. * Groundwater Elevations—Action
 - ii. * Depletions of Interconnected Surface Water—Action
- b. Projects and Management Actions—Status Reports and Discussion

5. Topics and TAC Decisions for Next Meeting (June 11, 2021)

6. Member Reports and Comments

7. Adjourn

A complete agenda packet, including back-up information, is available for inspection during normal business hours at 100 Sunrise Blvd., Suite A, 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:

<https://colusagroundwater.org/>

<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 CGA Board or Subcommittee meetings, please contact the Colusa County Water Resources Division at 530-458-0719 or Glenn County Water Resources Division at 530-934-6540 prior to any meeting and arrangements will be made to accommodate you.

Remote Meeting Hints and Tips

PLEASE NOTE: For increased meeting security protections,

- All attendees will be placed into a Zoom Waiting Room at the start of the meeting. The meeting facilitator and/or technical staff will admit participants as they appear in the waiting room. To the extent possible and to minimize uncertainty of who participants in the Waiting Room are, participants are encouraged to enter their name when they enter Zoom so the meeting facilitation staff and GSA coordinators can confirm meeting participants.
- Also, as with all recent Joint TAC meetings, for memorialization purposes, this meeting will be recorded and participants will be required to agree to that in order to participate. Participants will be prompted at the start of the meeting to agree to this.

To make the upcoming meeting effective, please read all the following.

1. The process will feel “clunky”. There will be inevitable pauses, stalls, re-sets, particularly when participants want to comment, we have to vote or take a straw poll. This may be frustrating and that’s completely understandable. Please be patient as we work together in this “new normal” approach.
2. To minimize challenges, we will open the online meeting 15-20 minutes in advance. Please log in during that time so we can walk you through the set up and get you familiarized with things. You may also want to go to Zoom (the virtual meeting tool) the day before and familiarize yourself with it.
3. Regarding personal settings, it will be VERY helpful for us to know in advance if you plan to log in via a computer, smart phone, or land line.
4. Regarding the “RAISE HAND” tool. You’ll find this if you click on the “Participants” icon. When that menu opens, you’ll see the names (or phone numbers) of everyone in the meeting. At bottom of that menu, you’ll see a button that says “RAISE HAND”. We will use this feature to let the facilitator know if you want to make a comment, so it is VERY important that you familiarize yourself with this.
5. If you’ve joined online (rather than just through the toll free phone number), we ask that during the meeting you keep your Zoom microphone on “Mute”. If you are using an organization’s landline, please do NOT put your phone on “Hold”.

CGA/GGA Joint Technical Advisory Committee Meeting
Agenda Packet

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

April 23, 2021 | 1:00 p.m.

Due to safety concerns and directives from the Governor and Federal Government related to COVID-19,
This meeting was held remotely ONLY.

1. Call to Order, Roll Call, and Introductions

The meeting was called to order at approximately 1:00 p.m.

Dave Ceppos, facilitator with the Sacramento State, Census and Collaboration Program (CCP) opened the Joint Technical Advisory Committee (TAC) meeting and covered housekeeping and logistical items.

In Attendance:

Committee Members:

Glenn Groundwater Authority (GGA): Emil Cavagnolo, Mark Lohse, Zac Dickens, Donald Bills

Colusa Groundwater Authority (CGA): Denise Carter, Darrin Williams, Bill Vanderwaal, Thad Bettner

Others in Attendance: Lisa Hunter (GGA Staff), Mary Fahey (CGA Staff), Dave Ceppos (CCP), Danaka DeBow (CCP), Grant Davids (Davids Engineering, Inc.), Ken Loy (West Yost Associates), John Ayers (Woodard and Curran), Duncan MacEwan (ERA Economics), Jeff Davids (Davids Engineering, Inc.), Reza Namvar (Woodard and Curran), George Valenzuela (Woodard and Curran), Shelly Murphy (CGA), Holly Dawley (GCID), Lester Messina, Chase Hurley, Pat Vellines (DWR), Brooks Ronspies, Micah Eggleton (Woodard and Curran), Bridgette Gibbons (CDFW), Deke Dormer, Michael Bolzowski (Cal Water), Anjanette Shadley (Western Canal Water District), Bruce Houdesheldt (NCWA), Jaime Lely, Jeff Sutton (TCCA), Winston, Rhett, L. Kitts, Leslie Nerli (GGA)

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

a. April 9, 2021 CGA/GGA Joint TAC Meeting

GGA: Mr. Cavagnolo moved to approve the meeting minutes from the April 9, 2021 CGA/GGA Joint TAC meeting. Mr. Bills seconded and the motion passed per roll call vote:

Donald Bills – Aye

Emil Cavagnolo – Aye

Zac Dickens – Aye

Mark Lohse – Aye

CGA: Mr. Williams moved to approve the meeting minutes from the April 9, 2021 CGA/GGA Joint TAC meeting. Mr. Bettner seconded and the motion passed per roll call vote:

Denise Carter – Aye

Bill Vanderwaal - Aye

Thad Bettner - Aye
Darrin Williams - Aye

3. Period of Public Comment

There were no public comments.

4. Colusa Subbasin Groundwater Sustainability Plan Development

List of Acronyms:

CEQA – California Environmental Quality Act
GDE - Groundwater Dependent Ecosystems
GSA – Groundwater Sustainability Agency
GSP – Groundwater Sustainability Plan
MO – Measureable Objective
MT – Minimum Threshold
PMAs – Projects and Management Actions
PPT – Powerpoint Presentation
SGMA – Sustainable Groundwater Management Act
UR – Undesirable Result
SMC – Sustainable Management Criteria
TAC – Technical Advisory Committee

Mr. Ceppos provided some background on SGMA and the development of Projects and Management Actions (PMAs). PMA discussions can be challenging because stakeholders would like as much information as possible regarding PMAs, but unfortunately, most of these details cannot be clearly articulated at this time. Development of PMAs involves both known and unknown factors.

Knowns:

- PMAs must legitimately and substantially move the subbasin towards sustainability
- Cannot be unrelated to basin sustainability
- PMAs are not a list of required projects because the CEQA process has not been, and will not be completed until later
- CEQA is not required for the GSP therefore no CEQA can be done on a PMA until after the GSP is approved and implementation has started

Unknowns:

- How DWR will react to PMAs

4.a TAC Recommendation Timeline

Mr. G. Davids provided an overview and reminder of the timeline of TAC recommendations.

4.b Sustainable Management Criteria (SMC)

4.b.i Groundwater Storage (PPT slides 6-7)

Mr. Ayres provided an overview of the proposed approach to the Reduction of Groundwater Storage SMC.

Proposed Action: *The Joint TAC recommends that the GSA Boards adopt a GSP policy to monitor and manage reduction of groundwater storage using groundwater level MTs and MOs as a proxy.*

Questions and Discussion

Mr. Bettner asked, are we talking about groundwater in storage or the ability of the aquifer to store water? It should be clarified that this isn't related to subsidence and the ability of the aquifer to store water, but more about the total volume of water in storage. Mr. G. Davids clarified that because the Colusa Subbasin has deep freshwater aquifers extending far below the MTs being considered for groundwater levels, the groundwater level MTs are protective of groundwater storage.

Motion:

CGA: Mr. Vanderwaal moved to approve the proposed action regarding the Reduction of Groundwater Storage SMC. Mr. Williams seconded and the motion passed per roll call vote:

Denise Carter – Aye
Bill Vanderwaal - Aye
Thad Bettner - Aye
Darrin Williams – Aye

GGA: Mr. Dickens moved to approve the proposed action regarding the Reduction of Groundwater Storage SMC. Mr. Lohse seconded and the motion passed per roll call vote:

Donald Bills – Aye
Emil Cavagnolo – Aye
Zac Dickens – Aye
Mark Lohse – Aye

4.b.ii Groundwater Dependent Ecosystems (PPT slides 9-11)

Mr. Ayres provided an overview of the available shallow monitoring wells relating to potential GDE locations and the technical team recommendation.

Proposed Action: *The Joint TAC recommends that the GSA Boards adopt a GSP policy to improve GDE classification reliability, expand shallow monitoring network near GDE locations, and establish minimum thresholds in 2027 GSP update.*

Motion:

GGA: Mr. Cavagnolo moved to approve the proposed action regarding GDEs. Mr. Bills seconded and the motion passed per roll call vote:

Donald Bills – Aye
Emil Cavagnolo – Aye
Zac Dickens – Aye
Mark Lohse – Aye

CGA: Ms. Carter moved to approve the proposed action regarding GDEs. Mr. Vanderwaal seconded and the motion passed per roll call vote:

Denise Carter – Aye
Bill Vanderwaal - Aye
Thad Bettner - Aye
Darrin Williams – Aye

4.b.iii Measurable Objectives and Alternative Minimum Thresholds for Groundwater Levels and Depletions of Interconnected Surface Water (PPT slides 13-19)

Mr. Ayres presented the Technical Team's proposed approach for groundwater levels which is summarized below:

- MO – the average of most recent five years of measured historical groundwater elevation data
- MT – the lower of:
20% of range below the historical low groundwater elevation and the 20th percentile of shallowest domestic well depths in the monitoring well's Thiessen polygon

Mr. Ayres explained that the proposed approach allows for a margin of operational flexibility between MO and MT for most wells. He also clarified the MO based on the most recent five years of measurements would not be a rolling average, but rather would be a one-time calculation made for each well. The MO will be fixed but can be reviewed and adjusted when the GSP is updated provided there is technical justification for doing so.

An UR would be detected when 25% (13 of 50 representative monitoring wells) fall continuously below their MT for 24 consecutive months.

Mr. Ayres provided the following reminder to the TAC members: The objective should be to manage the groundwater basin to avoid State intervention. Thus, PMAs will need to be implemented *before* URs are detected.

Questions and Discussion

Ms. Carter commented that certain places within the subbasin have groundwater levels near to the ground surface. If we adopt an MT of only 20% of historical range below the historical low elevation, would this be too restrictive in these locations? Would it be overly limiting on operational flexibility? Mr. Ayers replied that the delineation of what is significant and unreasonable is up to the GSAs, so the recommendation to use the 20% of historical range is just that: a recommendation. SGMA is all about local control and the TAC can set MTs however they want.

Ms. Carter stated that it would be helpful to see some hydrographs for monitoring wells along the Sacramento River.

Mr. Vanderwaal stated that he prefers using the Google Earth interface to view hydrographs, and requested that the controlling MT parameter be shown on the hydrographs when viewed via Google Earth (controlling parameters are shown on printed hydrographs, but not on those viewed in Google Earth).

Ms. Carter expressed that she would like to learn how to use the Google Earth viewing tool. Ms. Carter stated her concern that the MTs for near-stream wells might be too shallow and would not allow sufficient future operational flexibility, and requested to see MTs based on 50% of historical range below the historical low elevation.

Mr. Williams asked whether only domestic wells are used as monitoring wells and if these are only shallow domestic wells are we potentially missing dynamics in the deeper aquifer? Mr. Ayers clarified that the monitoring well network is a mixture of domestic and agricultural wells, and several multiple-completion

wells. The specific completion that is used as the monitoring well is identified based on the screened intervals of the wells surrounding the monitoring well.

Mr. Vanderwaal stated that he feels the 25% threshold for the groundwater level UR is appropriate. Mr. G. Davids clarified that the representative monitoring well network now has 48 wells and that further technical review of the original network of 50 representative monitoring wells had recently been completed, resulting in the deletion of 3 wells and the addition of one well. Related materials, including the Thiessen polygon maps, will be revised accordingly.

4.b.iii Measurable Objectives and Alternative Minimum Thresholds for Groundwater Levels and Depletions of Interconnected Surface Water, continued (PPT slides 20-25)

Mr. Ayres described the Technical Team's proposed approach for depletions of interconnected surface water which is described below:

- Use groundwater levels as a proxy for streamflow depletion because there are not enough stream gages to measure stream accretions and depletions. In contrast, groundwater levels near streams can be measured. (Additionally, in prior meetings, the Technical Team has mentioned that stream gages are probably not sufficiently accurate to reliably detect stream accretions and depletions because the magnitude of probable measurement error is large compared to the magnitude of stream accretions and depletions).
- Based on further review of the eight representative monitoring wells, the Technical Team concluded that only four wells are suitable for setting streamflow depletion. Thus, while near-stream groundwater levels are a viable indicator for streamflow depletion, there are not enough wells with historical record to set streamflow depletion MTs at this time.
- The team recommends designing and installing a network of shallow, near-stream groundwater level monitoring wells and use records from them to establish streamflow depletion thresholds in 2027 (the first GSP 5-year update)

Draft Proposed Action (to be addressed at the May 14 meeting): *The Joint TAC recommends that the GSA Boards do not adopt minimum thresholds and measurable objectives for Depletions of Interconnected Surface Water for the 2022 GSP, and improve the surface water depletion monitoring network and set depletion thresholds in 2027*

Questions and Discussion

Mr. G. Davids reminded the TAC members that setting MTs at 2015 levels near the stream is an approach being advocated by the Environmental Defense Fund (EDF) (note: click [here](#) to view EDF related report). He further explained that the EDF rationale for maintaining near-stream groundwater levels at or above those that existed in 2015 is to avoid additional impacts to streamflow depletion relative to those that existed around 2015 (when SGMA became effective).

Mr. Bills asked why the multi-completion wells near Stony Creek don't meet the criteria for streamflow depletion monitoring. He also asked whether some of the new shallow monitoring wells would be installed in the Stony Creek area. Mr. Ayres explained that deeper depletions in the multi-completion wells might have been used to include them in the representative well network, and that shallower completions should be looked at with respect to streamflow depletion monitoring. Ms. Hunter noted that DWR funded the installation of a new multi-completion monitoring well which was just completed in the Corning Subbasin north of Stony Creek with a shallow zone which may provide useful information.

Mr. Williams asked how the EDF is involved with DWR and how they (collectively) will respond to the CGA and GGA not following the EDF proposed approach to focus on historical lows as MTs, such as by using 20% below historical range for example. Mr. G. Davids commented that he expects the EDF and the environmental community in general to review the GSP, and that pushback should be expected if MTs are adopted that are less stringent than those based on the EDF approach.

4.c. Projects and Management Actions (PPT slides 28-43)

Mr. G. Davids described the basic approaches to development of PMAs:

- Groundwater recharge projects
 - In-lieu groundwater recharge
 - Direct groundwater recharge
- Reductions in non-beneficial consumption of groundwater
- Surface water supply sources for groundwater recharge
 - Sacramento River
 - Stony Creek
 - Larger westside watersheds
 - Each source has its own unique pattern of availability
- Areas with Sustainability Concerns
 - Orland-Willows Westside
 - Williams-Arbuckle Westside

Questions and Discussion

Ms. Nerli commented that the ephemeral streams west of Glide Water District typically flow for only a couple of days at a time. She also asked whether opportunities to store this water will be evaluated.

Mr. Bills commented regarding borrow pits along I-5 between Williams and Orland, and asked whether they would be evaluated as potential recharge basins. He also asked whether reclaimed wastewater was being considered as a recharge water supply source. Mr. Davids said the technical team will look at the possibility of using reclaimed water, but that the quantities of water involved are small, and water quality regulations make recharge of reclaimed water challenging.

Discussion was held regarding the Williams-Arbuckle Westside area specifically:

Bruce Houdesheldt asked whether the Sacramento River drinking water project was part of efforts farther south. Brief discussion ensued concluding that it is not.

Mr. Williams asked what would be the effectiveness of using recharge basins in the Arbuckle area? He commented that the aquifers in the area are not confined aquifers and that water available for recharge is limited in dry years. Considering these factors, he questioned whether direct recharge would be cost effective. Mr. G. Davids responded that any water that can be recharged in unconfined aquifers can only help recover groundwater storage and levels, or supply water to wells that are being pumped. Over the long term it is possible that recharged water would discharge to streams or flow out of the subbasin in the subsurface. It all comes down to cost-effectiveness.

Mr. Vanderwaal asked what the timeline is for getting the section on PMAs put together. He commented that it is generally more likely for projects to be eligible for grant funding if they are included in plans, and that

there probably are projects that are more promising that aren't currently on the list (see PPT slide 40). Mr. G. Davids responded by saying that draft Chapter 6 on PMAs is scheduled for public release on July 16. He commented further that projects need to be sufficiently described and on the PMA list within two weeks to be considered and included in the GSP. He also explained the Technical Team is considering a two-tiered approach for PMAs, where the more promising projects are evaluated in greater detail and others in lesser detail.

Mr. Bills commented that in addition to Arundo, there are a couple of other invasive vegetation species (e.g., Tamarisk) that use enough water to make a substantial impact on water budgets, thus warranting their eradication. Mr. G. Davids responded to Mr. Bills' comment saying that invasive species will be mapped (subject to data availability) and consumptive use estimates developed for them. These can be combined with costs of removal to evaluate cost-effectiveness.

Ms. Carter suggested that the GGA and CGA send out another request for PMAs with a specific submittal deadline.

Chase Hurley asked, in the context of discussion of setting pumping allocations to reduce groundwater pumping, how native and undeveloped lands would be handled. He commented that if pumping allocations are set and undeveloped land is included, the undeveloped land potentially takes on new, higher value based on its allocated groundwater. He also mentioned that owners of undeveloped lands should have reserved groundwater allocations to support potential future development. He mentioned related processes going on in the San Joaquin Valley, and referenced some unintended consequences that have occurred. Mr. G. Davids responded that these are valid points that will be considered in the evaluation of pumping allocations.

Mr. Williams commented that current cultural practices, particularly in almond orchards, tend to reduce infiltration and increase runoff of precipitation. He further commented that on-farm cultural practices to enhance infiltration and reduce runoff would likely be cost-effective. He asked what can be done in the context of PMAs to help improve infiltration and the observed drainage issues. Mr. G. Davids responded that any incremental infiltration would contribute to root zone soil moisture storage and potentially to groundwater recharge, thereby contributing to groundwater sustainability. Mr. G. Davids also suggested that this could be included in the GSP as a research management action; for example, a collaborative initiative between the GSAs and UC Cooperative Extension (or other research institutions).

Ms. Nerli commented that PMA development should include check dams in ephemeral streams to slow and spread the flow to enhance infiltration/recharge.

5. Topics and TAC Decisions for Next Meeting (May 14, 2021). NOTE: Subsequent to this meeting, the next Joint TAC Meeting has been rescheduled for May 13, 2021: 10:30 – 1:30

Mr. G. Davids reviewed potential topics and decisions for the next TAC meeting. Based on the discussions that took place at today's meeting, the TAC may need to consider a special meeting in late May to keep on schedule.

6. Public Outreach Update

Mr. Ceppos provided a brief update about the status of the Communications and Engagement Plan revision, current and current / future social media use

7. Member Reports and Comments

There were no member reports or comments

8. Adjourn at approximately 3:45 p.m.

Action Items:

1. Chronic lowering of groundwater levels
 - a. Technical Team: Regenerate the current set of groundwater level hydrographs (those distributed April 16, 2021). (Note: it was not discussed during the meeting, but it is suggested that three Minimum Thresholds (MTs) be shown for all wells; MTs based on: 1) the historical low groundwater elevation minus 20% of the historical elevation range in groundwater elevations, 2) the historical low groundwater elevation minus 50% of the historical elevation range in groundwater elevations, and 3) the 20th percentile depth of all domestic wells in each representative well's Thiessen polygon. The tech team should discuss this further.)
 - b. Technical Team: Revise the Google Earth viewing interface so that the controlling criteria for MTs is shown on the hydrographs.
 - c. Technical Team: Provide instructions or a tutorial on how to set up and use the Google Earth hydrograph viewing interface.
2. Projects and Management Actions (PMAs)
 - a. Technical Team: Perform GIS analysis to see how gravel pits along I-5 between Williams and Orland align with SAGBI rankings to evaluate recharge potential.
 - b. Technical Team: Investigate small westside watersheds and retention/storage options in the Orland-Willows Westside.
 - c. GGA and CGA: Resend request for PMAs with a specific deadline for submittals. This can also be posted to the various social media locations.
 - i. Include a specific request to GGA and CGA Board members for possible projects.
 - d. Technical Team: Analyze invasive species areas to develop consumptive use estimates. These can be paired with removal costs to evaluate cost-effectiveness of this PMA.
 - e. Technical Team: Evaluate using reclaimed municipal wastewater as a source of recharge water supply.