

## MEETING SUMMARY

### Meeting in Brief

The Surface Water Advisory Group (SWAG) held its first meeting to kick off the SWAG and review/discuss the basin-setting for the Cosumnes Subbasin.

- Facilitation team Consensus Building Institute (CBI) provided an overview of the SWAG purpose and process design to help participants understand what to expect from the SWAG effort. SWAG members introduced themselves and described why they are participating in this effort.
- Technical consultants EKI presented information from the draft Technical Memo #6 on the Hydrogeological Conceptual Model and current + historical groundwater conditions. Participants identified several issues to consider, such as exploring where GSAs might define the line between SGMA requirements and aspirational objectives (e.g., considering under what conditions might the GSAs want to look past the SGMA-required 2015 conditions when defining sustainability); addressing data gaps through information currently available and future info/GSP updates; better defining the conditions and implications when groundwater and surface water are connected/disconnected (e.g., Seasonal? Potential vertical gradients?). Additional comments were submitted following the meeting.
- EKI also outlined next steps under Prop 68 funding, particularly as it relates to GDE desktop and field verification, which will require property access approvals. Participants suggested framing outreach around protecting certain habitats and/or specific species of common interest (e.g., anadromous fish); exploring ways to anonymize the data; and supporting multi-beneficial opportunities (an increasing priority for grant applications). Several participants also offered to help with property access and outreach through their network connections.

**Next Meeting:** September 25, time 9:00-12:00 (PST)

### Meeting Materials

July 31, 2020 – [1 – Agenda](#) | [2 – Technical Memorandum \(TM\) #6](#) | [3 – SWAG FAQ](#) | [4 – Task Descriptions for SWAG and GDEs](#) | [5 – Current SWAG Roster](#) | [6 – Presentation Slides](#)

### Action Items

Who	What
Pablo Garza	Send CBI the RMC Consultants report to TNC on groundwater-stream interaction
Jason Wiener	Provide link (likely as part of ECOS' more extensive written comments on TM #6) to UC Davis data on riverbed profiles.
EKI/Laura Foglio	Continue to share data that relates to both Cosumnes and South American Subbasins
SWAG Members	Send CBI written comments on TM #6. Comments due one week after SWAG meeting
EKI	Define GDE grid that helps identify potential areas of interest that can help SWAG members focus outreach and utilize their connections to support property access for the GDE field verification efforts.

## Meeting Summary

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### Welcome and Introductions

[Refer to [Presentation Slides 1-5](#)]

The Surface Water Advisory Group (SWAG) held its first meeting to kick off the SWAG and review/discuss the basin-setting for the Cosumnes Subbasin.

### SWAG Purpose and Approach

[Refer to [Slides 6-13](#), [SWAG FAQ](#), and [SWAG Roster](#)]

Facilitator Bennett Brooks, Consensus Building Institute (CBI), provided an overview of the SWAG purpose and process design to help participants understand what to expect from the SWAG effort.

### Purpose & Objective

The SWAG provides suggestions to the Cosumnes Subbasin Groundwater Working Group based on their comprehensive experience and expertise to inform aspects of the Cosumnes Subbasin groundwater sustainability plan (GSP). The objective for the SWAG is to develop mutual understanding of the technical basis for sustainable management criteria related to groundwater/surface water interactions. The anticipated work products will summarize the SWAG's key perspectives, recommendations to the Working Group on each of the main topics discussed.

### Approach

Technical consultant EKI (in consultation with the Cosumnes Subbasin Working Group) will share draft materials from GSP development and Proposition 68 studies with the SWAG. All draft materials will be informed by Working Group discussions. SWAG members will review and discuss draft materials and generate feedback to be shared with the Working Group. Consistent with the Sustainable Groundwater Management Act (SGMA), the Working Group will consider whether and how to incorporate SWAG feedback.

### Basin Setting

#### Hydrogeologic Conceptual Model

[Refer to [Slides 14-28](#) and [Technical Memo #6](#)]

Technical consultants John Fio and Anona Dutton, EKI, presented information from the Technical Memorandum #6 (TM #6) on the Hydrogeological Conceptual Model (HCM) description. Key takeaways included:

- Groundwater flows across most of the Cosumnes Subbasin's boundaries. For most of the subbasin, there are no clear physical barriers between Cosumnes Subbasin and its adjoining subbasins. The only physical barrier is the eastern boundary of the subbasin.
- Groundwater use varies across the subbasin, with no apparent spatial distribution in well use categories.
- More than 50% of the wells in the subbasin are 100- to 300 feet deep.
- Cosumnes Subbasin is generally characterized by a single, principal aquifer based on multiple data sources (cross-sections, depth to groundwater distribution, etc.), which did not find strong evidence that there were impermeable layers separating the aquifer into multiple aquifers. This informs how to set up the monitoring network and sustainable management criteria (i.e., not managing multiple aquifers).
- The single primary aquifer can be subdivided into two physiographic subareas – Basin Plain and Basin Foothills. These subareas differ in that the Basin Foothills is more variable and fragmented in its composition relative to the Basin Plains. This translates into more consistent flow in the Plain and more variable flow in the Basin Foothills.

## Discussion

SWAG members speculated whether the subbasin is a single aquifer and expressed interest in the potential for delineating additional, smaller aquifers that might not be easily detected within the given data (e.g., perched aquifers). EKI stated its description of the subbasin as a “single, principal aquifer” is consistent with others calling the subbasin a “semi-confined aquifer.” In its work to-date, EKI has not found significantly steep vertical gradients that would suggest a hydraulic separation/multiple aquifers. Detecting potential vertical gradients would call for methods like a nested well (screens at different depths) and/or a shallow well close to a deeper well. EKI added that few wells meet those requirements or have sufficient data (e.g., well construction data, water level data, etc.).

## Current and Historical Groundwater Conditions

[Refer to [Slides 15-48](#) and [Technical Memo #6](#)]

EKI next reviewed the groundwater conditions as described in TM #6. Key takeaways included:

- Lowering of groundwater levels, reduction in groundwater storage, and surface water depletion are three of SGMA’s sustainability indicators of greatest concern.
- Water quality is of medium concern, as there is no clear relationship between groundwater management actions (e.g., recharge and pumping) and changes in water quality.
- Subsidence and seawater intrusion are of low concern.
- Long-term water levels in wells are declining.
- Groundwater storage is decreasing. There was an approximate 10,000 acre-feet per year (AFY) estimated decrease between 1999 and 2018.
- Preliminary findings for Groundwater Dependent Ecosystems (GDEs):
  - Available data suggest that GDEs potentially exist in the subbasin. However, very few shallow wells with current depth-to-water measurements exist that verify interconnected surface water-groundwater.
  - Overall across the subbasin, the depth to water is greater than 30 feet below the surface, suggesting that the Cosumnes surface water features are mostly disconnected from the water table beneath the Cosumnes River over most of its reach.
  - Maximum depletions (i.e., leakage) occur when the Cosumnes River is flowing and there are large hydraulic gradients between river and the underlying water table.
  - Where the Cosumnes River is largely disconnected, surface water depletions are independent of extractions.
- Surface water depletion is an issue of relatively high concern due to several GDE data gaps (e.g., need to address the uncertainty between the actual nature and extent of GDEs, improved mapping and characterization of GDEs and associated species, and ensure sufficient monitoring wells to track water table response to recharge and extractions).

## Discussion

- Group discussion highlighted the overarching challenge between SGMA compliance (meeting the requirements of the law) vs. being aspirational and going above the minimum requirements of the law. Additionally, even if an area is identified that supports groundwater dependent ecosystems, it does not necessarily follow that they are impacted by groundwater management actions or projects.
- SWAG members discussed under what conditions the GSAs might consider looking past the SGMA 2015-minimum requirements when defining sustainability. For example, a SWAG member suggested that sustainable management criteria may want to consider historical groundwater-supported community that locals want to sustain in the future.
- In general, SWAG members were interested in better understanding the conditions and implications for surface water-groundwater connections/disconnections. SWAG members frequently asked about the

baselines and assumptions for determining presence/absence of interconnected waters.

Comments/questions included:

- 2017 hydrographs near McConnell indicate that there was a long stretch of time where the groundwater was 10-12 feet below the river stage.
- Interconnections could vary seasonally or during wet periods. It is important to be more specific in characterizing when/where/to what degree the surface water is or is not connected to groundwater.
- Consider the implications of using fall data. (Fall 2018 was used for estimating depth to water. One SWAG member noted that Fall 2018 data is a seasonal low at the end of a dry period.)
- One participant was curious about the presence of hardpan that could be retaining rainfall. Another SWAG member responded that there might potentially be some, but likely not a substantial amount.
- Confirm whether measuring depth-to-groundwater was based on the *bottom* of the river.
- Even if disconnected, if groundwater levels are dropping, does that impact what is happening on the surface? EKI said that for most of the subbasin, the groundwater is far below the surface water. It is still unknown about to what extent management affects the potentially near-surface shallow systems which if present are disconnected from the primary aquifer.
- One participant noted that for some species, particularly salmon migration, even brief changes in surface water are critical. It is important to be aware of seasonal or intermittent connections to explore potential management actions that could help sustain GDEs.
- Remember to seek out multi-beneficial management solutions, as these often support garnering broader support and pursuing funding.
- The group acknowledged and encouraged the ongoing coordination efforts for the Cosumnes Subbasin to share data and align approaches with neighboring subbasins.

EKI confirmed that several of the unknowns that SWAG members identified (e.g., season variations) are focal issues for the Prop 68-funded GDE assessment (see next section).

### **Workplan to Conduct Field-Verification of GDEs (Prop 68 Task 2c)**

[Refer to [Slides 49-57](#) and [Prop 68 Task Descriptions](#)]

EKI outlined next steps under Prop 68 funding. Key takeaways included:

- Prop 68-funded tasks include the SWAG, geophysical investigation, isotopic recharge characterization study, groundwater extraction instrumentation, installing monitor wells and stream gauges, and GDE assessment.
- The GDE study work plan will include a GDE desktop verification (e.g., reviewing aerial imagery and field mapping), The Nature Conservancy (TNC) GDE Pulse tool (to help characterize seasonal and interannual groundwater conditions), field verifications in certain GDE areas (e.g., data are inconsistent or absent), findings reported in a technical memorandum, and refinements to relevant GSP sections.
- GDE field verifications will also require access permission from property owners. Obtaining property access agreements has been an ongoing challenge for building the monitoring network.

## Discussion

SWAG members suggested confirming or delving deeper into available information and tools:

- Additional data sources (e.g., county land-use data, Habitat Conservation Plans [HCP], conservation easements, etc.). South Sacramento County HCP (~2017) completed an aquatic resource plan with a fairly comprehensive inventory. The Cosumnes River Preserve recently completed its new management plan with an updated geo database on habitats, etc.
- Previous analyses/reports (e.g., TNC's groundwater-stream interaction report by RMC consultants and UC Davis' data on riverbed profiles).
- Remote sensing capabilities (e.g., universities and companies' innovative uses).
- Ongoing efforts to seek and share information with other subbasins.

SWAG members requested that EKI identify areas of interest in the subbasin to better focus outreach and utilizing their connections. Participants shared ideas to facilitate outreach to property owners, such as:

- Frame outreach around protecting certain habitats (still could get a fairly accurate estimate of species composition based on the habitat type).
- Frame around specific species of common interest (e.g., anadromous fish).
- Explore ways to anonymize the data.
- Support multi-beneficial opportunities (an increasing priority for grant applications).
- Some participants offered to help with property access and outreach through their network connections.

EKI explained that the Cosumnes Subbasin is one of the least understood basins in the Central Valley, partly because its groundwater conditions are in relatively better shape than the highly stressed basins located in the southern Central Valley. However, it also means that it has been a huge effort to assemble, process, and evaluate the information available today. It will be an ongoing effort to better understand the Cosumnes Subbasin system, but it will take time. CBI reemphasized the SWAG's role in offering insight to the Working Group on what are priority issues to address in the 2022 GSP versus what can be addressed in future GSP updates, etc.

## Next Steps

[Also refer to the Action Items list]

## Zoom Meeting Design Suggestions

Participants provided the following suggested changes for future SWAG meetings:

- Send materials at least 2 weeks in advance
- Provide call-in number
- Designate the watershed boundaries on maps
- During the meeting - provide links to materials in chat box
- During the meeting - Include full break time

## Meeting Schedule and Info

Upcoming Meetings (subject to change)

Mtg #2: Sept 25, 2020

Mtg #3: Dec 4, 2020

Mtg #4: Feb 26, 2021

Zoom Access (will be the same for all SWAG meetings):

<https://cbuilding.zoom.us/j/93059918864>

Call In: +1 669 900 6833, Meeting ID: 930 5991 8864

## Attendees

<b>Cosumnes Subbasin GSA Working Group</b>	
Linda Dorn	Sacramento County
Mike Wackman	Omochumne-Hartnell Water District
Jay Schneider	Sloughhouse RCD
Barbara Washburn	Sloughhouse RCD
<b>Environmental Groups</b>	
Jason Wiener	ECOS
Melinda Frost-Hurzel	Cosumnes Coalition
Pablo Garza	EDF
Jake Sahl	TNC
<b>Agencies</b>	
Paul Cadrett	USFWS
Monica Gutierrez	NMFS
Harry McQuillen	BLM/Cosumnes Preserve
Bridget Gibbons	CDFW
<b>Neighboring Subbasins</b>	
John Woodling	South American
Mike Wackman	South American
Linda Dorn	South American
Ted Rauh	South American
<b>Other</b>	
Amanda Watson	SAWQA, Amador RCD
Amelia Vankeuren	Elk Grove, ag -res
Lindsey Liebig	Sacramento County Farm Bureau
Bill Myers	Sheldon Community Association
<b>SWAG Support – Water Forum, Technical Consultants, &amp; Facilitation Support</b>	
Tom Gohring	Water Forum
John Lowrie	Water Forum
Kat Perkins	Water Forum
Anona Dutton	EKI Consultants
John Fio	EKI Consultants
Bennett Brooks	Consensus Building Institute
Stephanie Horii	Consensus Building Institute

Additional members of the public were also in attendance.