

Paso Robles Area Subbasin

Paso Robles Area Groundwater Authority

Cost of Service Study

May 28, 2025

Draft Report



Paso Robles Area Groundwater Authority

Authority Board of Directors

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I. Executive Summary

Purpose

This study provides the basis for the Paso Robles Area Groundwater Authority (“**PRAGA**” or “**Authority**”) proposed groundwater management charge, which will be used to fund services, programs, and management actions to protect and restore local groundwater resources for the benefit of the region. To provide context, this study also presents a description of groundwater conditions in the Paso Robles Area Subbasin (“Paso Robles Subbasin” or “Basin”), background information regarding the Authority, and an overview of the requirements of the Sustainable Groundwater Management Act (“**SGMA**”).

Background

In 2014, the California Legislature enacted SGMA, which is the first statewide law to regulate groundwater. The goal of this historic legislation is to ensure that groundwater is sustainably managed and protected for all beneficial users, both now and in the future. SGMA mandates that local Groundwater Sustainability Agencies (“**GSAs**”) be formed in medium and high-priority basins to develop and implement Groundwater Sustainability Plans (“**GSPs**”).

The Paso Robles Subbasin is a significant groundwater resource in San Luis Obispo County that supports municipal, agricultural, and environmental uses. The California Department of Water Resources (“**DWR**”) designated the Paso Robles Subbasin as a high priority basin subject to critical conditions of overdraft. Given that designation, SGMA required the establishment of a GSA or GSAs on or before June 30, 2017. Five agencies have become GSAs to oversee and sustainably manage specific regions within the Basin: The City of El Paso de Robles (“**City**”), the County of San Luis Obispo (“**County**”), the San Miguel Community Services District (“**SMCSD**”), the Shandon-San Juan Water District (“**SSJWD**”), and later, the Estrella-El Pomar-Creston Water District (“**EPCWD**”). These agencies, collectively referred to as the “**Paso Subbasin GSAs**,” are responsible for ensuring sustainable groundwater management and regulatory compliance while addressing long-term water resource challenges.

On or around September 2017, the City, County, SMCSD, and SSJWD as GSAs entered into a *Memorandum of Agreement Regarding Preparation of a Groundwater Sustainability Plan for the Paso Robles Groundwater Basin* (“**MOA**”) to form the Paso Robles Cooperative Committee (“**PBCC**”). The PBCC’s purposes were to prepare a single GSP for the Basin and to facilitate cooperative management of the Basin pending the development of a long-term governance structure in or around September 2017. EPCWD became a party to the MOA, and a member of the PBCC, in or around June 2023.

The GSAs, with the exception of EPCWD which was not yet a GSA, jointly developed and separately adopted a single GSP to sustainably manage the Basin and submitted it to DWR on January 30, 2020. In response to comments provided by DWR, the GSAs worked collaboratively to refine the GSP and separately adopted a single updated GSP which was approved by DWR in 2023. When EPCWD became a party to the MOA, it agreed to implement the GSP within its service area. The adopted and approved GSP establishes a roadmap for long-term groundwater sustainability and regulatory compliance within the Basin.

As anticipated by the MOA, the GSAs went on to consider long-term management and governance options to follow the adoption and approval of the GSP. Ultimately, four of the GSAs – the City, the County, SSJWD, and EPCWD entered into a joint exercise of powers agreement (the “**JPA Agreement**”) that formed the Paso Robles Area Groundwater Authority (the “**Authority**”), a separate joint powers authority established to perform GSP and SGMA administrative and regulatory compliance functions specifically identified in the JPA Agreement, and to pursue the funding necessary to support these actions within their combined service area within the Basin. The Authority replaced the PBCC. Although the members of the Authority are limited to the City, the County, SSJWD, and EPCWD (collectively “**Members**”), there are provisions in the JPA that would permit SMCSD to join the Authority in the future if certain conditions are met. In the meantime, the Authority provides a Basin governance structure for the Members to work collaboratively to implement the GSP, meet regulatory obligations, and pursue sustainability goals.

The approved GSP outlines a framework of Projects and Management Actions (“**PMAs**”) designed to mitigate groundwater decline, stabilize water levels, and achieve sustainability objectives. The Authority, on behalf of the Members, is responsible for overseeing the implementation of many of these actions, ensuring compliance with SGMA, and securing necessary funding to support ongoing groundwater management efforts within their combined service area within the Basin. More specifically, and as set forth in Section 4.5 of the JPA Agreement, the following are some of the initial powers granted to the Authority:

- Completion of the regulatory requirements under SGMA, including preparing and submitting annual reports, five-year GSP evaluations and serving as the GSP plan manager.
- Development and implementation of a communication and engagement plan and to otherwise undertake stakeholder outreach.
- Development and implementation of a data gap plan and to otherwise develop and implement an enhanced groundwater level measuring program.
- Development and implementation of a voluntary groundwater demand reduction program, which may include fallowing and other water demand reduction or land repurposing strategies; and development of a mandatory demand reduction program should the voluntary program prove inadequate.

- Development and adoption of an annual budget.
- Development and adoption of a plan to fund the exercise of the granted authorities.

In April 2024, the County engaged a consultant team consisting of SCI Consulting Group, GSI Water Solutions, and Confluence Engineering Solutions (the “**SCI Team**”) to develop a cost-of-service study for the Subbasin. This effort has included engagement with Member staff and other stakeholders, community outreach efforts, and public workshops. In a parallel effort, the County also engaged Land IQ, a firm specializing in land mapping and remote sensing technology.

Consistent with the above, this Cost-of-Service Study (“**Study**”) is intended to support the Authority’s development and implementation of a fee pursuant to Water Code section 10730 et seq. (including Section 10730.2) based on consumptive groundwater use (referred to throughout as the “**Groundwater Management Charge Program**” or “**Groundwater Management Charge**”), beginning in Fiscal Year (“**FY**”) 2025-26. This proposed Groundwater Management Charge is intended to fund Program Administration and PMAs in accordance with the GSP and JPA.

This Study was prepared to:

- Describe the groundwater management services / benefits that would be funded by the proposed Groundwater Charge (“**GSP Implementation Services**” or the “**Services**”) to achieve Basin sustainability.
- Describe a projected budget for the Authority’s Administration and PMA’s to be funded by the Groundwater Charge in 2025-26 and into the future.
- Determine the cost of the service / activity of GSP Implementation Services provided to groundwater extractors / parcels within the Authority;
- Describe the method of apportionment / allocation of Groundwater Charges to parcels / payers that receive the Services within the Authority; and
- Establish a rate and Groundwater Management Charge schedule to fund the costs of Administration and PMAs needed to achieve Basin sustainability.

As explained more fully in section II., the proposed Groundwater Management Charge is being imposed in a way that proportionally allocates costs among all Basin users that have a “consumptive use” of groundwater (a net withdrawal of water from the groundwater basin) and directly benefit from the Services. The study proposes that the Member GSAs fund the proportional costs attributable to “de minimis extractors” from the Basin (defined in Water Code §10720.1 as those who extract, for domestic purposes, two AF or less per year) with funds not derived from the proposed Charge or with “in-kind” services. This approach is proposed because de minimis extractors have little-to-no consumptive use due to return flows to the aquifer, and would be excluded from State Water Board regulation under SGMA. The study proposes that the remaining costs of services provided by the Authority be charged to the consumptive users of the groundwater basin - commercial extractors, water system extractors, and agricultural extractors – proportionately based on their consumptive use of groundwater, through a charge placed on the property tax roll.

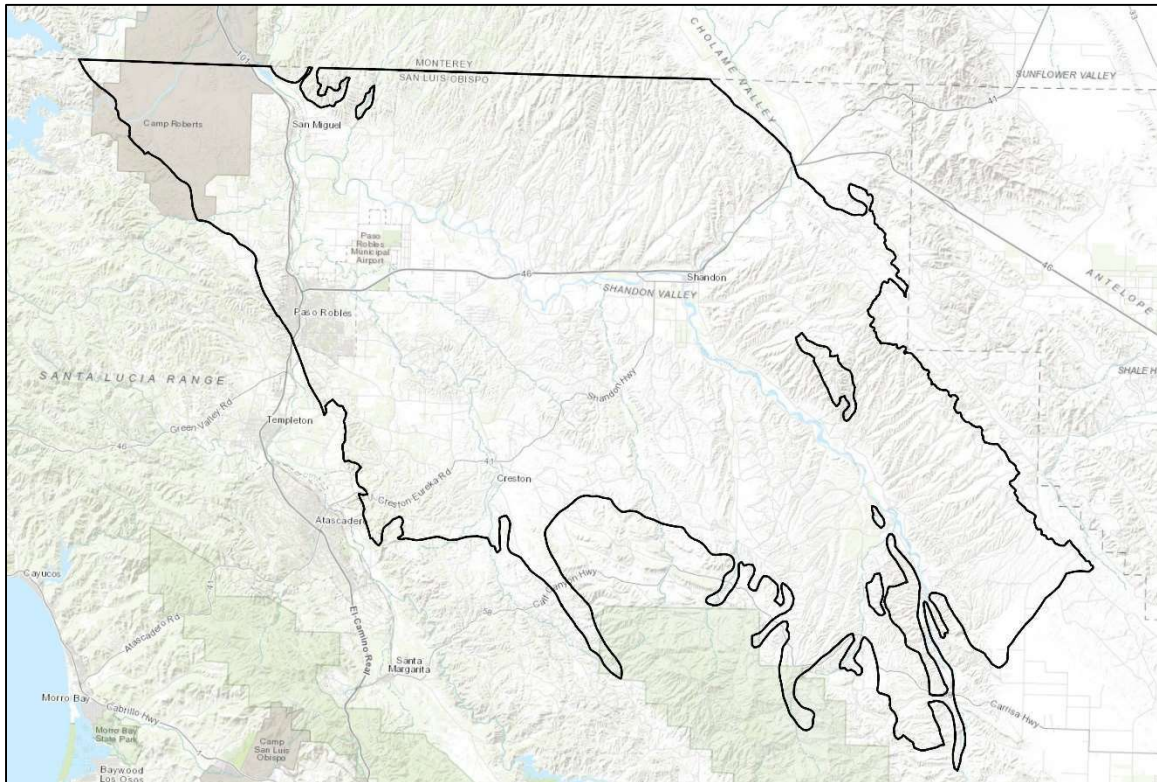
The proposal for the Groundwater Management Charge detailed in this Study ensures that the funds collected are used exclusively for programs and projects that support and sustain the Paso Robles Subbasin and that directly serve those who pay the Groundwater Management Charge.

Subbasin Characteristics

As described in the GSP¹, the Paso Robles Subbasin spans approximately 436,240 acres and forms part of the Salinas Valley Basin. The Paso Robles Subbasin is entirely located within the County and includes the incorporated City and the unincorporated communities of Shandon, San Miguel, Creston, Cholame, and Whitley Gardens. As shown in Figure 1, it is bordered to the west by the Santa Lucia Mountain Range, to the north by the San Luis Obispo-Monterey County line, to the east by the Temblor Mountain Range, and to the south by the La Panza Mountain Range.

¹ <https://sgma.water.ca.gov/portal/gsp/preview/35>

Figure 1 - Paso Robles Area Subbasin Boundary

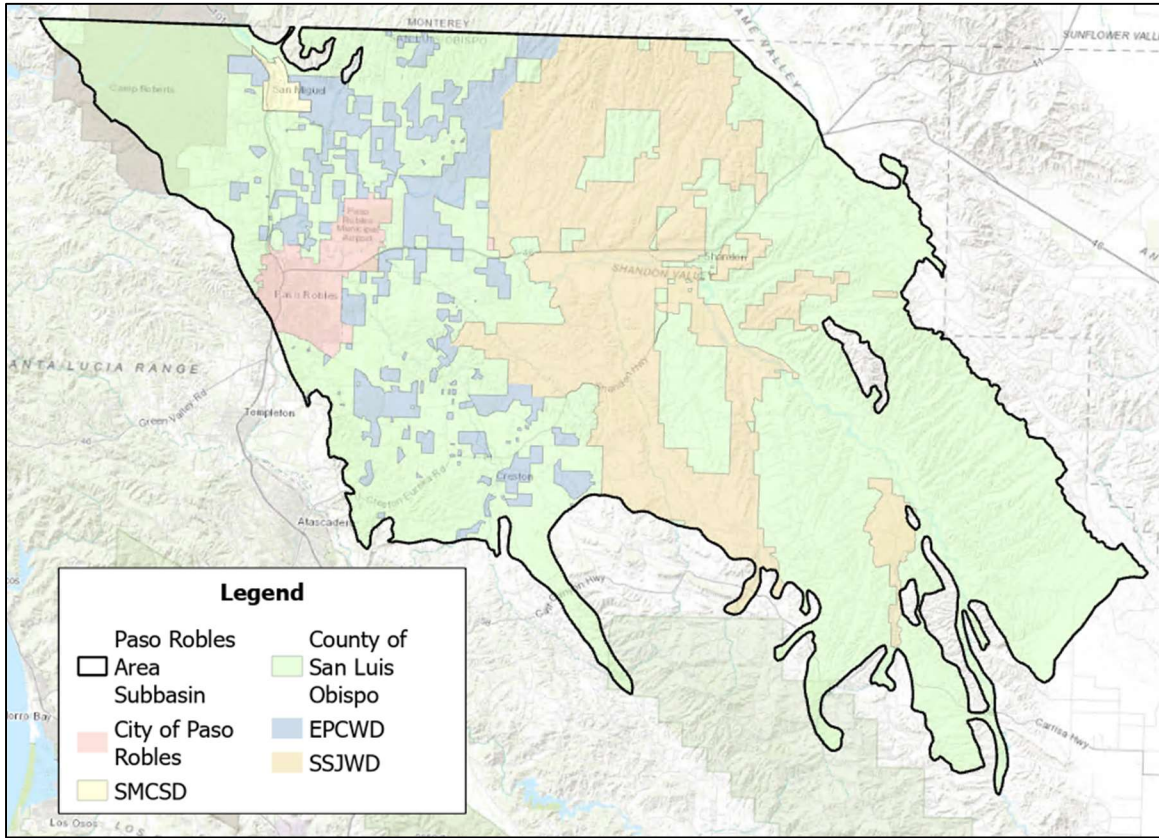


Water use in the Basin is primarily characterized as agricultural. Approximately 90% of annual groundwater extraction can be attributed to agricultural activity (GSP 6-11). Other uses include municipal use, small public water system use, rural domestic use and environmental use.

Agency Characteristics

The Authority was formed in March 2025 as a joint powers authority between four of the five GSAs: the City, County, EPCWD, and SSJWD. SMCSO, while not an initial member, may join in the future. The Authority is governed by a Board of Directors consisting of one Director appointed by each Member. As discussed above, the Authority was delegated certain initial powers. Each Member retains its GSA status, and additional powers cannot be exercised by the Authority without further Member action as described in Section 4.7 of the JPA Agreement. Subbasin GSA boundaries are shown below in Figure 2.

Figure 2 - Paso Area Subbasin GSA Boundaries



Financial Context and Background

To date, development and implementation of the GSP has been funded by a combination of GSA contributions and grant funding. GSA contributions have been determined annually in accordance with annual budgetary needs and shared proportionally among all GSAs in accordance with provisions set forth in the MOA. GSP development and implementation costs have largely been funded by grant awards from DWR.

Implementation of the GSP in the coming years will require increased efforts related to Program Administration, as well as more comprehensive PMAs. While the Authority will continue to pursue grant funding as it becomes available, it will require a reliable, stand-alone funding mechanism to perform its functions.

Subbasin Conditions

The GSP provides an in-depth analysis of Subbasin conditions and the sustainability indicators that drive groundwater management efforts in the Basin. These indicators provide the context and rationale behind the need for PMA implementation by the Authority.

The Paso Robles Subbasin sustainability goal, as stated in the GSP (GSP 8-5), is as follows:

The goal of this GSP is to sustainably manage the groundwater resources of the Paso Robles Subbasin for long-term community, financial, and environmental benefit of Subbasin users. This GSP outlines the approach to achieve a sustainable groundwater resource free of undesirable results within 20 years, while maintaining the unique cultural, community, and business aspects of the Subbasin. In adopting this GSP, it is the express goal of the GSAs to balance the needs of all groundwater users in the Subbasin, within the sustainable limits of the Subbasin’s resources.

Basin Prioritization

DWR assigned a prioritization rating to each of California’s 515 groundwater basins. The basin prioritization rating dictates whether a basin is designated very low, low, medium, or high priority, as shown in Table 1.

Table 1 - SGMA Priority Ranking Criteria

Priority	Total Priority Point Ranges			
Very Low	over	zero	up to	7
Low	over	7	up to	14
Medium	over	14	up to	21
High	over	21	up to	42

Medium and high priority basins are required to establish a groundwater sustainability agency and develop a groundwater sustainability plan. With a priority ranking score of 40, the Paso Robles Subbasin is classified by DWR as a high-priority basin.

SGMA also directs DWR to identify groundwater basins in conditions of critical overdraft. As outlined in DWR Bulletin 118, “[a] basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.” DWR has designated the Basin as subject to critical conditions of overdraft. The Basin’s priority point allocation is illustrated in Table 2.

Table 2 - Paso Robles Subbasin Priority Points

Criteria	Priority Points
1 Population	1
2 Population Growth	4
3 Public Supply Wells	1
4 Total Wells	1
5 Irrigated Acres	2
6 Groundwater Reliance	4
7 Impacts	7.5
8 Habitat and Other Information	2
Adjustment for Critical Overdraft	17.5
Total Priority Points	40

Sustainability Indicators

SGMA establishes six sustainability indicators that guide GSAs in their efforts to achieve sustainability. Avoidance of undesirable results related to these indicators is a core tenet of SGMA. The primary sustainability indicators that are expected to drive sustainable groundwater management in the Paso Robles Subbasin are chronic lowering of groundwater levels and reduction of groundwater in storage. Minimum thresholds for degraded water quality, depletion of interconnected surface water, and land subsidence have also been noted in the GSP, although these issues are not as prevalent. The final sustainability indicator, seawater intrusion, is not present in the Basin. Significant and unreasonable conditions, undesirable results, and adverse impacts related to these indicators are discussed in detail in the GSP.

Significant and unreasonable conditions related to chronic lowering of groundwater levels are described in the GSP as being caused by a water budget imbalance with pumping in excess of recharge (GSP 8-9). Undesirable results stemming from such conditions include potential limitation of water availability for groundwater pumpers in the Paso Robles Subbasin (GSP 8-25). Any such limitation can produce significant adverse impacts on groundwater extractors within the Authority, who rely heavily, and in most cases exclusively, on groundwater resources. The implications of such impacts for agricultural groundwater use, the vast majority of pumping in the Basin, would include economic impact to employees and suppliers of production as well as a reduction in local and state tax roll revenue (GSP 8-25).

Significant and unreasonable conditions related to reduction in groundwater storage are defined in the GSP as those that lead to long-term reduction in groundwater storage (GSP 8- 29) caused by expansion in pumping or extensive drought (GSP 8-34). The GSP provides a detailed analysis of reduction in groundwater storage, estimating a future annual loss of approximately 14,000 acre feet per year (“AFY”) if conditions do not change (GSP 6-25). Similar to chronic lowering of groundwater levels, undesirable results stemming from such conditions include a reduction of water availability for groundwater pumpers, particularly impacting those with shallow wells (GSP 8-35). Limited access to groundwater would impact agricultural groundwater extractors in particular, as they make up approximately 90% of groundwater pumping in any given year. The GSP indicates a need to protect against a reduction in groundwater storage by achieving no net change in groundwater elevations and storage during average hydrologic conditions and over the long-term (GSP 8-35). While drought and other short-term impacts are anticipated, the GSP highlights a need for management actions to provide sufficient flexibility to accommodate these impacts by ensuring they are offset by increases in groundwater levels or storage during normal or wet periods (GSP 8-35).

The GSP notes several concerns surrounding degraded water quality. Significant and unreasonable conditions are defined as increases in a chemical constituent that either results in groundwater concentrations in a public supply well that are above an established primary or secondary Maximum Contaminant Level (“MCL”), or that lead to reduced crop production (GSP 8-35). For agricultural wells, these concerns center around the presence of chloride and boron; for public supply wells, the presence of total dissolved solids, chloride, sulfate, nitrate, and gross alpha radiation are relevant (GSP 8-36). The GSP notes that poor quality groundwater may be drawn into wells in the Subbasin and degrade the groundwater quality if groundwater levels are allowed to fall too low (GSP 5-55).

Significant and unreasonable conditions related to land subsidence are defined in the GSP as rates of permanent subsidence of surface level elevations that impact infrastructure (GSP 8-46). During the development of the GSP, land subsidence within the Basin was found to be minimal, with the majority of land area elevation changes measured within the margin of error (0.1 feet) (GSP 5-24). However, land subsidence in certain areas was measured between -0.125 and -0.1, illustrating the need to continue to monitor this issue. Undesirable results stemming from land subsidence are defined as pumping-induced subsidence of greater than 0.1 foot in any single year and a cumulative 0.5 foot in any five-year period that could substantially interfere with surface land use (GSP 8-51). Such results would threaten the use of existing infrastructure in the Basin.

Significant and unreasonable conditions related to inter-connected surface water are defined in the GSP as reduced surface flow in streams and a lowering of the water table next to streams (GSP 8-51). These conditions have adverse effects on groundwater recharge and the ability of native riparian vegetation and animal species to use riparian habitat. Undesirable results stemming from these conditions include unreasonable adverse effects on beneficial users and uses of water (GSP 8-55). The GSP calls for an improved understanding of this issue through groundwater monitoring in order to better address any potential undesirable results (GSP 8-57).

Implementation of the GSP will require the Authority to address these five sustainability indicators through ongoing Basin monitoring, reporting, and implementation of PMAs. The cost of Service described in Section III of this Study are directly necessitated by these conditions.

Groundwater Charges

Just as SGMA envisions groundwater basins being locally governed unless State intervention is necessary to ensure that local agencies manage groundwater in a sustainable manner, it also envisions that GSP implementation will be locally funded. The purpose of this Study is to establish the rate and fee schedule for the Authority's Program Administration and PMA Budget, providing a reliable stand-alone revenue source to ensure the Authority's ability to implement the GSP.

Numerous discussions with GSA staff, the PBCC (prior to its dissolution), and the SCI Team contributed to the determination of an optimal funding approach for the Authority's GSP implementation Services. In July 2024, GSA staff began meeting with the SCI Team to discuss funding approaches, evaluate budget items, and determine appropriate cost apportionment strategies. The staff group included a representative of the staff of each Paso Robles Subbasin GSA.

The staff group informed the approach to funding strategies prior to presenting them to the PBCC. After receiving PBCC feedback and public comments on the proposed strategies, the funding approach was further refined, providing significant opportunity for stakeholder input. This Study will be considered by the Authority and Authority staff prior to adoption of the Groundwater Management Charge.

A Groundwater Management Charge Program for PRAGA

Consistent with Water Code section 10730 et seq. which authorizes local agencies to fund SGMA implementation through a charge imposed on groundwater use, including volumetric charges, the Groundwater Charge Program detailed in this Study is based on apportioning the cost of Services according to the amount of groundwater consumed by each extractor served. For purposes of this Study and the Groundwater Management Charge Program, consumption is measured in acre feet (“AF”). Groundwater consumed (referred to throughout as “**consumptive use**”) differs from groundwater extracted in that it refers only to the portion of water that is consumed by the extractor and not returned to the aquifer. In many cases, a portion of groundwater extracted is returned to the aquifer (or, for agricultural extractors, remains in the root zone for future consumption). More detail on the characteristics of consumptive use, as well as how it is measured, is included in Section III., below.

Several factors make this approach the optimal basis on which to apportion the costs of Authority Services:

- **Proportional:** A fee based on consumptive groundwater use is equitable in that parcels that consume more groundwater (and thus have more at stake in ensuring a sustainable groundwater supply) and require a higher cost of service to the Authority would pay more while parcels that consume less and require a lower cost of service to the Authority would pay less. Furthermore, by basing a fee on consumptive use, groundwater extractors are charged only for the portion of their extraction that is actually consumed. Agricultural groundwater use is the most prevalent use in the Subbasin. For agricultural properties, consumptive groundwater use can be measured on a field by field, and parcel scale, in a comprehensive and objective manner using evapotranspiration (ET) calculated using satellite data.
- **Easy to Understand:** a consumption-based fee charged to extractors based on the amount of groundwater consumed is easy to understand and clearly allocates the proportionate cost of service provided to those parcels to the appropriate landowners / groundwater extractors within the Authority.
- **Legally Compliant:** The proposed Groundwater Charge is being imposed pursuant to and in accordance with Water Code sections 10730 et seq. to fund the costs of sustainable groundwater management by the Authority consistent with the delegation in the JPA.

Rate Components: Revenue Requirements and Groundwater Consumption

GSA staff worked with the SCI Team to develop projections of the Authority’s Budget over a five-year period. These projections serve as the basis for the cost of service / the activity provided to landowners / extractors and inform the rate.

As stated above, the optimal basis of this proposed Fee Program is consumptive groundwater use. One of the challenges faced in identifying agricultural groundwater use on a parcel / extractor scale stems from a lack of reliably available metered extraction data. In order to improve understanding of groundwater use within the Paso Robles Subbasin, Land IQ was retained to provide land mapping and remote sensing technology. This has enabled the Authority to obtain ET measurements of water use on agricultural fields within the Basin. By assigning the ET for specific fields to the parcels on which they are located and accounting for precipitation, the Authority is able to determine consumptive groundwater use on a field by field, and parcel basis.

In lieu of reliably available metered groundwater extraction data, ET measurements provide the most accurate, comprehensive, and practical means of measuring consumptive groundwater use available. These measurements will form the basis of many of the Authority's regulatory efforts and are used in this Study to apportion the cost of service on a parcel / extractor scale. Consistent with this Study, the Authority has developed an approach to the calculation of consumptive groundwater use and the application of Groundwater Charges that may be adopted.

II. Statutory Basis and Characteristics of the Proposed Groundwater Management Charge

Under the authority of Water Code section 10730 et seq., the Authority proposes to levy Groundwater Management Charges on groundwater extractors within the combined service area of its Members who will directly benefit from program administration and management actions authorized by the JPA. The Groundwater Charge is being imposed for the specific benefit of having local government adopt and implement a groundwater sustainability program for the Subbasin so that the Subbasin, and those who consume water therefrom, do not become subject to State intervention. The proposed Groundwater Charge is no more than necessary to cover the reasonable costs of these Services.

The Authority may only use revenue from the Groundwater Charge to fund the groundwater sustainability activities authorized by the JPA and described in this Study, all of which benefit groundwater extractors in the Members' combined service area and serve the purpose of implementing programs and activities required to achieve Basin sustainability and SGMA compliance. Importantly, the Paso Robles Subbasin is a high priority basin subject to critical conditions of overdraft. If the Authority does not secure a funding source to implement the administrative and management activities necessary to comply with SGMA, the SWB would declare the Basin "unmanaged" or "probationary" and intervene. Unmanaged or probationary basins are subject to regulatory actions, including annual fees and reporting requirements.

The SWB sets its fees for unmanaged and probationary basins annually without a vote of or input from the regulated community. The current SWB fees are set forth below in Table 3. Unlike the proposed Groundwater Charge, groundwater pumpers would pay these fees to the State and the funds would not help pay for any local groundwater management activities or programs. Rather, the SWB fees would be used for SWB administration, regulation, and possible implementation and enforcement of pumping restrictions in the Basin.

Table 3 - State Water Board Intervention Rates²

SWB Reporting and Fees (For Basins Managed by the State)		
Charge	Cost	Notes
Base Filing Fee	\$300 per well	Excludes De Minimis Extractors
Unmanaged Area Rate (Metered)	\$10 per AF	Excludes De Minimis Extractors
Unmanaged Area Rate (Unmetered)	\$25 per AF	Excludes De Minimis Extractors
Probationary Rate	\$20 per AF	Excludes De Minimis Extractors
Interim Plan Rate	\$55 per AF	Excludes De Minimis Extractors
De Minimis Fee	\$100 per well	Optional; Subject to SWB determination
Automatic late fee	25% per month	Extraction Reports Not Filed By Due Date

² https://www.waterboards.ca.gov/sgma/reporting_and_fees.html

Proportionality of the Proposed Charges

As addressed more fully in section III. below, the manner in which the costs are apportioned and allocated to groundwater extractors also bears a fair or reasonable relationship to the payor's burdens on, or benefits received from, these governmental activities and will not exceed the proportional cost of the services attributable to each parcel charged. The Groundwater Charges are apportioned to specific groundwater extractor classes based on the services provided to each parcel. This was accomplished by conducting a cost-of-service analysis to determine the service (and associated cost) that is required based on the type of groundwater use.

Volumetric fees provide an optimal ability to establish a reasonably proportional cost burden across Subbasin groundwater extractors. By apportioning the Cost of the Authority's services on a volumetric basis, the proposed Groundwater Charge establishes the appropriate proportional benefit or service provided to each extractor. This approach is based on the concept that those who consume more groundwater have more at stake in maintaining compliance with SGMA and ensuring a sustainable groundwater supply. It also acknowledges that the amount of extraction in the Subbasin correlates directly to the cost of providing GSP implementation Services.

Recent case law out of the Sixth District Court of Appeal (*Great Oaks Water Company v. Santa Clara Valley Water District*, 2025 WL 969510) supports the notion that volumetric charges to fund groundwater management services align with the California constitutional requirements surrounding revenue generation on the part of public agencies. This case further establishes that the right to extract groundwater is a specific benefit that is supported by the sustainable management of groundwater as a resource, and that a volumetric fee produces charges that provide a proportional allocation of the cost of providing the Services, which are necessary for groundwater management.

Finally, revenue derived from the proposed Groundwater Charge will not exceed the amount required to provide the services to be funded and will not be used for any purposes other than those services for which the fee is imposed. The Budget, discussed in section III., details the scope and cost of services to be provided by the Authority to comply with SGMA, administer the GSP implementation Program, and implement certain specified PMAs. These efforts are paramount to the Authority's ability to achieve Basin sustainability.

Public Meetings

A public hearing on the proposed Groundwater Charge is expected to be held in Summer 2025, at which point the Authority will consider written protests submitted by landowners subject to the proposed fee consistent with the California Constitutional adoption process referenced in Water Code section 10730.2.

To better engage the public, provide an explanation of the Groundwater Charge Program’s approach, and address any questions, the PBCC held a town hall meeting in December 2024. Additionally, the PBCC reviewed potential fee structures and rates during several public meetings in 2024 and 2025.

Duration of the Fee Program

The proposed Groundwater Charge Program is based on a projected Budget spanning five years, from FY 2025-26 through FY 2029-30. However, if the Groundwater Charge is adopted, the Authority may elect to continue the Program beyond the five-year time frame.

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III. Groundwater Charges

The proposed Groundwater Charge calculations are primarily dependent on two major factors: revenue requirements and consumptive groundwater use. However, the structure of the proposed fee is also dependent on the categorization of groundwater extractors and the apportionment of costs across these categories. The following Section provides context and details for how the elements of the Groundwater Charge are established.

Services to be Funded

The Budget was developed with the intention of providing adequate revenue to pay for the Services, which allow the Authority to comply with SGMA, administer the GSP implementation Program, and implement a subset of the Projects and Management Actions described in the GSP. These efforts are paramount to the Authority's ability to achieve Subbasin sustainability.

Consistent with the initial authorities granted to the Authority under the JPA, the Services / activities to be funded by the proposed Fee Program include:

- Program Administration, including SGMA-required costs and administrative costs.
- Domestic Well Mitigation Program;
- Addressing GSP data gaps;
- Well Verification / Registration Program
- Demand Reduction Programs; and,
- A prudent reserve.

More details on these programs are provided below.

Program Administration

The Authority's Program Administration Budget is divided into two primary categories: SGMA-required costs and administrative costs. Both cost categories support the overall effort of administering the GSP implementation Program. SGMA-required costs stem from the direct responsibilities of SGMA, while administrative costs relate to overall public agency administration and facilitation of GSP implementation efforts.

SGMA-required costs include development of the annual report, the GSP five year evaluation, GSP amendment, groundwater model use and update, and ongoing Basin groundwater monitoring. These costs are directly tied to the responsibilities Members have under SGMA. Also relating to these responsibilities are the cost of the data management system (“DMS”) and the Evapotranspiration Ag Water Usage Program. As a means to collect and manage data, the DMS will provide a framework through which SGMA-required activities can be informed and implemented. The Evapotranspiration Ag Water Usage Program refers to the collection and analysis of evapotranspiration data by LandIQ, which the Authority has determined to be the most effective means of tracking agricultural groundwater use. More information on this program, as well as a discussion of evapotranspiration data, is provided below under the heading “Consumptive Groundwater Use.”

Administrative costs include all costs related to administration of the Authority. These costs are projected to include an executive director and support staff, legal counsel, IT support, general agency administrative costs (insurance, audit, accounting, etc.), grant development, technical consultant(s) to provide administrative support, and website creation and management. These costs are intended to fully finance the ability of the Authority to operate in an efficient and optimal manner. Also included are the cost of an outreach program and Groundwater Charge billing and collection costs.

While Program Administration costs are necessary for any public agency, these costs are directly linked to the Authority’s ability to implement the GSP. Fulfilling SGMA requirements and administering activities included in the Budget will be directly supported by these costs.

Domestic Well Mitigation Program

The Domestic Well Mitigation Program will provide assistance and support for household water supply wells that experience adverse impacts due to declining groundwater levels. The program will provide household drinking water wells, and especially domestic extractors, protection from the effects of agricultural pumping.

In many cases, domestic well mitigation is necessitated by nearby non-de minimis groundwater pumping. In such cases, mandatory reduction in nearby pumping may be a strategy considered in the future to mitigate domestic wells going dry. For this reason, the cost of this program is apportioned to all groundwater extractors.

Addressing GSP Data Gaps

The GSP provides details on existing data gaps related to groundwater level monitoring (GSP 7-10), groundwater storage monitoring (GSP 7-14), and interconnected surface water (7-25), among others. While progress has been made to address these data gaps (in part through grant funding received by DWR and work performed under the DWR Technical Support Services (TSS) Program), additional measures will be required to improve the Authority's understanding of Basin conditions, plan and implement projects and management actions, and comply with SGMA. The costs associated with addressing GSP data gaps include expansion and maintenance of the groundwater elevation monitoring network, installation, and maintenance of stream gauges and climatologic stations, and conducting hydrogeological investigations. These efforts will contribute to the Authority's ability to more effectively monitor and manage the Basin.

Well Verification and Registration Program

The Well Verification and Registration Program will improve the accuracy of the Authority's data on groundwater use by increasing understanding of the location and distribution of groundwater producing wells throughout the Basin. While well records currently exist, their accuracy and scope are limited. By registering wells, the Authority can establish a more reliable inventory and spatial location of all active wells in the Basin.

Demand Management Programs

PRAGA's Demand Management Programs include a suite of planned programs intended to reduce or supplement groundwater demand. The Demand Management Programs will support the Authority's efforts to track and adjust groundwater demand across the Basin. Efforts will focus on agricultural groundwater extractors and support more specific efforts, including the voluntary groundwater demand reduction program and Water Conservation and Irrigation Efficiency Program. As the focus of the Authority's Service Budget, demand reduction is the primary tool the Authority intends to use to improve Subbasin conditions over the next five years.

A voluntary groundwater demand reduction program is currently in a development phase funded by a grant from DWR. This voluntary land repurposing program has a goal of repurposing commercial-scale irrigated agricultural land to uses that reduce reliance on groundwater such as open space and low-water use agricultural land. Repurposing may be temporary or permanent. These efforts align with the GSP, which describes land repurposing strategies that promote voluntary fallowing of crop land to reduce overall groundwater demand (GSP 9-12).

Funding may also be used to support the Water Conservation and Irrigation Efficiency Program will support the Authority's efforts to improve agricultural water conservation by improving water use efficiency of agricultural operations. The GSP calls for GSAs to encourage pumpers to utilize the most effective water use efficiency methods available, as such practices can reduce demand and improve Subbasin conditions without the need to reduce agricultural output (GSP 9-8).

Funding may also support efforts to produce groundwater recharge and alternative water supplies. Potential options include drainage basins from which stormwater runoff can be collected, exploring increased surface water supplies, or other approaches to offset groundwater demand.

Prudent Reserve

The Prudent reserve (roughly 5% of total costs) is intended to support the financial resiliency of the Authority over the course of the next five years. These funds may be used in the event that a shortfall occurs related to a specific cost or may be used to explore the feasibility of future projects.

Method of Apportionment

As noted previously, the purpose of categorizing the cost of the Authority's services / activities is to provide the ability to appropriately apportion costs to specific groundwater extractor classes based on the service provided to each parcel / payor. This was accomplished by conducting a cost-of-service analysis to determine the service (and associated cost) that is required based on the type of groundwater use in question.

As shown in the Budget Table (Table 4) below, costs have been separated into three categories: "Primary Costs," "Supplemental Non-De Minimis Costs," and "Supplemental Agricultural Costs." Primary costs include Program Administration and a portion of Regulatory Project Costs (namely, the Domestic Well Mitigation Program). Supplemental Non-De Minimis Costs include a portion of Regulatory Project Costs (addressing GSP data gaps and the Well Verification and Registration Program). Supplemental Agricultural Costs include Demand Reduction Projects and Programs, Alternative Water Supply Projects and Programs, and Reserve Funds. All extractor classes included in the proposed Fee Program have been apportioned these costs in a manner that reflects the service they receive from the Authority's GSP implementation efforts.

The groundwater extractor classes utilized in this analysis include rural domestic extractors, commercial extractors, water system extractors, and agricultural extractors. A summary of the classification and cost apportionment of each of these extractor classes is provided below.

Rural Domestic Groundwater Extractors

Rural domestic extractors are those that SGMA classifies as de minimis extractors, in that they use two AF or less per year for domestic purposes. Domestic groundwater use makes up a small portion of groundwater use within the Subbasin. Consumptive groundwater use by rural domestic extractors makes up approximately 1.8% of total Subbasin consumptive use. As mentioned previously, it is anticipated that the cost of providing Services to this extractor class will be borne directly by the Member GSAs using funds separate from the proposed Charge, and that rural domestic extractors will not be charged directly.

SGMA specifically excludes de minimis users from certain GSA authorities, which lends itself to the concept that they do not receive the same benefits as other users. For example, Water Code section 10725.8 exempts de minimis extractors from the authority granted to groundwater sustainability agencies to require through their groundwater sustainability plans that the use of every groundwater extraction facility be measured by a water-measuring device. Additionally, pursuant to the GSP, de minimis extractors are not regulated by the Authority (GSP, 8-34). For these reasons, and because rural domestic extractors represent such a small portion of consumptive use in the Subbasin, only Primary Costs are apportioned to these extractors.

Agricultural Groundwater Extractors

Agricultural groundwater use makes up the largest portion of extraction in the Basin. Historically, approximately 90% of annual groundwater extraction can be attributed to agricultural activity (GSP 6-11). The Water Year 2024 Annual Report³ estimates that approximately 94% of 2024 extraction was agricultural. This Study determines that agricultural groundwater use represents approximately 95.5% of total consumptive groundwater use. In this sense, the sustainability indicators described in the GSP, along with the priority point ranking assigned to the Basin, are largely the result of agricultural groundwater use. Absent this amount of agricultural groundwater use, SGMA regulation would likely not be necessary in the Subbasin.

As such, a majority of the cost of the Authority's services / activities are necessitated by this extractor class. The core elements of the Authority's Groundwater Sustainability Program revolve around the management of agricultural groundwater use. For this reason, Primary Costs, Supplemental Non-De Minimis Costs, and Supplemental Agricultural Costs, as detailed in the Budget tabled below, have been apportioned to agricultural groundwater extractors.

Water System Groundwater Extractors

Water System groundwater use occurs in eight different public systems within the combined service areas of the Members within the Basin. These systems include small water systems (a lodge and an elementary school), small residential service systems, and the City.

Public water systems represent a relatively small percentage of groundwater use in the combined service areas of the Members within the Basin (approximately 1.3%). However, as water purveyors that provide communities with drinking water for residential and commercial purposes, their groundwater use constitutes an important element of Subbasin sustainability planning. As previously noted, the number of public supply wells in a groundwater basin is one of the priority point criterion used to determine whether a basin is subject to SGMA.

³ <https://www.slocounty.ca.gov/departments/groundwater-sustainability/forms-documents/paso-robles-groundwater-basin/annual-reports/wy-2024-gsp-annual-report>

While many domestic customers within the Subbasin’s water systems are indirect groundwater users who consume two AF or less per year, these users do not represent the nature of groundwater use occurring at the water system level. The systems themselves are the primary users as groundwater extractors. These systems provide a public benefit and service to their customers and operate under a different framework than rural domestic well owners. Additionally, public water systems are regulated by the California Division of Drinking Water, which requires that they report extraction and, in some cases, employ water quality testing programs. In addition, as discussed above, these extractors would be subject to SWB extraction fees and regulation should the SWB intervene in the Basin. However, these extractors likely do not receive a service stemming from the Authority’s Supplemental Agricultural Costs. For this reason, Primary Costs and Supplemental Non-De Minimis Costs only, as detailed in the Budget tabled below, have been apportioned to water system groundwater extractors.

Commercial Groundwater Extractors

Commercial groundwater extractors make up a small portion of Basin groundwater use (approximately 1.4%). Furthermore, many small commercial operations are likely to have minimal, if any, consumptive groundwater use. However, there are commercial parcels within the Basin that have been identified as consuming groundwater, including wineries, manufacturing facilities, and sand and gravel facilities. By using groundwater for commercial purposes, these extractors have a notable stake in Basin sustainability and receive a service from the Authority’s GSP implementation efforts. However, these extractors are likely not to receive a service stemming from the Authority’s Supplemental Agricultural Costs. For this reason, Primary Costs and Supplemental Non-De Minimis Costs only, as detailed in the Budget tabled below, have been apportioned to commercial groundwater extractors.

Budget and Cost of Service

The SCI Team worked with GSA staff to develop budget projections over a five-year period in order to inform the proposed Fee Program. These projections involve considerations of Authority operations, projects, and management actions based on past expenses and Program scope. Potential variables of these Programs include changes in groundwater use, changes in economic factors, climatic variability, and changes in Subbasin conditions, all of which can affect the cost of services. In order to create more robust budget projections, GSA staff and the SCI Team provided extensive expertise related to GSP implementation planning and management, geology and hydrogeology, local community preferences and perspective, and other key factors related to the Subbasin.

Authority Budget Projections

The Program Administration and Project and Management Action Budget was iteratively refined in order to achieve a projected expense plan that can maintain Authority solvency during GSP implementation. The Authority's goal is to ensure that the groundwater sustainability goals in the GSP can be achieved while minimizing impacts on the local economy (which relies heavily on groundwater use). The GSA staff group discussed this at length during meetings in Summer and Fall 2024 and provided feedback that informed budget recommendation presentations to the PBCC. Over the course of several PBCC meetings, the PBCC reviewed five separate Fee Study budget options, ultimately selecting a budget with an overall focus on demand reduction strategies.

While considering rate scenarios based on potential budgets, the use of an annual revenue requirement based on a five-year average was determined to be optimal. This approach contributes to more stable rates, producing a more predictable financial outlook for rate payers and the Authority.

The Authority has developed a spending plan which concludes that the appropriate level of Services related to Program Administration and Projects and Management Actions requires approximately \$3,266,103 per year on average. This spending plan utilizes a five-year budget projection.

It should be noted that the annual budget for each fiscal year will be determined by the Authority Board. In any given year, if financial projections indicate that less revenue will be required to provide Authority Services, a reduced revenue need may inform lower rates.

The full Budget is shown below in Table 4.

Table 4 - Projected Expense Budget

PRAGA Funded Budget Components	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	Average Costs
	Year 1	Year 2	Year 3	Year 4	Year 5	5 - Year Average
Program Administration						
SGMA-Required						
Annual Report	\$110,000	\$112,750	\$115,569	\$118,458	\$121,419	\$ 115,639
GSP Fifth Year Evaluation	\$0	\$0	\$0	\$0	\$350,000	\$ 70,000
GSP Amendment	\$0	\$0	\$0	\$100,000	\$100,000	\$ 40,000
Groundwater Model Use/Update	\$0	\$50,000	\$50,000	\$150,000	\$100,000	\$ 70,000
Basin Monitoring Operations & Maintenance	\$150,000	\$300,000	\$307,500	\$315,188	\$323,067	\$ 279,151
Data Management System (DMS)	\$200,000	\$15,000	\$15,000	\$15,000	\$15,000	\$ 52,000
ET Ag Water Usage Program (LandIQ)	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$ 100,000
SGMA-Required Subtotal	\$560,000	\$577,750	\$588,069	\$798,645	\$1,109,487	\$ 726,790
Administrative						
Executive Director & Support Staff	\$234,000	\$257,400	\$263,835	\$270,431	\$277,192	\$ 260,572
Legal Counsel	\$82,500	\$84,563	\$86,677	\$88,843	\$91,065	\$ 86,729
IT Support	\$50,000	\$51,250	\$52,531	\$53,845	\$55,191	\$ 52,563
Agency Administrative Costs	\$50,000	\$51,250	\$52,531	\$53,845	\$55,191	\$ 52,563
Grant Development	\$60,000	\$61,500	\$63,038	\$64,613	\$66,229	\$ 63,076
Technical Consultant(s) (Administrative Support)	\$110,000	\$112,750	\$115,569	\$118,458	\$121,419	\$ 115,639
Outreach Program	\$75,000	\$75,000	\$25,000	\$25,000	\$25,000	\$ 45,000
Website Creation and Management	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000	\$ 6,000
GW Fee Billing & Collection	\$50,000	\$51,250	\$52,531	\$53,845	\$55,191	\$ 52,563
Administrative Subtotal	\$717,500	\$750,963	\$717,712	\$734,879	\$752,476	\$ 734,706
Program Administration Subtotal	\$1,277,500	\$1,328,713	\$1,305,780	\$1,533,525	\$1,861,963	\$ 1,461,496
Projects and Management Actions						
Regulatory Programs						
Domestic Well Impact Mitigation Program	\$50,000	\$51,250	\$52,531	\$53,845	\$55,191	\$ 52,563
Address Additional GSP Data Gaps	\$75,000	\$76,875	\$78,797	\$80,767	\$82,786	\$ 78,845
Well Verification & Registration Program	\$25,000	\$25,625	\$26,266	\$26,922	\$27,595	\$ 26,282
Demand Management Programs						
Demand Reduction / Water Supply Programs	\$1,300,000	\$1,365,000	\$1,433,250	\$1,504,913	\$1,580,158	\$ 1,436,664
Reserve Funds						
Prudent Reserve	\$200,000	\$205,000	\$210,125	\$215,378	\$220,763	\$ 210,253
Projects and Management Actions Subtotal	\$1,650,000	\$1,723,750	\$1,800,969	\$1,881,824	\$1,966,493	\$ 1,804,607
Total	\$2,927,500	\$3,052,463	\$3,106,749	\$3,415,349	\$3,828,456	\$ 3,266,103
Primary Costs	\$1,327,500	\$1,379,963	\$1,358,312	\$1,587,369	\$1,917,154	\$ 1,514,059
Supplemental Non-De Minimis Costs	\$ 100,000	\$ 102,500	\$ 105,063	\$ 107,689	\$ 110,381	\$ 105,127
Supplemental Agricultural Costs	\$1,500,000	\$1,570,000	\$1,643,375	\$1,720,291	\$1,800,921	\$ 1,646,917

Cost Apportionment

As noted above, costs have been separated into three categories: Primary Costs (shown in tan), Supplemental Non-De Minimis Costs (shown in gold), and Supplemental Agricultural Costs (shown in green). Supplemental Agricultural Costs include Demand Reduction Projects and Programs, Alternative Water Supply Projects, and Reserve Funds. All extractor classes included in the proposed Groundwater Charge Program have been apportioned these costs in a manner that reflects the service they receive from the Authority's GSP implementation efforts.

Primary costs include Program Administration and a portion of Regulatory Project costs. These Costs stem from the core requirements of SGMA and include mandated monitoring and reporting. Because these costs provide a Service broadly to all groundwater extractors in the Subbasin, Primary Costs are apportioned to all groundwater extractors.

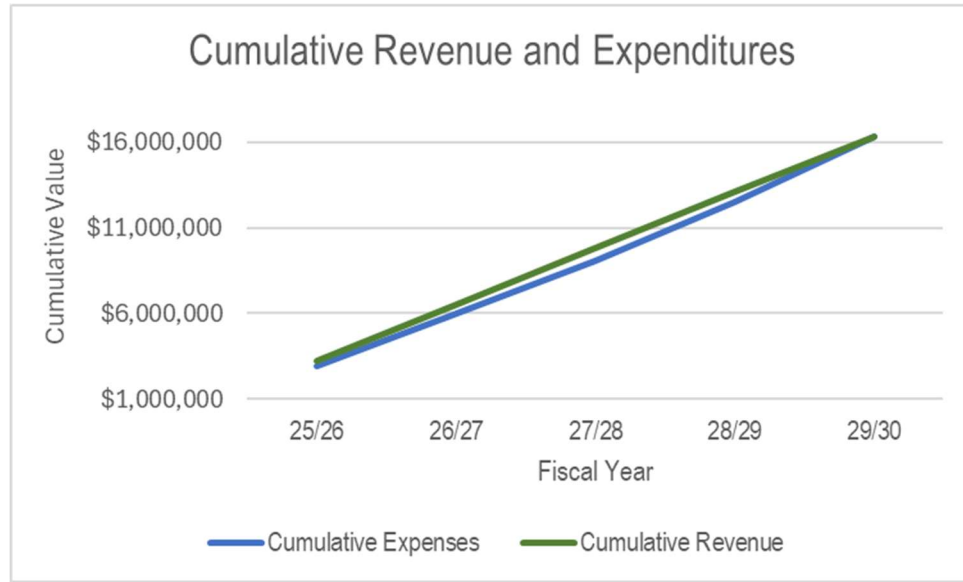
Supplemental Non-De Minimis Costs include a portion of Regulatory Project Costs. These Costs are apportioned only to non-de minimis extractors, as their extraction necessitates additional Service related to data gaps and well verification.

Supplemental Agricultural Costs are apportioned only to agricultural groundwater extractors, as these costs are entirely focused on improving Subbasin conditions that result from agricultural groundwater use. As such, these costs only provide a service directly to agricultural extractors.

Cash Flow Projections

The use of an average revenue need requires analysis of cash flow projections over the anticipated duration of the proposed Fee Program. This provides both assurance that revenue needs will be met and that the revenue generated by the Program does not exceed the projected cost of service. In Figure 3 below, cumulative income and expenditures are shown to illustrate the justification of the average revenue need over the course of five years. During the first four years, cumulative revenue is expected to exceed expenses; however, by fiscal year 2029-30, the projected total cumulative revenue generated by the proposed Fee will be \$16,330,516 – the same projected total cumulative expenditures during this period. This demonstrates that the use of an average annual revenue need will meet, but not exceed, the projected cost of Services.

Figure 3 - Projected Cumulative Revenue and Expenditures



Consumptive Groundwater Use

As described above, the proposed Groundwater Charge Program is based on consumptive groundwater use; specifically, the amount of groundwater consumed on properties within the Authority’s jurisdiction. The manner in which this use is measured, categorized, and used as a basis for charges is different depending on the type of use in question. These methods are described in detail below.

Agricultural Groundwater Use and Evapotranspiration Measurements

Evapotranspiration (ET) refers to the process by which water is both transferred from land to the atmosphere by evaporation and from plants to the atmosphere by transpiration. Measuring this process can produce the total amount of consumed water that takes place on a parcel of agricultural land.

As noted above, a consultant was retained to develop an ET measurement program for the Basin. Utilizing a combination of satellite data, precipitation data, meteorological stations deployed in agricultural fields and ground truthing, the consultant provides parcel- and field-specific consumptive groundwater use measurements for all agricultural operations. This data collection began in August 2024 will provide the basis for the proposed Charge into the future. Agricultural groundwater uses accounts for the vast majority of groundwater use in the Basin.

One of the benefits of basing a fee on consumptive groundwater use is that landowners / extractors are charged only for the amount of groundwater they consume. Conversely, fees are often based on applied water, which refers to the total amount of water applied to a parcel. However, some amount of this water is not consumed; a portion of it is lost to runoff or percolates back into the water table, where it is held in the root zone for later absorption, or it returns to the aquifer. The amount lost depends on a variety of factors that vary from site to site.

In order to calculate consumed groundwater, several elements of water use must be understood. First, total consumed water must be calculated. This is accomplished by adding ET from applied groundwater, ET from applied surface water, and ET from precipitation. This equation is shown below in Figure 4 for reference.

Figure 4 - Consumptive Water Calculation

$$\begin{aligned} \text{Total Consumed Water (ET)} &= \text{ET from Applied Groundwater} \\ &+ \text{ET from Applied Surface Water} \\ &+ \text{ET from Precipitation (Effective Precipitation)} \end{aligned}$$

From this equation, total consumed groundwater (also referred to as ET from applied groundwater) can be calculated. Subtracting ET from precipitation and ET from applied surface water from the total consumed water provides the total consumed groundwater amount. This equation is shown below in Figure 5.

Figure 5 - Consumptive Groundwater Calculation

$$\begin{aligned} \text{Consumed Groundwater} &= \text{Total Consumed Water (ET)} \\ &- \text{ET from Precipitation (Effective Precipitation)} \\ &- \text{ET from Applied Surface Water} \end{aligned}$$

Note: surface water use in the Subbasin primarily occurs on the part of public water systems.

Through this process, the Authority determines the amount of groundwater that is consumed on a given agricultural parcel. This is the basis of charges for the proposed Groundwater Charge Program. Landowners / extractors will also have the option to appeal the calculation of their consumptive groundwater use and submit metered extraction data instead. This process will require calculation of consumptive use stemming from any metered data submitted, which entails determining the irrigation efficiency of their irrigation system. More details regarding this process are provided in Section IV.

Historical Baseline Evapotranspiration Data

Irrigated Crops

The ET data collection program began in August 2024. While these data will be used in the future to calculate the proposed Groundwater Charges on specific parcels, a historical baseline was required in order to calculate the Groundwater Charges in this Study. In order to facilitate this baseline, LandIQ developed an analysis of the average ET of applied water over a five-year span, from Water Year 2019 to Water Year 2023. Through incorporation of past experience and consultation with local stakeholders, LandIQ determined average consumptive groundwater use for each crop type in the Subbasin.

The SCI Team applied these consumptive coefficients to historical crop acreage data from the years analyzed in order to develop a total consumptive groundwater use estimate for each water year. As shown below in Table 5, the historical agricultural consumptive groundwater use baseline for crop irrigation is 53,553 AFY. A more detailed table illustrating consumptive use coefficients and acreage by crop type is provided in Appendix A.

Additional consideration is also required for groundwater-fed agricultural ponds, which are used within the Subbasin to provide water supply for planted crops. While this water is eventually used to irrigate, evaporation occurs while water is stored, which must be accounted for as consumptive use.

Agricultural Ponds

Evaporative losses associated with agricultural storage ponds are estimated based on the assumption that ponds are full for April and May and one-quarter full between June and March. The wetted area of the ponds at one-quarter full is approximately 50% of the wetted area when the ponds are full. A review of recent aerial photography was completed to identify agricultural storage ponds in the Subbasin. From this review it was determined that approximately 200 acres of wetted area is present in the Subbasin when the ponds are full (April and May) and approximately 100 acres of wetted area is present when the ponds are one-quarter full (June through March). Groundwater extractors who utilize ponds will be charged based on the size of specific ponds that overlie their parcel(s).

The total annual evaporative loss from agricultural storage ponds was calculated based on pan evaporation data from the Nacimiento Dam Station⁴ (due to its proximity to the Subbasin) and the variable wetted acreage on a monthly time step. The estimated total annual evaporative loss from agricultural storage ponds is 470 AFY. This total is added to the agricultural consumptive use amount in table 5 below.

⁴ NOAA 1982. Mean Monthly, Seasonal, and Annual Pan Evaporation for the United States. NOAA Technical Report NWS 34. Washington DC. December 1982.

Golf Courses

Several golf courses also utilize groundwater within the Subbasin. Extraction data for golf course irrigation between Water Years 2017 and 2023 produces an average annual extraction of 1,017 AF. In order to convert this extraction data to consumptive use, the percentage of agricultural groundwater that is consumptive can be applied to this extraction data. As used previously to calculate the percentage of applied irrigation water that is consumptive, dividing the estimated consumptive agricultural groundwater use (54,795 AFY) by the average estimated applied water use (72,160 AFY) produces a consumptive coefficient of 75.9% for this extraction. Multiplying the 1,017 AFY by 75.9% produces a consumptive use estimate for golf courses of 772 AFY.

Table 5 - Historical Consumptive Use Baseline

Data	WY 2023	WY 2022	WY 2021	WY 2020	WY 2019	Average
Total Crop Acreage ¹	77,917	74,407	72,786	71,174	72,255	73,708
Consumptive Use of Irrigation ²	54,879	50,921	52,242	52,146	57,577	53,553
Pond Evaporation ³	470	470	470	470	470	470
Consumptive Use of Golf Courses ⁴	772	772	772	772	772	772
Total Agricultural Consumptive Use⁵	56,121	52,164	53,484	53,389	58,820	54,796

- (1) Total crop acreage derived from Land IQ's analysis of historical crop data.
- (2) Total estimated consumptive agricultural groundwater use (derived by multiplying crop coefficients by total acreage of each crop type).
- (3) Total estimated annual evaporation of agricultural ponds. Note that any pond water not lost to evaporation is later used to irrigate and will be captured by ET measurements.
- (4) Total estimated consumptive use of golf courses.
- (5) The sum of consumptive use of irrigation, pond evaporation, and golf course irrigation.

Cattle Ranchers

One additional extractor type worth evaluation in the Subbasin are cattle ranchers. While grass that supports cattle grazing in the Subbasin is generally assumed to rely on precipitation only, cattle themselves do consume water. However, there is no clear data to support exact calculations of how many cattle are raised, and how much water they consume.

In discussion with local agricultural stakeholders, the SCI Team determined it is likely that the potential groundwater consumption of cattle is negligible; furthermore, because it is likely negligible, calculating this use on a parcel scale would present significant challenges. Nonetheless, CES engaged stakeholders to attempt to establish an approach to confirm the insignificance of this use.

Based on the following assumptions, the SCI Team developed an estimate of total groundwater consumption of cattle ranchers:

- **County Average Baseline:**
 - San Luis Obispo County supports an average of 1 cow per 29 acres.
- **Adjustment for Arid Conditions:**
 - For the Paso Robles basin, which lies in the arid portion of the county with no coastal influence, the land-per-cow ratio is increased by 30%:
 - $29 \times 1.30 = 37.7$ acres per cow.
- **Land Area:**
 - The basin spans 436,000 acres, with 80% used for rangeland:
 - $436,000 \times 0.80 = 348,800$ acres.
- **Cattle Total:**
 - Agricultural land is divided by the adjusted land-per-cow ratio:
 - $348,800 \div 37.7 \approx 9,253$ cattle.
- **Daily Water Consumption:**
 - Each cow consumes 13.1 gallons per day:
 - $9,253 \times 13.1 = 121,213.3$ gallons daily.
- **Annual Water Consumption:**
 - Daily usage is multiplied by 365 days:
 - $121,213.3 \times 365 = 44,297,907$ gallons per year.
- **Conversion to Acre-Feet:**
 - Using the conversion factor of 1 acre-foot = 325,851 gallons:
 - $44,297,907 \div 325,851 = 135.92$ AF.
- **Conversion to Consumptive Use:**
 - It is assumed that approximately 75% of water provided to cows for drinking is consumed (and the remaining 25% returns to the aquifer through urination):
 - $135.92 \times .75 = 101.88$ AFY.

While the total consumptive use stemming from groundwater provided to cattle for drinking relies heavily on assumptions and discussion with local stakeholders, it provides insight into the likely order of magnitude of this use. Approximately 101 AFY of consumptive groundwater use equates to 0.18% of total consumptive use in the Subbasin. This analysis supports the assertion that groundwater provided as drinking water for cattle is negligible and does not necessitate a Service provided by the Authority.

Groundwater Use on Non-Agricultural Properties

Certain types of non-de minimis groundwater use cannot be measured using evapotranspiration readings. There are several types of facilities within the Authority's jurisdiction that utilize groundwater for uses other than irrigating agricultural fields. These include public water systems and commercial groundwater extractors. These entities require a different approach to calculating consumed groundwater use. The approach for calculating this use is described below.

Rural Domestic Groundwater Use

To support the development of this Fee Study, the SCI Team conducted an analysis of rural domestic water use.

There are two components to estimation of rural groundwater use. The first, indoor water use, is based on assumptions from the 2014 Paso Robles Groundwater Basin Model Update Report⁵ (“2014 Modeling Report” or “Report”), which estimates that indoor domestic water use is 0.29 AFY per dwelling unit (DU) (GSSI ES-6). Additionally, this Report estimates that 100% of rural domestic groundwater use is returned to the aquifer via septic systems. This assumption is used in this Study to establish that the consumptive use of indoor water use for rural domestic extractors is 0%, and that 100% of this use is returned to the aquifer via septic systems.

The second component, outdoor water use, requires further analysis. The first step was to identify estimated *applied* water use on a parcel scale, which can then be converted to consumptive use. A spatial analysis conducted by Confluence Engineering Solutions (“CES”) incorporated outdoor water use for 3,980 rural residential parcels. Of these parcels, CES isolated 10% using a random selection tool, and aerial photography from summer months was used to review outdoor irrigation practices. CES determined that 172 of the sample parcels have no discernible irrigated landscaping. Including these parcels with zero irrigated acreage, inspection of the sample dataset allowed for the organization of average irrigated acres by parcel size for all rural domestic parcels (as shown below in Table 6).

Table 6 - Rural Residential Sample Parcels Outdoor Irrigation Summary

Parcel Size (Acres)	Average of Irrigated Acres	Count of Parcels
<1 - 2.5	0.03	139
2.5 - 20	0.07	177
20 - 40	0.1	36
>40	0.19	46
	0.07	398

CES then applied the average irrigated acreage by parcel size derived from this sample dataset to the rural residential parcel dataset to estimate the average acreage of outdoor landscaping present rural residential parcels. It was determined that that approximately 75% of the irrigated landscaping is lawn (turf) versus 25% garden/shrubs/trees. Reference ET (Eto) data from two nearby California Irrigation Management Information System (“CIMIS”) stations were used to estimate an applied water amount based on irrigated acreage⁶.

⁵ [https://www.slocounty.ca.gov/departments/public-works/forms-documents/committees-programs/integrated-regional-water-management-\(irwm\)/grant-funded-planning-documents/paso-robles-groundwater-model-update/2015-01-13-prgb-final-model-report](https://www.slocounty.ca.gov/departments/public-works/forms-documents/committees-programs/integrated-regional-water-management-(irwm)/grant-funded-planning-documents/paso-robles-groundwater-model-update/2015-01-13-prgb-final-model-report)

⁶ <https://cimis.water.ca.gov/Default.aspx>

The average Eto between these two CIMIS stations is 4.9 feet/yr. The crop coefficient for turf is 1.0 and the crop coefficient for garden/shrubs/trees is assumed to be 0.65. The weighted average crop coefficient for the 75% / 25% crop type split is 0.91. The total estimated applied water for rural residential outdoor use in an average water year was determined to be 0.33 AF per DU, as presented in Table 7.

Table 7 - Estimated Outdoor Applied Water for Rural Domestic Parcels

Parcel Size (Acres)	Count of Parcels	Estimated Outdoor Water Use (AFY)	AFY / Dwelling Unit
<1 - 2.5	1,468	203	0.14
2.5 - 20	1,678	541	0.32
20 - 40	340	154	0.45
>40	494	431	0.87
	3,980	1,329	0.33

To calculate the portion of outdoor rural domestic that is consumed, the SCI Team compared historical average applied agricultural water use to the historical consumptive use baseline developed by Land IQ. The historical average applied agricultural groundwater use is approximately 72,160 AFY. The consumptive use baseline posits that total average agricultural consumptive use is 54,795 AFY. Dividing the consumptive use baseline by the historical applied use average (54,795 AFY / 72,160 AFY) produces a consumptive percentage of 75.9%. This percentage represents the average amount of applied use that is consumed by outdoor irrigation in the Subbasin. The calculated AFY of outdoor applied use per dwelling unit (0.33) multiplied by 75.9% produces an AFY of outdoor *consumptive* use per dwelling unit of 0.25. Because indoor rural domestic groundwater use is considered 0% consumptive, 0.25 AFY represents the total estimated annual consumptive use of a rural domestic extractor.

Lastly, the SCI Team multiplied this use by the total number of residential parcels in the Subbasin that lie outside of water systems (0.25 AFY x 3,980 = 997.34 AFY). This total amount represents the total estimated annual consumptive rural domestic groundwater use in the Subbasin.

Public Water System Consumptive Groundwater Use

Public Water Systems (“PWS”) are required to report their extraction to the California Division of Drinking Water. As such, this data is publicly available. Furthermore, several PWS within the Subbasin (including the City) share their exaction data with the Authority, streamlining the process of data collection. The process of converting PWS extraction data to consumptive use data varies based on the system in question.

Small Public Water System Consumptive Use

Seven of the eight systems within the Authority share several characteristics that justify grouping them together for the purposes of consumptive use calculation. These small rural systems (referred to as “small public water systems” or “small PWS”) all serve parcels that are on septic systems as opposed to sewer, and all of them serve mostly (if not only) residential parcels. The few commercial properties within these systems represent small retail or similar entities, as opposed to large-scale commercial or industrial.

The analysis of rural domestic consumptive groundwater use (as detailed above) improved the understanding of small PWS consumptive use, as these systems are largely rural. The percentage of water use that is consumptive for each of these systems is comparable and relates to a typical rural domestic household’s consumptive water use.

To this end, the total estimated applied rural residential water use can be analyzed to develop a percentage of applied water use that can be considered consumptive. For rural domestic extractors, indoor use is estimated at 0.29 AFY per DU and outdoor use is estimated at 0.33 AFY per DU, making the total estimated applied use per DU 0.62 AFY.

As shown below in Table 8, the total estimated consumptive use per DU is 75.9% of 0.33 AFY – or 0.25 AFY. This use amount is approximately 40% of the total estimated applied water use (0.62 AFY per DU). A multiplier of 40% is then used to determine the amount of applied groundwater extracted by Small PWS that is consumptive; conversely, approximately 60% of applied groundwater extracted by Small PWS is assumed to return to the aquifer via septic systems.

Table 8 - Consumptive Use Coefficient for Small PWS

Use Type	Applied Water (AFY / DU) ¹	Consumptive % ²	Consumptive Water (AFY / DU) ³
Indoor Use	0.29	0%	0
Outdoor Use	0.33	75.9%	0.25
Total	0.62	40%	0.25

- (1) Applied water is determined through the analysis described above.
- (2) Consumptive percentage describes the percentage of extracted groundwater that is consumptive; indoor is assumed to be 0%, and outdoor is calculated using the ratio of agricultural consumptive use to agricultural applied use.
- (3) Consumptive water (AFY / DU) is calculated by multiplying the applied water by the consumptive percentage.

Municipal Public Water System – City of Paso Robles

The remaining water system within the Members’ collective service area, the City of Paso Robles, is larger and has several characteristics that differentiate it from the small PWS. The City maintains a sewer system and serves a mix of both residential and commercial parcels. Additionally, water use on a parcel scale in this system is often quite different from the small PWS, which serve larger, more rural parcels. Another differentiating factor is that the City maintains a recycled water facility.

Calculation of a percentage of applied water use that is consumptive was determined by comparing influent flows and water production of the City’s wastewater treatment facility. A consumptive use coefficient was determined by subtracting influent flows from the sum of production to determine a consumptive use amount in each year analyzed. This consumptive use was then divided by the sum of production of that year to identify a consumptive use percentage of total water production.

Data was analyzed from years 2017 – 2024, and for both full years and dry months only (June – October). Ultimately, data from the full years 2020-2022 was selected as optimal. The reason for this is two-fold: one, using full years likely more accurately represents overall water use across different seasons, and two, 2020-2022 were dry water years, which minimizes the effect that large stormwater events would have on the calculation of consumptive use. The selected percentage of water production for the City is 59%, as shown in Table 9, below.

Table 9 - Consumptive Use Coefficient for Municipal PWS

City of Paso Robles Water Use				
WY	Total Use (AF) ¹	Waste Water Effluent (AF) ²	Consumed Water (AF) ³	Consumptive Percentage ⁴
2020	5,710	2,330	3,380	59%
2021	6,018	2,481	3,537	59%
2022	5,867	2,426	3,441	59%

(1) Total water use as reported by the City of Paso Robles.

(2) Waste water effluent (or discharge) as reported by the City of Paso Robles.


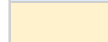
(3) Consumed water, calculated by subtracting wastewater effluent by total use.

(4) Consumptive percentage, calculated by dividing consumed water by total use.

Table 10 below summarizes all PWS extraction, consumptive use percentages, and consumptive use amounts used in this Fee Study. A five-year rolling average was selected as the best means of calculating extraction. This has the effect of smoothing out changes in pumping and consumption in years where there are large increases or decreases – this may be helpful to the water system, as it would see less drastic increases in charges, and to PRAGA, which will likely see less drastic decreases in revenue.

Table 10 - Summary of Public Water System Groundwater Extraction and Consumption

Public Water System Extraction and Consumptive Use (Values Shown are AF)								
Small Public Water Systems								Municipal Public Water System
Year	ADA'S LODGES	GREEN RIVER MUTUAL WATER CO.	MUSTANG SPRINGS MUTUAL WATER	PLEASANT VALLEY ELEMENTARY	RANCHO SALINAS MBWC	SPANISH LAKES MUTUAL WATER CO	CSA 16	CITY OF PASO ROBLES
2017			1.2	2.1	17.6	72.1	70.0	1,261.0
2018			1.4		17.0	69.0	50.0	1,302.0
2019		76.9	1.4	2.4	18.1	62.0	48.0	1,392.0
2020		92.7	1.8	0.3	17.4	73.7	91.0	1,121.0
2021		77.8	1.5	0.3	20.3	75.5	96.0	1,157.0
2022	12.2	86.0	0.9	0.2	19.3	67.4	86.0	1,617.0
2023			1.9	0.2	18.1	54.6	77.0	778.0
2024					17.0		84.0	690.0
Best 5-Year Average ¹	12.2	83.4	1.5	0.7	18.4	66.6	86.8	1,072.6
Consumptive Multiplier ²	40%	40%	40%	40%	40%	40%	40%	59%
Consumptive Conversion ³	4.9	33.7	0.6	0.3	7.4	26.9	35.1	632.8

 = Data Used in Average Calculation
 = No Data Available

- (1) The best five-year average utilizes the most recent data available for each system (shown in blue).
- (2) The consumptive multiplier represents the portion of applied (or extracted) groundwater use that is considered consumptive (as detailed above).
- (3) The Consumptive conversion is calculated by multiplying the best five-year average by the consumptive multiplier.

Commercial Consumptive Groundwater Use

Commercial groundwater extraction represents a small portion of groundwater use in the Basin. However, small commercial operations and wineries do extract groundwater within the Authority’s jurisdiction.

Small Commercial Operations

Using spatial analysis, the SCI Team identified all parcels within commercial County use codes within the Subbasin that lie outside of water system boundaries. These parcels are assumed to rely on groundwater. Only 31 parcels were identified in this analysis (note that wineries are analyzed separately, below). Of these 31 parcels, the majority are assigned County use codes associated with water use that is assumed to be 0% consumptive. Similar to rural domestic indoor use, water use for businesses such as retail sales, bars, and rest homes can be assumed to be returned to the aquifer through septic systems.

Several County use codes were identified as likely having some degree of consumptive groundwater use. These use codes are associated with manufacturing, and sand & gravel production,. For manufacturing and sand & gravel production, a general assumption of 0.25 AFY of consumptive use was used. This may need to be refined, potentially through outreach to specific property owners.

All commercial use codes, along with parcels counts, descriptions, and consumptive water assumptions are summarized below in Table 11.

Table 11 – Consumptive Groundwater Use for Commercial Parcels

County Use Code	Parcel Count	Primary Description	Secondary Description	Consumptive Water Assumption (AFY)	Total Consumptive Use (AFY)
310	1	Retail Sales	NA	0	0
310 856	1	Retail Sales	Government Post Office	0	0
321	1	Restaurant - Small Sit-Down	NA	0	0
325	1	Bar / Cocktail Lounge	NA	0	0
333	1	Office 1-5 Units	NA	0	0
380	3	Automotive Uses	NA	0	0
381	3	Automotive - Service Station	NA	0	0
385	5	Commercial Service	NA	0	0
404	1	Rest Home	NA	0	0
428	1	Recreational Meeting Hall	NA	0	0
511	2	Manufacturing - Light	NA	0.25	0.5
511 139	1	Manufacturing - Light	Mobilehome as Secondary	0.25	0.25
515	3	Mini Storage	NA	0	0
520 310	1	Warehousing	Retail Sales	0	0
531 512	1	Mining Sand / Gravel	Manufacturing - Heavy	0.25	0.25
810	1	Church	NA	0	0
810 022	1	Church	NA	0	0
810 820	1	Church	School	0	0
820	2	School	NA	0	0
Total	31				1

Wineries

Many wineries operate within the Subbasin. While agricultural irrigation of vineyards is determined using ET measurements, wine production itself also requires water. In order to establish consumptive water use amounts for wineries, the SCI Team relied on data from the California Regional Water Quality Control Board⁷ (“RWQCB”) and consultation with local wine industry experts. As of 2017, all wineries producing more than 160 tons of grapes crushed, at least 10,000 cases, or 26,000 gallons of wine must file reports with the RWQCB.⁸

Based on review of RWQCB records, Paso Robles Wine Country Alliance, and Paso Robles Wineries, there are a number of wineries located in the Paso Basin outside of a public water system. Ten of these wineries have RWQCB reporting associated with them, specifying a total annual production volume of wine. The remaining 84 wineries are assumed to be at the ‘small winery’ threshold annual wine production volume of 26,000 gallons. Based on consultation with local wine industry experts, for wineries without specific information available from RWQCB, the number of gallons of water used per gallon of wine production is assumed to be four gallons water for each gallon of wine produced. Using these assumptions and the available RWQCB reporting it is estimated that a total of 215 Acre-Feet of water is used annually for wine production in the Basin, with the average winery using less than 2 AFY. Considering that the water use during wine production is primarily for washing down grape crush pads, vessels and containers, and other working surfaces, it is assumed that a majority of the water returns to the Subbasin via direct percolation or is repurposed as irrigation water. It is estimated that only 25% of the total water used in wineries is consumptive use.

The SCI Team calculated the total estimated AF of applied water per year by multiplying the sum of wine production (in gallons) by the required gallons of water per gallon of wine produced. This number is then converted from gallons to AF. Based on these data and assumptions, the total estimated consumptive use for wineries in the Paso Basin is 38.3 AFY, as summarized in Table 12, below. A more detailed table, including all wineries within the Subbasin, RWQCB data, and assumptions is provided in Appendix B.

⁷ <https://www.waterboards.ca.gov/centralcoast/>

⁸ https://www.waterboards.ca.gov/centralcoast/board_decisions/adopted_orders/2017/winery_general_order/general_wdr_order_r3-2017-0020.pdf

Table 12 – Summary of Wine Production and Water Use

Total Wineries (Outside of PWS) ¹	Volume of Wine Produced (Gallons per Year) ²	Estimated Total Gallons of Water per Year ³	Estimated Total AF of Water per Year ⁴	Estimated Total Consumptive AF of Water per year ⁵
94	13,945,155	49,969,837	153.4	38.3

- (1) Total wineries within the Subbasin outside of public water systems was derived from review of RWQCB records, Paso Robles Wine Country Alliance, and Paso Robles Wineries.
- (2) Volume of wine produced is derived from RWQCB reports when available. If unavailable, production is assumed to be the maximum amount under the reporting requirement per winery (26,000 gallons per year).
- (3) Estimated total gallons of water per year is calculated by multiplying volume of wine produced by gallons of water per gallon of wine. For most entities, gallons of water required per gallon of wine was not reported. In these instances, based on consultation with local wine industry experts, an assumption of four gallons of water per gallon of wine produced is used.
- (4) Estimated total AF of water per year is calculated by multiplying volume of wine produced by gallons of water per gallon of wine and converting gallons to AF.
- (5) Estimated consumptive AFY is calculated by multiplying the total applied AFY by 25%. The assumption that approximately 25% of water used in wine production is consumptive is based on consultation with industry experts.

Table 13 below summarizes all commercial groundwater consumption, including small commercial and wineries.

Table 13 - Total Commercial Consumptive Groundwater Use

Projected Consumed Commercial Groundwater Use	
Use Type	Groundwater Use (AFY)
Small Commercial	1.5
Wineries	38.3
Total	39.8

Summary of Projected Consumed Groundwater Use

In Table 14 below, a summary of consumptive groundwater use across all categories is provided. These numbers are used in the final rate calculations below. Note that a 20% decrease from Year 2 to Year 5 is incorporated for agricultural groundwater use. This is based on the assumption that as the Authority implements the GSP, a reduction in agricultural groundwater demand will occur.

Table 14 - Projected Consumed Groundwater Use

Projected Consumed Groundwater Use (AF)	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Groundwater Extractor Class	Year 1	Year 2	Year 3	Year 4	Year 5
Agricultural	54,796	52,056	49,316	46,576	43,836
Water Systems	742	742	742	742	742
Commercial	40	40	40	40	40
Total Non-De Minimis	55,577	52,837	50,098	47,358	44,618
Rural Domestic (De Minimis)	997	997	997	997	997
Total Groundwater Use	56,574	53,835	51,095	48,355	45,615

Annual Consumptive Use Calculation

Guidelines for calculation of annual consumptive use are currently under development. The Authority may decide to calculate consumptive use each year from June – May. However, this approach is still being refined and is subject to change.

In Year 1, PRAGA will not yet have 12 months of ET data upon which charges can be calculated for agricultural extractors. As noted previously, ET data collection began in August 2024. For this reason, the Authority may elect to charge agricultural extractors based on a reduced time span (potentially August 2024 – June 2025). This would result in a lower revenue for year 1. In future years, it is anticipated that charge calculation will be based on a 12-month period.

Rate Determinations

As noted above, a method of apportionment was developed to map expenses to each groundwater extractor class category. Primary Costs are apportioned to all extractors, Supplemental Non-De Minimis Costs are apportioned to all non-de minimis extractors, and Supplemental Agricultural Costs are apportioned only to agricultural extractors. The final rate determinations are shown in Table 15. The average annual total revenue need for each cost category is shown, followed by the amount of consumptive groundwater use amount to which that cost is apportioned. The annual revenue need for each cost category is then divided by the appropriate water use amount for each fiscal year.

Average annual Primary Costs are divided by the annual estimate of non-de minimis groundwater use to calculate annual Primary Rates between \$26.76 and \$33.08 per AF. As noted previously, it is anticipated that Member GSAs will pay for the Services provided to rural domestic users with funds not derived from the proposed Charge. Under this approach, rural domestic extractors will not be charged directly.

Average annual Supplemental Non-De Minimis Costs are divided by the annual estimate of non-de minimis groundwater use to calculate Supplemental Non-De Minimis rates for commercial and water system extractors. These rates are added to the Primary Rates to determine total annual Non-De Minimis Rates between \$28.65 and \$35.55.

Average annual Supplemental Agricultural Costs are divided by the annual estimate of agricultural groundwater use to calculate Supplemental Agricultural Rates for agricultural extractors. These rates are then added to the Supplemental Non-De Minimis rates to produce a total annual Agricultural Rates between \$58.71 and \$73.12 per AF.

Note that the use of an average revenue need for rate calculations often produces a consistent rate each year. This is not the case below, as an estimated reduction in groundwater use is incorporated into the rate projections. This produces a slight increase in rates over the five-year period.

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Table 15 - Final Rate Determinations

Primary Rates					
Fiscal Year	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Average Annual Primary Costs	\$1,514,059	\$1,514,059	\$1,514,059	\$1,514,059	\$1,514,059
Total Consumptive Groundwater Use	56,574	53,834	51,094	48,355	45,615
Primary Rate (Per AF) ¹	\$26.76	\$28.12	\$29.63	\$31.31	\$33.19
Supplemental Non-De Minimis Rates					
Fiscal Year	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Average Annual Supplemental Non-De Minimis Costs	\$105,127	\$105,127	\$105,127	\$105,127	\$105,127
Non-De Minimis Groundwater Use (AF)	55,577	52,837	50,097	47,357	44,618
Supplemental Non-De Minimis Rates (Per AF)	\$1.89	\$1.99	\$2.10	\$2.22	\$2.36
Total Non-De Minimis Rate (Per AF) ²	\$28.65	\$30.11	\$31.73	\$33.53	\$35.55
Supplemental Agricultural Rates					
Fiscal Year	FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30
Average Annual Supplemental Agricultural Costs	\$1,646,917	\$1,646,917	\$1,646,917	\$1,646,917	\$1,646,917
Agricultural Groundwater Use (AF)	54,796	52,056	49,316	46,576	43,836
Supplemental Agricultural Rate (Per AF)	\$30.06	\$31.64	\$33.40	\$35.36	\$37.57
Total Agricultural Rate (Per AF) ³	\$58.71	\$61.75	\$65.13	\$68.89	\$73.12

- (1) Primary rates apply to rural domestic extractors – but will be paid for by Member Agency GSAs through contributions or in-kind services – not by rural domestic extractors themselves.
- (2) Non-De Minimis Rates apply to all non-de minimis extractors other than agricultural (commercial and water system extractors). These are calculated by adding the Supplemental Non-De Minimis Rates to the Primary Rates.
- (3) Agricultural Rates apply to agricultural extractors. These are calculated by adding the Supplemental Agricultural Rates to the Non-De Minimis Rates.

IV. Groundwater Charge Implementation

If successful, implementation of the proposed Groundwater Charge will require determination of optimal implementation logistics, supporting rules and regulations, and annual updates and administration. The Authority is still working to refine the approach to various logistical questions at this time. Some of these questions may be resolved at the time that the Authority approves this report and authorizes that notice of the hearing on the Groundwater Charge / right to protest be provided, likely by resolution.

Groundwater Charge Implementation Logistics

The purpose of this Study is to describe the analysis of the cost of service provided to property owners / extractors, establish the apportionment of this cost to groundwater extractors within the Basin, and establish the maximum rates this cost informs.

Notice of the Proposed Charge Program

In accordance with Water Code § 10730.2 and Proposition 218, all affected landowners will be mailed notice of the Proposed Charge Program. The maximum rates illustrated in Table 15 above will be the proposed Groundwater Charge contained in the mailed notice.

For agricultural parcels, all parcels with “managed field” will be noticed. Managed fields are defined as homogeneous crop types or fallow, rather than legal parcel boundaries. These fields are mapped to determine the parcels they overlie. Crop classification(s) are assessed annually. Fields determined to be unclassified fallow are retained in the dataset as they represent agricultural land use with potentially seasonal fallowing. In general, these unclassified fallow fields have been cropped or managed at some point since 2014, and the land use remains agricultural in nature. Fields must be at least 2 acres in size, but smaller field inclusions may be made if they are within 30 meters of another field. By including fallow fields in the noticing, PRAGA acknowledges that a parcel that is temporarily fallowed may still be affected by the proposed Charge.

All water systems extracting groundwater will be noticed. These systems are required to report their extraction to the State, and their status as extractors is measurable.

All commercial parcels determined to consumptively use groundwater will be noticed. This excludes certain small commercial operations (as detailed in this Report) based on analysis that they do not consumptively use groundwater. Most commercial parcels that consumptively use groundwater are wineries and

Rural domestic parcels will not be noticed, as they will not be charged directly. The minimal cost of Service to provided to these users will be paid for by Member GSAs through contributions or in-kind services.

Annual Administration and Budget Determination

Annual administration will be required in order to update the Groundwater Charge Program based on changes in property ownership, parcels and parcel lines, groundwater use and other factors. The Authority will update all property information based on parcel changes by the San Luis Obispo County Assessors' office, updated ET data, and other factors.

The Authority's consultant will provide updated consumptive use and precipitation data for all parcels and fields within the Authority on a monthly basis. Cumulatively over the course of each year, this updated information will be used to inform fee calculations on a parcel scale.

Prior to updating the Groundwater Charge calculations, the Board will meet annually in the spring to determine the appropriate budget for the upcoming fiscal year. As it relates to the cost of service, the budget must justify the Groundwater Charges levied on an annual basis. While the Board cannot impose a rate higher than those approved through the majority protest process, it can choose to impose a lower rate in any given year.

Annual Rate Calculation and Billing

The Authority will calculate consumptive groundwater use of parcels for an annual period each year. This period may be from June – May of each year. However, this approach is still being refined.

Variance Process and Metered Extraction Data

Separate and apart from any protest related to the imposition of the rate, property owners / extractors will have the opportunity to establish variance regarding the consumptive groundwater use calculation for their parcel(s).

Specific requirements for proof of variance based on meter data are under development and will be adopted by the Authority Board. However, the below represents an example of the potential process:

Variance claims must be submitted to the Authority within 30 days of notification of a parcel's calculated consumptive groundwater use. Appeals will require data, calculations, or other information to support the claim.

Appeals must be submitted with metered extraction data for all wells that serve the parcel(s) in question. The Authority will investigate the claim and request additional information as needed. Conversion of data from applied groundwater to consumed groundwater may be necessary in order to determine a resolution. This would include consideration of other relevant factors, including irrigation efficiency.

Government Code § 53759

In accordance with Government Code § 53759, any judicial action, challenge, or proceeding related to the establishment of the proposed Groundwater Use Fee Program shall be commenced within 120 days of the effective date of the final adoption of the Program. Pending the results of the protest tabulation, this final adoption is expected in Spring 2025.

Government Code § 53759.1 and 53759.2

AB 2257, effective January 1, 2025, codifies Government Code §§ 53759.1 and 53759.2. Government Code § 53759.1 authorizes public agencies to implement an exhaustion of administrative remedies requirement in the context of proposed Proposition 218 property related fee or assessment. If the local agency complies with certain specified requirements, property owners are required to submit a written objection regarding a proposed property related fee or assessment during the ratemaking process and by a specified deadline no less than 45 days after mailing of notice pursuant to Proposition 218, and prohibited from challenging the property related fee or assessment in litigation if they did not submit a timely written objection. To implement this requirement, the local agency is required, among other things, to prepare written responses to the timely submitted objections and present them to the local agency governing body, which will make certain specified determinations prior to the close of the Proposition 218 protest hearing. This process is intended to run concurrently with the Proposition 218 timeline and does not impact a property owner's ability to submit a protest pursuant to Proposition 218.

Government Code § 53759.2 specifies the scope of a Court's review of the administrative record of the underlying ratemaking proceeding, if the local agency complied with Government Code § 53759.1 in adopting the property related fee or assessment being challenged.

PRAGA intends to comply with and implement Government Code § 53759.1 with respect to the proposed Fee Program. Property owners will be informed of the deadline and process to submit a written objection, and other dates related to PRAGA's compliance with this provision.

Appendices

Appendix A – Historical Baseline of Consumptive Use

Table 16 - Historical Crop Acreages and Consumption Coefficients

Crop Type	Acreage Totals					Annual ET (Consumptive Use) AF/Acre
	WY 2023	WY 2022	WY 2021	WY 2020	WY 2019	
Grapes	34,438	32,177	32,707	33,441	35,084	1.10
Miscellaneous Grain and Hay	10,774	8,654	7,758	11,738	14,442	0.08
Unclassified Fallow	6,270	9,796	12,149	19,206	14,452	0.00
Mixed Pasture	1,060	899	1,333	1,622	1,854	3.60
Almonds	1,788	1,335	1,747	1,766	1,772	0.00
Alfalfa and Alfalfa Mixtures	1,555	1,443	1,334	1,220	1,511	3.38
Miscellaneous Truck Crops	218	112	83	105	705	1.67
Olives	444	432	392	369	385	2.02
Carrots	577	381	838	447	296	1.43
Walnuts	50	50	97	97	241	3.08
Young Perennials	22	28	281	228	238	1.67
Lettuce/Leafy Greens	0	0	0	0	221	1.67
Pistachios	1,186	913	620	492	185	3.08
Corn, Sorghum and Sudan	34	82	2	0	180	2.33
Safflower	96	100	97	114	166	0.08
Onions and Garlic	29	445	46	0	143	1.67
Miscellaneous Grasses	135	203	159	3	102	3.60
Cole Crops	0	0	0	0	54	1.67
Flowers, Nursery, Christmas Tree Farms	18	3	7	7	52	2.20
Miscellaneous Deciduous	76	57	58	67	51	3.08
Apples	49	49	35	35	40	3.08
Pomegranates	17	14	46	39	38	2.02
Miscellaneous Subtropical Fruits	8	19	41	28	32	2.02
Wheat	8	8	0	0	10	0.08
Citrus	0	3	3	2	2	2.02
Avocados	0	0	3	2	0	1.80
Beans (Dry)	23	0	0	144	0	1.90
Greenhouse	0	0	1	1	0	2.20
Idle - Long-Term	8,914	3,134	3,042	0	0	0.00
Idle - Short-Term	10,107	14,034	9,733	0	0	0.00
Melons, Squash and Cucumbers	6	6	30	0	0	1.67
Miscellaneous Field Crops	0	16	0	0	0	1.32
Peaches/Nectarines	7	7	0	0	0	3.08
Potatoes	0	0	120	0	0	2.90
Sunflowers	0	0	25	0	0	1.13
Turf	6	6	0	0	0	3.38
Total	77,917	74,407	72,786	71,174	72,255	NA
Key						
Irrigated Crops						
Non-Irrigated Crops						

Table 17 - Historical Consumptive Use Baseline by Crop Type

Crop Type	ET of Applied Water (Consumptive Use) AF					
	WY 2023	WY 2022	WY 2021	WY 2020	WY 2019	Average
Grapes	37,882	35,394	35,977	36,785	38,593	36,926
Miscellaneous Grain and Hay	808	649	582	880	1,083	800
Unclassified Fallow	0	0	0	0	0	0
Mixed Pasture	3,815	3,236	4,798	5,840	6,675	4,873
Almonds	0	0	0	0	0	0
Alfalfa and Alfalfa Mixtures	5,248	4,869	4,503	4,117	5,099	4,767
Miscellaneous Truck Crops	364	187	138	176	1,179	409
Olives	899	875	794	746	778	819
Carrots	823	543	1,194	638	422	724
Walnuts	155	155	300	300	743	330
Young Perennials	37	48	469	381	398	267
Lettuce/Leafy Greens	0	0	0	0	369	74
Pistachios	3,653	2,812	1,909	1,515	568	2,091
Corn, Sorghum and Sudan	78	190	6	0	419	139
Safflower	7	8	7	9	12	9
Onions and Garlic	49	744	77	0	239	222
Miscellaneous Grasses	485	731	571	12	369	434
Cole Crops	0	0	0	0	90	18
Flowers, Nursery, Christmas Tree Farms	40	7	15	15	115	38
Miscellaneous Deciduous	235	177	179	206	157	191
Apples	151	151	107	107	122	127
Pomegranates	34	28	93	80	78	63
Miscellaneous Subtropical Fruits	16	38	83	57	64	51
Wheat	1	1	0	0	1	0
Citrus	0	6	6	4	4	4
Avocados	0	0	5	4	0	2
Beans (Dry)	44	0	0	274	0	64
Greenhouse	0	0	3	3	0	1
Idle - Long-Term	0	0	0	0	0	0
Idle - Short-Term	0	0	0	0	0	0
Melons, Squash and Cucumbers	10	10	51	0	0	14
Miscellaneous Field Crops	0	21	0	0	0	4
Peaches/Nectarines	21	21	0	0	0	8
Potatoes	0	0	348	0	0	70
Sunflowers	0	0	28	0	0	6
Turf	22	22	0	0	0	9
Total	54,879	50,921	52,242	52,146	57,577	53,553

Key
Irrigated Crops
Non-Irrigated Crops

Appendix B – RWQCB Winery Data and Assumptions

Table 18 - Wineries in the Paso Robles Subbasin

Winery Name	Grapes Crushed (Tons per Year) ¹	Cases Produced per Year ²	Volume of Wine Produced (Gallons per Year) ³	Gallons of Water per Gallon of Wine ⁴	Estimated Total Gallons Water per Year ⁵	Total Applied AFY ⁶	Estimated Consumptive AFY ⁷
CALIPASO WINERY LLC	362	21,300	53,509	4	214,036	0.66	0.16
CASS WINERY	223		34,844	4	139,375	0.43	0.11
CASTORO CELLARS - SAN MIGUEL	10,706		1,672,813	4	6,691,250	20.53	5.13
J. LOHR WINERY PASO ROBLES	10,189	728,536	1,732,459	1.8	3,118,425	9.57	2.39
LIBERTY VINEYARD	50	2,500	6,000	4	24,000	0.07	0.02
PEACHY CANYON WINERY	316	20,429	46,446	4	185,784	0.57	0.14
ROBERT HALL WINERY	1,878		309,000	4	1,236,000	3.79	0.95
SV PARTNERS WINERY	6,398		999,688	2	1,999,375	6.14	1.53
TREASURY WINE ESTATES WINERY	30,235	0	4,746,206	4	18,984,824	58.26	14.57
TRINCHERO CENTRAL COAST WINERY	11,926	908,407	2,160,192	4	8,640,767	26.52	6.63
3IN WINERY INC.			26,000	4	104,000	0.32	0.08
AMBYTH ESTATE			26,000	4	104,000	0.32	0.08
AUGUST RIDGE VINEYARDS			26,000	4	104,000	0.32	0.08
AW1040 B&E VINEYARD			26,000	4	104,000	0.32	0.08
BARR ESTATE WINERY - WAIVER			26,000	4	104,000	0.32	0.08
BIANCHI VINEYARDS			26,000	4	104,000	0.32	0.08
BRANDON MICHAEL SIMONDS CELLARS			26,000	4	104,000	0.32	0.08
BROHAUGH WINERY			26,000	4	104,000	0.32	0.08
BURBANK RANCH WINERY			26,000	4	104,000	0.32	0.08
CAPARONE WINERY			26,000	4	104,000	0.32	0.08
CHATEAU MARGENE WINERY			26,000	4	104,000	0.32	0.08
TERRA & LTD CELLARS			26,000	4	104,000	0.32	0.08
CHRISTIAN LAZO WINES - WAIVER			26,000	4	104,000	0.32	0.08
CLAUTIERE VINEYARD			26,000	4	104,000	0.32	0.08
DEMETER FAMILY VINEYARD AND WINERY			26,000	4	104,000	0.32	0.08
DOMAINE DEGHER			26,000	4	104,000	0.32	0.08
EBERLE WINERY			26,000	4	104,000	0.32	0.08
ESTRELLA WINERY			26,000	4	104,000	0.32	0.08
FOUR SISTERS RANCH			26,000	4	104,000	0.32	0.08
GELFAND VINEYARDS			26,000	4	104,000	0.32	0.08
GEORGIO VINEYARD			26,000	4	104,000	0.32	0.08
GLUNZ FAMILY WINERY AND CELLARS			26,000	4	104,000	0.32	0.08
HANSEN VINEYARDS			26,000	4	104,000	0.32	0.08
HIDDEN OAK WINERY			26,000	4	104,000	0.32	0.08
J. PAUL WINERY			26,000	4	104,000	0.32	0.08
JAMES JUDD AND SONS WINERY			26,000	4	104,000	0.32	0.08
KEEZER WINERY			26,000	4	104,000	0.32	0.08
KENNETH PAUL WINERY			26,000	4	104,000	0.32	0.08
NAGENGAST ESTATE VINEYARD			26,000	4	104,000	0.32	0.08
PEAR VALLEY WINERY			26,000	4	104,000	0.32	0.08
PENMAN SPRINGS VINEYARD			26,000	4	104,000	0.32	0.08
POMAR JUNCTION WINERY			26,000	4	104,000	0.32	0.08
POZZUOLI WINERY			26,000	4	104,000	0.32	0.08
RABBIT RIDGE WINERY			26,000	4	104,000	0.32	0.08
RANCHITA CANYON VINEYARD - WAIVER			26,000	4	104,000	0.32	0.08
RASMUSSEN WINERY			26,000	4	104,000	0.32	0.08
RAVA WINES - WAIVER			26,000	4	104,000	0.32	0.08
RIO SECO VINEYARD AND WINERY			26,000	4	104,000	0.32	0.08
RIVERSTAR WINERY			26,000	4	104,000	0.32	0.08
ROCKIN R WINERY			26,000	4	104,000	0.32	0.08
SAN MARCOS CREEK VINEYARDS			26,000	4	104,000	0.32	0.08
SARZOTTI WINERY			26,000	4	104,000	0.32	0.08

Table 17 Continued

Winery Name	Grapes Crushed (Tons per Year) ¹	Cases Produced per Year ²	Volume of Wine Produced (Gallons per Year) ³	Gallons of Water per Gallon of Wine ⁴	Estimated Total Gallons Water per Year ⁵	Total Applied AFY ⁶	Estimated Consumptive AFY ⁷
SAXBY WINERY			26,000	4	104,000	0.32	0.08
SCULPTERRA WINERY			26,000	4	104,000	0.32	0.08
STEINBECK WINERY - WAIVER			26,000	4	104,000	0.32	0.08
STILL WATERS VINEYARDS			26,000	4	104,000	0.32	0.08
TOBIN JAMES CELLARS			26,000	4	104,000	0.32	0.08
VILLA SAN JULIETTE WINERY			26,000	4	104,000	0.32	0.08
VINES ON THE MARYCREST			26,000	4	104,000	0.32	0.08
VINO VARGAS WINERY			26,000	4	104,000	0.32	0.08
WASSERMAN VINEYARDS AND WINERY			26,000	4	104,000	0.32	0.08
ALEKSANDER WINE			26,000	4	104,000	0.32	0.08
ASUNCION RIDGE			26,000	4	104,000	0.32	0.08
BON NICHE			26,000	4	104,000	0.32	0.08
BOVINO			26,000	4	104,000	0.32	0.08
BROPHY CLARK CELLARS			26,000	4	104,000	0.32	0.08
CHRONIC			26,000	4	104,000	0.32	0.08
CINQUAIN			26,000	4	104,000	0.32	0.08
CIRCLE B			26,000	4	104,000	0.32	0.08
COPIA			26,000	4	104,000	0.32	0.08
DEFIANCE			26,000	4	104,000	0.32	0.08
DRESSER			26,000	4	104,000	0.32	0.08
EDEN HOUSE AT CARRIAGE VINEYARDS			26,000	4	104,000	0.32	0.08
ELLA'S VINEYARD			26,000	4	104,000	0.32	0.08
FABLEIST			26,000	4	104,000	0.32	0.08
GRAVEYARD			26,000	4	104,000	0.32	0.08
HEARST RANCH			26,000	4	104,000	0.32	0.08
HIGH CAMP			26,000	4	104,000	0.32	0.08
J&J			26,000	4	104,000	0.32	0.08
LAZARRE WINES			26,000	4	104,000	0.32	0.08
LE VIGNE			26,000	4	104,000	0.32	0.08
MITCHELLA			26,000	4	104,000	0.32	0.08
OPTIO VINEYARDS			26,000	4	104,000	0.32	0.08
PARIS VALLEY ROAD			26,000	4	104,000	0.32	0.08
RAILS NAP			26,000	4	104,000	0.32	0.08
RN ESTATE			26,000	4	104,000	0.32	0.08
SANTELLAN VINEYARDS			26,000	4	104,000	0.32	0.08
STANGER			26,000	4	104,000	0.32	0.08
TACKITT			26,000	4	104,000	0.32	0.08
THIBIDA			26,000	4	104,000	0.32	0.08
VAHALI VINEYARDS			26,000	4	104,000	0.32	0.08
VIA VEGA			26,000	4	104,000	0.32	0.08
VINYL			26,000	4	104,000	0.32	0.08
VISTA DEL REY			26,000	4	104,000	0.32	0.08
Totals	NA	NA	NA	NA	50,177,837	154.0	38.5

Notes:

- All wineries within the Subbasin outside of water systems are included in this table. Wineries within water systems are assumed to be water customers, not extractors.
 - Cells in tan indicate no data available in RWQCB Reports.
 - Text in orange indicates assumption(s) used.
 - A majority of wineries within the Subbasin are not subject to RWQCB reporting due to their small production size.
- (1) Grapes crushed (tons per year) is derived from RWQCB reports when available.
 (2) Cases produced each year is derived from RWQCB reports when available.

- (3) Volume of wine produced is derived from RWQCB reports when available. If unavailable, production is assumed to be the maximum amount under the reporting requirement (26,000 gallons per year).
- (4) Gallons of water per gallon of wine is derived from RWQCB reports when available. If unavailable, an assumption of 4 gallons of water per gallon of wine is used based on consultation with industry experts.
- (5) Estimated total gallons of water per year is calculated by multiplying volume of wine produced by gallons of water per gallon of wine.
- (6) Total applied AFY converts total gallons of water per year to AF (dividing gallon amount by 325,851 – the amount of gallons in one AF).
- (7) Estimated consumptive AFY is calculated by multiplying the total applied AFY by 25%. The assumption that approximately 25% of water used in wine production is consumptive is based on consultation with industry experts.

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