



COLUSA AND GLENN GROUNDWATER AUTHORITIES

Colusa Subbasin
Joint Technical Advisory Committee
GSP Development

August 13, 2021

Meeting Topics

- 4.a. Groundwater Sustainability Plan Schedule
- 4.b. Financing and Funding Mechanisms—Presentation and Discussion
- 5. Well Monitoring Pilot Program—Update and Discussion
- 6. Grant Funding
 - 6.a Current Project Agreements – Status and Discussion
 - 6.b Unallocated Grant Funding—Status, Discussion and Possible Recommendation

4.a. Groundwater Sustainability Plan Schedule

Groundwater Sustainability Plan Schedule

GSP Chapter/Activity	Activity Start Date	Activity End Date	Activity Duration (days)
Chapter 1 – Introduction			
Chapter 2 – Plan Area			
Chapter 3 – Basin Setting	4/7/2021	5/5/2021	28
Chapter 4 – Monitoring Networks			
Chapter 5 – Sustainable Management Criteria	7/16/2021	8/13/2021	28
Chapter 6 – Projects and Management Actions			
Chapter 7 – Plan Implementation			
Chapter 8 – References and Technical Studies	9/13/2021	10/31/2021	48
Executive Summary			
Complete Draft GSP			
Complete Final GSP	11/1/2021	11/30/2021	30
GSP Adoption by Agencies and Submittal to DWR	12/1/2021	1/31/2022	62

4.b. Financing and Funding Mechanisms

Financing and Funding Mechanisms

- **Purpose:** Provide an overview of costs, financing and funding, and cost allocation approaches
- GSP Plan Implementation (Chapter 7)
 - Summary of approach to cover costs per §354.44(b)(8) and §354.6(e)
 - Technical appendix with supporting information

Financing and Funding Mechanisms

- Financing to pay for project capital and other one-time large expenses
- Funding to repay debt-financed projects and ongoing annual administration, operating, and maintenance costs
- GSP Implementation
 - GSA and PMA costs
 - Financing and funding options
 - Cost allocation considerations
 - Multi-benefit project considerations

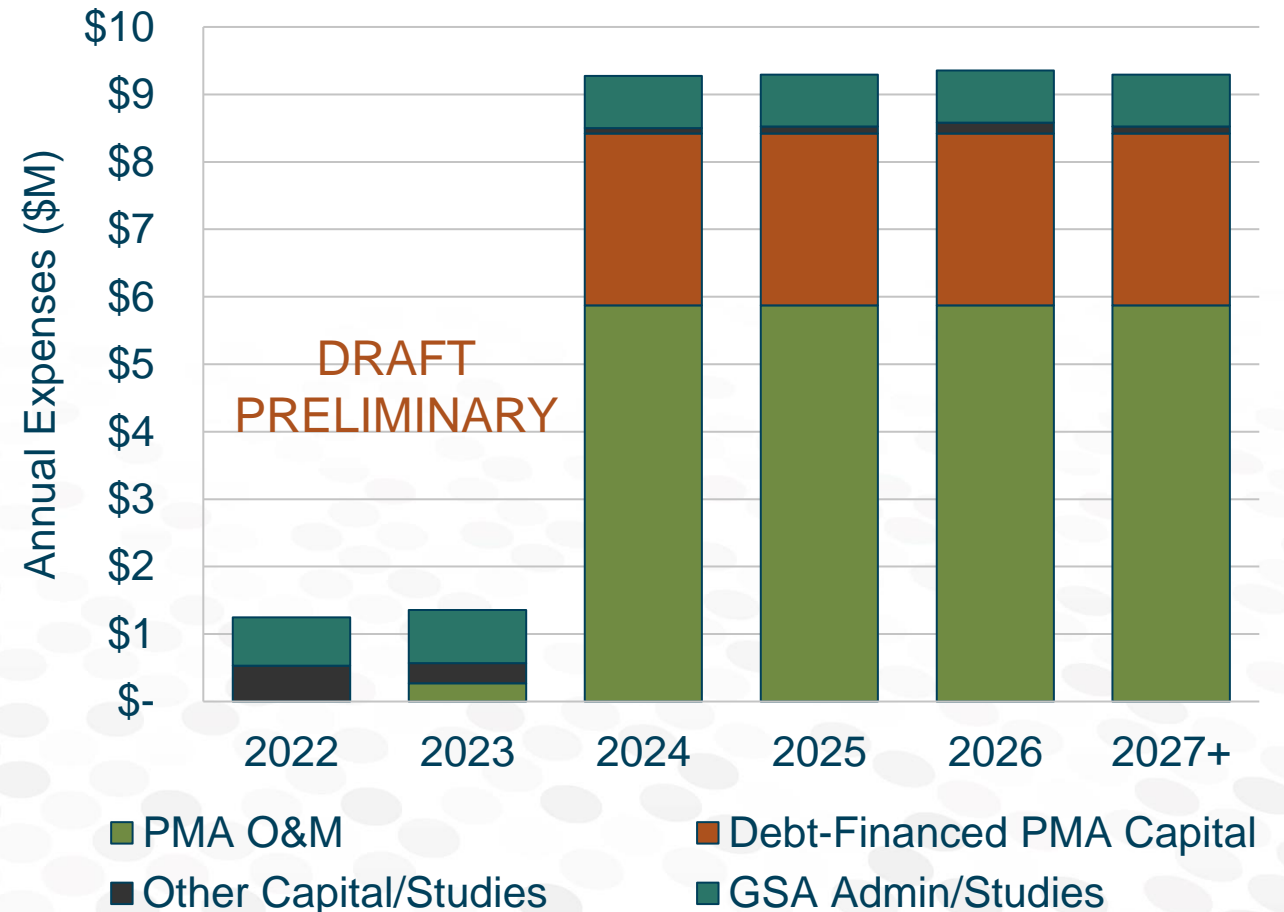
GSP Costs

- Projects and Management Actions
 - Capital
 - Planning/design studies
 - Annual administration, operations, and maintenance
- Groundwater Sustainability Agencies
 - Administration (legal, staff time, coordination, monitoring, finance, etc.)
 - GSP technical studies to support implementation and data gaps
 - GSP Annual Reports (§356.2)
 - GSP 5-Year Assessments (§356.4)

Draft Preliminary GSP Costs

- PMA O&M
 - Planned PMAs (5 in the GSP)
- GSA Admin/Studies
 - Coordination and GSP implementation
 - GSP technical studies
- Other Capital/Studies
 - One-time expenses for PMA development (e.g., technical studies) that are not debt-financed
- Debt-Financed PMA Capital
 - Annual repayment of debt-financed PMA capital

Colusa GSP Implementation Costs



GSP Implementation Capital Costs

Capital Project Financing Type	Programs	Notes
Grant	State (DWR) Grants (Prop. 68 and future bonds)	Solicitations are typically targeted to general types of projects and specific benefits that are in the State's interest
Grant	US Bureau of Reclamation WaterSmart Grants	Project-specific funding that can support planning studies (e.g., water market strategy grants); cost-share obligations
Grant	Other targeted potential grant programs (e.g., AB 252)	Potential for multi-benefit projects (see next slide)
Bonds	Local bond issuance	Local borrowing based on agency authority
Loans	Private borrowing	Current low interest rate environment may make these options attractive
Loans	State or Federal low interest loans	This could include future bond funded loan programs

Multi-Benefit Projects

- Funding opportunities for multi-benefit projects
 - Including Multi-Benefit Recharge Basin project (Planned PMA)
- Sources are for capital costs
 - O&M would require additional revenue funding sources (see other options)
- Some current options
 - AB 252. *Multibenefit Land Repurposing Incentive Program*
 - Other federal programs/partners (e.g., USDA CREP)
 - Other potential private partnerships (e.g., TNC, other conservancies)

GSP Implementation O&M and Debt Service Costs

GSP Funding Type	Notes
Fee – General	General options for legal authority pre- and post-GSP development: Prop. 26, Prop. 218, Water Code §10730, Water Code §10730.2
Regulatory Fee	Typically, pre-GSP fee that is related to regulatory cost. Prop. 26 and Water Code §10730
Service Fee	Related to cost of service. Prop 218 and Water Code §10730 and §10730.2. Subject to majority protest vote
Special Tax	Subject to 2/3 majority approval vote
Special Benefit	Special benefit assessment subject to majority protest vote

- Any of these funding types could be:
 - Per acre, per well, per parcel, per acre-foot, or a hybrid approach
 - Establish appropriate nexus between costs/benefit and the fee

Discussion

Options for Allocating Costs

- Define the entity that is allocating costs
 - GSAs, districts, other agencies
- Define parties that will pay for costs
 - Irrigated and non-irrigated, districts, or only groundwater dependent lands?
 - Are costs uniform or vary by area?
 - Are costs fully paid by an entity or distributed more broadly?
- General options for allocating GSP costs/benefits include:
 - Cost of service: How much it costs to serve individual users/areas
 - Benefits based: Establish link between costs and benefits received

Cost Allocation Considerations

- What entities contributed to the development and operation of the project?
- What costs were incurred, and by which parties?
- When were costs incurred?
- What parties receive benefits from the project?
- When are benefits received?
- Are there other non-monetized benefits or costs associated with the project?

Cost Allocation Example 1

- Uniform fee
 - All costs are annual
 - This would apply when all lands benefit from the implementation of the PMA or other GSA activity
 - Examples from other GSAs where this is applied to specific PMAs

Project Annual Cost	\$2 million
Total Assessed Acres	500,000
Annual Assessment	\$4 per acre

Cost Allocation Considering Benefits

- Local benefits (e.g., near the PMA)
 - Reduced pumping costs
 - Reduced impacts to nearby domestic wells
 - Potential water quality benefits
- General subbasin benefit for achieving sustainability goal (i.e., avoiding undesirable results)
 - Reducing impacts on surface streams
 - Reduced depletion of groundwater storage
 - Broader benefits for SGMA compliance

Cost Allocation Example 2

- Quantify benefits attributable to the PMA
 - Groundwater pumpers near the PMA have lower pumping costs
 - Subbasin-wide sustainability benefit

Total Project Cost	\$2 million
Reduced Pumping Cost Benefit	\$200,000

Project Annual Cost Allocation	\$200,000
Total Assessed Acres	20,000
Benefit Assessment	\$10 per acre
Total Assessment	\$13.60 per acre

Alternative Charge
\$2.5 per AF
\$3.60 per acre

Project Annual Cost Allocation	\$1.8 million
Total Assessed Acres	500,000
Assessment	\$3.60 per acre

Summary of Example Cost Allocation Steps

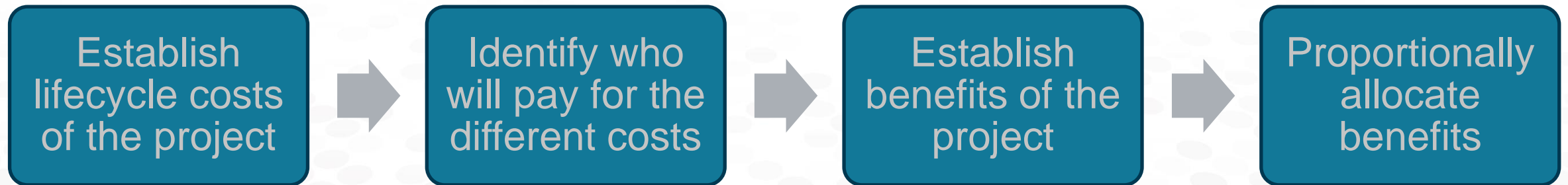
- Estimate PMA costs
- Quantify PMA benefits
 - General to the broader subbasin (assessable acres)
 - Specific to certain areas (or different groups)
- Allocate costs to areas receiving specific benefits
- Allocate remaining cost to the broader subbasin

Discussion

Example of Benefit Allocation for a Recharge PMA

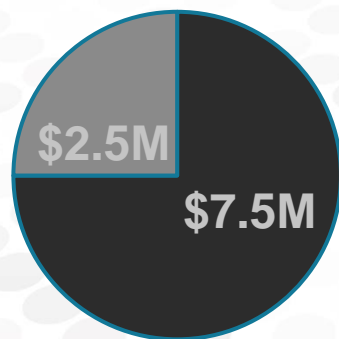
- Madera County GSA recharge program
 - Initially funded under a Prop 68 grant award
- Conceptual approach considers proportional cost shares to allocate benefits
- Actual GSP PMA example is used to illustrate concepts
 - Colusa subbasin conditions are different

Benefit Allocation Approach



Numerical Example (Hypothetical)

Estimated Recharge Lifecycle Costs	Present Value Amount	Responsible Party
Design and permitting	\$0.5 M	GSA
Land and water rights	\$2.5 M	Landowner
Construction	\$5 M	GSA
OM&R	\$2 M	GSA
Total	\$10 M	



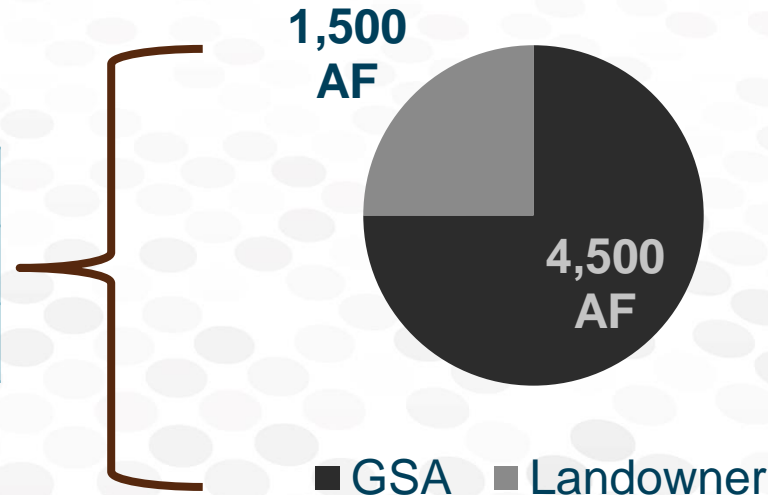
■ GSA ■ Landowner

GSA Cost Share	75%
Landowner Cost Share	25%

Example Recharge Benefit Allocation

Project Benefits	Estimated Annual Benefit
Applied Water	7,000 AFY
Calculated Evaporation	300 AFY
Net Recharge Benefit	6,700 AFY
Leave Behind	700 AFY
Net Benefit for Allocation	6,000 AFY

Benefits to Share	6,000 AFY
GSA Cost Share	75%
Landowner Cost Share	25%



GSA Total
 4,500 AFY
 + 700 AFY
5,200 AFY

Summary

- The purpose is to present options and ideas for funding and financing
- The types and schedule of GSP implementation costs determine funding and financing options
 - Financing for capital needs
 - Funding mechanisms to repay capital and operations
- Cost allocation considerations depend on policy decisions by the GSA
 - Example illustrated general cost allocation approaches

Discussion

5. Well Monitoring Program Update

Item 5. Well Monitoring Pilot Program: Review

- 21 applications received, scored, and ranked
- 6 applications selected (3 in each county)
- Landowner-GSA agreements
 - 4 fully executed
 - 2 pending landowner signature
- 6 well inspections completed (in May/June; all 6 qualified)

Item 5. Well Monitoring Pilot Program: Progress

- Ranch Systems (<http://www.ranchsystems.com/>) selected for turnkey equipment provision and installation, communications, data hosting, and reporting
- Monitoring equipment installed on 4 wells with agreements executed
 - Pump discharge and water level being monitored
 - Growers have access to real time flow rate and water level data via Ranch System mobile and web applications
 - Reports customizable for growers and GSAs (currently in progress)
 - Potential for future remote control of pump (on/off)
 - Initial grower response very positive

Item 5. Well Monitoring Pilot Program: Costs

- Initial Costs
 - ~\$4,000 per site for program design (technical evaluation, site visits, landowner coordination, equipment specifications, technical coordination with Ranch Systems, etc.)
 - \$4,500 to \$5,000 per site for equipment and installation
- Recurring Costs (communications, data hosting, reporting)
 - “Base plan” \$445 per site per year
 - Substantial discounts depending on number of sites and number of prepaid years of service
 - Bundled service; hard to split costs between GSAs and landowners as assumed for pilot program

Item 5. Well Monitoring Pilot Program: Next Steps

- Evaluate and specify report formats
- Evaluate data quality and potential data uses
 - On-farm purposes
 - GSA/GSP purposes (e.g., near-realtime GW level contouring)
- Evaluate landowner satisfaction and recommendations
- Evaluate options and costs for scaling up program

Discussion

6. Unallocated Grant Funding

Unallocated Grant Funding

TOTAL AVAILABLE GRANT FUNDING	\$1,999,600.00	
TOTAL CONTRACTED HCM/WB	\$378,000.00	
TOTAL CONTRACTED GSP	\$1,337,000.00	
TOTAL UNCONTRACTED	\$284,600.00	
POTENTIAL TASKS	Estimated Costs (rough)	
Well Monitoring Pilot Program	~\$16K/site (variable depending on site)	*This would require a grant amendment to move funds
Hydrogeologic Investigation	Costs under this category will vary based on level of effort	
Assess remaining data gaps and develop investigation work plan(s)		
Field mapping of key geologic and hydrologic features		
Test drilling		
Monitoring well installation		
Subsidence benchmark installation		
Stream gage installation		
Well Location database		
Annual Report (due in April 2022)	\$50K - \$75K	

- \$284,600.00 in grant funding remains that has not been contracted
- Funding must be dedicated to GSP planning, not applicable for implementation
- Funds should be dedicated to projects that are currently in the Prop. 1 / Prop. 68 grant Agreement with DWR
- Potential tasks are listed, others may be considered
- Funding must be expended by April 30, 2022
- TAC recommendation to CGA/GGA Boards for consideration

Discussion