

GSP Section 5 Contents

5	PLAN IMPLEMENTATION	5-1
5.1	Estimate of GSP Implementation Costs.....	5-1
5.1.1	Estimate of Ongoing Costs by Major Category	5-1
5.1.1.1	Agency Administration and Operations	5-1
5.1.1.2	Legal Services	5-3
5.1.1.3	Management and Coordination	5-3
5.1.1.3.1	Technical Work: Groundwater Model Simulations and Updates.....	5-3
5.1.1.3.2	Technical Work: Consultants.....	5-3
5.1.1.3.3	Planning/Program Staff Support.....	5-3
5.1.1.4	Data Collection, Analysis, and Reporting	5-4
5.1.1.4.1	Monitoring: Groundwater Elevation	5-4
5.1.1.4.2	Monitoring: Groundwater Quality.....	5-5
5.1.1.4.3	Groundwater Extraction Monitoring.....	5-5
5.1.1.4.4	Monitoring: Streamflow.....	5-6
5.1.1.4.5	Data Collection: Offshore Airborne Electromagnetics Geophysical Surveys.....	5-6
5.1.1.4.6	Data Collection: Other	5-6
5.1.1.4.7	Data Management	5-6
5.1.1.5	GSP Reporting to DWR.....	5-7
5.1.1.5.1	Annual Reports.....	5-7
5.1.1.5.2	Periodic (5-year) Evaluations	5-7
5.1.1.6	Community Outreach & Education	5-7
5.1.1.7	Financial Reserves and Contingencies	5-7
5.1.2	Activities of the MGA Member Agencies.....	5-8
5.1.2.1	Monitoring Activities.....	5-8
5.1.2.2	Member Agency Projects.....	5-9
5.1.3	Total Estimated Implementation Costs Through 2040.....	5-9
5.1.4	Funding sources and mechanisms	5-10
5.2	Schedule for Implementation.....	5-11
5.2.1	Projects and Management Actions	5-12
5.3	Annual Reporting.....	5-13
5.4	Periodic (5-Year) Evaluations	5-14

Tables

Table 5-1. Estimated Agency Costs by Major Category	5-2
Table 5-2. Member Agency Groundwater Elevation and Quality Monitoring Annual Costs in Basin.....	5-8
Table 5-3. Member Agency Streamflow, Precipitation, and Fish Monitoring Annual Costs in Basin.....	5-8
Table 5-4. Member Agency Projects.....	5-9
Table 5-5. Groundwater Sustainability Plan Estimated Implementation Cost Through 2040	5-10

Figures

Figure 5-1. GSP Implementation Schedule	5-12
Figure 5-2. Member Agency Projects and Management Actions Estimated Timeline.....	5-12

Appendices

Appendix A5-A. Santa Cruz Mid-County Groundwater Agency Evaluation of Private Pumper Funding Mechanisms and Fee Criteria, Raftelis, May 2019

5 PLAN IMPLEMENTATION

5.1 Estimate of GSP Implementation Costs

This subsection provides an estimate of the cost to implement the Groundwater Sustainability Plan (GSP or Plan) and a general description of how the Santa Cruz Mid-County Groundwater Agency (MGA) plans to meet those costs. Implementation cost considerations include MGA administration, management actions, monitoring protocols, data management, maintaining a prudent fiscal reserve, and other costs estimated over a twenty-year time horizon. The estimated costs of projects and management actions are presented in this section. The funding sources and mechanisms and an estimated schedule for GSP implementation are also presented.

As noted in prior Sections of the GSP, the MGA Board is in agreement that the individual MGA member agencies will principally lead the implementation of projects and management actions. A major rationale for this decision was the long-standing engagement of MGA member agencies in groundwater management and water supply reliability planning work. The City of Santa Cruz and the Soquel Creek Water District (SqCWD) have evaluated a number of supplemental supply options over the last five years, and in several cases work has proceeded far enough to make it significantly more efficient for these agencies to continue their efforts rather than switching project implementation actions to the MGA.

5.1.1 Estimate of Ongoing Costs by Major Category

This subsection presents estimates of costs by the major categories. Presented are the estimated annual cost of ongoing activities as well as the estimated cost of events for activities that do not occur annually but are anticipated within the next five years. This approach enables calculating the 5-year total cost estimate which is annualized to better inform the MGA's general estimate of the costs by the major categories. Since the costs are based on the best estimates at the time of this report, actual costs may vary from those used in the projections below.

5.1.1.1 Agency Administration and Operations

This category includes the costs related to the administration of the MGA, including administrative staff support, finance staff support and related expenses, insurance, organizational memberships and conferences, miscellaneous supplies and materials. The estimated costs are presented in Table 5-1.

The MGA uses a collaborative staffing model to accomplish its work. Professional and technical staff from MGA member agencies provide staff leadership, management, work products, and administrative support for the MGA. Since 2016, the MGA has contracted with the Regional Water Management Foundation (RWMF), a subsidiary of the Community Foundation of Santa Cruz County, to provide core staff support to the MGA for planning and administration. As the MGA shifts from GSP development into implementation starting in 2020, the staffing support needs will be further evaluated to determine the ongoing administrative and management

framework. It is anticipated staffing needs will be evaluated annually during the early years of GSP Implementation as a clearer understanding of the support required evolves over time.

Table 5-1. Estimated Agency Costs by Major Category

Category	Annual Cost	Event Cost	5-Year Total	Annualized Cost (5-Years)
Agency Administration & Operations				
Administrative Staff Support	\$150,000	\$0	\$750,000	\$ 150,000
Treasurer & Finance Staff	\$12,000	\$0	\$60,000	\$ 12,000
Accounting and other software	\$2,500	\$0	\$12,500	\$ 2,500
Annual financial audit	\$9,000	\$0	\$45,000	\$ 9,000
Professional organizations	\$2,500	\$0	\$12,500	\$ 2,500
Insurance	\$1,000	\$0	\$5,000	\$ 1,000
Office supplies, materials, misc. expenses	\$2,500	\$0	\$12,500	\$ 2,500
Legal	\$20,000	\$0	\$100,000	\$ 20,000
Management & Coordination				
Technical Work: Groundwater Model	\$20,000	\$100,000	\$200,000	\$ 40,000
Technical Work: Consultants	\$15,000	\$0	\$75,000	\$ 15,000
Planning/Program Staff Support	\$25,000	\$0	\$125,000	\$ 25,000
Data Collection, Analysis, & Reporting				
Monitoring: Groundwater Elevation	\$10,000	\$160,000	\$210,000	\$ 42,000
Monitoring: Groundwater Quality ¹	\$0	\$0	\$0	\$ 0
Monitoring: Groundwater Extractions	\$15,000	\$15,000	\$90,000	\$ 18,000
Monitoring: Streamflow	\$10,000	\$30,000	\$80,000	\$ 16,000
Data Collection: Offshore AEM Surveys	\$0	\$150,000	\$150,000	\$ 30,000
Data Collection: Other	\$10,000	\$0	\$50,000	\$ 10,000
Data Management	\$20,000	\$25,000	\$125,000	\$ 25,000
GSP Reporting				
Annual Reports	\$25,000	\$0	\$125,000	\$ 25,000
5-year GSP Evaluations	\$0	\$100,000	\$100,000	\$ 20,000
Outreach & Education	\$20,000	\$0	\$100,000	\$ 20,000
Contingency (10%)	\$36,950	\$58,000	\$242,750	\$ 48,550
TOTAL	\$406,450	\$638,000	\$2,670,250	\$534,050
1. Groundwater quality monitoring is conducted by the individual member agencies				

The SqCWD Finance Manager serves as MGA Treasurer and is responsible, with support from the SqCWD Finance staff, for the accounting and billing functions of the MGA. This budget category includes finance related costs for accounting software and the annual financial audit. Also included is the annual membership dues for the Association of California Water Agencies (ACWA) and the annual insurance costs from Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA).

5.1.1.2 Legal Services

The MGA receives legal services from the County of Santa Cruz (County) on an as-needed basis. If legal services are needed on issues requiring specific expertise on groundwater, the Sustainable Groundwater Management Act (SMGA), other specific matters as necessary, or if there is a conflict of interest for County Counsel, the MGA will employ other counsel. The estimated cost of legal services is presented in Table 5-1.

5.1.1.3 Management and Coordination

5.1.1.3.1 Technical Work: Groundwater Model Simulations and Updates

The Basin groundwater model informs the management activities and ongoing performance assessment of the sustainable management criteria. Periodic updates to the groundwater model will be required to continue to refine and improve its capabilities and maintain ongoing functionality. This includes incorporating new model tools and features, updates to data, and related work to support ongoing simulations of projects and management actions. The model will be an important tool to inform the evaluation of Basin management strategies over time. This task will be performed by technical consultants. The estimated cost of this task is presented in Table 5-1.

5.1.1.3.2 Technical Work: Consultants

It is anticipated the MGA will have an ongoing need for technical support to inform Basin management. The specific needs and costs are yet to be identified but it is expected, as the initial GSP implementation efforts proceed, that these needs will become evident. Examples of technical consultant support are potential tasks such as: hydrologic technical support (not groundwater model specific); economic (e.g., cost-benefit analysis) and programmatic assessment of funding mechanisms; supplemental studies to address data gaps; vulnerability assessments for climate change and sea-level rise; additional assessment of managed aquifer recharge opportunities; among other tasks. In recognition of the potential need for technical support, the funding for this category is included in Table 5-1.

5.1.1.3.3 Planning/Program Staff Support

This category is broadly intended to include various planning and programmatic support to the MGA for ongoing GSP and SGMA related requirements.

5.1.1.4 Data Collection, Analysis, and Reporting

The MGA's proposed monitoring program is presented in the monitoring section (Section 3.3). The individual member agencies will continue to lead the semi-annual monitoring of groundwater elevation and water quality within their jurisdictions to inform the management of their respective agencies. It is anticipated that costs resulting from improvements to or expansion of existing monitoring networks necessary to evaluate the Sustainable Management Criteria (SMC), or otherwise added at the request of the MGA, will be funded by the MGA. Individual member agencies conduct streamflow monitoring. It is anticipated the MGA will assume responsibility to coordinate and fund streamflow monitoring within the Basin and this is to be a phased transition over the next five years.

5.1.1.4.1 Monitoring: Groundwater Elevation

There is a combined network of 174 wells in the Basin monitored at least twice a year. This network is made up of individual member agency wells combined into the Groundwater Management Plan (GMP) monitoring network, as described in Section 2.1.2: Water Resources Monitoring and Management Programs. This existing network is sufficient to evaluate short-term, seasonal, and long-term trends in groundwater elevations for groundwater management purposes. Each individual member agency will continue to use its own resources to monitor its wells as the GSP is implemented. Monitoring is described in detail in Section 3.1.1.1 Groundwater Level Monitoring Network.

Deep Wells: Section 3.4.4.1 presents the Groundwater Level Monitoring Data Gaps. To fill an identified data gap to improve the ability to monitor seawater intrusion requires installation of two new deep coastal monitoring wells. One of these is a deep Tu-Unit monitoring well is within the City of Santa Cruz service area and the other is a Purisima AA-Unit at the site where existing monitoring well SC-3 is located within the Soquel Creek Water District's service area. The well data will inform groundwater management by the respective member agencies within the Basin. It is anticipated the construction and operation of these wells will be funded the respective member agencies, not the MGA.

Shallow Wells: As discussed in Section 3.4.4.1, the addition of up to eight new shallow monitoring wells is proposed to improve the ability to monitor surface water/groundwater interactions. These wells will serve to inform the performance assessment of the sustainable management criteria for depletion of interconnected surface waters, as required under SGMA. The proposed eight shallow monitoring wells are anticipated to be installed in a phased approach at prioritized locations within the next 5 years. The MGA will continue to assess the prioritization and schedule for new shallow well locations as the network expands. Because this is monitoring that would not otherwise be conducted by the individual member agencies, the MGA will assume the costs associated with this monitoring. The MGA's cost to improve the monitoring network with the addition of new shallow monitoring wells is estimated to be approximately \$20,000 per site. These are approximate cost estimates as there are uncertainties such as site-specific considerations, construction bid environment as well as a variety of other factors that will ultimately determine the cost to install and operate each well.

5.1.1.4.2 Monitoring: Groundwater Quality

Each MGA member agency has its own network of dedicated monitoring wells and production wells that monitor groundwater quality in their service area or area of jurisdiction. These are described in detail in Section 3.1.1.2 Groundwater Quality Monitoring Network. Each agency will use its own resources to continue to sample these wells as the GSP is implemented. No new MGA-specific groundwater quality monitoring wells are proposed at this time. Monitoring for seawater intrusion will continue; the cost of the efforts is captured under groundwater elevation and other categories. The future need for new MGA groundwater quality monitoring wells will continue to be periodically evaluated as project and management actions are implemented.

5.1.1.4.3 Groundwater Extraction Monitoring

5.1.1.4.3.1 Metered Groundwater Extraction Public and Small Water Systems

Each MGA municipal water agency meters its own groundwater extraction by individual well and utilizes Supervisory Control and Data Acquisition (SCADA) systems to record groundwater extraction data. Each individual member agency will continue use its own resources to monitor these wells as the GSP is implemented.

As described in Section 3.1.1.3, small water systems with 5 to 199 connections and other applicable businesses/operations are required to be metered and report annually to Santa Cruz County. The cost to meter and report will continue to be the responsibility of the individual small water system and the applicable businesses/operations.

5.1.1.4.3.2 Metered Groundwater Extraction Non-De Minimis Users

The MGA will initiate a new well metering program to collect volumetric data on groundwater usage in the Basin that will inform the assessment and refinement of the sustainable yield of the Basin. The program will apply to two categories of users: (1) all non-de minimis pumping operations expected to extract more than 5 acre-feet per year, and (2) all non-de minimis pumping operations expected to extract more than 2 acre-feet per year that may impact seawater intrusion or an interconnected stream where groundwater dependent ecosystems are identified in Section 3.9. The boundaries of these zones will be established when the enabling ordinances are developed, but it is anticipated the zones will include the areas along the coast where groundwater is less than 50 feet above sea level and areas within 500-1000 feet of Soquel Creek.

The costs to implement the metering program include: program administration; coordination of program set-up and implementation; participant tracking; and coordination of annual reporting by the participating users. The participating users are responsible for the all costs related to the purchase, installation, calibration, and operation of the meters as well as annual reporting to the MGA.

5.1.1.4.4 Monitoring: Streamflow

As detailed in Section 3.1.1.4, streamflow monitoring is conducted by the MGA member agencies and partners to assess possible streamflow depletion related to groundwater extractions, monitor stream conditions related to fish habitat, and help preserve other beneficial uses of surface water.

To inform the assessment of the performance of the SMC, there are up to five new streamflow gauges associated with shallow monitoring wells that need to be installed by the MGA. The paired wells and gauges (adjacently located) are to evaluate a potential correlation between streamflow, shallow groundwater level and groundwater extraction.

The MGA estimated cost to construct the streamflow gauges are presented in Table 5-1. It is anticipated the new monitoring locations will be installed over in a phased approach over the next five years. The MGA's Proposition 1 GSP Planning grant is providing \$125,000 towards funding at least one streamflow and/or shallow groundwater elevation monitoring installation. The MGA will seek additional grant funding available from the Department of Water Resources (DWR) and consider other state and federal programs to partially fund the installation of new streamflow gauges.

5.1.1.4.5 Data Collection: Offshore Airborne Electromagnetics Geophysical Surveys

In May 2017, the MGA successfully completed an offshore Airborne Electromagnetic (AEM) geophysical survey to assess groundwater salinity levels and map the approximate location of the saltwater/freshwater interface in the offshore groundwater aquifers. This important data will inform the assessment of the extent and progress of seawater intrusion into the Basin and the management responses. The MGA anticipates repeating the AEM survey on a five-year interval (2022) to identify movement of the interface and assess seawater intrusion. The estimated cost is presented in Table 5-1.

5.1.1.4.6 Data Collection: Other

Additional data collection costs include a funding contribution toward a countywide fish and stream habitat monitoring program. Since 2006, this multi-agency partnership between the County and local water agencies has measured juvenile steelhead population density at more than 40 sites throughout the San Lorenzo, Soquel, Aptos, and Pajaro watersheds. The program also assesses habitat conditions for steelhead and coho salmon and helps inform conservation priorities throughout the County. These data are anticipated to generally inform the MGA's ongoing consideration of potential groundwater management impacts to groundwater dependent ecosystems.

5.1.1.4.7 Data Management

The MGA's anticipated initial costs in this category include engaging a consultant to conduct a data management assessment and develop a data management plan that is based upon the monitoring protocols outlined in Section 3 and leverages the existing data management efforts of the member agencies. Ongoing costs in this category includes maintaining a data

management system (DMS) that provides necessary functions and capabilities for data, such as: input, organization, storage, accessibility; quality assurance/quality control; security and redundancy; report outputs; and sharing..

The City of Santa Cruz and Soquel Creek Water District Groundwater utilize a data management system (DMS) based upon the commercial software platform Water Information Systems by KISTERS (WISKI). This DMS is used for management and analyses of groundwater elevation, groundwater quality, groundwater extractions, streamflow, precipitation / weather data. For data management consistency, it is anticipated the MGA will also use WISKI as its principal data management platform. The anticipated MGA costs for data management are presented in Table 5-1. Costs are anticipated to include software purchase and license, set-up and configuration, software annual support and maintenance.

5.1.1.5 GSP Reporting to DWR

5.1.1.5.1 Annual Reports

SGMA regulations require the MGA submit annual reports to DWR on status the GSP Implementation. The reporting requirements are presented in Section 5.3. It is anticipated these reports will be prepared by technical consultants in coordination with the MGA member agency staff. The estimated cost of the annual reports in presented in Table 5-1.

5.1.1.5.2 Periodic (5-year) Evaluations

SGMA regulations require the MGA evaluate the GSP at least every 5 years and whenever the Plan is amended. The reporting requirements of the periodic evaluation are presented in Section 5.3. The initial 5-year GSP evaluation is due to DWR in 2025. The roles and responsibilities for the preparation of the updated GSP are not yet determined. In recognition that this mandatory requirement will be completed by the MGA, for the purposes of estimating the costs, the estimated cost for the preparation of the document by technical consultants is presented in Table 5-1.

5.1.1.6 Community Outreach & Education

In 2018, the MGA Board approved a Communication and Engagement Plan that outlined a phased approach to conducting stakeholder outreach, engagement, and education activities. Ongoing activities in the GSP Implementation phase starting in 2020 are anticipated to include outreach such as: maintaining the MGA website and related online/social media through the member agencies (e.g., Facebook; Nextdoor); electronic newsletter; promoting and conducting community meetings, workshops, events; coordination with the Water Conservation Coalition of Santa Cruz County; conducting informational surveys; youth engagement efforts; developing brochures and print materials; and similar engagement activities. The estimated costs are presented in Table 5-1.

5.1.1.7 Financial Reserves and Contingencies

Prudent financial management requires that the MGA carry a general reserve in order to manage cash flow and mitigate the risk of expense overruns due to unanticipated expenditures

and in case actual expenses are greater than anticipated in the annual budget. General reserves have no restrictions on the types of expenses they can be used to fund. The ending balance in general reserves becomes the beginning balance of cash reserves for the next fiscal year.

The MGA annual budget includes a contingency amount in recognition that the MGA and the GSP implementation is new and there is the potential for unanticipated expenses. Since 2016, the MGA’s contingency fund been set annually at either 5% or 10% of the total annual operating budget. For the purposes of conservatively estimating the cost to implement the GSP, the budget estimate includes a 10% contingency based upon the annual fiscal year budget estimate.

5.1.2 Activities of the MGA Member Agencies

5.1.2.1 Monitoring Activities

The individual MGA member agencies conduct groundwater, streamflow and watershed monitoring activities in the Basin that inform the management of their respective agencies. The MGA does not contribute towards these individual monitoring efforts and these costs are not included in the MGA’s estimate of the cost to implement the GSP. However, the results of monitoring activities relevant to the MGA will be included in the DMS. The costs are provided below for reference and to provide context for the extent of relevant monitoring activities that are conducted within Basin.

Table 5-2. Member Agency Groundwater Elevation and Quality Monitoring Annual Costs in Basin

AGENCY	Equipment	Data Mgmt & Software	Lab/ Analytical	Personnel	Estimated Total ¹
Soquel Creek Water District	\$ 7,500	\$ 7,500	\$ 20,000	\$ 65,000	\$ 100,000
City of Santa Cruz ²	\$ 3,000	\$ 5,000	\$ 10,000	\$ 37,000	\$ 55,000
Central Water District	\$ 1,000	\$ 1,000		\$ 1,000	\$ 3,000
County of Santa Cruz	\$ 1,000	\$0	\$0	\$ 10,000	\$ 11,000

1. Costs estimates based upon FY 2018-19 amounts
 2. City’s Live Oak Groundwater Monitoring Program

Table 5-3. Member Agency Streamflow, Precipitation, and Fish Monitoring Annual Costs in Basin

AGENCY	Services ¹	Site Use	Fish Monitoring	Personnel	Estimated Total ²
Soquel Creek Water District	\$17,000	\$1,500	\$12,000	\$4,500	\$35,000
County of Santa Cruz			\$ 10,000	\$10,000	\$ 20,000

1. Consultants and USGS; 2. Costs estimates based upon FY 2018-19 amounts; 3. These are approximate costs within the MGA Basin only; 4. City of Santa Cruz contributes to Fish Monitoring program in Soquel Creek and groundwater impacts monitoring.

5.1.2.2 Member Agency Projects

The MGA’s individual member agencies are implementing projects and management actions. This includes the continuation of existing programs, such as demand management and water conservation programs that have been in place for many years and proven effective in reducing per capita demand in the region to among the lowest levels in the state. Also included are specific existing and proposed projects of the individual member agencies to provide supplemental supply to the Basin. It is largely the projects and management actions of individual agencies, rather than any direct actions taken by the MGA, that will collectively determine the sustainable management of the Basin. While these program and project costs are not included the MGA’s budget, the costs outlined in Table 5-4 provide context for the level of investment in the Basin’s long-term sustainability.

Table 5-4. Member Agency Projects

Project	Agency	Cost Considerations
Aquifer Storage and Recovery (ASR)	SCWD	Approximate cost of this project within the Purisima aquifer locations only is \$21M.
Water Transfers / In Lieu Groundwater Recharge and	SCWD; SqCWD	To be determined after the pilot project is complete. This will need to consider Prop. 218 if/when the City provides water to the District to determine appropriate cost for the water.
Pure Water Soquel	SqCWD	Projected cost is \$90 million to permit and construct. The project will be funded entirely through water rates and/or low interest loans or grant funds; at no direct costs are anticipated to the MGA.
Distributed Storm Water Managed Aquifer Recharge (DSWMAR)	County; SqCWD	A report developed for the County estimates costs per acre-foot of water infiltrated over a 20 year project lifespan varied between \$1,649 and \$2,786 per acre-foot for the specific projects evaluated. Project development costs for initial project installation were estimated at \$450,000 (Los Altos) and \$650,000 (14th Fairway) (MME, 2019).

5.1.3 Total Estimated Implementation Costs Through 2040

The estimated total cost of the GSP Implementation over the 20-year planning horizon is \$11,997,315 as shown in Table 5-5. The estimated cost is presented by major budget category, which includes: Agency Administration and Operations; Legal; Management and Coordination; Data Collection, Analysis, and Reporting; GSP Annual and Periodic (5-Year) Reporting to DWR; and, Outreach & Education. The annual costs include a 10% contingency and an annual rate of inflation of 3.0% is factored into the cost projection. These estimated costs are based on the best available information at the time of Plan preparation and submittal. It represents the MGA’s current understanding of Basin conditions and the current roles and responsibilities of the MGA under SGMA.

Table 5-5. Groundwater Sustainability Plan Estimated Implementation Cost Through 2040

Fiscal Year	Agency Administration & Operations	Legal	Management & Coordination	Data Collection, Analysis, & Reporting	GSP Reporting (Annual & 5-Year)	Outreach & Education	10% Contingency	Total
2020	\$179,500	\$20,000	\$60,000	\$65,000	\$25,000	\$20,000	\$36,950	\$408,470
2021	\$184,885	\$20,600	\$61,800	\$66,950	\$25,750	\$20,600	\$38,059	\$420,665
2022	\$190,432	\$21,218	\$63,654	\$68,959	\$26,523	\$21,218	\$39,200	\$433,225
2023	\$196,144	\$21,855	\$65,564	\$71,027	\$27,318	\$21,855	\$40,376	\$446,162
2024	\$202,029	\$22,510	\$67,531	\$73,158	\$28,138	\$22,510	\$41,588	\$459,487
2025	\$208,090	\$23,185	\$69,556	\$75,353	\$100,000	\$23,185	\$49,937	\$551,332
2026	\$214,332	\$23,881	\$71,643	\$77,613	\$23,881	\$23,881	\$43,523	\$480,781
2027	\$220,762	\$24,597	\$73,792	\$79,942	\$24,597	\$24,597	\$44,829	\$495,145
2028	\$227,385	\$25,335	\$76,006	\$82,340	\$25,335	\$25,335	\$46,174	\$509,939
2029	\$234,207	\$26,095	\$78,286	\$84,810	\$26,095	\$26,095	\$47,559	\$525,178
2030	\$241,233	\$26,878	\$80,635	\$87,355	\$115,927	\$26,878	\$57,891	\$638,827
2031	\$248,470	\$27,685	\$83,054	\$89,975	\$27,685	\$27,685	\$50,455	\$557,040
2032	\$255,924	\$28,515	\$85,546	\$92,674	\$28,515	\$28,515	\$51,969	\$573,691
2033	\$263,602	\$29,371	\$88,112	\$95,455	\$29,371	\$29,371	\$53,528	\$590,842
2034	\$271,510	\$30,252	\$90,755	\$98,318	\$30,252	\$30,252	\$55,134	\$608,507
2035	\$279,655	\$31,159	\$93,478	\$101,268	\$134,392	\$31,159	\$67,111	\$740,258
2036	\$288,045	\$32,094	\$96,282	\$104,306	\$32,094	\$32,094	\$58,492	\$645,443
2037	\$296,686	\$33,057	\$99,171	\$107,435	\$33,057	\$33,057	\$60,246	\$664,746
2038	\$305,587	\$34,049	\$102,146	\$110,658	\$34,049	\$34,049	\$62,054	\$684,629
2039	\$314,754	\$35,070	\$105,210	\$113,978	\$35,070	\$35,070	\$63,915	\$705,107
2040	\$324,197	\$36,122	\$108,367	\$117,397	\$155,797	\$36,122	\$77,800	\$857,842
Total	\$5,147,429	\$573,530	\$1,720,589	\$1,863,972	\$988,846	\$573,530	\$1,086,790	\$11,997,315
1. Assumes inflation factor of 3% annually								

5.1.4 Funding sources and mechanisms

Initial GSP Implementation Phase (2020 – 2025)

The initial funding for GSP implementation will be obtained from the annual contributions of the four MGA member agencies. This funding approach has been used since the MGA’s formation in 2016. The contribution total and individual agency amounts will be assessed based upon the MGA’s annual budget. This funding approach will be reevaluated over time as the GSP implementation progresses. The MGA obtained a \$1.5M grant from DWR to fund, in part, the

development of the GSP. The MGA will continue to pursue funding from state and federal sources to support GSP planning and implementation.

Ongoing GSP Implementation (2026 – 2040)

SGMA authorizes groundwater sustainability agencies to charge fees necessary to fund the costs of groundwater management, pumping, permitting, and other groundwater sustainability programs. A public finance consulting firm prepared a detailed memorandum outlining the funding mechanisms, necessary policies, and data required to develop a fee program that is equitable, complies with SGMA and California’s complex public finance laws.) This is included as Appendix A5-A. In their white paper Raftelis:

1. Presents a suite of options to recover MGA costs from large private groundwater pumpers based on geographic location, proximity to surface water and the coast, volume of water pumped, and other criteria;
2. Calculates fees using preliminary data based on parcels, acreage, and volumetric production of water
3. Assesses the costs and benefits of each fee structure and mechanism for implementing each fee
4. Relates the implications of each fee type to the requirements of Proposition 218 and Proposition 26
5. Describes the conditions, if any, whereby de-minimis users can be charged for a fair share of MGA costs

As initial GSP implementation proceeds, the MGA will further evaluate funding mechanisms, potential application of fees, and fee criteria. The MGA may perform a cost-benefit analysis regarding fee collection to build upon the initial funding mechanism assessment and to better inform its evaluation of fee alternatives.

5.2 Schedule for Implementation

The final GSP is anticipated to be presented to the MGA Board for adoption in November 2019 and will be submitted to DWR no later than January 31, 2020. Figure 5-1 provides an overview of the preliminary schedule for agency administration, management and coordination activities, GSP reporting and community outreach and education. Many of these categories consist of ongoing tasks and efforts that will be conducted throughout GSP Implementation. The timing of periodic events, such as offshore aerial electromagnetics (AEM) surveys of the freshwater-saline water interface, are best estimates and may shift as GSP Implementation proceeds and based upon the needs at the time. GSP reporting will occur on an annual and a 5-year basis as required under SGMA. Annual reports will be submitted to DWR by April 1 of each year. Periodic reports (every 5-years or following substantial GSP amendments) will be submitted to DWR by April 1 at least every 5 years (2025, 2030, 2035, and 2040). The contents of Annual and Periodic reports are described in the following Sections 5.3 and 5.4.

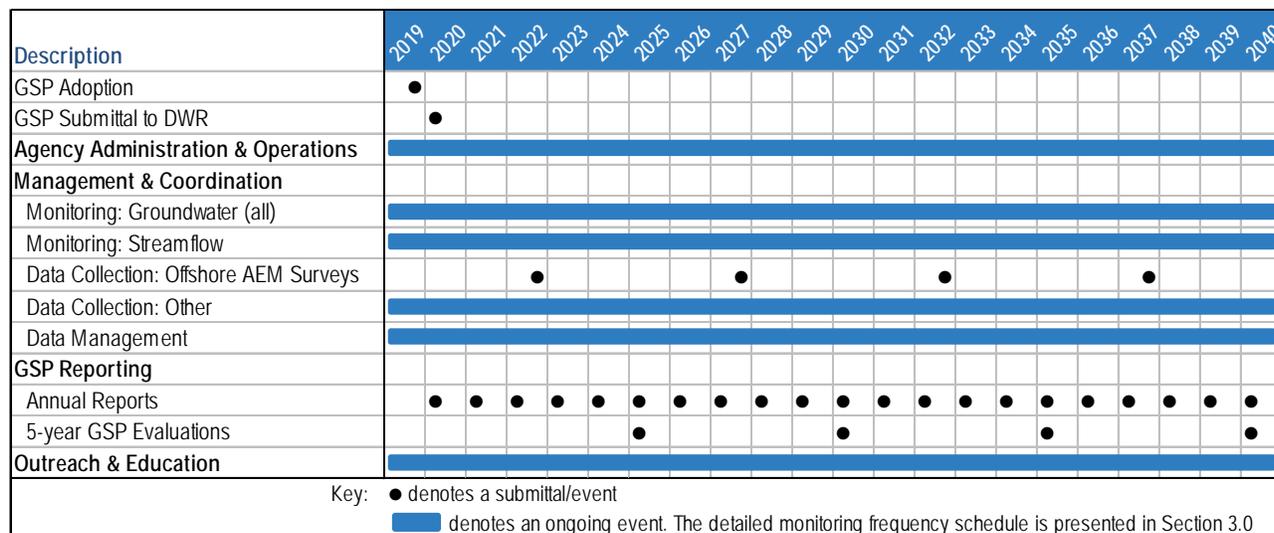


Figure 5-1. GSP Implementation Schedule

5.2.1 Projects and Management Actions

The estimated schedule for the individual MGA member agency projects and management actions is presented in Figure 5-2. The Group 1 Baseline projects are anticipated to be evaluated through the GSP planning and implementation horizon of 50 years. All of these efforts will be periodically assessed as part of an ongoing adaptive management approach.

The Group 2 estimated schedules for the individual member agency projects are also provided. These schedules are based upon current estimates. Some projects, such as Distributed Stormwater Managed Aquifer Recharge include multiple individual projects at separate locations, thus the overlap in the phases of development and implementation. Each of the projects is dependent upon individual factors such as permitting, approval, and funding that may impact the estimated general timeline presented below.

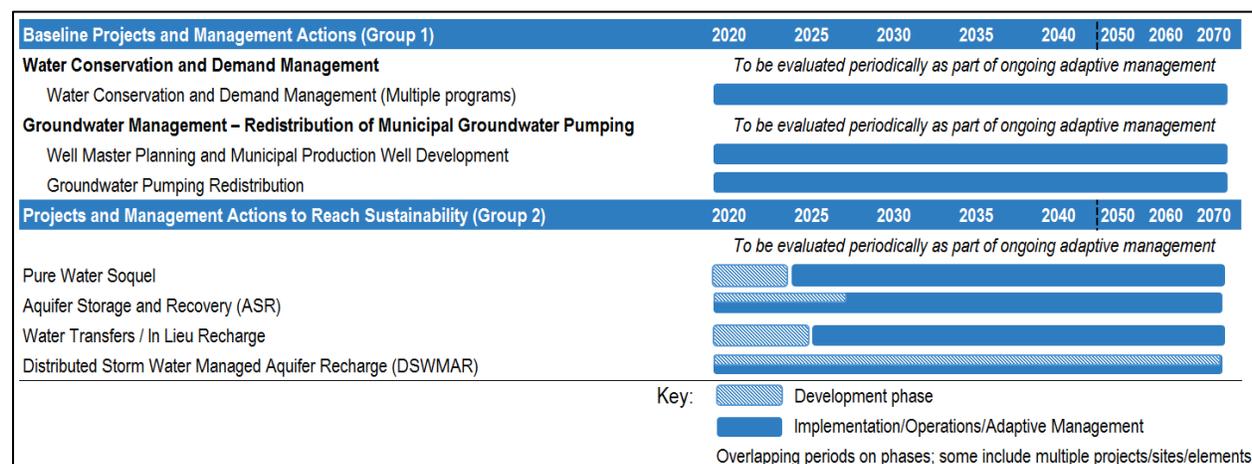


Figure 5-2. Member Agency Projects and Management Actions Estimated Timeline

5.3 Annual Reporting

SGMA regulations require the submittal of an annual report on the implementation of the GSP to DWR (Water Code 10727.2, 10728, and 10733.2). An outline of the procedural and substantive requirements for the annual reports is presented below.

The MGA shall submit an annual report to DWR by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:

1. General information, including an executive summary and a location map depicting the basin covered by the report.
2. A detailed description and graphical representation of the following conditions of the basin managed in the Plan:
 - a. Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:
 - i. Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.
 - ii. Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.
 - b. Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.
 - c. Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.
 - d. Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.
 - e. Change in groundwater in storage shall include the following:

- i. Change in groundwater in storage maps for each principal aquifer in the basin.
 - ii. A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.
3. A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

5.4 Periodic (5-Year) Evaluations

SGMA regulations require the MGA to evaluate this GSP at least every five years and whenever the Plan is amended, and provide a written assessment to the DWR. (Water Code Sections 10727.2, 10728, 10728.2, 10733.2, and 10733.8). An outline of the procedural and substantive requirements for the periodic evaluations reports is presented below.

To comply with the regulations, the MGA's assessment shall describe whether the Plan implementation, including implementation of projects and management actions, are meeting the sustainability goal in the Basin, and shall include the following:

1. A description of current groundwater conditions for each applicable sustainability indicator relative to measurable objectives, interim milestones, and minimum thresholds.
2. A description of the implementation of any projects or management actions, and the effect on groundwater conditions resulting from those projects or management actions.
3. Elements of the GSP, including the Basin setting, management areas, or the identification of undesirable results and the setting of minimum thresholds and measurable objectives, shall be reconsidered and revisions proposed, if necessary.
4. An evaluation of the Basin setting in light of significant new information or changes in water use, and an explanation of any significant changes. If the MGA's evaluation shows that the Basin is experiencing overdraft conditions, the MGA shall include an assessment of measures to mitigate that overdraft.
5. A description of the monitoring network within the Basin, including whether data gaps exist, or any areas within the Basin are represented by data that does not satisfy the requirements of Sections 352.4 and 354.34(c). The description shall include the following:

- a. An assessment of monitoring network function with an analysis of data collected to date, identification of data gaps, and the actions necessary to improve the monitoring network, consistent with the requirements of Section 354.38.
 - b. If the MGA identifies data gaps, the Plan shall describe a program for the acquisition of additional data sources, including an estimate of the timing of that acquisition, and for incorporation of newly obtained information into the Plan.
 - c. The Plan shall prioritize the installation of new data collection facilities and analysis of new data based on the needs of the basin.
6. A description of significant new information that has been made available since Plan adoption or amendment, or the last five-year assessment. The description shall also include whether new information warrants changes to any aspect of the Plan, including the evaluation of the basin setting, measurable objectives, minimum thresholds, or the criteria defining undesirable results.
7. A description of relevant actions taken by the MGA, including a summary of regulations or ordinances related to the Plan.
8. Information describing any enforcement or legal actions taken by the MGA in furtherance of the sustainability goal for the basin.
9. A description of completed or proposed Plan amendments.
10. Where appropriate, a summary of coordination that occurred between multiple agencies in a single basin, agencies in hydrologically connected basins, and land use agencies.
11. Other information the MGA deems appropriate, along with any information required by the DWR to conduct a periodic review as required by Water Code Section 10733.

APPENDIX A5-A

Santa Cruz Mid-County Groundwater Agency Evaluation of Private Pumper Funding Mechanisms and Fee Criteria, Raftelis, May 2019

SANTA CRUZ **MID-COUNTY** **GROUNDWATER** **AGENCY**

Evaluation of Private Pumper Funding Mechanisms and Fee Criteria

May 2019

May 3, 2019

John Ricker
Water Resources Division Director
County of Santa Cruz
701 Ocean Street, Room 312
Santa Cruz, CA 95060

Subject: Private Non-de minimis Funding Options and Fee Criteria

Dear Mr. Ricker:

This memorandum identifies opportunities for the Santa Cruz Mid-County Groundwater Agency (MGA) to recover costs of Groundwater Sustainability Plan (GSP) administration and management. The criteria, necessary policies, and data required for charging non-de minimis pumpers are explained in detail as well as estimated charges based on preliminary cost estimates and groundwater user data. Development of a funding mechanism is critical to facilitate successful implementation of the GSP consistent with the requirements of the Sustainable Groundwater Management Act (SGMA). A key success factor is preparing a cost allocation that is equitable to GSA members and basin users.

This White Paper includes discussion on the following items:

- Preliminary GSA Budget
- Fee basis options
- Criteria for including/excluding users from cost recovery
- Calculation of hypothetical non-de minimis private pumper charges
- Costs and benefits of various types of charges
- Proposition 218 and 26 requirements in the context of SGMA

The tasks identified to prepare the White Paper include:

1. Determine the suite of options to recovery GSA costs from non-de minimis pumpers based on geographic location, proximity to surface water and the coast, volume of water pumped, and other criteria
2. Calculate fees using preliminary data based on parcels, acreage, and volumetric production of water
3. Assess the costs and benefits of each fee structure and mechanism for implementing each fee
4. Relate the implications of each fee type to the requirements of Proposition 218 and Proposition 26
5. Describe the conditions, if any, whereby de minimis users can be charged for a fair share of MGA costs

Table of Contents

- 1. INTRODUCTION AND STUDY BACKGROUND 5**
 - 1.1 SANTA CRUZ MID-COUNTY GROUNDWATER AGENCY5
 - 1.2 STUDY PURPOSE5
- 2. FUNDING MECHANISMS 7**
 - 2.1 REGULATORY FEE (PROPOSITION 26)7
 - 2.2 RATE/FEE FOR SERVICE (PROPOSITION 218)9
 - 2.3 ASSESSMENT (SPECIAL BENEFIT NEXUS)10
 - 2.4 GENERAL AND SPECIAL TAXES (APPROVAL FROM ELECTORATE)11
 - 2.5 CONTRACT11
- 3. GSA CHARGES 13**
 - 3.1 GSA BUDGET.....13**
 - 3.1.1 Administrative Costs13
 - 3.1.2 Monitoring costs13
 - 3.1.3 Five year additional scope of work14
 - 3.1.4 Cost Contingency.....14
 - 3.1.5 Reserves15
 - 3.1.6 Total Revenue Required15
 - 3.2 UNIT OF SERVICE/MEASURE OPTIONS.....15**
 - 3.2.1 Well Count (Total Non-de minimis Wells)16
 - 3.2.2 Well Capacity (Non-de minimis Wells)16
 - 3.2.3 Parcel Count (Total Parcels)16
 - 3.2.4 Parcels Count (Non-de minimis).....16
 - 3.2.5 Acreage (Total)16
 - 3.2.6 Acreage (Irrigated)16
 - 3.2.7 Pumping (Gross Extraction)17
 - 3.2.8 Contract.....17
 - 3.2.9 Measurement Option Selection17
 - 3.3 GSA CHARGE CALCULATIONS17**
 - 3.3.1 Parcel Fee18
 - 3.3.2 Irrigated Acreage Fee.....19
 - 3.3.3 Volumetric Fee.....19
 - 3.4 OTHER GSA CHARGES20**
 - 3.4.1 Pumping Overage Charges21

3.4.2 Non-Compliance Charges22

3.4.3 Penalties.....23

3.5 OTHER CONSIDERATIONS.....23

4. FEE RECOVERY METHODS 25

4.1 DIRECT BILLING25

4.2 PROPERTY TAX ROLL25

5. MANAGEMENT AREA DESIGNATION 27

6. DE MINIMIS USERS 28

7. APPENDICES 29

7.1 COMPARATIVE AGENCY ADMINISTRATIVE AND MANAGEMENT BUDGETS30

7.1.1 Mojave Basin Area Watermaster31

7.1.2 Fox Canyon Groundwater Management Agency (FCGMA)32

7.1.3 North Fork Kings GSA33

7.1.4 Kings River East GSA34

7.1.5 Southwest Kings GSA35

7.2 PRICING OBJECTIVES EXERCISE38

List of Tables

Table 1 - Funding Mechanism Matrix	12
Table 2 – MGA Budget Estimate.....	15
Table 3 – MGA Cost Allocation.....	18
Table 4 – Non-de Minimis Cost Allocation to User Classes.....	18
Table 5 – Non-de Minimis Parcel Count	19
Table 6 – Parcel Fee	19
Table 7 – Non-de Minimis Irrigated Acreage	19
Table 8 – Irrigated Acreage Fee.....	19
Table 9 – Volumetric Fee Thresholds	20
Table 10 – 0 AFY Threshold.....	20
Table 11 – 2 AFY Threshold.....	20
Table 12 – 5 AFY Threshold.....	20
Table 13 – 10 AFY Threshold.....	20
Table 14 – SWRCB Non-Compliance Charges	22
Table 15: Policy Objectives and Associated Sub-Objectives for Fee Structure Evaluation	39

List of Figures

Figure 1- Funding Options.....	7
--------------------------------	---

1. Introduction and Study Background

1.1 Santa Cruz Mid-County Groundwater Agency

The Santa Cruz Mid-County Groundwater Agency (MGA) is a Joint Powers Authority (JPA)¹ formed by the Central Water District, the City of Santa Cruz, the Soquel Creek Water District, and the County of Santa Cruz to oversee groundwater management activities in the Mid-County Basin of Santa Cruz County. The MGA is governed by an eleven-member board consisting of two officials each from the agencies named in the JPA as well as three private well owner representatives. The MGA is charged with implementing the requirements of the Sustainable Groundwater Management Act (SGMA) of 2014 which consists of developing a Groundwater Sustainability Plan (GSP) and implementation of the adopted GSP over a long horizon.

Due to chronic over-pumping and impending seawater intrusion into the aquifer, the Mid-County Basin has been designated a critically overdrafted basin by the Department of Water Resources (DWR) in Bulletin 118. Basins designated as “critical” must submit sustainability plans to DWR by January 2020 and achieve “sustainability” over a 20-year period. Sustainability is defined as mitigation of the following six undesirable results²:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
- Significant and unreasonable reduction of groundwater storage.
- Significant and unreasonable seawater intrusion.
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
- Significant and unreasonable land subsidence that substantially interferes with surface land uses.
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

1.2 Study Purpose

The MGA has acquired grant funds to develop and submit the GSP. This paper concerns the long-term costs of managing, administering, and regulating the basin after GSP adoption, otherwise referred to as GSP implementation. More specifically, this paper addresses options in regulating and recovering plan implementation costs from private groundwater users not affiliated with the three municipal water agencies who are party to the JPA. Plan implementation costs include regulatory activities associated with groundwater monitoring, administration of the GSP, periodic reporting, outreach, and fee collection, among other activities. The following sections detail the estimated plan implementation costs (budget), identify several fee setting mechanisms for

¹ Joint Exercise Powers Agreement signed March 17, 2016

² Water Code §10721(x)

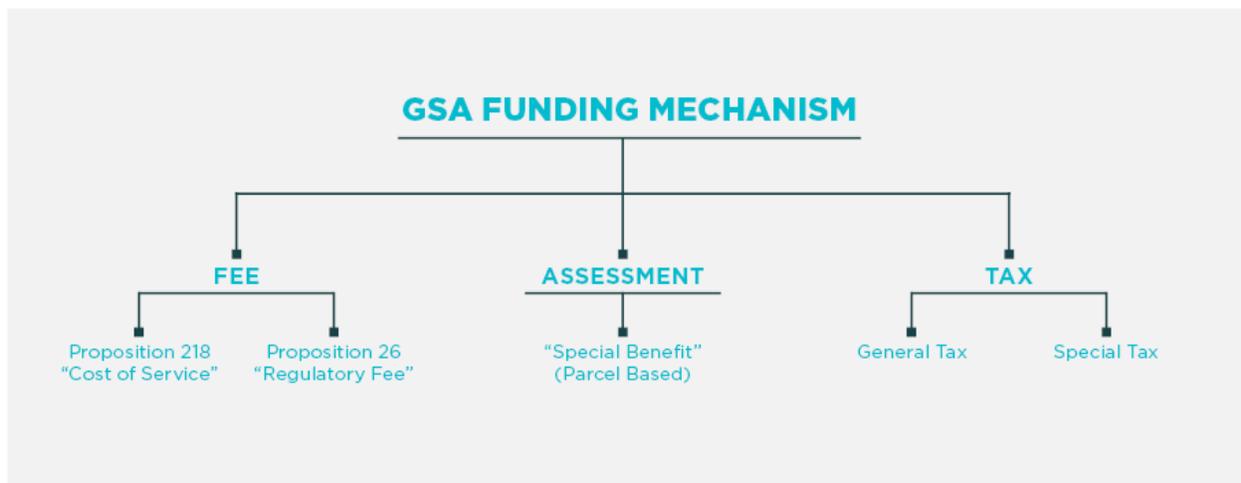
evaluation, discuss different measurement options for determining a regulatory fee, and considers the MGA's authority to charge non-de minimis³ private groundwater users for groundwater management activities.

³ SGMA defines de minimis users as those that are residential *and* extract less than two acre-feet of water per year. All other extractors are considered non-de minimis.

2. Funding Mechanisms

Due to Constitutional limitations imposed through California’s Propositions 13, 218, and 26, there are strict distinctions between, and regulations associated with, fees and taxes. Taxes and assessments require voter approval. Water rates passed under Proposition 218 are subject to mandatory noticing and a potential majority protest. Regulatory fees are identified as an exemption from taxes under Proposition 26 and can be passed by majority vote of the governing body of the Agency imposing the fee⁴. An example is a dollar per acre foot (\$/AF) pumping charge levied by a groundwater management agency. Other fees require protest proceedings for individuals who are paying the fees, for example water rates of a public utility. Figure 1 is a graphical illustration of the broad options available to MGA. What follows in this section is a primer on the various funding mechanisms available for exploration and considerations for the use of each as they relate to future MGA charges.

Figure 1- Funding Options



Raftelis is not a law firm and does not purport to give legal advice or make any recommendation on the legality of individual options in the context of SGMA. The aim is to illustrate the universe of funding mechanisms that may be available to the MGA. The legality of various funding options in the context of GSA fees and charges is fluid. The most recent meaningful case for MGA to consider is the *City of San Buenaventura versus United Water Conservation District* decision (Cal. Supreme Court Case No. S226036). Ultimately the GSA Counsel must opine on the legality of the funding mechanisms and MGA must choose what it believes to be most appropriate for the basin and its groundwater users. The following section introduces four potential funding mechanisms, including the statutory authorization and adoption procedures of each.

2.1 Regulatory Fee (Proposition 26)

The Agency can assess regulatory fees governed by Proposition 26 (Prop 26). This Proposition, passed in 2010, states that everything is a tax under the California Constitution Article XIII C, section 1(e), except:

⁴ Proposition 26 and 218 Implementation Guide, League of California Cities, Sacramento, California, 2017

- **A charge imposed for a specific benefit** conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.
- **A charge imposed for a specific government service** or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.
- **A charge imposed for the reasonable regulatory costs** to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.
- **A charge imposed for entrance to or use of local government property**, or the purchase, rental, or lease of local government property.
- **A fine, penalty, or other monetary charge** imposed by the judicial branch of government or a local government, as a result of a violation of law.
- **A charge imposed as a condition of property development.**
- **Assessments and property-related fees** imposed in accordance with the provisions of Article XIII D.

Property-related fees and special benefit assessments levied under Article XIII D are an exemption (number 7) from the requirements of Proposition 26. Additionally, every exaction must bear a fair or reasonable relationship to the payer's burden on, or benefits received from, the governmental activity.

Example: City of San Buenaventura (Ventura) Decision, 2017⁵

United Water Conservation District (District) imposes groundwater pumping fees. The District charges non-agricultural users three times that of agricultural uses. The City of Ventura challenged that the difference in pumping charges represented an illegal subsidy to agricultural users and violated Article XIII D, section 6(b) (Proposition 218) because the fees exceeded the cost of service. The appellate court held that the charges are not property related fees because they are based on the pumping activity and not property ownership (Ventura Water customers do not have their own wells). The court determined that the pumping charges are regulatory fees meeting the first two exceptions of Article XIII C, section 1(e): fee imposed for a specific benefit and does not exceed the reasonable cost of the service. Further the court stated that the reasonableness of costs is not to be measured on an individual basis, but on a collective basis. Since the total cost recovery across all users is reasonable, so is the fee.

MGA may argue that the fee imposed on users is for the reasonable regulatory costs related to managing the groundwater basin. This would presumably comply with Section 1(e)(3) "*A charge imposed for the reasonable regulatory costs...*" The calculated fees charged by MGA should not exceed the reasonable costs of administering and managing the GSP and the basin, and the fees should be proportional to the benefits.

⁵ City of San Buenaventura v. United Water Conservation Dist. (2017) 3 Cal.5th 1191, 1198 (City of San Buenaventura)

Key Considerations

Cost to develop: Low

Cost to implement: Low

Collected by: Direct billing or County Assessor

Limitations on use of funds: Reasonable costs of managing the basin

Ease of protest: Not applicable

2.2 Rate/Fee for Service (Proposition 218)

Proposition 218 (Prop 218), passed by the voters in 1996, governs property related fees including water, wastewater, and solid waste. The measure created an amendment to the California Constitution: Article XIII D, Section 6. Proposition 218 was enacted to ensure in part that fees and charges imposed for ongoing delivery of a service to a property are proportional to, and do not exceed, the cost of providing service. Proposition 218 defines property related fees for service and the criteria for achieving the amendment's requirements. The principal requirements, as they relate to public water service fees and charges are as follows:

- Revenues derived from the fee or charge shall not exceed the costs required to provide the property-related service.
- Revenues derived by the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
- No fee or charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
- A written notice of the proposed fee or charge shall be mailed to the record owner of each parcel not less than 45 days prior to a public hearing, when the Agency considers all written protests against the charge.

Procedurally, Prop 218 requires noticing of all affected properties with each property allowed to protest the proposed rates. Absent a majority protest, rates can be adopted by majority vote of the governing body at a public hearing. SGMA makes explicit that fees imposed on the extraction of groundwater "shall be adopted in accordance with subdivisions (a) and (b) of Section 6 of Article XIII D of the California Constitution" (Water Code 10730.2(c)). This section is commonly referred to as Proposition 218.

As it exists, the section of the Water Code created by SGMA requires that fees charged by a GSA comply with Proposition 218 as a water service fee. It is Raftelis' understanding that there may be attempts to amend Water Code Section 10730.2(c) and adopt a lower standard. It is also our understanding that water law practitioners have varying opinions of the requirements of Section 10730.2 as it relates to fee adoption and "extraction of groundwater from the basin." The language in the Water Code is clear, however, and the issue will surely be litigated in the courts in the years to come.

The noticing and majority protest requirements of Proposition 218 presents challenges and questions in the context of GSA fees. If only private non-de minimis pumpers are noticed, it would be easy to foresee a majority protest as the groups are generally few and organized. Including de minimis users in the noticing may reduce the likelihood of a protest, however, it is unclear to Raftelis if such noticing would be considered legal since users classified as de

minimis would receive a notice but no charge for service. More, if only private users are noticed it is unclear if the substantive requirements of Proposition 218 would be met. Consider for example that all residential, commercial, and irrigation users within a municipal agency boundary are also users of groundwater, albeit with service from municipal wells. Is it legally defensible to exclude these users from noticing even if their water service provider is paying their proportional share of MGA management costs? Inclusion of municipal users to notice the entirety of the management area would almost certainly guarantee no majority protest of the fee, but again if these users were not assessed a fee in the notice it is unknown if this action would be legal. More, if municipal users are de minimis in their water use (residential with annual consumption below two-acre feet per year (AFY)) is it lawful to charge these parcels if MGA is not “regulating” them at the time of fee adoption? These questions require further exploration by MGA’s legal team.

Key Considerations

Cost to develop: Low-Moderate – Cost of Service Study Report

Cost to implement: Low

Collected by: Direct billing or County Assessor

Limitations on use of funds: Only for those costs identified in the Cost of Service Study

Ease of protest: Moderate to high

2.3 Assessment (Special Benefit Nexus)

Special assessments have been redefined over the years. Assessments for special benefit are also governed by Proposition 218 and are exempted from Prop 26; nor are they subject to a 2/3 vote like a special tax. Property owners can be assessed to pay for a public improvement or service if it provides a special benefit to the property. To assess, local government bodies must:

- Develop a Special Benefit methodology to determine each parcel’s assessment
- Ensure that each owner’s assessment does not exceed its proportional share of total costs when compared to total project costs
- Ensure only special benefits are assessable
- Ensure all parcels which benefit are assessable (with no government property exemptions)
- Prepare an engineer’s report that determines the amount of special benefit to each property
- Notify all affected property owners by mail with mail-in protest ballot form

The Agency must then hold a Public Hearing to determine if a majority protest exists. Protest ballots are tabulated and weighted based on the *amount* of each assessment. Assessments have a similar implementation timeline to utility rates and the Agency has complete control over the timeline (unlike taxes). Once the Engineer’s Report is approved, notices must be mailed at least 45 days prior to the public hearing. The notice must include the affected parcel’s protest ballot. An average project timeline from start to finish is six months.

Like a possible majority protest under Proposition 218, the Agency runs the risk of protest by assessment if a few large users exercise their disproportionate power to protest the special assessment, and if only private non-de minimis pumpers are included. MGA could consider a special assessment for all users basin-wide to reduce the chance of protest, however, the lawfulness of assessing fees to de minimis users who are not “regulated” at the

time of adoption is unclear. Further, an assessment may be challenged post-formation by any property owner under the premise that the special benefit is invalid.

Key Considerations

Cost to develop: Moderate – Outreach and special benefit nexus report

Cost to implement: Low

Collected by: County Assessor

Limitations on use of funds: Only for those costs identified in the Engineer's Report

Ease of protest: Moderate to high

2.4 General and Special Taxes (approval from electorate)

Everything that does not meet the exceptions defined in Proposition 26, and is not a special assessment, is considered a tax and must be approved by the voters. The Agency is still required to develop a reasonable relationship between the tax and affected parcels. The tax could potentially be spread based on acreage, parcel, or by estimated pumping. These are not the only options but are the most likely given data availability. General taxes require a simple majority vote; however, the charges required to manage the basin and administer the GSP would most likely be considered a special tax. Article XIII D, Section 2(a) states that "Special purpose districts or agencies, including school districts, shall have no power to levy general taxes." Special taxes require a two-thirds (2/3) approval from the electorate (i.e. registered voters); and with a special tax, government properties are exempt from the tax.

A special tax would need to be placed on a ballot for either a general election or special election. There are specific tasks and a firm timeline that must be followed to include a tax measure on an election ballot. The minimum time required prior to election day to fulfill the requirements is approximately 90 days. A special tax is the option with the highest risk of failure as unlike Proposition 218 fees and assessments that require majority protest, a special tax would fail with any less than a 2/3 majority.

Key Considerations

Cost to develop: Low-Moderate

Cost to implement: High compared to other options

Collected by: County Assessor

Limitations on use of funds: None

Ease of protest: Moderate for General Tax; High (super-majority threshold failure) for Special Tax

2.5 Contract

A novel approach in recovering costs and charging non-de minimis extractors is to sign contracts with each based on individual pumping. Depending on the number of extractors and their agreeability, or lack thereof, negotiation costs may be high. Individual contracts may help to avoid political landmines related to the protest of fees and assessments or the high threshold of a special tax, however, it is Raftelis' recommendation that all non-de minimis users (any residential extractor greater than two AFY or any non-residential extractor) have a contract with MGA.

The Agency could face legal challenge if it was determined that low volume extractors were excluded from a contract because it was cost effective and politically expedient to do so.

Key Considerations

Cost to develop: Unknown

Cost to implement: depends on number of extractors and timeliness of negotiations

Collected by: Direct billing by MGA

Limitations on use of funds: Unknown

Ease of protest: Not applicable

Table 1 - Funding Mechanism Matrix

Basis	Development Cost	Implementation Cost	Collection	Funds Limitation	Ease of Protest
Prop 26 Regulatory Fee	Low	Low	Direct or Assessor Billing	Reasonable Costs	N/A
Prop 218 Fee for Service	Low-Moderate	Low	Direct or Assessor Billing	Cost of Service	Moderate to High
Special Assessment	Moderate	Low	Assessor Billing	Special Benefit Parcels	Moderate to High
Special Tax	Low-Moderate	High	Assessor Billing	None	High
Contract	Unknown	Unknown	Direct	Unknown	N/A

3. GSA Charges

3.1 GSA Budget

The GSA will incur costs in implementing the GSP. These include administrative costs, monitoring costs, and other interim costs. MGA has estimated a preliminary annual and five-year budget (annualized) for these activities including administration and personnel, data management, monitoring and management, and reporting. These costs are summarized in Table 2. The estimated annualized budget in 2019 dollars is \$350,000.

3.1.1 ADMINISTRATIVE COSTS

These costs include dedicated MGA staff support, internal reporting, managing Agency information, public outreach, legal retainer, and program coordination.

3.1.2 MONITORING COSTS

There are several costs associated with monitoring groundwater in the basin. These are discussed in further detail below.

1. Water Quality

Includes collection, testing, and analysis of groundwater samples from designated monitoring wells on a semi-annual basis. A trained professional will visit designated wells, perform field testing of select water quality parameters, collect samples, and send samples to a laboratory for water quality testing. Test results will be tabulated and reported per the GSP guidelines. Management of data, as well as annual preparation of a water quality monitoring summary.

The water budget and numeric groundwater model will be updated and calibrated to incorporate the previous 5 years of applicable data.

2. Stream Flow Monitoring

Inspection and monitoring of streams within the basin on a semi-annual basis. Tasks may include measuring flow rates, visual inspection of streams, noting changes in geomorphology, and preparation of a stream monitoring summary.

3. Groundwater Monitoring and Shallow Groundwater Elevation

Monitoring of groundwater levels conducted semi-annually throughout the well network within the Basin. This may consist of multiple days of field monitoring annually in which a trained professional will manually measure depth to water, or, collect data from transducer data loggers. Management of data, as well as annual preparation of groundwater level monitoring summary.

4. SkyTEM Offshore Surveys

Monitoring of the change in the saltwater interface offshore is vital to the assessment of ongoing risk to the basin of saltwater intrusion. The SkyTEM geotechnical survey will be conducted approximately every 5 years.

5. Model Updates

As needed, the numeric groundwater model will be updated and calibrated with the data collected through the monitoring, and will in-turn inform additional data collection gaps.

6. Data Management System

Collected monitoring data will be included in a data management system.

3.1.3 FIVE YEAR ADDITIONAL SCOPE OF WORK

Every 5th year of GSP implementation and whenever the GSP is amended, the GSA is required to prepare and submit an Agency Evaluation and Assessment Report to the Department of Water Resources together with the annual report for that year. The assessment and report will be prepared as described in CWC § 356.10. Five-year costs are annualized to determine the amount of revenue required to fund Five Year activities on an annual basis.

1. Updated Water Budget and Sustainable Yield Value

The water budget will be updated and calibrated to incorporate the previous 5 years of applicable data. Using the updated model, MGA will generate a refined estimate of the sustainable yield of the basin.

2. Five Year Plan Evaluation and Assessment Report

Every 5th year of GSP implementation and whenever the GSP is amended, the GSA is required to prepare and submit an Agency Evaluation and Assessment Report to the Department together with the annual report for that year. The assessment and report will be prepared as described in California Water Commission (CWC) § 356.10.

3.1.4 COST CONTINGENCY

MGA is a new entity and is budgeting from the ground up. The cost estimate should account for a contingency between estimated and actual expenses. Cost contingencies provide a buffer for the variance in costs, particularly in the early years. Most frequently contingencies are estimated as a percentage of the total budget, or with better information, an expected dollar value. Comparable agencies budget for a contingency of 10 to 20 percent of expenditures. As the budgets in Sections 3.1.1, 3.1.2, and 3.1.3 are rough estimates using staff and consultant judgment and best available data, the cost estimate accounts for a \$25,000 contingency.

3.1.5 RESERVES

In addition to covering the operations budget, the GSA should consider adoption of a reserves policy which is expressly authorized by SGMA (Section 10730(a) and 10730.2(a)(1)). Reasonable and achievable reserves are a prudent financial tool to aid in cash flow timing and unforeseen expenditures. Generally, a reserve for operations targets a specific percentage of annual operating costs or days of cash on hand. The reserve target is influenced by several factors including the frequency of billing and the recurrence of expenses. Comparable reserve percentage is 50% of operating budget if billing semi-annually and less if billing more frequently (monthly, bi-monthly, or quarterly). For this evaluation no reserve funding is assumed in the first year.

3.1.6 TOTAL REVENUE REQUIRED

The estimated Administrative, Monitoring, Five-year Update, and Contingency is combined to determine the annual revenue required to fund MGA. The total annual budget in 2019 dollars is \$350,000 per year. This total includes the annualized amount of Five-year Update costs and does not account for any reserve funds.

Table 2 – MGA Budget Estimate

Task	Expense Items	Cost (\$)
Administration	Personnel, Outreach, Program Coordination, Legal, Finance	\$200,000
Monitoring and modeling	Water Quality, Stream Flow, Groundwater Elevation, SkyTEM. Model updates, Data Management System	\$85,000
Reporting (annual and 5-year)	Updated Water Budget, , Reports	\$40,000
Contingency		\$25,000
Reserves		\$0
Total		\$350,000

3.2 Unit of Service/Measure Options

The GSA budget discussed in the previous section represents the numerator in developing GSA charges and recovering costs. The denominator must be determined from a suite of options. Each option to define the “unit” has certain advantages and disadvantages, data requirements, and policy and legal considerations. Additionally, specific options relate to possible funding mechanisms in different ways. Raftelis has identified eight preliminary unit options, with certain options having multiple variations. This list is not necessarily exhaustive and is provided to present potential units of measurement for the basin. From a data availability and data quality standpoint, the six main options rank as follows, with those listed earlier having fewer data requirements: well count, parcel count (total parcels and total non-de minimis parcels⁶), acreage, well capacity, irrigated acreage, and pumping (gross extraction). The data requirements of the contract option are unknown.

⁶ SGMA defines de minimis use in Section 10721(e) as extraction for domestic use of less than 2 AFY. Non-de minimis use is for any water use greater than 2 AFY. The GSA has evaluated groundwater extractions by de minimis users and determined that they represent approximately 10 percent of total basin withdrawals.

3.2.1 WELL COUNT (TOTAL NON-DE MINIMIS WELLS)

Advantages: Simple to understand and to administer. Data available to MGA.

Disadvantages: Complete dataset may not be available at the start of the GSP. Uncertainty regarding timing of data availability. Not related to actual extraction amount and burden on the basin.

Data requirements: Basin-wide count of non-de minimis wells subject to the GSP.

Other/Policy Requirements: None identified.

Internally Raftelis discussed active versus total (active and non-active) wells and determined that total is appropriate given the non-de minimis threshold of 2 AFY. Additionally, GSA action would be required to clearly define active, non-active, and abandoned wells.

3.2.2 WELL CAPACITY (NON-DE MINIMIS WELLS)

Advantages: All wells are not equal, they have different capacities and ability to extract water.

Disadvantages: More data is required than simple well count.

Data requirements: Need well head/well meter size for all active wells or wells subject to the GSP.

Other/Policy Requirements: Requires adoption of a metering plan, or similar way to validate well head size.

3.2.3 PARCEL COUNT (TOTAL PARCELS)

Advantages: Parcel based approaches are generally simple to understand and to administer. Few data requirements with the data from the County Assessor readily available.

Disadvantages: Approach assumes a broad benefit of groundwater, or a “general benefit logic.” Requires a voter approval process to put on an election ballot.

Data requirements: County Assessor’s parcel database.

Other/Policy Requirements: None identified.

3.2.4 PARCELS COUNT (NON-DE MINIMIS)

Advantages: Generally simple to understand and to administer. Few data requirements. Requires a good data set of parcel owners and non-de diminish classification.

Disadvantages: Inequitable among non-de minimis users. No relation to groundwater extraction.

Data requirements: Basin-wide count of non-de minimis parcels.

Other/Policy Requirements: None identified.

3.2.5 ACREAGE (TOTAL)

Advantages: Simple to understand and to administer. Minimal data requirements. Data is readily available. Acts as a proxy for potential extraction.

Disadvantages: Assumes a general benefit but with a stronger nexus than parcel count. Not related to actual water extraction.

Data requirements: County Assessor’s parcel database.

Other/Policy Requirements: None identified.

3.2.6 ACREAGE (IRRIGATED)

Advantages: Absent another source of supply, irrigated usage is directly tied to groundwater extraction. More equitable than parcel or acreage. Proxy for actual water extraction by land area and land cover data.

Disadvantages: Data intensive. Will require regular updates. May be prone to challenges and manual surveys for confirmation. Will require plant/crop type being irrigated.

Data requirements: Accurate geospatial land cover data and independent estimation.

Other/Policy Requirements: None identified.

3.2.7 PUMPING (GROSS EXTRACTION)

Advantages: Greatest equity since fee based on actual extraction. Easy to understand. Easy to administer provided metering plan adoption.

Disadvantages: Requires flow meter installation to implement. If not, more time, effort, and cost than other options (i.e., wells, parcels, or acreage options).

Data requirements: Validated metered data.

Other/Policy Requirements: Requires adoption of metering plan.

3.2.8 CONTRACT

Advantages: Simple, potentially cost effective, avoids adoption and implementation hurdles and limits legal risk associated with Prop 218/26, taxes, and assessments. Based on negotiation of parties.

Disadvantages: Not necessarily related to past, present, or future extraction. Potential inequity.

Data requirements: None identified.

Other/Policy Requirements: Requires formal agreement/signed contract between basin non-de minimis extractors and MGA.

3.2.9 MEASUREMENT OPTION SELECTION

Raftelis makes no recommendation with regards to the unit of service. Rather, it should be the decision of the MGA Board to select the unit of service approach that is most appropriate for the Agency given the policy objectives, basin characteristics, data availability, and types of costs incurred. There are varying degrees of equity, user flexibility, and ease of administration with each option. These decisions will require input from MGA staff, the Advisory Committee, and the MGA Board.

While Raftelis makes no single recommendation, given the characteristics of the basin's non-de minimis private users and data available at this time, we recommend narrowing down the options to the following three: parcels (non-de minimis), acreage, and estimated gross pumping. Narrowing the options allows a deeper dive into each and an easier comparison across options. In the following sub-section, we have calculated preliminary charges based on these three options and the estimated annual costs of MGA identified in Section 3.1.

3.3 GSA Charge Calculations

Raftelis calculated preliminary charges using the cost estimates in the prior sub-sections and the following units of service: irrigated acreage, estimated pumping volume, and parcel count. Charges are shown in both dollars per year and dollars per month. All rates are rounded up to the nearest whole penny.

The first step is to allocate the total costs (revenue requirement) of MGA between the municipal users and the non-de minimis users based on pumping estimates. The table below shows the class, specific user, estimated pumping, and share of total pumping. Charges developed in this section for non-de minimis users include Small Water

Systems, Institutional, and Agriculture. In total this class accounts for roughly 18 percent of total basin pumping and approximately 20 percent of regulated basin pumping (exclusive of de-minimis pumping which is not included in the cost allocation).

Table 3 – MGA Cost Allocation

Class	Water pumper	2016 Estimate (AF)	Percent of Total GW	2016 Estimate - Regulated (AF)	Percent of Regulated GW	Share of MGA Costs
Municipal	Santa Cruz	480	8.74%	480	9.71%	\$34,001
Municipal	Soquel Creek	3,090	56.25%	3090	62.54%	\$218,883
Municipal	Central	381	6.94%	381	7.71%	\$26,988
Non-de Minimis	Small Water Systems	85	1.55%	85	1.72%	\$6,021
Non-de Minimis	Institutional	190	3.46%	190	3.85%	\$13,459
de Minimis	Private wells	552	10.05%	0	0.00%	\$0
Non-de Minimis	Agriculture	715	13.02%	715	14.47%	\$50,648
Total		5,493	100%	4,941	100%	\$350,000

The summation of costs allocated to the three Non-de minimis user classifications - Small Water Systems, Institutional, and Agriculture – yields the total costs required to be recovered from non-de minimis users. The total revenue recovery required from non-de minimis users is \$70,128.

Table 4 – Non-de Minimis Cost Allocation to User Classes

Class	Share of MGA Costs
Municipal	\$279,872
Non-de Minimis	\$70,128
De Minimis	\$0
Total Costs Recovered	\$350,000

3.3.1 PARCEL FEE

Table 5 shows the total count of parcels subject to a fee and Table 6 shows the calculated fee based on the count of non-de minimis parcels. Total costs are divided by the number of parcels to derive the fee. The estimated fee is shown both on an annual and monthly basis. The estimated fee for small water systems does not include the number of parcels served by each system. Therefore, each system is treated as one parcel. Depending upon the actual number of parcels served by small water systems it is possible that there could be a large variance in the

calculated parcel fee. Any addition of parcels will reduce the fee as the costs allocable to the class (non-de minimis users) remains fixed.

Table 5 – Non-de Minimis Parcel Count

User Type	Parcel Count
Private Non-de Minimis Users	135
Small Water Systems	22
Total Parcels	157

Table 6 – Parcel Fee

Costs	Parcel Count	\$ Per Parcel Per Year	\$ Per Parcel Per Month
\$70,128	157	\$446.67	\$37.23

3.3.2 IRRIGATED ACREAGE FEE

Table 7 shows the sum of acres subject to the fee and Table 8 shows the calculated fee based on non-de minimis irrigated acreage. Total costs are divided by each class’s irrigated acreage to derive the fee per acre. The estimated fee is shown both on an annual and monthly basis. The estimated acreage fee is high as the data for small water systems considers all acreage, not just the total number of irrigated acres served by each system. To be more conservative, Raftelis accounted for the small water systems’ total pumping in the acreage estimate, effectively assuming water use at a rate of one acre foot per acre per year. Depending upon the actual acreage of small water systems it is possible there will be a significant variance in the calculated acreage fee. Any additional acreage above what is assumed in the calculation will reduce the fee as the costs allocable to the class remain fixed.

Table 7 – Non-de Minimis Irrigated Acreage

User Type	Acreage
Private Non-de Minimis Users	838.5
Small Water Systems	275.1
Total Parcels	1,114

Table 8 – Irrigated Acreage Fee

Costs	Acreage	\$ Acre Per Year	\$ Per Acre Per Month
\$70,128	1,114	\$62.97	\$5.25

3.3.3 VOLUMETRIC FEE

As previously discussed, MGA may choose to assess charges on all non-de minimis pumpers or at a minimum threshold, yet to be determined. Raftelis calculated fees at the following minimum extraction thresholds: 0 AFY, 2 AFY, 5 AFY, and 10 AFY. For reference 0 AFY represents all 135 identified private non-de minimis users and 100 percent of private non-de minimis pumping (exclusive of small water systems); 2 AFY represents 58 private non-de

minimis users and 93 percent of private pumping; 5 AFY represents 31 users and 80 percent of private pumping; 10 AFY represents 15 users and 62 percent of private pumping. The top nine private users pump half of the water in the class. Table 9 summarizes the volume of pumping among private non-de minimis users at these various thresholds. In all scenarios small water systems are charged for all their pumping.

Table 9 – Volumetric Fee Thresholds

User Type	AFY
Private Non-de Minimis User (0 AFY Minimum)	659.74
Private Non-de Minimis User (2 AFY Minimum)	611.05
Private Non-de Minimis User (5 AFY Minimum)	523.64
Private Non-de Minimis User (10 AFY Minimum)	408.86
Small Water System	275.1
Total Acre Feet	1,113.6

The following four tables show the calculated volumetric pump charge at each threshold of 0 AFY, 2 AFY, 5 AFY, and 10 AFY. Fees are presented in dollars per acre foot and range from a low of \$75.02 per acre foot to a high of \$102.53 per acre foot.

Table 10 – 0 AFY Threshold

Costs	Acre Feet per Year	\$ acre foot
\$70,128	935	\$75.02

Table 11 – 2 AFY Threshold

Costs	Acre Feet per Year	\$ Per Acre Foot
\$70,128	886	\$79.14

Table 12 – 5 AFY Threshold

Costs	Acre Feet per Year	\$ acre foot
\$70,128	799	\$87.80

Table 13 – 10 AFY Threshold

Costs	Acre Feet per Year	\$ acre foot
\$70,128	684	\$102.53

3.4 Other GSA Charges

In addition to fees and charges imposed to recover the costs of implementing the GSP and operating MGA, the Agency will assess other charges in cases of pumping over allocations (should allocations be adopted), non-

compliance charges, and/or penalties. Non-extraction and over-pumping charges are outlined in the following subsections.

3.4.1 PUMPING OVERAGE CHARGES

Groundwater extractions exceeding the amount that a groundwater user is authorized to pump under regulations adopted by the Agency may be subject to fines or penalties under Water Code section 10732(a). The fine may not exceed \$500 per acre-foot extracted in excess of their authorized amount (Water Code §10732 (a)(1)). Implementation of fines or penalties assumes that MGA will adopt a metering plan and develop individual pumping allocations for each non-de minimis user in the basin. Given the nature of the Sub-basin, the Water Code maximum fine of \$500/AF appears warranted. Justification for this value is as follows:

- Supplemental water costs (Indirect Potable Reuse (IPR)) – Soquel Creek Water District is designing and constructing a supplemental supply project using tertiary treated wastewater, advanced purification, and groundwater injection. While the project will be wholly owned and funded by an MGA member agency, it will assist in achieving Mid-County Basin sustainability goals. The estimated cost of finished water (operating and capital costs included) will far exceed \$500 per AF so it is appropriate for the Agency to charge the maximum fine defined in the Water Code.
- Supplemental water costs (Water Transfers) – High flow events may be captured on the San Lorenzo River and transferred for consumption by municipal users or groundwater recharge within the Mid-County Basin. The costs of water transfers have been estimated to exceed \$500 per AF so it is appropriate for the Agency to charge the maximum fine defined in the Water Code.

An argument may be made that the requirements of Article XIII D, section 6(b) (Proposition 218) supersede the maximums presented in the Water Code. Simply, the cost of service based on supplemental supplies through IPR and water transfers trumps the Water Code maximum of \$500/AF. Additional legal review by MGA counsel would be required to explore this argument.

Overage Charges (Surcharge Rates) Example – Fox Canyon Groundwater Management Agency

- Tier I: One to 25.000 AF = \$1,461.00 per AF
- Tier II: 25.001 AF to 99.999 AF = \$1,711.00 per AF
- Tier III: 100 AF or more = \$1,961.00 per AF

From the Fox Canyon Ordinance: *Extraction surcharges are necessary to achieve safe yield from the groundwater basins within the Agency and shall be assessed annually when annual extractions exceed the historical and/or baseline allocation for a given extraction facility or the combined sum of historical allocation and baseline allocation for combined facilities. The extraction surcharge shall be fixed by the Board and shall be based upon (1) the cost to import potable water from the Metropolitan Water District of Southern California, or other equivalent water sources that can or do provide non-native water within the Agency jurisdiction; and (2) the current groundwater conditions within the Agency jurisdiction. The Board shall fix the surcharge by Resolution at a cost sufficiently high to discourage extraction of groundwater in excess of the approved allocation when that extraction will adversely affect achieving safe yield of any basin within the Agency. In circumstances where an individual or entity extracts groundwater from*

a facility(s) having no valid extraction allocation, the extraction surcharge shall be applied to the entire quantity of water extracted. Surcharges are assessed annually.

Deficit Accounting - GSAs can allow unused groundwater extraction allocations to be carried over and transferred only “if the total quantity of groundwater extracted in any five-year period is consistent with the provisions of the [GSP].” § 10726.4(a)(4). If the GSA adopts a carryover policy then deficit pumping may be allowable with sufficient carryover water. However, the policy should be specific and should not allow borrowing from future allocations.

3.4.2 NON-COMPLIANCE CHARGES

If the fine or penalty is for non-compliance with regulations adopted by the GSA (e.g., failing to install a meter), then it is subject to the limitations in Water Code section 10732(b) and the fine or penalty may not exceed \$1,000 plus \$100 per day additional charges if the violation continues for longer than 30 days after the notice of the violation has been provided. A list of anticipated non-compliance charges is below, including examples identified by Raftelis:

Non-metered use (non-de minimis): The fee is equal to double the current groundwater extraction charge for all estimated water used (Fox Canyon GMA 2013).

Failure to provide access: No known guidance on reasonable costs but may be tied to reasonable staff labor costs.

Failure to report: No known guidance on reasonable costs but may be tied to reasonable staff labor costs.

State Non-Compliance Charges: In the event that a GSA is unwilling or unable to manage the groundwater basin the State will intervene with a schedule of fees set by the State Water Resources Control Board. Fees would be imposed on all users of the “probationary” basin and extractors would be required to file a groundwater extraction report. In probationary basins non-de minimis users may be required to file an extraction report, due by December 15 of each year for the prior water year. For reference, the table below shows the 2017 fee schedule for unmanaged and probationary basins.

Table 14 – SWRCB Non-Compliance Charges

Fee Category	Fee Amount	Applicable Parties
Base Filing Fee	\$300 per well	All extractors required to report
Unmanaged Area Rate (metered)	\$10/AF	Extractors in unmanaged areas
Unmanaged Area Rate (unmetered)	\$25/AF	Extractors in unmanaged areas
Probationary Plan Rate	\$40/AF	Extractors in probationary basins
Interim Plan Rate	\$55/AF	Extractors in probationary basins where the Board determines an interim plan is required
De minimis Fee	\$100 per well	Parties that extract, for domestic purposes, two acre-feet or less per year from a probationary basin, If the Board decides the extractions will likely be significant.
Late Fee	25% of total fee per month late	Extractors that do not file reports by the due date

3.4.3 PENALTIES

If the GSA has adopted an ordinance, it may levy an administrative civil fine or penalty (Government Code §53069.4). The fine or penalty may not exceed \$100 for the first violation, \$200 for the second violation, and \$500 for each additional violation within 12 months of the first (§25132(b) and §36900(b)).

Section 10730.6(a) outlines the authority of a GSA to collect management fees and the remedies available to the Agency for failure to pay. These remedies include collection of interest on late payments at a maximum of one percent per month⁷; assessing penalties “in the same manner as it would be applicable to the collection of delinquent assessments, water charges, or tolls⁸”; or even the cessation of pumping⁹ until the outstanding fees are paid and the user is no longer delinquent on payments.

Alternatively, and only if MGA was to adopt individual pumping allocations, in place of monetary penalties the GSA could impose a penalty that results in a percent of volume loss of a following year pumping allocation, or similar allocation reduction penalty.

A series of examples follows from Fox Canyon Groundwater Management Agency (MGA):

Late Statements

Statements submitted after the due date incur a Civil Penalty of \$50 per day.

Late fee on extraction

An Extraction Interest Charge of 1.5% is charged for every month the statement and/or payment is overdue. (Extraction charge x 1.5% x month(s) overdue).

Late fee on overage/surcharge¹⁰

A Surcharge Late Penalty of 1.5% is charged for every month the statement and/or payment is overdue. (Surcharge x 1.5% x month(s) overdue).

Late fee on non-metered water use

Any delinquent Non-Metered Water Use Fee obligations shall also be charged interest at the rate of 1.5% per month on any unpaid balances.

3.5 Other Considerations

3.5.1 METERING PLAN

⁷ Water Code Section 10730.6(b)

⁸ Water Code Section 10730.6(d)

⁹ Water Code Section 10730.6(e) requires a public hearing with at least 15 days' notice to the owner of operator of the well

¹⁰ Greater than an extractors pumping allocation

Aerial survey for landcover data is an accurate method of estimating the irrigation demands of a parcel. However, challenges arise due to timing and frequency of updated crop cover, validating parcel boundaries, and identifying the parcel(s) served by an individual well, among other challenges. A remedy is to require installation of meters on individual non-de minimis wells for precise pumping volumes rather than estimations. However, there are tradeoffs for precision. It is costly to install meters on wells and the cost is greater for small volume users, particularly if the fee amount is low. Consequently, MGA may impose a significant financial burden on the pumper and increase the effort on MGA staff for a relatively small benefit. Conversely, large users have a greater impact on the basin and the cost of meter compliance is low relative to their fee. Additionally, if the fee is based on actual pumping, and a metering plan is not adopted by the MGA Board, a larger user will have an incentive to report lower pumping to reduce the fee. If actual gross pumping is selected as the method of fee-setting, metering should be required along with regular reporting and verification.

3.5.2 PUMPING ALLOCATIONS

MGA may choose to adopt individual pumping allocations for all non-de minimis users. These allocations would be based, at least initially, on estimated pumping from aerial survey and land cover/crop type data. Each extractor will know their allocation which would could become the basis for their pumping fee. MGA should determine if individual allocations are prudent if no pumping reductions are required by individual non-de minimis pumpers. Further, if estimated pumping (and therefore allocation) is greater than actual extraction the private pumper would have an incentive to pump *more* so that their pumping is in line with their allocation.

3.5.3 PUMPING REDUCTIONS AND NON-DE MINIMIS USER FEE THRESHOLD:

The sustainable yield of the Mid-County Basin will be achieved predominantly by using supplemental supply projects from the MGA's Municipal entities. Still, approximately 18 percent of total basin pumping (20% of non-de minimis pumping) comes from non-de minimis private pumpers. Approximately 15 of these users extract greater than 10 AFY. Given the significant pumping of the largest private users, MGA should consider developing pumping reductions for these individuals by identifying the costs and benefits of curtailment. They would effectively be treated as a separate sub-class of private pumper, unique from the de-minimis users and small non-de minimis users.

3.5.4 EXTRACTION THRESHOLD FOR FEE ASSESSMENT

Given that the majority of non-residential, non-de minimis users are estimated to use less than 2 AFY, the question of extraction threshold should be considered. What should the threshold for assessing charges on these users be and why? SGMA and the Water Code give MGA the authority to assess these users however minimal their extraction; however, the burden on staff and administrative costs may not cover the literal dollars, in some cases, of assessing an annual volumetric fee on a user extracting one-tenth of an acre foot per year. Still, MGA would require a sound argument as to why a specific threshold was selected. While a statistical analysis, or some other analytical assessment, could be used to determine an appropriate threshold we would recommend MGA use 2 AFY as the threshold. This volume corresponds to the definition of a de minimis user, were they a residential user. Further a review of MGA's data on non-de minimis users shows that 77 of 135 identified extract less than 2 AFY. In total these 77 extractors amount to 49 AF of pumping relative to 660 AF for the class in total. In other words, the remaining 58 users account for 93 percent of pumping among the user group. Removing the 77 users from the charge calculation has an immaterial effect on the resulting fees to other users (in fee recovery by acreage or pumping volume). Additionally, it reduces the demands on MGA staff and potential for contentious public meetings. Raftelis reviewed our work in the Sonoma GSAs and Borrego GSA, as well as the draft report in the neighboring

SVBGSA, and found no mention of minimum thresholds for non-de minimis users at which they will or will not be assessed management charges. The Borrego Valley GSA is considering a de-minimis threshold of 5 AFY because after long term reductions these users would approach 2 AFY in 2040.

2 AFY identified as de minimis in SGMA seems appropriate even when the user is not Residential in nature. The cost-benefit of charging a private irrigator who uses less than 2 AFY versus a private residential pumper who uses less than 2 AFY may not pan out.

3.5.5 ACTIONS IN OTHER BASINS

Borrego Valley GSA plans to adopt a metering a plan and are currently identifying individual allocations which will then need to be reduced over time (interim and final reductions) to achieve the long-term sustainable yield. The Borrego basin requires a greater than 70 percent reduction in pumping and no supplemental/alternative water supply projects are feasible. Achieving sustainable yield will be achieved with reduced pumping, fallowing of agricultural lands, and conservation. In Sonoma County GSAs there is no plan for metering or reductions for large private pumpers. Groundwater users will be assessed a volumetric charge per acre foot of water based on estimated extractions from the basin (using spatial data analysis). The Salinas Valley Basin GSA (SVBGSA) has released a draft report with non-de minimis users (which are almost exclusively commercial agricultural users) assessed charges based on estimated irrigated acreage (estimates from spatial data analysis). It should be noted that Borrego GSA actions are for GSA fees (GSP implementation) while the Sonoma GSAs and SVBGSA actions are to fund GSP development activities prior to implementation.

4. Fee Recovery Methods

Below are two bill collection options for MGA groundwater users.

4.1 Direct Billing

Direct billing requires more staff, has higher administrative costs (printing, postage, customer service, collections), and has a higher rate of late payments and delinquencies. It requires the Agency maintain its own customer information system and internal accounting. If the existing County system or member agency system is not readily available for use there may be significant one-time costs to purchase, configure, integrate, and train staff on the software. Direct billing results in greater cash flow assuming regular monthly or bi-monthly billing. This results in lower cash reserve requirements.

4.2 Property Tax Roll

Billing users through the County Assessor results in less overhead, lower billing and customer service costs, and a lower rate of late payments and delinquencies. Setup costs should be lower as the Agency relies on the County Assessor. The Agency is still required to maintain accurate parcel data and associated data for charges that may be based on volumetric pumping, well count, or well capacity. Revenue is only received twice per year, so cash flow may be a concern depending on timing. Property Tax Roll billing requires greater cash reserves than direct billing. Additional fees will be incurred by the County to place a charge on the property tax roll.

As it relates to the available funding mechanisms presented in Section 2, assessments and special taxes are always recovered on a parcel's property tax bill. Fees for service are more likely to be directly billed but many agencies find it advantageous to collect fees on the property tax roll. As previously mentioned, the collection rate is frequently higher, and the collected revenue is then transferred to the charging agency twice per year.

5. Management Area Designation

If MGA determines it to be beneficial to differentiate the basin into Management Areas, Raftelis recommends the Agency identify and document the rationale for doing so. In traditional rate and fee setting, costs should be matched to benefits to ensure equity among and between different users, as well as to ensure each user group pays its fair share. In utility rate setting costs are allocated to classes of customers commensurate with their service requirements. In fee setting costs are allocated proportional to the benefits gained through the fee.

Considering that any capital project costs will be borne by the three municipal water service partner agencies, the costs recovered by MGA are for management only. In a certain sense, management zones have unintentionally been derived between coastal municipal users and all other non-de minimis users. Coastal zone users will pay fees, additional to the MGA management fees, through their water rates and charges as customers of Soquel Creek Water District, the City of Santa Cruz, or Central Water District; all other non-de minimis users within the Basin in County areas will only pay the management fee.

If MGA wishes to further designate management zones it may be appropriate to different impact zones using long term monitoring costs. If monitoring costs in coastal zones versus inland zones, or stream adjacent zones versus non-adjacent zones, or high elevation zones versus low elevation zones, can be demarcated with a sound rationale it may be justifiable. However, consider the following analogy: Property A is inland and adjacent to a creek. Property B is near the coast but not creek adjacent. The two properties pay different management fees due to long term monitoring costs with Property A paying a higher fee. However, Property B, the coastal parcel, benefits from the monitoring taking place inland. The exercise leads back to the fact that the fees derived to fund MGA are for basin-wide management, which is an implicit objective of SGMA: all current, future, or potential users benefit from basin management and the benefit of management is general to all.

If MGA decides to differentiate management areas it will need to ensure that specific benefits are identified for users in different areas. Initial questions that arise when hypothesizing include:

- Can we identify all non-de minimis users inside and outside a proposed impact zone?
- Is the “impact” just seawater intrusion, or is it also basin elevation, basin storage reduction, etc?
- What about connectivity with surface water?
- Can we identify and differentiate management, monitoring, and other costs between two or more impact zones?
- What other information would be required to develop separate fees for coastal and creek impact zones that would be *additional to general basin management fee*?
- Would MGA adopt a metering plan for non-de minimis users? This would be beneficial so that charges could be related to impact based on water extraction, and recovered proportionally
- Can creek monitoring costs be used to differentiate? For example, an instream flow fee and a coastal impact fee, etc. Again, a specific benefit would need to be identified for those having the fee imposed.

6. De Minimis Users

SGMA defines a “de minimis extractor” as “a person who extracts, for domestic purposes, two acre-feet or less per year¹¹.” De minimis “extractors” or de minimis groundwater users cannot be charged fees “unless the agency has regulated the users pursuant to this part¹².” The key operating phrase is “has regulated” and unfortunately the term *regulated* is undefined leaving the meaning up to legal interpretation. Does *has regulated* imply past regulation and management? Or can the new sustainability agency “regulate” de minimis users prior to fee adoption to be able to charge them for basin management over the long-term? At least one GSA that Raftelis consults for is considering the act of noticing de minimis groundwater extractors as “regulating” them. By corresponding with a de minimis user and requesting basic information, the agency *has regulated* the de minimis user and can legally impose a fee.

Beyond the legal gray area and semantics of the Water Code language, a GSA should consider the cost-benefit analysis of recovering management costs from de minimis users. For example, consider a hypothetical groundwater basin experiencing critical overdraft where greater than 95 percent of extraction is from large non-de minimis agricultural interests and a single municipal entity. Are the real costs of management, and the potential costs of litigation, worth the benefit of revenues deriving from users responsible for five percent of water extraction? Or, should the Agency instead focus resources on the 95 percent of extraction which is almost certainly responsible for the required mitigation of the six undesirable results? Conversely, consider a basin experiencing critical overdraft where 75 percent of extraction is from de minimis extractors and the remainder from three municipal agencies. It may be considered unreasonable to expect 100 percent of funding required to mitigate impacts to come from three agencies (and their customers) when they are responsible for only 25 of extraction. In this situation the risk may be in *not* regulating and imposing a fee on de minimis users.

MGA should consider their own cost-benefit analysis with the Advisory Committee and GSA Board. Considerations should include the gross and net extraction by de minimis extractors, their geographical and hydrological location within the basin, and the likely amount of total cost recovery from the group, relative to the whole. Raftelis has developed a Pricing and Policy Objectives exercise for the Board to use to evaluate the decision to regulate and charge de minimis extractors, or not. The Raftelis exercise is attached as an appendix to this paper.

¹¹ Water Code Section 10721(e)

¹² Water Code Section 10730(a)

7. Appendices

7.1 Comparative Agency Administrative and Management Budgets

Raftelis has researched management and administrative costs of five similar agencies, which represent three GSAs, a groundwater management agency, and a Watermaster in an adjudicated basin. Details of each comparative agency are presented in the subsequent sub-sections. The table below presents a comparison of the five agencies with measurements that may be useful to MGA in identifying long-term management and administrative costs. Where available, the first fiscal year of GSP implementation costs are used; otherwise the most recently available values are used.

	Borrego Valley GSA	Mojave Watermaster	Fox Canyon GMA	North Fork Kings GSA ²	Kings River East GSA ⁴	Southwest Kings GSA
Personnel Costs		\$634,955	\$735,831	\$75,400	\$45,000	\$50,000
Legal Costs				\$27,400	\$10,000	\$11,139-20,000
Total Admin Budget	\$574,566	\$759,855	\$1,431,744	\$156,750	\$68,400	\$85,884-99,000
Staff Level (FTEs)	2	4	6.5 ¹			Time and Materials
Staff Hours			11,700 ¹	458 ³		
Management	Borrego Water District	Mojave Water Agency	Ventura County Public Works	Kings River Conservation District	Alta Irrigation District	Provost & Pritchard Consulting
Basin	Borrego	Mojave	Oxnard Plain, etc.	Kings	Kings	Tulare
Water Production (AFY)	20,000	120,000	134,000	TBD	TBD	TBD
Predominant User Groups	Single Municipal & Agriculture	Private Pumpers & Single Municipal	Municipal & Agriculture	Municipal	Municipal	Municipal

¹Staff levels and hours assume contracted labor from the County of Ventura using 1,800 annual hours per FTE

²Estimates based on fiscal year 2020-2021, the first full year of GSP implementation

³Extrapolated using January through June 2018 costs

⁴Administrative budget for GSP Development and not GSP implementation

7.1.1 MOJAVE BASIN AREA WATERMASTER

The Mojave Basin Area Watermaster (Mojave Watermaster) is administered as a unit of the Mojave Water Agency (MWA). As Watermaster, the agency's main responsibilities include monitoring, reporting, and verification of water extraction for all parties of the adjudication, collection of assessments, production of annual reports, and facilitating water transfers between parties. In many respects the watermaster of an adjudicated basin and the GSA for a basin subject to SGMA are similar in duties and commitments.

The Budget Summary for the Mojave Watermaster from FY 2015-16 through budget year FY 2019-2020 is presented below. The overwhelming majority of expenses relate to wages and benefits, expected to cost \$653,884 in FY 2019-2020. Secondary costs relate to engineering services of \$93,500 in FY 2019-2020. The remaining costs of approximately \$34,000 relate to travel, training, supplies, and other miscellaneous expenses.

The Mojave Watermaster consists of four staff including two technicians, a database administrator, and a services manager. Assuming four full-time employees (FTEs) and the wages and benefits in the FY 2019-2020 budget, the cost per FTE is approximately \$163,500 per year.

Watermaster (WM) – Dept #90

Department Budget Summary

		FY 15/16 Actual	FY 16/17 Actual	FY 17/18 Budget	Actual YTD as of 03/31/2018	FY 17/18 Projected	FY 18/19 Budget	FY 19/20 Budget
	ADMINISTRATIVE EXPENSES:							
5600	Dept Wages	374,484	409,735	408,253	300,111	409,764	427,645	440,474
5612	Dept Overtime	5,646	3,936	4,000	2,257	859	4,000	4,000
5613	Health Insurance - Medical	54,609	48,960	48,960	36,249	48,960	55,455	57,119
5614	Payroll Taxes	12,048	12,659	13,259	9,667	13,439	14,010	14,430
5615	Misc Benefit	-	-	-	-	-	-	-
5616	Workers Compensation Expense	2,149	2,005	2,602	2,116	2,804	2,554	2,631
5618	Health Insurance - Dental/Vision	9,576	9,524	9,675	5,684	7,979	8,525	8,781
5620	Health Ins Reimb - FSA	6,879	5,949	10,400	4,386	6,000	10,600	10,918
5621	Deferred Comp Contributions	-	-	-	-	-	21,382	22,023
5623	PERS Retirement	67,897	72,908	98,679	81,214	105,656	90,784	93,508
	TOTAL WAGES & BENEFITS	533,288	565,676	595,828	441,684	595,461	634,955	653,884
5702	Safety Supplies	-	-	500	-	-	500	500
5710	Small Tools	-	-	100	-	-	250	250
5711	Books & Subscriptions	-	37	50	-	-	50	50
5713	Printing	-	-	500	-	-	500	500
5725	Auto Expenses	2,842	368	500	228	400	500	500
5726	Travel Expenses	-	-	500	-	1,850	8,800	9,000
5728	Education & Training	-	-	1,500	-	1,000	5,800	8,000
5736	Engineering, General	144,370	72,981	73,500	43,930	73,500	93,500	93,500
5741	Aerial Photos	19,750	10,875	12,500	10,875	12,500	15,000	15,000
	NON-LABOR EXP	166,962	84,261	89,650	55,033	89,250	124,900	127,300
	TOTAL DEPT EXPENSES	700,250	649,937	685,478	496,717	684,711	759,855	781,184
5610	Labor & Benefits from Watermaster	(350,125)	(276,286)	(297,914)	(152,750)	(297,731)	(317,478)	(326,942)
	Total Capital Labor & OH Out	(350,125)	(276,286)	(297,914)	(152,750)	(297,731)	(317,478)	(326,942)
	TOTAL NET DEPT EXPENSES:	350,125	373,651	387,564	343,967	386,980	442,377	454,242

7.1.2 FOX CANYON GROUNDWATER MANAGEMENT AGENCY (FCGMA)

FCGMA is a special district which governs the extraction of water in southern Ventura County and serves five municipalities and agricultural users in unincorporated areas of the county. While a special district since 1982 FCGMA will also be the GSA for the local groundwater basins including Arroyo Santa Rosa, Oxnard Plain, Pleasant Valley, and Las Posas Valley. The agency is staffed by contract with Ventura County Public Works overseeing technical, legal, financial, and administrative services. Total expenses in FY 2014-2015 were \$1,088,951 with 60 percent of expenses (\$645,975) towards County staff charges. Another 14 percent was spent on Groundwater Supply Enhancement Assistance Program (GSEAP) funding to assist local agencies with local groundwater projects that increases groundwater supply. 21 percent of costs were associated with professional services.

Per communications with Fox Canyon management, the County of Ventura utilizes 6.5 FTEs at assumed annual hours of 1,800 hours per FTE for a total of 11,700 hours. The fully burdened labor rate is approximately \$115 per hour for an average annual cost of \$1,345,500.

FOX CANYON GROUNDWATER MANAGEMENT AGENCY
Statements of Revenues, Expenses, and Changes in Net Position
For the Years Ending
June 30, 2016 and 2015

	2016	2015
<u>OPERATING REVENUES</u>		
Extraction charges and surcharges	\$ 2,129,739	\$1,373,904
Groundwater sustainability fee	274,544	-
Interest and penalties on delinquent accounts	75,969	33,946
 Total Operating Revenues	 2,480,252	 1,407,850
<u>OPERATING EXPENSES</u>		
Ventura County Public Works Agency charges	735,831	645,975
Professional specialty services	603,816	227,410
Management and administrative services	19,580	7,197
Supplies and minor equipment	300	600
Liability insurance	4,707	4,498
Depreciation expense	51,908	51,908
GSEAP spending	-	148,269
Miscellaneous	15,602	3,094
 Total Operating Expenses	 1,431,744	 1,088,951

7.1.3 NORTH FORK KINGS GSA

Located in the Central San Joaquin Valley, North Fork Kings GSA consists of 15 member agencies in the Kings Subbasin. Kings River Conservation District (KRCD) will administer the GSA including data collection and reporting, financial and accounting services, engineering services, and public outreach and education. The cost for administrative services by KRCD in FY 2020-2021 (the first full year of GSP implementation) is estimated at \$75,400.

Table 3-2. Projected 5-Year Annual Budget

Category	Prior to 6/30/17	FY ^a 2017-2018	FY ^a 2018-2019	FY ^a 2019-2020	FY ^a 2020-2021	FY ^a 2021-2022	FY ^a 2022-2023	TOTAL
GSA Administration								
KRCD Staffing / Public Outreach		\$ 69,000	\$ 71,100	\$ 73,200	\$ 75,400	\$ 77,700	\$ 80,000	\$ 377,400
Office Supplies / Postage / Outreach Materials		\$ 6,000	\$ 6,200	\$ 6,400	\$ 6,600	\$ 2,000	\$ 2,100	\$ 23,300
Insurance		\$ 2,000	\$ 2,100	\$ 2,200	\$ 2,300	\$ 2,400	\$ 2,500	\$ 11,500
Annual Audit		\$ -	\$ 4,000	\$ 4,100	\$ 4,200	\$ 4,300	\$ 4,400	\$ 21,000
Miscellaneous Overhead		\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 7,500
Start-up Costs	\$ 188,628		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	\$ 188,628	\$ 78,500	\$ 84,900	\$ 87,400	\$ 90,000	\$ 87,900	\$ 90,500	\$ 440,700
Professional Services								
Project Management		\$ 20,000	\$ 20,600	\$ 21,200	\$ 21,800	\$ 22,500	\$ 23,200	\$ 109,300
Funding Mechanism Assessment		\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Prop 218 Engineer's Report/Elections		\$ 30,000	\$ 2,000	\$ -	\$ -	\$ -	\$ -	\$ 2,000
Groundwater Sustainability Plan Preparation ^b		\$ 150,000	\$ 285,770	\$ 80,000	\$ -	\$ -	\$ -	\$ 365,770
Legal, Litigation Reserve		\$ 25,000	\$ 25,800	\$ 26,600	\$ 27,400	\$ 28,200	\$ 29,000	\$ 137,000
Lobbyist		\$ 3,000	\$ 3,100	\$ 3,200	\$ 3,300	\$ 3,400	\$ 3,500	\$ 16,500
Grant Writing		\$ 7,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTAL	\$ -	\$ 243,000	\$ 337,270	\$ 131,000	\$ 52,500	\$ 54,100	\$ 55,700	\$ 630,570
~10% Contingency/Reserve		\$ 19,296	\$ 42,220	\$ 21,840	\$ 14,250	\$ 14,200	\$ 14,620	\$ 107,130
Reimbursement to Member Agencies			\$ 264,712	\$ 264,712	\$ -	\$ -	\$ -	\$ 529,424
Total Estimated GSA Administration & Professional Services Cost	\$ 188,628	\$ 340,796	\$ 729,102	\$ 504,952	\$ 156,750	\$ 156,200	\$ 160,820	\$ 1,707,824
Enterprise Fund for GSP Implementation - Project Development / Groundwater Monitoring			\$ 907,435	\$ 1,131,585	\$ 1,479,787	\$ 1,480,337	\$ 1,475,717	\$ 6,474,861
Total Estimated Cost			\$ 1,636,537	\$ 8,182,685				

Raftelis contacted KRCD which provided a detail of staff hours by function. It is estimated that KRCD will spend approximately 458 staff hours across all functions on GSA administration in calendar year 2018 in support of GSP development. KRCD disclosed that May 2018 hours were higher than normal due to a special assessment hearing.

Employee Description	January-June 2018	Calendar Year 2018 (extrapolated)
Coordinator	72.5	145
Public Relations	50.5	101
Assistant	2	4
Finance	35	70
GIS	22.75	45.5
Accounting	0	0
Minutes	20.25	40.5
Admin	16	32
General Labor	10	20
Total	229	458

7.1.4 KINGS RIVER EAST GSA

Kings River East GSA is southeast of Fresno and west of the Sierra foothills. The GSA is a MOU between 14 municipalities and special districts in the basin. The total three-year budget is presented below. The administrative budget in each year is \$68,400. The budget presented is only for GSP development and not GSP implementation and ongoing administration and management of the GSA. Administrative services are provided by

contract with Alta Irrigation District, a party to the MOU. Staff time is billed hourly for costs incurred in servicing the GSA with an estimate of \$45,000 per year.

**Table 3: Projected Budget
Kings River East Groundwater Sustainability Agency
Groundwater Fee Study**

Budget Item	Year 1	Year 2	Year 3	Total
Administration	\$68,400	\$68,400	\$68,400	\$205,200
Board Members (Per Diem)	\$8,400	\$8,400	\$8,400	\$25,200
Insurance	\$5,000	\$5,000	\$5,000	\$15,000
Legal	\$10,000	\$10,000	\$10,000	\$30,000
Administration Services	\$45,000	\$45,000	\$45,000	\$135,000
Grants/Outreach	\$3,500	\$28,500	\$3,500	\$35,500
Grant Application	\$0	\$25,000	\$0	\$25,000
Grower/Landowner Outreach	\$3,500	\$3,500	\$3,500	\$10,500
Groundwater Sustainability Plan	\$206,800	\$235,350	\$214,350	\$656,500
Sub-basin Coordination	\$64,600	\$64,600	\$64,600	\$193,800
Coordination Agreement	\$0	\$7,550	\$7,550	\$15,100
Data Management System	\$0	\$21,000	\$0	\$21,000
Hydrogeology	\$75,000	\$75,000	\$75,000	\$225,000
Legal Assistance	\$7,800	\$7,800	\$7,800	\$23,400
Monitoring Network	\$14,600	\$14,600	\$14,600	\$43,800
Projects & Management Actions	\$17,800	\$17,800	\$17,800	\$53,400
Sustainable Management Criteria	\$18,700	\$18,700	\$18,700	\$56,100
Report Compilation	\$8,300	\$8,300	\$8,300	\$24,900
Other	\$5,000	\$5,000	\$5,000	\$15,000
Miscellaneous Costs	\$5,000	\$5,000	\$5,000	\$15,000
Subtotal	\$283,700	\$337,250	\$291,250	\$912,200
Contingency (15%)	\$42,600	\$50,600	\$43,700	\$136,900
Total	\$326,300	\$387,850	\$334,950	\$1,049,100

7.1.5 SOUTHWEST KINGS GSA

Located in the Tulare Lake Subbasin, GSA day-to-day management will be provided by a consultant including financial management, reporting to the Board of Directors, and legal functions among others. The proposed five-year budget for on-going management is \$85,884 in FY 2018-2019 and is presented below. The budget is drawn from the GSA’s Engineer’s Report dated June, 2017.

Description	2017	2018	2019	2020	2021
ON-GOING MANAGEMENT					
On-Going Management					
Communications, general administration	\$ 12,000	\$ 12,360	\$ 12,731	\$ 13,113	\$ 13,506
Insurance	3,000	3,090	3,183	3,278	3,377
Website maintenance	5,000	5,150	5,305	5,464	5,628
Financial management	6,000	6,180	6,365	6,556	6,753
Administrative support	6,000	6,180	6,365	6,556	6,753
Assessments, collections	4,000	4,120	4,244	4,371	4,502
Printing, supplies, travel	12,000	12,360	12,731	13,113	13,506
Audit	0	5,000	5,150	5,305	5,464
	\$ 48,000	\$ 54,440	\$ 56,073	\$ 57,755	\$ 59,488
SWKGSA board meetings (4)					
Board packages, attend, minutes	\$ 8,000	\$ 8,240	\$ 8,487	\$ 8,742	\$ 9,004
Legal: attend, resolutions, agreements	8,000	8,240	8,487	8,742	9,004
	\$ 16,000	\$ 16,480	\$ 16,974	\$ 17,484	\$ 18,008
Subbasin meetings (Monthly)					
Management: attend (12)	\$ 9,600	\$ 9,888	\$ 10,185	\$ 10,490	\$ 10,805
Legal: attend (2)	2,500	2,575	2,652	2,732	2,814
	\$ 12,100	\$ 12,463	\$ 12,837	\$ 13,222	\$ 13,619
Total On-Going Management	\$ 76,100	\$ 83,383	\$ 85,884	\$ 88,461	\$ 91,115

A more recent FY 2018 Budget presented at the Southwest Kings GSA Board Meeting on May 9, 2018 shows a slightly different amount for management and legal costs. The FY 2018 Budget total for on-going management is \$79,000 with \$50,000 in management and \$20,000 in legal representing the overwhelming majority of costs.

**SWKGSA
2018 Budget**

Description	Proposed 2018 Budget
Management	50,000
Legal	20,000
Clerical	6,000
Insurance	-
Website	2,000
Audit	1,000
GSP	115,000
Contingency	20,000
<i>Total Expenses</i>	214,000
<i>Projected Income</i>	
Assessments	455,906
Reimbursements	(97,939)
Delinquent Assessments	-
Interest	-
<i>Total Income</i>	357,967

7.2 Pricing Objectives Exercise

1. OVERVIEW

Fee structures are best designed when formulated to collect the appropriate amount of revenue while addressing unique characteristics of the Agency and the needs of its locale, basin users, and other stakeholders. Policy objectives for pricing are specifics that support broad policies, such as equity and conservation, and serve as discussion points when designing a fee structure.

Raftelis developed a list of policy objectives, and sub-objectives, according to the specific characteristics of the Santa Cruz Mid-County Groundwater Agency (MGA) and the suite of possible fee structures identified to implement the Groundwater Sustainability Plan (GSP) as part of the Sustainable Groundwater Management Act (SGMA) of 2014. Each pricing objective is defined herein.

2. BACKGROUND

The policy objectives in Table 1 – Administration, Equity, Rate and Revenue Stability, Affordability, and Conservation – were developed by Raftelis and will help guide the selection of an appropriate fee structure and fee recovery mechanism. Each policy objective includes several sub-objectives.

To inform the Board, each policy objective includes a policy statement, discussion notes and advantages and disadvantages of the policies. The seventeen pricing objectives were determined as most relevant to the possible fee structures identified and the characteristics of the groundwater basin.

The ranking of these policy objectives by the GSA Board will be used to develop a framework for the most appropriate fee structure(s) and fee recovery mechanism for the MGA. Recommended fee structure(s) may include a hybrid approach based on management and extraction and/or may include fixed and variable components.

Table 15: Policy Objectives and Associated Sub-Objectives for Fee Structure Evaluation

Administration	Equity	Rate and Revenue Stability	Affordability	Conservation
<ul style="list-style-type: none"> •Ease of Understanding •Easy of Implementation and Administration (Simplicity) •Defensibility 	<ul style="list-style-type: none"> •Equitable among property owners •Equitable among pumpers •Equity across all basin users (beneficiaries) •Equity across management areas •Inter-generational equity 	<ul style="list-style-type: none"> •Revenue Stability •Rate Stability •Minimize financial impacts 	<ul style="list-style-type: none"> •Shared burden •Affordability for Essential Use 	<ul style="list-style-type: none"> •Rewards past conservation •Tool for GSP implementation •Promotes future conservation •Scientific

Policy Objective 1 –Administration

Policy Statement: Recognizes the advantages of designating a structure and fee recovery mechanism that is easily understood by fee-payers, is simple to implement and administer by staff, and which is most defensible under applicable laws including the water code and the State Constitution.

Discussion: This objective highlights the importance of keeping structures and the process of administering them simple. Basin user education and clarity of bills should be considered as part of this principle.

Advantages of the Policy Objective: Creating structures that are easy for fee payers to understand will minimize fee-related user related administrative issues. If basin users understand the basis of their bills, they will have a greater ability to comprehend their calculated charges and conclude that it is fair.

Disadvantage of the Policy Objective: Simplifying the rate structure does not generally provide a maximum degree of fairness and equity across user groups and may limit conservation and affordable outcomes.

Sub-Objectives:

- **Ease of Understanding** – The ability for the fee structure to be explained in a manner that can be understood by basin users and other stakeholders that will have a positive impact on the ability to build acceptance of fees.
- **Ease of Implementation and Administration (Simplicity)** – Implementing a new fee structure merits careful consideration as fee structure implementation requires upfront (one-time) costs such as data gathering or billing system changes. An easy-to-administer structure does not negatively impact the ongoing costs of administration, which are predominately staffing costs.
- **Defensibility** – Producing a fee structure perceived to be fair, well documented, and well explained reduces the likelihood of legal challenge. This leads to more efficient and less costly administration.

Policy Objective 2 –Equity

Policy Statement: In compliance with the State Constitution (Article XIII D) and governing statutes of State Law (including Water Code §10720-10737.8 (SGMA)), fees should be cost-based, fairly apportioned among basin users, and account for the substantive provisions of law through a sound, technically defensible methodology.

Discussion: This principle highlights the importance of basin users’ perception of fairness and equity, while also recognizing that an absolute equity among all basin users and user classes may not be achieved. Rates should generally be perceived as fair, reasonable, and equitable for all basin users.

Advantages of the Policy Objective: This principle reinforces the priority of treating all basin users fairly. Also, it acknowledges the practical obstacles that may prevent perfect equity, such as, excessive administrative costs or technical costs incurred solely to achieve additional equity.

Disadvantages of the Policy Objective: “fairness” and “equity” can be subjective and requires the Board to apply its discretion and judgment. More, equity can be interpreted at the basin-wide level or among and between different user groups or stakeholders.

Sub-Objectives:

- **Equity Among Property Owners** – States that a fee structure achieves equity by allocating costs fairly and proportionally across property owners whose parcels overlay the basin.
 - Example argument for: An impaired groundwater basin may diminish property values while an improved basin may increase land values

- **Equity Among Pumpers** - States that a fee structure achieves equity by allocating costs fairly and proportionally across well owners who extract from the basin.
 - Example argument for: Pumpers, or those owning wells, should pay because they are the actual extractors of groundwater from the basin
- **Equity Across All Basin Users (Beneficiaries)** - States that a fee structure achieves equity by allocating costs fairly and proportionally across all water users in the basin. Considers basin groundwater a general benefit across all users of groundwater.
 - Example argument for: Access to local groundwater benefits all and therefore all should pay
- **Equity Across Management Areas** - Considers specific regions within the basin boundaries that contribute to groundwater replenishment and specific regions which contribute to intrusion, depletion, and/or impairment.
 - Example argument for: It is fair and appropriate for MGA to incorporate natural sub-basin characteristics across the groundwater basin into a fee structure
- **Inter-Generation Equity** –States that a fee structure achieves equity by matching the costs of existing basin impacts to those who have caused the impacts. The objective aims to protect current and future users from disproportionately bearing costs related to groundwater management due to past activities.
 - Example argument for: It is fair and appropriate to recoup mitigation and restoration costs based on past users and their uses

Policy Objective 3 –Rate and Revenue Stability

Policy Statement: There are advantages to an agency in increasing revenue certainty and stable rates to users. These policies are achieved by selecting specific funding mechanisms or incorporating specific cost components into a fee structure.

Discussion: This principle highlights the importance of ensuring adequate revenue generation for maintaining a self-sustaining agency. Revenues must be adequate to fund technical, personnel, and other operational costs. Revenue generation, and the rates charges to users, should be predictable.

Advantages of the Policy Objective: The practice of ensuring revenue sufficiency and stability generates additional gains in financial health.

Disadvantages of the Policy Objective: While pursuing a rate structure that promotes revenue stability is advantageous, setting user charges in a fashion that fixes a user’s bill may be perceived as unfair and inequitable. In addition, the public may perceive the need as unnecessary and that the agency has little incentive to be judicious with operating and management costs.

Sub-Objectives:

- **Revenue Stability** – The ability of the fee structure to generate stable and predictable revenues from month to month or year to year. Specific types of fee structures are more effective at maintaining revenue stability than others. Adequate revenues ensure, for example, that technical studies can be conducted, qualified personnel can be retained, and that operational costs of the agency are covered.
- **Rate Stability** – To reasonably ensure that user fees are predictable from over billing cycles and without sharp fluctuations in magnitude or structure year over year. Similar to the revenue stability objective, certain fee structures are more effective at guarding against fee spikes and highly fluctuating user bills.
- **Minimize Financial Impacts** – Fees imposed by MGA on basin users will be the first of its kind. This objective aims to minimize the financial burden on users to the greatest extent possible. The objective overlaps with the shared burden objective in Policy Objective 4.

Policy Objective 4 –Affordability

Policy Statement: It is important to establish rates that generate adequate revenues from year to year, regardless of climate cycles or variation in basin extractions. Large and unexpected rate changes may impose financial hardships on users large and small. This may negatively affect public opinion of the MGA in terms of revenue management, fiscal responsibility, and rate equity.

Discussion: Affordable fees require a balance between generating stable and sufficient revenue for operations and providing flexibility in user charges. Any new fee structure may result in different impacts to different basin users.

Advantages of the Policy Objective: Flexibility in bills allows users a degree of choice and control over their charges. More, lower income and/or those facing financial hardship are more likely to stay current on their charges with fees deemed affordable by the community.

Disadvantages of the Policy Objective: Affordability is relative to each individual fee payer and can be difficult to define. What may be affordable for one user is unaffordable to another. Additionally, affordability efforts generally present a tradeoff with revenue stability to the agency.

Sub-Objectives:

- **Shared Burden** – Recognizes that the Mid-County Basin benefits all current, future, and potential users of groundwater. In essence, each overlying property benefits from a sustainable groundwater basin and the burden of ensuring basin health should be distributed as broadly as possible.
- **Affordability for Essential Use** – This objective addresses the importance of maintaining the price - i.e. that which is used for health and safety – at the lowest cost possible while considering the needs of the Agency and regulatory conditions.

Policy Objective 5 – Conservation

Policy Statement: The critical condition of the groundwater basin, and the mandate of sustainability as defined by SGMA, should be reflected in the fees and charges. The fee structure should encourage a reduction in basin-wide use and empower necessary water management efforts by the GSA.

Discussion: This principle recognizes the limited water availability of the basin, as well as the environmental and financial impact of mitigation activities. The fees should encourage reduced use of a limited resource to the greatest extent under the law.

Advantages of the Policy Objective: This policy attempts to align the costs of reducing basin extraction with the users causing basin overdraft and seawater intrusion. The fee structure assigns a tangible value on the costs of critical overdraft.

Disadvantages of the Policy Objective: Typically, fee structures emphasizing efficiency, conservation, and reduced water use pose increased costs in implementation, administration, technical services, and outreach.

Sub-Objectives:

- **Reward Past Conservation Efforts** –Recognizes the value either of rewarding individuals for reduced and efficient use according to their needs, or at minimum, not penalizing those users for their conservation efforts prior to SGMA.
- **Tool for Implementing the Groundwater Sustainability Plan (GSP)** –Aims to develop a fee structure that is most likely to achieve the goals of the GSP over the long term. Advocates for a mechanism to allocate costs and incentivize activities to avoid or mitigate undesirable results as defined by SGMA.

- **Promotes Future Conservation** –Aims to reduce total water use through a focus on reduced pumping. The objective may include increased efficiency of basin water use to include development of benchmark standards associated with the appropriate amount of water use based on local characteristics.
- **Scientific Method** – Use of best available science, models, and empirical data-based standards and guidelines should be employed to develop the fee structure. The scientific method is applied to pumping for indoor and outdoor water use, such as the specific amount of water estimated for outdoor requirements given parcel land cover as well as the estimated return of water to the basin based on geology and other hyper-local characteristics.

3. Pricing objectives Exercise



Santa Cruz Mid-County Groundwater Agency

Pricing Objectives Exercise

Please rank each of the objectives from 1 to 17 with 1 being most important and 17 being least important
See Appendix A for the definitions of each Objective

	Objectives	Ranking
Administration	Ease of Understanding	
	Easy of Implementation and Administration	
	Defensibility	
Equity	Equity Among Property Owners	
	Equity Among Pumpers	
	Equity Across All Basin Users (Beneficiaries)	
	Equity Across Geographic Areas	
	Inter-Generational Equity	
Rate and Revenue Stability	Revenue Stability	
	Rate Stability	
	Minimize Financial Impacts	
Affordability	Shared Burden	
	Affordability for Essential Use	
Conservation	Rewards Past Conservation Effort	
	Tool for Implementing the GSP	
	Promotes Future Conservation	
	Scientific Method	

Participant's name _____

4. Sub-Objective Definitions

Affordability for Essential Use: This objective addresses the importance of maintaining the price - i.e. that which is used for health and safety – at the lowest cost possible while considering the needs of the Agency and regulatory conditions.

Defensibility: Producing a fee structure perceived to be fair, well documented, and well explained reduces the likelihood of legal challenge. This leads to more efficient and less costly administration.

Ease of Implementation and Administration (Simplicity): Implementing a new fee structure merits careful consideration, as rate structure implementation requires upfront (one-time) costs such as data gathering or billing system changes. An easy-to-administer structure does not negatively impact the ongoing costs of administration, which are predominately additional staffing costs.

Ease of Understanding: The ability for the fee structure to be explained in a manner that can be understood by basin users and other stakeholders will have a positive impact on the ability to build acceptance of fees.

Equity Across All Basin Users (beneficiaries): This objective states that a fee structure achieves equity by allocating costs fairly and proportionally across all water users in the basin. Considers basin groundwater a general benefit across all users of groundwater.

Equity Across Management Areas: Considers specific regions within the basin boundaries that contribute to groundwater replenishment and specific regions which contribute to intrusion, depletion, and/or impairment.

Equity Among Property Owners: This objective states that a fee structure achieves equity by allocating costs fairly and proportionally across property owners whose parcels overlay the basin.

Equity Among Pumpers: This objective states that a fee structure achieves equity by allocating costs fairly and proportionally across well owners whose parcels overlay the basin.

Inter-Generational Equity: This objective states that a fee structure achieves equity by matching the costs of existing impacts to the basin to those who have caused the impacts. The objective aims to protect current and future users from bearing all costs related to groundwater management due to past activities.

Minimize Financial Impacts: Fees imposed on basin users will be the first of its kind. This objective aims to minimize the financial burden on users to the greatest extent possible. The objective overlaps with the shared burden objective.

Promotes Future Conservation: The objective aims to reduce total water use through a focus on reduced pumping. The objective may include increased efficiency of basin water use to include development of benchmark standards associated with the appropriate amount of water use based on local characteristics.

Rate Stability: The objective is to reasonably ensure that user fees are predictable from billing cycle to billing cycle and without sharp fluctuations in magnitude or structure year over year. Similar to the revenue stability objective, certain fee structures are more effective at guarding against fee spikes and highly fluctuating user bills.

Revenue Stability: The ability of the fee structure to generate stable and predictable revenues from month to month or year to year. Specific types of fee structures are more effective at maintaining revenue stability than others. Adequate revenues ensure, for example, that technical studies can be conducted, qualified personnel can be retained, and that operational costs of the agency are covered.

Reward Past Conservation Efforts: This objective recognizes the value either of rewarding individuals for efficient use according to their needs, or at minimum, not penalizing those users for their conservation efforts prior to SGMA.

Scientific Method: Use of best available science, models, and empirical data-based standards and guidelines should be employed to develop the fee structure. The scientific method is applied to pumping for indoor and outdoor water use, such as the specific amount of water estimated for outdoor requirements given parcel land cover, as well as the estimated return of water to the basin based on geology and other hyper-local characteristics.

Shared Burden: This objective recognizes that the Mid-County Basin benefits all current, future, and potential users of groundwater. In essence each overlying property benefits from a sustainable groundwater basin and the burden of ensuring basin health should be distributed as broadly as possible.

Tool for Implementing the Groundwater Sustainability Plan (GSP): This objective aims to develop a fee structure that is most likely to achieve the goals of the GSP over the long term. Advocates for a mechanism to allocate costs and incentivize activities to avoid or mitigate undesirable results as defined by SGMA.

Appendix B

Part 2.74 of Division 6 of the Water Code contains 12 chapters on Sustainable Groundwater Management. Below are five important sub-sections of Chapter 8: Financial Authority that are pertinent to MGA's ability to develop a fee structure that is most appropriate for the basin and the authority and technical requirements to charge fees. The language that follows is direct from the sub-sections in Chapter 8 of Part 2.74 of the Water Code. Bolded font is emphasis added by Raftelis.

10730.2(d): Fees imposed pursuant to this section may include **fixed fees** and **fees charged on a volumetric basis**, including, but not limited to, fees that increase based on the quantity of groundwater produced annually, the year in which the production of groundwater commenced from a groundwater extraction facility, and impacts to the basin.

10730.8(a): Nothing in this chapter shall affect or interfere with the authority of a groundwater sustainability agency to levy and collect **taxes, assessments, charges**, and tolls as otherwise provided by law.

10730.2(c): Fees imposed pursuant to this section shall be adopted in accordance with subdivisions (a) and (b) of **Section 6 of Article XIII D** of the California Constitution. (*Proposition 218*)

10730(a): A groundwater sustainability agency may impose fees, including, but not limited to, **permit fees** and **fees on groundwater extraction** or other regulated activity, to fund the costs of a groundwater sustainability program, including, but not limited to, preparation, adoption, and amendment of a groundwater sustainability plan, and investigations, inspections, compliance assistance, enforcement, and program administration, including a prudent reserve.

10730.2(a): ...may impose fees on the extraction of groundwater from the basin to fund costs of groundwater management, including:

- Administration, operation, and maintenance, including a prudent reserve.
- Acquisition of lands or other property, facilities, and services.
- Supply, production, treatment, or distribution of water.
- Other activities necessary or convenient to implement the plan.