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MEMORANDUM

To: All Stakeholders

From: Christina Buck, Assistant Director, Butte County Department of Water and Resource Conservation and Laura Foglia and Ryan Fulton, Larry Walker and Associates

Date: May 18, 2026

Subject: Consideration of a Strawman Proposal: Approach to Addressing Interconnected Surface Water in the Periodic Evaluation in response to DWR Recommended Corrective Actions

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Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided recommended corrective actions (RCAs) in its Determination Letter identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first periodic evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA's written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management Round 2 grant program to support work to address data gaps identified in the plan and complete the Periodic Evaluation. Larry Walker and Associates (LWA) was competitively selected to complete this work. Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge.

Purpose of this Memo

This memo is intended to inform stakeholders and solicit input on a preliminary approach for how the Vina and Rock Creek Reclamation District Groundwater Sustainability Agencies (GSAs) could address the Department of Water Resources' (DWR's) Recommended Corrective Actions related to depletion of interconnected surface water (ISW) in the Vina Subbasin. The proposal is framed as a strawman for further discussion, not as a final staff recommendation.

The proposed approach is to take a meaningful step forward in the 2027 Periodic Evaluation by documenting the new information now available, defining a broader ISW monitoring network focused on shallow groundwater and stream gages, and clarifying that the existing groundwater level Representative Monitoring Site (RMS) network should no longer be relied upon as the primary proxy for ISW. However, the approach would not yet establish ISW-specific sustainable management criteria (SMC), minimum thresholds (MTs), measurable objectives (MOs), or ISW RMS sites. Instead, those decisions would be deferred until: (1) additional monitoring data are collected, (2) DWR releases the ISW guidance referenced in its Recommended Corrective Action, and (3) ongoing regional coordination provides a more consistent framework for shared surface water systems. Again, this memo and strawman proposal are intended to support

discussion and solicit input regarding a potential path forward for consideration by the GSAs, recognizing the ultimate decision rests with the Boards.

Relevant Documents and Resources

The following materials provide background for this discussion and should be considered together. Several documents are draft work products intended to support discussion of the Vina Subbasin Periodic Evaluation.

- Draft Technical Memorandum: Vina Subbasin Interconnected Surface Water (April 2026)
- Groundwater Monitoring Network Enhancements Technical Memorandum (November 2024)
- AEM-Based Evaluation of Vina Monitoring Wells (Greene, October 2024)
- Joint GSP Evaluation – North Sacramento River Corridor TM (Jan 2026)
- North Sacramento River Corridor Inter-Basin Coordination / Meeting Materials
- DWR Vina Subbasin GSP Determination Letter and Staff Report (July 27, 2023)
- Vina Subbasin Groundwater Sustainability Plan (2022)

Relevant Context

What Interconnected Surface Water Means Under SGMA

Under SGMA, depletion of interconnected surface water is one of the six sustainability indicators that must be considered in a GSP. DWR defines interconnected surface water as surface water that is hydrologically connected to the underlying aquifer by a continuous saturated zone and is not completely depleted. In practical terms, ISW refers to locations where groundwater and surface water systems directly influence one another.

Under SGMA, depletions of ISW are specifically related to depletions caused by groundwater use. Groundwater pumping may reduce groundwater inflow to a stream or river, or increase streamflow losses to groundwater, in a way that could affect beneficial uses of surface water. The key management challenge is distinguishing general stream-aquifer interaction from the portion of that interaction caused by groundwater pumping.

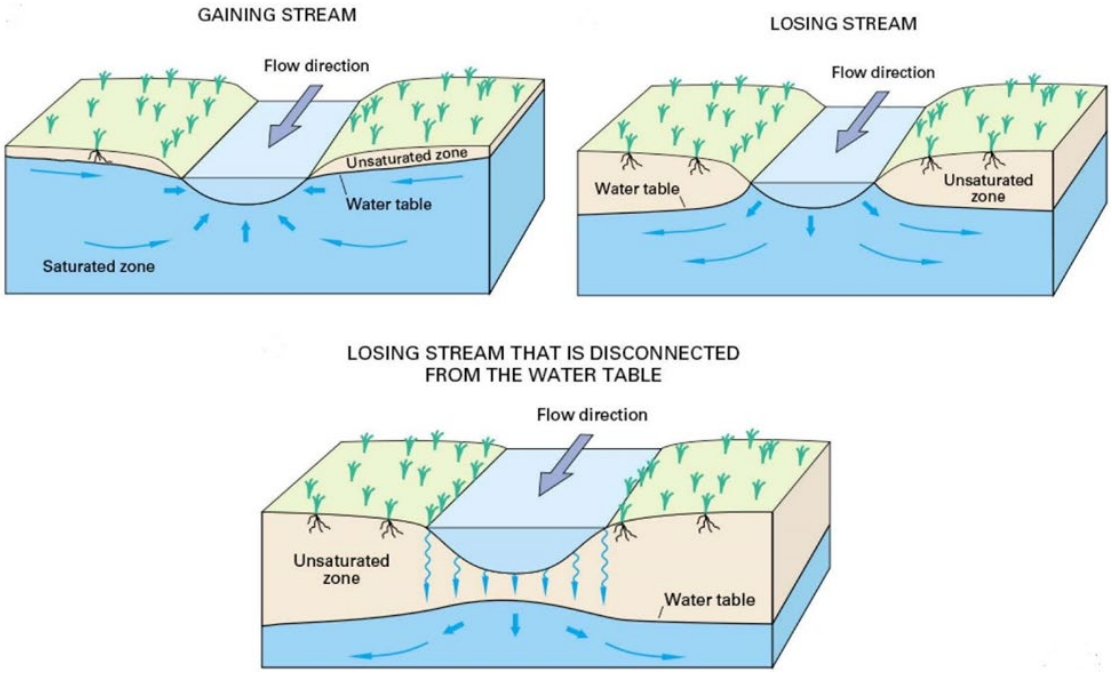


Figure 1. Conceptual illustration of gaining, losing, and disconnected stream conditions. Source: USGS

Current 2022 GSP Approach

The 2022 Vina GSP acknowledged the need to better characterize and monitor ISW. Because shallow groundwater data were limited at the time of GSP development, the GSP did not establish SMC specific to ISW depletion. Instead, groundwater level SMC and the groundwater level RMS network were used as a proxy for ISW. The GSP also identified a need for additional wells and other monitoring to analyze the interaction of streams and groundwater pumping. The plan identified ISW monitoring as a data gap to be addressed during implementation.

The new information developed since GSP adoption as part of the SGM grant funded Data Gap project provides an opportunity to move beyond relying on the groundwater level RMS network as the primary proxy for ISW. At the same time, the available data is still relatively new and additional monitoring and a longer period of record is needed before the GSAs can confidently identify ISW RMS sites or establish durable ISW-specific SMC.

DWR Recommended Corrective Actions Related to ISW

DWR approved the Vina Subbasin GSP in July 2023 and identified Recommended Corrective Actions to be considered as part of the first Periodic Evaluation.

Provided below is Recommended Corrective Action 6, as stated in the Determination Letter:

Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSAs should work to address the following items by the first periodic evaluation:

a. Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.

b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.

c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.

d. Clarify the groundwater level monitoring sites that will be used for the evaluation of depletions of interconnected surface water and provide site-specific information.

DWR has not yet released the ISW guidance referenced in its corrective action. This would be a key reason to proceed incrementally and avoid setting ISW-specific SMC before state guidance, regional coordination, and additional local monitoring data are available.

New Information Available Since the 2022 GSP

Since adoption of the 2022 GSP, the GSAs and partner agencies have developed substantial new information to improve the characterization of ISW in the Vina Subbasin. The draft ISW Technical Memorandum by Larry Walker Associates and work done through the grant funded Data Gap project (see other previously linked relevant documents) identify the following major lines of new information:

1. **Shallow groundwater monitoring network identification and development**. Existing groundwater level monitoring wells have been evaluated and classified based on screen intervals, AEM information, and other well construction data to identify wells more representative of shallow water table conditions.
2. **Additional monitoring wells and stream gages.** SGM Implementation Grant Program funding supported design and installation of new monitoring wells and stream gages (currently being installed, spring 2026).
3. **Updated Butte Basin Groundwater Model (BBGM).** BBGM version 1.3 has been extended through Water Year 2024 and provides updated model-based estimates relevant to stream-aquifer interaction.
4. **AEM-based evaluation.** DWR's AEM data have been used to improve understanding of subsurface conditions and support classification of monitoring wells by aquifer zone.
5. **Isotope study.** Isotope data have been collected along Big Chico Creek and Butte Creek to help identify gaining and losing stream reaches.
6. **Topographic surveys and LiDAR comparisons.** Streambed and water surface elevation information has been used with shallow groundwater elevations to help assess stream-aquifer connectivity.

Together, these data provide an improved foundation for ISW characterization. They also highlight the complexity of the issue and the importance of continuing to collect shallow groundwater and surface water data before selecting compliance monitoring sites or setting ISW thresholds. The newly installed wells and stream gages will provide valuable information over the next 5-year implementation period.

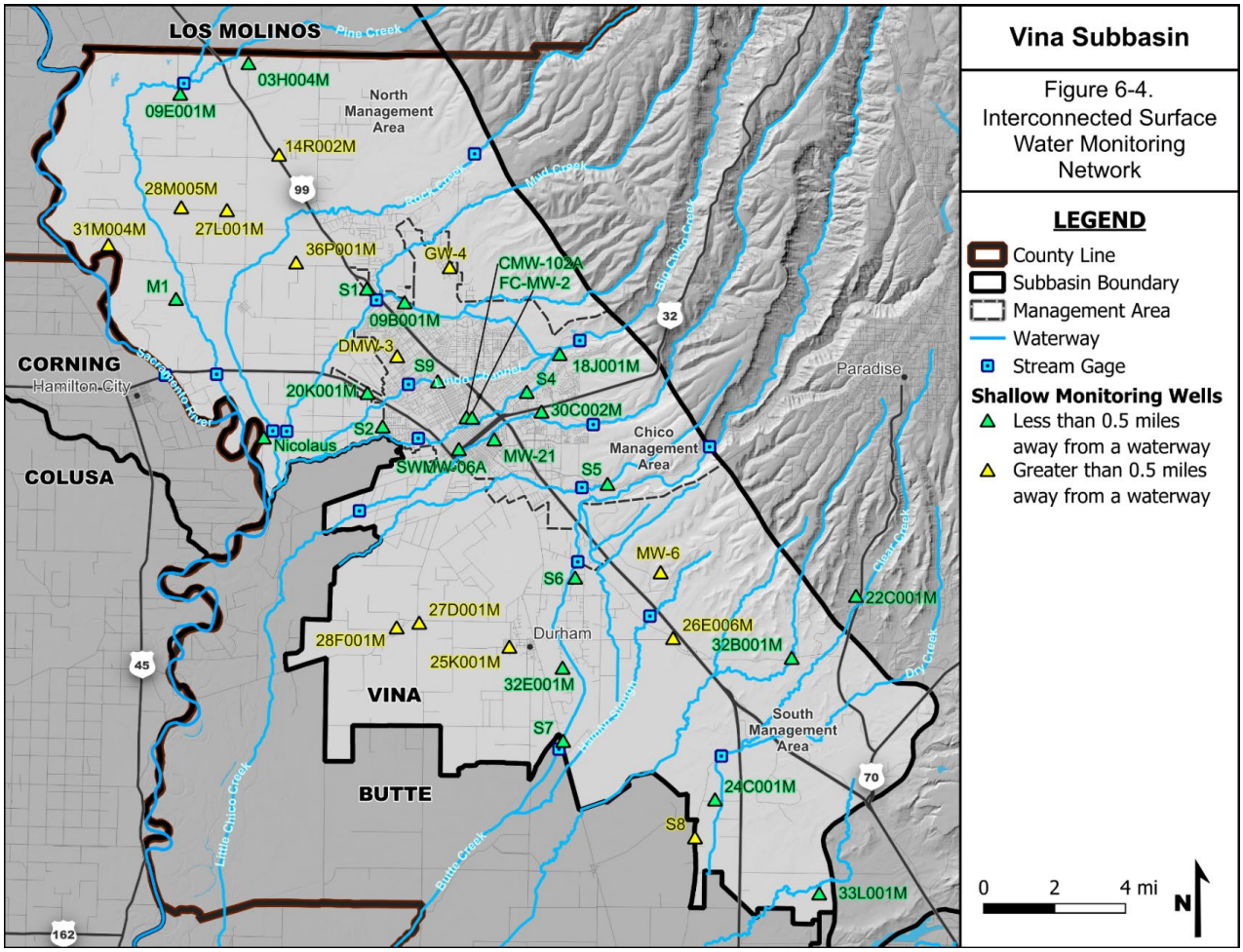


Figure 2. Draft Vina Subbasin interconnected surface water monitoring network, showing shallow monitoring wells and stream gages.

Regional Context

A regional approach is also warranted because several major surface water systems associated with the Vina Subbasin are regional in nature. The Sacramento River forms a boundary with multiple subbasins, and major tributaries and stream systems cross or influence more than one SGMA planning area, namely Butte Creek. The Vina GSP anticipated inter-basin coordination through the North Sacramento River Corridor (NSRC), including information sharing, joint analysis and evaluation of GSPs, coordination on mutually beneficial activities, and coordinated communication. Collaboration regarding ISW is one of those "mutually beneficial activities" that have been identified by GSA managers from the NSRC group. Meeting summaries are available from GSA coordination meetings so that individual GSAs and members of the public can stay informed of the NSRC IBC discussions.

Regional discussions are in initial stages regarding ISW through the NSRC group. This memo focuses on the new information available to the Vina Subbasin; however, regional coordination where surface water systems, beneficial uses, and modeling tools extend beyond a single subbasin will be important. More information on the regional discussions will be available in June.

Recent Public Input Regarding ISW

Attachment B includes input received during the series of stakeholder meetings the Vina GSA held in the Fall of 2025.

Spectrum of Potential Approaches – ISW Matrix of Options and Considerations

The GSAs have a range of potential approaches for addressing ISW in the Periodic Evaluation. The attached strawman proposal (Attachment A) leans toward a wait-and-see approach, but not an inactive one. It would document progress, define the monitoring network, and establish a clear path for future SMC development while avoiding premature thresholds before DWR guidance and regional coordination are further developed.

Approach Option	What it would do	Advantages	Limitations / Concerns
Meaningful but measured approach **(Strawman Proposal, see Attachment A)**	Define a broader ISW monitoring network; stop relying on the existing groundwater level RMS network as the primary proxy; document new data and data gaps; wait to set ISW-specific SMC and RMS network selection.	Demonstrates progress in the Periodic Evaluation while preserving flexibility. Allows the GSAs to use new monitoring data, DWR guidance, and regional coordination before adopting thresholds.	Requires clear explanation to DWR and stakeholders that deferral is intentional and based on technical and policy reasons, not inaction.
More immediate SMC approach	Identify ISW RMS sites and establish preliminary ISW-specific MTs and MOs in 2027 GSP amendments.	Shows a proactive response to DWR's RCA and creates a compliance framework now.	Would prematurely set thresholds before DWR guidance (as promised in its RCA), regional coordination, and sufficient local shallow monitoring data are available; would require later revision and additional amendments.
Minimal wait-and-see approach	Describe uncertainty and defer most ISW decisions until future guidance and data are available.	Avoids premature decisions.	May not demonstrate sufficient progress toward addressing DWR's RCA and may be viewed as too limited for the 2027 Periodic Evaluation.

The strawman proposal is the more measured approach, taking a meaningful step forward in the Periodic Evaluation but deferring adoption of ISW-specific SMC until additional data and technical information is available and policy direction is provided by DWR.

Requested Input and Next Steps

This memo and strawman proposal are provided to support discussion and receive stakeholder input before the GSAs finalize the ISW approach for the Periodic Evaluation and any associated GSP amendments. The proposed approach is to make clear progress by documenting new information, defining the ISW monitoring network, and laying out a path for future SMC development, while deferring ISW-specific SMC decisions until DWR guidance, additional monitoring data, and regional coordination provide a stronger basis for those decisions.

It is anticipated that the Vina Stakeholder Advisory Committee will discuss this strawman proposal at their meeting on May 27, 2026. The Vina GSA and Rock Creek Reclamation District GSA Boards are anticipated to consider this topic at their joint meeting on June 10, 2026. However, the expected timeline is subject to change.

Comments and questions may be directed to cbuck@buttecounty.ca.gov.

Attachments

A. Strawman Proposal: Approach to ISW in the Periodic Evaluation
B. Stakeholder Input regarding ISW from Fall 2025 Stakeholder Meetings

Approach to Interconnected Surface Water – Strawman Proposal for Discussion

The following strawman proposal is intended to frame discussion and solicit stakeholder input. It is written as a proposed approach for the 2027 Periodic Evaluation and any associated GSP amendments, rather than as final GSP language.

1. Recognize ISW as a distinct sustainability indicator that requires a distinct monitoring approach.

The Periodic Evaluation would acknowledge that groundwater level RMS wells developed primarily for the chronic lowering of groundwater levels sustainability indicator are not sufficient, by themselves, to evaluate depletions of interconnected surface water. Groundwater levels remain important, but ISW evaluation requires shallow groundwater data near streams, stream stage or streamflow data, and other supporting lines of evidence.

The GSAs would state that the 2022 GSP's groundwater level proxy approach was appropriate as an initial implementation step given limited available data, but that implementation work since 2022 now supports a transition toward a separate ISW monitoring framework.

2. Define a broader ISW monitoring network now; identify RMS sites later.

The key near-term action would be to define and document a broader approach for an ISW monitoring network. This network would include shallow groundwater monitoring wells, stream gages, and other relevant data collection locations that can be used to evaluate the timing, location, and direction of stream-aquifer interaction.

At this stage, the network would be considered an ISW monitoring network, not necessarily an ISW RMS compliance network. RMS sites would be selected later after sufficient monitoring data are available to evaluate which sites are reliable, representative, and appropriate for long-term compliance purposes.

This approach recognizes that shallow groundwater monitoring is the key next step. The Periodic Evaluation would clearly identify which existing and newly installed monitoring sites are considered part of the ISW monitoring network (see tables and map below), explain the basis for including them, and identify remaining geographic or technical data gaps.

3. Do not set ISW-specific SMC in the 2027 Periodic Evaluation

At this time, the approach would be to not yet establish ISW-specific MTs, MOs, or undesirable result criteria. Instead, the Periodic Evaluation would explain why deferral is appropriate at this time based on the following reasons:

- DWR has not yet released the ISW guidance referenced in its Recommended Corrective Action;
- Regional coordination is ongoing and important because major surface water systems cross or border multiple subbasins (ex. Sacramento River, Butte Creek);
- New shallow groundwater and stream gage data are only beginning to be collected and need time to establish a meaningful period of record;
- Modeling tools are improving but still have uncertainty related to calibration and representation of shallow groundwater-surface water interaction
- Additional work is needed to distinguish general stream gains/losses from pumping-induced depletion; and,
- Current subbasin conditions (i.e. observed groundwater levels are above historical lows) and no increasing trend in groundwater extraction compared to historical amounts suggest that a significant increase in depletion of interconnected surface waters is unlikely to occur over the next five-year implementation period.

The Periodic Evaluation would state that ISW SMC development is expected to be revisited after additional local data collection, regional coordination, and the release of DWR's ISW guidance.

4. Use multiple lines of evidence to characterize ISW.

The Periodic Evaluation would describe ISW conditions using multiple lines of evidence rather than relying on a single dataset or model output (as documented in the ISW TM). These lines of evidence include, at a high level:

- Shallow groundwater levels and hydrographs;
- Stream stage and streamflow data from existing and newly installed stream gages;
- Updated BBGM results, with explanation of what model outputs represent;
- Isotope results from Big Chico Creek and Butte Creek sampling;
- Topographic survey and LiDAR-based comparisons of streambed elevations and groundwater elevations;
- AEM-based understanding of subsurface conditions and monitoring well classification; and

This framework would allow the GSAs to show clear progress while acknowledging remaining uncertainty.

5. Continue regional coordination before setting ISW SMC.

The Periodic Evaluation would recognize that a subbasin-only approach may not fully address ISW policy and technical issues where rivers or creeks form boundaries or cross subbasins. The GSAs would continue participating in regional discussions, including the North Sacramento River Corridor inter-basin coordination effort and related Sacramento Valley ISW discussions.

6. Address DWR's RCA in the Periodic Evaluation

The Periodic Evaluation would include a concise response to each ISW-related RCA. Potential framing is provided below. The GSP would not be amended with respect to ISW.

DWR RCA Topic	Proposed Periodic Evaluation Response	Further Work / Deferred Decision
Use DWR ISW guidance when issued	State that DWR has not yet released ISW guidance. The GSAs will review and incorporate applicable guidance when available over the next implementation period.	Defer ISW-specific SMC until guidance is available and can be considered alongside local data.
Fill data gaps and define segments of interconnectivity and timing	Document the identification of interconnected streams in the subbasin based on the new shallow groundwater monitoring, stream gages, isotope study, BBGM update, AEM-based well classification, and topographic survey information.	Continue data collection through the next implementation period and use annual reports to summarize new information.
Coordinate with agencies and interested parties	Describe stakeholder outreach and regional coordination, including the North Sacramento River Corridor and related regional ISW efforts.	Continue coordination during the next implementation period (2027-2032) with resource agencies, neighboring subbasins, and interested stakeholders before SMC are set.
Clarify monitoring sites used for ISW evaluation	Identify a broader ISW monitoring network and explain why shallow groundwater and stream gage data are the appropriate next step.	Do not designate final ISW RMS sites until the network has a sufficient monitoring record.
Review model inputs/outputs for stream gains and losses	Use updated BBGM results and clearly distinguish overall stream-aquifer interaction from pumping-induced depletion where possible.	Continue model refinement and regional analysis to better support future SMC development and quantification of depletion due to groundwater pumping.

7. ISW Broad Monitoring Network

Four (4) stream gages were installed using SGM grant funds and eight (8) gages were installed using funding from the California Stream Gage Improvement Program (CalSIP) for a total of nineteen (19) stream gages across the Subbasin, as listed in **Table 1**

Table 1. Vina Subbasin Active Surface Water Stream Gauges (to be finalized once installation of new stream gages is completed in 2026)

Stream Monitored	Gage ID	Gage Network	Measurement Frequency	Status	Start Date
Vina - North Management Area					
Sacramento River	VIN	CDEC	Hourly	Active	1/1/1984
Sacramento River	HMC	CDEC	Hourly	Active	6/19/1991
Mud Creek	CS4 Mud/Rock (lower)	CDEC		Proposed	
Pine Creek	C22 Pine (lower)	CDEC		Proposed	
Pine Creek	CS1 Pine (upper)	CDEC		Proposed	
Rock Creek	NEW_ROCK	CDEC		Proposed	
Rock Creek	Rock Creek and West Sacramento	CDEC		Proposed	
Vina - Chico Management Area					
Big Chico Creek	BIC	CDEC	Hourly	Active	7/21/1997
Lindo Channel	LCH	CDEC	Hourly	Active	1/25/2027
Mud Creek	MUC	CDEC	Hourly	Active	1/25/2007
Butte Creek	BCD	CDEC	Hourly	Active	4/7/1997
Butte Creek	11390000	USGS	Hourly	Active	3/14/1997
Big Chico Creek	NEW_BCC	GSA		Proposed	
Comanche Creek	NEW_COMANCHE	CDEC		Proposed	
Little Chico Creek	NEW_LCC_US	GSA		Proposed	
Vina - South Management Area					
Butte Creek	NEW_BUTTE	GSA		Proposed	
Dry Creek	NEW_DRY	CDEC		Proposed	
Hamlin Slough	NEW_HAM	CDEC		Proposed	
Little Chico Creek	NEW_LCC_DS	GSA		Proposed	

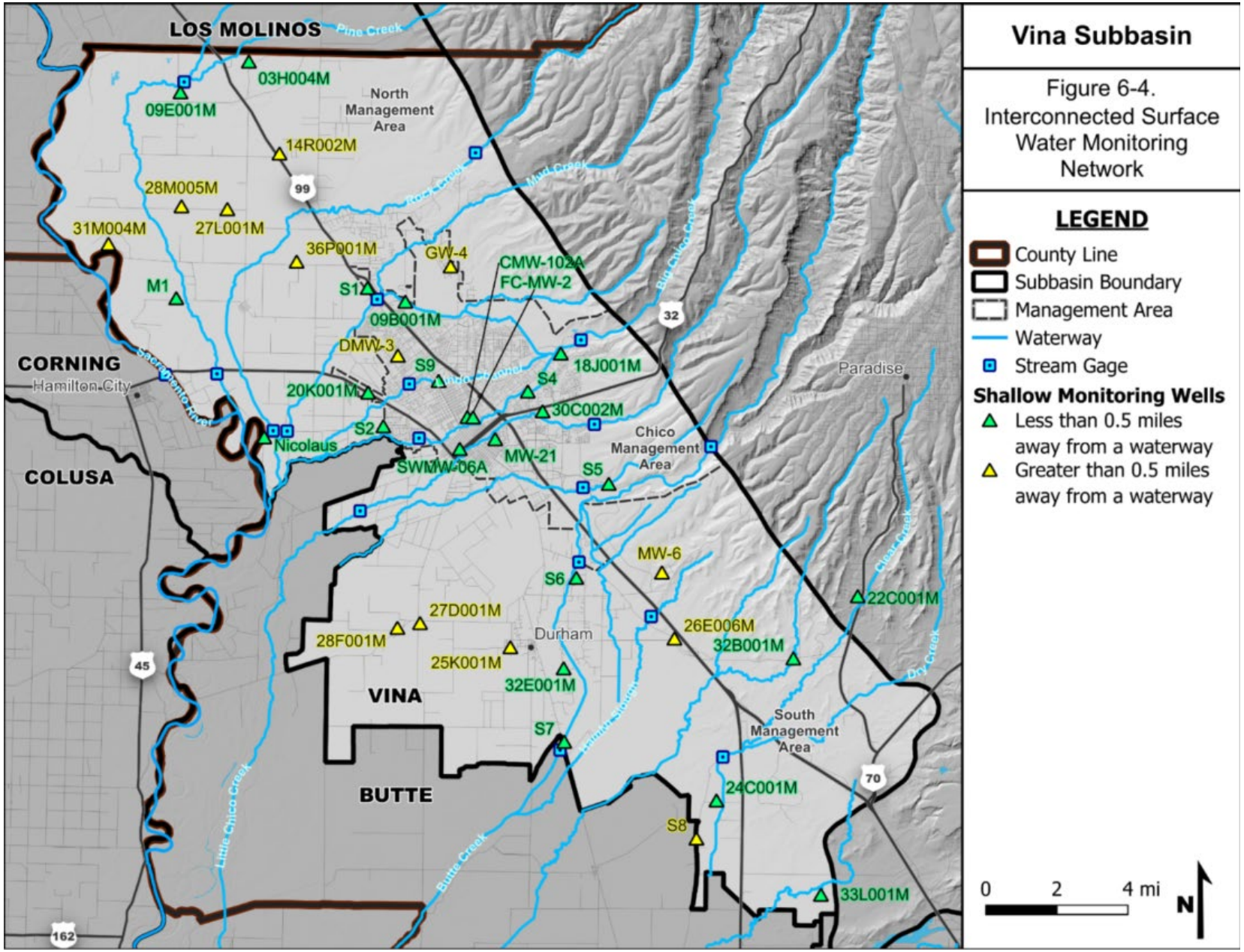
Shallow monitoring wells throughout the Subbasin have been preliminarily selected as representative of shallow groundwater and conditions near streams. This includes newly installed wells currently being drilled (spring 2026). See Table 2 for list of wells.

Table 2. Vina Subbasin ISW Broad Monitoring Network

Well ID	State Well Number	MCW[1]	Well Type	Total Depth	Date of First Meas.	Monitoring Frequency	Nearby Stream	Distance to Nearest Waterway (mi)
03H004M	23N01W03H004M	Yes	Observation	115	3/30/2012	Monthly	Pine Creek	0.40
09E001M	23N01W09E001M	No	Irrigation	110	2/7/1947	Quarterly	Pine Creek	0.20
14R002M	23N01W14R002M	No	Irrigation	183	11/13/1985	Quarterly	Rock Creek	1.65
27L001M	23N01W27L001M	No	Residential	102	3/10/1976	Quarterly	Rock Creek	1.72
28M005M	23N01W28M005M	Yes	Observation	72	1/15/2009	Hourly	Pine Creek	0.82
31M004M	23N01W31M004M	Yes	Observation	106	7/4/2008	Hourly	Sacramento River	0.75
36P001M	23N01W36P001M	No	Residential	165	8/20/1959	Monthly	Rock Creek	0.71
TNC Well	TBD	No	Observation	70		Biannually	Sacramento River	0.35
M1*	TBD	Yes	Observation	TBD		Quarterly	Pine Creek	0.26
S2*	TBD	No	Observation	TBD		Quarterly	Big Chico Creek	0.15
09B001M	22N01E09B001M	No	Residential	156	5/9/2001	Quarterly	Sycamore Creek	0.10
20K001M	22N01E20K001M	No	Residential	110	5/10/1961	Quarterly	Lindo Channel	0.34
30C002M	22N02E30C002M	No	Observation	203	12/19/2001	Hourly	Little Chico Creek	0.12
18J001M	22N02E18J001M	No	Residential	180	4/6/2001	Quarterly	Big Chico Creek	0.13
CMW-102A		No	Observation	36.5		Biannually	Big Chico Creek	0.50
DMW-3		No	Observation	55		Biannually	Lindo Channel	0.82
FC-MW-2		No	Observation	40		Biannually	Big Chico Creek	0.50
GW-4		No	Observation	115		Biannually	Mud Creek	0.50
MW-21		No	Observation	25	6/28/2004	Biannually	Little Chico Creek	0.19
SWMW-06A		No	Observation	35	8/29/2005	Biannually	Little Chico Creek	0.143
S1*	TBD	No	Observation	TBD		Quarterly	Mud Creek	0.33

Well ID	State Well Number	MCW[1]	Well Type	Total Depth	Date of First Meas.	Monitoring Frequency	Nearby Stream	Distance to Nearest Waterway (mi)
S4*	TBD	No	Observation	TBD		Quarterly	Big Chico Creek	0.08
S5*	TBD	No	Observation	TBD		Quarterly	Comanche Creek	0.06
S9*	TBD	No	Observation	TBD		Quarterly	Lindo Channel	0.05
25K001M	21N01E25K001M	No	Residential	93	4/8/1993	Quarterly	Butte Creek	1.35
27D001M	21N01E27D001M	No	Observation	112	10/9/1946	Quarterly	-	-
28F001M	21N01E28F001M	No	Irrigation	173	8/20/1998	Quarterly	-	-
32E001M	21N02E32E001M	No	Irrigation	184	3/26/2009	Quarterly	Butte Creek	0.33
22C001M	21N03E22C001M	No	Residential	143	3/19/2001	Quarterly	Clear Creek	0.15
33L001M	20N03E33L001M	No	Observation	101	8/12/1999	Hourly	Cottonwood Creek	0.21
24C001M	20N02E24C001M	Yes	Observation	155	12/29/1999	Hourly	Dry Creek	0.20
32B001M	21N03E32B001M	No	Observation	57	10/15/1999	Quarterly	Little Dry Creek	0.01
26E006M	21N02E26E006M	Yes	Observation	179	9/13/2007	Hourly	Hamlin Slough	0.88
MW-6		No	Observation			Biannually	Hamlin Slough	0.52
S*		No	Observation	TBD		Quarterly	Butte Creek	0.13
S7*		No	Observation	TBD		Quarterly	Butte Creek	0.04
S8*		No	Observation	TBD		Quarterly	Dry Creek	0.51

1. Multi-Completion Well - single drilled borehole for a monitoring well used to monitor multiple, discrete depths of an aquifer
*S# - New wells currently being constructed.


Vina Subbasin
Figure 6-4.
Interconnected Surface Water Monitoring Network
LEGEND
County Line
Subbasin Boundary
Management Area
Waterway
Stream Gage
Shallow Monitoring Wells
Less than 0.5 miles away from a waterway
Greater than 0.5 miles away from a waterway
0
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N
LOS MOLINOS
CORNING
Hamilton City
COLUSA
VINA
BUTTE
Durham
Paradise
Nicolaus
North Management Area
Chico Management Area
South Management Area
03H004M
09E001M
14R002M
28M005M
27L001M
31M004M
36P001M
GW-4
CMW-102A
FC-MW-2
M1
S1
09B001M
DMW-3
S9
18J001M
S4
20K001M
30C002M
S2
MW-21
SWMW-06A
S5
MW-6
S6
27D001M
28F001M
25K001M
32E001M
S7
26E006M
32B001M
22C001M
24C001M
S8
33L001M
Pine Creek
Mud Creek
Big Chico Creek
Sacramento River
Little Chico Creek
Butte Creek
Dry Creek
99
32
45
70
162

Attachment B

ISW-Related Stakeholder Feedback Summary

Vina Subbasin Fall 2025 Stakeholder Meetings

As part of its preparation of the 2027 Periodic Evaluation, the Vina GSA hosted a series of stakeholder meetings in the Fall of 2025 to gather preliminary feedback on potential technical approaches for Groundwater Levels Sustainable Management Criteria and Interconnected Surface Waters (ISW) Sustainable Management Criteria. Members of the Butte County Local Expert Group (LEG), and individuals and organizations representing environmental users, domestic well owners, and agricultural groundwater users were each invited to meet with GSA staff and technical consultants in small group venues on October 14, October 27, and November 13, 2025. The following summary is a combination of input/comments relevant to the ISW topic received from all of these discussions and have been pulled from the Meeting Summaries produced from each of the individual meetings and the staff memo prepared for the GSA Boards. The complete meeting summaries are included in the Vina GSA Board packet from the December 10, 2025 joint board meeting.

Participants were asked to weigh in on the following questions:

- What reactions or questions do you have about the proposed ISW RMS Network?
- Any recommended adjustments to the network? Other considerations for the LWA team?
- Reactions or thoughts to the proposed approach and timeline of setting ISW SMC?

Summary of Key ISW-Related Stakeholder Input Received

Stakeholder feedback generally supported continued refinement of the ISW monitoring network, but groups differed on how quickly the GSA should move toward setting ISW-specific Sustainable Management Criteria (SMC). Environmental representatives encouraged stronger protection of groundwater dependent ecosystems (GDEs), interconnected surface waters (ISWs), urban forests, valley oaks, and other groundwater-dependent vegetation. Technical experts emphasized the need for better visual explanations of stream connectivity, disconnection thresholds, and model outputs. Agricultural representatives urged caution, flexibility, and continued coordination with neighboring subbasins before locking in ISW SMC. Across groups, there was recognition that data gaps remain related to ISW, GDEs, shallow wells, stream connectivity, and modeling.

The stakeholder meetings were structured around the proposed groundwater level and ISW Representative Monitoring Site (RMS) networks, potential SMC approaches, and DWR's corrective actions for surface water depletions. Participants were specifically asked for reactions to the proposed ISW RMS network, recommended adjustments or additional considerations for that network, and thoughts on the proposed approach and timeline for developing ISW SMC.

Verbatim ISW-Related Comments/Input from Meeting Summaries

The bullets below are pulled verbatim from the meeting summaries and related summary materials

Local Expert Group

- Include discussion of stream conditions and connectivity when presenting water balance information.
- Recognize that ISW/GDE monitoring may not capture effects on the urban canopy.
- Incorporate cross-section graphics to visually demonstrate where and when stream disconnection occurs.

Additional ISW-related discussion from the Local Expert Group meeting summary

- Laura presented the proposed approach for developing an Interconnected Surface Water monitoring network (noting that the original GSP did not include an ISW specific RMS network) and potential changes to the SMC.
- A participant noted that Big Chico Creek receives significant attention, but the one well in the area is problematic, and the downtown well is too new to be considered reliable, so how will this area be monitored?
- In response to a question from Jim about using GWL as a proxy for flux, Laura noted that without streamflows, they can't calculate flux. Stream gages are planned to be installed in the next year, though.
- Todd elevated a concern he has heard in other regions related to protecting Groundwater Dependent Ecosystems (GDE) that aren't strictly riparian. He noted that ISW RMS wells would not be able to help track conditions in areas that are more distant from streams and creeks.
- There was a question about why transects couldn't be used like other GSPs. Laura responded that streams in this region are more dynamic and require assessments of where streams are losing and gaining which then inform locations of stream gauges and new wells.

Additional modeling-related ISW comments from the Local Expert Group meeting summary

- There was discussion about the model showing equilibrium primarily impacted by groundwater that used to flow into streams but is now being intercepted by pumping.
- Christina highlighted that in the Vina Subbasin, water balance is not only about groundwater levels, but stream conditions also need to be considered.
- It was suggested that future discussions include this context and focus on other indicators that are relevant such as stream connectivity.
- Todd noted that since the model assumes streams will not go dry, it raises the question of what the threshold is for when streams become disconnected.
- Kamie Loeser suggested including a cross-section diagram to visually show when disconnection occurs for ISWs.
- Laura noted the model is currently overestimating certain conditions and suggested that a budgeted diagram approach might be more effective in communicating with the public.

Environmental Representatives

Discussion and comments centered on GDEs, Valley Oaks, and MTs related to GWL SMC. However, the following feedback notes are relevant to ISW:

- Raise Minimum Thresholds to provide stronger protection for GDEs and ISWs.

Additional environmental meeting discussion related to ISW/GDEs

- Is it possible for the GSA to use the new wells that were installed to track ISWs to also inform the GWL monitoring network? In particular, were any of those new wells installed in areas near Groundwater Dependent Ecosystems (GDE)? Response: Laura clarified that under SGMA, RMS networks for different sustainability indicators need to be kept separate, but they could interact depending on what the data looks like. In any case, newly drilled wells cannot be used as an RMS until the 2032 GSP evaluation.
- Participants highlighted that valley oaks are not limited to riparian areas, and expressed concern that the ISW RMS network would not be protective of valley oaks. There was a suggestion to assess water levels and soil health, since suitable conditions allow valley oaks to thrive.

Domestic Well Users

Because the meeting participants prioritized discussion on the GWL SMC, there was very little time to share information or discuss the ISW SMC.

Agricultural Representatives

- For ISW, several participants expressed concern about moving forward given existing data gaps, recommending the GSA proceed carefully and ensure decisions can be revisited as monitoring improves.
- Proceed cautiously with ISW SMC development given existing data gaps; ensure decisions can be adjusted in future evaluations as new data may warrant adjustments.
- Continue coordination with neighboring subbasins, especially regarding ISW connectivity and model calibration.

Additional agricultural meeting discussion related to ISW/GDEs

- Purpose and Methodology
    - Isn't the criteria for ISW measured in volume? Why is the GSA proposing an SMC related to groundwater levels?

LWA explained that eventually the goal is for the GSA to calculate stream depletion volumes, but more data is needed and the model (which serves as the current starting point) requires more calibration. Laura noted that this is in line with what other basins are doing.

    - Participants asked about the benefits of ISW monitoring. Laura explained that it helps inform SMCs to prevent shifts in stream conditions (where streams are gaining versus losing) and avoid further disconnection from the aquifer. It also informs whether features like urban forests rely on perched aquifers or ISWs.
    - Questions arose about whether ISW data would benefit neighboring subbasins. Laura noted that coordination is underway to develop a reasonable ISW approach across basins. For the 2027 Periodic Evaluation, most data will come from groundwater levels while ISW data improves and is used to improve models.
- RMS Selection and Data Gaps
    - How are stream depletion percentages calculated? How were the new shallow well sites selected? Christina explained that the model calculates these daily, but more data is needed to validate results. The model can be used to inform where new wells should be installed.

According to the model, streams east of the 99 freeway are less likely to be interconnected with the groundwater, but the GSA plans to place one well in the area to observe conditions and help characterize the connection (or lack thereof).

    - Participants noted that there appears to be an overlap between the ISW and GWL monitoring wells. Laura acknowledged there are two overlapping wells, and Christina added that when the Butte Subbasin has overlapping wells, so the one with the more limiting metric becomes the limiting factor. A participant requested flexibility in ISW MTs to account for this overlap.
    - Several participants expressed concern about moving forward given the existing data gaps, suggesting it would be better to wait until the next Periodic Evaluation. Some felt there was insufficient data and worried MTs would be "locked in" at a restrictive level.
    - Participants noted we all want a plentiful water supply. We just do not want to make a decision that we cannot change in the future.