

CGA/GGA Joint Technical Advisory Committee Meeting  
Agenda Packet

# CGA/GGA Joint Technical Advisory Committee Meeting

## **MEETING MINUTES**

August 14, 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.**

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

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

Dave Ceppos with the Census and Collaboration Program started the meeting and went over some housekeeping and logistical items.

#### **In Attendance:**

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

GGA: David Kehn, Emil Cavagnolo, Zac Dickens

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

**Others in Attendance:** Lisa Hunter (GGA Staff), Mary Fahey (CGA Staff), David Ceppos (Facilitator), Byron Clark (Davids Engineering, Inc.), Reza Namvar (Consultant Staff), Ken Loy (Consultant Staff), Grant Davids, Jim Brobeck, Stacie Ann Silva, Conway Couto, Bernadette Boyle, Bridgette Gibbons (CDFW), Lester Messina, Michelle Dooley (DWR), Sharla Stockton (Glenn County), Lena Black (Jacobs Engineering), Lisa Porta (Montgomery and Associates)

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

For the CGA, Bill Vanderwaal made a motion to approve the minutes from the June 22, 2020 CGA/GGA TAC meeting. Thad Bettner seconded the motion, which passed unanimously.

#### **Roll Call Vote**

##### **Colusa Groundwater Authority**

Thad Bettner: AYE

Bill Vanderwaal: AYE

Darrin Williams: AYE

Jim Wallace: AYE

For the GGA, Zac Dickens made a motion to approve the minutes from the June 22, 2020 CGA/GGA TAC meeting. David Kehn seconded the motion, which passed unanimously.

#### **Roll Call Vote**

##### **Glenn Groundwater Authority**

David Kehn: AYE

Emil Cavagnolo: AYE

Zac Dickens: AYE

### 3. Period of Public Comment

There was no public comment.

### 4. \* Discussion and Possible Action: Selection of TAC Member from the GGA and the CGA to provide regular TAC meeting updates at Board Meetings

Lisa Hunter provided background on this item. At the July 13 meeting of the Glenn Groundwater Authority Board, the Board requested that the GGA TAC appoint a member to provide a report of TAC activities at GGA Board meetings. This would provide a consistent way for the Board to receive updates on GSP development and to have an opportunity to provide their input. Mr. Kehn added that the Consultant team is providing excellent Technical Memorandums on activities, but this TAC member would be able to provide an additional level of detail during Board discussions and answer any questions. Mr. Vanderwaal asked if this item was just for the GGA Board. Ms. Hunter said yes, it is a GGA Board request, but the CGA TAC may decide to also designate a TAC member to provide Board reports. The CGA chose not to designate a TAC member at this time.

Mr. Ceppos asked for nominations from the GGA TAC for a member to provide regular TAC meeting updates at GGA Board meetings. Mr. Kehn voluntarily nominated himself. Emil Cavagnolo seconded and the motion passed unanimously.

#### **Roll Call Vote**

David Kehn: AYE

Emil Cavagnolo: AYE

Zac Dickens: AYE

### 5. Colusa Subbasin Groundwater Sustainability Plan Development:

- a. Update on Projected Water Budgets
- b. Preliminary Refinement of GDE Delineation
- c. Well Monitoring Pilot Program Description

Byron Clark provided a summary of the discussion topics for today's presentation and began by describing the progress on the **Water Budgets**.

Regarding Projected Water Budgets, Mr. Clark said that drafts of two of four scenarios have been developed; 1) the Current Conditions (lower bookend) and, 2) Future Conditions with 2070 Climate Change (upper bookend). The two scenarios that are still in development are; 1) Future Conditions without Climate Change and, 2) Future Conditions with 2030 Climate Change. The Climate Change data is provided by DWR. These scenarios have been developed based on the most recent version of the Integrated Hydrologic Model that is being developed, which is based on DWR's C2VSim Fine Grid model. The most recent refinements to the model have been to crop evapotranspiration (ET) and irrigation demand. These refinements were made after receiving feedback from the TAC. Other refinements have been made to the groundwater system parameters, and stream parameters, in particular the Colusa Basin Drain.

Assumptions related to the *current conditions* water budget relies on recent historic land use, surface water supplies and Urban water demands mapped over a 50-year hydrologic period (1966-2015).

Assumptions related to the *future conditions* water budget also rely on recent historic land use and surface water supplies, plus 50 years of historic hydrology that has been modified based on DWR's Central Tendency climate change projections.

Mr. Clark said that the Bay Delta Water Quality Control Plan update process is not being considered in the water budgets. The TAC had previously asked how other GSPs are handling this. Mr. Clark reported that the GSPs he has reviewed do not make any assumptions about the Bay Delta process in their water budgets, although it is mentioned in the text.

Mr. Clark provided an overview and reminder of the components and structure of a water budget. He then provided a report on the draft set of average annual water budget results for the 50-year period under the current conditions water budget. The draft results show that over a 50 year period, average annual change in storage shows an outflow to storage which represents an increase in storage of about 2,000 acre-feet annually. There is substantial uncertainty in these numbers due to the relatively small magnitude relative to other water budget components, but over the long term, the draft results suggest that the basin as a whole is generally in balance.

Next Mr. Clark reviewed a graph from 1966-2015 depicting annual change in storage. Cumulative change in storage over a 50 year period is around 100,000 acre-feet per year, but there is tremendous variability over time as wet and dry periods occur. When considering Sustainable Management Criteria and Projects and Management Actions in the GSP, it's important to recognize how varying hydrology affects conditions in the basin.

Mr. Clark then showed similar charts and graphs for the future conditions water budget with the 2070 Climate Change scenario. Precipitation is somewhat similar. The primary difference is an increase in ET, which drives an increase in water demand to meet crop needs. There is a net reduction in storage of about 300,000 acre-feet over a 50 year period, or 6,000 acre-feet per year.

Mr. Clark summarized his observations:

- Average annual change in storage differs between scenarios
- The primary driver for the differences is increased ET and increased pumping demand under climate change.
- Changes in storage and groundwater levels are substantial over multi-year wet and dry cycles
- These results are basin-wide. Changes in groundwater storage and groundwater levels are likely greatest in the groundwater dependent areas
- Multi-year wet and dry cycles should be considered when establishing Sustainable Management Criteria, Minimum Thresholds and the margin of operational flexibility
- Projects and Management Actions should be designed to be flexible based on the variable hydrologic conditions in the basin.

Mr. Clark concluded this discussion by stating that the next steps include additional analysis before developing draft water budget chapter of the GSP for public review, coordinating with neighboring basins and development of the two additional scenarios. A draft GSP section should be available for public review later this year.

Mr. Bettner asked how the agencies and the different GSPs are coordinating across basin boundary lines, and if some kind of scorecard could be developed comparing the different technical approaches. Mr. Clark said that there are differences in every basin, but also some broad consistencies. For example, the Colusa Subbasin and the basins in Yuba/Sutter, Butte and Tehama Counties are all using the IWFM Model code developed by DWR, although there are local models in use in Butte and Yuba. The Climate Change approach is also consistent with basins throughout the State. Mr. Clark said that a scorecard would be useful, but it is too early in the process of developing the 2022 Plans to know how some basins are approaching the technical items.

Mr. Kehn asked if Model calibration was the next step, is there a specific timeframe when the Consultants will cut off the refinements? Mr. Clark replied that they are at that point now. The core information has been input into the model and they are now making the final adjustments to better match observed data.

Mr. Kehn asked if there are data points outside of the basin that are being used in the model. Reza Namvar replied that the Model covers the entire Central Valley. The areas being calibrated for the Colusa Subbasin include a five-mile buffer outside of the basin to include wells in neighboring basins to ensure that interbasin flow data is consistent.

Next, Mr. Clark provided a background on **Groundwater Dependent Ecosystems (GDEs)** and described the work that has been done. Preliminary identification of GDEs throughout the State has been completed by DWR and the Nature Conservancy in their Natural Communities Commonly Associated with Groundwater (NCCAG) dataset. The Consultants have created initial mapping for the Colusa Subbasin based on the NCCAG dataset. Mr. Clark explained that they are trying to develop an objective approach to analyzing GDEs based on groundwater conditions, rather than going through a subjective process. Once they have completed their initial analysis, they will prepare maps for stakeholder input and further refine GDE characterization and incorporate refinements in the appropriate sections of the GSP.

At the last meeting, TAC members expressed interest in development of a scoring criteria for GDEs. The Consultants have compiled additional data on depth to groundwater, proximity of potential GDEs to surface water and proximity to irrigated cropland. They have developed a preliminary scoring criteria based on those parameters that ranges from 1-4 (1 is less likely to be a GDE and 4 is more likely). Mr. Clark presented a flow chart that can be used to rank GDE potential.

The scoring criteria includes the following parameters:

- Depth to groundwater greater than 30' is not likely to be a GDE. This is consistent with TNC's Guidance documents. Depth to groundwater was estimated using DWR's spring measurements from 2014 to 2018.

- Polygons within 150' of surface water are assumed to potentially have access to surface water. 150' is a judgement call, but this has been used in Yuba and Butte. Proximity to Surface Water was estimated by selecting canals, ditches and perennial streams based on National Hydrography dataset.
- Polygons near irrigated fields are assumed to potentially have access to surface water. Proximity to Irrigated Cropland is based on DWR land use survey data.

Preliminary scoring results revealed that approximately half of the polygons fall in the categories 1 and 2 with the other half in categories 3 and 4. There are less polygons in category 4 than the other three categories.

Mr. Clark summarized the approach to analyzing GDEs, stating that they are using a simple scoring approach that relies on public data. There is a potential for refinements, including refined datasets, adjustments to thresholds and incorporation of additional datasets.

Mr. Clark paused for questions and feedback on the approach and the path forward.

Mr. Ceppos asked Mr. Clark what he considers next steps or if this is ready to roll out to the public. Mr. Clark said that the approach is simple and a workflow has been developed. It would be straightforward to do a sensitivity test by looking at how results may differ considering different assumptions before presenting to the public for input.

Mr. Kehn commented that over time, proximity to irrigated cropland could change and asked how long term changes in cropping could be taken into consideration. Mr. Clark said one option would be to update the scoring over time as part of regular GSP updates based on updated land use mapping.

Mr. Ceppos asked Mr. Kehn if he would advocate doing the sensitivity test prior to doing the stakeholder outreach. Mr. Kehn said from a landowner perspective and if what I am doing may impact a GDE, it would be better to do the sensitivity test first before alarming any landowners.

Mr. Ceppos reminded the group that we do need to be getting moving providing more public outreach, so this is a good topic.

Mr. Clark said they will proceed to do some sensitivity testing. They are well set up to easily do that.

Mr. Clark went on to discuss progress on the **Well Monitoring Pilot Program**. He reported that the Consultant team received good feedback from the last Joint TAC meeting and subsequent discussions. Broad goals of the program include encouraging stakeholder engagement, collecting data and incorporating that data into GSP development.

The timeline starts with program development happening now and completed by the end of December at the latest. This will allow time to solicit participation, select projects and purchase and install equipment

before the next irrigation season. The program could be implemented following installation of equipment for at least 2021 and potentially additional years.

Mr. Clark presented potential eligibility requirements which include participant willingness to share data publically, use of an approved flow meter that is installed properly, and a requirement that a sounding hole must be available to monitor groundwater levels. Mr. Clark described recommended flow meters and telemetry options. He also presented an estimate of costs per site for the program.

Mr. Ceppos said that the goal today is to get some information back to the Boards and ideally get their guidance on next steps and not get out too far ahead of the Boards. He then opened the floor for comments and questions.

Jim Wallace complimented Mr. Clark on the work done on this item. He asked if the Consultant team could pull out the raw data from the telemetry systems that he is recommending. Mr. Clark said yes.

Mr. Wallace asked whether the program should be focused in one geographic area where there may be a priority or spread the effort throughout the entire basin. It should be spelled out in the criteria prior to soliciting participation. Mr. Clark questioned how to identify a priority area. He said with the telemetry options, they could be spread out across the basin without increasing costs of the program.

Mr. Ceppos reminded the group that they have a responsibility as Board and TAC members to have a robust conversation with the Board regarding decisions on items like this.

Darrin Williams said that he is very familiar with one of the suggested telemetry options, Ranch Systems, and it is a very good system with excellent support. There could be some significant infrastructure costs in getting the system set up. He suggested that it might be important to consider what type of land use to target, for example, micro-irrigation vs. flood system.

Mr. Kehn commented that the cost is high for this program. We need to develop criteria for selection. Part of getting participation from landowners will depend on how we roll out the program. He suggested development of a one-page fact sheet that is vetted by local farmers.

Mr. Ceppos asked Mr. Clark about a timeline. Mr. Clark said that decisions needed to be made by late fall. It may be prudent to include a project like this in the GSP but not go as far as implementation, just project design. He said that he assumes the grower would be responsible for the installation of the flow meter, and in one cost scenario the grower would pay for the meter and in another scenario, the program would pay for the meter.

Lisa Hunter asked if they could also utilize self-reporting based on information they already have in order to collect additional information and compare that with the telemetry.

Mr. Kehn asked if there is an expiration date on the funds. If we don't have to implement the project right away, we could use the funds to implement later.

Mr. Williams suggested that, instead of focusing on cost of meters and cost per site, we could let the landowner purchase the equipment and they would work directly with the consultants.

Mr. Wallace said he agrees with taking a simple approach. We could provide a set dollar amount to each grower to participate in the program.

Ms. Fahey said that we have to be careful with the way grant funding is utilized and she would have to speak with the grant Administrator to see if payments could be made directly to landowners under this program.

Brandon Davison, DWR, suggested that the GSAs could partner with the local RCDs and they may have additional funding and staff to assist with this program.

## **6. Interbasin Coordination**

Ms. Fahey summarized the Staff report on this item. Coordination across basin boundaries is required under SGMA and is also a critical element for successful SGMA implementation. She said that one of the CGA's Board members had asked about developing a report card or matrix that could summarize the different technical approaches being used in the Colusa Subbasin and the adjacent subbasins. She also said that a Northern Sacramento Valley Interbasin Coordination group has formed. The group is being facilitated through a DWR Facilitation Support Services contract with Butte County. That group is developing a spreadsheet that compares the different approaches in the basins in Colusa, Glenn, Butte and Tehama Counties. The spreadsheet is still in development but it may be sufficient for our needs.

Mr. Bettner described the type of document he would like to see and explained that the purpose is to catch any potential conflicts or issues early on so they can be addressed before the GSPs are submitted. It was determined that Mr. Bettner would coordinate with Mr. Clark to discuss an approach and Mr. Clark would bring it back to the Boards for a high level discussion.

Grant Davids said that this is an important topic and there are important differences, especially with the models, to take into consideration. It will take time to work through the differences. The GSPs should have a provision to work through the differences.

Ms. Hunter said that the work being done by the NSV Interbasin Coordination group has not been seen yet. It may cover our needs. The NSV group is planning to meet with the various consultant teams soon.

Mr. Dickens said that he agrees with Ms. Hunter, he is interested to see what the NSV group develops.

## **7. Schedule Next Meeting**

Discussion was held about when to schedule the next meeting. It was determined that late September or early October would work, considering harvest schedules.

## **8. Topics for Next Meeting**

Future topics include: Model calibration, GDEs, Interbasin Reportcard, well monitoring program, funding mechanisms, additional hydrogeologic investigation (proposal from consultants), projects and

management actions ranking criteria, establishing Sustainable Management Criteria and Measureable Objectives.

Mr. Kehn asked if we have to have confidence in the model in order to develop Sustainable Management Criteria and Measureable Objectives. Mr. Clark said that will be important but historical groundwater levels may be more important. Mr. Kehn said the sooner we can discuss these things, the better for the public.

Mr. Ceppos mentioned that harvest is a conflict for scheduling meetings every year and asked if anyone is opposed to holding a sequence of meetings in the future, for instance, two meeting in one week that might better accommodate schedules, rather than one long meeting. Mr. Wallace said he prefers meeting more frequently, shorter meetings, later in the afternoons and that it is important to receive the presentations in advance.

### **9. Member Reports and Comments**

Mr. Kehn reported that at the last GGA Board meeting an attorney representing some westside landowners provided public comment about the Operations fee.

Mr. Dickens asked where we stand with the schedule and stated that it would be helpful to have an understanding of where we stand and how we are going to meet the GSP deadline.

Mr. Ceppos asked if there were any comments from the public. There were none.

### **10. Adjourn**

The meeting was adjourned at approximately 3:50 p.m.

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### **ACTION ITEMS**

- DE to run sensitivity testing on the GDE analysis criteria
- Staff to lookup deadline for use of grant funds for Well Monitoring Pilot Program
- Staff to check with Mary Randall regarding direct payment of grant funds to landowners
- Mr. Bettner to coordinate with Mr. Clark to discuss an interbasin coordination report card approach and Mr. Clark to bring it back to the Boards for a high level discussion.
- Share NSV Interbasin Coordination group spreadsheet when available
- Staff and Consultants work on a schedule to help TAC and Boards understand where we stand and how we are going to meet the GSP deadline.

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 4.a. Colusa Subbasin Groundwater Sustainability Plan Development – GSP Development Timeline

**Date:** October 16, 2020

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## Background

The Colusa Subbasin GSP must be adopted and submitted to DWR by January 31, 2022. To achieve this, a project schedule has been developed with the goal of preparing a public review draft of the GSP for release in August 2021. This will allow for solicitation of public review, incorporation of comments received, adoption, and submittal by the required date.

A draft summary schedule listing primary GSP components and associated activities is included and will be presented to the Joint TAC for discussion. For each component, planned technical work activities over time are shown. Additionally, draft milestones for public outreach activities (e.g. workshops) are shown.

The purpose of this discussion is to inform the TAC of planned technical activities and receive feedback to further refine the schedule.

## Attachment

See Presentation Slides

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 4.b. Colusa Subbasin Groundwater Sustainability Plan Development – Draft Sustainability Goal and Undesirable Results Statements

**Date:** October 16, 2020

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## Background

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 of the six SGMA Sustainability Indicators and therefore could lead to an Undesirable Result that could trigger State intervention. A draft Sustainability Goal and Undesirable Results statements have been prepared for the Colusa Subbasin. While developing the draft goal and statements, stakeholder feedback from public workshops held in fall 2019, the Memorandum of Agreement (MOA) between the Colusa and Glenn groundwater authorities, and statements and goals put together in 2020 GSPs for other subbasins were considered. This has resulted in a goal and statements that use some existing language but are tailored for the Colusa Subbasin specifically.

The purpose of this discussion is to discuss the draft goal and statements with the TAC and receive feedback to support further refinement prior to seeking formal approval of the goal and statements by the TAC and GSA Boards for inclusion in the draft GSP.

The Sustainability Goal and Undesirable Results statements provide a foundation to support development of other, quantitative Sustainable Management Criteria including Minimum Thresholds, Measurable Objectives, and Interim Milestones for each applicable Sustainability Indicator. In addition to discussion of the draft goal and statements, the anticipated approach to develop the quantitative criteria will be presented.

## Attachment

See Presentation Slides

# Staff Report

**To:** CGA-GGA Joint TAC

**Agenda Item:** 4.c. Colusa Subbasin Groundwater Sustainability Plan Development – Hydrogeologic Investigation

**Date:** October 16, 2020

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## Background

As part of the Proposition 68 grant provided by DWR, a task to conduct additional hydrogeologic investigations is included to fill data gaps in the GSP Basin Setting Section, reduce uncertainty in development of management areas (if any) and Sustainable Management Criteria, and support assessment of interbasin conditions.

The scope of this task is to:

1. Plan for investigations and data analysis
2. Implement investigations
3. Assess investigation results, and
4. Integrate results and findings in the GSP

The budget for this task is approximately \$314,000 and is scheduled for completion by October 2021. Activities included could include the following:

- Airborne Electromagnetic (AEM) Survey
- Dedicated Monitoring Wells
- Stream Gages
- Land Subsidence Benchmarks

Other areas of investigation could also be considered. As part of this discussion, potential activities will be described, including objectives, potential costs, and potential schedule for implementation. The goal is to receive feedback from the Joint TAC to support GSA staff and the consultant team in developing a formal workplan for future consideration by the TAC and GSA Boards.

## Attachment

See Presentation Slides

# Staff Report

**To:** CGA-GGA Joint TAC

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

**Date:** October 16, 2020

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## Background

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

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

Input was received from the Joint TAC on June 22 and August 14, 2020 regarding program objectives and design. The purpose of this item is to review feedback received and discuss next steps with the goal of implementing the program in advance of the 2021 irrigation season.

## Attachment

See Presentation Slides

# Staff Report

**To:** CGA-GGA Joint TAC

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

**Date:** October 16, 2020

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## Background

The identification of groundwater dependent ecosystems (GDEs) as part of GSP development is a required component of the Groundwater Conditions section of the Basin Setting. A related component is the establishment of Sustainable Management Criteria related to depletion of interconnected surface water. Preliminary identification of GDEs based on the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset developed by DWR and released in 2019 includes 2,795 polygons in the subbasin as potential GDEs, comprising 17,748 acres.

At the August meeting of the Joint TAC, refinements to the preliminary delineation of GDEs were discussed. In particular, the consultant team presented an initial approach to refine the delineation of GDEs through spatial analysis using GIS for review and discussion. Potential GDEs were divided into four ranks based on likelihood of being a GDE based on the following factors:

- Average spring depth to groundwater between 2014 and 2018,
- Proximity to irrigated cropland, and
- Proximity to surface water bodies.

As a follow up to feedback received from the TAC, an analysis of sensitivity of the ranking results to assumptions associated with the factors considered has been conducted. Results of the analysis suggest that the ranking is relatively insensitive to these assumptions and will be discussed with the TAC. An additional goal of the discussion is to receive feedback from the TAC on potential next steps to further refine the characterization of likely GDEs.

## Attachment

See Presentation Slides

## Staff Report

**To:** CGA/GGA Joint TAC

**Agenda Item:** 5. Schedule Next Meeting

**Date:** October 16, 2020

With the anticipated workload that will be required over the next year to complete the GSP for the Colusa Subbasin, it will be helpful for TAC members, Staff and the Consultant team to commit to a regular monthly meeting schedule. This will greatly streamline our GSP development efforts.

Staff has considered all known standing meetings of the CGA and GGA Board member agencies, and determined the best potential options for standing Joint TAC meetings, as listed below.

There is a potential that the current CGA Board meeting schedule (4<sup>th</sup> Tuesday) could be adjusted, but this has not yet been confirmed.

Two options are presented below for Joint TAC member review. We hope to find a standing meeting date that will work for all TAC members.

**1. With current CGA and GGA Board meeting schedules, best options seem to be:**

1<sup>st</sup> Monday p.m.

2<sup>nd</sup> Friday

**2. If CGA Board meetings are able to move to 2<sup>nd</sup> or 3<sup>rd</sup> Tuesday:**

1<sup>st</sup> Monday p.m.

3<sup>rd</sup> Friday

4<sup>th</sup> Tuesday p.m.

4<sup>th</sup> Friday