

Glenn Groundwater Authority

Groundwater Sustainability Agency

PO Box 351, Willows, CA 95988 | 530.934.6501

Board of Directors Meeting Materials

January 11, 2021 | 1:30 PM

LOCATION: Teleconference

Pursuant to Governor Newsom's Executive Order N-29-20 this meeting will be conducted by teleconference. The meeting can be accessed via telephone at **+1 (312) 757-3121** or by computer, smartphone, or tablet at:

<https://global.gotomeeting.com/join/484311741>

Meeting Access Code: 484-311-741

1. CALL TO ORDER

The Chairperson will call the meeting to order.

2. ROLL CALL

Roll call will be conducted.

3. APPROVAL OF MINUTES

- a. *Approval of meeting minutes from December 15, 2020.

Draft meeting minutes are attached.

Attachment

- Meeting minutes from December 15, 2020

Glenn Groundwater Authority

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PO Box 351, Willows, CA 95988 | 530.934.6501

Meeting Minutes

Glenn Groundwater Authority Board of Directors

December 15, 2020 | 1:30 pm

LOCATION: Teleconference

Pursuant to Governor Newsom's Executive Orders N-29-20 this meeting was conducted by teleconference. The meeting was accessible via telephone, computer, smartphone or tablet.

Director Members Present:	Alternate/2 nd Alternate Directors	Agency Representing:
X John Viegas (2:32)	Vince Minto	County of Glenn
X Bruce Roundy	Pete Carr	City of Orland
	Ed Vonasek (2 nd)	City of Orland
X Gary Hansen	X Evan Markey (1:46)	City of Willows
George Nerli	X Leslie Nerli	Glide Water District
X John Amaro	X Thad Bettner	Glenn-Colusa Irrigation District
X Charles Schonauer	Emil Cavagnolo	Orland-Artois Water District
	Andrea Jones (2 nd)	Orland-Artois Water District
X Randy Hansen	Wade Danley	Kanawha Water District
	Michael Alves (2 nd)	Kanawha Water District
X Mark Lohse	Seth Fiack	Monroeville Water District
X Gary Enos	Lance Boyd	Princeton-Codora-Glenn Irrigation District/ Provident Irrigation District

Others in attendance:

Lisa Hunter, GGA/Glenn County; Valerie Kincaid, GGA Counsel; Brandon Davison, DWR; Jaime Lely; Scott Pressley; David Kehn, CalWater/GGA TAC; Joshua Dowell; Mary Fahey, CGA; Byron Clark, Davids Engineering, Inc.; Hilary Reinhard, CGA; Joey Judson, CliftonLarsonAllen, LLP.; Mathew Jones; Wes Battson

1. CALL TO ORDER

John Amaro called the meeting to order at 1:32 pm.

2. ROLL CALL

Roll call was taken and indicated above.

3. APPROVAL OF MINUTES

- a. *Approval of meeting minutes from November 9, 2020.

The meeting minutes from November 9, 2020 were approved as presented.

Motion: Bruce Roundy, Second: Gary Hansen, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

4. PERIOD OF PUBLIC COMMENT

None.

5. STAFF UPDATES

Lisa Hunter indicated a Program Manger Report will be distributed later in the week. She noted the Northern Sacramento Valley Inter-Basin Coordination group is a staff and consultant level working group to encourage effective communication especially relating to technical components of GSP development and reiterated the group is not a decision-making body. More information can be found on Butte County's website and the Davids Engineering memo in the meeting packet. Ms. Hunter also mentioned she has met with The Nature Conservancy and Department of Water Resources staff to discuss potential multi-benefit recharge projects in the region. It is planned to share more information in January.

6. FINANCIAL REPORT

- a. *Review and accept Monthly Activities Report.
- b. *Review and consider approval of claims.

There was a motion to approve the Monthly Activities Report.

Motion: Gary Enos, Second: Charles Schonauer, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

There was a motion to approve the claims.

Motion: Bruce Roundy, Second: Randy Hansen, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

7. FISCAL YEAR 2019/2020 ANNUAL AUDIT

- a. Receive presentation of Draft *Glenn Groundwater Authority Groundwater Sustainability Agency Financial Statements and Supplementary Information Year Ended June 30, 2020*.

Ms. Hunter noted there are still highlighted areas within the draft report that require staff input, which will be worked on over the next few weeks. Joey Judson from CliftonLarsonAllen, LLP (CLA), provided an overview of the draft *Glenn Groundwater Authority Groundwater Sustainability Agency Financial Statements and Supplementary Information Year Ended June 30, 2020* report. He noted this was a clean audit with no significant adjustments or findings. At this time, it is the intention to issue an unmodified opinion over the financial statements which is the highest opinion that they can provide that the statements are free from material misstatements. There are some highlighted areas in the statements in the Management Discussion and Analysis sections pending management input. The section provides an overview of activity for the year. The biggest change in this year's audit is related to the revenue related to the special assessment fee implemented during the year. Mr. Judson reviewed the second report over the Authority's internal controls. At this point, they have not identified any deficiencies in internal controls or findings to report to the board. The audit field work is nearly complete and following today's meeting, any suggestions will be considered prior to sending the reports for final review with a target of issuing the first week of January.

There were no questions or comments. The January GGA Board meeting will include an action item to accept the report.

8. COLUSA SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

- a. Receive update on Plan development and activities.
- b. Receive update on GSP Development Grants (Proposition 1 and Proposition 68).
- c. Receive update on Project Agreements.
- d. *Consider recommendation from the CGA/GGA Joint Technical Advisory Committee to adopt the Colusa Subbasin Sustainability Goal.
- e. *Consider recommendation from the CGA/GGA Joint Technical Advisory Committee to adopt the Colusa Subbasin Undesirable Results Statements.
- f. *Consider recommendation from the CGA/GGA Joint Technical Advisory Committee to approve the flyer and application for the Well Monitoring Pilot Program.
- g. Discussion on Project and Management Action solicitation form and approach to solicit ideas for initial Projects and Management Actions.

Ms. Hunter indicated many of the **GSP development activities** will be covered under other items today. She highlighted the Davids Engineering memo which provides good updates on current work. There were also discussions at the Executive Committee to brainstorm ideas to provide more robust reports to the Board in order to prepare for important decisions that will be made during the GSP development process and ensuring the Board feels informed to make those decisions. Moving forward the Technical Advisory Committee minutes and presentations will be included in the Board meeting packets and she encouraged all to read through the materials to gain an understanding of the current work, and in turn, the recommendations that will be brought to the GSAs.

Ms. Hunter noted a brief update on the **GSP Development Grants and Project Agreements** will be included in the Program Manager Report (to be distributed later in the week). She noted approximately \$372,000 have been invoiced to DWR and the next invoice will be submitted in January 2021. The project agreements include the two contracts with Davids Engineering. There is approximately \$25,000 remaining in the Hydrogeologic

Conceptual Model and Water Budget Project contract and about \$84,000 has been spent under the GSP Development Project Contract.

Mr. Amaro moved the discussion to the **TAC recommendations** (Items 8d, 8e, 8f). David Kehn, TAC member representative, noted the statements being considered are not technical in nature and are intended to be general statements.

There was a motion to approve the recommendation from the CGA/GGA Joint Technical Advisory Committee to adopt the **Colusa Subbasin Sustainability Goal** as presented.

The sustainability goal for the Colusa Subbasin GSP is to maintain, through a cooperative and partnered approach, locally managed sustainable groundwater resources to preserve, and enhance the economic viability, social well-being and culture of all Beneficial Uses and Users.

Motion: Bruce Roundy, Second: Gary Hansen, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

Mr. Amaro introduced the item to consider the TAC recommendation to approve the **Colusa Subbasin Undesirable Results Statements**. Ms. Hunter noted this is the item in which the Board will make a decision to include or exclude seawater intrusion as an applicable sustainability indicator.

A motion was made to approve the recommendation from the CGA/GGA Joint Technical Advisory Committee to adopt the Colusa Subbasin Undesirable Results Statements as presented.

Groundwater Levels

The undesirable result for the chronic lowering of groundwater levels is a result that would cause significant and unreasonable reduction in the long-term viability of Beneficial Uses and Users over the planning and implementation horizon of this GSP.

Groundwater Storage

The undesirable result for the reduction of groundwater in storage is a result that would cause significant and unreasonable reduction in the long-term viability of Beneficial Uses and Users over the planning and implementation horizon of this GSP.

Seawater Intrusion

Seawater intrusion is not an applicable sustainability indicator, because seawater intrusion is not present and is not likely to occur in the Colusa Subbasin due to the distance from the Pacific Ocean, bays, deltas, or inlets.

Groundwater Quality

The undesirable result for degraded water quality is a result stemming from a causal nexus between groundwater quantity related activities, such as groundwater extraction or groundwater recharge, and groundwater quality that causes significant and unreasonable effects to Beneficial Uses and Users including reduction in the long-term viability of these uses over the planning and implementation horizon of this GSP.

Land Subsidence

The undesirable result for land subsidence is a result due to groundwater extraction that causes a significant and unreasonable reduction in the viability of the use of critical infrastructure over the planning and implementation horizon of this GSP.

Depletion of Interconnected Surface Water

The undesirable result for depletions of interconnected surface water is a result that causes significant and unreasonable adverse effects on Beneficial Uses and Users of interconnected surface water within the Colusa Subbasin over the planning and implementation horizon of this GSP.

Motion: Gary Enos, Second: Randy Hansen, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE (not audible during vote, confirmed aye during Item 8f vote)

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

Ms. Hunter stated the **Well Monitoring Pilot Program** is part of the Proposition 68 grant funding. This program will encourage landowners to report monitoring data to the GSAs. A flyer and application have been developed for this process. The TAC is still working on the eligibility and screening criteria. Once the flyer and application are approved by the boards, it is planned to begin soliciting applications and sharing information about the program. Mr. Kehn noted that one important caveat of the program is manual reporting of data in the event of data failure to ensure the GSAs receive the data. Byron Clark, Davids Engineering, mentioned the hope is to launch the program in time to collect data during the 2021 growing season in order to leverage the grant funding to support three years of data collection. Mary Fahey, CGA, stated the plan is to include sites in both the Colusa and Glenn County areas of the subbasin.

Valerie Kincaid, GGA Counsel, asked if the GSAs or the technical staff will analyze and approve applications and will this type of agreement require an easement? Ms. Hunter indicated the technical staff will review and rank applications. The GSA Boards will approve the final selections. She was not sure on the question regarding easements. Mr. Clark stated they are in the process of developing a draft landowner agreement, but was unsure of the easement requirements. Staff and consultants will work with GGA and CGA Counsel on this question. Ms. Kincaid offered to provide some agreement examples.

Mr. Amaro encouraged participation in the program because monitoring is an important component to GSP success. Mr. Roundy asked if City of Orland wells could be included in the program. The City monitors the wells

regularly. Ms. Hunter indicated the equipment for measurements is probably already installed for the City wells and it would be valuable to include the information and could be considered. Mr. Clark indicated that no well categories have been excluded at this point. Mr. Schonauer asked what criteria are being used. For example, is it based on the well location or well depths or availability of an access tube? Mr. Clark mentioned they would like to include wells in both portions of the subbasin (Glenn and Colusa County). Also, the eligibility requirements state the participant must provide an access tube to monitor groundwater levels. Leslie Nerli clarified the access tube would be provided by the well owner, and asked if there was more thought on well locations. For instance, narrowing down high priority areas to fill data gaps and encourage applications from those areas? Mr. Clark noted that was a topic of discussion at the last TAC meeting and indicated there will likely be approximately six wells included in this pilot program which will provide information on how to design a larger program if necessary in the future. Ms. Nerli encouraged a more targeted approach to fill data gaps. Mr. Kehn added it would be ideal to fill data gaps, there is also benefit in collecting data from points that are near one another to learn about interaction between the wells.

There was a motion to approve the recommendation from the CGA/GGA Joint Technical Advisory Committee to approve the flyer and application for the Well Monitoring Pilot Program as presented.

Motion: Charles Schonauer, Second: Randy Hansen, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

Ms. Hunter provided an overview of the **Project and Management Actions (PMA)** solicitation and proposed approach to move through the process. She noted the intention is to begin distributing the PMA form in the near future to solicit ideas. The consulting team will evaluate the ideas and pull together an appropriate mix of PMAs to include in the Colusa Subbasin GSP. It is important to note, ideas will continue to be collected throughout the GSP development process and included as an appendix to the GSP. However, there will be an initial cutoff date for which ideas will be considered for further evaluation and potential inclusion in the initial GSP. After the cutoff date, ideas will continue to be collected and included in the appendix which can be revisited at appropriate times in the future. Those with ideas will be encouraged to submit as much information as they can, but there is an acknowledgement that not all information may be known about potential projects. The information is expected to be distributed via websites, social media, and through the interested parties list.

Mark Lohse asked if the projects were intended to be at a water district level, or county level, or if there is the ability to submit individual projects. Ms. Hunter noted that any of those projects would be appropriate. No project types have been excluded at this point in time.

9. PUBLIC OUTREACH

- a. *Consider GGA Executive Committee recommendation to approve the Colusa Subbasin Logo Design.
- b. Discuss December 9 and December 10 public outreach events.

A motion was made to approve the GGA Executive Committee recommendation to approve the Colusa Subbasin Logo Design.

Motion: Gary Hansen, Second: Bruce Roundy, Vote: Unanimous

Roll Call Vote

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

Mr. Amaro stated the December 9 and December 10 public outreach meetings were well attended, particularly since they were conducted in an online format. Mr. G. Hansen asked if we knew how many people attended each meeting? Ms. Hunter said that there were about 49 attendees for the evening meeting and 40 for the afternoon meeting that were listed on the zoom platform. Mr. Clark noted more may have been listening through Facebook Live and we could follow up with the facilitators to get a more accurate number. Mr. Schonauer asked if the slides would be available on the website. Ms. Hunter confirmed the slides would be posted to the CGA and GGA websites soon, but in the meantime, the recorded presentations are available on the Colusa Subbasin SGMA Facebook page. Other members agreed that it would be nice to have the presentations available and that the consultant team did a good job presenting the information and that good questions were posed.

10. TECHNICAL ADVISORY COMMITTEE VACANCY

- a. Discuss proposed approach to fill TAC vacancy.
- b. *Accept nominations to fill TAC member vacancy from GGA Directors.

Ms. Hunter referred to the information and the January 2019 selection process included in the meeting packet. The process included desired characteristics of committee members. At the Executive Committee, it was discussed that it would be important to reach out to nominated individuals to ensure they had the time and interest to participate on the committee. The purpose of today's discussion is to gather a list of nominations to reach out to and bring a final list to the Board for consideration at the January 2021 meeting. Mr. Amaro added this topic was discussed at the Executive Committee and asked if there were any nominations by Board members. Ms. Hunter noted she had received an email from Don Bills who is interested in serving on the TAC. Mr. Bills has land in the Orland area and is a recently retired hydrologist from the USGS Arizona Water Science Center. Members suggested meeting nominees or asking them to be available at the next Board meeting for questions. Mr. Roundy inquired about the criteria to apply for the TAC. Ms. Hunter referred to the January 2019 selection criteria which stated (1) the member would have technical background that knows and works in the area, (2) members would likely be member agency managers and/or technical staff, and (3) members would represent diverse geographic areas and types of groundwater use. After discussion, it was decided that members would forward any nominations to Ms. Hunter. Ms. Hunter will reach out to nominees to determine

interest and invite them to participate in the next Board meeting. A complete nomination packet will be prepared for the next Board meeting to consider all nominations received and make an appointment.

11. DISCUSSION ON DIRECTOR TRANSITION(S) AND DEVELOPMENT OF ON-BOARDING MATERIALS

This item was discussed at the Executive Committee meeting. One new board member will be joining the GGA at the start of the 2021 year. Discussion revolved around what materials would be helpful to provide in order to educate new members. Ms. Hunter noted this topic would be good to keep in mind for any member transitions, now or in the future. Materials to consider including in a new member packet are SGMA 101, the JPA, and a description of what topics are being discussed now and in the immediate future. Mr. Viegas also noted the recent public outreach presentation may also be appropriate to include. It was clarified that the new member (for Glenn County) has not yet been determined and is expected to be appointed at the first Board of Supervisors meeting in January 2021. No other transitions are expected at this time.

12. 2021 GGA BOARD MEETING SCHEDULE

- a. *Approve revised 2021 GGA Board Meeting Schedule.

There was general agreement to revise the 2021 meeting schedule which moves the June 15 meeting to June 16. A question was asked about where the GGA will meet when in-person meetings resume. Options mentioned in the past few months include the Planning and Community Development Services Agency conference room, the Glenn County Board of Supervisors Chambers, the Glenn-Colusa Irrigation District conference room, or the City of Willows, City Council Chambers.

A motion was made to approve the revised 2021 GGA Board Meeting Schedule as presented.

Motion: Bruce Roundy, Second: Gary Hansen, Vote: Unanimous

Roll Call Vote

John Viegas: ABSTAIN

Bruce Roundy: AYE

Gary Hansen: AYE

John Amaro: AYE

Charles Schonauer: AYE

Randy Hansen: AYE

Mark Lohse: AYE

Gary Enos: AYE

Leslie Nerli: AYE

13. COMMITTEE UPDATES

- a. Executive Committee
 - i. CGA/GGA Joint Executive Committee
- b. Stakeholder Engagement Committee
- c. Technical Advisory Committee

Mr. Amaro stated the **Executive Committee** met December 3. Ms. Nerli said the Executive Committee meeting topics were discussed in previous items. Mr. Viegas added that the Glenn County General Plan update is occurring and the GGA Board of Directors should be engaged in the process and work with the County on that update. Mr. Amaro added that there was also a discussion regarding getting more technical information to the Board to be prepared to make important decisions. Some Board meetings may need to be longer and hopefully

in-person meetings can resume soon. Mr. Roundy inquired if the TAC had selected a member to report to the Board. It was clarified David Kehn has been selected and has been attending the Board meetings to provide updates. Mr. Amaro noted the discussion at the Executive Committee went further than that and more involved than a TAC report. The information will be more detailed to better understand upcoming decisions. Ms. Nerli noted she attends the TAC meetings when possible, and it has been very helpful to understand the current topics. Ms. Kincaid added there is a huge amount of information to distill and suggested it would be helpful to bring draft chapters/sections to the Board and have it summarized. Have the Board act or provide direction on smaller pieces as they are developed. Final adoption of the complete plan also must take place. There was general agreement with Ms. Kincaid's suggested approach.

The **Stakeholder Engagement Committee** has not met and has nothing to report.

The **Technical Advisory Committee (TAC)** met jointly with the CGA TAC on November 13, 2020 and December 11, 2020. Mr. Kehn reported he understands Mr. Roundy's comment on TAC updates and noted the TAC meetings are three hours long which is a summary in itself of the work being done by the consulting team. It can be difficult to distill that information into what the Board may think is important for decision-making, and is happy to consider suggestions in order respect the Board's time and provide relevant information. Mr. Kehn highlighted that the consulting team believes the monitoring network meets the State's standards in the Best Management Practices which is roughly four wells per 100 square miles. The Colusa Subbasin has approximately ten. The monitoring network is closed tied to the sustainability indicators. Three of the six sustainability indicators are currently using groundwater levels as the metric. Management Areas (MA) were also a topic of discussion, whose purpose is to break the basin apart into smaller management pieces. The challenge to develop MAs is there is no obvious, clear line that can be drawn to delineate areas. Political boundaries could be used. It was also discussed MAs would be a Board decision. The consulting team will bring some considerations to the next TAC meeting. Inter-basin Coordination is a very important component of planning. Butte County and their consultant have a website in which the group is comparing models and technical work. The challenge is that the basins are at different places of development so at this point, the work cannot be compared. They are in the data-gathering phase and will try to identify any obvious differences that will need to be reconciled.

Ms. Nerli added that under the discussion on MAs, it was mentioned that if MAs were used, the cost would be higher and that most of the stuff that could be accomplished in the basin did not have to be broken out into different MAs if the thresholds are set properly for the entire basin. Mr. Kehn agreed that MAs would create more work and that criteria would have to be set for each MA. There were several members of the Joint TAC that were very interested in pursuing additional discussion about creating MAs. He also agreed that sustainability could be achieved with or without MAs. Ms. Kincaid added MAs are usually driven by the need to have different Sustainable Management Criteria and so you need to have different thresholds. The reporting requirements are also different. If people are making the request, perhaps there is a need. Usually basins avoid MAs unless it is determined there is a need to set different management criteria. It is a good tool to use if it is necessary.

14. MEMBER REPORTS AND COMMENTS

Members of the Board and the public thanked Mr. Viegas for his service and hard work over the last several years as he is retiring from the Glenn County Board of Supervisors at the end of 2020. Mr. Viegas shared that it has been an honor and privilege to serve on this and other committees and appreciates all the members he works with on this Board.

15. NEXT MEETING

The next regular meeting is scheduled for January 11, 2021 at 1:30 pm.

16. ADJOURN

The meeting was adjourned at 3:21 pm.

DRAFT

4. PERIOD OF PUBLIC COMMENT

Members of the public are encouraged to address the GGA Board of Directors on items relevant to the GGA. Public comments are limited to no more than 5 minutes. No action may be taken on public comments.

5. INTER-BASIN COORDINATION UPDATE

- a. Receive a presentation on Inter-basin Coordination efforts in the Northern Sacramento Valley.

Inter-basin Coordination is critically important to the development of successful GSPs. Regionally, a group of GSA Managers have been meeting to discuss coordination between the subbasins. Technical consultants working on the GSPs have also engaged in the discussions to understand and share information about technical components of the planning processes. Current work has focused on comparisons of selected models used in GSP development. It is important to note, this is not a decision-making body, but rather a working group to identify potential issues early in the development process. Mariana Rivera-Torres with the Consensus Building Institute will provide a presentation on the Northern Sacramento Valley Inter-basin Coordination efforts.

More information can also be found on a website hosted by Butte County at:

<https://www.buttecounty.net/waterresourceconservation/Sustainable-Groundwater-Management-Act/Inter-basin-Coordination>

Attachments

- Regional Coordination Between Subbasins (Flyer)
- Inter-basin Coordination Efforts, Northern Sacramento Valley Presentation

Regional Coordination Between Subbasins

Antelope | Bowman | Butte | Colusa | Corning | Los Molinos | Red Bluff | Sutter | Vina | Wyandotte Creek | Yolo

Sustainable Groundwater Management Act

What is SGMA? California enacted the Sustainable Groundwater Management Act (SGMA) in 2014 to better manage groundwater over the long term. Sustainability is achieved by avoiding significant and unreasonable conditions for the six "sustainability indicators."



Lowering of Groundwater Levels



Reduction of Groundwater Storage



Land Subsidence



Surface Water Depletion



Water Quality Degradation



Sea Water Intrusion

Why is regional coordination important? In the Sacramento Valley, inter-basin coordination is critical as Groundwater Sustainability Agencies (GSA) develop their Groundwater Sustainability Plans (GSP). Since groundwater subbasins in the Northern Sacramento Valley (NSV) are hydrologically interconnected, water management decisions and actions in one subbasin (e.g. groundwater pumping) and processes like climate change could change aquifer conditions and affect flows to other subbasins. Understanding and accounting for these processes is key to achieve sustainability in all subbasins.

Who is involved in ongoing efforts?

Collaborative efforts have begun among representatives from 11 subbasins (Antelope, Bowman, Butte, Colusa, Corning, Los Molinos, Red Bluff, Sutter, Vina, Wyandotte Creek, Yolo), with facilitation support from the Consensus Building Institute. While efforts have focused on the subbasins mentioned, coordination will occur, as warranted, with other neighboring subbasins (Anderson and North Yuba).

What are the coordination priorities?

Groundwater Sustainability Agencies are working together to establish a foundation for open and transparent inter-basin coordination and communication by developing tools to:



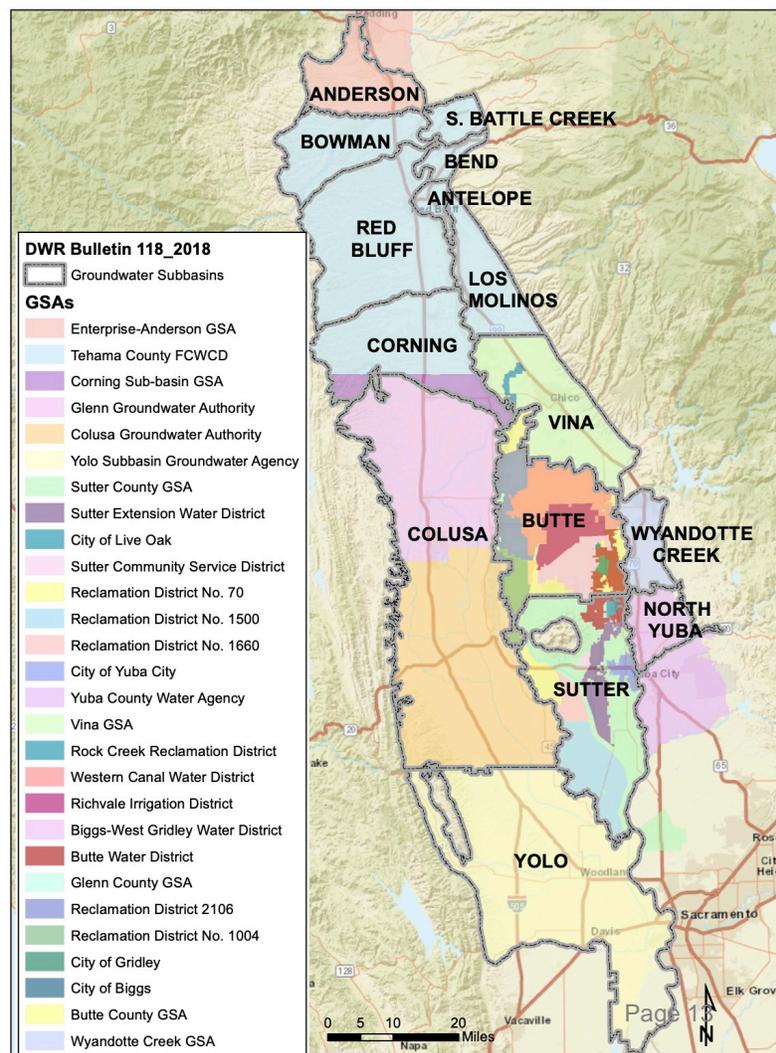
SHARE & COMPILE INFORMATION IN A CONSISTENT WAY



OUTLINE A PROCESS TO IDENTIFY & RESOLVE ISSUES



DOCUMENT COORDINATION EFFORTS



Learn More & Get Involved



Receive Updates

Sign up for your GSA's interested parties list.



Contact Your GSA

Talk to your GSA representative



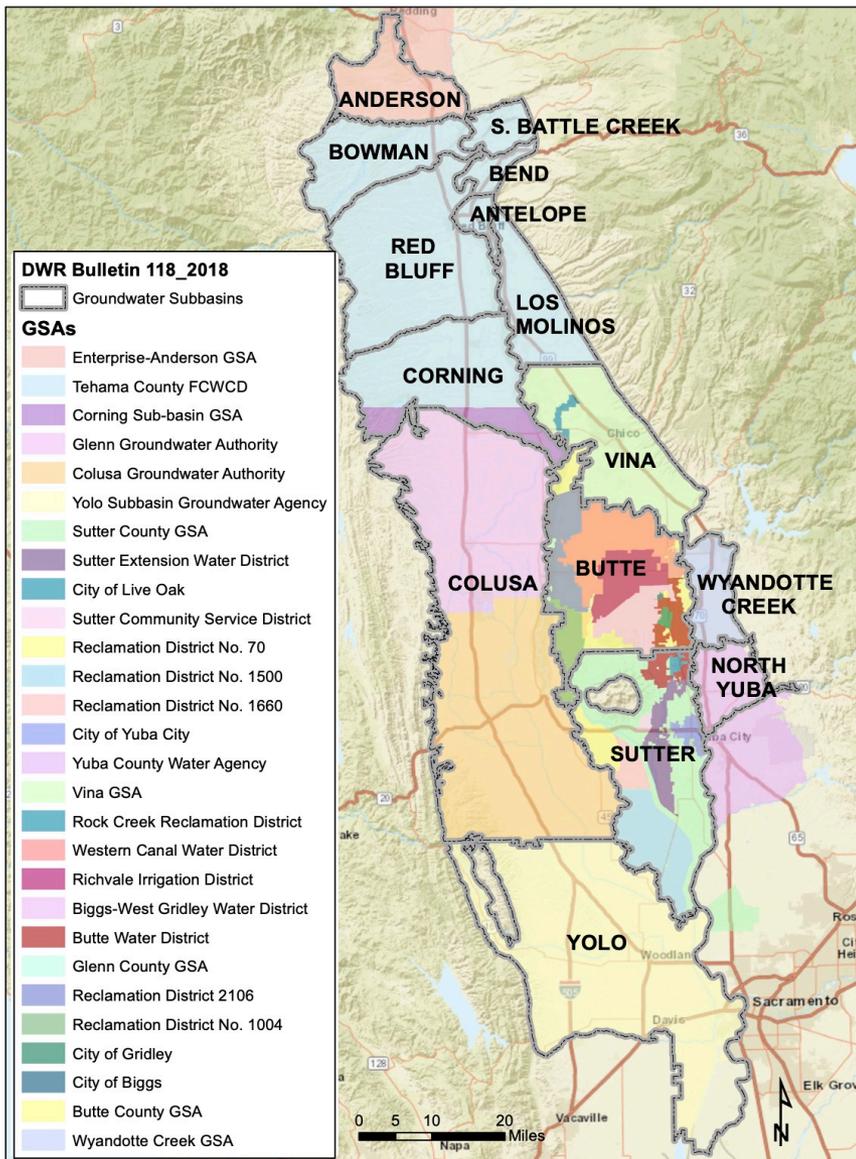
Attend Meetings

Attend public workshops, Advisory Board, and GSA Board meetings

Subbasin	GSA(s)	Website
Antelope	Tehama County Flood Control and Water Conservation District (FCWCD)	Website
Bowman	Tehama County FCWCD	Website
Butte	Biggs West Gridley WD, Butte County, Butte WD, City of Biggs, City of Gridley, Colusa Groundwater Authority, Glenn County, RD 1004, RD 2106, Richvale ID, Western Canal WD	Website
Los Molinos	Tehama County FCWCD	Website
Red Bluff	Tehama County FCWCD	Website
Corning	Corning Sub-basin GSA, Tehama County FCWCD	Website
Colusa	Glenn Groundwater Authority; Colusa Groundwater Authority	Websites (Glenn) (Colusa)
Sutter	Butte WD, City of Live Oak, Sutter Community Service District, Sutter County, Sutter Extension Water District, RD 70, RD 1660, RD 1500, City of Yuba City	Website
Vina	Rock Creek Reclamation District, Vina GSA	Websites (Vina) (RCDC)
Wyandotte Creek	Wyandotte Creek GSA	Website
Yolo	Yolo Subbasin Groundwater Agency	Website



Find more information about regional inter-basin coordination at:



Inter-basin Coordination Efforts | Northern Sacramento Valley

*Antelope | Bowman | Butte | Colusa |
Corning | Los Molinos | Red Bluff | Sutter
| Vina | Wyandotte Creek | Yolo*

Presentation by Mariana Rivera-Torres

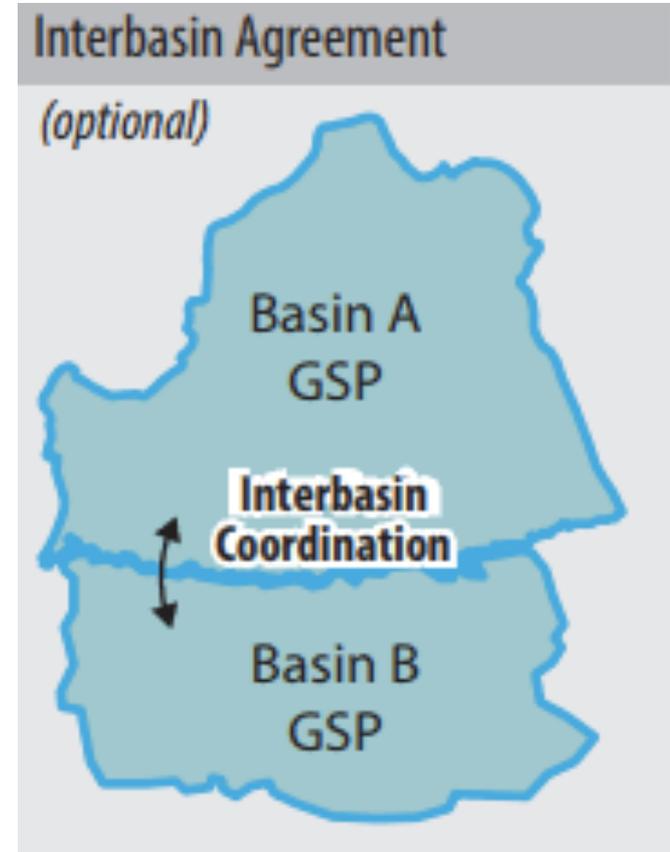
mrivertorres@cbi.org

10/20/2020

Inter-Basin Coordination

Why is it important?

- Many groundwater subbasins are **hydrologically connected** in the Northern Sacramento Valley.
- Water management decisions in one basin (e.g. groundwater pumping) and processes such as climate change could change aquifer conditions and affect flows to other basins.
- Understanding and accounting for these processes (e.g. cross-boundary flows) in the development of GSPs will be key to successfully implementing the Sustainable Groundwater Management Act (SGMA).



Inter-basin Coordination Efforts

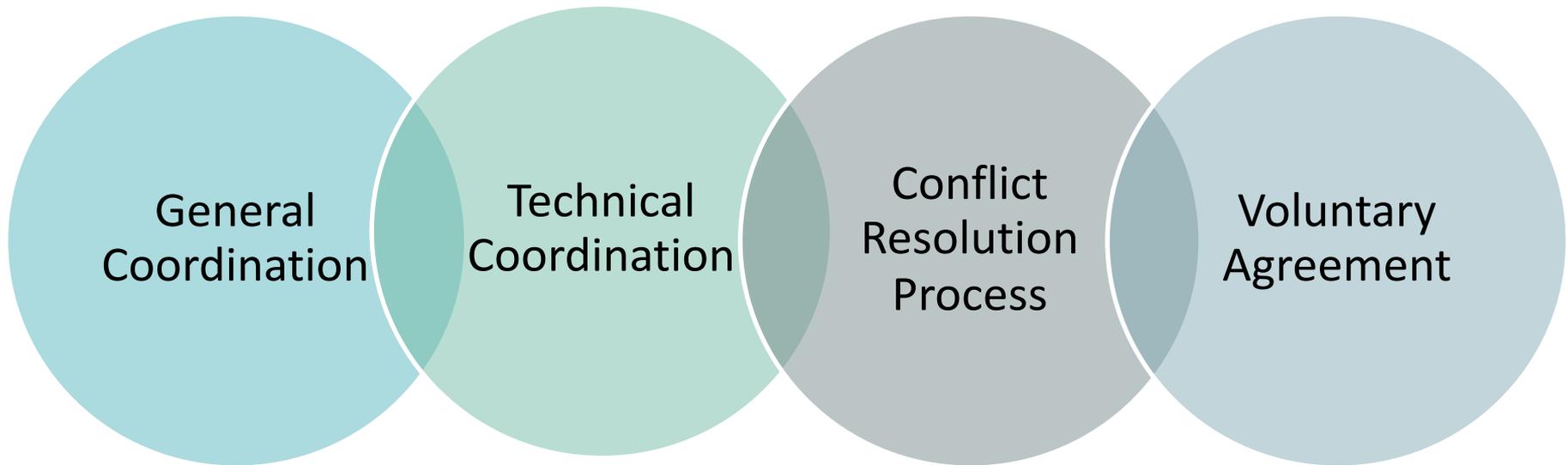
Subbasins Participating



Subbasin	GSA(s)	Website
Antelope	Tehama County Flood Control and Water Conservation District (FCWCD)	Website
Bowman	Tehama County FCWCD	Website
Butte	Biggs West Gridley WD, Butte County, Butte WD, City of Biggs, City of Gridley, Colusa Groundwater Authority, Glenn County, RD 1004, RD 2106, Richvale ID, Western Canal WD	Website
Los Molinos	Tehama County FCWCD	Website
Red Bluff	Tehama County FCWCD	Website
Corning	Corning Sub-basin GSA, Tehama County FCWCD	Website
Colusa	Glenn Groundwater Authority; Colusa Groundwater Authority	Websites (Glenn) (Colusa)
Sutter	Butte WD, City of Live Oak, Sutter Community Service District, Sutter County, Sutter Extension Water District, RD 70, RD 1660, RD 1500, Yuba City	Website
Vina	Rock Creek Reclamation District, Vina GSA	Websites (Vina) (RCDC)
Wyandotte Creek	Wyandotte Creek GSA	Website
Yolo	Yolo Subbasin Groundwater Agency	Website

Coordination Priorities & Tools

§ 357.2. Interbasin Agreements Regulations Requirements



Focus:

- Inter-basin Coordination Directory
- Outreach Materials

Focus:

- Compiling information in a consistent way
- Accurate basis of comparison

Focus:

- Outlining road map & process for identifying and resolving issues

Focus:

- Review submitted Groundwater Sustainability Plans for examples of existing Agreements

Timeline & Priorities



Summer 2020

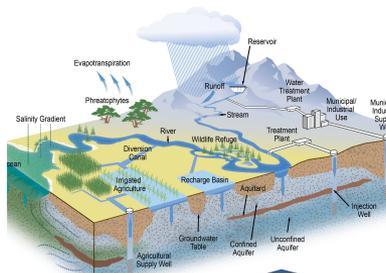
- Share priorities and desired outcomes for inter-basin coordination (i.e. focus on cross-boundary flows, stream-aquifer interactions, water budgets).
- Create information-sharing resources (directory, template, topic framing, etc.)

Fall/Winter 2020

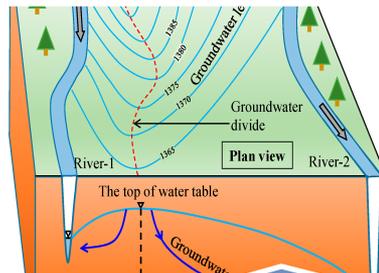
- Technical coordination: begin compiling information on models and water budgets.
- Discuss public outreach and communication strategies.

Spring / Summer 2021

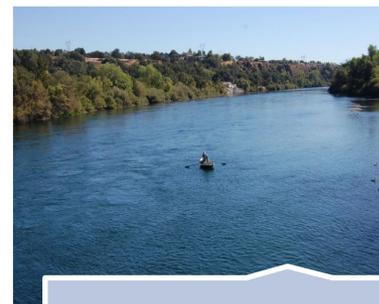
- Coordinate on GSP topics
- Process for identifying differences and resolving conflicts
- Make recommendation on decision regarding voluntary agreement(s)



Modeling



Cross-boundary flows



Stream-aquifer interactions at boundaries



Sustainable Management Criteria & Monitoring Networks

Recent Updates



- Staff and consulting teams from 11 subbasins (Antelope, Bowman, Butte, Colusa, Corning, Los Molinos, Red Bluff, **Sutter**, Vina, Wyandotte Creek, and **Yolo**) met on December 1st to discuss preliminary findings from the information-sharing template and regional outreach and engagement strategies.
- New public outreach materials developed
 - Website ([access here](#))
 - Flyer

Next Steps

Opportunities for Public Input

- Subbasins are at different stages in GSP development (not all Water Budget results are ready for comparison). Staff and consultants will meet again in February-March 2021 to review compiled data, identify any significant differences, and discuss potential ways to reconcile those differences, as warranted.
- Technical teams from adjacent subbasins will meet to identify appropriate ways to compare and communicate information on model assumptions, cross-boundary flows, and stream-aquifer interactions at boundaries.
- Key findings will be presented to the public for an opportunity to ask questions and provide input. We will continue to provide inter-basin coordination updates on a regular basis going forward.

Learn More & Get Involved



Receive Updates

Sign up for your GSA's interested parties list.



Contact Your GSA

Talk to your GSA representative



Attend Meetings

Attend public workshops, Advisory Board, and GSA Board meetings



Find more information about regional inter-basin coordination at:

[ButteCounty.net/waterresourceconservation/Sustainable-Groundwater-Management-Act/Inter-basin-Coordination](https://www.buttecounty.net/waterresourceconservation/Sustainable-Groundwater-Management-Act/Inter-basin-Coordination)

Questions?



Dr. Christina Buck

CBuck@buttecounty.net

Butte County Water Resources Conservation

Mariana Rivera-Torres

mrivertorres@cbi.org

Consensus Building Institute



About CBI

CBI is a nonprofit organization with decades of experience helping leaders collaborate to solve complex problems.

Our staff are experts in facilitation, mediation, capacity building, citizen engagement, and organizational strategy and development. We are committed to using our skills to build collaboration on today's most significant social, environmental, and economic challenges. We work within and across organizations, sectors, and stakeholder groups.

FOR MORE INFORMATION: CBI.ORG

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WASHINGTON, DC
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SAN FRANCISCO, CA
DENVER, CO
SANTIAGO, CHILE
MONTRÉAL, CANADA

6. STAFF UPDATES

The program manager will provide brief status updates. Reminders and/or clarifications may also be made at this time.

7. FINANCIAL REPORT

- a. *Review and accept Monthly Activities Report.
- b. *Review and consider approval of claims.

The Monthly Activities Report and Claims Summary are attached.

Attachments

- Monthly Activities Report
- Claims Summary

8. FISCAL YEAR 2019/2020 ANNUAL AUDIT

- a. *Accept *Glenn Groundwater Authority Groundwater Sustainability Agency Financial Statements and Supplementary Information Year Ended June 30, 2020*.

On June 15, 2020, the GGA Board approved the CliftonLarsonAllen LLP (CLA) Engagement Letter to provide services to complete the Fiscal Year 2019-2020 Annual Audit. Staff coordinated with CLA staff throughout the audit process. On December 15, 2020, Joey Judson of CLA provided a presentation on the draft *Glenn Groundwater Authority Groundwater Sustainability Agency Financial Statements and Supplementary Information Year Ended June 30, 2020* report. Staff is working toward providing input on the Management's Discussion and Analysis portions of the report. A final report is not yet available for approval. Staff will provide a verbal status update.

9. *AUTHORIZE SUBMITTAL OF 2020 MULTI-COUNTY AGENCY BIENNIAL NOTICE OF REVIEW OF THE GGA BOARD'S CONFLICT OF INTEREST CODE

The GGA adopted its Conflict of Interest Code (COIC) on August 13, 2018. The Fair Political Practices Commission (FPPC) reviewed and approved the COIC on February 15, 2019. The code became effective March 17, 2019. The FPPC requires a biennial review of the COIC on even numbered years. The FPPC has provided the GGA with a 2020 Multi-County Agency Biennial Notice to complete. The FPPC provides the following guidance:

When determining whether to amend, an agency should carefully review its current conflict of interest code and consider the following:

- Is the current code more than five years old?
- Have there been any substantial changes to the agency's organizational structure since the current code was adopted?
- Have any positions been eliminated or renamed since the current code was adopted?
- Have any new positions been added since the current code was adopted?
- Have there been any substantial changes in duties or responsibilities for any positions since the current code was adopted?

If an agency answers "yes" to any of the above questions, most likely its conflict of interest code will need to be amended.

It is recommended the GGA review the COIC and draft 2020 Multi-County Agency Biennial Notice, provide necessary input, and authorize the Program Manager to sign and submit the notice.

Attachments

- Glenn Groundwater Authority Conflict of Interest Code
- 2020 Multi-County Agency Biennial Notice

**CONFLICT OF INTEREST CODE FOR THE
GLENN GROUNDWATER AUTHORITY**

The Political Reform Act (Government Code Section 81000, et. seq.) requires state and local government agencies to adopt and promulgate conflict of interest codes. The Fair Political Practices Commission has adopted a regulation (2 California Code of Regulations Section 18730) that contains the terms of a standard conflict of interest code, which can be incorporated by reference in an Authority's code. After public notice and hearing, the standard code may be amended by the Fair Political Practices Commission to conform to amendments in the Political Reform Act. Therefore, the terms of 2 California Code of Regulations Section 18730 and any amendments to it duly adopted by the Fair Political Practices Commission are hereby incorporated by reference. This regulation and the attached Appendices, designating positions and establishing disclosure requirements, shall constitute the conflict of interest code of **Glenn Groundwater Authority (Authority)**.

Individuals holding designated positions shall file their statements of economic interests with the **Authority**, which will make the statements available for public inspection and reproduction. (Gov. Code Sec. 81008.) All statements will be retained by the Glenn County Department of Agriculture on the Authority's behalf.

**CONFLICT OF INTEREST CODE FOR THE
GLENN GROUNDWATER AUTHORITY
APPENDIX A-Designated Positions**

<u>Position</u>	<u>Disclosure Category</u>
Administrator	1, 2
Treasurer	1, 2
Internal Committee Member	1, 2
General Counsel	1, 2
Special Legal Counsel	1, 2
Consultants/New Positions	*

Note: The designated positions are filled by employees of member agencies who act in a staff capacity for the Authority.

*Consultants/new positions shall be included in the list of designated positions and shall disclose pursuant to the broadest disclosure category in the code subject to the following limitations:

The Authority may determine in writing that a particular consultant or new position, although a "designated position," is hired to perform a range of duties that is limited in scope and thus is not required to comply fully with the disclosure requirements described in this section. Such determination shall include a description of the consultant's or new position's duties and, based upon that description, a statement of the extent of disclosure requirements. The Authority's determination is a public record and shall be retained for public inspection in the same manner and location as this conflict of interest code. (Gov. Code Section 81008)

The following positions are NOT covered by the conflict-of-interest code because they must file under Government Code Section 87200 and, therefore, are listed for informational purposes only:

- Board Members/Alternates

An individual holding one of the above listed positions may contact the Fair Political Practices Commission for assistance or written advice regarding their filing obligations if they believe that their position has been categorized incorrectly. The Fair Political Practices Commission makes the final determination whether a position is covered by Government Code Section 87200.

**CONFLICT OF INTEREST CODE FOR THE
GLENN GROUNDWATER AUTHORITY
APPENDIX B-Disclosure Categories**

1. Investments and business positions in business entities, and income, including receipt of loans, gifts, and travel payments, from sources of the type that provide services, supplies, materials, machinery, or equipment of the type utilized by the Authority.

2. Interests in real property located within the jurisdiction of the Authority, or within two miles of the jurisdictional boundaries of the Authority, or within two miles of any land owned or used by the Authority.

This is the last page of the conflict of interest code for **Glenn Groundwater Authority**.



CERTIFICATION OF FPPC APPROVAL

Pursuant to Government Code Section 87303, the conflict of interest code for **Glenn Groundwater Authority** was approved on 2/15 2019. This code will become effective on 3/17/ 2019.

A large, stylized handwritten signature in black ink, appearing to read "John M. Feser, Jr.", written over a horizontal line.

John M. Feser, Jr.
Senior Commission Counsel
Fair Political Practices Commission

2020 Multi-County Agency Biennial Notice

Name of Agency: Glenn Groundwater Authority

Mailing Address: 225 N. Tehama St., Willows, CA 95988

Contact Person: Lisa Hunter Phone No. (530) 934-6540

Email: lhunter@countyofglenn.net Alternate Email: _____

Counties within Jurisdiction, or for Charter Schools, Counties in which the School is Chartered:
(if more space is needed, include an attachment):

No. of Employees* 0 No. of Form 700 Filers* 28
**Including board and committee members*

Accurate disclosure is essential to monitor whether officials have conflicts of interest and to help ensure public trust in government. The biennial review examines current programs to ensure that the agency's code includes disclosure by those agency officials who make or participate in making governmental decisions.

Please identify which statement accurately describes your agency's status.

- This agency has reviewed its conflict of interest code. The current code designates all positions which make or participate in making governmental decisions. The designated positions are assigned accurate disclosure categories that relate to the job duties of the respective positions. The code incorporates FPPC regulation 18730 so that all relevant Government Code Sections are referenced.
- This agency has reviewed its conflict of interest code and has determined that an amendment is necessary. An amendment may include the following:
 - New positions which involve the making or participating in the making of decisions which may foreseeably have a material impact on a financial interest
 - Current designated positions need renaming or deletion
 - Statutorily required provisions of the code need to be addressed
 - Disclosure categories need revision

Verification (to be completed if no amendment is required)

This multi-county agency's code accurately designates all positions that make or participate in the making of governmental decisions. The disclosure assigned to those positions accurately requires that all investments, business positions, interests in real property, and sources of income that may foreseeably be affected materially by the decisions made by those holding designated positions are reported. The code includes all other provisions required by Government Code Section 87302.

Signature of Chief Executive Officer

Date

All multi-county agencies must complete and return this notice, including those agencies whose codes are currently under review. Please return this notice no later than **October 1, 2020** to the FPPC at biennialnotice@fppc.ca.gov or 1102 Q Street, Suite 3000, Sacramento, CA 95811.

www.fppc.ca.gov
FPPC Advice: advice@fppc.ca.gov (866.275.3772)
Page 1 of 1

10. THE NATURE CONSERVANCY AND DEPARTMENT OF WATER RESOURCES MULTI-BENEFIT RECHARGE PROJECT

- a. Receive a presentation on The Nature Conservancy and Department of Water Resources Multi-Benefit Recharge Project.

Staff met with representatives from The Nature Conservancy and the Department of Water Resources to hear about a proposed multi-benefit recharge project similar to the efforts that have implemented in the Colusa Subbasin by partnering with the Colusa Groundwater Authority. Representatives from The Nature Conservancy and Department of Water Resources will share information about the proposed project. An informational factsheet is attached.

Attachment

- Flood-MAR Multi-Benefit Groundwater Recharge Pilot Program Factsheet

Flood-MAR Multi-Benefit Groundwater Recharge Pilot Program



Program Description

The Nature Conservancy, in partnership with the Department of Water Resources' [FloodMAR program](#) and Sacramento Valley groundwater sustainability agencies, is planning to implement an on-farm, multi-benefit groundwater recharge pilot program in 2021 and 2022. The pilot program provides an opportunity for landowners to receive financial compensation for recharging groundwater while also providing critical wetland habitat for waterbirds migrating along the Pacific Flyway.

The program requires agricultural fields to be flooded for a minimum of 30 days in summer/early fall and/or spring in either 2021, 2022, or both. Participating landowners will be compensated for preparing their fields and purchasing water and associated pumping costs to maintain water depths of 4-inches on enrolled fields. Ideal fields for enrollment in the pilot program are either idle or have row crops tolerant of shallow, temporary flooding and soil types conducive to groundwater recharge.

The set up and implementation dates are flexible, but field flooding must occur between July 15-October 15 and/or March 15-April 30, with set up taking place prior to water application. Timing will vary depending on water availability and crop schedules. Let us know how we can make this program workable with your production schedule and agricultural practices!

Program Process

1. **Notify TNC of Your Interest:** Let us know your field location with a detailed map, window of availability (summer/early fall or spring), current crop types, and 10-year crop history. Deadlines for submittal will be in May for summer/early fall participation OR December for spring participation
2. **Site Selection:** TNC will select fields based on soil and crop types, water source, and timing.
3. **Field Verification:** TNC will verify that the proposed site is suitable for program participation.
4. **Contracting:** Selected participants will sign contracts with TNC.

5. Field Set Up: TNC will:

- verify the field is suitable for the program and request field preparation as necessary,
- survey the field, develop a site-specific recharge monitoring plan, and install equipment at inlets and outlets and in adjacent wells to measure applied water and groundwater depths,
- install wooden stakes to monitor water depths and bird presence.

6. Implementation:

- landowners will be responsible for field preparation to remove or incorporate vegetation as recommended by TNC,
- landowners will spread water on fields for a minimum of 30 days (to be negotiated in contract), maintain flooding depth of 4", and record changes in water flow on an irrigation log,
- TNC field technicians will record water depths and bird presence.
- Consulting engineers will monitor water delivery and changes in groundwater depth.

7. Payment: TNC will pay contract fees after completion of program requirements.

To participate, or ask questions, contact:

Julia Barfield, TNC Project Manager: (916) 449-2852, jbarfield@tnc.org



11. COLUSA SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

- a. Receive update on Plan development, activities, and outreach.
- b. Receive update on GSP Development Grants (Proposition 1 and Proposition 68).
- c. Receive update on Project Agreements.
- d. *Consider approval of amended Colusa Subbasin Sustainability Goal.

The Davids Engineering GSP Development Status Update Memo will be distributed when available which highlights Plan development and activities.

At the December 3, 2020 GGA Executive Committee meeting, the December 15, 2020 GGA Board meeting, and the January 8, 2021 CGA/GGA Joint Technical Advisory Committee meeting, discussion has taken place regarding potential approaches to provide more robust reports and/or information to the Board in preparation of decisions that will be made during the GSP development process. As a result of these meetings, TAC meeting minutes and presentations will be included in the Board meeting packets. Board members may review and use these materials as a way to stay informed and prepare questions or comments for TAC members. Board members are encouraged to request particular items to be agendaized for a future meeting when more information or direction is desired. It has also been suggested that the Board members attend TAC meetings when possible to listen to the discussions. Board agenda items will also be tailored to facilitate discussion and provide direction on important technical topics.

Another important component of GSP development is the collection and consideration of public comments and input relating to the GSP. Public input is being tracked by the outreach team and is currently being compiled in order to provide regular updates to the Colusa Subbasin GSAs to consider during GSP development.

Additional updates on activities will be provided.

Sustainability Goal (amended)

Sustainable Management Criteria included in the GSP require a qualitative description of the Sustainability Goal and descriptions of conditions that would be considered Significant and Unreasonable for each applicable Sustainability Indicators and therefore could lead to an Undesirable Result that could trigger State intervention. A draft Sustainability Goal and Undesirable Results statements were presented and discussed at the October 16 and November 13 CGA/GGA Joint TAC meetings. The Colusa Subbasin Sustainability Goal and Undesirable Results Statements were approved at the December 15, 2020 GGA Board meeting. It was realized later that the Sustainability Goal provided to the Board for approval was not a complete version of what the CGA/GGA Joint TAC had recommended for approval. Below are the Sustainability Goal approved by the GGA Board on December 15 and the TAC-recommended Sustainability Goal with the additional text highlighted in yellow.

Sustainability Goal Approved by the GGA Board:

The sustainability goal for the Colusa Subbasin GSP is to maintain, through a cooperative and partnered approach, locally managed sustainable groundwater resources to preserve, and enhance the economic viability, social well-being and culture of all Beneficial Uses and Users.

Updated Sustainability Goal (recommended by the CGA/GGA Joint TAC):

*The sustainability goal for the Colusa Subbasin GSP is to maintain, through a cooperative and partnered approach, locally managed sustainable groundwater resources to preserve, and enhance the economic viability, social well-being and culture of all Beneficial Uses and Users, **without experiencing undesirable results.***

12. *ELECT VICE CHAIRMAN TO SERVE THE REMAINDER OF THE 2020/2021 TERM

Officers are elected for a period of one year beginning in July of each year. A vacancy for the Vice Chairman position ensued following the retirement of John Viegas from the Glenn County Board of Supervisors.

13. EXECUTIVE COMMITTEE VACANCY

- a. *Consider appointing Executive Committee member to fill vacancy.

The Executive Committee is a standing committee of the GGA and consists of three GGA Board Member/Alternate positions. The Committee currently meets every other month on the fourth Wednesdays at 1:30 pm or as needed. A vacancy for one member of the Executive Committee exists following the retirement of John Viegas from the Glenn County Board of Supervisors. The remaining members include John Amaro and Leslie Nerli.

14. TECHNICAL ADVISORY COMMITTEE VACANCY

- b. *Consider nominations from board members and appoint Technical Advisory Committee member.

On November 13, 2020 Ron Stillwell provided a verbal notification to resign from the GGA TAC. He mentioned he appreciated the opportunity, but does not have the time to fully participate in the process. The GGA Executive Committee discussed the TAC vacancy at the December 3, 2020 meeting and proposed a process to fill the TAC member vacancy. The item was discussed at the December 15, 2020 GGA Board meeting. It was decided members would submit nominations to Ms. Hunter, who would then reach out to the suggested individuals to determine their level of interest in participating. A list of nominations would then be brought to the January GGA Board meeting to consider the nominations and appoint a TAC member to fill the vacancy.

Desired qualifications are included in the attached Technical Advisory Committee Composition and Selection Process developed in January 2019.

Nominations received by members:

- None

Communications indicating interest in serving as a TAC member:

- Don Bills
- Brandon Davison (potentially as an ex-officio member- pending confirmation of desired interest)

Attachments

- The Technical Advisory Committee Composition and Selection Process (1/14/19)
- Don Bills email (12/12/20)

Glenn Groundwater Authority

Groundwater Sustainability Agency

PO Box 351, Willows, CA 95988 | 530.934.6501

Technical Advisory Committee Composition and Selection Process

- Five members
 - Technical background that knows and works in the area.
 - Members would likely be member agency managers and/or member agency technical staff
 - Members will represent diverse geographic areas and types of groundwater users
- Selection process
 - Recommendations/nominations by member agencies
 - **Appointment** by GGA Board
 - The GGA Board **can** request the Executive Committee to review nominations and bring a recommendation to the Board if desired
 - The Board or Executive Committee **can** request additional information from applicants if desired

Lisa Hunter

From: Bills, Donald J <djbills@usgs.gov>
Sent: Saturday, December 12, 2020 12:36 PM
To: Lisa Hunter
Cc: Bills, Donald J
Subject: Re: [EXTERNAL] Glenn Groundwater Authority Meeting- December 15, 2020
Attachments: GGA_Agenda_2020Dec15_FINAL.pdf

Lisa,

I own a small olive orchard south of Orland and am a recently retired hydrologist with the USGS Arizona Water Science Center. I am well acquainted with the hydrogeology of the Central Valley and the Orland area in particular. I currently live in Flagstaff Arizona but am planning on moving back to Orland in the next year or so. I have attended a couple of the GGA meetings in 2018-19 pre-covid and still follow the GGA meetings and meetings for surrounding counties (Colusa and Tehama) when I am able.

I am contacting you about the vacancy on the Technical Committee for GGA. I am wondering if it might be appropriate for you to consider me as a possible candidate?

Questions or comments, please let me know.....don

From: Lisa Hunter <LHunter@countyofglenn.net>
Sent: Friday, December 11, 2020 6:25 PM
Subject: [EXTERNAL] Glenn Groundwater Authority Meeting- December 15, 2020

This email has been received from outside of DOI – Use caution before clicking on links, opening attachments, or responding.

Please see the attached Glenn Groundwater Authority **Board** Meeting agenda.

Meeting of the Glenn Groundwater Authority Board of Directors

December 15, 2020 | 1:30 PM

LOCATION: Teleconference

Pursuant to Governor Newsom’s Executive Order N-29-20 this meeting will be conducted by teleconference. The meeting can be accessed via telephone at +1 (786) 535-3211 or by computer, smartphone, or tablet at:

<https://global.gotomeeting.com/join/851466597>

Meeting Access Code: 851-466-597

The agenda and meeting packet (when available) can also be found on the Glenn County website at:

<https://www.countyofglenn.net/resources/minutes-agendas-groundwater-authority-water/glenn-groundwater-authority-meeting-december>

Have a great day!

Lisa Hunter
Program Manager
Glenn Groundwater Authority
(530) 934-6540 (office)
(530) 624-1074 (cell)

We are striving to maintain ways to serve the public and we have recently made some changes. Please call or email ahead of your visit and see how our services are being modified to keep you and staff as safe as possible during this difficult time. Thank you for your understanding and patience.

15. COMMITTEE UPDATES

- a. Executive Committee
 - i. CGA/GGA Joint Executive Committee

The GGA Executive Committee last met December 3, 2020. Recommendations and discussions from that meeting were considered at the December 15 GGA Board meeting. The next meeting is scheduled for January 27, 2021. The CGA/GGA Joint Executive Committee has not met.

- b. Stakeholder Engagement Committee

The Stakeholder Engagement Committee has not met and has nothing new to report.

- c. Technical Advisory Committee

The Technical Advisory Committee met jointly with the Colusa Groundwater Authority (CGA) Technical Advisory Committee on January 8, 2021. Topics discussed at the meeting included Subarea Water Budgets, Sustainable Management Criteria, and Management Areas. There was also an update on public outreach, inter-basin coordination, and discussion on TAC reports to the GSA Boards.

The TAC member representative and staff may provide additional updates.

Full page slides of TAC presentations and other meeting materials are available on the GGA website at:

<https://www.countyofglenn.net/dept/planning-community-development-services/water-resources/glenn-groundwater-authority/gga>

Attachments

- CGA/GGA Joint TAC meeting minutes (12/11/20)
- CGA/GGA Joint TAC meeting presentation (12/11/20)
- CGA/GGA Joint TAC meeting presentation (1/8/21)

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

December 11, 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.

Danaka DeBow with the Census and Collaboration Program started the meeting and went over some housekeeping and logistical items.

In Attendance:

Committee Members:

GGA: Emil Cavagnolo, Mark Lohse, Zac Dickens, David Kehn

CGA: Darrin Williams, Thad Bettner, Bill Vanderwaal, Jim Wallace, Brandon Davison (ex-officio)

Others in Attendance: Lisa Hunter (GGA Staff), Mary Fahey (CGA Staff), Danaka DeBow (Facilitator, Consensus and Collaboration Program [CCP]), Byron Clark (Davids Engineering, Inc.), Ken Loy (West Yost Associates), John Ayers (Woodard and Curran), Reza Namvar (Woodard and Curran), George Valenzuela (Woodard and Curran), Duncan MacEwan (ERA Economics), Steve Hatchett (ERA Economics), Hilary Reinhard (CGA), Leslie Nerli (GGA), Shelly Murphy (CGA), Holly Dawley (GCID), Lisa Humphreys, Grant Davids, Lester Messina, Jim Brobeck, Jaime Lely, Pete Dennehy (Montgomery and Associates), Greg Wells, Bryce McAteer, Ryan Fulton

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

a. * October 16, 2020 CGA/GGA TAC meeting (GGA TAC only)

(The meeting minutes were previously approved by the CGA TAC). For the GGA, Emil Cavagnolo made a motion to approve the minutes from the October 16, 2020 CGA/GGA TAC meeting. Mark Lohse seconded the motion, which passed per roll call vote:

Roll Call Vote

Glenn Groundwater Authority

Zac Dickens: AYE

David Kehn: Abstain

Emil Cavagnolo: AYE

Mark Lohse: AYE

b. * November 13, 2020 CGA/GGA TAC meeting

For the GGA, David Kehn made a motion to approve the minutes from the November 13, 2020 CGA/GGA TAC meeting. Zac Dickens seconded the motion, which passed unanimously.

Roll Call Vote

Glenn Groundwater Authority

Zac Dickens: AYE

David Kehn: AYE

Emil Cavagnolo: AYE

Mark Lohse: AYE

For the CGA, Thad Bettner made a motion to approve the minutes from the November 13, 2020 CGA/GGA TAC meeting. Bill Vanderwaal seconded the motion, which passed unanimously.

Roll Call Vote

Colusa Groundwater Authority

Thad Bettner: AYE

Bill Vanderwaal: AYE

Darrin Williams: AYE

Jim Wallace: AYE

3. Period of Public Comment

There was no public comment.

4. Colusa Subbasin Groundwater Sustainability Plan Development:

a. Discussion: Management Areas

Byron Clark provided a definition of Management Areas (MAs) from the SGMA regulations. Part of the regulation states that MAs may define different minimum thresholds and operate to different measurable objectives than the basin at large, but one requirement is that Undesirable Results need to be defined consistently throughout the basin. The Colusa Subbasin is on track as the Undesirable Results statements have been completed.

MAs are also described under the Monitoring Network section. There could be situations under a MA scenario where the existing monitoring network would require augmentation. An example is the northwest portion of the basin where there is a limited number of monitoring wells.

Mr. Clark said that MAs may be defined based on physical characteristics or jurisdictional boundaries. Other portions of the GSP (HCM, water budget, notice and communication) must be consistent for the entire GSP area.

Mr. Clark then presented examples of basins that are using MAs: Yolo, Chowchilla, North and Central Delta Mendota, and Kern Groundwater Authority.

In Yolo there are six MAs based on physical setting and the purpose is to give MAs flexibility in setting thresholds. Bill Vanderwaal added that the purpose is to provide more local control and that setting unique thresholds is an added benefit.

In Chowchilla there are six GSAs and four MAs that are delineated based on jurisdictional boundaries (agency boundaries) and the purpose is to set unique thresholds for land subsidence.

In the Delta Mendota, Northern and Central region there are two MAs delineated based on jurisdictional boundaries with the purpose of setting unique subsidence thresholds.

The Kern Subbasin has 16 GSAs and twenty-five MAs based on jurisdictional boundaries. Some of the areas are subdivided based on conditions. The purpose of the MAs are to set unique thresholds, establish different fee structures, participate in water markets, allocate pumping, and implement projects and management actions.

Next, Mr. Clark described four examples of basins without MAs.

In the North and South Yuba Subbasins, the approach to set thresholds to be sensitive to varying conditions throughout the basin was to use a “decision tree” approach to set groundwater level thresholds. The North Yuba has had good surface water supplies and hasn’t had to deal with drawdown, but they wanted to be sure to protect their options when setting minimum thresholds. This is a similar approach to what might work for the Colusa Subbasin.

In the Delta-Mendota Subbasin, thresholds for groundwater levels were set at 20% deeper than the recent historic low. Subsidence thresholds are more specific to the different monitoring sites and uniform thresholds were set for water quality. Thresholds for the other Sustainability Indicators use groundwater levels as a proxy.

In the Eastern San Joaquin Subbasin, groundwater level thresholds were set using historical drought low plus a 100% buffer of historical fluctuation or 10th percentile, whichever is shallower. Water quality thresholds are based on TDS<1,000 mg/L. Other applicable thresholds are based on groundwater levels as a proxy.

In the Merced Subbasin, groundwater level thresholds are based on the depth of the shallowest well in a 2-mile radius of each representative monitoring well. Water quality thresholds are based on TDS<1,000 mg/L, Subsidence thresholds are set at <0.75 ft/year. Other applicable thresholds are based on groundwater levels as a proxy.

Mr. Clark presented a Management Area “Pros and Cons” chart that was developed by Montgomery and Associates for the Corning Subbasin Advisory Board. He described other things to consider when thinking about MAs, including: creating an “us and them” dynamic, considering impacts of unique thresholds on neighboring areas, creating a new administrative burden, benefits from projects and management actions can extend beyond MA boundaries (example direct recharge site), and quantifying project benefits within a MA.

Mr. Clark then opened the floor to discussion about Management Areas.

Mr. Vanderwaal stated that his district, Reclamation District (RD) 108, strongly favors Management Areas. He thinks this structure is the best way to enable local control. RD 108 is participating in a MA in the in Yolo Subbasin. There are challenges either way, but MAs provide more local control. RD 108 clearly knows and believes there will be minimum thresholds, and we believe they should be set within MAs versus the whole GSA.

Mr. Bettner said he tends to agree with Mr. Vanderwaal. His district, Glenn-Colusa Irrigation District (GCID) is interested in exploring MAs. Future conditions throughout the basin may be different as far as conditions and financing and MAs would help manage those conditions. Future scenarios would be helpful to understand how the basin will perform.

Mr. Cavagnolo agreed. His district, Orland-Artois Water District, is split by the freeway. Mr. Clark asked if he would consider two MAs in his district and Mr. Cavagnolo said possibly he would.

Mr. Williams asked Mr. Vanderwaal and Mr. Bettner what goals they are looking to achieve through MAs that cannot be achieved with the GSA in general. At this point Mr. Williams said he is not for or against MAs and

would like to hear specifics. Mr. Bettner said GCID is interested in MAs. They have a lot of data in their district. He is also open to not having MAs but wants to keep them on the table. He said it would be helpful to look at different areas/issues of the basin and how we want to deal with them. Mr. Vanderwaal posed a question to demonstrate how the basin is so large that conditions at distant parts of the basin are vastly different and that MAs will enable more effective local control of the basin.

Mr. Williams stated that he is still on the fence and needs to listen and learn more. He is not convinced now that MAs are the way we need to go. They could be a useful tool but have potential to isolate certain areas of the basin that may have challenging issues. Where/how do you draw the line between MAs? Mr. Vanderwaal said he understands the concern but being involved in the Yolo Subbasin GSA, the area by RD 108 and Dunnigan and River Garden Farms is a totally different area than the other areas in Yolo.

David Kehn commented that he is a Municipal representative in the City of Willows. MAs make sense to delineate but there is a need to discuss where the line is drawn.

Jim Wallace said that, his district, the Colusa Drain Mutual Water Company, is different from the other districts as it is spread across a long distance. He asked Mr. Vanderwaal and Mr. Bettner if they have given any thought to how we would consider MAs and how they see MAs from a geographic standpoint, or an agency standpoint. Colusa Drain has a lot of properties adjacent to RD 108 and GCID. Mr. Vanderwaal replied that there are a variety of ways to do MAs. MAs could be set up for each agency, but he has also heard past thoughts about considering areas along river that have a different hydrology than other areas. MAs could be large scale, such as GGA is one, and in Colusa County there could be two – east of the Sacramento River and west of the Sacramento River. They (RD 108) have not sat down and drawn lines on a map. There are a lot of options to contemplate. Mr. Wallace said he is not sure at this time if it's good or bad. Drawing lines around districts seems to go against the original concept of the JPA and SGMA. If we have MAs, he would prefer to not see them concentrated around economic interests. If an agency is going to affect a smaller entity, that entity should be included. He would rather see them follow hydrogeologic boundaries rather than political boundaries. Mr. Vanderwaal reminded people one intent of SGMA was to enable more local control. Mr. Wallace referred to slide 21 of the presentation (other considerations), and he worries about areas competing for the resource and that as soon as we carve up the basin, we are no longer working on the same problem.

Jaime Lely commented that Mr. Cavagnolo brought up a point of differences between west and east. She has concern about breaking the basin up this way, especially in regards to per-acre costs and how that could affect the west side landowners.

John Ayres from Woodard and Curran said that one challenge if geopolitical lines are not used to define MAs, hydrogeologic lines are “squishy.” Sometimes a stakeholder wants to be in one MA rather than another. The big challenge is that the regulations say that thresholds set in one MA should not affect another to meet its sustainability goal. There is no prescriptive way in the regulations of how that is done. The bottom line is that MAs have to coordinate and work together. If MAs are not used, we can still use different methodologies in different areas by using a procedural approach. Flexibility is definitely needed in a basin this large. We can accomplish this with or without MAs.

Mr. Clark asked about the next steps to support this discussion moving forward.

Mr. Williams said he would like to know from TAC members or from Mr. Clark if there are specific goals and objectives with respect to sustainability that can be achieved better with MAs than without. Mr. Clark said there is not a good answer and the consultant team is approaching this in an objective manner. He does feel the basin can be managed well without MAs, but respects the various opinions. One potential path forward is to begin discussion with the CGA and GGA boards.

Mr. Kehn commented that it is hard to say if he is for or against MAs without seeing a line that is technically defensible. He also stated that this should be a Board decision if political lines are the primary basis for the selection of MAs.

Mr. Wallace asked if the consultants have taken a crack at drawing MAs on a map. They have not. Mr. Wallace said he could see surface water vs. groundwater areas. Hydrogeological areas would be more difficult. Mr. Wallace asked Mr. Vanderwaal and Mr. Bettner if either has considered taking a crack at looking at MAs outside of their boundaries. Mr. Vanderwaal said no, but he would be willing to meet with other interested people and bring back a proposal. He said that in Yolo, MAs were drawn up based on predetermined areas. We may have something like this to refer to.

Mr. Clark said that the Glenn County BMO information could be helpful. Mr. Bettner suggested to start talking about what some of the agency interests are, including needs, planning, financing, etc. It would be helpful to have the water budgets and to bring some data into these conversations. It would also be helpful to look at what future conditions in the basin look like. Mr. Clark said the model could be a useful tool.

Mr. Williams said that a bigger discussion needs to be had. We know where problem areas are. We need to know the challenges, how we want to address challenges and then decide if/how we need MAs.

Ken Loy from West Yost Associates said that the Yolo Subbasin MAs are based on hydrological conditions. He suggested the consultant team could do a quick delineation where it is thought that groundwater behavior is different. This would be based purely on technical interpretation. They could draw lines on a map and present this to the TAC as a beginning point for further conversation. These would not be suggested MAs, but inputs that the TAC could work with. TAC members were agreeable to this approach.

b. Discussion: Funding Mechanisms

Mr. Clark introduced Duncan MacEwan and Steve Hatchett from ERA Economics. Mr. MacEwan began with a high-level overview of economic considerations and explained that the scope of work is to establish baseline economic conditions in basin. He presented the 2016 cropping map and said that trends in the Colusa Subbasin are consistent with the rest of state, with more permanent crops being planted. This will be important information when establishing Sustainable Management Criteria and Projects and Management Actions.

Steve Hatchett described a range of funding options and said that the ERA team is here to help the GSA Boards understand the implications of different funding options. There are several categories of costs, including: administrative, GSP development, and GSP implementation (PMAs, monitoring, GSP updates and reporting, etc).

Grants and loans are typically used to fund capital costs. Examples are Proposition 68, USBR WaterSmart program, Bonds (large capital projects), private funding, borrowing (lines of credit, etc.).

Fees and assessments would be used for GSP-related funding, including administration, reporting and GSP updates. This category includes regulatory fees (Proposition 26, Proposition 218), extraction fees, permit fees, other fees or a mix.

Equity considerations are related to the Management Area discussion. MAs can be the basis for differentiating fees across the basin but it is not necessarily required. The GSAs do not have to have MAs to have variation in fees throughout the basin. A fee does have to show a defensible relationship between fees imposed on different geographies and the benefits received in those geographies (nexus).

Mr. Hatchett said that his team's job is to help the GSAs think about the different funding options. The next steps will include assessing cost and financing implications at upcoming stages in GSP development,

developing options for funding, considering the potential distribution of costs and benefits and preparing a summary of funding methods and allocation considerations.

There was no further discussion from TAC members.

c. Update on Hydrogeologic Investigation

Ken Loy with West Yost Associates provided an update on the Hydrogeologic Investigation task which is being funded by the California Department of Water Resources' (DWR) Proposition 68 grant. The team is looking at four types of data collection: 1) partnering with DWR on their Airborne Electromagnetic (AEM) study; 2) installation of new multi-completion monitoring wells; 3) installation of stream gages; and 4) installation of additional subsidence benchmarks. Mr. Loy has been communicating with DWR and has learned that the contracting for their AEM study has been delayed which could be a problem given the GSP timeline. The focus of the AEM work in the Colusa Subbasin would likely be on western portion and he is not sure the GSAs would get enough bang for their buck to collect data. His recommendation would be to try to delineate a couple of subsurface faults on the west side. They believe there is a fault that goes down to the Dunnigan hills. In the Colusa Subbasin, they have encountered difficulties in model calibration in the southern portion and they think is from this fault. An AEM survey could help delineate this and help us gain a better understanding of the hydrogeology in the area and help with model calibration.

Mr. Loy explained that the current thinking of the consultant team is more towards selecting a location(s) for multi-completion monitoring well(s) and that they are looking for input. One potential location is along the Sacramento River where we know we have important interbasin flow questions. One location in particular stands out, near the intersection of Highway 162 and Highway 45 east of Willows. There is a stream gage on the river in that area. Also, in ranking Groundwater Dependent Ecosystems, the highest ranks are in that area. Also, that location is pretty much dead center between the Colusa and Butte Subbasins. There may be other locations to consider but this is one to think about and provide feedback.

Mr. Wallace asked how much budget is available for this task. Mr. Loy said approximately \$314,000, and that a multi-completion well installation would cost approximately \$200,000. Lisa Hunter reminded the group about the DWR Technical Support well installation services. Mr. Loy said he will be working with Brandon Davison at DWR to discuss these things.

Mr. Davison said that DWR will be hosting a series of webinars in early 2021 to introduce the DWR AEM project. DWR's AEM project webpage is expected to be live by January 2021. He anticipates it might be a little later, perhaps late spring.

d. Discussion: Well Monitoring Pilot Program, Screening Criteria

Mr. Clark reviewed the current schedule for the Well Monitoring Pilot Program. Applications will be available in January and landowner workshop will also be held in January. Site selection and program deployment will occur in February-April. Implementation of the program will happen during the 2021-2023 growing seasons.

Mr. Clark said he would like to have a discussion about participant selection, emphasizing an objective and transparent process.

Mr. Clark reviewed potential eligibility requirements and selection criteria, including, location, water source, and existing flow meter properly installed. Other potential considerations might include the number of wells per participant and a first come/first served tie breaker.

Regarding the criteria, Mr. Wallace asked how percent of groundwater used is determined. Mr. Clark said we would request the information from the applicant, but maybe it is more problematic as it could be complicated and difficult to calculate.

Mr. Kehn indicated he likes the idea of a matrix and suggested that location is the number one criteria and should be based on proximity to an existing monitoring well. We should choose wells that are farther away from existing monitoring wells to help fill in data gaps.

5. Interbasin Coordination Update

Ms. Fahey, Ms. Hunter and Mr. Clark provided an update on the Interbasin Coordination effort that is being coordinated by Butte County. It was emphasized the group is in the early phases of gathering and sharing information and the group is not a decision-making entity.

Jim Brobeck, representing the Vina Subbasin said he is disappointed there is not a summary from the December 1 Interbasin Coordination meeting. He suggested there are substantial discrepancies related to Interbasin flows. The next meeting of this group is not until some time in spring. He hasn't seen a way for the public to be engaged in this effort. Mr. Clark suggested that Mr. Brobeck could pose these questions to the Butte staff and/or the facilitation team who are leading the effort. It is the intent to engage stakeholders in the process. Certain information is just not ready yet.

Mr. Kehn stated that the information was sent in the last meeting packet for the Vina Subbasin and that the modeling teams are working together. Mr. Clark said that DWR just released updated version of their models. These regional models may help with looking at interbasin flow and stream aquifer interactions.

6. Topics for Next Meeting

The next Joint TAC meeting will be January 8, 2021. Some potential topics will be to introduce Basin Setting draft documents, have a more detailed discussion about Projects and Management Actions and more discussion about Management Areas. Another potential topic is Sustainable Management Criteria.

Mr. Kehn said he would like to see the schedule with milestones for GSP development. Mr. Clark pointed Mr. Kehn to the schedule matrix and said if that was not sufficient, he would like some feedback on what else would be helpful.

7. Member Reports and Comments

Ms. Fahey reported on the public workshops that were held on December 9 and 10 and noted the recordings can be found on the Colusa Subbasin SGMA Facebook page.

8. Adjourn:

The meeting was adjourned at 3:30 p.m.



COLUSA AND GLENN GROUNDWATER AUTHORITIES

Colusa Subbasin

Joint Technical Advisory Committee
GSP Development

December 11, 2020

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Discussion Topics

- Management Areas
- Funding Mechanisms
- Hydrogeologic Investigation
- Well Monitoring Pilot Program Screening Criteria

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4.a. Management Areas

Byron Clark
Davids Engineering

12/11/2020 Joint TAC 3

Management Areas (MAs)

- Overview
- MAs in Other Basins
 - Basins with MAs
 - Basins without MAs
- Potential Pros and Cons of MAs
- Discussion of Colusa Subbasin MAs
- Identification of Next Steps

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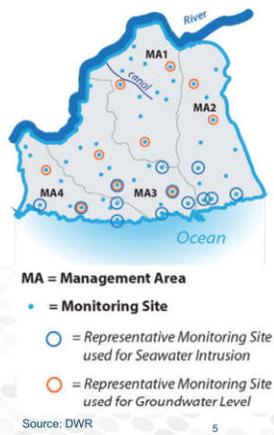
Management Areas (MAs)

§351(r) Definitions

“Management area” refers to an area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.

(Underline – Emphasis Added)

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Management Area Overview

§354.20. Management Areas

“(a) Each Agency may define one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin”

(Underline – Emphasis Added)

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Management Area Overview

§354.20. Management Areas

"(b) A basin that includes one or more management areas shall describe the following in the Plan:

- (1) The reason for the creation of each management area.
- (2) The minimum thresholds and measurable objectives established for each management area, and an explanation of the rationale for selecting those values, if different from the basin at large.
- (3) The level of monitoring and analysis appropriate for each management area.
- (4) An explanation of how the management area can operate under different minimum thresholds and measurable objectives without causing undesirable results outside the management area, if applicable.

(c) If a Plan includes one or more management areas, the Plan shall include descriptions, maps, and other information required by this Subarticle sufficient to describe conditions in those areas."
(Underline = Emphasis Added)

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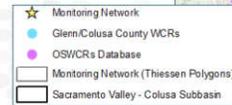
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Management Area Overview

§354.34. Monitoring Network

"(d) The monitoring network shall be designed to ensure adequate coverage of sustainability indicators. If management areas are established, the quantity and density of monitoring sites in those areas shall be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area."



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Management Area Summary

- May be defined based on physical characteristics or jurisdictional boundaries
- Other portions of the GSP (e.g., hydrogeologic conceptual model, water budget, notice and communication) must be consistent for the entire GSP area

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Example Basins with Management Areas

- Yolo – 6
- Chowchilla – 6
- North and Central Delta Mendota – 2
- Kern Groundwater Authority – 25

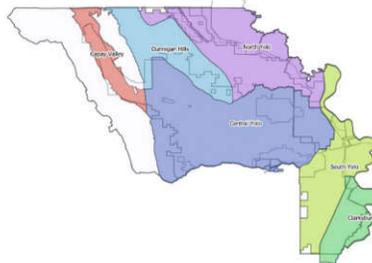
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Yolo Subbasin

- Single GSA (25 Members)
- 6 Management Areas
- Delineated Based on Physical Setting
- Purpose/Use
 - Allow for setting of unique thresholds



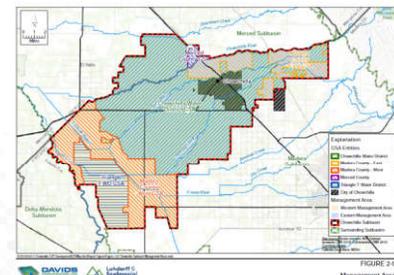
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Chowchilla Subbasin

- Four GSAs
- Six Management Areas
- Delineated Based on Jurisdictional Boundaries
- Purpose/Use
 - Set unique subsidence thresholds



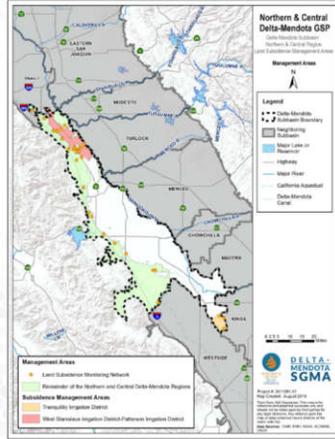
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Delta-Mendota Subbasin (Northern & Central Delta-Mendota Region GSP)

- Single GSA
- Two Management Areas
- Delineated Based on Jurisdictional Boundaries
- Purpose/Use
 - Set unique subsidence thresholds

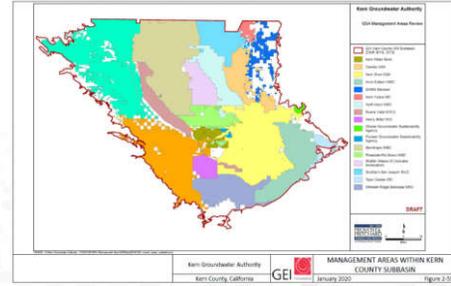


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Kern Subbasin (Kern Groundwater Authority GSP)

- Six GSAs (16 Members)
- 25 Management Areas
- Delineated Based on Boundaries Setting
- Purpose/Use
 - Set unique thresholds
 - Establish different fee structures
 - Participate in water markets
 - Allocate pumping
 - Implement Projects and Management Actions



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Example Basins without Management Areas

- Yuba
- Grassland
- Eastern San Joaquin
- Merced

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North and South Yuba Subbasins

- Three GSAs
- Approach to Set Thresholds
 - “Decision Tree” approach for levels
 - Uniform thresholds for water quality (TDS < 1000 mg/L) and subsidence (0.1 ft/yr)
 - Thresholds for other applicable sustainability indicators based on groundwater levels as proxy



Minimum Threshold
The deeper of either 1) the bottom of the shallowest domestic well near a monitoring well, adjusted for March measurements or 2) the historical low March groundwater level from 1985 to present at the monitoring well. A 75-foot minimum value was applied to the threshold.

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Delta-Mendota Subbasin (Grassland GSA GSP)

- Two GSAs
- Approach to Set Thresholds
 - Levels: 20% deeper than recent historical low for each monitoring site
 - Subsidence: Not to exceed historical average rate of subsidence from 2011 to 2015
 - Quality: TDS not to exceed 2,500 mg/L
 - Others based on levels as proxy



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Eastern San Joaquin Subbasin

- 16 GSAs
- Approach to Set Thresholds
 - Levels: Historical drought low plus 100% buffer of historical fluctuation or 10th %tile domestic well depth, whichever is shallower
 - Quality: TDS < 1,000 mg/L
 - Thresholds for other applicable sustainability indicators based on groundwater levels as proxy



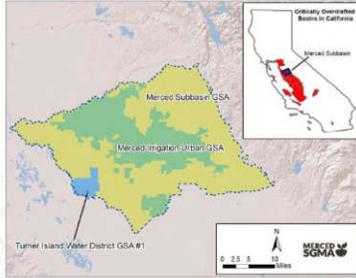
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Merced Subbasin

- Three GSAs
- Approach to Set Thresholds
 - Levels: Depth of shallowest well in 2-mile radius of each representative well
 - Quality: TDS < 1,000 mg/L
 - Subsidence < 0.75 ft/yr
 - Thresholds for other applicable sustainability indicators based on groundwater levels as proxy



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Management Area Pros and Cons

Source: Corning Subbasin Advisory Board, 7/1/2020 (Montgomery & Associates)

Pros	Cons
Identify areas that have unique characteristics and management challenges for focused groundwater management	May require additional time and resources to address separate management areas – also, the justification for developing management areas may be tricky; the GSP requires good justification on why they were chosen
Develop Minimum Thresholds/Measurable Objectives with a different methodology than the rest of the basin or other management areas, with potentially denser monitoring, if needed	Reality - can do this without a management area (SMC are developed at the Representative Monitoring Point, not at Management Area level)
Can set up separate projects and management actions and fees focused only on the management area	Fee base would be smaller if restricted to the management area - Can do this without a management area
Highlight specific management areas and their characteristics to the public and State	Can do this without a management area

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Other Considerations

- Potential “us and them” dynamic between Beneficial Users
- Potential impacts of unique thresholds on neighboring areas
- New administrative layers of governance and implementation
- Accruing benefits from a project or management action in one Management Area when the benefits extend beyond its boundary
- Quantifying benefits that vary within a Management Area from a given PMA

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Discussion and Next Steps

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4.b. Funding Mechanisms

Duncan MacEwan and Steve Hatchett
ERA Economics

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Topics

- Describe work to be completed in support of GSP development
 - Basin economic setting
 - Funding options overview
- Introduce preliminary concepts and an overview of options that will be evaluated further
- Next steps
 - Support of ongoing GSP development and engagement at future stages

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Basin Economic Setting

- Objective
 - Establish baseline economic conditions in the Subbasin, highlighting economically important water-dependent industries
- Approach
 - Establish baseline market conditions for major Subbasin crops
 - Variability in cropping, trends, and returns
 - Jobs, income, local economic activity that depends on farming and related industries

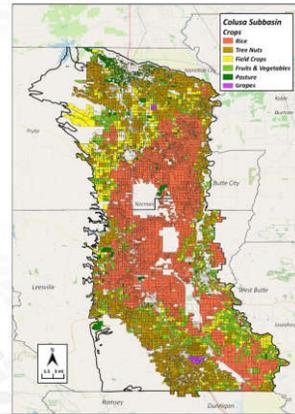
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Subbasin Overview

- 2016 crop map
- Economically important mix of crops
 - Around 35% of irrigated acreage is rice
 - Around 26% of irrigated acreage is nut crops
- Recent trends towards permanent plantings



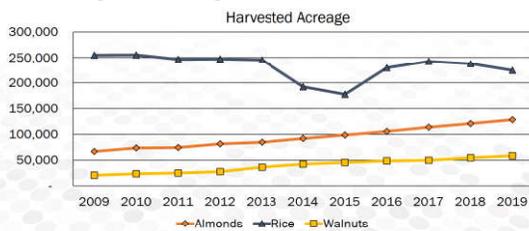
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Subbasin Economic Considerations

- Agriculture is an economically important industry in the Subbasin: jobs, income, supporting industries
 - ~\$1.7 billion gross farm-gate value



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GSP Funding Options

- Objective
 - Describe possible funding options and highlight costs and benefits of alternative approaches considering Subbasin local conditions
- Approach
 - Inventory funding options
 - Consider fairness, equity, and other factors and describe potential options in support of GSP development phases

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GSP Funding Methods

- Capital Projects and Planning Studies
 - Grants and loans
 - Department of Water Resources (DWR) grants including Prop. 68 and other future bonds.
 - US Bureau of Reclamation WaterSmart
- Local bond issuance
- Private funding including conservation easements
- Other local borrowing options
- Considerations
 - Helps fund capital and planning costs only

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GSP Funding Methods

- Ongoing operations and administrative costs
- Extraction and permit fees
 - Water Code 10730(a)
- Other funding sources
 - Water Code sections 10725, 10726.8(a), 10730.2(e), 10730.4, 10730.8, and 10754
 - Section 6 of Article XIII D of the CA Constitution
- Considerations
 - Funding for ongoing operations, monitoring, reporting, administration, and repayment of borrowed capital funds

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GSP Funding Methods

- Specific revenue methods
- Property-related taxes
 - Ad valorem tax
 - Parcel tax
- Charges and fees to cover provision of services
 - Per acre charge
 - Extraction fee
 - Permit fee
 - Other (combined)
- Benefit assessment
- Considerations
 - Equity considerations for allocation of costs and benefits

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Next Steps

- Assess cost and financing implications at upcoming stages in GSP development
 - SMC and PMA
- Develop options for funding, considering the potential distribution of costs and benefits
- Prepare short technical memorandum summarizing funding methods and allocation considerations

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4.c. Hydrogeologic Investigation

Ken Loy
West Yost Associates

12/11/2020

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Discussion Only (No Slides)

12/11/2020

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4.d. Well Monitoring Pilot Program Screening Criteria

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Background

- Applications Open in January, Followed by Landowner Workshop
- Selection and Deployment in February – April
- Implementation for 2021 – 2023 Growing Seasons
- Today's Discussion: Development of Participant Selection Criteria

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Eligibility Requirements

- Potential Participants Agree to:
 - Allow GSAs to make information collected publicly available
 - Allow GSA representatives to make site visits
 - Participate for a period of three years
 - Install approved flow meter and access tube for pressure transducer in well casing, if not already present
 - Maintain cellular service for monitoring equipment telemetry during three-year enrollment period
 - Manually report pumping data during three-year enrollment period, in the event of device failure

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Selection Criteria

- Selection will Consider
 - Location within the subbasin (desire to enroll participants in both Glenn and Colusa counties)
 - Water source (fields relying primarily on groundwater preferred)
 - Presence of an existing flow meter installed per manufacturer specifications
- Other Possible Considerations
 - Number of wells per participant
 - First come – first served

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Ideas for Discussion

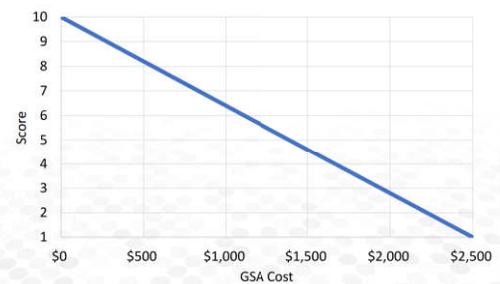
- Location within the subbasin (desire to enroll participants in both Glenn and Colusa counties)
 - Equal number of wells in each county
- Water source
 - Score from 1 to 10 based on percent of supply from groundwater vs. surface water
- Presence of an existing flow meter
 - Score from 1 to 10 based on flowmeter costs to GSA
 - \$2,500 = 1 → \$0 = 10

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Flowmeter Cost Score



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Other Considerations

- Number of Wells per Participant
 - Limit to one well per participant, unless funding remains after initial selection is complete
 - For participants submitting multiple applications, highest scoring well included in initial round of selection
- First Come – First Served
 - If more than one well has the same score, and only one can be funded, select first application submitted

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Hypothetical Example

Applications Received							Application Ranking and Selection							
Applicant	% Groundwater	Flow-meter Cost	Date	% Groundwater Score	Cost Score	Total Score	Round	Rank	Applicant	Total Score	GSA Cost ¹	Available Funding	Date	Selected
A	65%	\$2,000	1/31	6.5	2.8	9.3	1	1	B	12.8	\$6,250	\$42,000	1/28	Yes
B	100%	\$2,000	1/28	10.0	2.8	12.8		2	D	12.5	\$4,250	\$35,750	1/25	Yes
C	75%	\$1,500	1/16	7.5	4.6	12.1		3	C	12.1	\$5,750	\$31,500	1/16	Yes
C	100%	\$2,500	1/21	10.0	1.0	11.0		4	A	9.3	\$6,750	\$25,750	1/31	Yes
D	25%	\$0	1/25	2.5	10.0	12.5		5	F	9.0	\$6,750	\$19,000	1/30	Yes
E	25%	\$2,000	1/19	2.5	2.8	5.3		6	E	5.3	\$6,250	\$12,250	1/19	Yes
F	80%	\$2,500	1/30	8.0	1.0	9.0	2	1	D	11.0	\$6,000	\$6,000	1/19	Yes
								1	C	11.0	\$6,750	\$0	1/21	No

1. GSA Cost Includes Flow Meter, Pressure Transducer, and Telemetry

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Discussion

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COLUSA AND GLENN GROUNDWATER AUTHORITIES

Colusa Subbasin

Joint Technical Advisory Committee
GSP Development

January 8, 2021

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Discussion Topics

- Subarea Water Budgets
 - Davids Engineering
- Sustainable Management Criteria
 - Woodard & Curran, ERA Economics
- Management Area Considerations
 - Woodard & Curran, West Yost

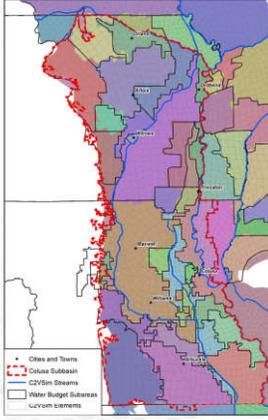
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4.a. Subarea Water Budgets

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Water Budget Approach

- Estimated using DWR's Integrated Hydrologic Model (C2VSimFG Beta2), with local refinements
- 38 Subareas in Colusa Subbasin
 - Water Suppliers/ Diverters
 - Counties
 - GW-Only Areas
- Ability to Report Out Water Budgets to Support Intrabasin Discussions



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Surface System Water Budget Components

- Land Use
- Precipitation
- Surface Water Deliveries
- Groundwater Pumping
- Evapotranspiration
- Deep Percolation
- Stream/Canal Seepage
- Runoff from Precipitation and Applied Water

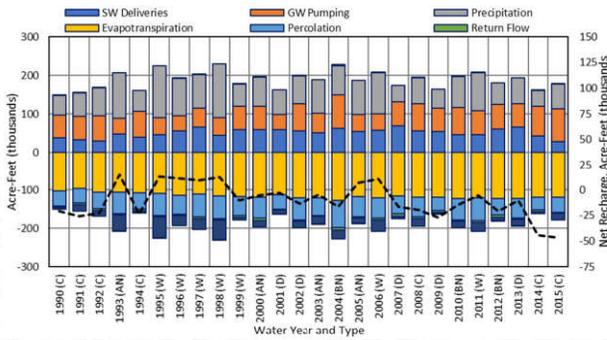
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Groundwater System Water Budget Components

- Subsurface Flows
- Exchanges with Surface Layer
 - Groundwater Pumping
 - Recharge
- Change in Groundwater Storage

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Example Surface Water Budget

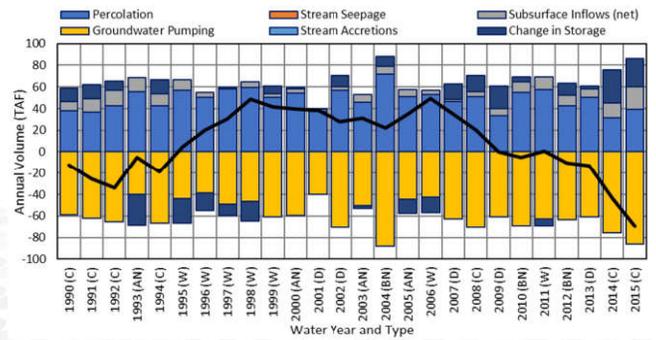


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Example Groundwater Budget



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Next Steps

- Assemble Draft Water Budget Summaries by Subarea
- Distribute for Additional Input
- Support Intrabasin Discussions
 - Management Areas
 - Sustainable Management Criteria
 - Projects and Management Actions

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Discussion

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4.b. Sustainable Management Criteria

Sustainable Management Criteria

- Considerations for groundwater level thresholds
 - Percent of range of measurements
 - Percentile of nearby wells depth
 - Percentile of nearby domestic wells depth
- Model use and forecasted surface water deliveries

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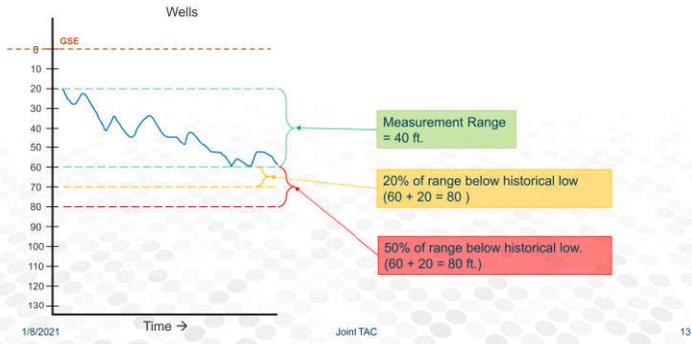
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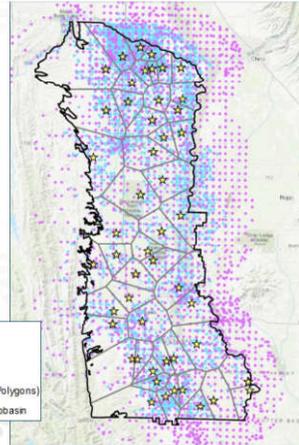
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Percent of Range Groundwater Levels

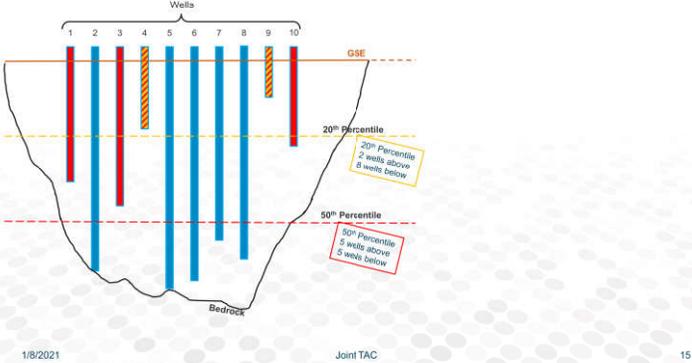


Thiessen Polygons and WCR database Groundwater Levels

- Shows area that is nearest to each monitoring well
- Can be used to select Well Completion Reports to identify which WCRs are closest to which monitoring point

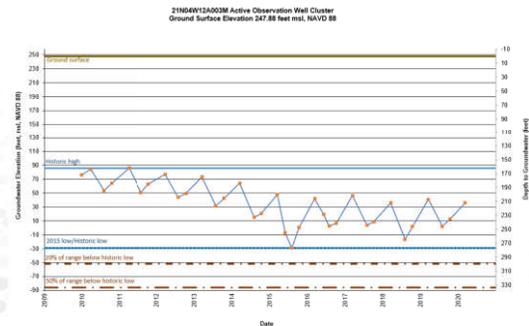


Understanding Well Depth Percentiles Groundwater Levels



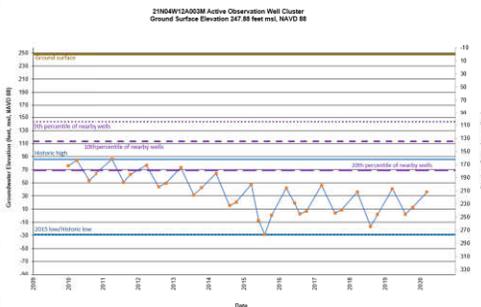
Period of Record

- 20%, 50% below historic low



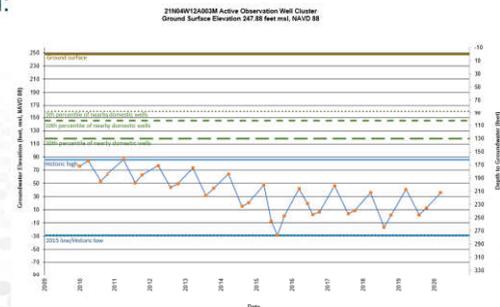
Percentile of All Nearby Wells

- 5th, 10th, 20th percentile
- Well types included:
 - Domestic
 - Industrial
 - Irrigation
 - Municipal
 - Public
 - Stock or Animal Watering



Percentile of Nearby Domestic Wells

- 5th, 10th, 20th percentile
- Well types included:
 - Domestic wells



Future Surface Water Availability

- Future surface water availability is uncertain
- Bay delta water quality control plan factors
- Need to be considered as part of minimum thresholds
- Will use numerical model under multiple scenarios to evaluate effects of reduced surface water deliveries on groundwater conditions
- Will use those scenarios to guide minimum threshold development

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Model Use and Forecasted Surface Water Deliveries

- Model reductions in surface water supply and corresponding reductions in groundwater levels due to increased pumping
- Compare to domestic well infrastructure to evaluate potential effects
- Consider using local considerations (nearby well depths, range of measurements, etc.) to set Minimum Thresholds that are similar in elevation to groundwater conditions under reduced future surface water deliveries

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Potential Economic Analysis to Support Selection of MT and MO

- Overview
- Economic analysis in other basins
 - Alternative PMA implementation timelines and associated Minimum Thresholds (MT) and Measurable Objectives (MO)
 - Tradeoff analysis: demand management and domestic well mitigation program
- Potential economic analysis
- Discussion

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Overview

- MT and MO may be set based on modeled groundwater levels and SMC
 - Different percentiles; historic lows; modeled reductions in surface water supply and associated groundwater levels
- Economic analysis is a framework for comparing tradeoffs in alternative MT/MO in a consistent manner
 - Costs and benefits occurring at different points in time

Example Tradeoffs in Setting MT/MO			
Set Higher MT/MO		Set Lower MT/MO	
Potential Benefits <ul style="list-style-type: none"> • Lower pumping cost • Fewer affected domestic wells • Reduced subsidence • GDE and other SMC benefits 	Potential Costs <ul style="list-style-type: none"> • Capital outlays for PMAs • May affect pumping in some years/regions • Increased monitoring and management • Risk of exceeding MT 	Potential Benefits <ul style="list-style-type: none"> • Delayed costs for PMAs • Greater flexibility to respond to surface water shortage • Greater management flexibility 	Potential Costs <ul style="list-style-type: none"> • Greater pumping cost • Domestic well impacts • Subsidence, GDE, and other SMC

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Example Analysis in Other Subbasins

- Madera Subbasin
 - Benefit-cost analysis of more rapid demand management (land idling) implementation
- Chowchilla Subbasin
 - Benefit-cost analysis of domestic well impacts

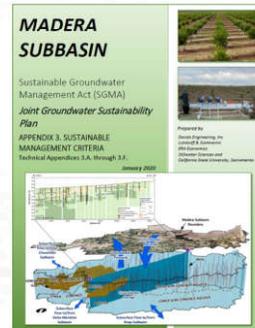
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Madera Subbasin

- Costs and benefits of reducing pumping to keep groundwater levels higher
 - Appendix 3.C Economic Impact Analysis of Accelerated Demand Reduction Program
- Method
 - Economic model of subbasin agriculture and water use
 - Projected groundwater elevation under GSP implementation



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Madera Subbasin

• Outcomes

- Quantification of the economic contribution of agriculture to subbasin economy
- Benefit-cost analysis of accelerated demand management (focus on irrigated agriculture)

Madera Benefit-Cost Analysis Summary	
Benefits	Costs
<ul style="list-style-type: none"> • Reduced pumping costs due to lesser lifts • SMCs including avoided domestic well replacement costs 	<ul style="list-style-type: none"> • Loss of crop revenue due to fallowing • County tax revenue losses • Farm job losses and impacts to DACs



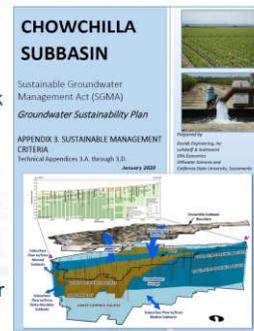
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Chowchilla Subbasin

- Costs and benefits of a potential domestic well mitigation program
 - Appendix 3.C Economic Analysis and Framework for Potential Domestic Well Mitigation Program
- Method
 - Economic model of subbasin agriculture and water use
 - Projected groundwater elevation under GSP implementation
 - Preliminary domestic well inventory developed for the GSP from multiple sources



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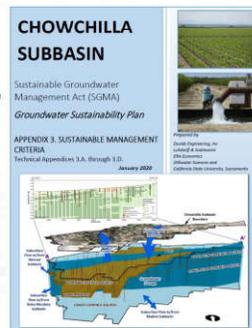
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Chowchilla Subbasin

• Outcomes

- Benefit-cost analysis of GSP implementation, accelerated demand management, and impacts to domestic wells
- Review of existing mitigation programs
- Quantification of potential program costs

Chowchilla Benefit-Cost Analysis Summary	
Benefits	Costs
<ul style="list-style-type: none"> • Economic activity with continued farming • Reduced pumping costs due to lesser lifts • Avoided domestic well replacement capital costs 	<ul style="list-style-type: none"> • Loss of crop revenue due to fallowing • Well replacement mitigation program costs



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Potential Economic Analysis Considerations

- Can provide a consistent framework for quantifying costs and benefits that occur over time
- Analysis can be scaled up or down to specific management areas if needed for future planning efforts
- Relation to funding mechanisms
 - Provides a basis for allocating project costs
 - Foundation for any benefits-based assessments
- Integrate with groundwater model projected levels under future land use and surface water availability

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Discussion

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4.c. Management Areas

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Management Areas

- Regulations
- Potential boundaries
- Management areas and projects and management areas
- Management area examples

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Management Area Regulations

§351 (r): “Management area” refers to an area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors.”

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Management Area Regulations

§354.20 (a): “Each Agency may define one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin.”

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Management Area Regulations

GSPs that include management areas need to describe:

- Reason for creation of management area
- Sustainable management criteria and rationale
- Level of monitoring
- §354.20 (b) (4): “An explanation of **how the management area can operate under different minimum thresholds and measurable objectives without causing undesirable results outside the management area**, if applicable.”

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Summary of Regulations

- A management area can be used to”
 - Set different minimum thresholds
 - Set different measurable objectives
 - Set up different density and frequency of monitoring
 - Vary implementation of projects and management actions
- Management areas are optional but may be established at GSA’s discretion
- Management areas increase GSP complexity

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Potential Management Area Uses

- Provided by regulation
 - Differentiate rationale for Minimum Thresholds and Measurable Objectives
 - Establish different concentration or types of monitoring

- At GSA Board’s Discretion
 - At GSA’s discretion, Management Areas *could* be used to:
 - Delegate authorities to other jurisdictions
 - Perform projects and management actions discretely by Management Area

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Key Management Area Considerations

- The GSA Board may assign costs, allocations, and projects and management actions spatially throughout the Subbasin, regardless of management areas
- Management Areas should be considered based on:
 - Unique physical conditions requiring specific thresholds or monitoring
 - Efficiency of existing organizational structures (districts, cities) to assist and help manage projects and/or management actions within the area

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Options for Management Area Boundaries

- Physical Boundaries
 - Canals
 - Streams
 - Watershed Divides
 - Isocontours
 - Groundwater contours
- Jurisdictional Boundaries
 - Districts
 - Cities/Towns
 - Counties

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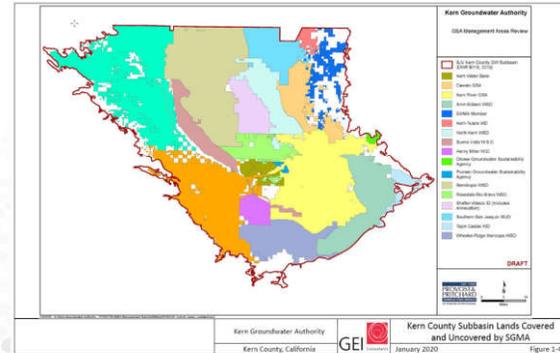
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Cuyama GSP Management Areas



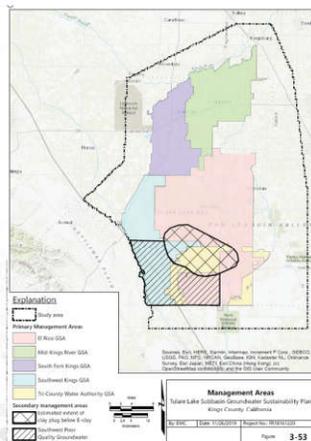
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Kern Groundwater Authority GSP Management Areas



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Tulare Lake Subbasin GSP Management Areas



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Potential Geographic Considerations for Management Areas

- Geomorphic Boundaries
- Topography
- Geology
- Streams
- Groundwater Levels
- Land Use
- Institutional Boundaries
- Groundwater Monitoring Network
- Groundwater Use
- Net Recharge

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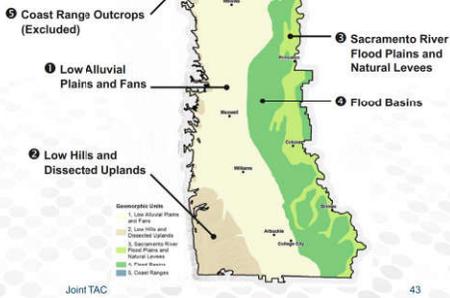
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Established Geomorphic Boundaries

USGS Geomorphic Provinces

Revised USGS Delineation

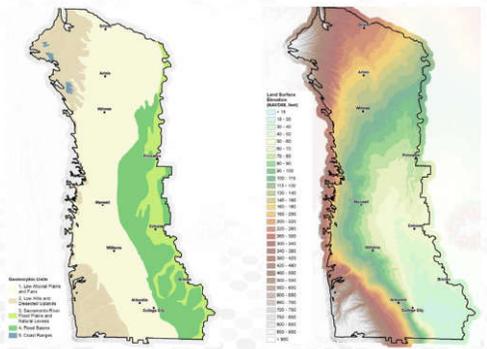


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Topography

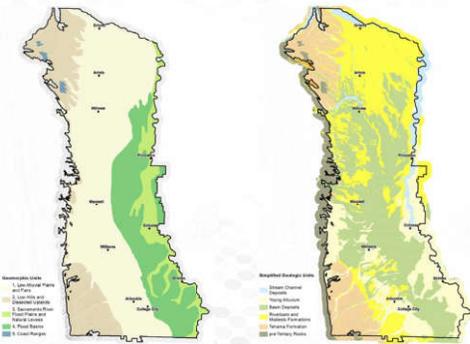


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Geology

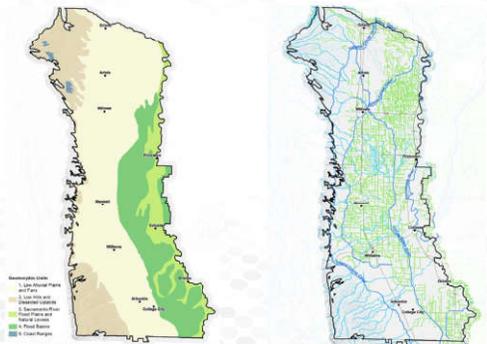


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Streams

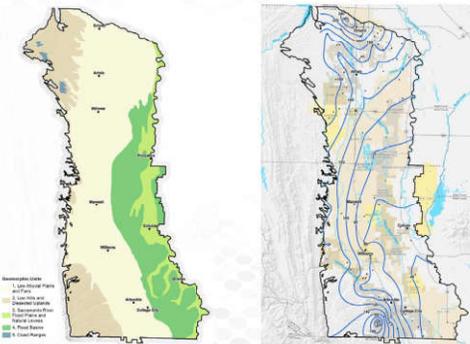


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Groundwater Levels

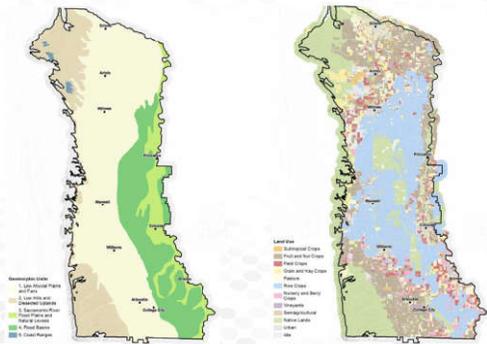


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Land Use



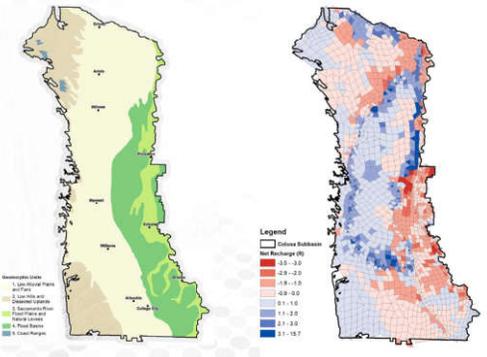
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Historical Net Recharge

(Recharge - Pumping)
Estimated 1990 - 2015



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Discussion

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16. MEMBER REPORTS AND COMMENTS

Members of the GGA Board are encouraged to share information, reports, comments, and suggest future agenda items. Action cannot be taken on items brought up under this item.

17. NEXT MEETING

The next regular meeting is scheduled for February 8, 2021 at 1:30 PM.

18. ADJOURN

The meeting will be adjourned.

*Indicates Action Item