

**Cosumnes Subbasin SGMA Working Group + Technical Advisory Committee
Joint Meeting
Meeting #14**

Meeting held January 17, 2017

Prepared by the Consensus Building Institute

ACTION ITEMS

Who	What
CBI/Water Forum	Look into organizing a Working Group webinar on proposed contracting/terms sheet in advance of Feb. 21 meeting
John Lowrie	Share draft Terms Sheet with Working Group members via email (concurrent with or following webinar)
John Lowrie	Share with Working Group information required for GSP notification process (<i>notification to DWR required before April</i>) + expectations for GSA notification to entities within their jurisdictions; seek <u>GSA confirmation</u> for Water Forum to submit GSP notification on behalf of the Working Group
Anona Dutton	Attend 2/14 ESJ meeting on behalf of Cosumnes Working Group (<i>2nd Wed. of the month, 9 am to noon</i>); contact ESJ to identify Cosumnes land use data needed
Bennett Brooks	Reach out to Eastern San Joaquin facilitator regarding ESJ meeting summaries
Water Forum/Working Group	Track DWR Technical Assistance Grants for monitoring well drilling services (anticipated release in spring 2018, awarded on a first-come, first-serve basis)
CBI/Water Forum	Begin developing glossary of key GSP terms for use by Working Group, TAC, public

MEETING IN BRIEF

The Cosumnes Subbasin Sustainable Groundwater Management Act (SGMA) Working Group and Technical Advisory Committee (TAC) met jointly for their first meeting of 2018. The subbasin's technical advisor, Anona Dutton of EKI, presented on the Department of Water Resources' (DWR) recently released *Draft Best Management Practice (BMP) 6: Sustainable Management Criteria*. Additionally, participants discussed the subbasin's approach to meeting DWR's Groundwater Sustainability Plan (GSP) Public Notification requirement.

The Working Group and TAC will next jointly meet at **9:00 am on Wednesday, February 21** at Galt Police Department.

DISCUSSION – KEY THEMES

Below is a summary of key themes discussed at the meeting. This summary is not intended to be a meeting transcript. Rather, it focuses on the main points covered during the group's discussions and any action items.

GENERAL UPDATES

Proposition 1 Funding

The Department of Water Resources (DWR) received 78 applications with a total request of \$86.4 million for an available \$86.3 million of Proposition 1 funding for groundwater sustainability plan (GSP) development. DWR plans to release the **draft grant award proposal in February**, with the final grant award released in the spring.

October Public Workshops

Julia Golomb of the Consensus Building Institute (CBI) provided a brief overview of the three public workshops on SGMA implementation held in the subbasin in October 2017. In her comments, Golomb noted the importance of groundwater sustainability agencies (GSAs) proactively initiating SGMA outreach and engagement with their constituents and building public awareness regarding the role of local GSA representatives. Golomb observed that Facebook and other social media may offer a powerful outreach tool for raising awareness about SGMA and opportunities for involvement in public workshops, as well as for supporting interactive engagement by serving as a forum for sharing information and fielding questions. A summary of the workshops is posted [online](#).

Basin Boundary Adjustment

The Water Forum and Supervisor Nottoli jointly convened an initial meeting with Sacramento Central Groundwater Authority (SCGA) and Sloughhouse Resource Conservation District (SRCD) regarding basin boundary overlap issues. In the meeting, participants identified a **key question** in need of clarification from DWR: If DWR approves the basin boundary line adjustment, will it affect DWR's consideration of SCGA's alternative submittal? Additionally, GSAs agreed to convene bilateral meetings between SCGA and OHWD, SCGA and SRCD, and possibly SRCD and OHWD, in an effort to resolve the issues. This issue is relevant for the Cosumnes Working Group to track because the basin boundary line will ultimately impact Cosumnes Subbasin GSP development.

In public comments, Ramon Roybal, SCGA engineer, commented that SCGA is also considering the impact that basin boundary line adjustment will have on sustainability.

Coordination with Eastern San Joaquin

Cosumnes Subbasin technical consultant Anona Dutton recently spoke with Brandon Nakagawa, the San Joaquin County staff member leading efforts in the Eastern San Joaquin Subbasin (ESJ). ESJ's working group took a brief hiatus after submitting its Prop. 1 grant application. ESJ received two previous grants totaling \$750k to develop its groundwater model. Nakagawa anticipates that ESJ will complete model development in March 2018. ESJ's model includes the Cosumnes Subbasin at a high level, with coarse and outdated data. The Cosumnes Subbasin land use data is particularly outdated and may inaccurately impact ESJ's assumptions.

ESJ received two responses to its RFQ for technical consultant and will issue a final decision and initiative work in February 2018. ESJ anticipates moving forward quickly with GSP development, with a final draft GSP completed in June 2019, thereby allowing a window of time for each of its 17 GSAs to adopt the GSP. ESJ is developing a single, basin-wide GSP.

Additionally, Dutton provided ESJ with a brief update on the status of Cosumnes Subbasin SGMA implementation. Dutton and Nakagawa discussed the need for increased interbasin coordination between ESJ and the Cosumnes Subbasin. The ESJ Working Group meets on the second Wednesday of each month, from 9:00 am - 12:00 pm. It next meets on Wednesday, February 14. Paul is the DWR point of contact for ESJ.

GSA representatives expressed interest in setting aside time at a future meeting to discuss strategies for fostering cross-basin coordination.

Next steps:

- Better understand current representation in the ESJ model of Cosumnes Subbasin land use data;
- The Cosumnes Working Group will further consider how to conduct interbasin coordination moving forward, which may include sending a Cosumnes Subbasin representative to attend ESJ Working Group meetings.

SGMA Updates, GSP Development and Potential Next Steps

SGMA Updates

Technical consultant Anona Dutton first provided several SGMA-related updates. These included the following:

- DWR is undertaking a *new prioritization ranking* that incorporates groundwater/surface water interaction. This is notable for the Cosumnes Subbasin, current ranked as a medium priority basin, because of the subbasin's significant surface water resources. While there is a possibility that the subbasin may be reprioritized, reprioritization would not likely impact SGMA implementation.
- The **DWR Technical Assistance Grants** application is anticipated in Spring 2018. The grant will fund monitoring well drilling services. Only one GSA can apply per subbasin, with grants awarded on a first-come, first-serve basis with priority for critically over-drafted basins. Paul Wells from DWR added that these funds, awarded on a first come-first served basis, will be far more competitive than Prop. 1 funding and recommends applying as soon as the grant is made available. Dutton recommends near-term efforts to prepare the subbasin to quickly respond to the grant.
- **Groundwater dependent ecosystems (GDEs)** – GIS datasets and guidance documents from both DWR and The Nature Conservancy are anticipated Spring 2018; this information will help define and map the specific GDEs that need to be considered.
- Updated **Base of Freshwater map**, in development
- DWR guidance on **Data Management Systems**, in development

Draft Best Management Practices 6: Criteria for Sustainable Groundwater Management

Dutton spent the bulk of the meeting presenting an overview of DWR's draft best management practices (BMP) 6 regarding criteria for sustainable groundwater management and next steps for GSP development in the Cosumnes Subbasin. Dutton's [presentation](#) is posted online.

DWR's draft BMP #6 offers guidance related to developing Sustainable Management Criteria (SMCs). DWR released the draft on November 8, 2017 and the comment period closed on January 8, 2018. DWR will release the final BMP in mid-2018. Draft BMP 6 and public comments on the draft are available [online](#). Dutton reiterated that BMP 6 is currently in draft form and has received substantial comments. Key presentation and discussion points are summarized below.

The Cosumnes Subbasin will develop one or more GSPs by 2022. **The GSP must encompass an approach to each of the following items:**

- Data Management System

- Groundwater Conditions Assessment
- Hydrogeological Conceptual Model (HCM)
- Water Budget
- Sustainability Criteria
- Monitoring Network
- Projects & Management Actions

Significance to the Cosumnes Subbasin

- **Scale and coordination** are critical to defining Sustainability Indicators and Undesirable Results
- Development of Sustainable Management Criteria is a data-driven process
- Sustainable Management Criteria can be iteratively adjusted in future years
- State intervention can happen before 2042 if GSP is deemed inadequate or basin is underperforming relative to interim milestones

Key Definitions

- **Sustainability Indicators (SIs)** are the six effects that, when significant and unreasonable, become **Undesirable Results**. SIs include lowering of groundwater levels; reduction of groundwater storage; seawater intrusion; groundwater quality degradation; land subsidence; or depletion of interconnected surface water.
- **Minimum Thresholds (MTs)** are the quantitative values representing groundwater conditions at a representative monitoring site that, when exceeded, may cause an undesirable result(s). GSAs must set **minimum thresholds** for each relevant sustainability indicator. Minimum thresholds definition must include:
 1. Basin setting justification
 2. Relationship between minimum thresholds for each sustainability indicator across monitoring sites
 3. Avoidance of effects on adjacent basins' ability to achieve sustainability goals
 4. Effects on beneficial uses and users of groundwater or land uses and property interests
 5. Relation to state, federal, or local standards
 6. Plan for quantitative measurement
- Sustainability indicators become **Undesirable Results (URs)** when a GSA-defined combination of minimum thresholds that cause "significant and unreasonable" effects is exceeded. **Regardless of GSP structure, all GSAs in the subbasin must agree upon what defines a UR.** Undesirable results will be based on minimum thresholds exceedances at a single monitoring site, multiple monitoring sites, a portion of the basin, a management area, or an entire basin depending on GSA definition. The GSP must define when an UR is triggered and provide a description of each UR that includes:
 1. The groundwater conditions occurring within the basin that would lead to or has led to URs
 2. The criteria used to define when and where the effects of groundwater conditions cause URs
 3. The potential effects of the UR on beneficial uses and users of groundwater, land uses, and property interests
- **Measurable Objective (MOs)** are quantitative goals that reflect the basin's desired groundwater conditions and allow the GSA to achieve the sustainability goal within 20 years. Measurable

objectives are set for each sustainability indicator at the same representative monitoring sites and using the same metrics as minimum thresholds. There should be a reasonable **margin of operational flexibility** between the minimum threshold and measurable objective that will accommodate droughts, climate change, conjunctive use operations, or other groundwater management activities.

- **Interim milestones (IMs)** are measurable objectives set at 5-year increments within the 20- year SGMA implementation period.
- GSAs meet their **sustainability goal** by demonstrating the basin is being operated within its sustainable yield and is not experiencing any undesirable results. The sustainability goal is qualitative, not quantitative; must include demonstration of the absence of undesirable results; and should describe how projects and management actions will result in sustainable conditions within the basin. A sustainability goal can only be finalized after other sustainability management criteria have been defined, projects and management actions have been identified and their projected impacts quantified.

Scale at which Sustainable Management Criteria are applied

Criterion	Scale		
	Basin	Management Area	Monitoring Site
Sustainability Goal	X		
Undesirable Results	X		
Minimum Thresholds, Interim Milestones, and Measurable Objectives			
Lowering of Groundwater Elevation			X
Groundwater Storage Reduction	X	-OR-	X
Seawater Intrusion	X	-OR-	X
Water Quality Degradation	X	-OR-	X
Land Subsidence			X
Surface Water Depletion			X

URs and Sustainability Goals must be coordinated at the basin-level. The above table highlights the relationship of management areas to the broader subbasin. Unique projects and management actions to meet sustainability criteria can be developed within management areas. Nonetheless, management areas must coordinate with the broader basin, use a basin-wide framework and support sustainability at the basin level (i.e. avoid adverse impacts to other areas in the basin and to adjacent basins).

Approaches to Sustainability Indicator Measurement

Sustainability Indicator	Measurement Approach				
	GW Elevation	GW Sample	Volume/Extent Estimate	Rate Estimate	Isocontour Line
Lowering of Groundwater Elevation	X				
Groundwater Storage Reduction	X		X		
Seawater Intrusion	X	X			X
Water Quality Degradation	X	X -OR-	X		-OR- X
Land Subsidence	X		X	-AND-	X
Surface Water Depletion ⁽¹⁾	X		X	-OR-	X

X = can be used as a proxy for measurement ⁽¹⁾

As shown in the above table, groundwater elevation can be used as a proxy measurement for great deal of information; this is important for streamlining GSP implementation.

Monitoring wells: DWR publishes specifications for monitoring wells. Monitoring wells should be checked at a minimum of twice per year. There can be a difference between what is monitored and what is reported; given the current lack of data in the Cosumnes Subbasin, the basin may initially opt for more intensive monitoring for data collection. The approach will be described in the **monitoring plan**, to be included in the GSP. Monitoring of wells will be a major responsibility of GSAs, either directly or indirectly.

For all sustainability indicators, consider:

- Historical trends
- Interactions between sustainability indicators and between monitoring sites
- Impact on beneficial uses and users of groundwater
- Existing monitoring programs and development of SGMA-compliant monitoring network
- Impact on and influence of adjacent basins. Per SGMA, minimum thresholds cannot prevent adjacent basins from reaching their sustainability goal. Thus it is critical to follow development of SMCs in adjacent basins and to consider the impact of changing groundwater gradients, groundwater quality, etc.

<p>SI #1: Lowering of Groundwater Levels Minimum thresholds to be set at each representative monitoring site.</p> <p>Potential considerations Protecting shallow wells Avoiding rising pumping costs Protecting groundwater dependent ecosystems (GDEs)</p>	<p>SI #2: Reduction of Groundwater Storage Minimum threshold to be set for a basin or a management area</p> <p>Potential considerations Preserving groundwater reserves for future droughts “Effective basin storage” Spatial variability in groundwater trends and sensitivity of beneficial users Corresponding differences in SIs across the basin</p>
<p>SI #3: Seawater Intrusion <i>Not likely an issue for the Cosumnes Basin, but will need to justify through data collection</i></p>	<p>SI #4: Groundwater Quality Degradation Minimum threshold can be defined at a site, along the isocontour line, or as a calculated volume</p> <p>DWR will issue guidance on this SI</p>

<p>Minimum threshold to be set along an isocontour line in a basin or management area</p> <p>Need more baseline total dissolved solids data in the southwestern portion of the basin to rule out saline intrusion from the Delta</p>	<p>The subbasin currently lacks baseline water quality data</p> <p>Potential considerations Meeting applicable local, state, federal water quality standards; Understanding type and extent of current point and nonpoint sources of contamination in the basin; Understanding plume migration due to pumping patterns; Knowledge of current regulatory projects and actions; Financial impacts of groundwater quality degradation on agricultural, municipal, and domestic wells; General lack of baseline water quality data; Potential constituents of concern include Nitrate, Arsenic; Point and non-point contamination sources; Coordinate with existing / planned regulatory programs (irrigated lands, RWQCB cleanup sites, etc.)</p>
<p>SI #5: Land Subsidence <i>Not likely a major issue in the Cosumnes Subbasin, but still need to monitor</i></p> <p>Minimum threshold shall be a rate <u>and</u> extent of land subsidence</p> <p>Potential considerations: Understanding aquifer characteristics; Identifying elastic vs. inelastic patterns, subsidence due to pumping; Protecting existing and future land uses, property interests, infrastructure, and facilities; Identify infrastructure/facilities that could be impacted by subsidence</p>	<p>SI #6: Depletion of Interconnected Surface Water <i>Likely the SI of greatest importance to the Cosumnes Subbasin</i></p> <p>Minimum threshold shall be a rate or volume of surface water depletion</p> <p>Potential considerations: Protecting agricultural and municipal surface water needs; Meeting State or federally mandated flow requirements; Protecting groundwater dependent ecosystems; Accounting for uncertainty in streamflow depletion estimates and hydrologic changes due to climate change</p> <p>Will need to leverage existing data/knowledge of Cosumnes River interactions with groundwater table and local presence of GDEs, including UC Davis, the Nature Conservancy, and Environmental Defense Fund studies on groundwater-surface water interactions and GDEs</p> <p>Representative monitoring sites should align with existing/planned monitoring programs along the Cosumnes River corridor</p>

Below is a summary of comments on draft BMP #6, submitted by reviewers statewide and received by DWR to-date:

- Clarify appropriate scales of application for MTs, MOs, URs
- Clarify the role of management areas as they pertain to SMC
- Clarify how DWR will assess progress toward sustainability and potential for State Board intervention before 2040/2042 SGMA implementation deadline

- Clarify how to address hydrologic variability (e.g., droughts) in the definition of MTs, MOs, URs
- Clarify what may or may not constitute URs as they relate to MT exceedances
- Definition of *sustainability goal* as coming after MTs, MOs, URs are developed seems backwards; might make sense to define the sustainability goal upfront and then revisit and revise, as needed, after the more quantitative measures have been better defined.
- More direction needed on how to coordinate MTs, MOs, URs with adjacent basins
- Draft BMP should be released as a *guidance document* as opposed to a *best management practices* document

Key Takeaways from Draft BMP

- Sustainable Management Criteria are the *heart* of the GSP and will make or break its success
- Lack of data in the Cosumnes presents a significant challenge to quantifying SMCs
 - What are the issues, and how bad are they?
 - How are we going to monitor/prove sustainability?
- Coordination between GSAs and with existing/pending regulatory frameworks will be essential for optimizing resources and streamlining management throughout the basin

Near-Term Milestones (2018) – Subject to change	
January	Working Group provides initial notification of GSP development via DWR portal
February	Draft Prop 1 grant award release anticipated
March	GSAs re-enter discussion of governance, cost-sharing allocations, GSP development funding plan GSAs consider revising GSP scope based on draft Prop 1 grant award
April	Final Prop 1 grant award released and grant agreement signed Working Group works towards putting out RFP / RFQ for technical consultant for GSP development Apply for DWR Technical Assistance Grant?
May	Working Group moves forward with technical consultant for GSP development; exact timing dependent on RFP v. RFQ track GSP scope and funding plan are finalized; Phase 1 GSP development efforts are initiated (data gathering / data gap assessment, DMS and numerical model selection, etc.)

Discussion

The presentation by Dutton triggered numerous clarifying questions and discussion points among Working Group and TAC members. Below is a summary of the main points raised.

- Regardless of whether the subbasin develops one or multiple GSPs, the subbasin will need to develop a single, basin-wide definition for URs; if there are multiple GSPs, this definition will be articulated in the coordination agreement.
- Interbasin coordination is important because, under SGMA, one basin cannot adversely impact another basin’s sustainability goals.
- The Working Group will need to agree on future land use projections and incorporate that layer into the groundwater model.

- The subbasin’s GSP needs to account for inevitable environmental conditions and fluctuations (e.g. drought). In developing Sustainability Criteria, there is a requirement for sensitivity criteria that takes into account possible fluctuations due to projected climate change, land use changes, etc.
- The subbasin will have the opportunity to revise sustainability criteria every five years (described as “adaptive management”). Lateral basin boundaries are defined in Bulletin 118 and vertical basin boundaries are defined by GSAs. Dutton recommends giving strategic consideration to vertical basin boundaries because if the subbasin develops a new source of water (via a deeper well, new treatment technology, etc.), that water is not necessarily subject to SGMA.
- With regard to well density, Dutton recommends establishing a broad network of monitoring wells that provides data at an adequate level of detail to understand what is happening in the basin. Within the monitoring network, only a subset of monitoring points will be reported to DWR and used for SGMA reporting.
- High resolution data on shallow groundwater levels are important for understanding surface water interactions and can be entered into the groundwater model.
- Long-term monitoring sites will ideally be located in areas fully under control of the resource conservation district and not on privately-owned land.
- Dutton recommends that Working Group participants define, at a high level, what sustainability means to them. The Working Group can then measure potential sustainability criteria against this high-level principle on sustainability.
- A Working Group member requested a **glossary** for acronyms and some graphics for how SMC concepts relate to each other.
- A participant expressed concern about the current **lack of data on wetlands and recharge**. Paul Wells from DWR responded that SGMA staff are available to present on specific sustainability indicators and answer questions.

Water Forum-SSCAWA Terms of Reference

As previously decided, SSCAWA will serve as the Prop. 1 grant manager on behalf of the Working Group, with administrative assistance from the Water Forum. Additionally, the Water Forum will provide initial financing until DWR funds are received. **All decisions are made within the Working Group, with SSCAWA and Water Forum taking direction from the Working Group.**

The Water Forum will contract with consultants and, in the process, will track and share information with SSCAWA to meet the terms of grant agreement and to be reimbursed for expenses. SSCAWA and each GSA will have their own contracts and determine how GSA funds flow to support the non-grant costs associated with GSP development. There is an expectation that GSAs will carry some costs, with a clear agreement in place to move funds.

The latest draft of the Term Sheet is under review by SSCAWA staff. **John Lowrie will share the draft Terms Sheet with Working Group via email.** In advance of the next Working Group meeting, the Water Forum is to hold a webinar to explain and discuss the **draft** contractual relationship between entities.

Public Notification to DWR

DWR has created an automated notification portal through which GSAs are required to provide DWR with a public notification of initiation of the groundwater planning process. DWR is hosting a webinar on Friday, January 19, to train individuals who may enter the notification data. John Lowrie emphasized that this notification to the public is intended to raise public awareness about who is developing the GSP and to support opportunities for public participation in the groundwater planning process. Additionally, GSAs are expected to provide notification about GSP initiation to cities and counties in their jurisdiction. Lowrie offered to enter data into the notification portal on behalf of the Working Group. At the request of the GSA, Lowrie will provide Working Group members with a description of the required information to include in the notification. The GSAs will then provide the Water Forum appropriate guidance on completing the notification.

Subbasin Technical Consultant

In the coming months, the Working Group will begin the process of identifying and hiring a subbasin technical consultant to support GSP development. To do so, the Water Forum will need to conduct a formal RFP or RFQ process that includes a specific solicitation aligned with the work plan for GSP development. Any interested candidate will need to submit an application and the Working Group will in turn review applications, interview candidates, and make a hiring recommendation to the Water Forum. The Water Forum anticipates using a selection process very similar to the one used to identify and select a technical consultant to support development of the Prop. 1 proposal.

UPCOMING MEETING SCHEDULE

The Working Group and TAC will next meet, jointly, on **Wednesday, February 21** from 9:00 am to 12:00 pm at the Galt Police Department. The TAC will not meet separately in January or February.

In advance of the February 21 meeting, the Water Forum may hold a webinar to provide a conceptual outline of the working relationship (contractual, funding, information) between the Water Forum, SSCAWA, GSA, DWR and consultants.

Visit cosumnes.waterforum.org for the latest meeting information.

MEETING PARTICIPANTS

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For questions regarding this meeting summary, please contact Tom Gohring at the Water Forum or Julia Golomb at the Consensus Building Institute.

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