

Wyandotte Creek GSA Advisory Committee Meeting

Access meeting materials at: <https://www.wyandottecreekgsa.com/>

Meeting Brief

- **Overview:** This was the third meeting of the Wyandotte Creek Groundwater Sustainability Agency (GSA) Advisory Committee (WAC).
- **Wyandotte Creek GSA Management Committee Reports:** The WAC received verbal updates from the Management Committee and regional inter-basin coordination efforts in the Northern Sacramento Valley.
- **Sustainable Management Criteria (SMC) Discussion:** The WAC continued SMC discussion and provided input on proposed Measurable Objectives (MO), Minimum Thresholds (MT), and representative monitoring network. Public participants had an opportunity to provide feedback [[Access Slides](#) | [Access Supporting Materials](#)].
- **Projects and Management Actions (PMAs) Discussion:** P. Gosselin (Butte County) gave a brief presentation on the PMA scope and process. WAC members and public participants asked clarifying questions [[Access Slides](#) | [Access Draft Submittal Form](#)].
- **Next Steps:** The WAC will meet again via video conference on March 4, 2021 from 9:00-12:00.

Action Items

Item	Lead Person(s)	Completion
Upload meeting recording to the website.	Chris Heindell	Complete Access Here
Add PMA blurb and solicitation form to the Wyandotte Creek GSA website.	Chris Heindell	Upon completion
Provide detailed maps showing waterways within the Wyandotte Creek Subbasin.	Kelly Peterson	Upon completion
Compile any information shared as correspondence and provided to the advisory committee, Management Committee, and technical consultant, posted to the website as "correspondence." This includes maps, photos and data from Ruddy Creek shared by public participant.	Management Committee & CBI	Complete
Compile and share Sustainable Groundwater Management Act (SGMA) 101 Resources.	Management Committee & CBI	Upon completion

Summary

Introductions & Agenda Review

The facilitator, T. Carlone (Consensus Building Institute, CBI) welcomed participants and reviewed the meeting agenda. WAC members and Wyandotte Creek GSA Management Committee representatives introduced themselves and welcomed Duke Sherwood, the WAC's newest member.

Public Comment for Items Not on the Agenda

No comments.

Meeting Notes Review & Consideration

WAC members reviewed and approved the January 7th, 2021 meeting summary [[Access Here](#)].

Wyandotte Creek GSA Management Committee Reports

Wyandotte Creek GSA Board Update

The Wyandotte Creek GSA Board met on January 28, 2021. The board had a thorough discussion of the SMC, approved the WAC charter [[Access Here](#)], and added a new WAC member (Duke Sherwood). The GSA Board will review another application for an agricultural representative to the WAC at their next meeting. Further, the Board will host a SMC workshop on February 25th at 2:00 pm [[Access Invite](#)].

Inter-basin Coordination Update

CBI provided a brief update on inter-basin coordination efforts in the Northern Sacramento Valley (NSV). Staff representatives from 11 subbasins (Antelope, Bowman, Butte, Colusa, Corning, Los Molinos, Red Bluff, Sutter, Vina, Wyandotte Creek, and Yolo) met on February 1st to reflect on shared learnings in inter-basin efforts and priorities moving forward, provide updates on their GSP development status, and share key takeaways from adjacent subbasin technical meetings. Staff and consultants will continue compiling water budget results into the information-sharing template, and possibly other useful outputs and figures emerging from their Basin Setting chapters as available that contribute to a shared regional understanding of basin conditions. Subbasin representatives will provide regular inter-basin coordination updates at their respective public venues and gather public input related to the direction of current efforts and desired priorities for inter-basin coordination during GSP development and beyond. More information can be found at <https://www.buttecounty.net/waterresourceconservation/Sustainable-Groundwater-Management-Act/Inter-basin-Coordination>.

Discussion | Inter-basin Coordination

- WAC member, D. Kehn (Cal Water) asked what would trigger neighboring GSAs to require changes in the GSP. The Management Committee replied that DWR's high-level requirement states that one GSP may not impede any other GSA to achieve their sustainability goals. Ongoing monitoring and coordination among GSAs will be key in determining specific adjustments needed in the periodic reviews. The priority for the GSA is making sure there is a venue and framework in place for ongoing dialogue and coordination to solve inter-basin issues that may arise.
- A member of the public asked if the Wyandotte Creek GSA has detailed maps showing waterways within the Wyandotte Creek Subbasin. K. Peterson (Butte County) will provide that map, which is part of the Basin Setting Chapter. She suggested contacting her directly for any other map needs and requests at kpeterson@buttecounty.net.

Sustainable Management Criteria (SMC) Discussion

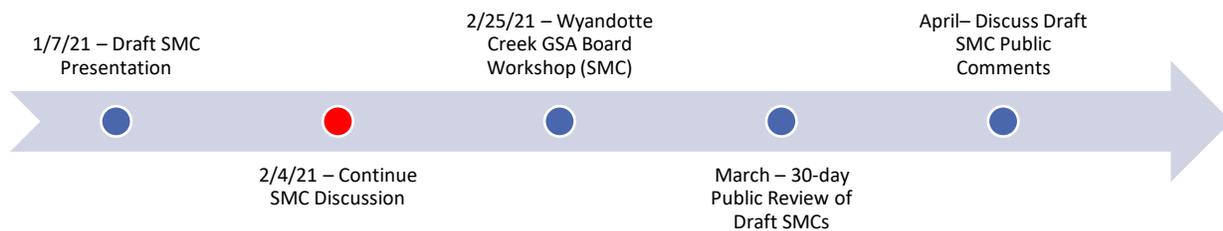
The WAC continued SMC discussion and provided input on proposed Measurable Objectives (MO), Minimum Thresholds (MT), and representative monitoring network. Public participants had an opportunity to provide feedback [[Access Slides](#) | [Access Supporting Materials](#)].

SGMA Terminology

Sustainability, under the Sustainable Groundwater Management Act (SGMA), is demonstrated by the avoidance of Undesirable Results for the six sustainability indicators: lowering of groundwater levels, reduction of groundwater storage, land subsidence, surface water depletion, water quality degradation, and sea water intrusion. SMC and representative monitoring locations must be developed for each of the indicators below. Each undesirable result must include three elements:

- Description of Undesirable Results:** what constitutes a “significant and unreasonable” condition
- Minimum Threshold:** avoidance criteria, or quantitative definition of groundwater conditions at a representative monitoring site at which undesirable results may begin to occur
- Measurable Objective:** management target (quantitative) that reflects the basin’s desired groundwater condition and allows GSAs to achieve sustainability goals within 20 years. MOs are achieved incrementally through the Project and Management Actions (PMAs).

Vina SMC Development Schedule:

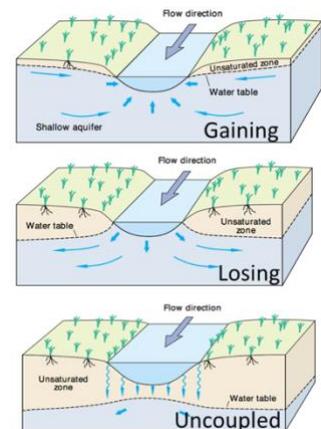


Strawman Undesirable Results & Sustainable Management Criteria

The technical team presented refined draft, or “strawman” undesirable results, measurable objectives, and minimum thresholds to gather the SHAC’s input to make further refinements to the draft SMC.

Depletion of Interconnected Surface Water – **Data Gap**

B. Anderson (Geosyntec) reviewed the modes of stream-aquifer interaction (gaining, losing, and uncoupled), presented an analysis of existing information (stemming from the model, existing studies, GDE analysis, etc.), and recommended an approach for this SMC. In sum, Geosyntec found significant data gaps, related to (1) how the shallowest aquifer zones interact with streams, and (2) how deeper pumping affects water levels in shallowest aquifer zone. The Butte Subbasin Groundwater Model (BBGM) can be used to identify potential monitoring locations for this SMC to develop quantitative MO and MT.



Depletion of Interconnected Surface Water

Geosyntec explained that the process to determine the MT and MO for depletion of interconnected surface water will be challenging due to existing data gaps. They suggest using groundwater levels in shallow wells adjacent to natural stream channels as a proxy for depletion. However, there are monitoring data gaps and model limitations (lack of information of shallow aquifer) to define measurable objectives.

Feather River: BBGM shows patterns of conductivity in the Feather River. Upstream, the model shows conductivity and interconnection among groundwater and surface water in the upper and lower layers. The middle and lower reaches show a regional aquifer response, where the upper layer seems connected and the lower layers disconnected. Thus, reducing pumping in lower layers would be important to maintain upper layer conductivity. Model findings match hydrogeologic understanding of the subbasin, yet the GSA would establish monitoring locations to assess and validate model findings.

Proposed Approach: Geosyntec proposed setting up the framework for a “do no harm” SMC criteria. The framework would include information needs (i.e., streamflow profiles, mini-piezometers to measure stream-aquifer interactions, shallow monitoring wells to assess model predictions, deeper well data, and an acknowledgement of irrigation practices that may be providing flows to the aquifer). The plan would first indicate that managing groundwater levels to proposed measurable objectives (either 2015 or a 2030 projection) should maintain the level of connectivity and seasonal interactions that are currently occurring. Using the framework, the GSA can then develop more specific SMCs as appropriate for specific stream reaches and associated GDEs where there is a clear connection to groundwater and an associated management action would help maintain ecological integrity. The GSP would clearly specify data gaps and a process to fill them.

Discussion:

- D. Kehn (Cal Water) asked how the GSA can set up SMCs to protect ecosystems, while acknowledging there are other factors beyond their control (flood plain dynamics, surrounding vegetation, etc.). B. Anderson (Geosyntec) replied the GSA can acknowledge factors beyond their control and set up SMCs for connected reaches, in an adaptive manner that can be adjusted with new information.
- K. McKillop (South Feather Water and Power) highlighted the need to specify how data gaps will be addressed.
- A member of the public requested the GSA consider including Ruddy Creek in future data and analysis. This participant has data documenting floods, vegetation, and wetlands in Ruddy Creek from 2008 and 2021, which she will share with the Management Committee. While the creek is currently listed as a “drainage way” in Butte County’s general plan, local community members share stories of salmon and other wildlife along Ruddy Creek. Geosyntec shared that while the Thermalito system is characterized, only major streams are considered so far, due to the regional nature of the model. The Management Committee will assess whether GDEs are identified along the area and welcomed data and information from private property owners to complement their understanding.
- D. Kehn (Cal Water) stated the importance of identifying historic creeks that can be restored and should be protected from further development. B. Anderson (Geosyntec) shared that if

there is a clear groundwater connection, which would improve overall ecosystem integrity, it would fall within the purview of the GSA to protect these historic creeks.

Degraded Groundwater Quality:

Suggested approach: J. Turner (Geosyntec) clarified that since GSAs are only responsible for addressing water quality problems clearly related to pumping, the MT and MOs can be tied to salinity as the indicator. Geosyntec presented a map and a table with proposed representative monitoring wells, using existing monitoring wells and data from the State Water Resources Control Board’s GAMA Program ([Access Here](#)). Most of the data shows relatively good water quality, except for one area that shows consistent elevated salinity levels in the central east portion of the subbasin. The GSA is establishing a new DWR multicompletion well at the center of the subbasin, screened at four levels to address existing data gaps. Lastly, Geosyntec requested WAC members share any knowledge of additional data monitoring salinity in the area.

Draft Undesirable Results and Sustainability Criteria

Undesirable Result Statement	<ul style="list-style-type: none"> Water quality is below State Maximum Contaminant Levels (MCLs) or thresholds for agricultural productivity as a result of groundwater pumping. Salinity will be used as a proxy for overall water quality. Other programs and agencies are responsible for enforcing groundwater quality violations. GSA will coordinate with other agencies if water quality degradation is associated with groundwater pumping.
Minimum Threshold (onset of undesirable result) & Measurable Objective (desired condition)	<ul style="list-style-type: none"> Minimum Threshold – 1,600 µS/cm–Upper SMCL Measurable Objective–900 µS/cm–Secondary MCL (SMCL)
Quantitative definition of significant and unreasonable impact	<ul style="list-style-type: none"> 25 % of representative monitoring locations fall below minimum threshold for 2 consecutive years.

Discussion

- D. Kehn (Cal Water) wondered whether the two-year period is not conservative enough. J. Turner (Geosyntec) shared that SGMA requires the GSA implement PMAs to make sure conditions do not worsen. Setting the period to 1 year may be difficult because data from one year may be driven by short-term impacts; thus, they recommend the 2-year period. If data suggests that the screen level is the base of the fresh water, then the GSA could consider surveying users to understand what problems they are facing and could preemptively establish PMAs as immediate steps to be taken.
- A public participant shared there is a recent development before the City of Oroville that has an engineering design to have subdivision runoff water drain into Ruddy Creek that would increase pollution and increase water use to supply 97 new houses on land adjacent to Ruddy Creek at 18th and Feather Avenue. The Management Committee clarified surface water quality is regulated by other stringent regulations and agencies. The GSA will focus solely on water

quality under the GSA’s jurisdiction, related to groundwater pumping in the basin. However, the GSP has to reflect awareness of other programs regulating other water quality concerns.

- A public participant asked to what degree future development will be taken into account in the GSP. The Management Committee shared the GSAs will keep track of impacts on groundwater. While land-use decisions are made by counties and municipalities, cities have to take into account GSPs when developing new general plans and other CEQA processes. Further, the model analysis incorporates Cal Water Urban Water Management Plan land use projections.

Chronic Lowering of Groundwater Levels (also a proxy for Aquifer Storage and Land Subsidence)

Approach: Geosyntec, the consulting team, proposed setting the Minimum Threshold (MT), what the GSA would wish to avoid, with the intent to establish some level of protection for domestic wells. Geosyntec suggested establishing Measurable Objective (MO), or desired state for water levels, based on current and projected water level trends, using existing monitoring data and modeling results. The area between the MT and MO indicates the level of operational flexibility. This SMC process would apply to each Representative Monitoring Site (RMS), which encompasses a 3-mile radius from each well. In sum, the proposed approach takes into account local hydrogeological conditions, is protective of domestic wells, and uses either 2015 historic groundwater levels or modeled water level trends.

Tradeoffs: Geosyntec explained the trade-offs of choosing among the MO trend lines proposed. The higher trend line (2015 level) would be more protective and would require more “aggressive” PMAs to achieve target groundwater levels. The lower trend line (2030 trend) would allow greater flexibility but would be slightly less protective. In quantitative terms, the difference represents about 5,000 AF of water across the GSA to level off the trend.

Draft Undesirable Results and Sustainability Criteria

Undesirable Result Statement	<ul style="list-style-type: none"> • GW Levels are unable to satisfy beneficial uses over a sustained period. Specific examples of undesirable results include domestic wells going dry, reduction in pumping capacity, increase in pumping costs, potential impacts to GDEs.
Minimum Threshold (onset of undesirable result) & Measurable Objective (desired condition)	<ul style="list-style-type: none"> • Minimum Threshold – Fall (Sept/Oct) GW level is above the 15th Percentile of all domestic well depths in a given area or sub-area. This means 85% of all domestic wells are completed below the minimum threshold and will be “protected.” • Measurable Objective – Fall 2015 groundwater level (or modeled 2015 groundwater level if no data are available). This means dry cycle minimums are no worse than 1993-2015 minimums. Alternatively, the GSA could consider using the 2030 trendline.
Quantitative definition of significant and unreasonable impact	<ul style="list-style-type: none"> • 25 % of representative monitoring wells fall below minimum threshold for 2 consecutive years.

Discussion

- D. Sherwood (WAC), as a new WAC member, expressed that while he is still tracking the different SGMA jargon, the proposed approach to write the plan with the best available knowledge, update

and refine the understanding every five years, and describe a process to fill data gaps seems reasonable. However, he asked if there is may be an option between the 2015 and the 2030 trend lines. B. Anderson (Geosyntec) stated the GSA will need to submit yearly reports to DWR, showing water levels in each well. DWR will look at levels relative to MOs and require adjustments if the GSA is not meeting established targets. P. Gosselin (Butte County) stated the GSA would start developing PMAs over time to meet the 2030 trendline, and if better data available show the GSA is exceeding expectations, the GSA could consider changing the MO. Lastly, C. Buck (Butte County) shared that ultimately the GSA has 20 years to show sustainable management and affirmed the importance of the MO reflecting local priorities and values.

- K. McKillop (South Feather Water and Power) shared the 2015 line puts the basin in a continually reactive position. She suggests setting it up at the 2030 trend and adapt in five years if a more conservative approach is warranted. It would also be important to consider synergies among the suite of water conservation and efficiency measures being proposed in urban areas. Lastly, she would be ok with setting the MT at the 15th percentile.
- D. Kehn (Cal Water) suggests selecting the 2030 trend line, as going with the 2015 level may be too ambitious and place the subbasin in a difficult position, requiring the implementation of aggressive PMAs too early in the process. Within the next 5 years, new information will come to bear to better understand basin conditions. In terms of the MT, he supports using the 15th percentile. That said, he was skeptical of the model trends showing groundwater conditions leveling off, basically achieving sustainability without action. The Management Committee explained that the model is based on historical hydrology and past wet year-dry year cycles. The current level of demand and the mix of surface water and groundwater supplies in the Wyandotte Creek's show less extremes than in other subbasins, like Vina.
- A public participant shared they were glad to hear sustainability is a 20-year goal. While the longer timeframe allows the GSA to take into account the more accurate information along the way, public participant encouraged the WAC to consider the impact future development may have and respond before it is too late. J. Turner (Geosyntec) shared that the technical team is also developing interim milestones and each update will incorporate updated land use data and better account for future growth.

Projects and Management Actions (PMAs)

P. Gosselin (Butte County) gave a brief presentation on the PMA scope and process. WAC members and public participants asked clarifying questions [[Access Slides](#)]. The PMAs comprise efforts to achieve sustainability goals, by either increasing recharge or reducing pumping. PMAs can include regulatory and non-regulatory actions. The GSA Board has authority to take certain actions, may accept projects or actions proposed by project proponents (e.g., Member Agencies, water purveyors, associations), and must meet criteria prescribed in the regulations. Some PMA examples include conservation, recharge, recycling, pumping allocations, etc.

Requirements: PMAs must include a timeline, expected benefits, and a process to evaluate those benefits. The GSP must include an explanation of how the PMA will be accomplished, what legal authority will carry out the PMA, as well as the estimated costs and the plan to meet those costs. PMAs also need to include a description of the measurable objectives expected to benefit from the initiatives

(e.g., groundwater levels, etc.), how they will help the GSA meet interim milestones, in exceedance of minimum thresholds. It should highlight where undesirable results are imminent, the circumstances and criteria that would trigger implementation and termination, and the summary of regulatory and permitting processes required. Feasibility studies are not necessarily required.

Implementation: PMAs have a 20-year planning horizon, and do not need to be implemented by GSP submittal. All PMAs are subject to 5-Year Progress Reports. Adopted PMAs should include contingencies in case they do not meet Interim Targets, and should include stringent regulatory backstops (i.e., pumping limits) if other PMAs are insufficient.

Development: PMAs need to include a matrix for: planned projects (meet the acceptable criteria, have adequate planning and are scheduled to be completed by 2042); potential projects (meet acceptable criteria but are in early planning stages but possible completed by 2042); and conceptual projects (in early planning stages).

Initial Criteria: Some considerations for selection include, are the PMAs: cost-effective; multi-beneficial; linked to measurable objectives and management areas; socially acceptable; beneficial to the public, etc.

Process and Schedule: The Wyandotte Creek GSA will follow an engaged public process through the WC GSA Board and Advisory Committee. the GSA has developed a submittal form to gather ideas [[Access Draft Submittal Form | Access Online Form](#)]. The Management Committee will upload this form on the website. In June 2021, the Wyandotte Creek GSA Board will receive a presentation for potential PMAs for incorporation in the GSP.

Next Steps

- The Wyandotte Creek GSA will host a GSA Board Workshop focused on SMC on February 25th.
- The WAC will meet again via video conference on March 4, 2021 from 9:00-12:00.

Meeting Participants

Participant	Representation/Affiliation	Present
Wyandotte Creek GSA Advisory Committee (WAC) Members		
David Kehn	California Water Service	Y
Duke Sherwood	Agricultural Water User	Y
Kristin McKillop	South Feather Water and Power	Y
Groundwater Sustainability Agency (GSA) Member Agency Staff		
Paul Gosselin	Butte County	Y
Christina Buck	Butte County	
Kelly Peterson	Butte County	Y
Matt Thompson	City of Chico	Y
Chris Heindell	Thermalito Water and Sewer	Y
Technical Consultants		
Joe Turner	Geosyntec	Y

WYANDOTTE CREEK GSA ADVISORY COMMITTEE (WAC) MEETING (2/4/2021)

Participant	Representation/Affiliation	Present
Bob Anderson	Geosyntec	Y
Amer Hussein	Geosyntec	Y
State Agencies		
Debbie Spangler	Department of Water Resources (DWR)	
Facilitator		
Tania Carlone	Consensus Building Institute	Y
Mariana Rivera-Torres	Consensus Building Institute	Y

In addition, 3 members of the public attended the meeting.