

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

May 8, 2020 | 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 started the meeting and went over some housekeeping and logistical items.

In Attendance:

Committee Members:

GGA: David Kehn, Emil Cavagnolo, Zac Dickens, Mark Lohse (audio confirmation at 2:04 p.m.)

CGA: Jim Wallace (audio confirmation at 2:05 p.m.), Darrin Williams, Brandon Davison (ex-officio), Bill Vanderwaal,

Others in Attendance: Lisa Hunter (GGA Staff), Mary Fahey (CGA Staff), Sharla Stockton (Glenn County), David Ceppos (Facilitator), Byron Clark (Consultant Staff), Ken Loy (Consultant Staff), John Ayres (Consultant Staff), Reza Namvar (Consultant Staff), Pat Vellines (DWR), John Ayres (Consultant Staff), Leslie Nerli (GGA Board Member), Bernadette (last name unknown), Jaime Lely, Ben King (landowner), Sara Miller (Woodard & Curran), Grant Davids (Davids Engineering, Inc.), Stacie Ann Silva (New Current Water and Land), Shelly Murphy (CGA Board Member), Cork McIsaac

2. * Approval of Minutes from the October 16, 2019 CGA/GGA TAC meeting

Bill Vanderwaal made a motion to approve the minutes from the October 16, 2019 CGA/GGA TAC meeting. Emil Cavagnolo seconded the motion which passed unanimously.

Roll Call Vote

Glenn Groundwater Authority

David Kehn: AYE

Emil Cavagnolo: AYE

Mark Lohse: No response, confirmed AYE vote later in the meeting at 2:04 p.m.

Zac Dickens: AYE

Colusa Groundwater Authority

Bill Vanderwaal: AYE

Darrin Williams: AYE

3. Period of Public Comment

Ben King urged TAC members to review the Colusa County Groundwater Management Plan that was drafted in 2008 and contains valuable historical work that should be considered during GSP development.

4. Colusa Subbasin Groundwater Sustainability Plan Development:

- a. * **Monitoring Network Review (Potential Action Item)**
- b. **Model Development**
- c. * **Water Budget Future Scenarios – Approach and Assumptions (Potential Action Item)**
- d. * **Approaches to Establish Minimum Thresholds and Measurable Objectives (Potential Action Item)**

Byron Clark with Davids Engineering, Inc. gave an overview of the presentation topics including, GSP Development Overview, Monitoring Network Review, Model Development, Projected Water Budget Scenarios, Minimum Threshold/Measurable Objective Approach and Next Steps.

Ken Loy with West Yost Associates provided an overview of the recommended approach to developing the Monitoring Network for the Colusa Subbasin GSP. The team recommends utilizing the monitoring network developed in the 2018 Monitoring Network Assessment that was completed under the Counties with Stressed Basins grant funded project in Colusa and Glenn Counties. Mr. Loy requested a formal action to recommend to the Glenn Groundwater Authority (GGA) and Colusa Groundwater Authority (CGA) Boards to move forward with the Monitoring Network suggested by the consultant team Mr. Loy noted not all the wells in the proposed network will be used for development of Sustainable Management Criteria and new well locations may be added during Groundwater Sustainability Plan (GSP) development with TAC and stakeholder input.

By consensus and confirmation by roll call, the CGA and GGA TACs agreed to recommend to the respective boards to direct the consultant team to proceed with GSP development using the monitoring network identified in the 2018 Monitoring Network Assessment Report.

Roll Call Vote

Glenn Groundwater Authority

David Kehn: AYE

Emil Cavagnolo: AYE

Mark Lohse: No response, confirmed AYE vote later in the meeting at 2:04 p.m.

Zac Dicken: AYE

Colusa Groundwater Authority

Bill Vanderwaal: AYE

Darrin Williams: AYE

During the Model Development discussion, Mr. Clark described land use refinements, diversion refinements, rice percolation rates and urban demands refinements, as well as other refinements. Leslie Nerli and Darrin Williams commented on evapotranspiration calculations and irrigation methods for specific crops in the subbasin and questioned how these numbers were developed. Board members suggested adding an item for

future focused discussion separate from the TAC meeting regarding evapotranspiration and applied water calculations.

Reza Namvar with Woodard and Curran described the components of model calibration (C2VSim Fine Grid Model). He discussed areas of focus including streamflow gages, groundwater wells, subregion water budgets and Colusa Subbasin water budgets.

Mr. Clark introduced the Future Water Budget Assumptions with a potential action item to consider approving the Consultant's recommended approach. Mr. Clark explained the proposed approach, reviewed historical hydrology from 1966-2015, and land use data sets from DWR's Land Use Mapping program. Additionally, if the 2018 land use data is released in time the consultant team would like to utilize that data. Mr. Clark reviewed climate change modeling and stated that they recommend selecting two scenarios from the four scenarios provided by DWR. Mr. Clark described how other subbasins have chosen Climate Change scenarios.. Mr. Clark also reviewed surface water supplies and urban demands.

Ben King stated he is concerned about saline water and heavy metals moving due to groundwater pumping. Specifically he is concerned in the Sutter Buttes area and Grimes area. Additionally, Ben King suggested consideration of monitoring well installation to track water quality in those areas.

Mr. Vanderwaal requested clarification on why data is only included up to 2015 instead of more recent data. Mr. Clark indicated the model period is currently through 2015 which is adequate for GSP development and it would take substantial effort and funding outside of the current budget to update the model beyond 2015.

Mr. Vanderwaal raised a question about predicted population and per capita use. It was decided to add this topic to the focused discussion that would be held outside of the TAC meeting.

Mr. Williams asked how Voluntary Agreements and potential Unimpaired Flows rules fit into the Water Budget Future Scenarios. It was decided to have further discussions on this topic.

By consensus and confirmation by roll call, the CGA and GGA TACs recommend that the CGA and GGA boards approve the consultant team to proceed with development of proposed projected water budget scenarios for purposes of initial GSP development, recognizing that further refinements may be made within the proposed general framework with TAC and stakeholder input.

Roll Call Vote

Glenn Groundwater Authority

David Kehn: AYE

Emil Cavagnolo: AYE

Mark Lohse: AYE

Zac Dickens: No response, confirmed AYE vote later in the meeting at 3:09 p.m.

Colusa Groundwater Authority

Bill Vanderwaal: AYE

Darrin Williams: AYE

Jim Wallace: AYE

John Ayres with Woodard and Curran reviewed minimum thresholds (MT) and measurable objectives (MO) and the proposed approach to develop and refine these items.. The rationale for the approach is the existence of current monitoring already in place, storage, implementation cost and local control considerations. He also reviewed the proposed MT & MO development process.

By consensus and confirmation by roll call, the CGA and GGA TACs recommend that the CGA and GGA boards approve the consultant team to proceed with initial development of MTs and MOs, which will be refined through iterative discussions and supporting technical analysis.

Roll Call Vote

Glenn Groundwater Authority

David Kehn: AYE

Emil Cavagnolo: AYE

Mark Lohse: AYE

Zac Dicken: AYE

Colusa Groundwater Authority

Bill Vanderwaal: AYE

Jim Wallace: AYE

5. * Approve 2020 Meeting Schedule

There was discussion on upcoming meeting topics, desired meeting frequency and length of meetings. Jim Wallace commented that there is not too much detail in the meeting materials but it would be helpful for TAC members to receive meeting materials in a timely manner so they can review the materials prior to each meeting. Mr. Wallace also stated that meeting for two to three hours a month is reasonable. Bill Vanderwaal stated there should be more time included on agendas to account for discussion, and that three hour meetings are acceptable. Zac Dickens asked the Consultant team, regarding scheduling if there are any concerns about completing work by the GSP deadline. Mr. Clark said there are no concerns. They have a better understanding of how the meetings will work now and he will revise the draft schedule accordingly. Mr. Clark asked if the TAC has the authority to direct and authorize consultant work and if not suggested a streamlined process versus all decisions going back to the respective boards which can add weeks and/or months to the schedule. David Kehn asked the consultant team to consider providing TAC member guidance for focused discussions regarding where the consultant team needs input and where local knowledge will be beneficial to the consultant team.

Mr. Wallace stated it is a possibility to ask the GGA and CGA boards to consider authorizing the Joint TAC to direct consultant work. Mary Fahey stated she will put this topic on the May 26 CGA Board agenda for discussion and possible action.

Lisa Hunter suggested bringing a draft meeting schedule to the next Joint CGA/GGA TAC meeting for consideration and approval. There was no action taken at this time for the 2020 Joint CGA/GGA TAC Meeting Schedule.

6. Topics for Next Meeting

Mr. Clark reviewed the Draft Colusa Subbasin GSP Development Timeline.

- Next Joint Board Meeting
 - Pros/Cons of management areas
 - Approach to Minimum Thresholds and Measureable Objectives
 - Review draft sustainability goal
- Next Joint TAC Meeting
 - Discuss potential projects and management actions
 - Projects template
 - Proposed approach to identify Groundwater Dependent Ecosystems within the subbasin
 - Present draft projected water budgets given they are prepared

Jim Wallace asked about the status of the Proposition 68 grant funding and the projects that were recommended for that funding. Mary Fahey stated the grant agreement was recently signed with DWR and it is part of GSP work. Mr. Clark clarified a few of the tasks associated with that funding will need to be discussed to determine an approach for completing the tasks.

It was decided that a subset of the Joint TAC members, along with CGA and GGA Staff and Mr. Clark would have a further discussion regarding Evapotranspiration, applied water, and population estimates, and how the numbers in the model were derived.

7. Member Reports and Comments

None

8. Adjourn

The meeting was adjourned at approximately 3:36 p.m.

ACTION ITEMS:

- Focused discussion regarding evapotranspiration and applied water calculation.
- Staff to determine if the Joint TAC has the authority to authorize or direct consultant work and if not have the respective boards consider action or discuss a streamlined process where the Joint TAC can direct consultant work versus all decisions going back to the respective boards which can add weeks and/or months to the schedule.
- Provide a formal Joint CGA/GGA TAC meeting schedule at the next Joint TAC meeting for discussion and consideration of approval.

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.a. Formalize (1) Approach to Monitoring Network Development, (2) Approach and Assumptions for Water Budget Future Scenarios, and (3) Approach to Establish Minimum Thresholds and Measurable Objectives as Recommended at the May 8, 2020 meeting

Date: June 22, 2020

Background

At the May 8, 2020 meeting, the TAC discussed and made recommendations regarding the following items:

1. Approach to Monitoring Network Development

Proceed with GSP development using the existing monitoring networks for purposes of initial GSP development, recognizing that SMC may not be developed for each monitoring location, and additional monitoring locations may be added during and GSP development and implementation with TAC and stakeholder input.

2. Approach and Assumptions for Water Budget Future Scenarios

Proceed with development of proposed projected water budget scenarios for purposes of initial GSP development, recognizing that further refinements may be made within the proposed general framework with TAC and stakeholder input.

3. Approach to Establish Minimum Thresholds and Measureable Objectives

Proceed with initial development of MTs and MOs which will be refined through iterative discussions and supporting technical analysis.

The CGA and GGA boards approved granting the Joint TAC the authority to provide guidance and direction to the Groundwater Sustainability Plan (GSP) Development Consultant Team's approaches to any non-policy related GSP development tasks.

The purpose of the discussion is review and finalize the recommendations made at the May 8, 2020 Joint TAC meeting.

Schedule

Groundwater conditions, including groundwater levels in the existing networks, are being documented as part of the Basin Setting portion of the GSP, with planned completion of a draft GSP chapter in Fall 2020. Initial efforts have begun to establish Sustainable Management Criteria (SMC), including quantitative Minimum Thresholds and Measurable Objectives tied to individual monitoring sites, with planned completion of a draft GSP chapter in Spring 2021.

Development of historical water budgets and preparation of datasets for projected water budget scenarios are underway with completion of a draft GSP chapter planned in late 2020/early 2021.

Development of MTs and MOs is beginning through the compilation of relevant information and review of historical groundwater conditions in the basin and is being informed by information gathered through stakeholder outreach in Fall 2019. Upcoming work includes developing initial analysis of potential MTs and MOs by summer/early fall 2020.

Proposed Recommendation

Since the May 8 meeting, a request to discuss additional considerations for the Water Budget Future Scenarios has been made, which is included in a separate agenda item. Formalize any combination or all of the following recommendations from the May 8, 2020 meeting:

- 1. Approach to Monitoring Network Development**

Proceed with GSP development using the existing monitoring networks for purposes of initial GSP development, recognizing that SMC may not be developed for each monitoring location, and additional monitoring locations may be added during and GSP development and implementation with TAC and stakeholder input.

- 2. Approach and Assumptions for Water Budget Future Scenarios**

Proceed with development of proposed projected water budget scenarios for purposes of initial GSP development, recognizing that further refinements may be made within the proposed general framework with TAC and stakeholder input.

- 3. Approach to Establish Minimum Thresholds and Measureable Objectives**

Proceed with initial development of MTs and MOs which will be refined through iterative discussions and supporting technical analysis.

Attachments

None.

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.b. Colusa Subbasin Groundwater Sustainability Plan Development – Projected Water Budget Scenarios

Date: June 22, 2020

Background

Preparation of the Groundwater Sustainability Plan (GSP) for the Colusa Subbasin requires development of water budgets quantifying all inflows to and outflows from the basin, as well as change in storage. Water budgets must be quantified for three separate time frames:

- Historical, based on at least 10 past years
- Current, based on most recent available information
- Projected, based on
 - 50-years historical hydrology
 - Most recent land use and crop coefficient information
 - Projected changes in land use planning, population, and climate
 - Projected surface water supply based on the most recent water supply information

Draft historical water budgets have been developed using DWR's C2VSim Fine Grid integrated hydrologic model for the Central Valley, a tool intended by the state to support GSAs in developing water budgets for their GSPs. The available model has been updated by DWR through water year 2015.

Based on a review of water budget development to date elsewhere in the state and in neighboring basins (Butte, North Yuba, South Yuba, Vina, Wyandotte Creek). The consultant team has prepared the following proposed assumptions and approach for developing projected water budgets for the Colusa Subbasin:

1. Historical hydrology from 1966 to 2015
2. Recent historical land use, mapped to curtailment/noncurtailment years
3. Urban demands based on projected population and per capita use
4. Climate change based on central tendency scenarios developed by DWR for SGMA, centered around 2030 and 2070
5. Water supply based on recent historical use, mapped to curtailment/non-curtailment years

The proposed approach will result in two projected water budget scenarios, corresponding to the 2030 and 2070 climate change scenarios. Preliminary review of the scenario results suggests the following:

- For the 2030 scenario, there is a modest increase in precipitation (~4%) and slight increase in evapotranspiration (~1%) within the subbasin, with a slight increase in Lake Shasta inflows (~2%)
- For the 2070 scenario, there is greater increase in precipitation (~7%) and greater increase in evapotranspiration (~9%) within the subbasin, with a modest increase in Lake Shasta inflows (~4%)

As part of prior discussions, there has been interest expressed in considering a projected water budget scenario based on potential changes in surface water supplies that could result from the ongoing process to update the Bay Delta Water Quality Control Plan for the Sacramento River and its tributaries (i.e. “Phase II”). Negotiations are currently underway between the state, federal government, local water suppliers, and others, and the ultimate impact of the Bay Delta process on surface water supplies is unknown.

The purpose of this discussion will be to evaluate (1) whether to include a scenario reflecting potential changes to surface water availability as part of the initial GSP to be submitted in 2022 and (2) if so, what assumptions should be made about changes to surface water supplies, land use, and other factors affecting the water budget for the basin.

Schedule

Development of historical water budgets and preparation of datasets for projected water budget scenarios are underway with completion of a draft GSP chapter planned in late 2020/early 2021.

Proposed Recommendation

Formal action to recommend the CGA and GGA boards direct the consultant team whether to proceed with development of a projected water budget that assumes changes in surface water supplies resulting from the Bay Delta Water Quality Control Plan update and, if so, technical direction on assumptions regarding potential changes in land and water use that may occur.

Attachments

None.

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.c. Colusa Subbasin Groundwater Sustainability Plan
Development – Well Monitoring Pilot Program

Date: June 22, 2020

Background

As part of the Proposition 68 SGM Round 3 grant proposal developed in fall 2019 and recently awarded to the CGA on behalf of the Colusa Subbasin, a task was included based on TAC recommendations to include a well monitoring pilot program. The proposed program includes the following activities:

- Collect information from voluntary participants regarding groundwater extraction and groundwater levels at individual wells.
- Identify selection criteria for participating wells, considering well location, groundwater use, equipment specifications, and other factors as identified.
- Conduct stakeholder outreach to enlist program participants.
- Evaluate options for data collection including periodic field visits and telemetry.
- Implement data collection activities and incorporate available data into GSP development process.
- Identify and evaluate options for basin-wide implementation, including estimation of initial and ongoing program costs.

The purpose of this discussion will be to refine program objectives, selection criteria, stakeholder outreach approach, and data collection options to support initiation of program implementation.

Schedule

Implementation of the well monitoring pilot program is anticipated to being in July or August of 2020 with initial effort focused on program design and selection, along with environmental review for compliance with CEQA. It is desired to initiate data collection activities by the fall of 2020 to allow for incorporation of collected data into the GSP.

Attachments

None.

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.d. Colusa Subbasin Groundwater Sustainability Plan Development – Funding Mechanism Evaluation

Date: June 22, 2020

Background

The current consultant scope for development of the GSP for the Colusa Subbasin includes an optional task to evaluate funding mechanisms for GSP implementation. The CGA and GGA boards have approved issuing a notice to proceed with the task pending a joint TAC budget review. The purpose of this discussion is to review this task and associated budget and receive TAC input.

Components of the funding mechanisms evaluation include the following:

- Review and compare potential funding mechanisms, considering:
 - How the fee or assessment is charged,
 - Types of costs that can be covered,
 - Variability in charges among users, and
 - Process to institute the charge
- Evaluate potential differences in mechanisms related to the CGA and GGA
- Management implications of different funding mechanisms, including implications of groundwater allocations, considering equity and fairness, historical groundwater use, economic impacts, etc.

Deliverables of the analysis would include draft and final documentation of the analysis for each GSA, including potential groundwater allocation methods. The estimated budget for this effort is \$75,800.

Schedule

The funding mechanisms evaluation, if approved, will be conducted over the course of GSP development, and is expected to be completed by mid-2021.

Proposed Recommendation

Formal action to approve proceeding with the funding mechanisms evaluation as proposed, recognizing that refinements may be made through mutual agreement as the work proceeds.

Attachments

None.

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.e. Colusa Subbasin Groundwater Sustainability Plan Development – Projects and Management Actions

Date: June 22, 2020

Background

Achieving and/or maintaining sustainable conditions in the Colusa Subbasin may require implementation of projects and management actions (PMAs) to avoid supply-demand imbalance in the long term. PMAs could include a combination of supply augmentation (e.g. Sites Reservoir and winter recharge projects) and demand reduction (e.g. invasive species eradication and groundwater allocation). The proposed approach to identifying, evaluating, and including PMAs in the Colusa Subbasin GSP is:

- Initial PMA Assessment – Initial compilation of ideas regarding potential PMAs based on stakeholder outreach, existing data and studies, and review of similar information from other basins.
- Screening Analysis of PMAs – Reconnaissance-level evaluation of the technical and economic considerations of identified PMAs; development and application of a screening process to identify PMAs for further consideration.
- Evaluation of Alternative Combinations of PMAs – Establish potential combinations of PMAs; evaluate potential benefits based on modeling; assess cost and schedule implications.
- Identification of Proposed Mix of PMAs for Inclusion in the GSP – Select final mix of PMAs for inclusion in 2022 GSP. Describe PMAs and implementation plan in sufficient detail to satisfy GSP regulations.

A draft template has been developed from prior efforts in other basins to solicit input from stakeholders on potential PMAs that could be implemented in the Colusa Subbasin. The objective of this discussion is to receive input on potential PMAs, the draft template, and the process to solicit input on potential PMAs from stakeholders within the basin.

Schedule

The process to complete the initial PMA assessment is currently underway and is anticipated to proceed through 2020 and early 2021, with completion in mid-2021.

Attachments

PMA submittal form (PMA Submittal Form for Colusa Subbasin 200604.docx).

Colusa Subbasin GSP Project Submittal Form

Overview

The purpose of this form is to gather ideas for potential projects and management actions (PMAs) that could be evaluated and ultimately included in the Colusa Subbasin GSP. Once ideas are gathered, an initial screening and evaluation process will be conducted, followed by ranking of potential PMAs for more detailed evaluation and inclusion in the initial GSP. Project submittals will be captured in a spreadsheet that will be included in the GSP and can be used in the future for additional analysis if warranted.

Potential PMAs may fall under several categories, including but not limited to the following:

- Recharge projects
- Supply augmentation projects
- Water conservation projects
- Projects to reduce non-beneficial consumptive use
- Groundwater pumping allocations
- Monitoring programs (groundwater pumping, water levels, stream flows, etc.)

Please provide supporting documentation and/or links to that documentation for each question, if available.

Project Name and Contact

Project Name:

Contact Person:

Organization/Affiliation:

Contact Phone:

Contact Email:

Project Description and Status

Project Description:

Project Location:

Project Yield (e.g. water contributed to the groundwater system, acre-feet per year):

Project Cost:

Project Status (Conceptual, In Design, Ready for Implementation):

Has a feasibility assessment been conducted? If so, please list the agency and provide the documentation (or provide web link to download)

Status of permitting and CEQA/NEPA compliance:

Estimated Project Start and End Dates:

Proposed Funding Sources:

Does this project serve a disadvantaged community? If so, which one?

Staff Report

To: CGA-GGA Joint TAC

Agenda Item: 4.f. Colusa Subbasin Groundwater Sustainability Plan Development – Groundwater Dependent Ecosystems

Date: June 22, 2020

Background

The identification of groundwater dependent ecosystems (GDEs) as part of GSP development is a required component of the Groundwater Conditions section of the Basin Setting. A related component is the establishment of Sustainable Management Criteria related to depletion of interconnected surface water. The Hydrogeologic Conceptual Model (HCM) and Water Budget project, currently nearing completion, includes preliminary identification of GDEs based on the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset developed by DWR and released in 2019.

As part of the Proposition 68 SGM Round 3 grant proposal developed in fall 2019 and recently awarded to the CGA on behalf of the Colusa Subbasin, a task was included for additional evaluation of GDEs within the Colusa Subbasin. This task builds upon initial efforts and includes the following activities:

- Compile additional data to identify potential GDEs, including depth to groundwater, presence of surface water, soil characteristics, etc.
- Prepare maps and other supporting data to support stakeholder engagement and further refinements.
- Refine characterization of potential GDEs, including susceptibility to changes in groundwater conditions.
- Incorporate refined GSP evaluation into appropriate sections of the GSP, including Basin Setting, Monitoring Networks, Sustainable Management Criteria, and Projects and Management Actions.

The Nature Conservancy has developed guidance and tools to support the evaluation of GDEs for GSP development. The recommended process follows the following general steps:

- Identify GDEs
- Determine Potential Effects on GDEs
- Establish Sustainability Criteria
- Incorporate GDEs into Monitoring Network
- Identify Projects and Management Actions

The purpose of this discussion is to brainstorm potential approaches to address GDEs in the Colusa Subbasin and receive direction on how to proceed, considering the appropriate forum for the GDE evaluation (e.g. TAC, adhoc committee, etc.), the technical approach, and other considerations.

Schedule

Preliminary identification of GDEs has been completed through the HCM and Water Budget project. It is anticipated that refinements to GDE identification and characterization will be initiated in July or August 2020 and proceed through 2020 and early 2021, with completion in mid-2021.

Attachments

None.