

REVIEW OF REQUESTS FOR EXCLUSION FROM PROBATIONARY REPORTING AND FEES, TULE SUBBASIN

March 2026



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Executive Summary

On September 17, 2024, the State Water Resources Control Board (State Water Board or Board) designated the Tule Subbasin as probationary under the Sustainable Groundwater Management Act (SGMA) through Resolution No. 2024-0030. In addition to the probationary designation, Resolution No. 2024-0030 further directs Board staff to provide ongoing technical feedback to the Tule Subbasin Groundwater Sustainability Agencies (GSAs) and to periodically update the Board on their progress, including whether exclusions are warranted.

Subdivision (c)(1) of Water Code section 10735.2 authorizes the State Water Board to exclude a class or category of extractions from probationary requirements for reporting and fees if those extractions are: 1) subject to a local plan or program that adequately manages groundwater within the portion of the basin to which that plan or program applies, or 2) likely to have a minimal impact on basin withdrawals. In Resolution No. 2024-0030, the Board granted reporting and fee exclusions to pumpers within the Kern-Tulare Water District GSA and Delano Earlimart Irrigation District GSA. Kern-Tulare Water District's exclusion was based largely on its status as a net-neutral or net-recharger in the basin due to surface water supply and its development of a groundwater fee and well registration and metering program. The exclusion granted to Delano Earlimart Irrigation District was based largely on its status as a net-neutral or net-recharger in the subbasin and intentions to develop demand management actions.

In September 2025, eight additional GSAs submitted requests to the State Water Board to be excluded from reporting and fee requirements. This report summarizes staff's 2025 review of information submitted by eight GSAs: Lower Tule River Irrigation District GSA, Pixley Irrigation District GSA, Tri-County Water Authority GSA, Tea Pot Dome Water District GSA, Terra Bella Irrigation District GSA, Porterville Irrigation District GSA, Saucelito Irrigation District GSA, and Vandalia Water District GSA.

Staff considered information at both the subbasin and GSA scale. Water budget information was evaluated to determine if each GSA area is net-neutral or a net-recharger. Staff also considered development and implementation of well registration and metering programs or demand management programs since GSAs' implementation of these programs is reflective of management practices. Other information considered included subsidence conditions and management, mitigation measures addressing impacts to wells and critical infrastructure, overall implementation of GSPs toward achieving sustainable groundwater management, and impacts of GSA coordination efforts on progress toward subbasin-wide sustainability. While many of the GSAs continue to make progress towards improving their GSPs and local management actions, the information provided by the GSAs for this request does not appear to

demonstrate adequate management at this time; therefore, staff does not recommend that extractors within these GSAs be excluded from reporting and fee requirements.

1.0 Background

On September 17, 2024, the State Water Resources Control Board (State Water Board or Board) designated the Tule Subbasin as probationary under the Sustainable Groundwater Management Act (SGMA) through [Resolution No. 2024-0030](#) (Tule Probationary Resolution) (California State Water Resources Control Board, 2024). In addition to the probationary designation, Resolution No. 2024-0030 further directs Board staff to provide ongoing technical feedback to the Subbasin Groundwater Sustainability Agencies (GSAs) and to periodically update the Board on their progress, including whether exclusions are warranted.

In a probationary basin, groundwater extractors are generally required to submit annual extraction reports to the State Water Board and pay associated fees. SGMA allows the State Water Board to exclude a class or category of extractions from the probationary requirement of reporting extractions and paying associated fees if 1) they are subject to a local plan or program that adequately manages groundwater, or 2) they are likely to have a minimal impact on subbasin withdrawals (Wat. Code, § 10735.2, subd. (c)(1)). An exclusion from reporting and fees does not change the probationary status of the basin or relieve GSAs of their obligation to address deficiencies in their Groundwater Sustainability Plans (GSPs).

2.0 Exclusion Requests, Data Submitted, and Other Information Received

Since the probationary designation in 2024, many GSAs informally indicated their intent to request an exclusion from reporting and fees. To formally consider those requests for Water Year (WY, a 12-month period that begins on October 1 and ends on September 30 of the following year) 2025 reporting and fees, State Water Board staff requested in August 2025 that all Tule GSAs seeking an exclusion from reporting and fees for WY 2025 provide information to support their request by September 2, 2025. The deadline was later extended to September 9, 2025. Board staff requested additional information on December 4, 2025, including updated water budgets, mitigation plan and claim information, and well registration, metering, and allocation compliance information. This additional information was requested to evaluate all available water budget information and compliance rates as indicative of adequate management of groundwater.

The definition of what constitutes adequate management may depend on timing and circumstances unique to the groundwater basin and GSAs, including observations regarding the results of existing management practices. Factors for the Board's consideration may include SGMA's sustainability deadlines, the effectiveness of current management actions, level of detail, whether exclusions may undermine progress towards sustainability, and more when reviewing exclusion requests. SGMA affords the

Board significant discretion to determine what constitutes adequate management and the appropriateness of excluding extractions from the reporting and fee requirement.

Eight GSAs submitted requests to the State Water Board to be excluded from reporting and fee requirements: Lower Tule River Irrigation District GSA (Lower Tule), Pixley Irrigation District GSA (Pixley), Tri-County Water Authority GSA (Tri-County), Tea Pot Dome Water District GSA (Tea Pot Dome), Terra Bella Irrigation District GSA (Terra Bella), Porterville Irrigation District GSA (Porterville), Saucelito Irrigation District GSA (Saucelito), and Vandalia Water District GSA (Vandalia). Figure 1 shows the location of the GSAs in the Tule Subbasin.

Figure 1. Tule Subbasin GSAs

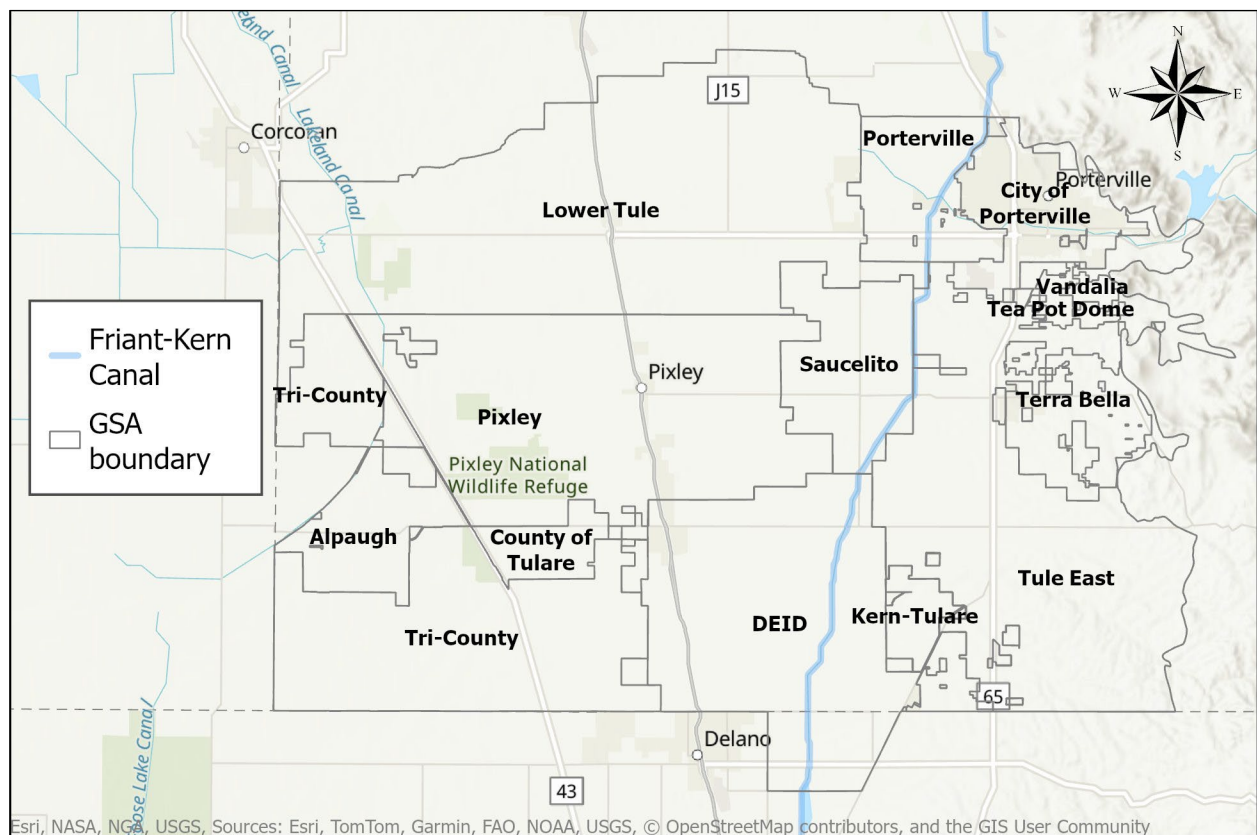


Figure 2 shows a summary of categories of materials the GSAs provided in response to staff's August and December information requests. Staff's conclusions regarding the information submitted are described below.

Figure 2. Summary of Materials Provided by the GSAs.

	Lower Tule	Pixley	Tea Pot Dome	Vandalia	Tri-County	Saucelito	Porterville	Terra Bella
Water Budget Information through 2024	x	x	x	x	x	x	x	x
Mitigation Claim Summary	x	x	x	x	x	x	x	x
Mitigation Plan	x	x	x	x	x			
Self-Help Enterprises Well Mitigation Agreement	x	x	x	x				
Well Registration Compliance	x	x			x	x		x
Metering Compliance	x	x				x		x
Allocation Compliance	x	x	x	x	x			
Revised GSP sections	x	x	x	x	x			
GSA Policies	x	x	x	x	x	x	x	x
Settlement Agreement with Friant Water Authority			x	x				

In development of this report and prior to the formal public comment period, State Water Board staff did not formally request public comments on the exclusion requests. However, some entities provided concerns regarding management in the subbasin while staff reviewed the requests.

- Friant Water Authority provided a technical memorandum to staff on August 13, 2025, identifying needed revisions to the Land Subsidence Management Plan applicable to the GSAs adjacent to the canal and concluding that cumulative land subsidence at the Friant-Kern Canal is likely to exceed the 3-foot minimum threshold (MT) if groundwater levels remain at or below 2024 levels through 2040 (Thomas Harder & Co., 2025).
- Friant Water Authority met with staff on January 7, 2026, to share concerns about ongoing subsidence impacts to the Friant-Kern Canal.
- One commenter stated that they did not feel that the Pixley GSA appropriately addressed subsidence and that allocations for 2026 were set too high (Samuelson, 2026).

Staff was copied on several letters sent between GSAs in the subbasin, including:

- Lower Tule and Pixley noted concerns to Tri-County regarding the application of Tri-County's groundwater extraction policies for Angiola Water District wellfield pumping (Limas, 2025i).

- Tri-County asserted to Lower Tule and Pixley that Angiola Water District is fully subject to Tri-County's allocation and subsidence management policies (Jackson, 2025c). Tri-County indicated it recently adopted pumping reductions, enforceable subsidence triggers, and phased allocation ramp-downs.
- Lower Tule and Pixley indicated that Tri-County policies allow Angiola to pump far more groundwater than is sustainable from a concentrated Tule Subbasin well field by using transitional credits and Tulare Lake Subbasin native yield, causing significant groundwater declines and subsidence. (Limas, 2025j). They indicated Tri-County's subsidence policy acts too late to prevent damage.
- Tri-County responded to Lower Tule and Pixley that Tri-County has some of the most aggressive management actions and policies in the state and that Lower Tule and Pixley grant allocations 550-600% of sustainable yield (Jackson, 2025d).
- Saucelito, Terra Bella, and Porterville requested coordination with all the other GSAs in the subbasin to address subsidence due to the impacts of other GSAs on water level gradients and depletions from storage (Goble, 2026).

State Water Board staff reviewed the information provided and considered it in context of the subbasin-wide management (Section 3) and each GSA's management within the subbasin (Section 4) and how that management impacts the subbasin's path to sustainability.

3.0 Subbasin-wide Groundwater Management Evaluation

State Water Board staff reviewed the information provided by the GSAs in response to the data requests, additional information available in GSPs and supporting plans, and information provided by other interested parties. First, staff evaluated recent water budget data to determine if an area may be net-neutral or a net-recharger. Second, staff considered development of a well registration and metering program or demand management program. Information demonstrating compliance with a GSA's program and self-imposed targets could be indicative of adequacy of management practices and is critical to managing subsidence. Third, staff evaluated other information provided and progress made by the GSAs, including subsidence conditions and management, mitigation measures addressing impacts to wells and critical infrastructure, and overall implementation of GSPs toward achieving sustainable groundwater management.

3.1 Water Budgets

Staff evaluated water budget data provided by the GSAs. As shown in Table 1, staff compared water budget data (removing subsurface flow) for three time periods: historical data (since 1987) to 2024 to demonstrate how the area is impacted overall, from 2015 to 2024 to evaluate any shifts since the adoption of SGMA, and from 2020 to 2024 to evaluate program implementation and effectiveness of allocation plans.

The GSAs calculate their water budgets using the basin-wide groundwater model, which considers measured and estimated data from local irrigation district annual reports, academic publications, state and federal agency reports and databases, and various other sources. Agricultural pumping is estimated indirectly using remotely sensed evapotranspiration to calculate applied crop water demand, accounting for surface water deliveries. Staff generated the values in Table 1 by subtracting the values for the subsurface flow of groundwater into or out of each GSA area from the cumulative water budget totals. This was done to remove the impacts of neighboring GSAs.

Table 1. Cumulative water budget acre-feet per acre (AF/A) across three time periods.

GSA	1987 – 2024	2015 – 2024	2020 – 2024
Lower Tule	-17.10	0.42	0.45
Pixley	-50.03	-10.83	-5.28
Tri-County	-25.91	-6.77	-4.80
Tea Pot Dome	-12.99	-1.76	-1.49
Terra Bella	12.25	6.86	1.65
Porterville	15.21	11.00	6.04
Saucelito	-10.39	-2.89	-2.40
Vandalia	6.84	8.51	2.43

The water budget information is challenging to interpret on its own, without additional context or information. Some GSAs' cumulative budgets appear to be shifting to positive or less negative; others, while remaining positive, show a decline over time. However, the use of evapotranspiration data to develop the budgets presented is limiting because of the inability to distinguish the depth from which the water is being pumped; a situation

where multiple wells screened in different aquifers irrigate the same parcel could pose challenges when trying to evaluate subsidence impacts.

Because of the inherent limitations with the water budget evaluations with available data, as described above, staff also considered other information to evaluate exclusion requests.

3.2 Well Registration, Metering, and Allocation Programs

To supplement the water budget assessment described in the section above, staff evaluated reported compliance information for well registration, metering, and allocation programs (Table 2). This information helps describe whether the GSAs are adequately tracking and managing groundwater pumping within their respective areas. Low compliance in any of the three areas is an indication that GSAs may not be adequately managing groundwater within their areas; well metering information in particular was considered by Board staff as an important marker for adequate management because metering is critical to measuring pumping from individual aquifers and is therefore a key component of subsidence management plans in at least three GSAs.

- **Well Registration**: Well registration is important to identify who is using groundwater and to develop a generalized understanding of where groundwater is being pumped. Well information is critical to understand from which aquifer groundwater is being pumped, although this may not be fully descriptive where there are multiple aquifers. Well registration programs in many of GSAs appear to be largely successful based on the reported compliance information provided by the GSAs (note however, that the reported well registration compliance rate by Lower Tule and Pixley reflects the percentage of GSA area covered by registered wells rather than the percentage of total wells registered) (Limas, 2025b; Limas, 2025d).

- **Metering Requirements:** Metering is an important tool for measuring how much water is actually being pumped by any extractor and within the GSA. Metering is also critical for accurately measuring compliance with allocation targets and developing water budgets. Metering is the only way to evaluate aquifer-specific pumping volumes where there are multiple aquifers and is particularly important where there is aquifer-specific subsidence (for example, pumping from one aquifer may result in substantial subsidence, while pumping from other aquifers may have minimal effect). Subsidence management plans in several GSAs rely on meters to manage pumping. Generally, compliance with metering requirements does not meet GSA-imposed targets. Terra Bella GSA rules and regulations do not clearly specify which parties are required to meter wells, making it unclear whether the reported well metering compliance rates reflects all wells within the GSA (Wheaton, 2025, Attachment 3). In some cases, evapotranspiration measurement methods may be a suitable proxy for metering to estimate volumes of groundwater pumped. Additional information on GSA-specific targets is included in the next section.
- **Allocations:** Allocations are limits set with the goal of reducing unsustainable pumping rates. Appropriate allocations are essential for ensuring GSAs manage groundwater to avoid exceeding MTs and to prevent impacts such as declining water levels and subsidence. Some GSAs appear to set allocations based on the sustainable yield identified in the GSPs. Compliance with pumping allocations is generally high for those GSAs that submitted information. Allocation programs generally started in 2020; recent wet years make it difficult to discern whether compliance with allocations would continue to be as successful in dry years. In areas with low metering compliance, it is unclear whether the allocations are effective across the entire GSA or in localized areas because compliance with allocations can only be verified through metering or other measurement proxies. The compliance information presented in Table 2 is for WY 2024.

Table 2. Well Registration, Metering, and Allocation Program Compliance.

GSA	Well Registration	Well Metering	Allocation
Lower Tule	94%	49%	96%
Pixley	96%	53%	91%
Tri-County	85%	Not provided	93%
Tea Pot Dome	Not required	Not provided	98%
Terra Bella	100%	100%	Not provided
Porterville	Not provided	Not provided	Not provided
Saucelito	75%	53%	Not provided
Vandalia	Not required	Not required	94%

The information presented in Table 2 is critical when considering whether local management is adequate. Local management is foundational to the success of SGMA. The level at which GSAs are meeting self-imposed targets is an indicator of the level of GSA management in an area. While it is not expected that sustainability is achieved now, these targets were developed by the GSAs as critical steps on the path toward achieving sustainability in the future. If local agencies are unable to meet these initial and fundamental targets, it may be an indicator that the agencies may not be able to manage the subbasin sustainably into the future. Where GSAs are not able to reach their targets for well registration, metering, or allocations, GSAs should consider developing plans, targets, and timelines for compliance as initial steps to demonstrating the ability to manage groundwater sustainably.

3.3 Subsidence

Collectively, well registration, metering, and allocation compliance not only serve as indicators of GSA management; they are also critical to understanding correlation between active groundwater pumping and subsidence management. The Tule Subbasin is located within the largest and most significant region of subsidence in the state. Subsidence in the Tule Subbasin exhibits a clear west to east gradient. From June 2015 through July 2025, the highest recorded subsidence, 7.7 feet, occurred at a location in Lower Tule. In the same time period, subsidence exceeded 6 feet across significant parts of the western part of the subbasin, including Lower Tule, Pixley, and in parts of

Tri-County, while eastern areas generally show lower net displacement (California Department of Water Resources, TRE ALTAMIRA InSAR Subsidence Data). Western GSAs show consistent temporal patterns: subsidence peaked in 2015 through 2016 and again in 2021 through 2022, accelerated during droughts, and slowed in wetter years, reflecting sensitivity to surface water availability and reliance on groundwater supplies. In the eastern portion of the basin, Vandalia remained relatively stable with intermittent periods of uplift, whereas Saucelito consistently had the highest annual subsidence in the eastern portion of the subbasin, often more than double the average of its neighbors. Even modest subsidence is significant in the eastern portion of the subbasin due to the presence of critical infrastructure such as the Friant-Kern Canal. Temporal patterns in the eastern GSAs were less uniform, indicating that localized factors strongly influence the magnitude and timing of subsidence.

Many of the GSAs developed plans to manage subsidence. Lower Tule, Pixley, and Tri-County established subsidence management plans in 2024 and 2025 that include monitoring high-risk zones, requiring well registration and metering, and restricting deep aquifer pumping as subsidence nears MTs (2024 LTRID GSA GSP; 2024 PIXID GSA GSP; 2025 TCWA GSA Draft Final GSP, Appendix D). In the east, Terra Bella, Saucelito, Porterville, and Tea Pot Dome indicate they are implementing the Friant-Kern Canal Land Subsidence Management Plan (2024 ETGSA GSP), which limits subsidence to 3 feet by 2040. However, current conditions suggest that groundwater pumping is not being managed to meet GSAs' subsidence goals.

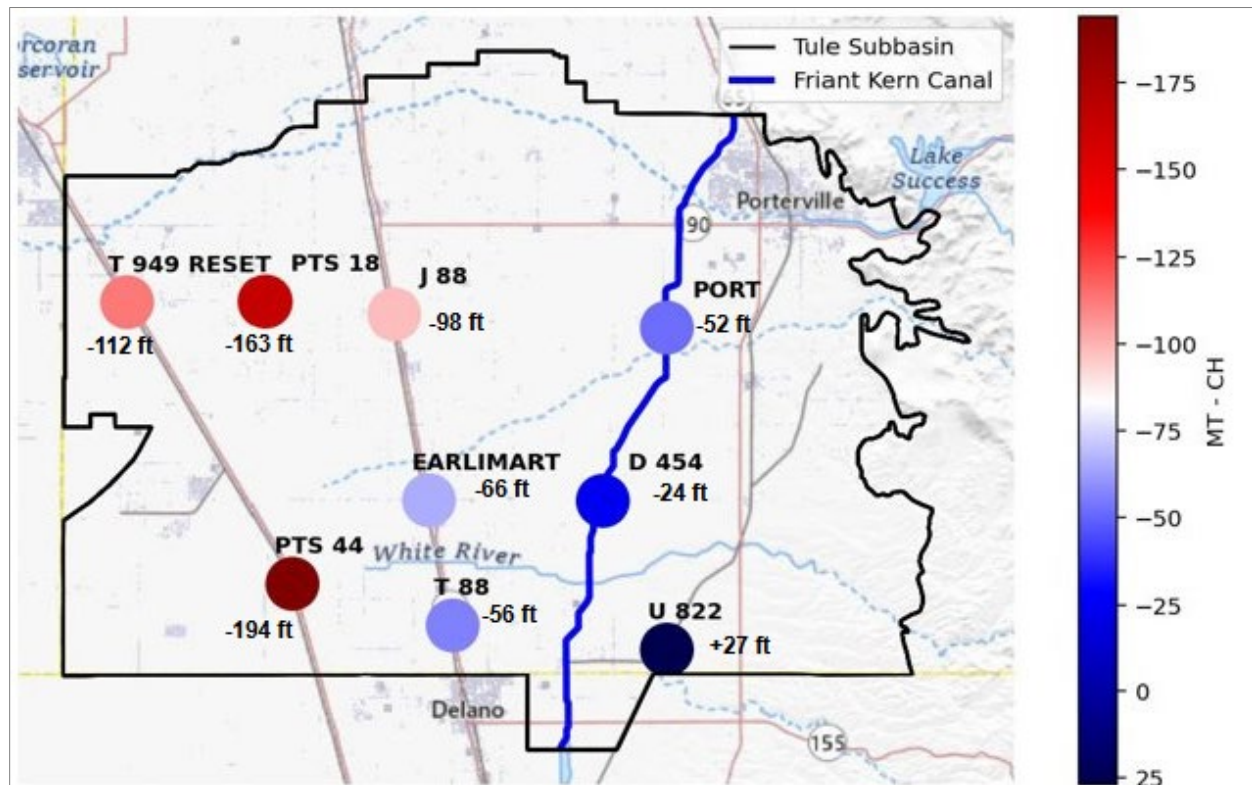
In the 2024 GSPs, updated MTs are set at levels which, if followed, would generally result in substantially less subsidence in the western portion of the subbasin and marginally more subsidence in the eastern portion of Pixley, compared to prior MTs. Despite the 2024 adjustments to subsidence MTs, four representative monitoring sites (RMS) in each of Lower Tule and Pixley have already experienced subsidence exceeding 50% of the subsidence allowable in their 2024 GSPs through 2040 (Figure 3) (LTRID and PIXID GSAs, 2025b). In the east, although absolute displacement is lower than in western GSAs, six of eight Saucelito RMS have reached or exceeded 50% of the subsidence allowable in the 2024 GSP, highlighting growing concerns about subsidence trends and management in eastern GSAs. GSAs' current management approaches do not appear to be sufficient to stop subsidence at the 2040 target and, if following the same trajectory, will more than likely exceed their 2040 targets, potentially as soon as 2028 in some areas (EKI, 2025).

The map displays the Pixley National Wildlife Refuge area, including the towns of Corcoran, Porterville, and Delano. Key infrastructure shown includes the Friant-Kern Canal, the GSA boundary, and Highway 43. Land Subsidence RMS data points are plotted as colored circles, with percentages indicating the percentage of allowable additional subsidence used since 2020. The legend defines the color coding: green for ≤ 25%, yellow for 25 - 50%, orange for 50 - 75%, and red for > 75%. Grey circles represent unknown data. The map also shows the Pixley National Wildlife Refuge boundary and the location of the Pixley National Wildlife Refuge.

DWR also developed a methodology for modeling future land subsidence; using that methodology in the Tule Subbasin, water level MTs are set far below levels that would slow or stop subsidence. DWR developed one-dimensional subsidence simulations to estimate lower aquifer critical head at 10 sites in the Tule Subbasin (California Department of Water Resources, 2025b). However, the 10 sites are not the same as the GSAs' RMS with water level MTs. Intera Inc. (2025) estimated the water level MTs at 9 of these 10 locations by interpolating from RMS and comparing these values to DWR's estimated critical head (Intera Inc., 2025). Results indicate that lower aquifer water level MTs in the subbasin would need to be raised by 24 to 194 feet (Figure 4) to reach critical head at 8 of the 9 sites, though there is uncertainty inherent in both the

interpolation methods and the critical head evaluations. Of the 9 sites, only 1 in the southeast Tule Subbasin (U 822) currently has interpolated water level MTs above the estimated critical head, meaning that most lower aquifer water level MTs in the subbasin may need to be raised significantly to slow subsidence impacts.

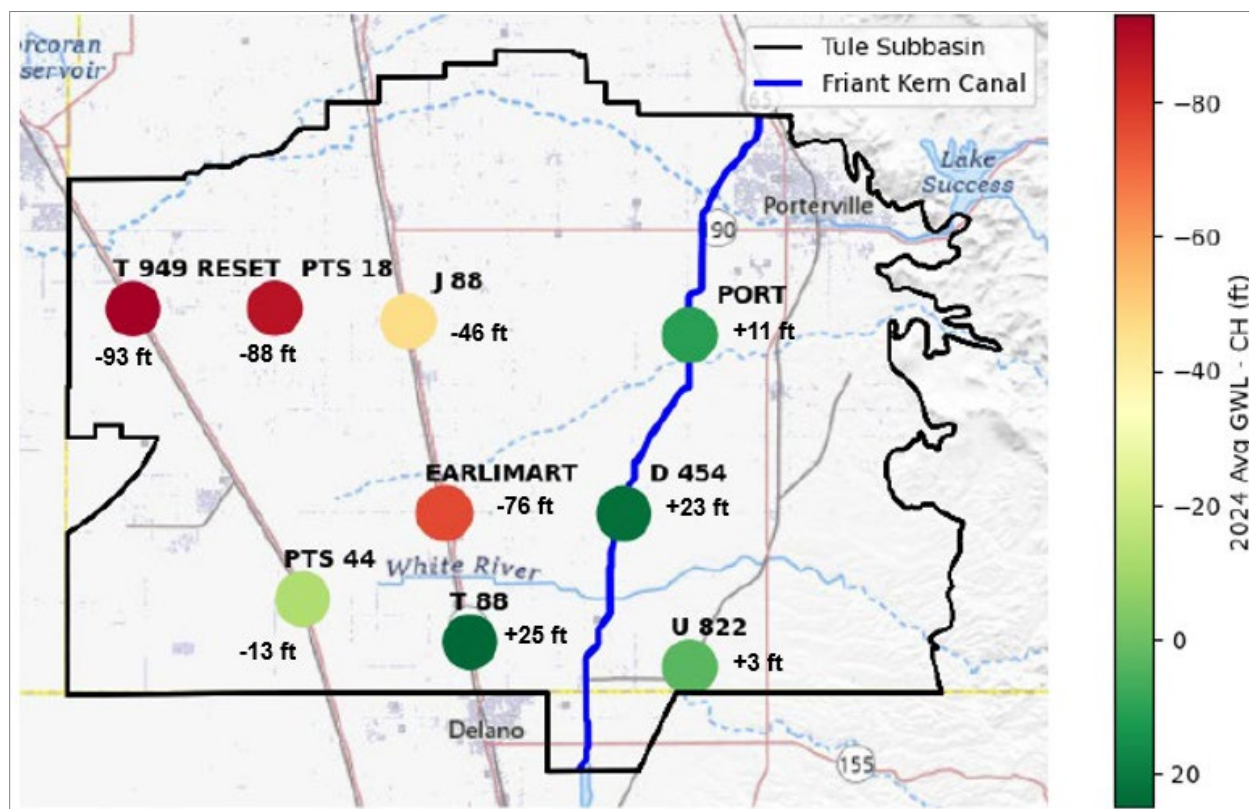
Figure 4. Comparison of lower aquifer interpolated minimum thresholds and estimated critical head at nine sites in the subbasin (from Intera Inc., 2025).



In addition to water level MTs being set at levels that, if followed, would result in continued subsidence, current water levels in the lower aquifer are maintained too low to slow or stop subsidence impacts. Comparing the average 2024 lower aquifer groundwater levels at the sites with estimated critical head indicates that the 2024 average groundwater levels (averaging spring and fall levels together) at five of the nine sites are 13 to 93 feet below estimated critical head (Figure 5) (Intera Inc., 2025). Four sites in the subbasin have groundwater levels above the estimated critical head, while the site in Lower Tule, located near the intersection of Lower Tule, Pixley, and Tri-County GSAs, has the water level the furthest below estimated critical head (93 feet). This comparison is for average water levels, which means that fall water levels may actually be far lower than the annual average water levels, and spring levels much higher. DWR (2025) states that at least monthly water level measurements are essential for managing subsidence in order to capture seasonal lows when inelastic compaction may occur (California Department of Water Resources, 2025b). Where average water

levels appear above critical head in Figure 5 (positive values), it is possible that seasonal lows could still result in inelastic compaction.

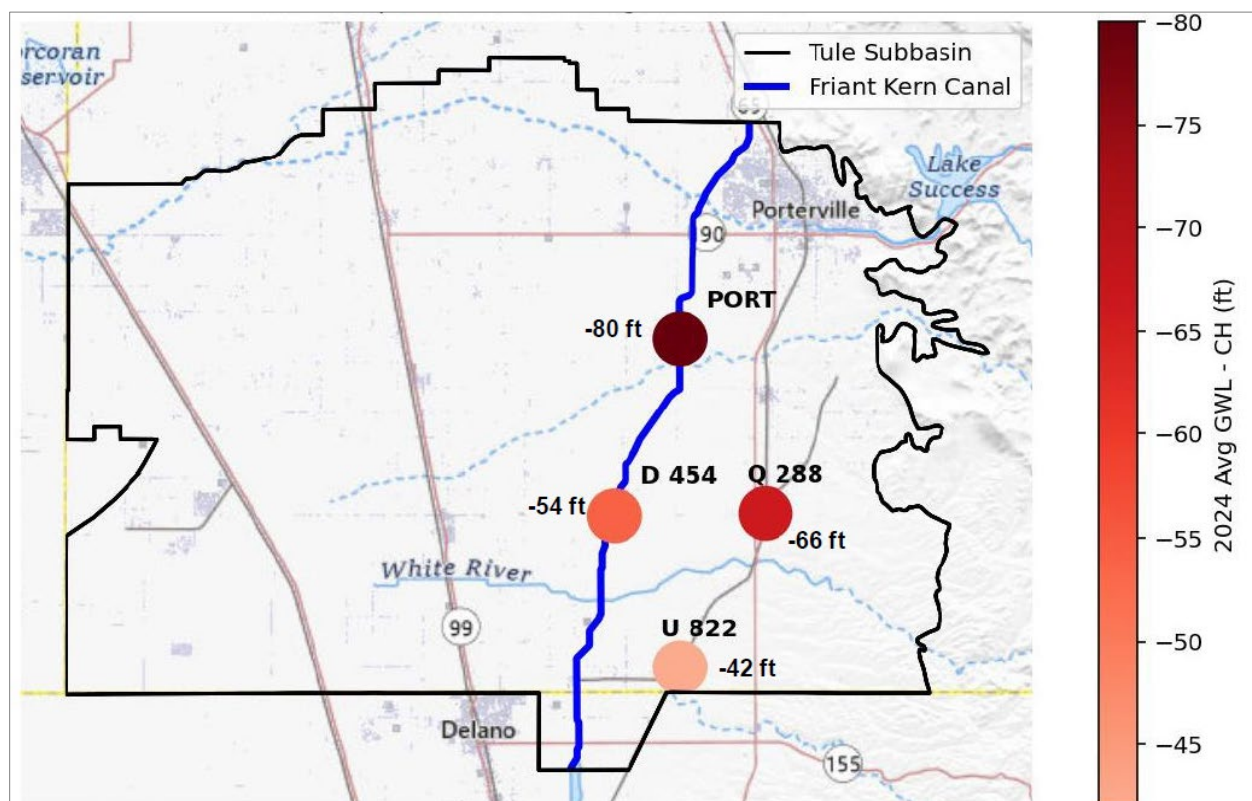
Figure 5. Comparison of average 2024 lower aquifer groundwater levels (averaging spring and fall water levels) with estimated critical head values (from Intera Inc., 2025).



Where subsidence risks are greatest for infrastructure, there is a lack of monitoring or sustainable management criteria in the Santa Margarita and Pliocene aquifers, and water levels are too low to slow or stop subsidence. Although the Santa Margarita aquifer and Pliocene deposits are considered active risk zones for additional inelastic subsidence in the Tule Subbasin (Intera Inc., 2025), only two RMS in the Kern-Tulare GSA currently monitor groundwater levels in these units (2024 Tule Subbasin GSP Coordination Agreement, Attachment 1). Comparison of average 2024 groundwater levels to the estimated critical head at four sites (Figure 6) indicates that 2024 average groundwater levels (averaging spring and fall water levels) are 42 to 80 feet below the critical head (Intera Inc., 2025). Because of the elevated risk and limited monitoring coverage, additional groundwater level monitoring locations and more frequent monitoring of these aquifers are needed to adequately evaluate subsidence risks and impacts.

While the 2024 Tule Subbasin GSP Coordination Agreement describes a general plan to drill and install new dedicated wells to add to the existing water level monitoring network for the upper and lower aquifers throughout the subbasin, it is unclear whether there is a timeline or schedule to install the new wells. The 2024 Tule Subbasin GSP Coordination Agreement does not propose new wells for monitoring the Santa Margarita aquifer (2024 Tule Subbasin GSP Coordination Agreement). Saucelito, Terra Bella, and Porterville indicate that they are planning to install multi-completion wells with pressure transducers to evaluate critical head along the Friant-Kern Canal (Kisling, 2025; Wheaton, 2025; Knight, 2025), but there are no timelines, well locations, well depths, budgets, or other information provided beyond a general description of the concept.

Figure 6. Comparison of average 2024 Santa Margarita and Pliocene groundwater level with estimated critical head values (from Intera Inc., 2025).



While water level MTs and current water levels are likely too low to slow or stop subsidence across a large area of the subbasin, some GSAs are not maintaining water levels above existing MTs, indicating that management efforts are faltering to even meet current criteria. Comparing October 2025 lower aquifer groundwater levels to the MTs shows that one site in Lower Tule and one site in Pixley remain below their MTs, consistent with observations from October 2024.

While it was not expected in staff's evaluation of the exclusion requests that the GSAs fully comply with the contents of the draft BMP, this gap between water level MTs, current water levels, and critical head highlights the need for additional work in the subbasin on setting adequate MTs, recalculating sustainable yield based on new data, and aligning pumping allocations and transitional pumping to meet critical head. Several GSAs indicated that they are planning further investigations into subsidence (Kisling, 2025; Wheaton, 2025; Knight, 2025; Limas, 2025b; Limas, 2025d; Jackson, Deanna, 2025d), but the timing and feasibility of these plans is unclear. Further, the lack of compliance and the recent understanding of the significant progress needed to address subsidence brings attention to the importance of mitigation policies to address the impacts of continued damage to wells and infrastructure.

3.4 Mitigation Plans

Overview

Since water budget information has inherent limitations in understanding overall management of groundwater, well registration and metering compliance information indicated that GSAs may not be adequately managing groundwater within their areas, and allocations may need to shift with recent understanding of critical head and sustainable yield, staff additionally evaluated mitigation plans. Mitigation plans are an important backstop and can be implemented to reduce ongoing harms caused by overpumping.

It is essential that each subbasin develops and implements, as appropriate, a comprehensive mitigation program as a plan to ensure that its communities have access to safe, reliable drinking water. SGMA requires that groundwater be managed within sustainable limits to ensure its availability for farms, communities, and other beneficial uses now and into the future. Mitigation plans are crucial to reducing impacts from undesirable results such as overdraft and subsidence; therefore, it is imperative the plans be clear, complete, and consistent.

This section highlights some critical issues but is not intended to be a complete review of the GSA mitigation programs and draft subbasin mitigation plan. Rather, this section is intended to summarize mitigation programs being followed by the GSAs, improvements the GSAs made to the individual mitigation programs in the draft subbasin mitigation plan, and improvements the GSAs still need to make to the draft subbasin mitigation plan.

Mitigation Programs

The eight GSAs all have varying levels of independent mitigation structures at this time. They vary in development between plans and frameworks, the level of quality varies,

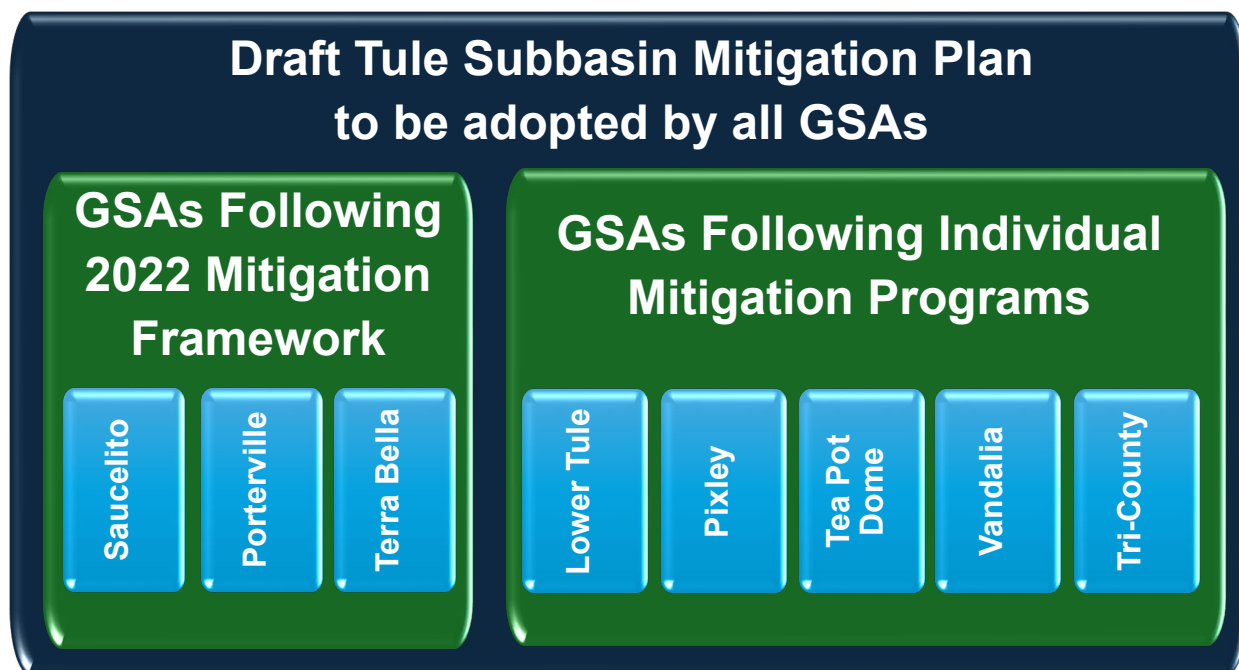
and eligibility criteria are inconsistent across the subbasin. Five of the eight GSAs who requested exclusions have adopted individual mitigation plans consistent with the 2022 Coordination Agreement Mitigation Program Framework (2022 Tule Subbasin GSP Coordination Agreement, Attachment 7): Lower Tule, Pixley, Tea Pot Dome, Vandalia, and Tri-County. However, all eight GSAs who requested exclusions indicate that they plan to adopt and implement a basin-wide mitigation plan once it is completed. This proposed basin-wide plan is an improvement over the independent plan, both in terms of being coordinated as well as the plan components. However, both the independent plans and the basin-wide plan have significant issues. The independent plans currently being implemented are largely addressed in section four, with the proposed basin-wide plan addressed in this section. A draft version of the subbasin-wide mitigation plan (2024 Draft Tule Subbasin Mitigation Plan) was included in the 2024 GSPs (2024 Tule Subbasin GSP Coordination Agreement, Appendix G) but has not yet been adopted by any of the GSAs and there is no established plan, funding, or timeline to adopt the Draft Tule Subbasin Mitigation Plan.

The three remaining GSAs indicate that they are implementing mitigation consistent with the 2022 Mitigation Program Framework (Knight, 2025; Geivet, 2025a; Geivet, 2025b). Porterville, Saucelito, and Terra Bella GSAs were part of the now-defunct Eastern Tule GSA and only recently formed as independent GSAs. Saucelito and Terra Bella GSAs formed in February 2025 and Porterville GSA formed in June 2025. Because of the recent formation of the GSAs and the pending adoption of the Draft Tule Subbasin Mitigation Plan, these three GSAs did not develop independent mitigation plans.

However, the 2022 Mitigation Program Framework that the three GSAs indicate they are implementing is not a mitigation plan. It is a 4-page attachment to 2022 Tule Subbasin GSP Coordination Agreement that “establishes a standard for mitigation programs to be implemented by each GSA for the purpose of mitigating anticipated impacts to beneficial uses to a level that avoids the occurrence of an Undesirable Result” (2022 Mitigation Program Framework). The framework outlines components that each GSA must develop, such as a claim process, qualifications for mitigation, an adoption schedule, and a funding mechanism, and provides examples of mitigation options, but the framework does not actually include any of these components in such a manner that they could be implemented.

Figure 7, below, shows the relationship between the three GSAs relying solely on the framework, the five implementing independent plans developed in compliance with the framework, and the proposed basin-wide mitigation plan.

Figure 7. Types of Mitigation Programs GSAs are Following Prior to Subbasin Mitigation Plan Adoption.



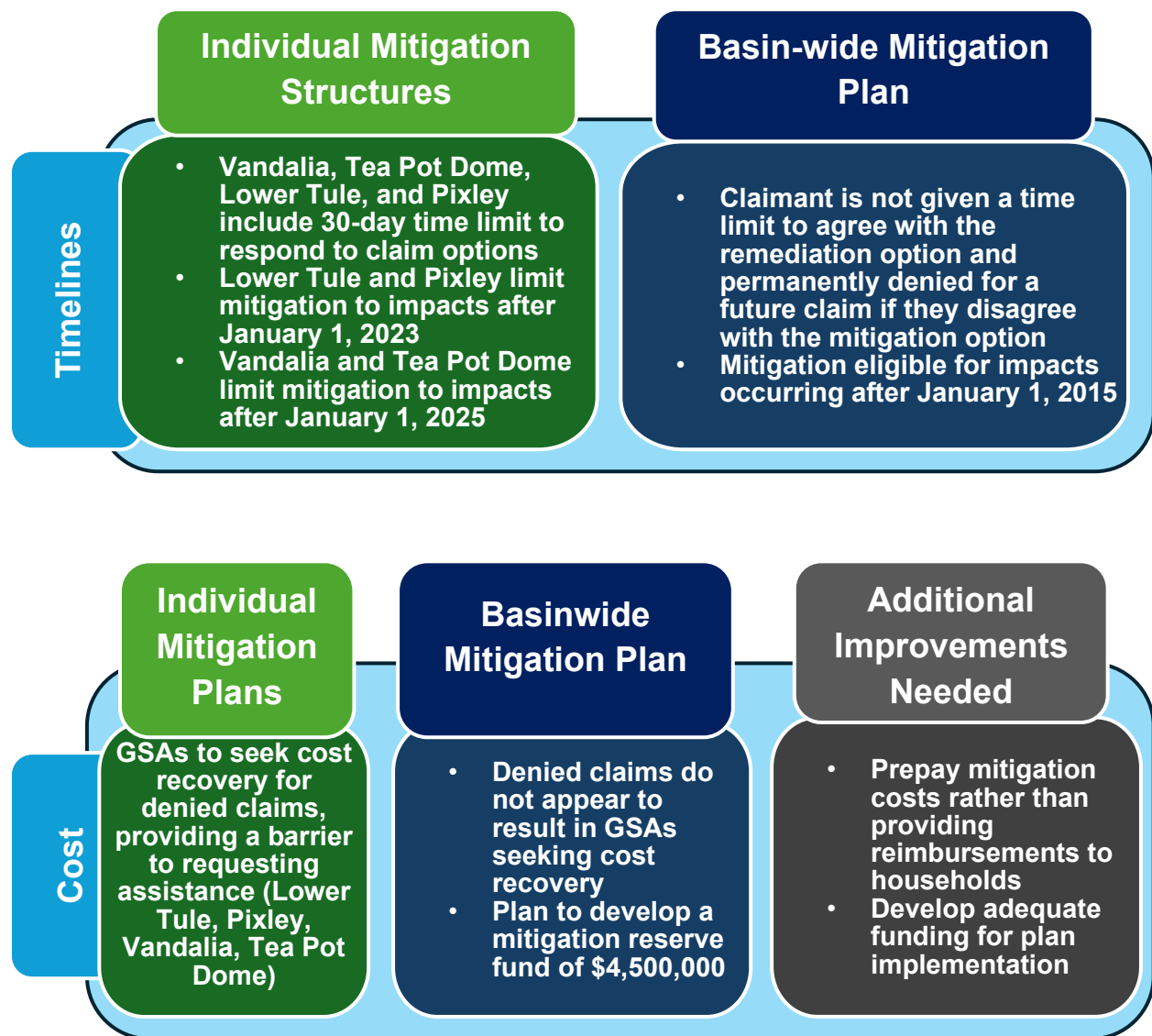
Subbasin-wide mitigation plan

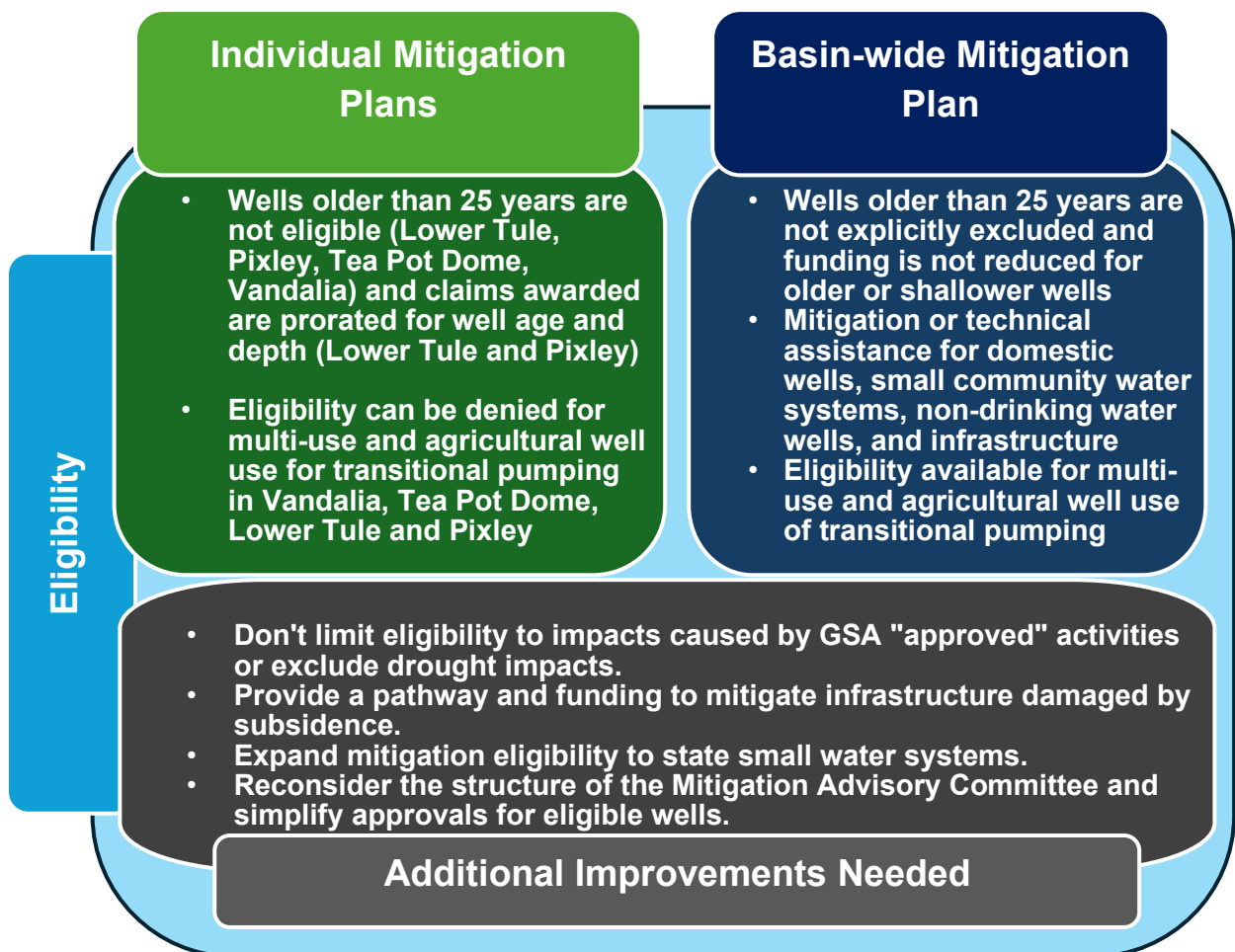
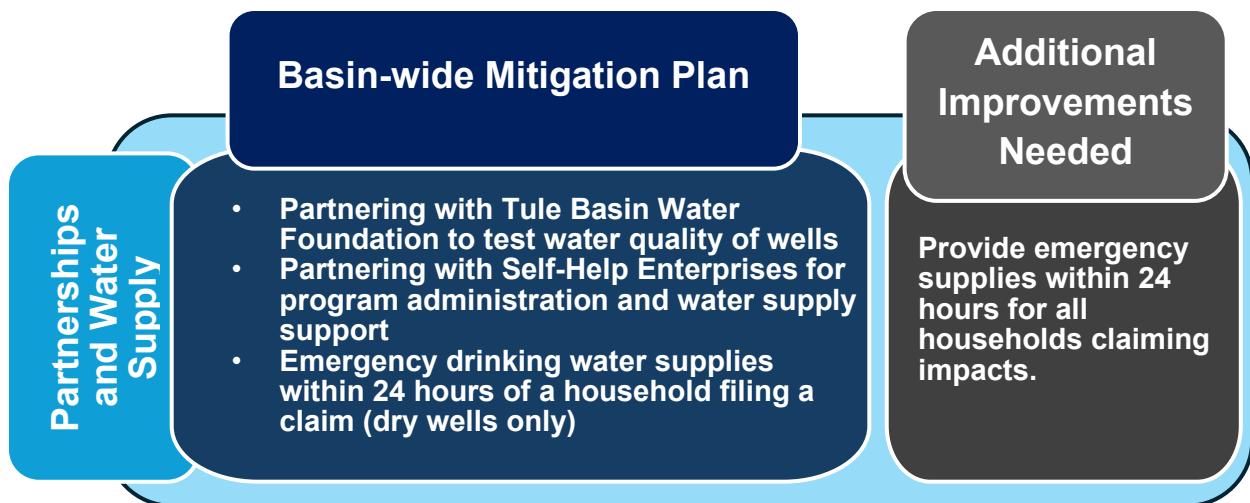
The Draft Tule Subbasin Mitigation Plan included important improvements compared to some of the individual mitigation programs. Overall, the Draft Tule Subbasin Mitigation Plan made improvements by removing timelines for mitigation proposals, extending eligibility timelines, expanding eligibility to wells other than domestic wells, and removing reimbursement conditions that resulted in denied claims. These improvements expand eligibility for impacted wells while also removing disincentives to well owners submitting claims. The added benefit of the Draft Tule Subbasin Mitigation Plan is the consistency a single plan provides such that well owners in neighboring GSAs within the same subbasin would no longer be subject to differing criteria for mitigation.

The Draft Tule Subbasin Mitigation Plan also includes the requirement to develop a mitigation reserve fund to support mitigation efforts. The plan describes mitigation or technical assistance for domestic wells, community water systems, non-drinking water wells, and infrastructure. The Draft Tule Subbasin Mitigation Plan further describes partnerships with Tule Basin Water Foundation and Self-Help Enterprises and includes expectations that emergency drinking water supplies are provided within 24 hours of a household filing a claim for a well going dry.

Water Board staff is encouraged by the progress reflected in the Draft Tule Subbasin Mitigation Plan. However, improvements are still needed in the Draft Tule Subbasin Mitigation Plan. While not exhaustive, Figure 8 portrays some key issues of concern in individual mitigation structures, improvements made in the draft Tule Subbasin Mitigation Plan and highlights some areas of improvement the GSAs should consider in future revisions of the draft Tule Subbasin Mitigation Plan. As a coordinated and consistent approach is preferable over the current approach of individual programs, the GSAs should focus on making revisions that address the improvements needed in the draft Tule Subbasin Mitigation Plan, rather than the individual programs.

Figure 8. Key Portions of the Individual Mitigation Structures, the Draft Subbasin Mitigation Plan, and Areas Needing Revision.





4.0 GSA-Specific Groundwater Management Evaluation

The following sections summarize staff's findings and remaining concerns by GSA. This is not intended to be a complete review of the GSPs. Rather, this section is intended to be a summary of improvements the GSAs made to the GSPs between 2024 and 2025, improvements the GSAs still need to make in the GSPs, progress with implementation, GSA mitigation plans, and current conditions in the GSA areas that requested exclusions.

4.1 Lower Tule, Pixley, and Tea Pot Dome

Improvements to the GSPs

The Lower Tule, Pixley, and Tea Pot Dome GSPs are very similar and are discussed here as a group. Between 2024 and 2025, the GSAs made many improvements to the GSPs:

- Groundwater level (elevation) MTs were established with the intent to protect 90% of domestic wells basin-wide (2024 Tule Subbasin GSP Coordination Agreement, Attachment 4).
- Subsidence MTs are coordinated with the Kaweah Subbasin GSAs and across many, but not all Tule Subbasin GSAs (2024 Tule Subbasin GSP Coordination Agreement, Attachment 6; 2024 Kaweah GSPs, Appendix 5B) and many water quality deficiencies are resolved.
- The GSPs include allocation plans that, if followed, would limit pumping to the sustainable yield described in the plan (1.03 acre-feet per acre (AF/A)) by 2040 (2024 LTRID GSA GSP, Appendix 5-A; 2024 PIXID GSA GSP, Appendix 5-A; Limas, 2025e, Attachment 3) and milestone-driven subsidence plans that include requirements to reduce allocations more quickly if subsidence rates are not on track to avoid established MTs (2024 LTRID GSA GSP, Appendix 5-A; 2024 PIXID GSA GSP, Appendix 5-A; Limas, 2025e, Attachment 3).
- Lower Tule indicated they ended transitional pumping allocations for 2026, limiting pumping to the precipitation yield, the sustainable yield identified in the GSPs, and district-allocated recharge credits (Limas, 2025b). Tea Pot Dome indicated they also ended transitional pumping allocations for 2026 (Limas, 2025f). Pixley ended its 2026 transitional allocations, instead referring to a penalty tier. The transitional pumping was 0.75 AF/A which appears to transition to the penalty tier of 0.37 AF/A (Limas, 2025d).

- Lower Tule and Pixley implemented well registration and metering programs (2024 LTRID GSA GSP, Appendix 5-A; PIXID GSA GSP, Appendix 5-A), and updated land following programs (LTRID and PIXID GSAs, 2025a). Lower Tule and Pixley adopted resolutions in January and February 2025 that required all extractors to install meters by September 2025 (LTRID GSA, 2025a; LTRID GSA, 2025b; PIXID GSA, 2025a; PIXID GSA, 2025b). As shown in Table 3, implementation and compliance information provided by the GSAs indicate Lower Tule and Pixley have a well registration compliance rate of approximately 90% of their cumulative areas and a meter compliance rate of about 50%, even though the GSAs indicate they will withhold a portion of allocations from well owners who did not install meters (Limas, 2025b; Limas, 2025d).
- The three GSAs adopted mitigation programs that would address some, but not all, wells impacted by declining water levels, water quality degradation, or subsidence (Limas, 2025a, Attachment 4; Limas, 2025c, Attachment 4; Limas, 2025e, Attachment 4). Additional description of the mitigation programs is discussed below.

Improvements Needed

The Lower Tule, Pixley, and Tea Pot Dome GSAs address some deficiencies in their GSPs, but there are still outstanding issues to resolve.

- The GSAs should take a more proactive approach to reduce subsidence. Subsidence values have approached or exceeded 50% of MTs over large portions of Lower Tule and Pixley (LTRID and PIXID GSAs, 2025b), and it is unclear if GSAs are taking the actions required by their milestone-driven subsidence plans. Lower Tule and Pixley GSAs adopted new subsidence MTs in their 2024 GSPs; subsidence was already approaching or exceeding 50% of these new 2024 MTs at the time they were established. The current rate of subsidence would result in exceedances of their 2040 target in 2028 or earlier in Pixley based on their consultants' modelling (Samuelson, 2026 and EKI, 2025).
- The GSAs should manage pumping to address subsidence impacts. The greatest amount of subsidence in the state of California between 2015-2025 was 7.7 feet and occurred in the Lower Tule GSA.

- The GSAs should demonstrate how they will successfully address overuse or allocation exceedances, as the plans to reduce future allocations may not be effective. Multiple landowners in Lower Tule and Pixley exceeded their allocations, even as recent years have been relatively wet and the GSA representatives indicate future allocations may be reduced or eliminated in response to pumping exceedances (Limas, 2025b; Limas, 2025d). Although Lower Tule and Pixley began implementing allocation plans in 2020, evaluating about 5 years of data is challenging to demonstrate changes in pumping patterns; those challenges are compounded by recent wet years, during which extractors are less reliant on groundwater. At present, the GSA has not sufficiently demonstrated how it will address overuse or allocation exceedances.
- While the GSAs indicated the termination of transition pumping in 2026, the GSAs monitor water use via evapotranspiration remote sensing, so the precipitation values currently included in their allocations are not unreasonable in this context. However, the GSAs will now be shifting to monitoring pumping using meters on wells. Because not all precipitation will result in groundwater recharge, it may no longer be appropriate to use precipitation values to directly correlate to allocation credits.
- Water levels are below MTs in Lower Tule and Pixley, even though the last two years have not been dry years and should be managed to increase water levels above MTs. For the lower aquifer, one of five RMS in Lower Tule and one of two RMS in Pixley¹ had groundwater levels below MTs in both fall 2024 and fall 2025, highlighting persistent stress on the lower aquifer. Additionally, Lower Tule and Pixley each have one upper aquifer RMS with groundwater levels below the MTs as of October 2025.
- Pixley should adjust water level and subsidence MTs to take into account subsidence impacts to DEID infrastructure. Pixley stated that it is actively coordinating with the Delano-Earlimart Irrigation District (DEID) to avoid significant and unreasonable impacts to DEID's water delivery pipelines. Through this ongoing coordination and the collection of additional data, MTs in these areas may change (Limas 2025c); however, the MTs have not yet been coordinated between Pixley and DEID.

¹ There is inconsistency in the reported number of lower aquifer groundwater level RMS across documents, tables, and figures. However, two RMS with established minimum thresholds are consistently identified. The GSA should clarify the total number of the total number of RMS.

- Lower Tule, Pixley, and Tea Pot Dome should significantly raise many lower aquifer groundwater level MTs (by up to about 175 feet) to slow subsidence and prevent exceedance of subsidence MTs. While these GSAs indicated in December that they plan to estimate critical head (Limas, 2025a; Limas, 2025c; Limas, 2025e), it is unclear whether they plan to modify MTs accordingly and manage water levels (via allocations) to avoid new MTs.
- Pixley needs additional lower aquifer monitoring. Currently, Pixley has only two RMS monitoring the lower aquifer (see footnote 1; 2024 PIXID GSA GSP, Section 4). Given the magnitude of observed land subsidence in the area, additional RMS are needed to better characterize groundwater conditions and to understand the relationship between lower aquifer groundwater level and subsidence.
- GSAs need to develop proposals sufficient to fully resolve remaining groundwater quality deficiencies and incorporate those proposals in revised GSPs. Some current issues include that one of the criteria for an undesirable result requires that MTs be exceeded at 33% of RMS, which would represent widespread water quality degradation, that monitoring frequencies are not sufficient, and water quality mitigation is not sufficient.
- Mitigation plans have many issues, as detailed below.

Mitigation

Lower Tule, Pixley, and Tea Pot Dome are implementing their own individual mitigation plans until the draft Tule Subbasin Mitigation Plan is finalized and adopted. Their individual plans claim to address impacts to wells from declining groundwater levels, degraded groundwater quality, and subsidence. However, the individual plans substantially limit the wells that may qualify for mitigation, create substantial barriers for applicants, and lack crucial details for well and especially infrastructure mitigation.

This list of issues is not exhaustive as this review is not intended to be a complete analysis of the mitigation plans or other documents supporting the GSPs. However, many of the issues identified below will result in barriers to mitigating impacted wells or denial of claims for otherwise operable wells that went dry or had water quality impacts due to GSA actions.

- The governance and decision-making pathways for mitigation actions are unclear in all three GSAs. The GSAs should consider simple governance and decision-making pathways for well mitigation that include representation by local community members, NGOs, and qualified professionals. In Tea Pot Dome, decisions are made by the GSA General Manager, though it is unclear how decisions are made about whether to fund mitigation claims (TPDID GSA Mitigation Plan, 2023). Mitigation claims in Lower Tule and Pixley are approved by a Groundwater Planning Commission, but no detail is provided about this body (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan, 2023).
- The GSAs should address all drinking water impacts caused by groundwater management activities under the jurisdiction of the GSA, and not exclude households based on factors such as well age. Well mitigation is significantly limited such that many wells impacted by water level or water quality impacts would not be addressed by the GSA. Mitigation is limited to: 1) wells less than 25 years old, 2) wells that have been in existence and actively in service as of December 31, 2022 (Lower Tule and Pixley) or December 31, 2024 (Tea Pot Dome), and 3) impacts after 2023 (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan) or 2025 (TPDID GSA Mitigation Plan, 2023).
- GSAs should provide full mitigation (not partial coverage of costs) for drinking water wells requiring mitigation. Mitigation may be prorated based on age or depth of well, so wells impacted by GSAs' groundwater management may not be replaced if the homeowner cannot afford their share (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan, 2023; TPDID GSA Mitigation Plan, 2023).
- GSAs should not direct claimants to pursue correction through the civil court process if the GSA attributes impacts to a neighbor's pumping (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan, 2023; TPDID GSA Mitigation Plan, 2023).
- GSAs should not require claimants to reimburse the GSA if their claims are denied. Additionally, if the claimant does not accept the GSA's final long-term mitigation offer within 30 days, claims are denied and future claims disallowed (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan, 2023; TPDID GSA Mitigation Plan, 2023).
- The GSAs should provide replacement water within 24 hours, in alignment with the draft Tule Subbasin Mitigation Plan. The timeline identified in the mitigation plans to provide replacement water is up to 14 days (LTRID GSA Mitigation Plan; PIXID GSA Mitigation Plan; TPDID GSA Mitigation Plan).

- The GSAs should provide a pathway and funding for mitigation for infrastructure damaged by subsidence. The mitigation plan indicates subsidence mitigation is included, but it does not specify any requirements or remedies, and states that “Mitigation measures that could be adopted to address impacts attributed to the GSA allowed activities could include the following: In coordination with the affected landowner, developing a plan with acceptable mitigation,” with no further detail (LTRID GSA Mitigation Plan, 2023; PIXID GSA Mitigation Plan, 2023; TPDID GSA Mitigation Plan, 2023).

Table 3 summarizes water balance information and well registration, metering, and allocation compliance rates in Lower Tule, Pixley, and Tea Pot Dome, and well metering compliance rates do not appear to be on track with the goals set by the GSAs (or were not provided, in the case of Tea Pot Dome).

Table 3. Lower Tule, Pixley, and Tea Pot Dome Summary: Water Balance, Well Registrations, Metering, and Allocations (negative balances indicate overdraft).

GSA	1987 – 2024 balance (AF/A)	2015 – 2024 balance (AF/A)	2020 – 2024 balance (AF/A)	Well Registration Compliance Rate	Well Metering Compliance Rate	Allocation Compliance Rate
Lower Tule	-17.10	0.42	0.45	94%	49%	4% of accounts exceeded 2025 allocations for a total of 447 AF
Pixley	-50.03	-10.83	-5.28	96%	53%	9% of accounts exceeded 2025 allocations for a total of 6,681 AF
Tea Pot Dome	-12.99	-1.76	-1.49	Not required	Not provided	2% of accounts exceeded 2025 allocation for a total of 12 AF

4.2 Vandalia

Improvements to the GSP

The Vandalia GSA made improvements to their GSP (2024 VWD GSA GSP) that are similar to Lower Tule, Pixley, and Tea Pot Dome's GSPs (see section 4.1); however, the GSP does not include a milestone-driven subsidence plan since Vandalia has experienced little to no subsidence. GSA representatives indicate they will take project and management actions if subsidence occurs (Limas, 2025g, Cover Letter). Similar to Lower Tule, Pixley, and Tea Pot Dome, Vandalia set its WY 2026 transitional water allocation at zero, and with allowable pumping capped at 1.03 AF/A (Limas, 2025h). The Vandalia GSA is a relatively small area and has few individual water users; water use is tracked via evapotranspiration remote sensing. Submitted data indicates that water users generally were within their allocation targets (Limas, 2025h).

Improvements Needed

Vandalia GSA addressed some deficiencies in its GSP, but there are still outstanding issues to resolve. The deficiencies are generally similar to those described for Lower Tule, Pixley, and Tea Pot Dome, with primary issues concerning the need to fully resolve remaining groundwater quality deficiencies and its mitigation plan. Additional areas for improvement are identified below.

- Vandalia should consider developing a well registration program to ensure domestic wells are protected. The Vandalia GSP does not include requirements that wells be registered or metered, as the allocation plan is administered through an ET-based online platform through which all parcels are monitored and invoiced (Limas, 2025h). The presence of dry wells (discussed in the mitigation section below) suggest that a basic inventory of well locations and depths is needed. Well registration may also be needed should localized impacts to water quality, elevation, or impacts to domestic wells be observed.
- Vandalia should reconcile water rights reporting with their water budget and ensure their water budget is accurate. Vandalia's only source of surface water is a claimed pre-1914 water right for recharge. However, Vandalia's surface water imports in its water budget does not match information reported to the Division of Water Rights' California Water Accounting, Tracking, and Reporting System (CalWATRS) (California State Water Resources Control Board, California Water Accounting, Tracking, and Reporting System). Annual comparisons indicate discrepancies in every water year, with reported values ranging from under-reporting by 981 AF (WY 2024) to over-reporting by 1,088 AF (WY 2013) in the water budget. Vandalia should address these discrepancies and evaluate its overall water budget for accuracy.

Mitigation

The mitigation plan for Vandalia is nearly identical to the plan for Lower Tule, Pixley, and Tea Pot Dome. The issues noted in the Mitigation Plan discussion in section 4.1 also applies to Vandalia's mitigation plan. Notable differences include that the decisions on mitigation are made at the sole discretion of the General Manager, and impacts prior to January 1, 2025, are not eligible for mitigation (Limas, 2025g).

Tule subbasin domestic well analyses indicate that no domestic wells are expected to be impacted at current MTs, and Vandalia has experienced little to no historical subsidence (Limas, 2025h). However, at least 4 dry wells have been documented since 2015 in DWR's Dry Well Reporting System (California Department of Water Resources, Dry Well Reporting System) and water quality impacts could be caused by a GSA even if groundwater levels don't decline. As shown in Table 4, Vandalia's cumulative water balance since 1987 is +6.84 AF/A; well registration and metering is not required by the GSA since the water balance is positive and there is minimal to no subsidence in the GSA area.

Table 4. Vandalia Summary: Water Balance, Well Registrations, Metering, and Allocations

GSA	1987 – 2024 balance (AF/A)	2015 – 2024 balance (AF/A)	2020 – 2024 balance (AF/A)	Well Registration Compliance Rate	Well Metering Compliance Rate	Allocation Compliance Rate
Vandalia	6.84	8.51	2.43	Not Required	Not Required	6% of accounts exceeded 2025 allocations for a total of 4 AF

4.3 Tri-County

Improvements to the GSP

Tri-County's 2025 GSP and improvements are generally similar to the GSPs for Lower Tule, Pixley, and Tea Pot Dome (2024 Tule Subbasin GSP Coordination Agreement).

- The GSA substantially improved its allocation plan. The new plan allocates 1.94 AF/A in 2026 and 0.94 AF/A by 2040 for the North Management Area (Angiola Water District), and 1.82 AF/A in 2026 and 0.22 AF/A in 2040 for the Southeast Management Area (2025 TCWA GSA Draft Final GSP, Appendix E).
- Tri-County adopted an initial well registration policy in 2020 with limited compliance. The GSA then planned to implement the policy and achieve compliance by early 2025 (2024 TCWA GSA GSP). Tri-County indicates that it has so far achieved a well registration compliance rate of approximately 85% (Jackson, 2025b).
- The GSA developed a milestone-driven subsidence plan that includes requirements to reduce allocations more quickly if subsidence rates are not on track to avoid established MTs (2025 TCWA GSA Draft Final GSP, Appendix D).
- The GSA updated subsidence MTs to reduce the maximum amount of allowable subsidence from 8.9 feet to 7 feet in the North Management Area and from 8.9 to 4.5 feet in the Southeast Management Area (2024 Tule Subbasin GSP Coordination Agreement).
- Tri-County also adopted a mitigation plan in July 2025 that covers some wells impacted by declining groundwater levels, degraded groundwater quality, and subsidence, but does not have mitigation for infrastructure impacted by subsidence (TCWA GSA Mitigation Plan, 2025b).

Improvements Needed

The Tri-County GSA addresses some deficiencies in the GSP, but there are still outstanding issues to resolve. Substantial issues were identified in Tri-County's 2020 allocation plan, which allowed 12 AF/A of transitional pumping over a five-year block from 2021 to 2025 with a 3.4 AF/A yearly cap (water budget information indicates there is an apparent increase in groundwater pumping after 2020). The GSA adopted a substantially more protective allocation plan in 2025 (2025 TCWA Draft Final GSP, Appendix E).

- GSAs need to develop proposals sufficient to fully resolve remaining groundwater quality deficiencies and incorporate those proposals in revised GSPs. Some current issues include that one of the criteria for an undesirable result requires that MTs be exceeded at 33% of RMS, which would represent widespread water quality degradation, that monitoring frequencies are not sufficient, and water quality mitigation is not sufficient.

- Tri-County should raise MTs to slow (and eventually stop) subsidence. Like the other GSAs in the Tule Subbasin, current groundwater level MTs are below critical head and will need to be raised significantly (by up to 194 feet in Tri-County) to slow subsidence.
- The GSA should establish one or more monitoring sites in the Angiola Water District East Well Field in Northern Management Area for water levels, water quality, and subsidence. There is no RMS in the Angiola Water District East Well Field to track land subsidence or groundwater levels in the lower aquifer, despite well-known issues with water levels and subsidence (2025 TCWA Draft Final GSP).
- The Northern Management Area allocation plan needs improvement to respond to the pronounced cone of depression evident over multiple years of groundwater contour maps (2024 Tule Subbasin Annual Report; 2023 LTRID GSA Annual Report; 2022 LTRID GSA Annual Report; 2021 LTRID GSA Annual Report; 2020 LTRID GSA Annual Report).
- Tri-County should adopt measures to address increased pumping. Pumping increased by about 112% between WYs 2020 and 2024 relative to WYs 2015 through 2019. The GSA committed in the 2024 GSP to implement a meter program by December 2024 (2024 TCWA GSA GSP). However, metering compliance data was not provided to the Board. While Tri-County indicates a 93% allocation compliance rate since 2022 (Jackson, 2025b), multiple landowners exceeded their allocations, even as recent years have been relatively wet. These data indicate that the allocation program, well registration, and metering and measurement program are not yet effective in reducing groundwater pumping.
- Tri-County should clarify whether it is taking the actions required by its milestone-driven subsidence plan, and ensure actions are taken to address subsidence. Subsidence has already approached or exceeded 40% of MTs over the eastern portion of the Southeast management area; however, this could be partially attributed to the GSA changing the subsidence MTs in the 2024 GSP to approximately half the subsidence than established in previous GSPs.
- Tri-County should adjust subsidence and water level MTs to consider subsidence impacts on DEID infrastructure.

Mitigation

Tri-County is currently implementing its own mitigation plan. This plan addresses impacts to wells from declining groundwater levels, degraded groundwater quality, and

subsidence; however, this plan lacks crucial details and does not address infrastructure mitigation.

- The plan should provide adequate detail to explain how the GSA will determine if a well has been impacted by declining groundwater levels or degraded groundwater quality (TCWA GSA Mitigation Plan, 2025b).
- The plan should provide information or resources for landowners if their claims are denied, and/or what they may be financially responsible for (TCWA GSA Mitigation Plan, 2025b).
- The plan should offer mitigation beyond technical assistance for municipal and community wells (2024 Draft TCWA GSA GSP, Appendix I).
- The plan should address infrastructure damage caused by subsidence (TCWA GSA Mitigation Plan, 2025b).

As shown in Table 5, Tri-County indicates that it has so far achieved a well registration compliance rate of approximately 85% (Jackson, 2025b). Metering is required but the metering compliance rate was not provided.

Table 5. Tri-County Summary: Water Balance, Well Registrations, Metering, and Allocations

GSA	1987 – 2024 balance (AF/A)	2015 – 2024 balance (AF/A)	2020 – 2024 balance (AF/A)	Well Registration Compliance Rate	Well Metering Compliance Rate	Allocation Compliance Rate
Tri- County	-25.91	-6.77	-4.80	85%	Not Provided	7% of accounts exceeded 2025 allocations for a total of 7,577 AF

4.4 Terra Bella, Saucelito and Porterville

Improvements to the GSPs

Terra Bella and Saucelito GSAs were not formed until late February 2025, and Porterville was not formed until June 2025. Prior to those dates, each GSA was part of Eastern Tule GSA, which no longer exists. Until Terra Bella, Saucelito, and Porterville develop new GSPs, they are implementing the Eastern Tule GSP. However, each adopted resolutions in September 2024 to limit allocations to the sustainable yield identified in the GSP (0.99 AF/A) (Wheaton, 2025, Attachment 2; Kisling, 2025, Attachment 2; Borba, 2025, Attachment 2). Porterville and Saucelito's resolutions limit allocations to the GSP-identified sustainable yield for WY 2025 and future years. Terra Bella's Resolution 2024-09-01 limits allocations to sustainable yield for WY 2025 (Wheaton, 2025). Estimates from historical data show that, between WY 2015 and WY 2024 Saucelito pumped an average of 2.12 AF/A per year (Geivet, 2025a Groundwater Budgets [Dec 2025]-Final), Porterville pumped an average of 2.02 AF/A per year (Knight, 2025, Groundwater Budgets [Dec 2025]-Final) and Terra-Bella pumped an average of 0.52 AF/A per year (Geivet, 2025d Groundwater Budgets [Dec 2025]-Final). The GSAs also established well registration and metering programs. These GSAs are also collaborating with other GSAs in the subbasin to update the Friant-Kern Canal Land Subsidence Management Plan.

Improvements Needed

These GSAs are implementing GSPs developed by a GSA that no longer exists. Board staff identified several unaddressed deficiencies, recommended actions, and improvements.

- The Friant-Kern Canal Land Subsidence Management Plan must be urgently updated and implemented to avoid damaging the canal—especially in Saucelito and Terra Bella, where localized subsidence hotspots are located along the canal. Maintaining groundwater levels at critical head along the Friant-Kern Canal may still not be enough to prevent undesirable results (Thomas Harder & Co, 2025).
- Water quality and elevation monitoring should be improved. Some of these GSAs previously relied on Eastern-Tule-wide monitoring for land subsidence, groundwater level monitoring in the upper and lower aquifer, and groundwater quality monitoring, so additional monitoring may be necessary.

- Currently, Terra Bella has no RMS to monitor groundwater levels, groundwater quality, or land subsidence (Wheaton, 2025, Attachment 1).
- Saucelito has two lower aquifer RMS, one upper aquifer RMS, and eight land subsidence RMS, but no groundwater quality RMS (2024 ETGSA GSP).
- Porterville has two upper aquifer RMS and six land subsidence RMS, with no lower aquifer or groundwater quality RMS (2024 ETGSA GSP).
- The GSAs should add monitoring for the Pliocene and Santa Margarita aquifers. With no Pliocene or Santa Margarita RMS in these GSAs, it is difficult to evaluate trends and how groundwater extraction and management contribute to subsidence. Based on subsidence modelling, most of the compaction at two sites adjacent to the Friant-Kern Canal is occurring in the Pliocene and Santa Margarita formations (Intera Inc., 2025). DWR additionally estimated critical head at three sites near these GSAs (California Department of Water Resources, 2025b). 2024 average groundwater levels in the Pliocene deposit and Santa Margarita formation appear to be about 80 feet below estimated critical head along the canal at the east of Saucelito and north of the discontinuous portion of Terra Bella and about 54 feet below estimated critical head along the canal immediately south of Saucelito (Figure 6). Average 2024 groundwater levels appear to be about 66 feet below estimated critical head east of the canal, just southwest of Terra Bella (Figure 6). This indicates that RMS should be established for these aquifers and appropriate MTs established in order for these GSAs to manage subsidence.
- As shown in Table 6, Terra Bella indicates that 100% of its wells have been registered and 100% have been metered (Geivet, 2025b); Saucelito indicates that 75% of its wells have been registered and 70% of registered wells (approximately 53% of total wells) have been metered (Geivet, 2025a); Porterville did not provide registration and metering percentages, instead explaining that it still transitioning from Eastern Tule's data management system to its own and is therefore in the process of validating data (Knight 2025). Terra Bella's rules and regulations do not clearly describe who is required to meter, so it is unclear if the reported well metering compliance applies to all wells in the GSA (Wheaton, 2025, Attachment 3). Each GSA should clarify its metering requirements and clearly articulate to pumpers within the GSA what those requirements entail.

- It is difficult to determine the level at which demand management policies are being implemented. While the GSAs indicate, where reported, that most to all wells have been registered and metered, the GSAs did not provide clear details about allocation compliance. Saucelito indicates that its metering policy has not identified noncompliance due to overpumping. Other GSAs did not provide further detail. These GSAs were not formed until early- to mid-2025, and so these data may not yet be available. The GSAs should clearly measure groundwater use, develop clear demand management policies, and implement those policies within their respective areas.
- There are insufficient data and actions to identify sources of subsidence within the Terra Bella, Saucelito, and Porterville GSAs; there does not appear to be rigorous policy or management strategies being developed to address this subsidence.
 - Since 2015, Terra Bella has experienced about 0.55 feet of area-averaged subsidence with a maximum of 3.41 feet. There is a discontinuous portion of Terra Bella near the canal that is where the maximum subsidence occurred, but the GSA reports that this portion of the GSA is used exclusively for recharge.
 - Saucelito has experienced about 3.1 feet of area-average subsidence, with a maximum of 4.47 feet, since 2015. The maximum subsidence occurred along the Friant-Kern Canal in Saucelito.
 - Porterville has experienced about 1.11 feet of area-average subsidence, with a maximum of about 3.14 feet (California Department of Water Resources, 2025b).

Mitigation

Terra Bella, Saucelito, and Porterville indicate they are addressing mitigation claims consistent with the 2022 Mitigation Framework (Knight, 2025; Geivet, 2025a; Geivet, 2025b), but this framework is not a mitigation plan; it provides minimal standards and directs GSAs to develop mitigation plans that process claims related to domestic and municipal wells, agricultural wells, and critical infrastructure. These GSAs indicate that no mitigation claims were submitted in 2024 or 2025, but it is unclear whether GSAs have provided clear guidance to interested parties that mitigation programs are available. The DWR Dry Well Reporting System indicates that there are existing dry wells in some of these GSAs that have not been resolved: two Terra Bella wells have been reported dry since 2015, one of which is classified as unresolved; five Saucelito wells have been reported dry since 2015, all of which are classified as resolved; and 73

Porterville wells have been reported dry since 2015, seven of which are classified as unresolved.

Table 6 summarizes water balance information and well registration, metering, and allocation compliance rates for Terra Bella, Saucelito, and Porterville.

Table 6. Terra Bella, Saucelito, and Porterville Summary: Water Balance, Well Registrations, Metering, and Allocations

GSA	1987 – 2024 balance (AF/A)	2015 – 2024 balance (AF/A)	2020 – 2024 balance (AF/A)	Well Registration Compliance Rate	Well Metering Compliance Rate	Allocation Compliance Rate
Terra Bella	12.25	6.86	1.65	100%	100%	Not provided
Saucelito	-10.39	-2.89	-2.40	75%	53%	Not provided
Porterville	15.21	11.0	6.04	Not provided	Not provided	Not provided

5.0 Coordination

Intra-subbasin coordination is critical for adequately managing groundwater in the Tule Subbasin. While there is a draft-final 2024 subbasin-wide coordination agreement, the extent to which the GSAs are coordinating on a subbasin-wide scale is currently limited, and it is not clear whether all of the eight GSAs have adopted the 2024 coordination agreement (specifically, Tri-County and Porterville). Some GSAs are loosely affiliated or managed by a common entity (see Section 4), and those affiliated GSAs are not actively coordinated with other GSAs or groups of GSAs (see Section 2). Even within affiliated GSAs, there are still notable inconsistencies between monitoring, metering, and allocation compliance, mitigation approaches, water budgets, and management of groundwater resources.

The lack of intra-subbasin coordination makes it difficult, if not impossible, to evaluate the impacts the GSA actions have on subbasin-wide sustainability. The lack of coordination also makes it more difficult for any single GSA to develop an adequate management approach, particularly when their actions could be simultaneously undermined or reversed by the actions of a neighboring GSA. Rather than a collective integrated approach to managing groundwater within the subbasin and establishment of measurable actions to achieve sustainability, some GSAs are subdividing in what

appears to be an attempt to isolate themselves from perceived 'bad actor' neighbors. This fragmentation also makes it difficult to demonstrate that their individual actions result in reasonable and adequate management.

Fragmentation and the lack of coordination also generally complicate the Tule Subbasin's ability to achieve sustainable groundwater management and exit probation. Fragmentation of the subbasin has made it more difficult to track and manage subsidence, to provide accurate mitigation information to those that might need it, and to monitor groundwater pumping.

6.0 Recommendations for Exclusions

Based on Board staff's review of the 2024 GSPs and revised sections, supporting technical memoranda, and implementation materials submitted by the eight Tule Subbasin GSAs who requested exclusions, the information provided does not appear to demonstrate adequate management and staff does not recommend granting exclusions from SGMA probationary reporting and fee requirements to these eight GSAs at this time. Staff considered the progress GSAs made and work still needing to be done toward resolving GSP deficiencies. Staff assessed water budget data and then evaluated compliance information as an indicator of adequate management. Because the review of water budget data and compliance information did not unequivocally support exclusions, staff considered whether the basin was on track to avoid undesirable results, such as subsidence, and whether mitigation was sufficient to reduce impacts to less than unreasonable. Staff also reviewed the current state of intra-basin coordination. Future reviews may consider additional criteria than described here for these exclusions as more data and information become available.

Several GSAs made progress towards resolving plan deficiencies, and have adopted allocation plans, well registration, metering, mitigation, and subsidence management frameworks. Water Board staff acknowledge the positive steps taken by the GSAs in revising GSPs and supplemental plans and encourage the momentum toward developing plans that, when implemented, can be relied upon to achieve sustainability in the Tule Subbasin.

However, there is still a significant amount of work to be done before deficiencies can be resolved or the GSAs can demonstrate they are on a path toward resolving deficiencies. While this review is not intended to evaluate whether the GSAs resolved deficiencies, staff's water budget review to evaluate adequate management indicates persistent long-term groundwater storage declines or limited recovery in multiple GSAs, continued reliance on groundwater in areas with limited or intermittent surface water supplies, and, in Tri-County, substantial recent increases in pumping noted since 2020. Subsidence analyses further show that, in several GSAs, a significant proportion of the allowable subsidence through 2040 has already been reached at monitoring sites, and

that groundwater levels in portions of the lower aquifer are being managed below historical low levels, raising concerns about the effectiveness of subsidence prevention and protection of critical infrastructure, including the Friant-Kern Canal.

Local management is foundational to the success of SGMA. The level at which GSAs are meeting self-imposed targets is an indicator of the level of management in an area. It appears the GSAs are not on track to meet the subsidence targets they set for themselves. This not only puts them severely behind the progress needed to achieve subsidence thresholds by 2040 but also calls into question the ability of the GSAs to manage to their subsidence thresholds. Additionally, the current lower aquifer groundwater level MTs would result in significant additional subsidence and are not in line with levels to achieve sustainability in the subbasin. Well registration and metering compliance information does not suggest that any of the GSAs are able to implement their GSPs to satisfactorily demonstrate the capacity to adequately manage their areas. The inability of the GSAs to meet targets set for themselves does not compel confidence that the GSAs are adequately managing the subbasin at this time.

SGMA allows for a 20-year implementation timeline; it does not require that all undesirable results, groundwater overdraft, or water quality issues be addressed within a single year, or even within five years, of GSP adoption. Accordingly, staff carefully considered whether management by GSAs is adequate under current circumstances based on the information provided. Each GSA has unique hydrogeologic and land subsidence characteristics that make direct GSA-to-GSA comparisons difficult and some issues are location-specific; what is adequate for one GSA may not be adequate for another GSA, even within the same subbasin. The Board's exercise of discretion to determine what constitutes 'adequate management' for the purposes of a reporting and fees exclusion will involve unique considerations of time, location, physical data, and progress made by a GSA as evidenced at the time of the request.

Most GSAs evaluated here made significant, positive steps towards better management and implementation; however, further work remains. The lack of intra-basin coordination exacerbates differences between GSAs and their individual management approaches rather than puts them on a collective path toward sustainability. Unresolved questions related to water budgets, clearly inadequate MTs related to groundwater levels and subsidence, inadequate mitigation plans, and metering and allocation compliance rates that failed to meet GSA-imposed targets all demonstrate the ongoing inadequacy of efforts within the basin. Notably, the need for coordination extends to the entire subbasin, including GSAs that have already received exclusions from the Board: exclusions based on water budget and management considerations may cease to be appropriate if they prevent the basin from achieving sustainable groundwater management and exiting probationary status.

Consistent with Resolution No. 2024-0030, staff recommends that extractors within the eight GSAs whose management is evaluated in this report remain subject to the probationary reporting and fee requirements, unless de minimis or otherwise excluded. The GSAs should continue to address remaining plan deficiencies; improve monitoring coverage and data quality; enforce well registration, metering, and allocation requirements; and show measurable, sustained progress toward stabilizing groundwater levels and preventing significant and unreasonable land subsidence. Staff also recommend that the GSAs develop and implement a clear and coordinated mitigation plan for addressing impacts to drinking water wells and critical infrastructure.

Staff further recommends ongoing technical engagement with the GSAs and periodic updates to the Board on implementation actions, water budget performance, subsidence trends, and any future changes in conditions that may warrant reconsideration of exclusions. The GSAs are encouraged to consider input from impacted communities in decision-making and make coordinated efforts to collaborate on subbasin-wide actions that make measurable steps to achieve sustainability in the Tule Subbasin and meaningful progress to exit probation.

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