PROPOSITION 68 GRANT APPLICATION PROJECT DESCRIPTIONS

The Western Management Agency (WMA) Strategic Conservation Plan is a key Groundwater Sustainability Plan (GSP) component. It will define ways to reduce pumping (demand management) and thereby contribute to the WMA overall goal of a net gain of approximately 500 AFY in the WMA water budget to offset drought and up to 3,000 AFY by the year 2072. The goal is a groundwater basin that provides sustainable source-water to Lompoc, Mission Hills, Vandenberg Village, private wells, agriculture businesses, and environmental ecosystems.

As part of WMA GSP implementation, Projects and Management actions (PMAs) have been identified to support conservation and maintain groundwater sustainability. As described in the GSP, the Group 1 PMAs are intended to manage groundwater extractions through increased water conservation, optimized use of the recycled water supply, and enhanced recharge with greater stormwater capture. The objective for these actions is to ensure that groundwater level and storage declines during periods of drought are sufficiently offset by groundwater level and storage increases during other periods. Accordingly, data gaps have been identified, and when filled will improve capabilities to measure and track plan implementation effectiveness.

- Stakeholder Outreach and Engagement
- Conservation Plan Development
- Recycled Water Feasibility Study
- Pilot Well Metering Project and Reporting Program
- Data Gap Filling
- Systems to Effectively Produce Annual Report
- 5-year Update
- Rate Study

Stakeholder Outreach and Engagement (recommended new task)

A critical part here that ties in with the other projects is the outreach/communication effort.

Complexities within the Basin resulted in decisions by local public agencies to develop three GSPs under a coordination agreement to satisfy SGMA requirements for the entire Basin. The Western, Central, and Eastern Management Areas (WMA, CMA, and EMA) are the three GSAs in the Santa Ynez River Valley Groundwater Basin. The WMA GSA is made up of five entities including the City of Lompoc, Vandenberg Community Services District, Mission Hills Community Services District, Santa Ynez River Water Conservation District and Santa Barbara County Water Agency.

The purpose of the three GSAs in the Basin is to manage groundwater resources in the WMA, CMA, and EMA without causing undesirable results and facilitate long-term beneficial uses of groundwater within the Basin. Beneficial uses of groundwater in the Basin include municipal, domestic, and agricultural uses, in addition to riparian habitat that supports environmental ecosystems.

The three GSAs coordinated together to develop a GSP for their own management area. The GSP's developed Outreach and Engagement Plans to facilitate engagement with stakeholders during GSP implementation, including the Conservation Plan Development and Pilot Projects, the Recycled Water Feasibility Study and the pilot Well Metering Project.

Stakeholder outreach will be performed through: 1) Active communication and participation by agricultural representatives 2) Identify cooperating landowners for irrigation scheduling and or well

metering demonstration projects; 3) Develop specific Agricultural outreach for Conservation Plan development.

Additional outreach will include:

- Attend monthly AAG meetings (Lompoc Growers and Shipping Association members?) to establish common definitions and framework for effective communications.
- Conduct Periodic Surface Water Advisory Group Meetings.
- Conduct Quarterly CAG Meetings to assess and integrate information from AAG/SWAG and receive feedback on conservation plan progress. Expand CAG to include currently under-represented communities (DACs, tribes, small public water systems, and domestic well owners).
- Discuss Stakeholder outreach at Quarterly GSA Meetings.
- Hold Tri-Annual Public Workshops (WMA, CMA, EMA)

Conservation Plan Development and Pilot Projects

As described in Section 4b.1 *Project and Management Action No.1: Basin-Wide Conservation Efforts* of the WMA GSP, a Water Conservation Strategic Plan, or similar document, will be developed that considers WMA GSA stakeholder concerns, integrates with existing conservation programs, and meets the health and safety water requirements for communities that rely on groundwater within the WMA. The WMA GSA will coordinate with the existing agencies and programs and develop additional voluntary or rebate-based conservation efforts for domestic, municipal, and agricultural beneficial uses within the WMA. As part of plan development, the WMA GSA will confer with domestic and municipal groundwater producers to discuss historical and current conservation measures governing landscape irrigation, wash-downs, dust-control and other potential savings as a guide to establish new voluntary conservation measures on a basin-wide level. The Water Conservation Strategic Plan will promote and coordinate priority conservation projects for implementation.

An initial Draft Water Conservation Plan has been developed with input primarily from The City of Lompoc, Vandenberg Village, Mission Hills, and the County of Santa Barbara. However, agriculture is the primary consumer of groundwater in the basin, and outreach and engagement efforts are needed to develop consensus on plan elements and expand and integrate existing programs that support efficient water use by agriculture to improve profitability and support basin sustainability. Conservation projects for Agricultural users should emphasis cost savings, time efficiencies, and resource preservation as the key points for Conservation Planning. As described in the WMA GSP, WMA GSA will coordinate with all groundwater users to investigate the potential for, and feasibility of, additional water conservation in irrigation practices. Tasks that will be conducted to finalize the Water Conservation Plan, as described in the WMA GSP, include evaluating current conservation, measures, methods to augment existing conservation programs, determining opportunities for additional conservation, conducting public outreach, meeting with groundwater producers, and drafting and adopting conservation related ordinances.

Section 4b.1-2 *Project Benefits* describes that increased water conservation will have a direct benefit by reducing groundwater production by approximately 10 to 20% of current groundwater production. The potential savings from water conservation is expected to be 2,000 to 4,000 AFY which will help meet the goal of achieving an additional 500 to 3,000 AFY needed to bring the water budget for the WMA into balance.

The Water Conservation Strategic Plan will help foster coordination amongst GSAs, entities and stakeholders within the Basin and surrounding basins. This will support cooperative planning and management of the Basin's important natural resources and improve representation of inter-basin and intra-basin interests in the beneficial uses of groundwater and surface water.

As a result of outreach and engagement efforts to the agricultural community during the Water Conservation Plan development and Stakeholder Outreach and Engagement task, farmlands will be identified for conservation pilot studies including dust control studies and irrigation efficiency studies. Based on site-specific conditions the dust control pilot studies will include a variety of dust control measures such as reducing the number of water trucks, pave the roads or cover the roads with gravel, reduce the amount of exposed ground, use recycled water instead of groundwater, or install windbreakers. Based on site-specific conditions the irrigation efficiency pilot studies will include a variety of irrigation processes such as converting to drip irrigation systems, soil moisture metering, install windbreakers, measure wind to direct irrigation lines, or use recycled water for irrigation.

The three elements of the Conservation Strategic Plan are detailed and listed below.

TASK	**WMA**	**CMA**	**EMA**
Writing and adopting the plan			N
Hold public meeting			
Coordination with stakeholders			
Approve Plan			
Summarize existing conservation efforts			
Tracking systems/reporting			
Purchase and implement software/hardware/training/roles and responsibilities			
Implement new initiatives identified in the GSP			
AG Productivity Gains—Dust Control without using groundwater, Irrigation improvements, evapotranspiration improvements			
Extraction fees			

Pilot Well Metering Project to Support Basin Well Extraction Measurement and Reporting Program			
Conservation Technology Forums/Education			
TOTAL	~$		

N/A = not applicable in GSP
NR = no cost reported

Recycled Water Feasibility Study

The City of Lompoc owns and operates the Lompoc Regional Wastewater Reclamation Plant (LRWRP), which treats wastewater for 53,494 municipal and industrial users from the City of Lompoc, Vandenberg Village Community Services District, and Vandenberg Space Force Base (City of Lompoc 2021). The City's 2020 Urban Water Management Plan states recycled water discharged by the LRWRP is "*a valuable source of incidental recharge for the Lompoc Plain and for users downstream of the City, including agricultural interest, domestic uses and the environment"* (City of Lompoc, 2021). As described in Section 4b.3 *Project No.3: Optimize Use of Recycled Water* of the WMA GSP, there is additional opportunity to recycle and expand reuse of treated water from LRWMP. The WMA GSP identified the need for "*a feasibility study regarding the use of recycled water from the LRWRP for agriculture downstream of the LRWRP,"* and to analyze multiple possible service areas for the use of recycled water to maximize the benefit to cost ratio of using non-potable recycled water downstream of the LRWRP for agriculture. In 1997, the USGS utilized a groundwater-flow and dissolved constituent transport model that they developed to evaluate the effects of proposed management plans for the groundwater basin. The proposed management alternatives included moving the sewage-effluent discharge point on the Santa Ynez River upstream from its present location and increasing the quantity of streamflow to the Santa Ynez River during the summer dry periods. The results indicated that increasing recharge along the Santa Ynez River would result in a rise of water levels throughout the main zone and dissolved solids concentrations would decrease. However, when increased pumping was assessed the model results indicated an increase of dissolved solids concentrations. (USGS, 1997). The new tasks are to identify the efficiency with which the current discharge from the LRWMP is recharging the river and aquifer downstream of the discharge point. To assess this, a feasibility study will be conducted.

The feasibility study will include the following tasks:

- Install Downstream gauge to quantify current recharge benefit
- Evaluate benefit/reliance of existing habitat on recycled water flows
- Update Model to quantify groundwater and surface water response to changes in recycled water use
- Outreach and engagement to identify potential markets and interested landowners to receive recycled water

As part of the feasibility study the increased outreach and engagement will improve representation of inter-basin and intra-basin interests in the beneficial use of groundwater.

Pilot Well Metering Project to Support Basin Well Extraction Measurement and Reporting Program

Improved measurement and tracking of groundwater production combined with outreach and engagement is needed to develop consensus on conservation efforts that support efficient water use and improve water usage in the basin. Research at the Irrigation Technology Center at Texas A&M University demonstrated that water measurement by itself can reduce water use by 10 percent (TWRI, 2001). Accordingly, acceptable methods for the efficient measurement and tracking of well extractions are therefore needed for successful GSP implementation.

As described in Section 4b.2 of the GSP *Project and Management Action No. 2: Implement Groundwater Extraction Fees with Mandatory Well Metering and Update Well Registration*, acceptable methods are needed to track groundwater extractions (e.g., well metering, power consumption, or demand estimates) and up-to-date well registrations are needed to manage groundwater production. These data will also improve current and future extraction estimates for reliable water budgets and track groundwater extractions from private wells.

This pilot project will evaluate the effectiveness of direct and indirect methods to quantify extractions, and results will be utilized to inform plans to quantitatively track groundwater production and use in the Santa Ynez River Groundwater Basin.

1. Existing mechanical meters.
2. Electrical power consumption.
3. Remote sensing and ET estimates.

The Citizens Advisory Group (CAG) will help identify cooperating landowners to monitor relationships between land use, climate, and groundwater consumption. Test sites will be identified to establish monitoring stations in the Eastern Management Area (EMA), Central Management Area (CMA), and Western Management Area (WMA) of the Santa Ynez River Groundwater Basin to represent the diversity in hydrogeologic conditions, land use, and water supply. The study design, implementation, and interpretation of results will be conducted with review and input from the advisory committee. Increased outreach and engagement will improve agricultural representation and interests in the beneficial use of groundwater.

Representative Monitoring Well Improvement Project

Survey Representative Wells, Video logging and sounding of wells, and new GWL monitoring wells, construct dedicated GWL monitoring wells.

Data Gap Filling

Expanded data collection and monitoring is needed to measure and track the effectiveness of conservation efforts and overall GSP implementation. Chapter 5: *Plan Implementation* of the WMA GSP identified data gaps to address. The data gap tasks and estimated costs per the GSP are summarized below. When a range in costs were provided, the greater (maximum) cost is cited.

TASK	WMA	CMA	EMA

Survey Representative Wells (move into above conservation project)	$4,000	$4,000	N/A
Video Logging and Sounding of Wells (move into above conservation project)	$36,000	$12,000	$75,000
Add new GWL Monitoring wells (move into above conservation project)	$20,000	$20,000	$20,000
Construct Dedicated GWL Monitoring Wells (if no existing wells can be added) (move into above conservation project)	$700,000	$330,000	$200,000
SW Gage Installation[1] (move into above recycled water project)	$50,000-$100,000	NR	N/A
Well Registration Update (move into above project well metering project)	$20,000	NR	N/A
Update Water Usage Factors (move into above conservation project)	N/A	N/A	$40,000
Survey and Investigate GES	N/A	N/A	$40,000
TOTAL	~$800,000	~$400,000	~$400,000

N/A = not applicable in GSP

NR = no cost reported

1. A stream gauge at the Santa Ynez River estuary about 8.5 river miles downstream of the LRWRP will be implemented as part the GSP (see Chapter 5a2-4, GSP Implementation), and the data used to determine the quantity and timing of surface water flows in relation to current discharge levels of the LRWRP.