

Draft



Kern County Subbasin
Groundwater Sustainability Agencies

**DRAFT STAKEHOLDER
COMMUNICATIONS AND ENGAGEMENT
PLAN**

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Glossary / Abbreviations

AWG	Attorney Working Group
BLM	Bureau of Land Management
CAPK	Community Action Partnership of Kern
CASP	California Aqueduct Subsidence Project
CCR	California Code of Regulations
CWC	California Water Code
CVP	Central Valley Project
DAC	Disadvantaged Communities
DDW	California Division of Drinking Water
DWR	California Department of Water Resources
EWMA	Eastside Water Management Area
FWA	Friant Water Authority
GDEs	Groundwater Dependent Ecosystems
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCM	Hydrogeologic Conceptual Model
ILRP	Irrigated Lands Regulatory Program
KCEHS	Kern County Environmental Health Services
KCWA	Kern County Water Agency
KFMC	Kern Fan Monitoring Committee
KNDLA	Kern Non-Districted Land Authority
KRGSA	Kern River GSA
KWC	Kern Water Collaborative
MHI	Median Household Income
MOA	Memorandum of Agreement
MT	Minimum Threshold
NCCAG	Natural Communities Commonly Associated with Groundwater
NCK	North Central Kern
NGO	Non-Governmental Organization
P/MAs	Projects and Management Actions

PUC	Public Utilities Commission
SAFER	Safe and Affordable Funding for Equity and Resilience Program
SCEP	Stakeholder Communication and Engagement Plan
SDAC	Severely Disadvantaged Communities
SGMA	Sustainable Groundwater Management Act
SHE	Self-Help Enterprises
SOKR	South of Kern River
SMC	Sustainable Management Criteria
SWP	State Water Project
SWRCB	State Water Resources Control Board
TWG	Technical Working Group
USBR	United States Bureau of Reclamation
WAKC	Water Association of Kern County
WDWA	Westside District Water Authority
WSPA	Western States Petroleum Association

1. INTRODUCTION

The Kern County Subbasin of the San Joaquin Valley Groundwater Basin (DWR Basin No. 5-022.14, referred to herein as the “Kern Subbasin” or “Subbasin”) is the largest groundwater basin in California encompassing approximately 1.78 million acres. The Kern Subbasin is fully covered by 20 Groundwater Sustainability Agencies (GSAs), as shown in **Figure 1**. The Subbasin has been identified by the California Department of Water Resources (DWR) as being high priority and critically overdrafted, and therefore GSAs have until 2040 to address overdraft conditions and achieve groundwater sustainability. Following DWR’s “inadequate” determination in 2023, the 20 GSAs developed an amended 2024 Plan, which is composed of seven almost identical Groundwater Sustainability Plans (GSPs) and one Coordination Agreement. In late May 2024, the draft 2024 Plan was released for public comment and review.

The Subbasin GSAs have developed this Stakeholder Communication and Engagement Plan (SCEP) to describe their approach to effective engagement throughout the amended 2024 Plan development and implementation process. This SCEP was prepared in accordance with California Water Code (CWC), the GSP Regulations (Title 23 of the California Code of Regulations [CCR] §354.10), and the DWR Guidance Document for Groundwater Sustainability Plan Stakeholder Communication and Engagement (DWR, 2018), as well as additional reference documents.

Engagement efforts identified and carried out as described in this SCEP will ensure that beneficial uses and users of groundwater are adequately considered in the GSP development and implementation process as required by GSP Regulations (23-CCR §354.10). Specifically, in this SCEP:

- Section 2 describes the GSAs’ decision-making process (23-CCR §354.10(d)(1));
- Section 3 identifies the key Subbasin stakeholders and their involvement with the GSAs and Sustainable Groundwater Management Act (SGMA) implementation writ large;
- Section 4 identifies venues for public engagement and how public input and response will be incorporated into the GSP development and implementation processes (23-CCR §354.10(d)(2));
- Section 5 describes how the GSAs have engaged stakeholders during GSP development, how the GSAs intend to engage with them during GSP implementation, and how they intend to build upon their current understanding of stakeholders in the Subbasin (23-CCR §354.10(d)(3) and CWC §10723.4);
- Section 6 summarizes key messages that the GSAs will convey to stakeholders in all venues of engagement and anticipated questions stakeholders may have;

- Section 7 describes the stakeholder engagement implementation timeline, including when this SCEP will be updated to describe methods to inform the public about GSP implementation progress, including the status of projects and management actions (P/MAs; 23 CCR §354.10(d)(4));
- Section 8 describes performance criteria questions that the GSAs will use to evaluate their stakeholder engagement initiatives; and,
- Section 9 provides example documentation for GSAs to record and report stakeholder engagement as it occurs during implementation (23-CCR §354.10(d)(2)).

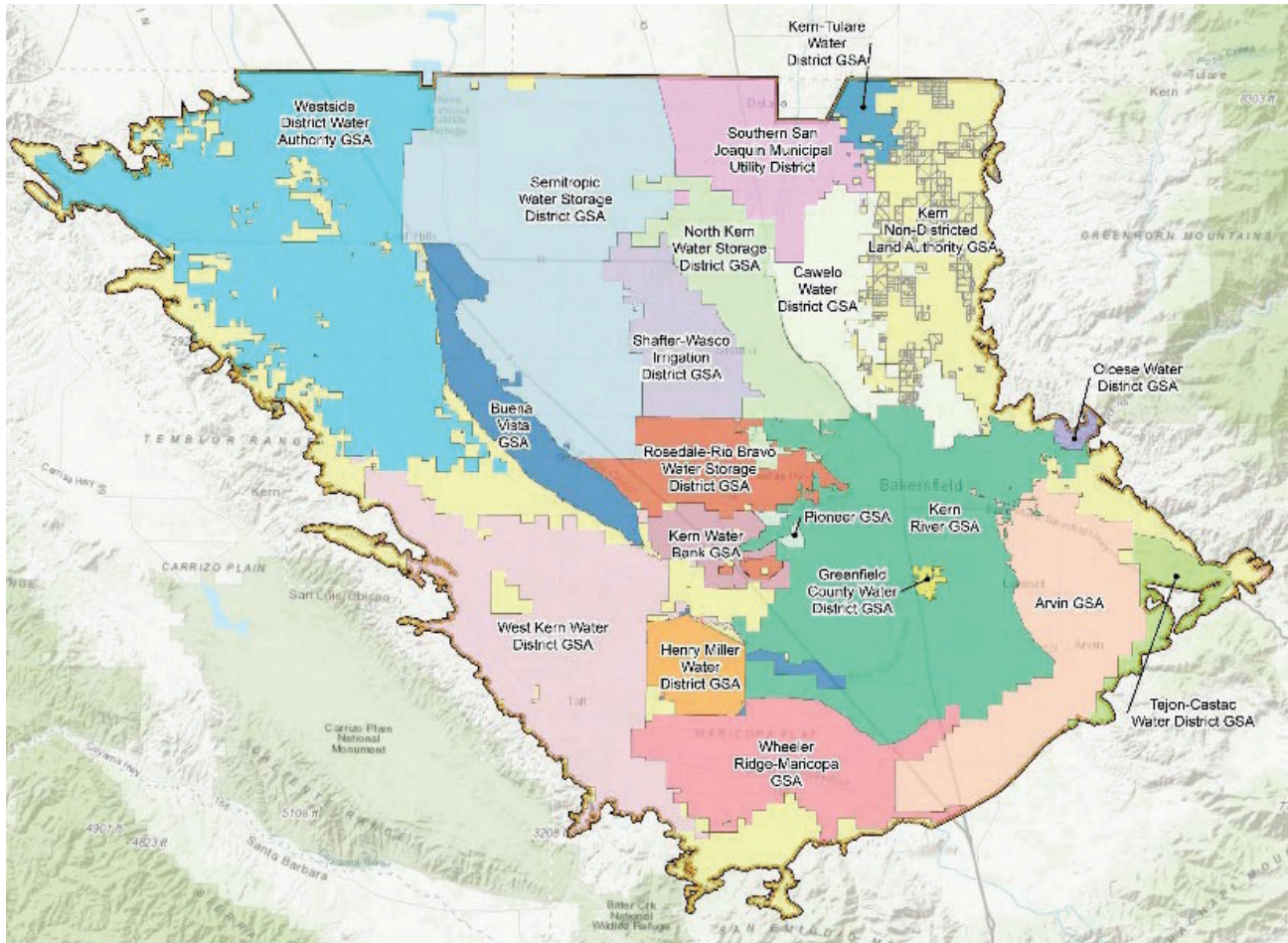


Figure 1 - Kern County Subbasin Groundwater Sustainability Agencies

1.1. Goals and Desired Outcomes

The Subbasin GSAs aim to implement the 2024 Plan to achieve groundwater sustainability by 2040 and maintain groundwater sustainability throughout SGMA’s 50-year planning timeline-.

The goal of this SCEP is to document and outline stakeholder communication and engagement that occurred and will occur during the amended 2024 Plan preparation and implementation. The GSAs' engagement efforts aim to support the development and implementation of a plan that best meets the needs of beneficial uses and users of groundwater in the Kern Subbasin and reflects and incorporates stakeholder input as appropriate.

The Subbasin GSAs have and will continue to effectively engage relevant stakeholders through a complimentary approach of: (1) direct outreach on three levels (individual GSA, GSA group, and Subbasin), and (2) coordination and dissemination of information via strategic partnerships.

1.1.1. Challenges for the Plan Area

The GSAs are aware of and plan to address the following challenges as part of its SGMA compliance efforts:

- There are multiple beneficial users in the Subbasin, the most vulnerable of which are domestic and other drinking water wells, especially in disadvantaged communities (DACs). Data on the location, depth, usage, water level and water quality at these wells is very limited and creates uncertainty with respect to management and potential impacts from groundwater management activities. Similarly, forums to conduct outreach to some of these beneficial users can be limited. The GSAs have committed to conducting additional well inventory analysis to better refine the understanding of the nature and distribution of beneficial users in the Subbasin.
- The Kern Subbasin is the largest groundwater basin in California and is geologically complex. It includes three principal aquifers and five distinct Hydrogeologic Conceptual Model (HCM) Areas that have been delineated to support characterization and sustainable management of the Subbasin.
- Landowners overlie multiple GSAs. Landowners can use the [Kern County GIS](#) mapping tool to identify their GSA (expand "Water Resources" layer, turn on "Groundwater Sustainability Agencies", click on parcel and toggle dropdown to "GSA Information"). The GSAs will need to continue to coordinate with each other to ensure consistent stakeholder engagement. All 20 GSAs were closely involved in the 2024 Plan development process and will continue to conduct coordinated engagement efforts during the public review period (see Section 5 below). Every GSA is unique in its hydrogeology, land use, portfolio of water supplies, and Project and Management Actions (P/MAs), therefore each GSA has developed a unique variety of approaches to reach regional sustainability and Subbasin-wide sustainability.
- Landowners overlie multiple Subbasins. Subbasin GSAs coordinated with adjacent Subbasin GSAs during the 2024 Plan development. Should

substantially different groundwater management decisions be made in adjacent Subbasins, the applicable GSA will ensure that stakeholders near and straddling the Subbasin boundaries understand how GSP implementation in each basin will impact them.

- Irrigated agriculture is the primary land use in the Subbasin, and there are significant concerns about what SGMA compliance means for the viability of agriculture in the Subbasin, especially the resultant economic impacts – both to the agricultural entities and the people that they employ. The GSAs will aim to be open and transparent in any decisions that will have a substantial impact on groundwater use and will aim to engage stakeholders early in the decision-making process to consider their interests and concerns, including the DACs.
- There are multiple drivers for land subsidence across the Subbasin. Extensive studies and engagement with stakeholders and interested parties has occurred prior to and during the 2024 Plan development. Ongoing engagement with these parties, specifically around potential causes and impacts to critical infrastructure, will be crucial.
- Subbasin engagement efforts must consider groundwater sustainability as well as economic sustainability. Limits to pumping (allocations) may place additional economic burden on DACs within the Subbasin, as lack of access to groundwater for crop irrigation could result in impacts to farming operations, and loss of jobs for workers whose livelihoods depend on the agricultural industry.
- Some areas of the Subbasin do not have access to imported surface water and are the most likely to be impacted by SGMA.

2. GSA COORDINATION STRUCTURE AND DECISION-MAKING PROCESS

Since April 2023, the Subbasin GSAs, each led by its Policy representative, have participated in numerous and substantial Subbasin-wide coordination efforts, including GSA Managers, the development of a Technical Working Group (TWG), an Attorney Working Group (AWG), intra-basin coordination efforts, Subbasin-wide stakeholder engagement, and consultation with State Water Resources Control Board (SWRCB) and DWR. Details on each of these items can be found in Section 1.2.1 and Section 5.10.4 of the 2024 Plan.

The Subbasin decision-making processes involves coordination amongst the GSAs and their member agencies, their governing body (i.e. Board of Directors), and consultation with stakeholders, the TWG, and the AWG.

As part of the 2024 Plan development process, the GSAs amended and restated the accompanying Coordination Agreement (“Second Amended Kern County Subbasin Coordination Agreement”), which establishes the governance structure for the GSAs and requires designated representatives from each GSA to participate in coordination activities and certain Subbasin-wide P/MAs.

As described in the Coordination Agreement, key GSP development and implementation decisions are made by the individual GSA Board of Directors, with endorsement from the Subbasin Coordination Committee. Each GSA that has developed a GSP has agreed to the governance structure outlined in the Coordination Agreement (see **Figure 2**). In general, Subbasin policy, funding, and other coordination decisions are developed by the Subbasin Coordination Committee under advisement of the GSA managers, based on recommended solutions developed by the TWG and/or AWG. Once endorsed by the Subbasin Coordination Committee, decisions then seek formal approval from the individual GSA Board of Directors.

2.1.1. Subbasin Coordination Committee

The purpose of the Subbasin Coordination Committee is to ensure that the GSAs’ decision-making regarding policy, funding, and other overarching management actions, are coordinated across the entire Subbasin. One Board member per GSA is designated as the Coordination Committee representative. The Coordination Committee representative is responsible for speaking on behalf of the GSA Board of Directors and bringing endorsed policy initiatives back to their GSA Boards and stakeholders via open public meetings for approval. The Subbasin Coordination Committee meets periodically to carry out activities described in the Coordination Agreement. At these meetings, topics discussed include coordination of Subbasin-wide activities such as GSP development, financing, Subbasin-wide GSP implementation activities, Subbasin-wide studies, and Subbasin-wide reporting requirements.

2.1.2. Plan Manager

Under the Coordination Agreement, the Subbasin GSAs designated a Plan Manager to serve as the Point of Contact between the GSAs and for State agencies (DWR and State Board). The Plan Manager also is responsible for GSP(s) and Annual Report submittals. Other roles include organizing and facilitating Subbasin-wide meetings, uploading material and data to the State (DWR portal/State Board), and facilitating meetings as directed by the Coordination Committee. The Plan Manager contact information is provided below, and available in Section 3.3 of the 2024 Plan.

Plan Manager Contact Information:

Kristin Pittack

kpittack@rinconconsultants.com

559-228-9925

2.1.3. GSA Boards

Each GSA within the Subbasin has a Board of Directors, which is the governing body that makes decisions within each GSA. The Boards are composed of community members that typically represent multiple interests, consistent with the land uses of the GSA. The Boards are responsible for approving GSA-wide decisions. Examples of GSA Board decisions include adopting the GSP and adopting policies that align with management actions, such as a well metering program.

The Subbasin GSAs and GSA member agencies hold regular Board meetings and special stakeholder meetings that are open to the public and provide SGMA-related updates and information. The meeting information and notices are posted to individual GSA websites. Regular SGMA updates are provided by GSA managers and/or their technical consultants. Any recommended actions endorsed by the Subbasin Coordination Committee are brought to the GSA Boards during these public meetings for consideration. Once Subbasin-wide recommendations are brought to the GSA Boards, the GSA Boards have the authority to decide whether to approve them as part of their GSA's policy.

2.1.4. GSA Groups

Smaller GSA groups composed of GSA representatives and other community members, including DAC community members, have formed to aid in providing aligned recommendations to the GSA Boards. GSA Group responsibilities typically include coordinating local groundwater management programs and activities, guiding public outreach and stakeholder engagement efforts, informing respective governing bodies, and endorsing actions necessary to satisfy the requirements of SGMA. More details on the Subbasin's GSA Groups can be found in Section 5.10.1.3 of the 2024 Plan.

2.1.5. GSA Managers

Each GSA has one designated Manager to facilitate SGMA-related activities within its GSA. Managers oversee day-to-day operations within their respective GSAs through coordination with staff, landowners, stakeholders, and technical committees, including oversight of P/MA implementation. The GSA Managers also serve as a liaison between their respective GSA Boards and the stakeholders represented within their GSA. Ad-hoc Subbasin Managers meetings provide a forum for GSA representatives to collaborate and provide feedback on the technical work products produced by the TWG and AWG before Coordination Committee consideration.

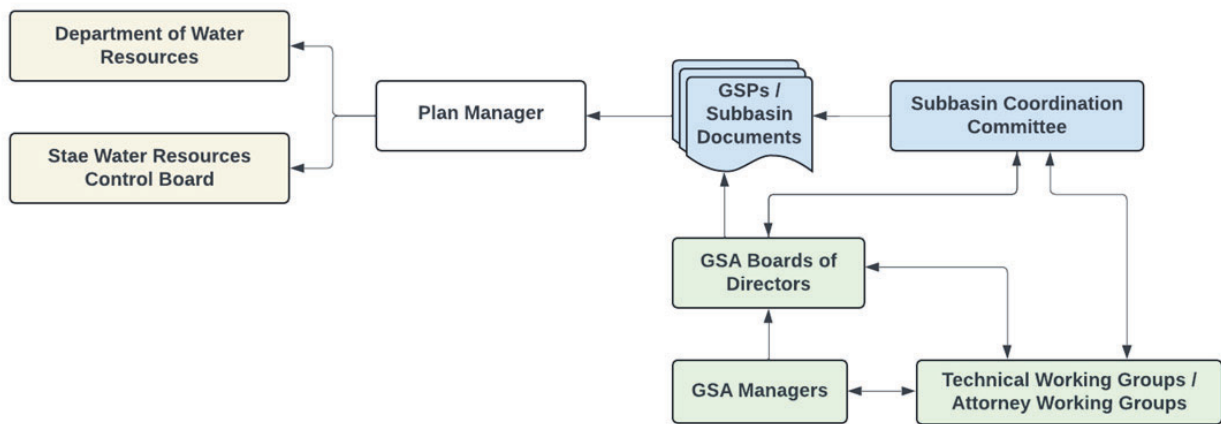


Figure 2 - Subbasin Coordination Structure Organization Chart

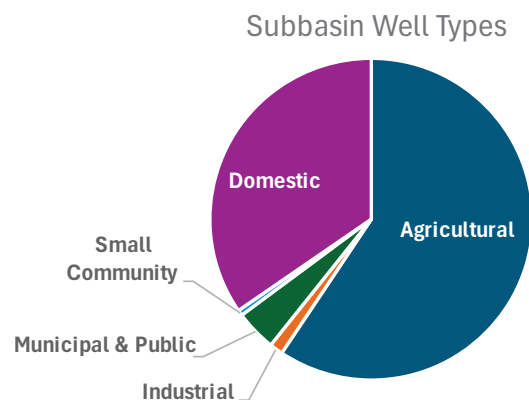
3. STAKEHOLDER IDENTIFICATION

SGMA most significantly impacts groundwater dependent communities and agricultural interest. This section describes the process used to identify groundwater dependent users who will be impacted by SGMA implementation. In identifying beneficial uses and users of groundwater in the Subbasin, the GSAs have defined target audiences whose input is imperative to Plan implementation. Stakeholder communication with beneficial users will help develop the programs and policies that will have a direct impact on groundwater users (e.g., well mitigation, demand management actions).

The GSAs identified the current beneficial uses and users of groundwater in the Subbasin in accordance with the interests listed in CWC §10723.2, as follows:

- (a) Holders of overlying groundwater rights, including (1) agricultural users (farmers, ranchers, and dairy professions) and (2) domestic well owners.
- (b) Municipal well operators.
- (c) Public water systems.
- (d) Local land use planning agencies.
- (e) Environmental users of groundwater.
- (f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies.
- (g) The federal government, including, but not limited to, the military and managers of federal lands.
- (h) California Native American tribes.
- (i) Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems.
- (j) Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.

As presented in Section 1.3.1 of the 2024 Plan, the Subbasin GSAs identified the interests of all beneficial uses and users of groundwater and mapped well density within the Plan Area. A Subbasin-wide well inventory was initiated to develop an accurate database containing the location and types of beneficial users in the Subbasin. The February 2024 Well Inventory provides an improved understanding of the well types and construction of all wells, and thereby the



groundwater beneficial uses and users, within the Subbasin. Maps of well locations, municipal and community well operators, and beneficial users within the Subbasin are included in Section 5 of the 2024 Plan. Ongoing refinements of the Well Inventory, including finding and field-verifying well locations and statuses is ongoing, pending initial reconciliation in early 2025. Once completed, the Subbasin intends to maintain the Well Inventory as a Well Registry.

The Subbasin Well Inventory is therefore considered the best identification of current groundwater beneficial uses and users. However, there are other interested parties that are directly impacted by groundwater management, such as regional critical infrastructure susceptible to impacts from land subsidence (Friant-Kern Canal and California Aqueduct). The combination of these interested parties and the groundwater beneficial uses and users delineated by the Subbasin Well Inventory comprise the relevant stakeholders.

The GSAs have further compiled an initial “Lay of the Land” stakeholder mapping initiative, shown in **Table 1**, which identifies specific stakeholder organizations and individuals, stakeholder types, key interests and issues, the level of engagement that has occurred or is expected with each stakeholder organization or individual, and the relative footprint of each stakeholder. This SCEP classifies five **stakeholder engagement type groups** to better target outreach efforts specific to the needs of each user group identified in **Table 1**, and to streamline the venues for engagement used. These engagement groups are defined in Sections 3.1 through 3.5 below.

Given that the GSAs will gain more knowledge of the interests, issues, and challenges of stakeholders over the course of GSP implementation, **Table 1** will be updated as needed.

Stakeholder Engagement Type Groups



Direct GSA Communication

- Agricultural users
- Municipal and Public water purveyors
- Tejon Indian Tribe
- Neighboring GSAs
- Environmental users of groundwater
- Local surface water users



Focused Initiatives Outreach

- Domestic well owners
- Non-public water systems
- Small community water systems
- Disadvantaged Communities
- NGOs



Targeted Outreach and Engagement

- Industrial users



Interdependent Partnerships

- Land and property interests (water conveyance)
- Well mitigation administrators



Monitoring and Data Sharing

- Groundwater monitoring entities
- Water banks
- Irrigated Lands Regulatory Program Coalition

3.1. Direct GSA Communication Engagement Type Group

The **Direct GSA Communication** engagement type group includes stakeholders with established relationships and open lines of direct communication with GSAs. Generally, these users include landowners, cities, and other entities that directly communicate with the overlying water districts, hold water contracts, and directly interface with SGMA-related policies. The focus for this engagement group is to maintain functional ongoing communication through attendance at Board meetings, at stakeholder workshops, or through direct communication and outreach. Beneficial users that are engaged through direct GSA communication include:

1. **Agricultural Users:** The primary land use in the Subbasin is agriculture, comprising 50 percent of the total land area in the Subbasin, including idle fields. The majority of agricultural areas are covered by a water district, most of which were granted GSA status, and are therefore covered by one of the 20 GSAs. Most of these lands have access to surface water, which typically reduces their groundwater dependence, except in drought year when surface water supplies are insufficient to meet demands. Landowners outside of the jurisdictional boundaries of a water district or who did not respond to water district agreements are granted coverage under the Kern Non-Districted Land Authority GSA. There are approximately 10,000 acres of irrigated lands that are non-districted and completely groundwater dependent.
2. **Municipal and Public Water Purveyors:** Public and community water systems include municipalities and urban areas and are mostly groundwater dependent. However, some community water systems in the metropolitan Bakersfield area rely on surface water supplies. Generally, urban water purveyors are regulated by a local Board of Directors or a Public Utilities Commission (PUC) and engage in coordination activities with their governing GSA. Additionally, land owned by cities, counties, and special districts (such as community centers, recreation centers, and golf courses) are covered under the associated water portfolio of the locality in which they exist.
3. **California Native American Tribes:** The Tejon Indian Tribe is the only federally recognized Tribe within Kern County. The Tribe does not have communal land, however there is a parcel located near Mettler, within the Arvin GSA area, that is proposed to be developed in 2025 into the Hard Rock Hotel & Casino Tejon and anticipated to be supplied by groundwater. The Tejon Indian Tribe has an office located in Bakersfield.
4. **Neighboring Groundwater Users:** Entities adjacent to the Subbasin will be impacted by implementation of the 2024 Plan. These neighboring parties are not holders of water rights within the Subbasin, however their operations and management impact water inflows, outflows, and usage in and around the Kern Subbasin. Neighboring subbasins include the Tulare Lake Subbasin, Tule

Subbasin, and White Wolf Subbasin. In general, groundwater flows into the Subbasin from White Wolf and leaves the Subbasin to the northern Tulare Lake and Tule subbasins. The White Wolf GSA is composed of member Districts that are also exclusive GSAs in the Kern Subbasin (Arvin-Edison Water Storage District, Tejon-Castac Water District, and Wheeler Ridge-Maricopa Water Storage District). Kern-Tulare Water District GSA covers lands in both the Kern Subbasin and Tule Subbasin.

- 5. Environmental Users of Groundwater:** The Subbasin contains various public lands that are protected by state, federal, or local agencies, as well as California Conservation Easement Areas and non-profit Land Trust areas, as open space areas for natural parks, monuments, managed resource protection areas, game refuge, or protected conservation easements with no associated water uses. These areas include the Kern National Wildlife Refuge managed by the United States Fish and Wildlife Service, and areas of native and riparian vegetation. Protected lands managed by public agencies include those managed by the Bureau of Land Management (BLM), a small area managed by the United States Bureau of Reclamation (USBR), the California Department of Parks and Recreation, and land owned by cities, counties, and special districts. Some preserves and protected areas rely on imported surface water. It should be noted that the potential Groundwater Dependent Ecosystems (GDEs) identified in the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset produced by The Nature Conservancy have been found to be reliant on surface water or disconnected from the Primary Alluvial Principal Aquifer, see Section 13.6 of the 2024 Plan.

- 6. Local Surface Water Users:** Section 8.6 of the 2024 Plan shows the majority of surface water features in the Subbasin are not connected to groundwater, and in the few limited areas where a connection may occur, the connection is likely transient, short-lived, and involves shallow or perched groundwater that is not part of the principal aquifer systems.



The main source of local surface water supply for the Kern Subbasin is the Kern River, which flows east to west through the center of the Subbasin's boundaries from the Sierra Nevada Mountain range and extends across the Subbasin. The majority of the entities with Kern River rights are either a GSA themselves or are active members in the coordinated leadership of a GSA or GSA Group. As GSAs are the primary decision-makers for SGMA policy and local implementation,

direct engagement of these surface water rights holders is achieved. Furthermore, operations and management of Kern River surface water to areas within the Kern Subbasin are overseen by the City of Bakersfield in coordination with the United States Army Corps of Engineers and Kern River Watermaster. Member agencies such as the City of Bakersfield, Cal Water, Oildale Mutual Water Company, and East Niles Community Service District represent surface water users through their participation in the Kern River GSA.

Other surface water features in the Subbasin include ephemeral seeps, springs, and creeks such as Poso Creek and Caliente Creek that drain to the eastern part of the Subbasin and contribute to groundwater recharge. The Kern River and Poso Creek are fully allocated. Caliente Creek flows into the Kern Subbasin are intermittent and have historically been unmanaged; however, to improve flood control, the County of Kern is working on infrastructure improvements to manage future flows.

3.2. Focused Initiatives Outreach Engagement Type Group

Partnerships were established during Plan development to facilitate Subbasin-wide programs such as subsidence and well mitigation programs, and protection of water access for disadvantaged communities. The **Focused Initiatives Outreach** engagement type group includes stakeholders that require outreach specifically tailored for programs that aim to reduce impacts on sensitive beneficial users, and include:

1. **Domestic Well Owners:** Domestic wells have been identified through the Well Inventory.
2. **Non-Public Water Systems:** Non-public water systems are defined as state-small systems by Title 22 and CA Code §116275, and are typically shared well systems that serve 2 to 5 residences, or a rural business that serves less than 25 of the same people for 60 or less days per year. These water systems are completely groundwater dependent. There are a total of 41 groundwater supplied residential non-public water systems, and 36 groundwater supplied transient water systems (i.e. RV Parks, rural gas station, convenience store, truck stop) within the Subbasin.
3. **Small Community Water Systems:** Small Community water systems serve no more than 3,300 service connections or a yearlong population of no more than 10,000 persons. Small Community systems within the Subbasin are groundwater dependent. Most small community water systems within the Subbasin are outside of DAC block groups. Community water systems meeting the DAC income threshold include municipal and unincorporated community areas or fall under the Cal Water and Oildale Mutual Water Company service areas.
4. **Disadvantaged Communities:** DWR's 2020 Census data at the township level places the majority of the Subbasin as likely to be within the DAC or Severely

DAC (SDAC) threshold, identified based on the median household income (MHI) of the area compared to the statewide MHI. DACs are defined in Section 5.6.5 of the Amended 2024 Plan as a geographic area where MHIs are less than 80 percent of the statewide average. DACs and SDACs were identified on the township level based on the 2020 MHI from the 2016 to 2020 American Community Survey 5-Year Estimates, provided by DWR. Community water systems meeting the DAC income threshold typically receive water from a municipality and unincorporated community areas are within the service area of purveyors California Water Service and Oildale Mutual Water Company. Furthermore, extensive distribution systems were constructed to supply the DAC communities in the Western Fold Belt HCM Area with groundwater extracted from the Kern River and North Basin HCM Areas.

5. **Non-Government Organizations (NGOs):** NGOs have a goal of ensuring clean and safe access to drinking water and include entities like Community Action Partnership of Kern (CAPK), Community Water Center, Clean Water Action, and Leadership Counsel for Justice & Accountability.

3.3. Targeted Outreach and Education Engagement Type Group

The **Targeted Outreach and Education** type group includes stakeholders identified as requiring additional targeted outreach and education, primarily through data, information, and knowledge sharing through direct meetings with GSA representatives. In delineating this engagement type, GSAs recognize the information gap between stakeholders and the GSAs and have identified a plan for direct targeted communication going forward. Beneficial users benefitting from this engagement type include:

1. **Industrial Users:** Industrial users are classified by the California Division of Drinking Water (DDW) as Nontransient Noncommunity systems. In the Kern Subbasin, most of these systems are agricultural related, such as packing houses, cold storage, or food processing facilities located in rural areas. There are also solar farms across the Subbasin that utilize groundwater for dust control and equipment cleaning, although many of these solar fields have been converted from prior agricultural use and therefore fall within the Direct GSA Communication group.
2. The second most prominent land use designation within the Subbasin is industrial **oilfields**. High-density oilfield land use is mostly present in the eastern and western regions of the Subbasin. Surface operations of oil fields managed by industrial beneficial users such as the Western States Petroleum Association (WSPA) overlie the Subbasin, but subsurface activity also occurs in hydrocarbon reservoirs beneath the vertical extent of the Subbasin, as defined under SGMA.

3.4. Interdependent Partnerships Engagement Type Group

The GSAs have identified interdependent partners whose data collection, collaboration, and program facilitation is integral to accomplish crucial Plan objectives and subbasin-wide programs, and therefore successful implementation of the Plan. The **Interdependent Partnerships** engagement type group includes:

- 1. Entities Charged with Protection of Water Conveyance Regional Critical Infrastructure:** The California Aqueduct and Friant-Kern Canal are the primary sources of imported water to the Subbasin. As such, these key water conveyance projects are designated as regional critical infrastructure within the 2024 Plan and are at risk of being directly impacted by land subsidence. Imported surface water availability through these canals is critical to the long-term sustainability of the Subbasin. Therefore, it is critical that entities charged with protecting infrastructure and ensuring reliable delivery of imported water are proponents of the Plan. DWR's State Water Project and its California Aqueduct Subsidence Program (CASP) and Friant Water Authority (FWA) are identified as interdependent partners.
- 2. Well Mitigation Administrators:** To aid in the administration of the Well Mitigation Program, the Subbasin GSAs have formed partnerships with Self-Help Enterprises (SHE) and Kern Water Collaborative (KWC). These administrators will have direct communications with the beneficial users impacted by either chronic lowering of groundwater levels or degraded water quality.

KWC was formed to administer the CVSALTS Nitrate Control Program and will begin implementation of an outreach program that will inform residents that rely on domestic wells of this groundwater quality monitoring effort. Subbasin GSAs have partnered with KWC to disseminate information and avoid duplicative nitrate well sampling.

3.5. Monitoring and Data Sharing Engagement Type Group

GSAs consider and rely upon groundwater monitoring data received from other programs and subcommittees to inform their effective management of the Subbasin and further supplement the GSAs SGMA monitoring network to identify potential impacts to beneficial uses and users. Continued open direct communication and data-sharing from these entities is necessary. The **Monitoring and Data Sharing** engagement type group includes:

- 1. Groundwater Monitoring Entities:** The Kern Subbasin has a long history of extensive groundwater monitoring programs with various organizations collecting groundwater and surface water monitoring data on a regular basis, as summarized in Sections 5.7.1 and 15 and Table 5-9 of the 2024 Plan. Groundwater monitoring is essential to track groundwater conditions within the

Subbasin. A representative subset of wells from these monitoring programs are used for the SGMA Representative Monitoring Network.

2. **Water Banks:** The Subbasin has numerous water banks that provide for long-term drought resiliency within the Subbasin and across the entire State. Surface water supplies from the State Water Project (SWP), Central Valley Project (CVP), Kern River, and ephemeral streams (Poso and Caliente Creek) are used as supply for water recharge and/or banking. The Kern Fan Banking Projects in the Kern River Fan HCM Area are examples of banking projects within the Subbasin and include the Kern Water Bank, Berrenda Mesa Project, and Pioneer Project. Water banks recover banked surface water; each bank has established amounts of water that cannot be recovered (“leave behind”) that offsets losses and contributes to groundwater storage. Water banks typically have a robust monitoring network for both groundwater levels and groundwater quality.
3. **Irrigated Lands Regulatory Program (ILRP) Coalition:** The local ILRP coalition focuses on monitoring and reporting of priority agricultural-related water quality issues, such as nitrates, pesticides, nutrients, and sediments. These data are made available in the GeoTracker database for download and use.

As summarized in **Table 1**, stakeholders representing each of the engagement types were consulted and engaged with by the GSAs during the 2024 Plan development, and will continue to be engaged throughout GSP implementation. Section 4 below describes the available venues for engaging stakeholders. Section 5 below then specifies each key interests and venues of each engagement type in the 2024 Plan development, and projected continued involvement during GSP implementation.

Table 1. "Lay of the Land" Stakeholder Constituency

Organization/ Individual	Engagement Type Group	Type of Stakeholder	Key Interests and Issues	Relevant Sections of the 2024 Plan	Stakeholder Engagement
Agricultural Water Users	Direct GSA Communication	Agricultural Users	Preserving access to high quality groundwater for irrigation	Section 5.6, Section 13	Collaborate to ensure sustainable management of groundwater. As demand reduction plans increase, continued outreach and transparency
Municipal and Public Water Purveyors	Direct GSA Communication	Municipal and Public Supply Users	Preserving access to high quality groundwater for public and municipal users	Section 5.6.4, Section 13	Inform and involve to avoid negative impacts. GSA provides direct communication to purveyor and constituent communication is provided through the purveyor.
Small Community Well Owners and Operators	Focused Initiatives Outreach	Small Community Users	Preserving access to high quality groundwater for small communities	Section 13	Direct representation of small community water systems and DAC communities on GSAs and GSA groups Boards. Inform and involve to avoid negative impact to these users through collaboration with Self-Help Enterprises, KWC, and GSAs to begin Well Mitigation Program
Domestic / Non-Public Users	Focused Initiatives Outreach	Non-Public Well Owners	Preserving access to high quality groundwater for domestic users	Section 13, Section 13	Inform and involve to avoid negative impact to these users through collaboration with SHE, KWC, and GSAs to begin Well Mitigation Program
Federally, state, and locally owned preserves lands	Direct GSA Communication	Environmental Users	Preserve ecosystem	Section 5.3, Section 13	Inform and involve to sustain groundwater dependent ecosystems.
Non-Profit lands and Conservation Easement lands	Direct GSA Communication	Environmental Users	Preserve ecosystem	Section 5.3, Section 13	Inform and involve to sustain groundwater dependent ecosystems.
Industrial Water Users	Targeted Outreach and Education	Industrial Users	Oil and gas production, food processing	Section 5.6, Section 13	Educate on sustainable management of groundwater.

Active oil field operators	Targeted Outreach and Education	Industrial Users	Oil and gas production, subsidence	Section 5.3, Section 8, Section 13	Educate on studies performed identifying oil and gas operational impacts to land subsidence
Managers of cities and incorporated communities: City of Bakersfield, City of Shafter, City of Arvin, City of Wasco, City of Delano, City of McFarland, City of Taft	Direct GSA Communication	Surface Water Users, Municipal Users	Continue to provide potable water service	Section 5, Section 5.8, Section 5.10, Section 8, Section 8.4	Continue coordination and engagement to ensure compliance with the General Plans that could affect groundwater management
Kern County Water Agency	Direct GSA Communication	Surface Water Users, Groundwater Monitoring Entity	Preserve access to high quality groundwater	Section 5.4, Section 5.10, Section 7	Continue to collaborate to maintain well inventory database and well mitigation; continue to collect groundwater and surface water data
Kern National Wildlife Refuge	Direct GSA Communication	Environmental Users	Preserve ecosystem	Section 5.3, Section 7.1, Section 8.6.1, Section 9	Maintain imported CVP water resources, and continued collaboration to ensure protection of wetlands
Tejon Indian Tribe	Direct GSA Communication	California Native American Tribes	Preserve access to high quality groundwater	Section 5.3.4, Section 5.10.3.3	Continue information sharing for implementation of the 2024 Amended Plan; collaborate during Hard Rock Hotel & Casino construction
California Water Service	Direct GSA Communication	Municipal Supply Users	Preserving access to high quality groundwater for municipal and urban users	Section 5.6.4, Section 5.10	Continue information sharing for implementation of the 2024 Amended Plan, maintain operation of wells to supply metropolitan Bakersfield; engage DACs within service areas
Kern Fan Monitoring Committee	Monitoring and Data Sharing	Groundwater Monitoring Entity	Preserve access to high quality groundwater	Section 5.7	Share key monitoring data
Friant Water Authority	Interdependent Partnerships	Land and property interests	Water conveyance	Section 5.7.6, Section 5.10, Section 9.5, Section 13.5, Section 14.2.3, Section 15.2.5	Ongoing coordination towards mitigating subsidence around the Friant-Kern Canal and ensuring subsidence does not cause undesirable results on critical infrastructure.

California Department of Water Resources State Water Project (& California Aqueduct Subsidence Program)	Interdependent Partnerships	Land and property interests	Water conveyance	Section 7.1, Section 9, Section 13.1	Subsidence evaluation; ongoing coordination with stakeholders that are experiencing GSA-related subsidence; obtain subsidence benchmark surveys from CASP; continue engagement to ensure that future subsidence does not cause undesirable results on critical infrastructure.
Kern Water Bank Authority	Monitoring and Data Sharing	Water Banks	Encourage water banking and recharge	Section 5.10	Collaborate to ensure sustainable management of groundwater; provide technical oversight and review of the HCM, especially around the E-Clay extent; continue to collaborate with stakeholders on storage and recovery cycles Coordination to ensure recovery operations do not cause significant impacts.
Self Help Enterprises	Interdependent Partnerships	Well Mitigation Consultant	Well Mitigation	Section 5.10, Section 14.2	Administer Well Mitigation Program Outreach to domestic well owners
Kern Water Collaborative	Interdependent Partnerships	Groundwater Monitoring Entity	Preserve access to high quality groundwater	Section 5.7.5, Section 5.10, Appendix F	Partnership to share data and coordinate nitrate monitoring and mitigation programs to holistically support the States Human Right to Water goals. Coordinate during implementation of an Early Action Plan (EAP) that conducts outreach to residents that rely on domestic wells by March 2025 and offers free domestic well testing of nitrate levels
DACs & NGOs	Focused Initiatives Outreach	Municipal Users, Agricultural Users, Surface Water Users	Continue to provide potable water service	Section 5.3.3, Section 5.10	Participation of representatives in GSAs or GSA Groups, including development of all SMCs and selection of the SGMA monitoring network Continue outreach and community member engagement in GSA Board meetings and in executive committees

4. VENUES FOR ENGAGING

The GSAs have provided a variety of opportunities for engagement with stakeholders during the amended 2024 Plan development process, and will continue to do so during GSP implementation. Public input and response received to date informed the draft 2024 Plan through identifying local needs and concerns, promoting of equity and inclusivity for all beneficial uses and users, informing Sustainable Management Criteria (SMC) development, building public support and compliance, and addressing concerns before Plan implementation. Future stakeholder input will be incorporated into corresponding sections of the 2024 Plan, as appropriate, or will be considered during GSP implementation (e.g., during development of Subbasin-wide P/MAs).

The main venues for stakeholder engagement, as detailed below, include direct outreach, GSA Board meetings, GSA Group meetings, stakeholder workshops, direct communications including through an agency's email distribution list, the Kern GSP website (www.kerngsp.com), existing collaborations, and media outlets. A combination of these venues will be used for ongoing engagement based on the engagement type group, as detailed in Section 5 below.

4.1. GSA Board Meetings

As described in Section 2.1.3 the Subbasin GSAs and several GSA member agencies hold regular Board meetings that are open to the public and provide SGMA-related updates and information. Information and notices for GSA Board meetings, including meeting location and time, can be found directly on the individual agency websites (see **Table 2**). Regular SGMA updates are provided by the GSA manager, staff and/or their technical consultant(s). During these meetings, stakeholders are encouraged to provide input on 2024 Plan development information.

Table 2. GSA Websites Where Meeting Information is Noticed

GSA	Website
Subbasin GSP	www.KernGSP.com
Subbasin Data Management System	https://dms.geiconsultants.com/kern/
Arvin GSA	https://aewsd.org/
Buena Vista Water Storage District GSA	https://www.bvh2o.com/
Cawelo Water District	www.cawelowd.org
Greenfield County Water District GSA	https://greenfieldwater.specialdistrict.org/
Henry Miller Water District GSA	https://www.wakc.com/whos-who/henry-miller-water-district/
Kern Non-Districted Land Authority GSA (formerly Kern Groundwater Authority GSA)	https://kerngwa.com/ For lands in Eastside Water Management Agency (EWMA): https://kernewma.com
Kern River GSA	http://www.kernrivergsa.org/
Kern Water Bank GSA	https://kwb.org/
Kern-Tulare Water District GSA	https://www.kern-tulare.com/
North Kern Water Storage District GSA	https://www.northkernwsd.com/
Olcese Water District GSA	https://olcesewaterdistrict.org/sgma/
Pioneer GSA	http://www.kcwa.com/
Rosedale-Rio Bravo Water Storage District GSA	https://www.rrbwsd.com/
Semitropic Water Storage District GSA	http://www.semitropic.com/
Shafter-Wasco Irrigation District GSA	https://www.swid.org/
Southern San Joaquin Municipal Utility District GSA	https://www.ssjmud.org/
Tejon-Castac Water District GSA	https://www.tejoncastacwd.com/
West Kern Water District GSA	https://wkwd.org/
Westside District Water Authority GSA	https://www.westsidedwa.org/
Wheeler Ridge-Maricopa GSA	https://wrmwsd.com/

4.2. GSA Group Meetings

GSA Group meetings provide a public forum to share SGMA-related updates, and to receive public and stakeholder comments and feedback. Continuing outreach through strategic partnerships and direct communication will be pivotal to ensure continued stakeholder presence and engagement in GSP implementation. GSA meetings are the primary venue of engagement for users being outreached through direct GSA relationships.

GSA Groups include the South of Kern River (SOKR) GSP Executive Committee, the North Central Kern (NCK) GSP Steering Committee, and the Kern Fan Banking Group.

4.2.1. SOKR GSP Executive Committee

Pursuant to the SOKR Memorandum of Agreement (MOA), Arvin GSA, Arvin Community Services District (CSD), Tejon-Castac Water District GSA, and Wheeler Ridge-Maricopa GSA each has designated representatives to participate in the SOKR Executive Committee which, with the support of the respective agencies' staff and consultants, is responsible for guiding the joint development and implementation of the SOKR interest in a manner that is coordinated with the other Subbasin GSAs to achieve sustainable groundwater management as required by SGMA. The Executive Committee responsibilities also include guiding public outreach and stakeholder engagement efforts and keeping the Governing Bodies of each agency informed and prepared to take any and all actions necessary to satisfy the requirements of SGMA. The SOKR Executive Committee meets monthly at the Arvin-Edison Water Storage District headquarters and agendas are posted on www.SOKRGSP.com.

4.2.2. NCK GSP Steering Committee

Pursuant to the MOA by and Among North Kern WSD GSA, Shafter-Wasco ID GSA, Cawelo Water District GSA, and Southern San Joaquin MUD GSA represent the NCK GSP Group. Each GSA has designated a Steering Committee representative from their respective Board of Directors, with the support and the agencies' respective staff and technical consultants, to be responsible for making decisions concerning the development of the NCK GSP, enforcement of the GSP, and facilitating coordination with other GSAs in the Kern Subbasin. The cities of Delano, McFarland, Shafter, and Wasco are situated within the jurisdictional boundaries of the GSAs and have appointed a member to the Steering Committee. The Steering Committee's responsibility also includes guiding public outreach and stakeholder engagement efforts, informing respective governing bodies, and taking any and all actions necessary to satisfy the requirements of SGMA. The NCK Steering Committee meets regularly at the North Kern Water Storage District office.

4.2.3. Kern Fan Banking Group

Representatives from the Berrenda Mesa Spreading Grounds, the Kern Water Bank GSA, the Pioneer GSA, and the West Kern Water District GSA meet routinely to coordinate and compile technical information and data, and to provide guidance during the development of the Subbasin Plan. Each member participates in public outreach through their respective Board meetings.

4.3. Stakeholder Workshops

Stakeholder workshops have been and will be held to communicate the 2024 Plan components to stakeholders and to receive input. Beneficial uses and users are encouraged to attend workshops as a part of the targeted outreach and education engagement type.

4.3.1. GSA-Hosted Workshops

Since January 2023, several GSAs held stakeholder workshops to guide public outreach and stakeholder engagement efforts. Noticing included sending direct mail and informational emails with updates on events. GSA-lead stakeholder workshops held between January 2023 and August 2024 are listed in Appendix I of the 2024 Plan and include:

- Arvin GSA: 04/25/2023, 05/29/2024, and 05/30/2024
- Buena Vista GSA: 03/28/2023, 06/18/2024, and 07/18/2024
- Kern River GSA: 05/09/2024, 06/18/2024, 06/26/2024, 06/27/2024, 07/24/2024, 07/25/2024, 08/14/2024, 08/20/2024, 08/21/2024, 08/21/2024, and 08/22/2024
- Kern Water Bank GSA: 5/25/2023
- North Kern Water Storage District GSA: 02/02/2024
- Olcese GSA: 08/20/2024
- Pioneer GSA: 05/23/2024
- Rosedale-Rio Bravo Water Storage District GSA: 01/31/2023, 05/30/2023, 07/25/2023, 09/26/2023, 12/1/2023, 01/30/2024, 03/26/2024, 06/11/24, 07/09/2024, 07/30/2024, and 08/13/2024
- Semitropic Water Storage District GSA: 06/20/2024
- Shafter-Wasco Irrigation District GSA: 01/09/2024 and 06/18/2024
- Wheeler Ridge-Maricopa GSA: 8/14/2023, 9/19/2023, 10/19/2023, 10/31/23, 12/7/2023, 1/18/2024, and 8/7/2024

4.3.2. SWRCB Workshops

The Subbasin GSAs actively advertised and participated in the August 2024 public workshops held by the SWRCB. The SWRCB workshops were held to educate the landowners within the Subbasin about potential SWRCB actions during the intervention process, and to provide a venue for public comment. Spanish and Punjabi translation was made available. Technical representatives of the Subbasin GSAs presented on the 2024 Plan. SWRCB workshops were held at these times:

- August 26, 2024 (virtual)

- August 29, 2024 (in-person in the City of Bakersfield)



Pictured above: SWRCB workshop at Hodel’s in Bakersfield, CA on August 29th, 2024

Information, agendas, and flyers for SWRCB workshops are available on the Kern GSP website (<https://kerngsp.com/meetings-events/>), alongside the [Subbasin GSP Presentation](#) given by technical representatives of the Subbasin GSAs.

4.3.3. Subbasin Workshops

Three Subbasin-wide stakeholder workshops hosted by the GSAs on the Amended 2024 Plan Overview were held on **October 3, 2024**:

- **Stakeholder Workshop #1** – In-person at the Mouser Center in McFarland (100 South Second Street, McFarland, CA 93250-0337) from 10 am to 12 pm
- **Stakeholder Workshop #2** – Hybrid in-person at the Kern County Water Agency office (3200 Rio Mirada Dr. Bakersfield, CA 93308), or virtual on Zoom from 2 pm to 4 pm.
- **Stakeholder Workshop #3** – In-person at the David Head Center in Lamont (10300 San Diego St, Lamont, CA 93241) from 6 pm to 8 pm.

Have you heard?...
...The Kern Subbasin has a
NEW Groundwater Sustainability Plan!


To learn more, join us on **Thursday, October 3, 2024***

North Subbasin
 Mouser Center (In-Person Only)
 100 2nd St, McFarland, CA
 10am - 12pm

Central Subbasin
 Kern County Water Agency (In-Person and Virtual)
 3200 Rio Mirada Dr, Bakersfield, CA
 2pm - 4pm
 Scan the QR Code below for instructions to access the virtual meeting.

South Subbasin
 David Head Community Building (In-Person Only)
 10300 San Diego St, Lamont, CA
 6pm - 8pm

** spanish translation will be available at all meetings*

 Visit the Kern County Subbasin at www.kerngsp.com or scan the QR code 

All workshops had Spanish translation available. During the workshops, public attendees asked questions regarding the Subbasin GSAs’ studies on subsidence drivers including oil and gas operations, the Subbasin’s response to concerns raised during SWRCB workshops, climate change considerations in the water budget and associated P/MAs target planning, Kern River management, and demand management timelines.



Pictured above: Stakeholder workshop at the Mouser Center in McFarland, CA on October 3rd, 2024.

As part of the Well Mitigation Program development, the Subbasin GSAs will host at least one virtual stakeholder workshop. The workshop will detail the proposed mitigation framework for domestic wells and community wells in the Kern Subbasin. Call-in information for the workshops will be distributed by all Subbasin GSAs and will be posted at www.KernGSP.com.

4.3.1. Future Engagement Opportunities

The GSAs will continue to provide updates, notices, and publicize all stakeholder workshops on their individual websites, on www.KernGSP.com, directly to their list of interested parties, and will coordinate with community organizations and partners (e.g., Kern County Farm Bureau, Water Association of Kern County, etc.) to send out emails and mailings, as appropriate.

After a 30-day public comment period ending November 4, 2024, the GSAs will consider public comments received and finalize the 2024 Plan. Each GSA will hold a **Public Hearing to Adopt the GSP** in December 2024. All GSAs will provide a public notice at least 14 days prior to the public hearing.

Finally, the SWRCB is currently scheduled to hold a public Probationary Hearing on February 20, 2025 to consider designating the Kern Subbasin as a probationary basin under SGMA.

Additional stakeholder workshops will be held during GSP implementation, as appropriate.

4.4. Advisory Subcommittees

The existing Subbasin advisory committees have established pathways for stakeholder engagement throughout the GSP development process and will continue to work

through the avenues of engagement of monitoring and data sharing, focused initiatives outreach, and interdependent partnerships during implementation. These advisory committees include:

- **The Well Mitigation Subcommittee** coordinates the development and implementation of the Subbasin Well Mitigation Program with SHE. Well mitigation subcommittee members include representatives from the SDAC Arvin CSD to ensure a representative of impacted communities are involved in the Program development and representatives of the Joint Operations Committee which has an active well mitigation program in place to ensure a smooth transition to a larger-scale Subbasin-wide operation.
- **The Outreach Subcommittee** is responsible for translation services, securing venues and coordinating stakeholder workshops.
- **The Subsidence Subcommittee** was formed in response to public comment letters received on the 2024 Plan. The subsidence subcommittee is composed of TWG members and managers and is tasked with coordinating meetings with critical infrastructure operators to ensure transparency on prior studies and findings related to subsidence drivers within the Subbasin, data sharing, refinement of the Land Subsidence SMCs, and discussion on P/MAs within a buffer zone around critical infrastructure.

As Subbasin-wide initiatives and programs are developed, additional advisory committees will be established as needed. These could include a subcommittee for Well Registration, etc.

4.5. Fact Sheets/Newsletters

The GSAs have produced a 2-page GSP Fact Sheet to provide a high-level overview of the 2024 Plan contents as a venue to contribute to engagement through direct GSA relationships and targeted outreach and education. This GSP Fact Sheet complements the material covered during the workshops and has been distributed at the workshops, on the Subbasin website (<https://kerngsp.com/>), and directly through the GSAs. The GSP Fact Sheet, which is translated into Spanish, is included as Attachment A of this SCEP.

4.6. Website Communication

All relevant information regarding the 2024 Plan will be posted on www.KernGSP.com. The draft 2024 Plan is currently available for public comment. The GSAs invite any interested parties to submit a public comment to comments@kernGSP.com.



Additionally, the GSAs will update their individual websites with GSA Board meeting materials and SGMA-related updates as described in Section 4.1 of this SCEP.

The Subbasin Data Management System <https://dms.geiconsultants.com/kern/> provides an online platform for sharing data collected by GSAs but also allows public to view critical information like groundwater level measurements.

As GSAs develop management actions related to water budgets, allocations, and/or groundwater charges, online water accounting platforms will become available to aid in information sharing, such as the Rosedale-Rio Bravo Water Accounting Platform <https://waterbudget.rrbwsd.com/>.

4.7. Existing Partnerships and Collaborations

Throughout the 2024 Plan development, the Subbasin GSAs engaged stakeholders and encouraged active involvement by relying on interdependent partnerships to distribute and collect information between stakeholders and the GSAs, then incorporated feedback into the 2024 Plan. Several interdependent partnerships have been built into the structure of GSP functionality and are outlined in Section 3.5, however there are similar partnerships that have been engaged consistently to disseminate information and fill in data gaps. These existing partnerships and collaborations include:

1. **DDW** – Staff in the Fresno Branch of the DDW collaborated with the GSAs to develop a comprehensive list of public water systems in the Kern Subbasin and verify accurate locations and status of wells in various databases. DDW has also coordinated with the Subbasin GSAs to implement groundwater quality regulatory programs through its Safe and Affordable Funding for Equity and Resilience Program (SAFER). Strategic partnership with the SAFER program is expected to continue into the implementation phase.
2. **DWR CASP** – CASP staff provided GSAs annual benchmark survey data from over 1,000 sites it maintains along the California Aqueduct. As a part of its suite of technologies used to measure subsidence around the Aqueduct, CASP collects benchmark and extensometer data, which is provided to the Subbasin GSAs to assess subsidence along the California Aqueduct. CASP plans to install additional monitoring wells and new extensometers along the Aqueduct, to be incorporated into the Subbasin’s monitoring network and subsidence analyses. More details on how CASP was and continues to be engaged are provided in Section 5.12 below.
3. **Water Association of Kern County (WAKC)** – The Subbasin GSAs created a partnership with WAKC, a non-profit organization whose mission is to inform and educate the public and water community about water issues in Kern County. GSAs will partner with WAKC to promote information on the 2024 Plan and community outreach events. For example, WAKC sent e-blast notifications promoting the stakeholder workshops, and GSA representatives participated in

the WAKC Water Awareness Day in which pamphlets on the 2024 Plan were disseminated to the public.

- **Kern County Farm Bureau** – This local chapter of the California Farm Bureau Federation is a non-profit organization of farmers and ranchers whose mission is to “... *represent agriculture interests through public relations, education, and public policy advocacy in order to promote the economic viability of agriculture....*” The Subbasin GSAs collaborated with the Farm Bureau to engage members in SGMA-related topics, and seek to engage Socially Disadvantaged Farmers and Ranchers and Small-Scale farmers to solicit their input on GSP implementation. This includes sending e-blast notifications and organizing a Tailgate Talk to present the Plan to local farmers.
- **Kern County Environmental Health Services (KCEHS)** – The Subbasin GSAs worked with KCEHS to obtain a process for GSAs to review well drilling permits. In addition, Kern County Water Agency (KCWA) has access to local well completion report datasets and other related records to develop the Well Inventory.

4.8. Media Outlets

Media outlets help distribute SGMA-related information to the general public. GSAs will continue to provide press releases, updates on the 2024 Plan, and notices of adoption through media outlets such as:

- SJV Water (<https://sjvwater.org/>), a news outlet whose recent articles have reported on the Subbasin GSAs presentations on the 2024 Plan given at the SWRCB workshops.
- WaterWrights (<https://waterwrights.net/>), a news outlet focused on California water issues and policy.
- Newspaper outlets, such as the Bakersfield Californian.
- Local radio stations, such as Kern Talk Radio, KUZZ, 96.9 LaCaliente and 106.5 Radio Lazer.
- Local TV stations, such as KGET, KERO, KBAK/Fox58, and KGET Telemundo Bakersfield.

5. STAKEHOLDER ENGAGEMENT DURING GSP DEVELOPMENT AND IMPLEMENTATION

Stakeholder groups representing all beneficial uses and users were engaged during the 2024 Plan development process, and will continue to be during the implementation phase through the venues described in Section 4. As identified in Section 3 above, there are different outreach strategies for the five stakeholder engagement type groups. Sections 5.1 through 5.5 below details how each of the outreach type groups were engaged during the 2024 Plan development, and presents a plan for continued engagement during GSP implementation.

5.1. Direct GSA Communication Engagement Type Group

Each GSA is responsible for public outreach to groundwater users within its service area. GSAs will continue to engage in various direct communication with users in the Direct GSA Communication group, including:

- Public meeting notifications for Board meetings, stakeholder workshops, and GSA Group meetings. Meeting notifications are directly emailed and posted on websites at least three days prior to the meeting.
- Direct participation in GSAs, on GSA Boards, or on GSA Group Boards:
 - GSA Boards that hold positions for key user groups, including agricultural and municipal interests.
 - City of Bakersfield and Cal Water, who provide water service for municipal and urban users, participate in the Kern River GSA (KRGSA).
 - Smaller municipalities and urban users representing DACs in the South and North Basin HCM areas are represented through their positions in the GSA Group Executive Committees (see Section 5.3 below).
- E-blast notifications to GSA and water district email distribution lists, Kern County Farm Bureau listserv, and the WAKC listserv – release of the draft 2024 Plan for public comment and flyers promoting the upcoming Subbasin public workshops. Future e-blasts will disseminate similar information. Interested parties can subscribe to the Subbasin’s E-blast listserv to stay updated about all public SGMA-related events, see www.KernGSP.com for details.
- Free Tailgate Talks co-hosted by Kern County Farm Bureau. During 2024 Plan development, the event held in Buttonwillow connected GSAs to at least 13 local farmers and interested parties. Ongoing Tailgate Talks will be hosted in the future to provide SGMA-related updates.
- Participation in monthly Urban Bakersfield Advisory Committee meetings whereby KCWA-ID4 and the City of Bakersfield (KRGSA) provide SGMA updates.

- Collaboration with the DDW staff in the Fresno Branch to develop and maintain a comprehensive list of public water systems and verify the accurate location and status of wells found in the GAMA and SDWIS databases.
- Direct input into the SGMA Representative Monitoring Network. Many municipal and public water system wells were selected as Representative Monitoring Network wells and will require ongoing sampling and reporting during implementation.
- Arvin GSA has an agreement with the Tejon Indian Tribe for water supply planning including groundwater management, among other things. There has been direct outreach with the Tejon Tribe regarding annual agreement terms, future development of the Hard Rock Casino, draft 2024 Plan availability and assistance with grant funding opportunities. There is an open and frequent line of communication between the Tribe and Arvin GSA regarding multiple items of interest including annual administration of water supply agreement terms.
- Beneficial environmental uses and users of groundwater, including federal, state, and local agencies, are largely protected through conservation easements, non-profit land trusts, and public agency management of these areas. Many of these preserve lands, are primarily supplied by surface water with supplemental groundwater during drought years, if applicable. The GSAs have committed to supporting these environmental users through maintained water supply contracts, if necessary.
- Continued data gathering, monitoring, and reporting of diverted surface water for analysis and inclusion in the Annual Reports.
- Review DWR guidance on Interconnected Surface Waters (released September 2024), and development of a ISW subcommittee to develop recommendations for modifications to the 2024 Plan, as appropriate, prior to final adoption.
- Meetings and data sharing with neighboring adjacent subbasin GSAs, including the White Wolf GSA and technical representatives of the Tulare Lake Subbasin and Tule Subbasin GSAs. During 2024 Plan development, meetings focused on the HCM and SMCs. Ongoing meetings will focus on data sharing related to the Basin Study and P/MAs.



5.2. Focused Initiatives Outreach Engagement Type Group

Users within the Focused Initiatives Outreach group are those that require outreach specifically tailored for programs that aim to reduce impacts on sensitive beneficial users.

In coordination with SHE, the Subbasin GSAs will launch the Well Mitigation Program by disseminating information to NGOs and Community Based Organizations, County of Kern, Division of Drinking Water Tehachapi Branch, the State Water Board SAFER Office, as well as local water well contractors to inform them of the mitigation programs available through local GSAs. These meetings will be hosted by the participating GSAs and will include SHE administrators, water well contractors, and the KCEHD.

Ongoing outreach promoting mitigation programs will include:

- Subbasin GSAs will host a virtual stakeholder workshop that will detail the proposed mitigation framework for domestic wells and community wells. Call-in information for the workshops will be distributed by all Subbasin GSAs and will be posted at www.KernGSP.com.
- Annual meetings with local water well contractors informing them of the mitigation programs available through their local GSAs. These meetings will be hosted by the participating GSAs and will include SHE, water well contractors, and KCEHD.
- Representatives are encouraged to participate in community events such as Kern County Fair Water Day and Annual Water Awareness Events.
- GSA partnerships with the communities of Delano, McFarland, Shafter, Wasco, Arvin, Lamont, Bakersfield, and the County of Kern have established representatives to participate in local community events to promote the mitigation programs. Examples include Earth Day, Farmers Markets, and Resource Fairs.
- Outreach through social media campaigns, publications in local newspapers, Kern Talk radio, and news segments focused on community issues.



Pictured right: WAKC booth at Kern County Fair Water Day in Bakersfield, CA on September 27, 2024.

Domestic well owners will be regularly informed through direct mail in these instances:

- The Subbasin well inventory will be used to identify current domestic well owners, and postcards informing them of the well mitigation program will be provided directly to their household.
- In the event of a confirmed Minimum Threshold (MT) Exceedance for the sustainability indicators of groundwater levels and water quality, notices will be mailed to potentially impacted residents informing them of the exceedance, advising them of potential impacts (including health effects related to a water quality exceedance), and recommending they reach out to SHE and their local GSA representative if issues have arisen.

The GSAs aim to engage residents of DACs and SDACs through continued participation of community representatives on GSA Boards and GSA Group executive committees. Urban representation of DACs is primarily provided by the City of Bakersfield and Cal Water participating in the KRGSA. Smaller municipalities and incorporated communities are directly involved through the development of all SMCs and selection of the SGMA monitoring network. These stakeholders include:

- **Arvin Community Services District:** Holds a director position on the SOKR Executive Committee and provided direct input into the SGMA monitoring network for water quality, outreach and engagement efforts including Spanish translation services, and Well Mitigation Program. Additionally, Arvin CSD continues to collaborate on projects with Arvin GSA to improve local groundwater conditions. SOKR Executive Committee meetings are held monthly in person and virtually and are open to the public.
- **Greenfield County Water District:** Participates in a leadership role in decision-making as it's a GSA.
- **Buttonwillow Community Services District:** Participates in a leadership role in the Buena Vista GSA.
- **City of Shafter:** Holds a position on the NCK Steering Committee within the NCK GSA Group.
- **City of Wasco:** Holds a position on the NCK Steering Committee within the NCK GSA Group.

In addition, NGOs directly inquired with the Subbasin regarding ongoing stakeholder engagement, and identified interest in the well mitigation program. GSAs submitted a draft SCEP to NGOs for their review and comment. In addition, GSAs also invited NGOs to attend the Subbasin Workshops and will continue to meet, as requested. Well Mitigation Program administrators are anticipated to hold workshops with NGOs specific

to program development, and to form an advisory committee including NGOs for mitigation program implementation.

5.3. Targeted Outreach and Education Engagement Type Group

Targeted outreach and education efforts are geared towards representatives from industrial uses. Examples of focused educational meetings held during the 2024 Plan development include:

- Westside District Water Authority (WDWA) GSA held regular meetings with industry stakeholders, including landowners within the CASP 5-mile buffer zone of the California Aqueduct to gather stakeholder input on proposed WDWA GSA subsidence management action(s).
- Kern Groundwater Authority, Semitropic Water Storage District GSA, West Kern Water District GSA, and WDWA GSA held multiple workshops that included industry stakeholder-related items on the agenda, such as oilfield UIC applications, DWR subsidence profiles showing nexus with oil activities at Lost Hills, oil field activities, and technical studies of non-GSA related subsidence around the California Aqueduct.
- Through their participation in Eastside Water Management Agency (EWMA), other oil and gas industry representatives were actively engaged through the GSP development process. Specifically, the subsidence subcommittee met with EWMA representatives on January 24, 2024 to discuss information included in the Basin Setting and the methodology for developing Land Subsidence SMCs.

In recognition of the need to increase education for how SGMA and the 2024 Plan may impact these users, Subbasin GSAs have committed to continue to hold focused meetings to discuss concerns with these industrial users. Furthermore, the Western States Petroleum Association (WSPA) submitted letters related to subsidence studies in the Subbasin, as well as a public comment on the 2024 Plan that will be addressed before adoption.

5.4. Interdependent Partnerships Engagement Type Group

The interdependent partners identified in Section 3.5 will continue to engage with the GSAs primarily in their roles defined by the 2024 Plan, focusing on the ongoing protection of water conveyance regional critical infrastructure and minimizing impacts of dewatered wells through mitigation. These entities are committed to protecting the operations of water conveyance infrastructure and well mitigation, and their services are integral to the success of the Plan. Interdependent partners will continue to engage in a similar fashion during implementation as they did during the development process.

DWR SWP, CASP, and FWA submitted public comments on the draft 2024 Plan. Responses to the public comments will be detailed in the 2024 Plan, and ongoing

discussions with these existing partnerships will continue throughout GSP implementation.

5.4.1. Protection of Water Conveyance Regional Critical Infrastructure

CASP: DWR CASP maintains over 1,000 survey benchmark sites along the California Aqueduct to monitor annually. A series of technical meetings with CASP senior management were held to share data from benchmark surveys, findings from Subbasin subsidence studies, and to discuss the rate and cause of subsidence along the California Aqueduct, as detailed in Appendix I of the 2024 Plan and summarized below:

- Three meetings held between Arvin GSA, Wheeler Ridge-Maricopa GSA, Tejon-Castac Water District GSA and CASP staff to discuss CASP’s letter on the SOKR GSP and potential revised SMCs along the California Aqueduct.
- Numerous meetings held between Westside District Water Authority GSA and CASP regarding non-GSA causes of subsidence along the California Aqueduct and presentation of groundwater extraction well location data.
- Kern Groundwater Authority, WDWA GSA, Semitropic WSD GSA, and West Kern WD GSA hosted a tour of California Aqueduct Mileposts 195-215, accompanied by a discussion about non-GSA related causes of subsidence, and a presentation of the latest subsidence technical studies with CASP and California Geologic Energy Management (CalGEM) staff.

The GSAs will continue coordination with CASP regarding future monitoring along benchmarks and data gap filling efforts. CASP plans to install additional monitoring wells and extensometers along the Aqueduct between 2023 and 2025, which the Subbasin will incorporate into the SGMA monitoring network. Continued sharing of annual benchmark subsidence survey data will inform GSP implementation. Specifically, benchmarks survey data will be processed to extract the subsidence rate and extent and compared to the SMC values.

Furthermore, before the 2024 Plan is adopted, Subbasin GSAs will coordinate directly with DWR SWP and CASP in response to comment letters received.

FWA: FWA was engaged on subsidence evaluation and establishment of SMC criteria for the Friant-Kern Canal (FKC). FWA (and USBR) agreed to the installation of an extensometer along the FKC in the Subbasin, which is anticipated to be complete by the end of 2024. FWA has a firm position that the Subbasin GSAs should minimize and mitigate lost conveyance capacity post-2020 due to ongoing subsidence attributable to groundwater pumping under GSA jurisdiction. Appendix J of the 2024 Plan is a letter from FWA expressing their appreciation for the Subbasin GSAs’ transparency during the SMC development process, their understanding of the GSAs’ remaining work, and their confidence that the proposed additional work will properly mitigate future impacts to the FKC.

FWA will continue to conduct annual benchmark surveys to monitor subsidence around the FKC, and will continue to collaborate with Subbasin GSAs to formalize the mitigation and associated funding strategies moving forward.

5.4.2. Well Mitigation Program Administrators

SHE: Subbasin GSAs have partnered with SHE to assist in administering the Subbasin-wide Well Mitigation Program. The Subbasin has been actively engaged with SHE to develop the Program which would provide public outreach and engagement as well as educational materials focused on domestic wells, notifications to landowners regarding the mitigation plan, and public workshops explaining the mitigation process. In addition to public outreach and engagement, emergency bottled water, temporary tanks and hauled water, a thorough well site assessment, long-term solutions (which may include pump lowering, well-repair, well replacement and/or service connections to nearby water systems) will be available for all impacted domestic and/or small water system wells as defined by the State of California and an education plan for impacted well owners. The Subbasin is regularly meeting with SHE and is fully committed to finalizing and adopting a Subbasin-wide well mitigation plan by the end of 2024 and will be implemented in January 2025.



Kern Water Collaborative: The GSAs coordinated with KWC to avoid duplicate sampling between SGMA and the Nitrate Control Program, with the goal of supporting residents who rely on domestic wells with access to safe water for consumption. Section 14.2.3 in the 2024 Plan, P/MA KSB-2 details the Subbasin’s coordination efforts with various water quality regulatory programs and its intent to partner with these programs on monitoring, data sharing, and mitigation efforts when needed. Appendix F of the 2024 Plan provides a Memorandum of Understanding with Kern Water Collaborative to document partnership initiatives.

5.5. Monitoring and Data Sharing Engagement Type Group

The GSAs will coordinate monitoring, sampling, and reporting efforts with various agencies and committees to inform ongoing SGMA reporting (i.e., Annual Report and 5-year GSP update), including:

- KCWA has been continually involved through data-sharing collaboration of several key annual reports. KCWA will continue its role as a groundwater and surface water data collector, and annual reports will continue to be provided to the GSAs.
- Water bank recharge and recovery data were collected as input for the current HCM used to represent the Subbasin's water balance. Additionally, monitoring wells were selected from the water banks monitoring programs for inclusion in the SGMA Representative Monitoring Network. Groundwater level data, groundwater quality data, and water budget accounting will continue to be provided to the GSAs for inclusion in the Annual Report.
- Future coordination with the ILRP Coalition (i.e., Kern River Watershed Coalition Authority) to engage members in SGMA related topics, focusing on data sharing and alignment of monitoring programs. Wells sampled as part of the ILRP program were identified as key wells to supplement the SGMA monitoring network for degraded water quality, refer to Section 15.2.4 in the 2024 Plan for additional information.

6. MESSAGES

The GSAs aim to convey consistent high-level messaging to all stakeholders throughout GSP development and implementation. The following are the key messages that will form the foundation for all engagement efforts:

1. The GSAs aim to engage with diverse stakeholders to best represent their interests in the GSP development and implementation process;
2. Key GSP decisions will be made in an open and transparent fashion during public GSA Board meetings; and
3. Technical GSP implementation progress will be communicated in an accessible manner to encourage stakeholder understanding and support effective stakeholder input.

The GSAs will maintain these messages in all venues for engaging, as described in Section 4. Additionally, the GSAs have developed **Table 3** to document anticipated questions as well as possible responses. **Table 3** will be updated to add additional, frequently received questions as well as to build upon responses based on GSP development progress.

Table 3. Likely Questions and Responses

Likely Questions	Responses
How can I participate in the GSP development and implementation process?	The GSP has already been developed. Subbasin GSA Board meetings and several GSA member agencies are open to the public and held regularly. Stakeholder workshops will be held throughout the Subbasin, and will be publicized on individual GSA websites, as well as the Subbasin site (https://www.kerngsp.com/).
What is SGMA?	The Sustainable Groundwater Management Act (SGMA) is a California law that requires local agencies to form Groundwater Sustainability Agencies (GSA) who must develop and implement Groundwater Sustainability Plans (GSP) to achieve sustainable groundwater management within 20 years. Sustainability means groundwater pumping is in balance with replenishment from rainfall, rivers and other surface waters. The Kern Subbasin must achieve sustainability by 2040.
What is a GSP?	A GSP is a document that describes current conditions and trends related to the groundwater within a subbasin, including an assessment of beneficial users. The GSP sets standards and objectives for the quantity and quality of groundwater that must be maintained and lists actions that the GSAs will take to reach a long-term balance between groundwater use and replenishment. The Kern Subbasin draft 2024 amended GSPs can be downloaded under Documents.

Likely Questions	Responses
What GSA am I located in?	The Kern Subbasin is covered by 20 GSAs. An interactive map for locating your parcel, identifying your GSA, and obtaining GSA contact information can be found online at the Kern County GIS mapping tool (expand “Water Resources” layer, turn on “Groundwater Sustainability Agencies”, click on parcel and toggle dropdown to “GSA Information”).
How is sustainability defined?	Sustainability means groundwater levels are maintained at levels to meet current and future needs. In the Kern County Subbasin, this means stabilizing groundwater levels by 2040. While GSAs are working to reach sustainability, they must monitor certain indicators and take actions to prevent problems that may be related to declining water levels, such as permanent loss of groundwater storage, degraded water quality, and land subsidence (sinking).
What is the current health of our groundwater basin?	According to the Kern Subbasin draft 2024 amended GSPs, the Subbasin is estimated to contain 90 to 260 million acre-feet of groundwater. Surface water importation and water recharge/banking have contributed to raising groundwater levels and have aided the Subbasin in counteracting the impacts of recent severe droughts. GSAs continue to implement projects and management actions to offset the historically declining water table.
Will SGMA or the GSP affect my domestic well? What if my well goes dry?	The GSP does not place any restrictions, fees, or monitoring requirements on domestic wells. Domestic wells that go dry may be eligible for mitigation (see Section 14.2.3 and Appendix K of the Amended Plan) through the Subbasin’s well mitigation program, which will be fully operational by January 2025. If you have a domestic well and would like more information about SGMA, reach out to your GSA.
Will my groundwater pumping be limited?	GSAs can set limits on how much groundwater a landowner can pump. There is currently no subbasin-wide limitations to groundwater pumping, however certain GSAs have placed strict limits through water budgets. Each GSA determines when groundwater pumping limits may be required. For instance, in Semitropic Water Storage District GSA and Shafter-Wasco Irrigation District GSA, water budgets have already been assigned to landowners to reduce overall groundwater demand by 2040. Similar demand management actions have been and may be implemented by other GSAs in the future.

Likely Questions	Responses
Will I have to pay to pump groundwater?	<p>There is currently no subbasin-wide fee to pump groundwater. GSAs may charge groundwater users based on the amount of groundwater that they use within their management area. Groundwater charges may be implemented by GSAs in the future. If the State Water Resources Control Board places the Subbasin on probation in February 2025, groundwater pumpers may need to pay fees to the State (\$300 per well and \$20 per acre-foot of groundwater pumped), subject to exclusions or exemptions granted for de minimis pumpers.</p>
Don't we already have a GSP? Why are we doing this again?	<p>In 2020, the GSAs in the Kern County Subbasin submitted five GSPs covering different areas of the subbasin, but the California Department of Water Resources (DWR) determined that the plans were incomplete. In 2022, the GSAs submitted six revised GSPs, which DWR deemed inadequate due to lack of coordination and consistency across the subbasin. The 2024 amended GSP was developed in coordination with all 20 GSAs in the Kern County Subbasin. Each of the amended 2024 GSPs covering the Subbasin are essentially identical to ensure consistency with the minor difference of certain "blue page" areas to provide additional and more detailed information within that specific GSA area.</p>
What is the state's involvement?	<p>DWR was responsible for reviewing the 2020 and 2022 GSPs. Following DWR's "inadequate" determination, responsibility shifted to the State Water Resources Control Board (SWRCB). The California Water Code allows SWRCB to place a subbasin on probation after holding a hearing. SWRCB recently announced that the probationary hearing for the Kern County Subbasin is currently rescheduled to February 20, 2025. If the Subbasin is placed on probation, SWRCB will require groundwater pumpers to report and pay fees to the State within 90 days, subject to exclusions granted for de minimis pumpers. If the GSAs do not fix deficiencies within a year, SWRCB may implement its own interim plan for the Subbasin. The amended 2024 GSP was developed in consultation with SWRCB staff to address their concerns prior to SWRCB review. Subbasin GSAs continue to consult with SWRCB staff to ensure the amended 2024 GSP meets all regulatory requirements prior to its adoption later this year.</p>
Who is paying for the GSP?	<p>The GSAs pay for GSP development. GSAs receive funding from the fees that their member agencies (e.g. water districts) charge to customers. Some ongoing studies, monitoring, and projects are funded through State and Federal grants.</p>

Likely Questions	Responses
<p>What is the timeline for the probationary process?</p>	<p>SWRCB released its Draft Staff Report on the 2020 and 2022 GSPs on July 25, 2024. The report also contains comments based on a preliminary review of the 2024 GSP. Written comments on the Draft Staff Report were due to SWRCB on September 23, 2024 at noon. SWRCB staff held two public workshops during the comment period: a virtual workshop on August 26, 2024 at 11:00 AM – 1:30 PM and an in-person workshop on August 29, 2024 at 5:30 PM – 8:30 PM in Bakersfield. The probationary hearing is currently scheduled for February 20, 2025 at 9:00 AM in Sacramento. More information on the probationary process can be found at the State Water Boards SGMA webpage.</p>
<p>Why is the probationary process happening if Kern GSAs submitted a new Coordinated GSP in 2024?</p>	<p>With DWR’s “inadequate” determination in 2023, responsibility shifted from DWR to the SWRCB. The SWRCB will continue with its probationary process, and simultaneously continue to work with DWR and Subbasin GSAs to review the 2024 GSPs, leading up to the currently scheduled February 2025 hearing.</p>

7. IMPLEMENTATION TIMELINE

The GSA’s stakeholder engagement implementation timeline is described in **Table 4** below, which includes key stakeholder engagement efforts and events.

Table 4. GSP Development and Engagement Efforts by Phase

Phase	Timeframe	Engagement Efforts
GSP Development	March 2023 – May 2024	<ul style="list-style-type: none"> • Revise GSP to address DWR Deficiencies • Consultation with SWRCB Staff • Coordination among all Subbasin GSAs • Compile complete draft GSP
GSP Public Comment Period	June 2024 to November 4, 2024	<ul style="list-style-type: none"> • Draft Plan released • Public comments received and reviewed
Public Outreach and Education	April 2023 to November 2024	<ul style="list-style-type: none"> • Present GSP components to GSA Boards and stakeholders at monthly meetings • Participate in 2 SWRCB workshops, including presenting on the 2024 Plan • Hold 2 in-person and 1 hybrid public engagement events within the northern, central, and southern regions of the Subbasin focusing on how the 2024 Plan may affect water users • Hold focused workshop(s) on the Well Mitigation Program
GSP Adoption	December 2024	<ul style="list-style-type: none"> • Revise draft Plan incorporating stakeholder feedback, including addressing public comments received, and finalize Plan • Details regarding public comments will be included in Section 5.10.2 prior to Plan adoption • Public notice by individual GSAs to their groundwater users of Public Hearing for Plan Adoption
GSP Implementation	December 2024 through 2040	<ul style="list-style-type: none"> • Engage in ongoing monitoring and data reporting from RMWs with landowner access agreements • Individual GSAs to initiate P/MAs. Individual GSA P/MA tables and details will be extracted and disseminated to local stakeholders and interested parties.

Phase	Timeframe	Engagement Efforts
Well Mitigation Program Implementation	January 2025	<ul style="list-style-type: none"> • Work with SHE to launch Well Mitigation Program • Engage in ongoing monitoring and data reporting from RMWs • Begin mitigation actions in affected wells

7. EVALUATION AND ASSESSMENT

The GSAs intend to assess their stakeholder engagement implementation moving forward. Summaries of engagement progress will be presented at GSA Board meetings. Progress updates will include discussions about lessons learned and what can be improved in the next phase of outreach. This update will focus on informing the public about GSP implementation progress, including the status of projects and actions (23-CCR §354.10(d)(4)). The following performance criteria questions will guide stakeholder engagement evaluation:

- How many public participants attend the event?
- How many public comments were received?
- What worked well?
 - What allowed us insight into stakeholder concerns?
 - What types of materials best communicated GSP concepts to stakeholders?
- What didn't work as planned?
 - Could materials (e.g., presentation slides, fact sheets, website pages) have been improved to better communicate?
 - Are certain stakeholder groups less represented in the GSP implementation process than they should be?
- What do we plan on doing differently during the next phase based on what we have learned?
- How much of our communication and engagement budget have we spent relative to work completed? Do we have enough remaining budget to complete our engagement plan?

At the conclusion of each stakeholder engagement event, the Subbasin GSAs will answer the above questions and discuss results at the ad-hoc Coordination Committee meetings. Report on outreach and engagement events in the Annual Report.

As part of the focused well mitigation program outreach, the GSAs may consider quantifying how many stakeholders were reached by outreach mechanism to identify which mechanisms were most successful, see the Nitrate Control Program reporting ([CV-SALTS: Management Zone Dashboard \(mljenv.com\)](https://mljenv.com)) dashboard as an example.

8. IMPLEMENTATION AND REPORTING

The Subbasin GSAs will continue to encourage stakeholder engagement in meetings and provide documentation of stakeholder outreach in their Annual Reports through documentation of mail and emails, records of public attendance, and meeting dates.

Table 5 below provides an example template for GSAs to record stakeholder engagement throughout GSP implementation and during the public comment period. Individual GSAs shall provide stakeholder engagement documentation, which will be included as an Attachment in the Subbasin Annual Reports.

9. REFERENCES AND TECHNICAL STUDIES

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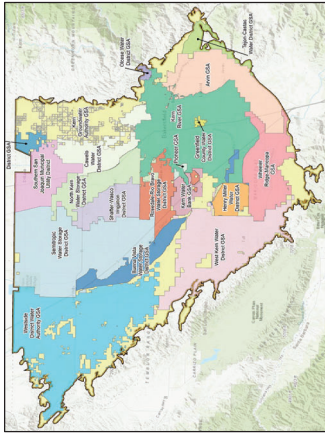
ATTACHMENTS

ATTACHMENT A – SUBBASIN FACT SHEET

Highlights of the Kern Subbasin 2024 Amended Groundwater Sustainability Plan (GSP)



Plan Area



Kern Subbasin and GSAs

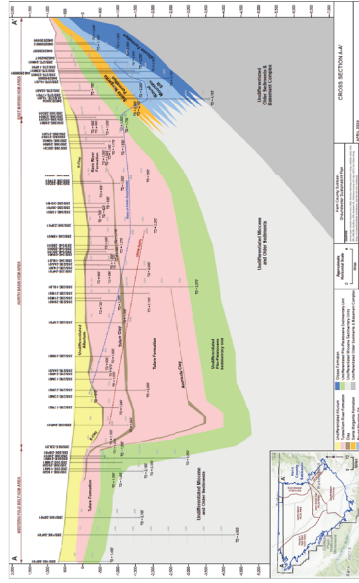
- The Kern County Subbasin (Subbasin) covers 1.8 million acres (largest in the state).
- The Subbasin contains 20 Groundwater Sustainability Agencies (GSAs).

Basin Setting: Hydrogeologic Conceptual Model

• A Hydrogeologic Conceptual Model (HCM) is a description of the physical setting of the groundwater system including:

- Geology**
- Climate**
- Groundwater Wells**
- Recharge Processes**
- Topography**
- Soils**
- Surface Water Features**
- Aquifer Properties**
- Cross-Sections**

- The Subbasin has three principal aquifers: the Primary Alluvial, the Santa Margarita, and the Olcese.
- Most wells are screened in the Primary Alluvial Principal Aquifer.
- The Subbasin is divided into five HCM areas with unique hydrogeology.



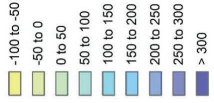
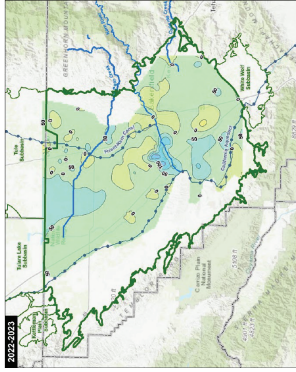
Cross section showing major geologic units

Basin Setting: Groundwater Conditions

• Summary of conditions for relevant Sustainability Indicators:

- Groundwater Levels**
- Groundwater Quality**
- Interconnected Surface Water**
- Groundwater Storage**
- Land Subsidence**

- Analysis of conditions including trends, spatial patterns, and causes of conditions.
- Groundwater levels respond positively to surface water imports and groundwater banking and negatively to severe droughts.

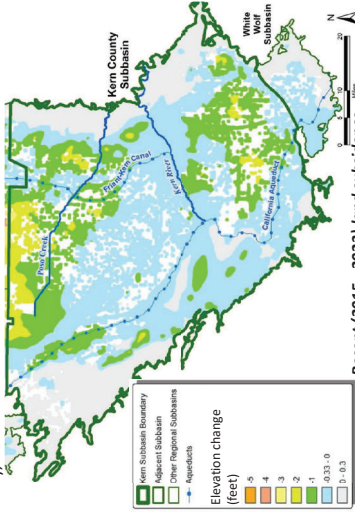


Change in groundwater elevation, 2022 – 2023 in Primary Alluvial Principal Aquifer (feet)

Groundwater Conditions: Land Subsidence

• Not all Subbasin land subsidence (sinking) is GSA-related. Land subsidence in the Subbasin is caused by multiple factors including agricultural and municipal pumping, oilfield extractions, hydro-compaction, and natural factors.

• Subsidence effects on critical infrastructure (the California Aqueduct and Friant-Kern Canal) are closely monitored by the California Department of Water Resources (DWR) California Aqueduct Subsidence Program, Friant Water Authority, United States Geological Survey (USGS), and others.

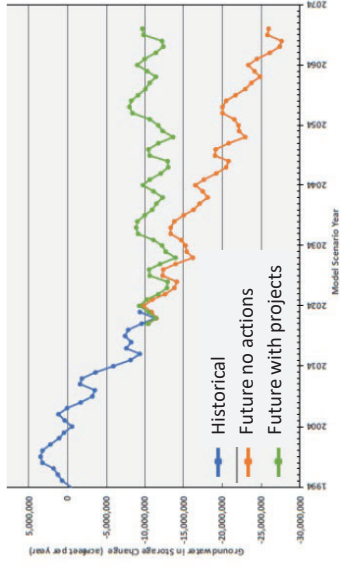


Recent (2015 – 2023) land subsidence

Basin Setting: Water Budget

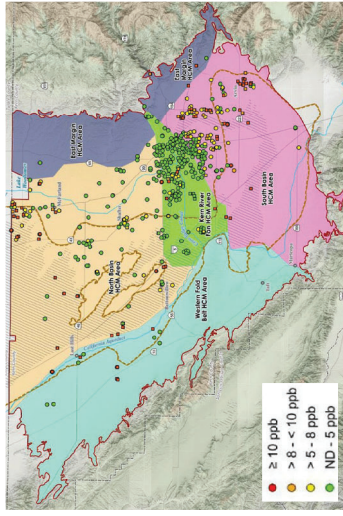
- Accounting of all inflows and outflows to the Subbasin for Historical (Water Year [WY] 1995-2014), Current (WY 2015-2023), and Projected (WY 2041-2070) Periods coordinated across the Subbasin.
- The sustainable yield for the Subbasin was conservatively estimated to be 1.31 million acre-feet per year (AFY).
- The GSAs have designed Projects and Management Actions with capacity and flexibility to effectively address overdraft and respond to anticipated climate changes by 2040.

Historical, current, and projected groundwater storage



Groundwater Conditions: Water Quality

- Constituents of concern are 1,2,3-trichloropropane, arsenic, nitrate, nitrate + nitrite, nitrite, selenium, total dissolved solids, and uranium.
- Emerging constituents perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) will be assessed following future data collection.



2010 - 2023 median arsenic concentrations in the Subbasin



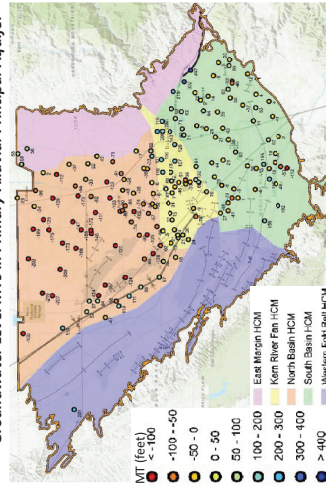
Highlights of the Kern Subbasin 2024 Amended Groundwater Sustainability Plan (GSP)



Sustainable Management Criteria (SMCs)

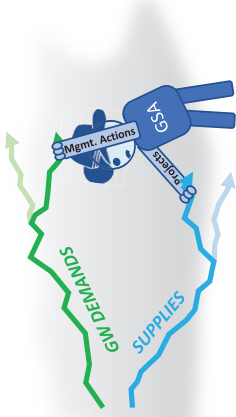
- Relevant Sustainability Indicators in the Subbasin include:
 - Groundwater Levels
 - Groundwater Quality
 - Groundwater Storage
 - Land Subsidence
- **Undesirable Results (UR)** Definitions
 - A UR occurs when a certain number of MT exceedances at monitoring sites occur.
 - Dewatering of more than 15 drinking water wells in a year or 255 by 2040 is also a UR for Groundwater Levels.
- **Minimum Thresholds (MT) – levels to avoid**
 - MTs have been set and justified to not cause significant and unreasonable and unmitigable impacts.
 - Groundwater Levels: Projected groundwater level in 2030 based on a regional trend extension from the 2015 low, or 25% of the historical water level fluctuation below the 2015 low. Fewer than 100 wells are projected to go dry at these levels.
 - Groundwater Storage: measured by groundwater levels
 - Land Subsidence: Rate and extent based on impacts to critical infrastructure or average 2015–2023 subsidence rate projected to 2040 along critical infrastructure and across an HCM area
 - Degraded Water Quality: Health based screening level (MCL) or maximum pre-2015 baseline
- The GSAs have adopted an **MT Exceedance Policy**, which requires a response to every exceedance.

Groundwater Level MTs in Primary Alluvial Principal Aquifer



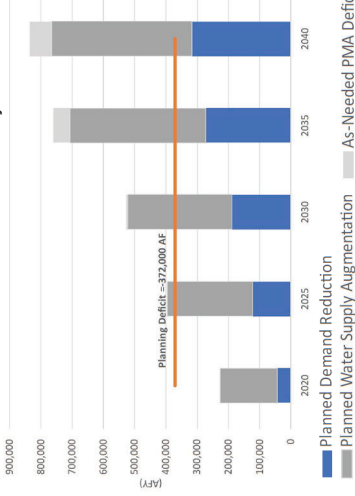
- **Measurable Objectives (MO) – levels to achieve by 2040**
 - Groundwater Levels: 2015 low water level
 - Groundwater Storage: measured by groundwater levels
 - Land Subsidence: 50% of MT rate and extent
 - Degraded Water Quality: Health based screening level (MCL) or median pre-2015 baseline

Projects & Management Actions (P&MA)



- The GSAs have developed a suite of 82 Projects and 48 Management Actions to collectively eliminate the 372,000 AFY groundwater deficit.
- **Priority Management Actions to Reduce GW Demand:**
 - Land conversion
 - Crop changes
 - Incentives for water use efficiency
- **Priority Projects to Increase Supply:**
 - Water banking and wet year recharge
 - Water recycling
 - Improved utilization of existing supplies
 - Imported water
- **Well Mitigation** for domestic and small community wells impacted by low groundwater levels. Subbasin-wide program funded by the GSAs includes:
 - Emergency bottled water within 24 hours
 - Investigation of well impacts
 - Long-term solution includes well modification or replacement or service connection to nearby supply

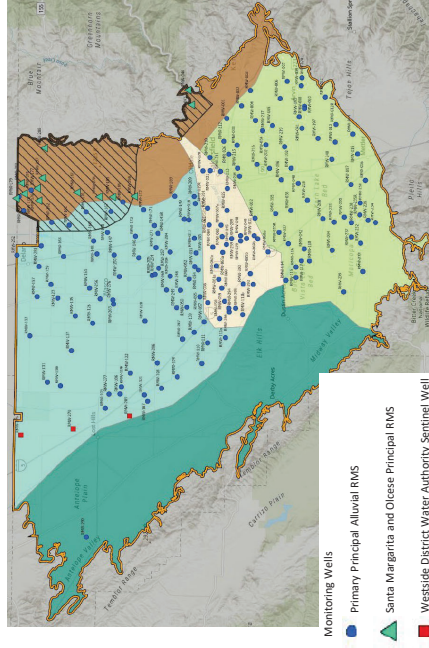
P&MAs schedule to address overdraft



Monitoring Network

- Representative Monitoring Networks for relevant Sustainability Indicators have been expanded to monitor progress towards achieving the Subbasin’s sustainability goal.
- Representative Monitoring Sites (RMS) are used for SGMA reporting and compliance; additional non-SGMA monitoring programs (Irrigated Lands, Department of Drinking Water) will continue through a coordinated effort.

Groundwater level representative monitoring network



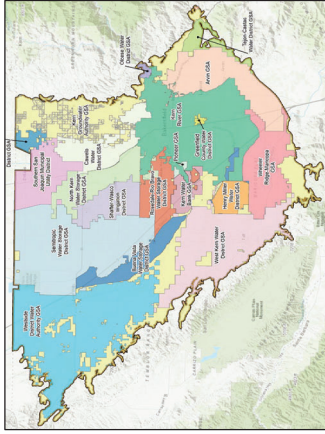
Stakeholder Engagement & Basin Coordination

- Venues for public stakeholder engagement include:
 - GSA Board meetings
 - GSA Group meetings
 - Three Subbasin-wide public workshops to be held in September
 - Ongoing partnerships with Kern Water Collaborative and Self-Help Enterprises

- The GSAs invite stakeholders to view the GSP at www.kerngsp.com.
- For more information or to submit a public comment, please visit www.kerngsp.com or contact comments@kerngsp.com



Area del Plan Modificado



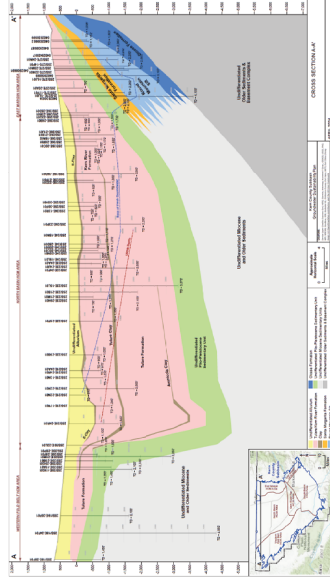
Subcuenca de Kern y GSAs

- La Subcuenca del Condado de Kern (Subcuenca) cubre 1,8 millones de acres (la más grande del estado).
- La Subcuenca contiene 20 Agencias de Sostenibilidad de Aguas Subterráneas (GSAs).

Configuración de la Cuenca:

Modelo Conceptual Hidrogeológico (HCM):

- Un HCM es una descripción del entorno físico del sistema de AS, incluyendo:
 - Geología**
 - Clima**
 - Pozos de AS**
 - Propiedades del Acuífero**
 - Topografía**
 - Procesos de Recarga**
 - Secciones Transversales**
 - Suelos**
 - Características del Agua Superficial**
- La Subcuenca cuenta con tres acuíferos principales: el Aluvial Primario, el Santa Margarita, y el Olcese.
- Las rejillas de la mayoría de los pozos están ubicadas en el Acuífero Principal Aluvial Primario.
- La Subcuenca está dividida en cinco HCMs con hidrogeologías únicas.

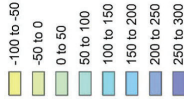
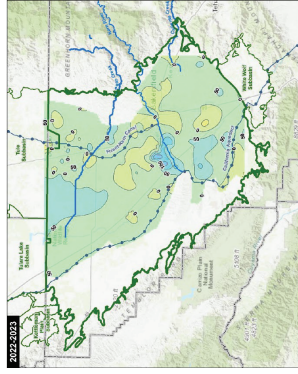


Sección transversal que muestra las principales unidades geológicas

Configuración de la Cuenca: Condición de AS

Resumen de condiciones relevantes de indicadores de sostenibilidad:

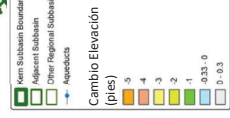
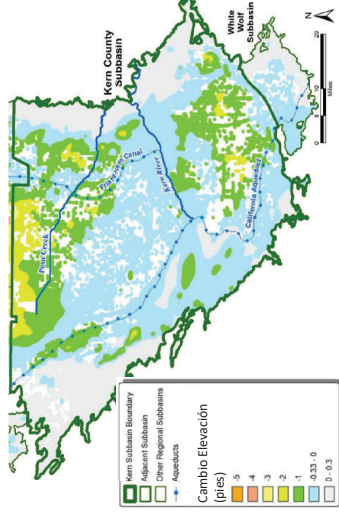
- Niveles de AS**
 - Calidad de AS**
 - Agua Superficial Interconectada**
 - Almacenamiento de AS**
 - Hundimientos de Tierra**
- Análisis de condiciones, incluidas tendencias, patrones espaciales y causas de las condiciones.
 • Los niveles de AS responden positivamente a la importación de agua superficial y a los bancos de AS y negativamente a las sequías graves.



Cambio en la elevación de AS, 2022 - 2023 en el Acuífero Principal Aluvial Primario (pies)

Condición de AS: Hundimientos de Tierra

- No todos los hundimientos de tierra en la Subcuenca están relacionados con GSA. Los hundimientos en la Subcuenca se dan por múltiples factores incluyendo bombeo agrícola y municipal, extracciones de yacimientos petrolíferos, hidro-compacción, y factores naturales.
- Los efectos del hundimiento en el infraestructura crítica (el Acueducto de California y el Canal Friant-Kern) son monitoreados de cerca por el Programa de Subsistencia del Acueducto de California del Departamento de Recursos Hídricos (DWR), la Autoridad del Agua de Friant, Servicio Geológico de Estados Unidos (USGS), y otros.

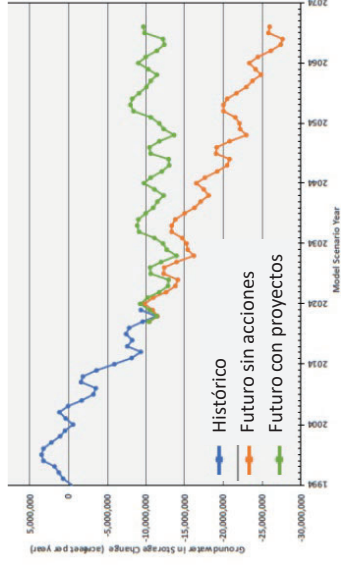


Hundimientos de tierra recientes (2015 - 2023)

Configuración de la Cuenca: Presupuesto Hídrico

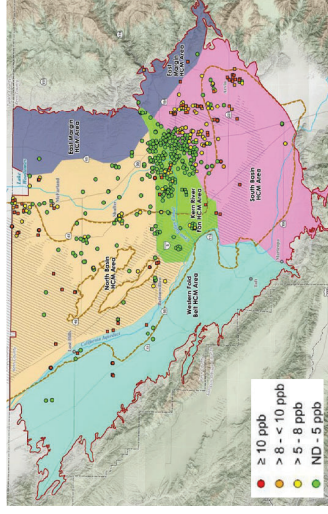
- Contabilidad de todas las entradas y salidas a la Subcuenca para el período histórico (año del agua [WY] 1995-2014), actual (WY 2015-2023) y proyectado (WY 2041-2070) coordinados en toda la Subcuenca.
- Se estimó de manera conservadora que el rendimiento sostenible de la Subcuenca era de 1,31 millones de acres-pie por año (AFY).
- Las GSAs han diseñado Proyectos y Acciones de Gestión con capacidad y flexibilidad para abordar eficazmente los sobregiros y responder a los cambios climáticos previstos hasta el 2040.

Almacenamiento de AS histórico, actual, y proyectado



Condición de AS: Calidad del Agua

- Los componentes de preocupación son 1,2,3-tricloropropano, arsénico, nitrato, nitrógeno, selenio, sólidos disueltos totales, y uranio.
- Los constituyentes emergentes sulfonato de perfluorooctano (PFOS) y ácido perfluorooctanoico (PFOA) se evaluarán después de recopilar datos en el futuro.

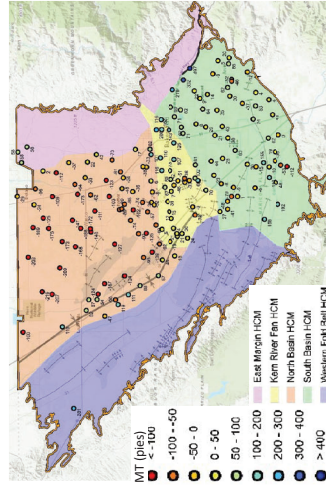


2010 - 2023 Concentración mediana de arsénico en la Subcuenca

Criterios de Gestión Sostenible (SMCs)

- Los indicadores de sostenibilidad relevantes en la subcuenca incluyen:
 - Niveles de AS**
 - Calidad de AS**
 - Almacenamiento de AS**
 - Hundimientos de Tierra**
- Definición de **Resultados Indeseables (UR)**
 - Un UR ocurre cuando ocurre una cierta cantidad de excedentes de MT en sitios de monitoreo.
 - Más de 15 pozos de agua potable secos en un año o 255 para el 2040 es también un UR para los niveles de AS.
- Umbrales Mínimos (MT) - niveles a evitar**
 - Los MT se han establecido y justificado para no causar impactos significativos, irrazonables e inmitigables.
 - Niveles de AS: Nivel de AS proyectado para el 2030 está basado en una extensión de la tendencia regional del mínimo en 2015, o 25% de la fluctuación histórica del nivel de agua por debajo del mínimo de 2015. Se prevé que menos de 100 pozos se sequen con estos niveles.
 - Almacenamiento de AS: medido por los niveles de AS
 - Hundimientos de Tierra: Tasa y extensión basados en los impactos a infraestructura crítica o la tasa de subsidencia promedio de 2015-2023 proyectada hasta el 2040 a lo largo de la infraestructura crítica y en un área de HCM.
 - Calidad del Agua Degradada: Nivel de detección basado en la salud (MCL) o nivel máximo anterior al 2015.
- Las GSA han adoptado una **Política de Superación de MTs**, que requiere una respuesta cada vez que se excede un nivel de detección.

MTs del Nivel de AS en Acuífero Principal Aluvial Primario



Objetivos Medibles (MO) – niveles a alcanzar para el 2040

- Nivel de AS: nivel AS bajo del 2015
- Almacenamiento de AS: medido por los niveles de AS
- Hundimientos de Tierra: 50% de la tasa y extensión del MT
- Calidad del Agua Degradada: Nivel de detección basado en la salud (MCL) o nivel máximo anterior al 2015.

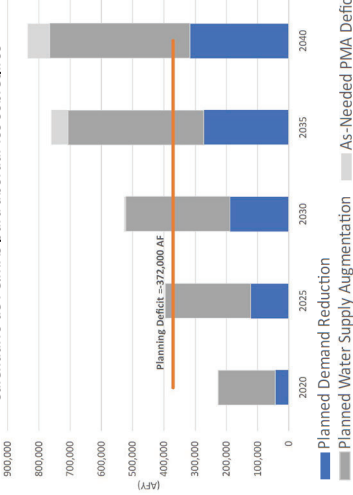
Proyectos y Acciones de Gestión (P&MA)



- Las GSAs han desarrollado un conjunto de 82 Proyectos y 48 Acciones de Gestión para eliminar colectivamente el déficit de AS de 372.000 AFY.
- Acciones de Gestión** Prioritarias para Reducir la Demanda de AS:
 - Conversión de tierras
 - Cambios de cultivos
 - Incentivos para el uso eficiente del agua
- Proyectos** Prioritarios para Aumentar la Oferta:
 - Bancos de AS y recarga en años húmedos
 - Reciclaje de agua
 - Mejor utilización de los suministros existentes
 - Agua importada

- Mitigación de pozos domésticos** y de comunidades pequeñas que han sido afectados por los bajos niveles de AS. El programa para la Subcuenca financiado por las GSAs incluye:
 - Agua embotellada de emergencia dentro de 24 horas
 - Investigación de los impactos a pozos
 - Soluciones de largo plazo incluyen modificación o reemplazo de pozos o conexión a un servicio de suministro de agua cercano.

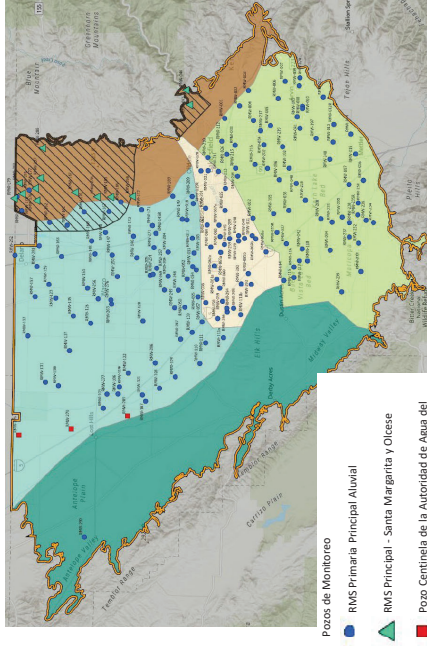
Calendario de P&MAs para abordar los sobreatros



Red de Monitoreo

- Se han ampliado las Redes Monitoreo de Indicadores de Sostenibilidad relevantes para monitorear el progreso hacia lograr el objetivo de sostenibilidad de la Subcuenca.
- Los **Sitios de Monitoreo Representativos (RMS)** se usan para informar y cumplir con SGMA; programas de monitoreo adicionales no relacionados con SGMA (Irrigated Lands, Departamento de Agua Potable) continúan a través de un esfuerzo coordinado.

Niveles de AS en red de monitoreo representativa



Participación de las Partes Interesadas y Coordinación de Cuenca

- Los lugares para la participación de las partes interesadas públicas incluyen:
 - Reuniones de la junta directiva de GSAs
 - Reuniones de grupo de GSAs
 - En Septiembre se realizarán tres talleres públicos a nivel de Subcuenca
 - Asociaciones en curso entre Kern Water Collaborative y Self-Help Enterprises
- Las GSAs invitan a las partes interesadas a ver el GSP en www.kerngsp.com.
- Para más información o para hacer un comentario público, por favor visita www.kerngsp.com o escribe a comments@kerngsp.com

