

Tehama GSA Board Meeting DWR Grant Project Update Presentation

Eddy Teasdale, LSCE

September 21, 2026



Tehama GSA 9.21.2026 Board Meeting – DWR Grant Project Update Item

MEETING PRESENTATION ITEMS

Item 1: DWR Grant Project Overview

Item 2: Antelope Subbasin Update

Item 3: Red Bluff Subbasin Update

Item 4: Los Molinos Subbasin Update

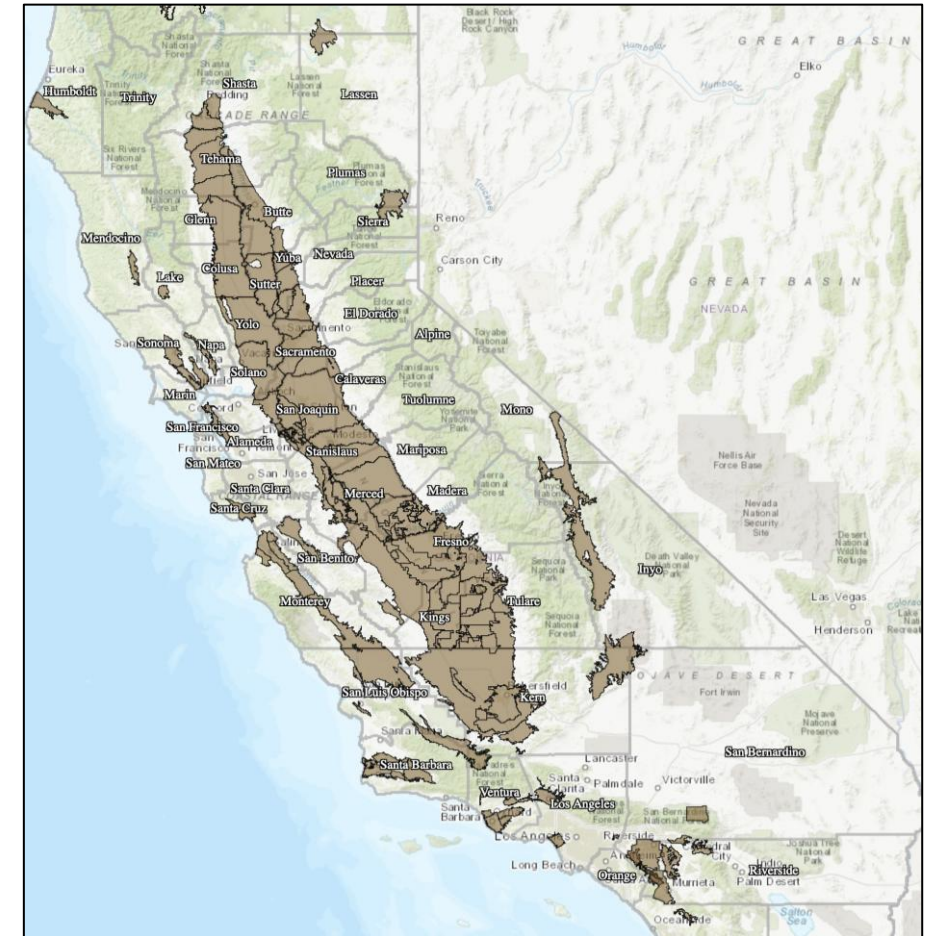
Item 5: Corning Subbasin Update

DWR Grant Project Overview

Context: SGMA, GSAs, & GSPs

DWR Grant Project Drivers

- **Sustainable Groundwater Management Act (SGMA):**
Comprehensive state legislation to regulate the management and use of groundwater. Enacted in 2014.
- **Groundwater Sustainability Agencies (GSA):**
Required in Subbasins to achieve sustainability.
351 GSAs in 142 subbasins statewide.
- **Groundwater Sustainability Plans (GSP):**
Required in medium and high-priority subbasins to halt overdraft and bring a subbasin into a balanced level by 2042. *2027 GSP Updates to be under DWR review.*



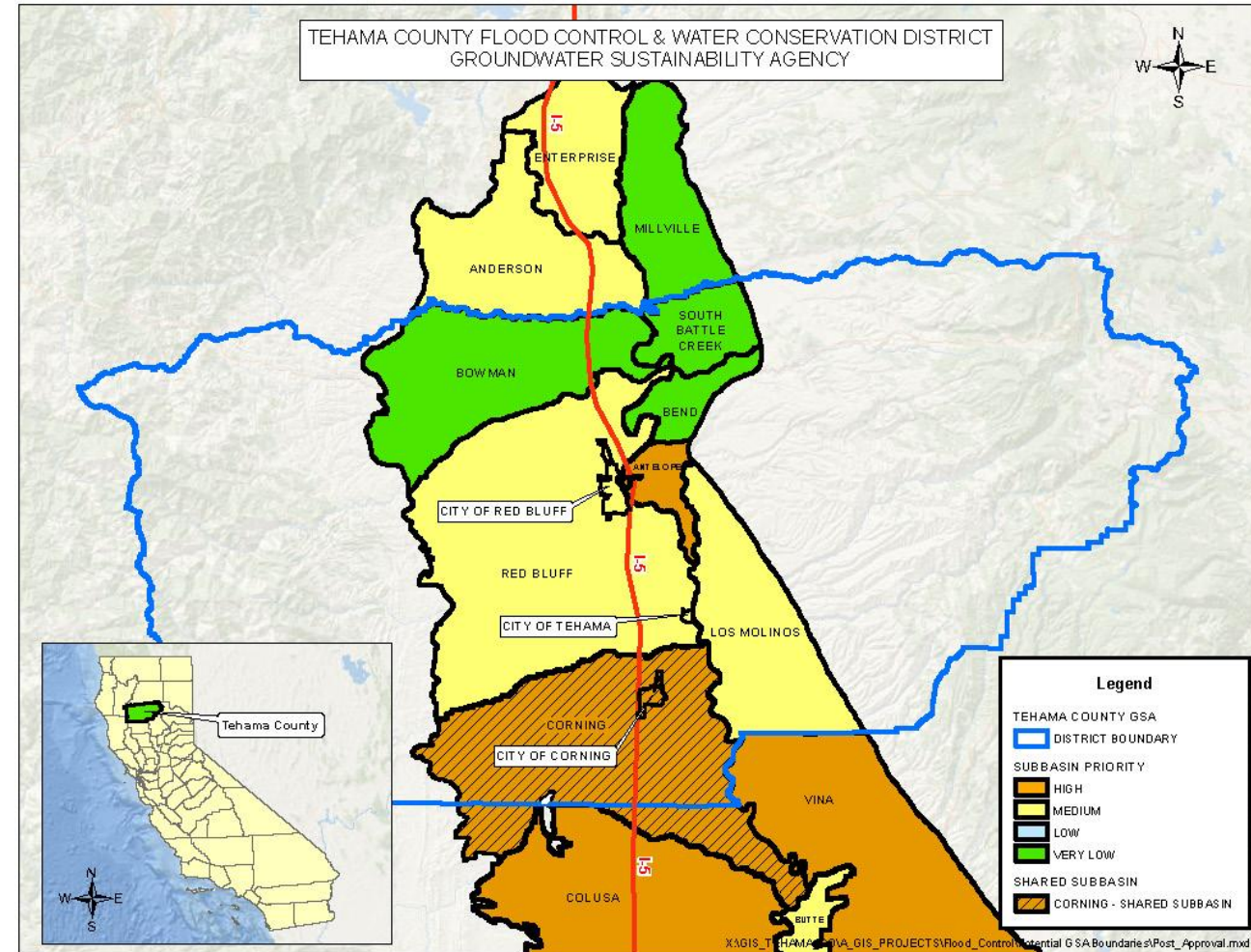
DWR Grant Project Overview

Context: Tehama GSA has 5 Managed Subbasins

Tehama GSA managed subbasins as classified per DWR Bulletin 118.

This means that efforts need to be made to achieve sustainability by 2042 per SGMA regulations.

Subbasin	DWR Priority	Status
Antelope	HIGH	No Overdraft
Bowman	LOW	No Overdraft
Corning	HIGH	Overdraft
Los Molinos	MEDIUM	Overdraft
Red Bluff	MEDIUM	Overdraft

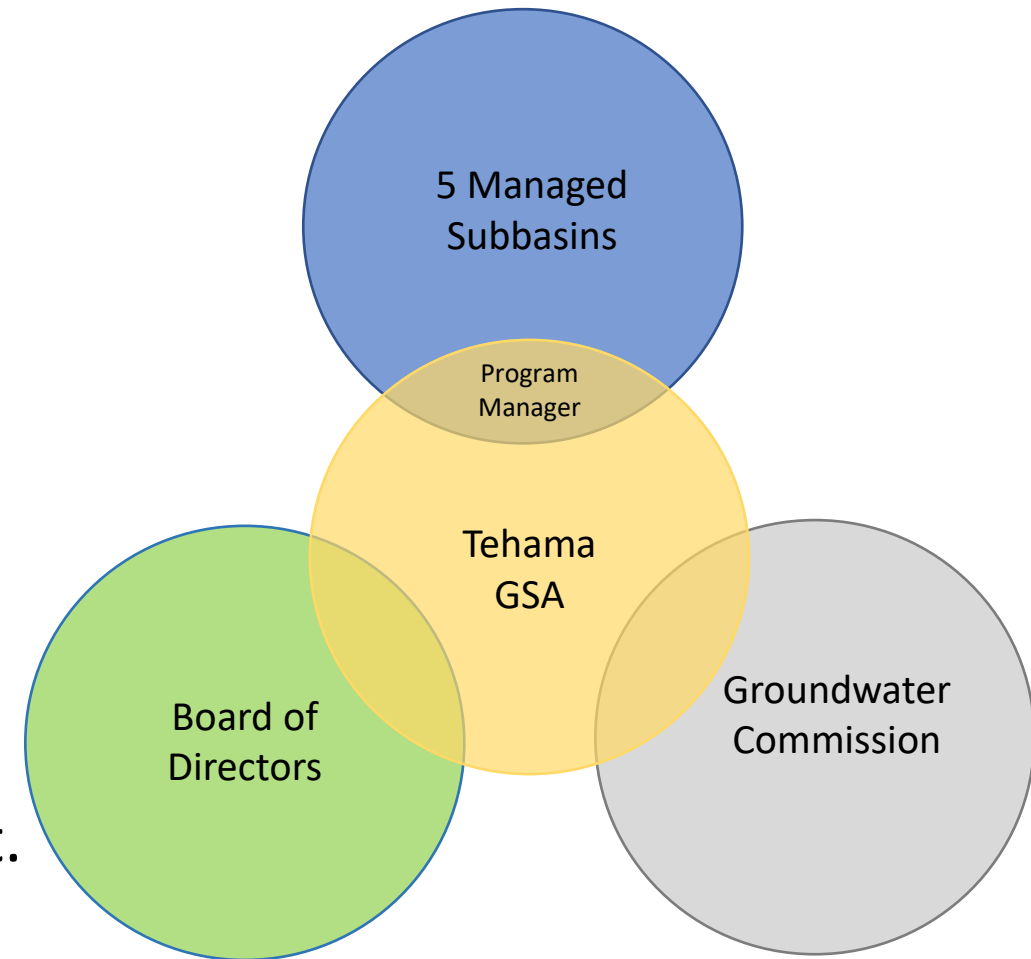


DWR Grant Project Overview

Tehama GSA Project Staffing: People Behind the Process

Staff from Tehama County Flood Control and Water Conservation District:

- Justin Jenson, Deputy Director
- Adriana Langarica, Engineering Tech
- Lena Sequeira, Administrative Assistant
- Daniel B. Klausner, Legal Counsel
- Staff has delivered \$19M in planning and implementation SGMA grant funds through DWR from 2020 to 2026.
- Responsible for SGMA compliance in Tehama County.
- LSCE prime contractor for DWR Grant Project.



DWR Grant Project Overview

Contractors Involved

SUMMARY – LSCE Prime Contractor

- Davids Engineering – GSP implementation/recharge.
- GEI Consultants, Inc. – Flood/Storm recharge.
- MBK Engineers, Inc. – water rights, water availability, water recharge permitting.
- Water and Land Solutions – landowner coordination, recharge opportunities.
- North State Drilling/Well Industries, Inc. – well drilling and permitting.
- Resource Conservation District – Ag Demand Management Programs.
- CBI/Stantec/Red Mallard – outreach and stakeholder involvement.
- Chico State University – biological assessments and SW-GW interactions.
- ERA – Demand Management Framework.
- Sub-Terra Heritage Resource Investigations – GDE surveys, sampling.
- Adema Environmental, Inc. – environmental review and documentation.
- Other Vendors – various suppliers, manufacturers, labs.

Large consultant team to provide value to the GSA.

The Road to Sustainability

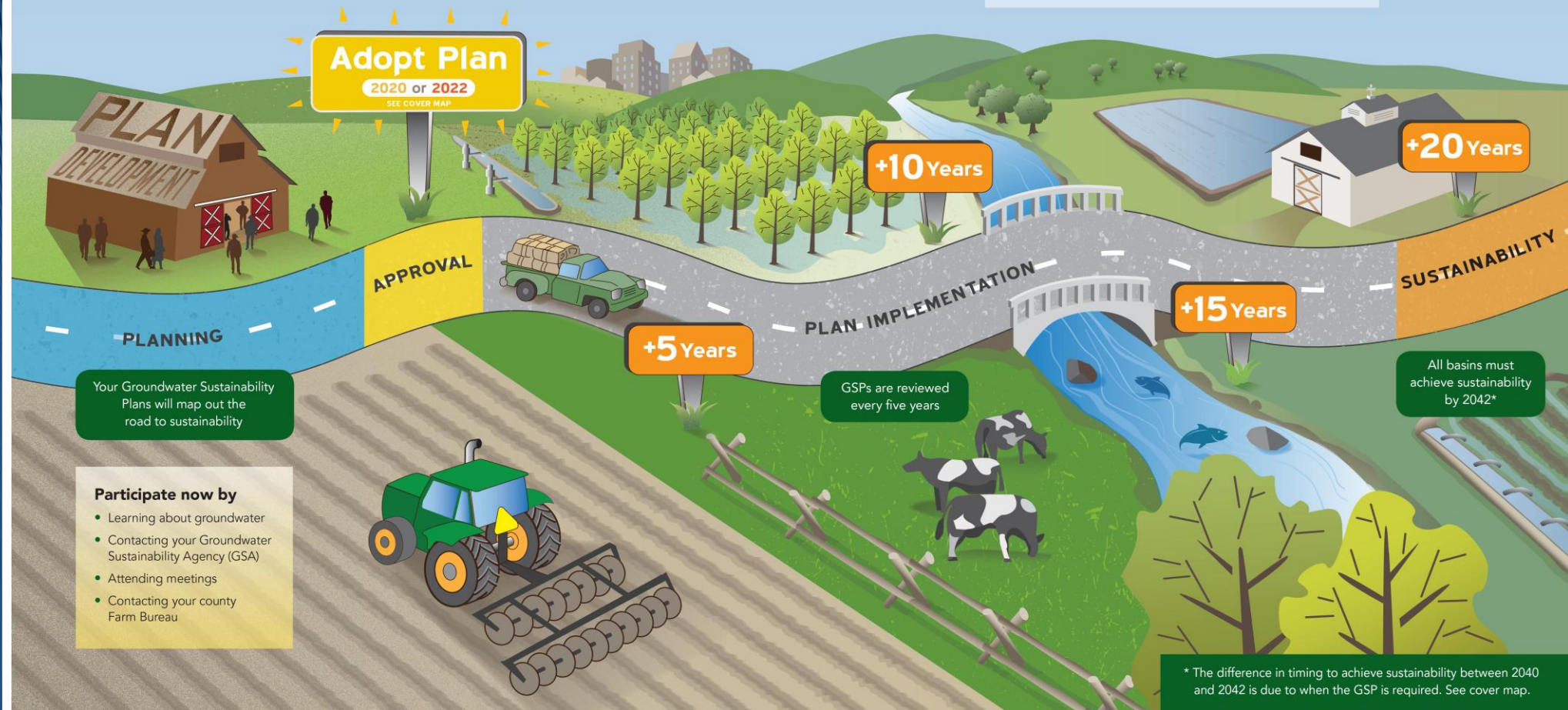
Learn and Engage!

Participate now to represent your interest. SGMA stresses local group formation, local plans and local management.

SGMA plans will reflect local conditions and can include local solutions. Once approved by the state, your local plan represents a commitment to future actions.

Let's be clear:

- SGMA will affect your groundwater pumping
- SGMA establishes new responsibilities to share groundwater
- SGMA will change how we use land and water
- SGMA does not change water rights



* The difference in timing to achieve sustainability between 2040 and 2042 is due to when the GSP is required. See cover map.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Subbasin	Agreement No.	Grant Amount	Status-8/31/2026
Antelope	14600015632	\$1,572,450	COMPLETED
Red Bluff	14600015623	\$3,568,000	COMPLETED
Los Molinos	14600015633	\$1,823,000	85%
Corning	14600015877	<u>\$8,080,600</u>	80%
TOTAL		\$15,044,050	

Each funding agreement contains a specified scope of work, budget, schedule, and required DWR deliverables.

DWR Grant Project – Tehama GSA Website

PUBLIC OUTREACH

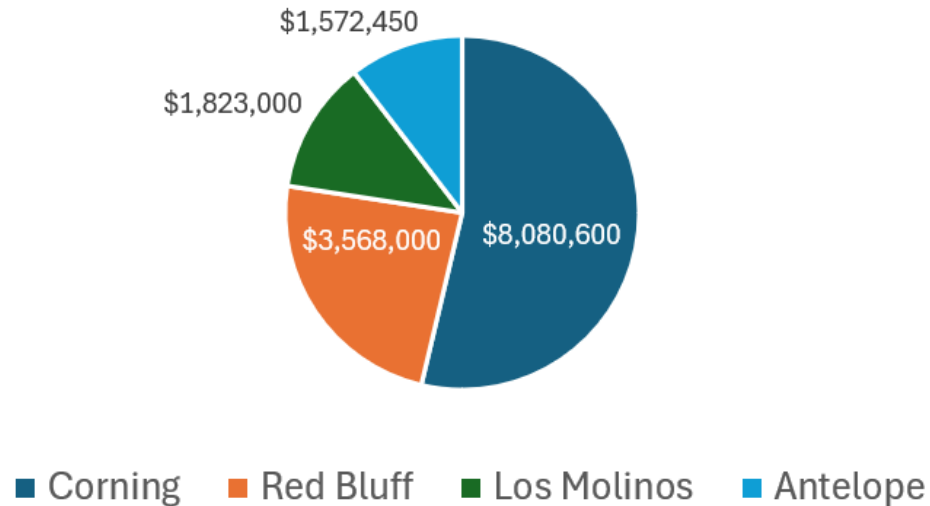
- Fact Sheets.
- Frequently Asked Questions (FAQ).
- Newsletters
- Videos
- Board and Groundwater Commission meetings/agenda items.
- Multiple public meetings (12/3 and 12/4/2025; 4/1 and 4/2/2026).
- Website Updates – Reports, Notices, Meetings, outreach documents.
- DWR Grant Project updates and deliverables posted.
- Long-term funding information.

Tehama GSA website updated throughout Project.

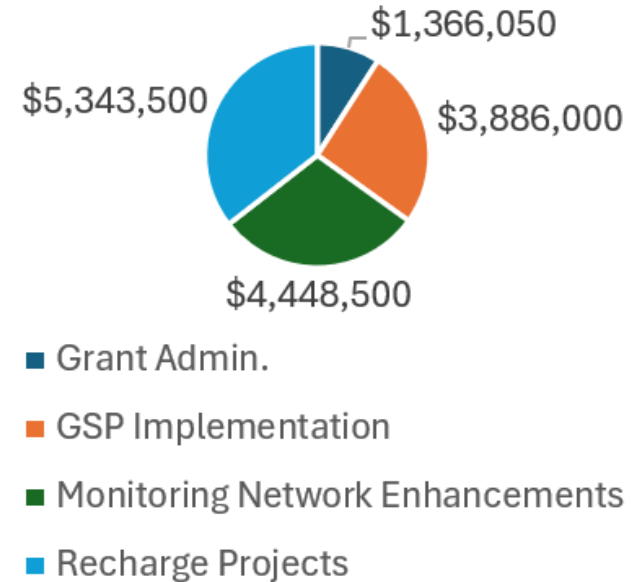
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

DWR Grant Amount



DWR Budget Amount



Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
DWR Grant Project																					
SGMA Compliance Period																					
Future Funding Needs																					

DWR Grant Project investments were limited by DWR grant award and budget amounts and schedule limitations.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

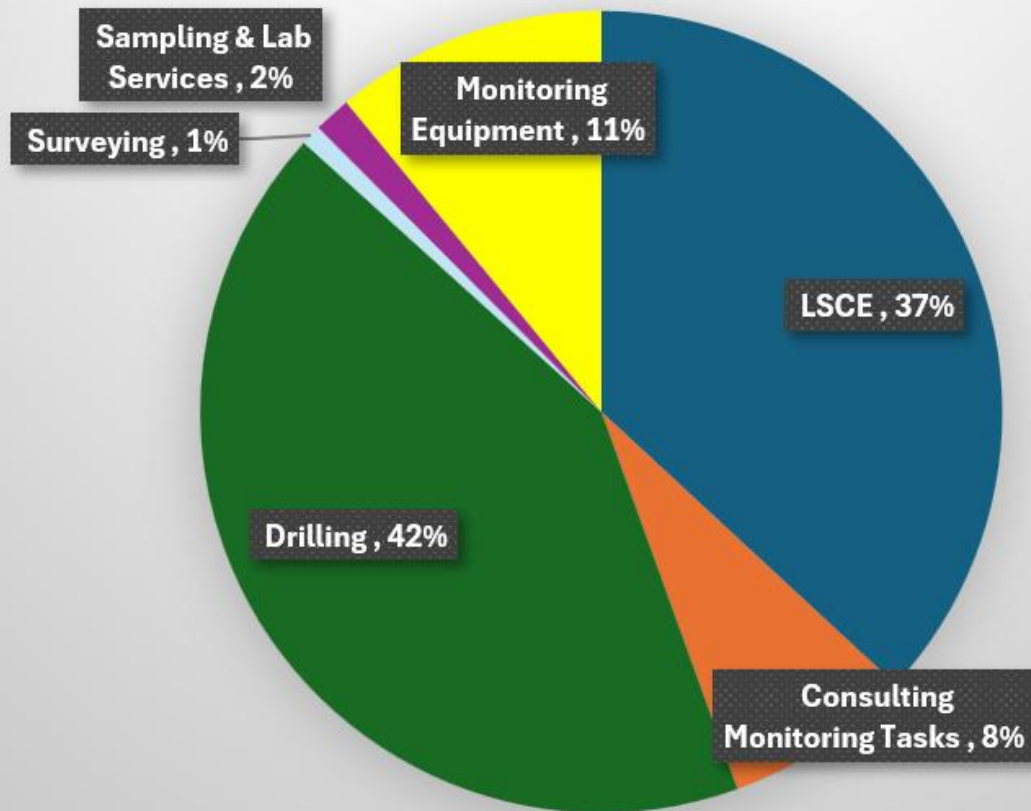
Antelope Subbasin Agreement-Categories	Grant Amount	Local Match	Expenditures To Date
Category (a): Grant Administration	\$142,950	\$0	\$142,938
Category (b): Environmental/Engineeringr/Design	\$50,000	\$0	\$49,973
Category (c): Implementation/Construction	\$910,000	\$0	\$909,593
Category (d): Monitoring/Assessment	\$459,500	\$0	\$459,489
Category (e): Engagement/Outreach	\$10,000	\$0	\$9,996
TOTAL	\$1,572,450	\$0	\$1,571,989

PROJECT COMPLETED 8/31/2026 on schedule and within budget. All DWR deliverables accepted.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Percentage of Antelope Budget at Grant Completion

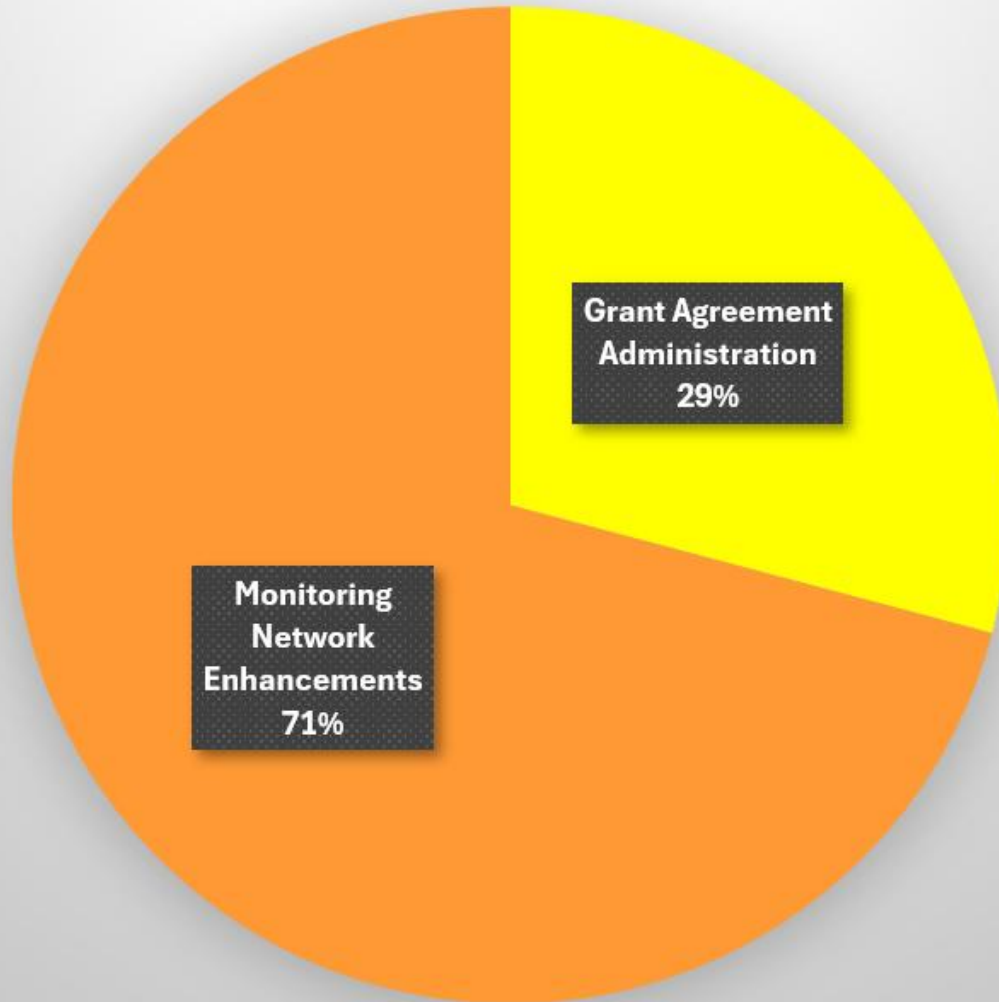


Color Key	Spending By Category	Percentage of Budget Spend
LSCE	\$ 580,018.05	37%
Consulting Monitoring Tasks	\$ 119,294.27	8%
Drilling	\$ 663,769.00	42%
Surveying	\$ 13,045.00	1%
Sampling & Lab Services	\$ 23,631.40	2%
Monitoring Equipment	\$ 172,232.49	11%
Total	\$ 1,571,990.21	100%

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

LSCE Spending Antelope



	Component Name	LSCE Spending	% of LSCE spending
1	Grant Agreement Administration	\$ 142,938.00	29%
3	Monitoring Network Enhancements	\$ 347,666.15	71%
	Total	\$ 490,604.15	

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Category (a): Grant Administration

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$142,950, and in December 2023, grant agreement number 4600015632 was executed for the Tehama GSA Antelope Subbasin GSP Implementation Project.

Additional Details: Grant Administration

Quarterly Progress Reports: provided DWR with project status and progress updates (10).

Quarterly Invoicing Reports: provided DWR with budget and expenditure updates (10).

Environment Information Forms: provided DWR with CEQA compliance documents.

Component and Grant Completion Reports: prepared and submitted to DWR.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Category (b): Planning, Design, and Environmental Activities

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$50,000, and in December 2023, grant agreement number 4600015632 was executed for the Tehama GSA Antelope Subbasin GSP Implementation Project.

Additional Details: Planning, Design, and Environmental Activities

- Site Selection Technical Memorandum deliverables.
- 100% Design Plans and Specifications.
- CEQA Compliance Documentation.
- Copies of Required Permits.
- Site Summary Report.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Category (c): Implementation/Construction

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$910,000, and in December 2023, grant agreement number 4600015632 was executed for the Tehama GSA Antelope Subbasin GSP Implementation Project.

Additional Details: Implementation/Construction

- Notice of Award.
- Notice to Proceed.
- Bid Documents.
- Photo Documentation: pre-, during, and post-construction.
- Notice of Completion.
- As-built Drawings.
- Well Completion Reports.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

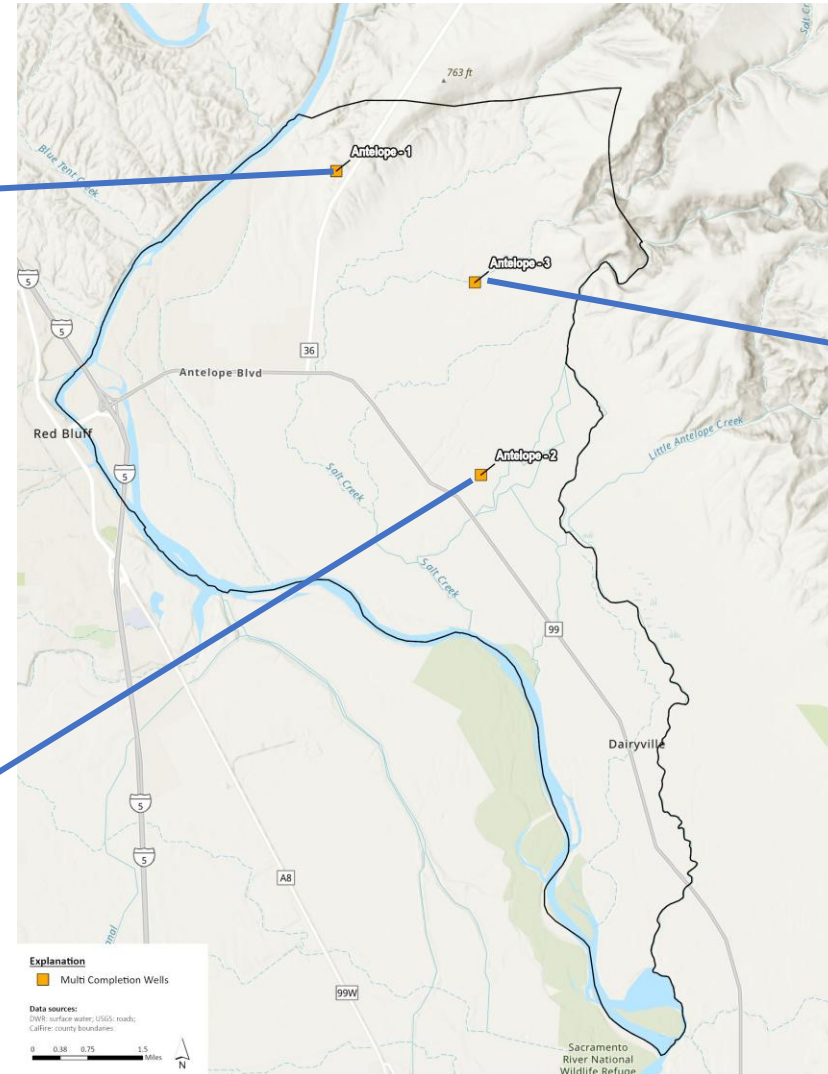
Antelope Subbasin:

3 New Multi-Completion Wells Installed

- Help to fill spatial groundwater level data gaps
- New deep aquifer data can be collected
- Well cuttings help refine physical geologic understanding

Antelope-1		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	155	120-150
Intermediate	365	340-360
Deep	715	690-710

Antelope-2		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	195	170-190
Intermediate	440	425-435
Deep	755	740-750



Antelope-3		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	175	150-170
Intermediate	355	320-350
Deep	555	510-550

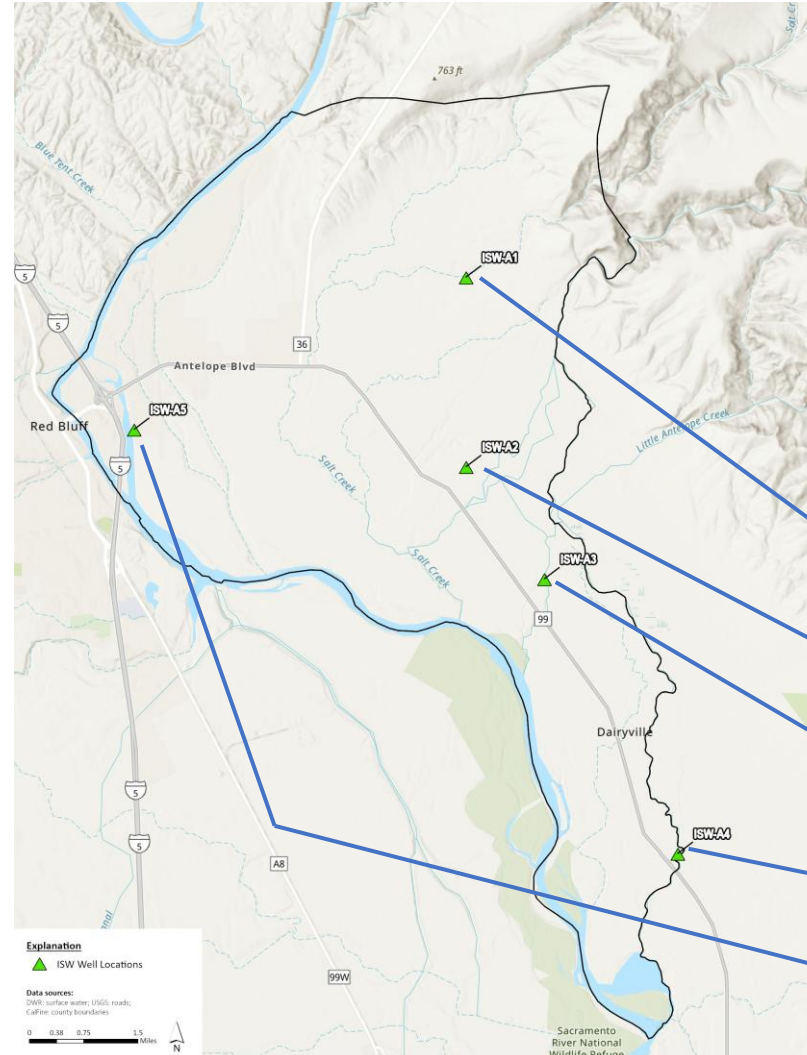
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Antelope Subbasin:

5 New ISW Monitoring Sites

- Each site consists of:
 - A shallow dual completion well
 - Temporary stream stage measurement transducer
 - Bench tested robust stream gage sensor (for future install)
- Water levels in well and streams can inform stream-aquifer interaction



ISW Monitoring Locations

ISW Well Construction Summary		
Well ID	Total Depth (ft bgs)	Screen Interval (ft bgs)
ISW-A1 Shallow	60	41.5-51.5
ISW-A1 Deep	80	65-75
ISW-A2 Shallow	60	35-55
ISW-A2 Deep	90	65-85
ISW-A3 Shallow	25	15-25
ISW-A3 Deep	40	25-40
ISW-A4 Shallow	25	15-25
ISW-A4 Deep	45	30-40
ISW-A5 Shallow	25	15-25
ISW-A5 Deep	40	30-40

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Category (d): Monitoring/Assessment

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$459,500, and in December 2023, grant agreement number 4600015632 was executed for the Tehama GSA Antelope Subbasin GSP Implementation Project.

Additional Details: Monitoring Assessment

- Groundwater Summary Report – conditions, levels, and isotopic data.
- Community Monitoring Plan – encourage future domestic well monitoring.
- Well Monitoring Equipment Technical Memorandum – monitoring products and specs.
- Link to Tehama GSA Website – well data access for participating domestic well owners.
- Stream Gage Technical Memorandum – stream gage locations, access, monitoring data.
- Biological Survey Technical Memorandum – stream gage and shallow ISW well locations.

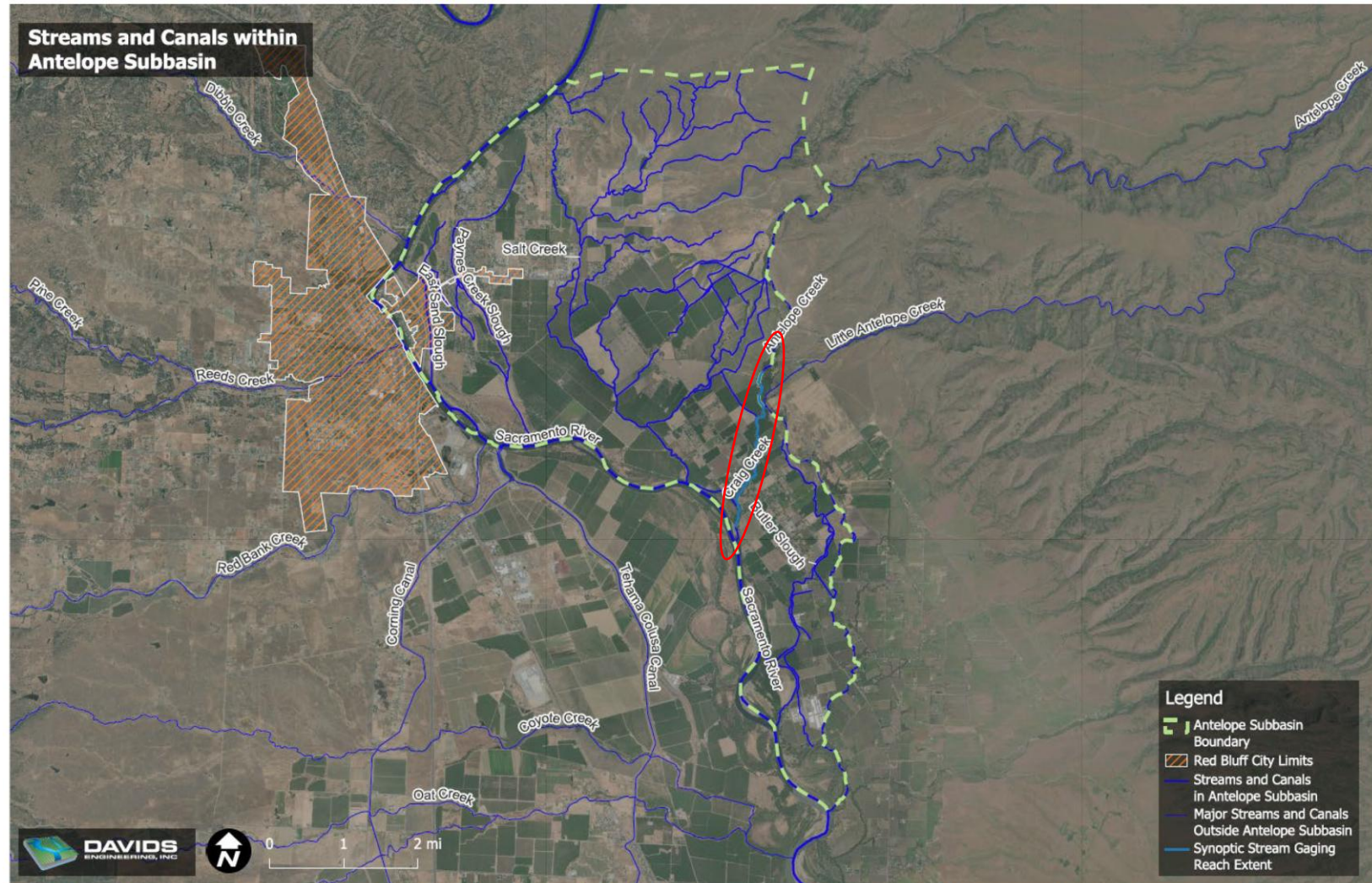
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DWR Grant Funding Agreements – Antelope Subbasin

Antelope Subbasin:

Synoptic Stream Gaging Study

- Measured same-day synoptic flow conditions along Antelope and Craig Creek



Antelope Subbasin Surveyed streams (From DE 2026 Synoptic Stream Gaging Tech Memo)

Tehama GSA – DWR Grant Project

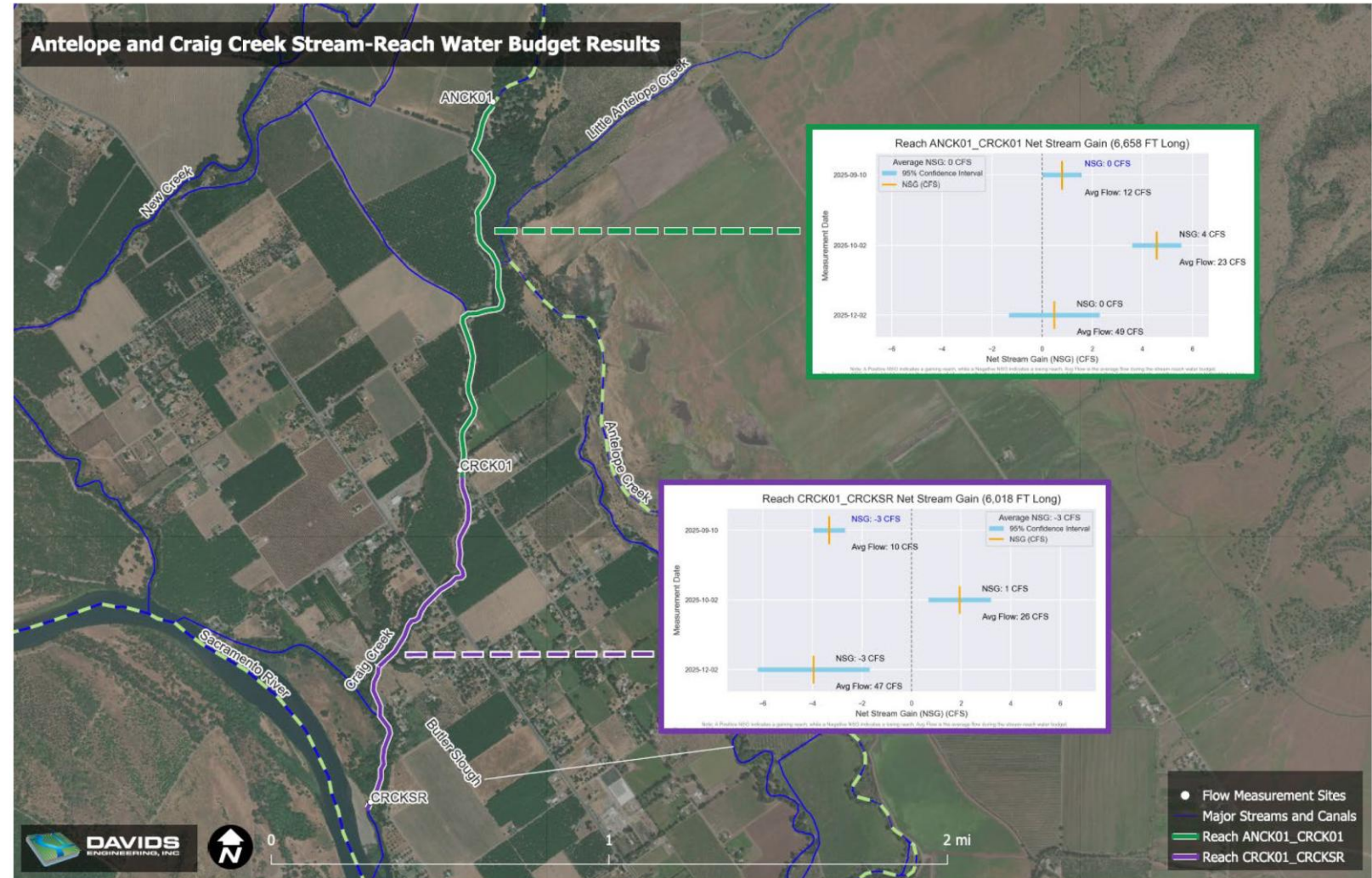
DWR Grant Funding Agreements – Antelope Subbasin

Antelope Subbasin:

Synoptic Stream Gaging Study

Antelope/Craig Creek

- Stream reach water budgets indicate
 - Gaining conditions in the upper reach
 - Alternating gaining and losing conditions in the lower reach



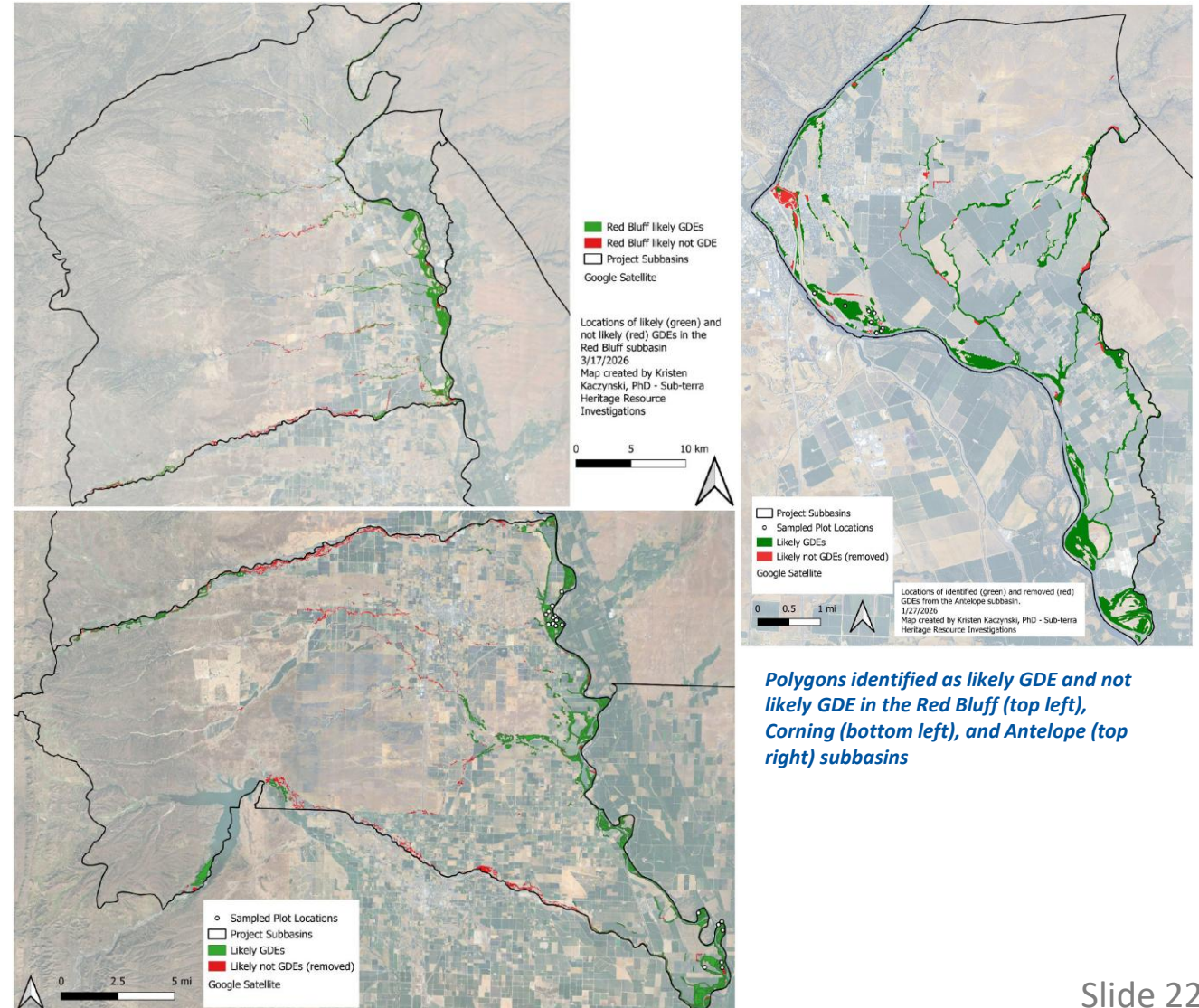
Stream reach water budget results for Antelope Creek and Craig Creek, showing Net Stream Gain (NSG) estimates for the ANCK01-CRCK01 and CRCK01-CRCKSR reaches. Each panel displays NSG values and associated uncertainties for the three 2025 synoptic gaging events, illustrating spatial and temporal variability in stream-aquifer interactions. The upstream reach (ANCK01-CRCK01) exhibits consistently gaining conditions, whereas the downstream reach (CRCK01-CRCKSR) alternates between gaining and losing behavior. (From DE 2026 Stream Gaging Tech Memo)

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Groundwater Dependent Ecosystem (GDE) Surveys

- Sampled 10 different 0.5-acre plots in Antelope and 20 in Corning to identify species and quantify GDE on the ground
- Utilized aerial imagery, shallow groundwater levels, and NDVI datasets to reassess GDE spatial extents in Antelope, Red Bluff, Los Molinos, and Corning Subbasins
- Refines Subbasin conceptual model and helps address DWR Corrective Actions requested in GSP (Los Molinos results expected by 09/28/2026)



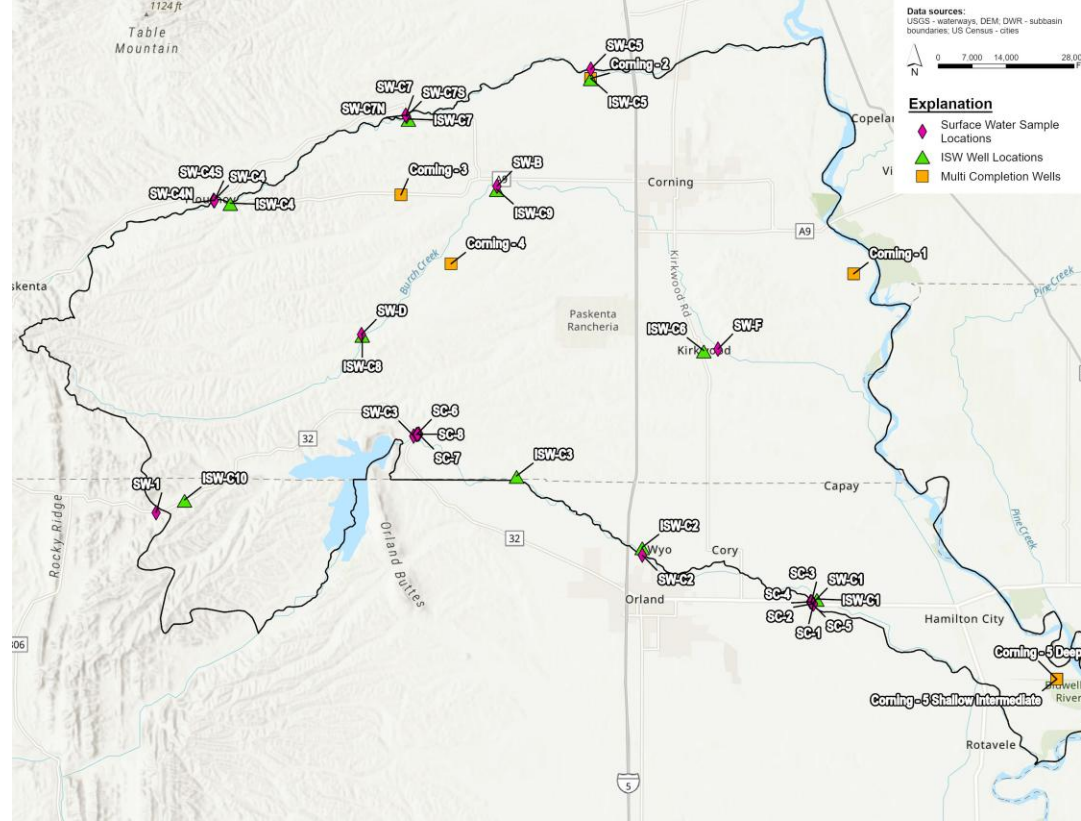
Polygons identified as likely GDE and not likely GDE in the Red Bluff (top left), Corning (bottom left), and Antelope (top right) subbasins

Tehama GSA – DWR Grant Project

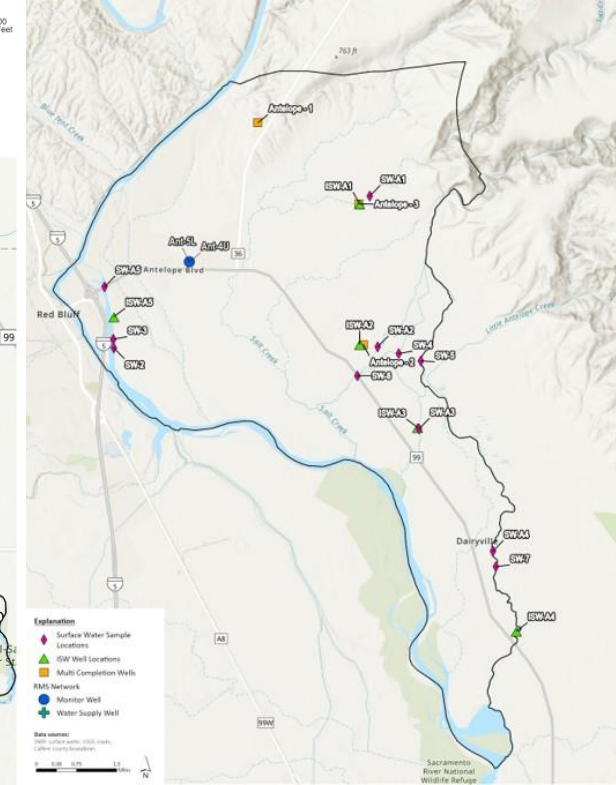
DWR Grant Funding Agreements

Antelope and Corning Subbasins: Water Quality Survey

- Conducted compliance sampling at RMS wells
- Collected samples for stable isotope analysis from nested wells and streams
- Isotope samples can help identify:
 - Where recharge occurs
 - Where streams are gaining/losing
 - Vertical connectivity of aquifers



Locations of multi-completion wells (triple and dual-completions) and surface water locations where samples were collected for isotope analysis in Corning (left) and Antelope (right) subbasins.



Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Category (e): Engagement/Outreach

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$10,000, and in December 2023, grant agreement number 4600015632 was executed for the Tehama GSA Antelope Subbasin GSP Implementation Project.

Additional Details: Engagement/Outreach

- Workshop Summary – outreach meetings documenting agenda, handouts, discussion.
- Annual Program Summary – summarizing total outreach efforts conducted.
- Presentation Materials – handouts/information shared for outreach activities.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Antelope Subbasin: Community Monitoring Program

Antelope is a managed subbasin within the Tehama GSA service area and must comply with GSP implementation activities including preparation of Annual Reports and GSP updates. LSCE completed the following deliverables using grant funds to ensure SGMA compliance in the Subbasin.

Additional Antelope Subbasin Well Monitoring Deliverables – Domestic Well Owners

Opportunity to install monitoring equipment in landowner's domestic well.

Landowner can track their well water levels daily during normal and dry years.

Landowner well data accessible from Tehama GSA website (for user only).

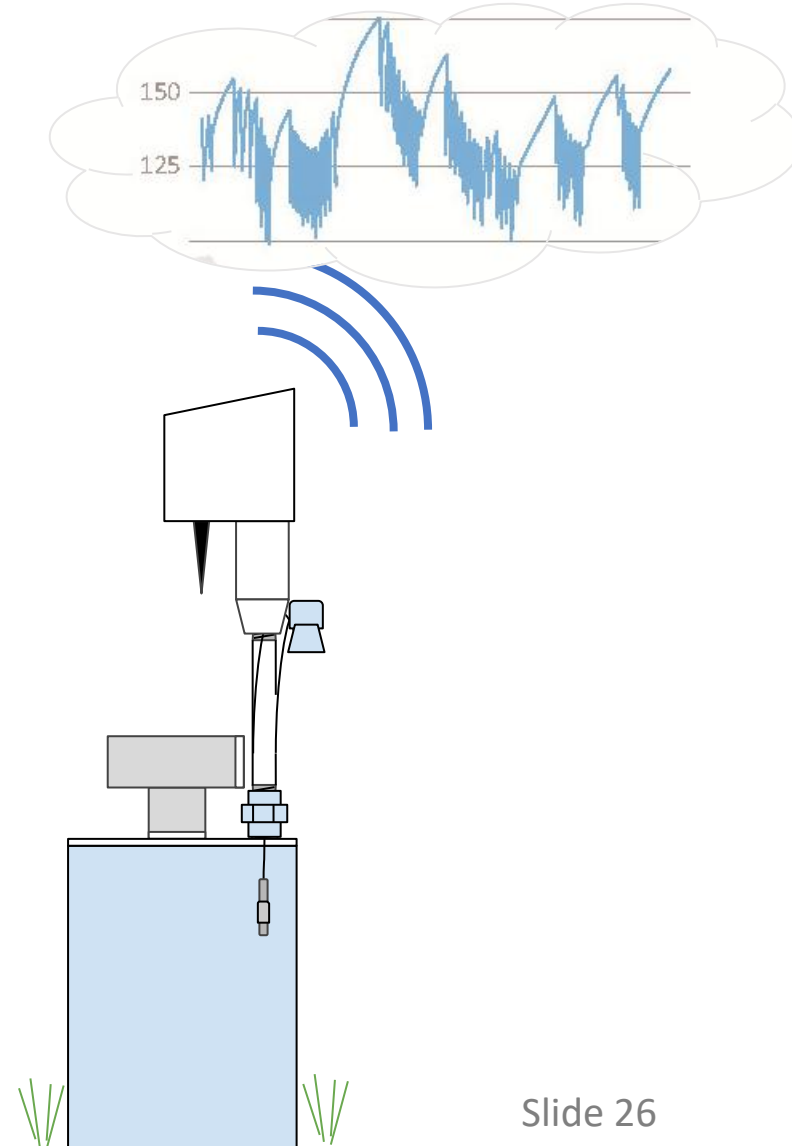
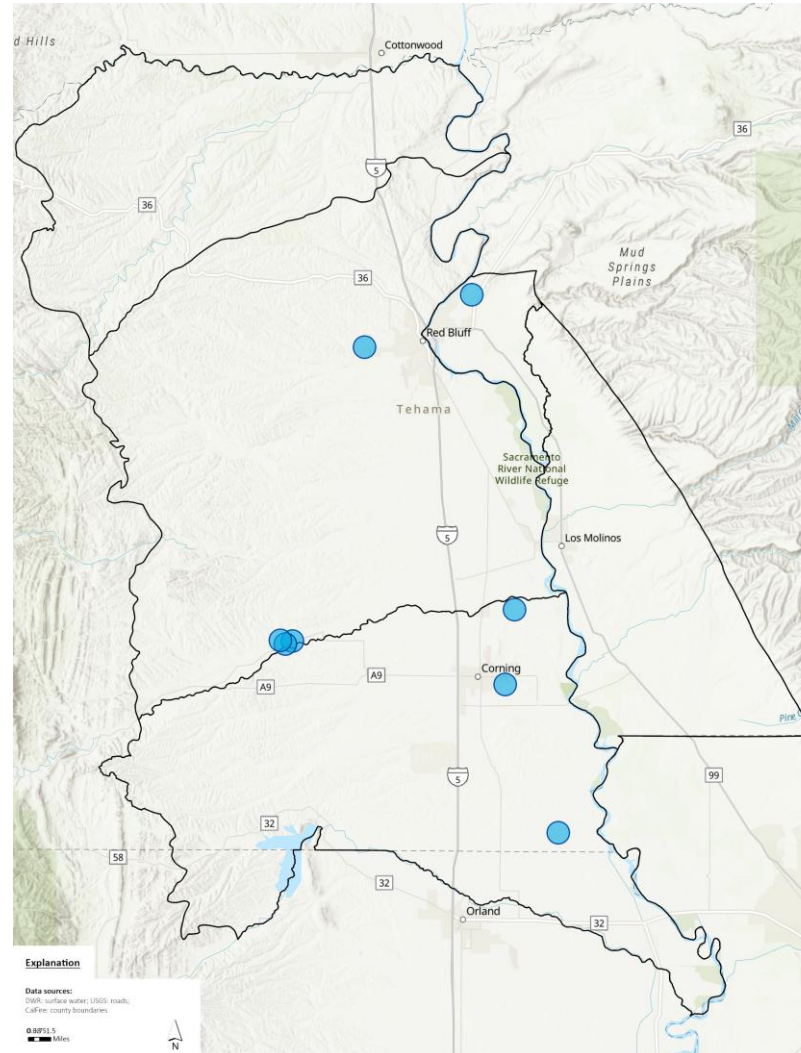
Voluntary Program - domestic well owners participated in the Antelope Project.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Volunteer Domestic Well Monitoring Program

- Developed a monitoring program and purchased 60 pieces of non-invasive well monitoring equipment.
- Acoustic sounders measure water levels in supply wells.
- Well owners have real time access to their well data.
- Real time data in domestic wells can help GSAs better consider drinking water users throughout SGMA implementation



Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Antelope Subbasin

Antelope Subbasin: DWR Grant Project

Antelope is a managed subbasin within the Tehama GSA service area and must comply with GSP implementation activities including SGMA requirements. The project improvements completed using DWR grant funds will provide the following long-term benefits to the GSA in meeting SGMA compliance in the Subbasin.

Future Tehama GSA Benefits

- Enhanced Monitoring Network – 8 additional wells constructed (3 M-C and 5 ISW Shallow wells)
- Filled Data Gaps – provides additional groundwater condition data over the next 30-40 years
- Additional Monitoring Data – added to on-going Antelope Subbasin groundwater monitoring program (monitoring network and community monitoring)

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

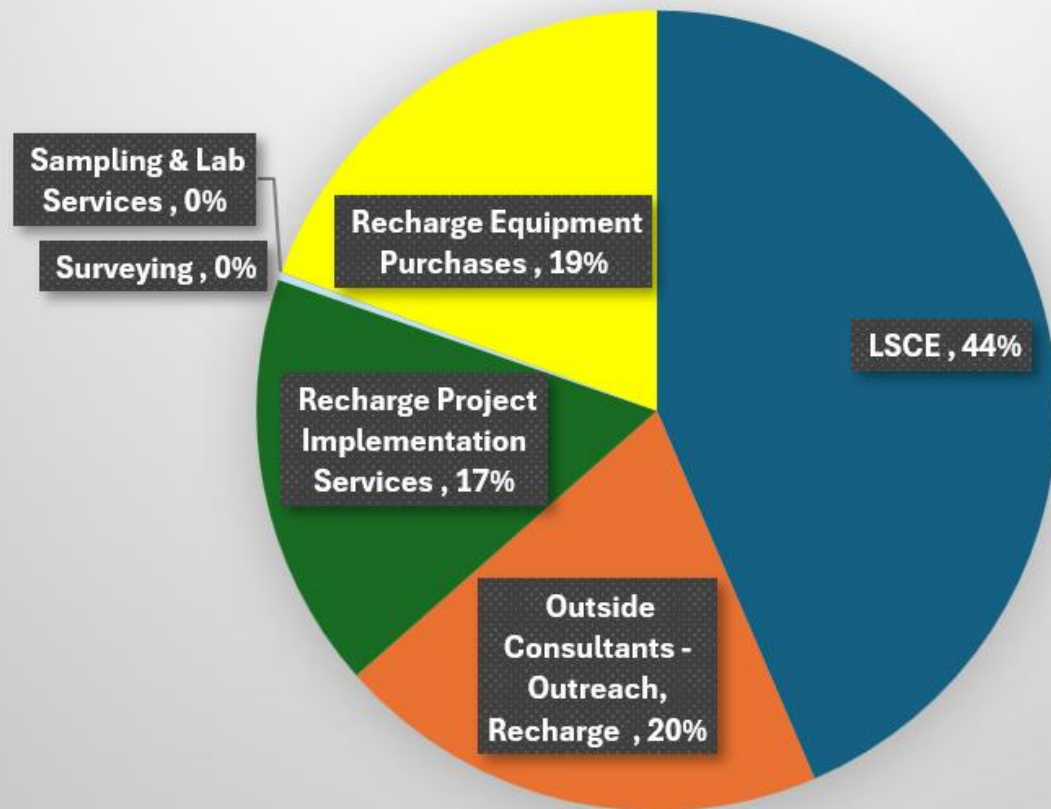
Red Bluff Subbasin Agreement-Component	Grant Amount	Local Match	Expenditures To Date
Component 1: Grant Administration	\$323,500	\$0	\$289,677
Component 2: GSP Implementation/Outreach/Compliance	\$1,288,000	\$0	\$1,284,781
Component 3: Monitoring Network Enhancements	\$1,956,500	\$0	\$1,924,481
TOTAL	\$3,568,000	\$0	\$3,498,949

PROJECT COMPLETED 3/31/2026 on schedule and within budget. All DWR deliverables accepted.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

Percentages of Red Bluff Spending at Grant Completion

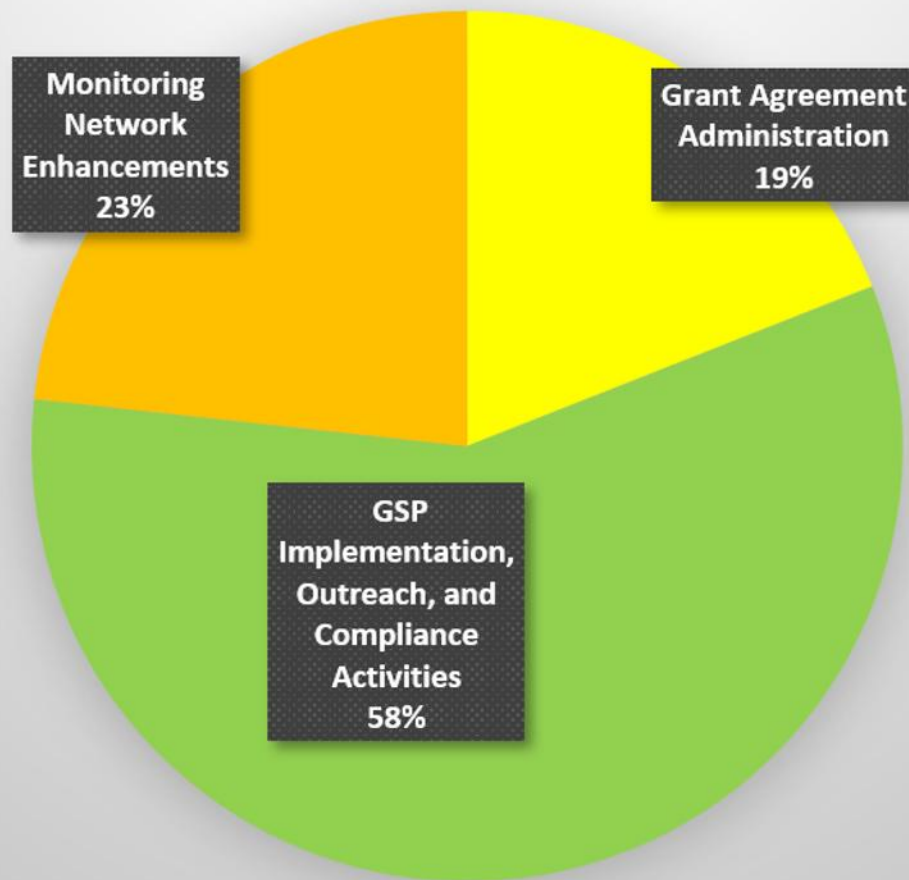


Color Key	Spending By Category	Percentage of Budget Spend
LSCE	\$ 1,523,695.32	44%
Outside Consultants - Outreach, Recharge	\$ 698,135.98	20%
Recharge Project Implementation Services	\$ 588,324.77	17%
Surveying	\$ 10,665.00	0%
Sampling & Lab Services	\$ 507.67	0%
Recharge Equipment Purchases	\$ 677,618.46	19%
Total	\$ 3,498,947.20	100%

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

LSCE Spending - Red Bluff



Component Name		LSCE Spending	% of LSCE spending
1	Grant Agreement Administration	\$ 289,676.80	19%
2	GSP Implementation, Outreach, and Compliance Activities	\$ 879,489.72	58%
3	Monitoring Network Enhancements	\$ 354,528.80	23%
Total		\$ 1,523,695.32	

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

Component 1: Grant Administration

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$323,500, and in December 2023, grant agreement number 4600015623 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: Grant Administration

- Quarterly Progress Reports: provided DWR with project status and progress updates.
- Quarterly Invoicing Reports: provided DWR with budget and expenditure updates.
- Env't. Information Forms: provided DWR with CEQA compliance documents.
- Component Completion Reports: prepared and submitted to DWR.
- Grant Completion Report: prepared herein and submitted to DWR.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

Component 2: GSP Implementation, Outreach, and Compliance Activities

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,288,000, and in December 2023, grant agreement number 4600015623 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: GSP Implementation, Outreach, and Compliance Activities

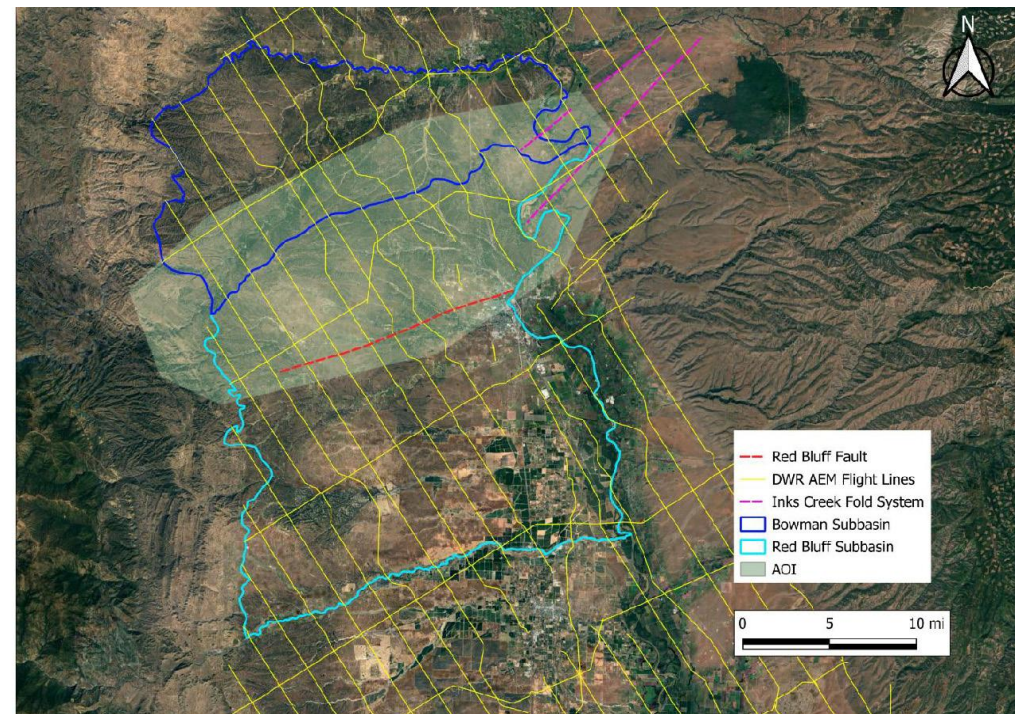
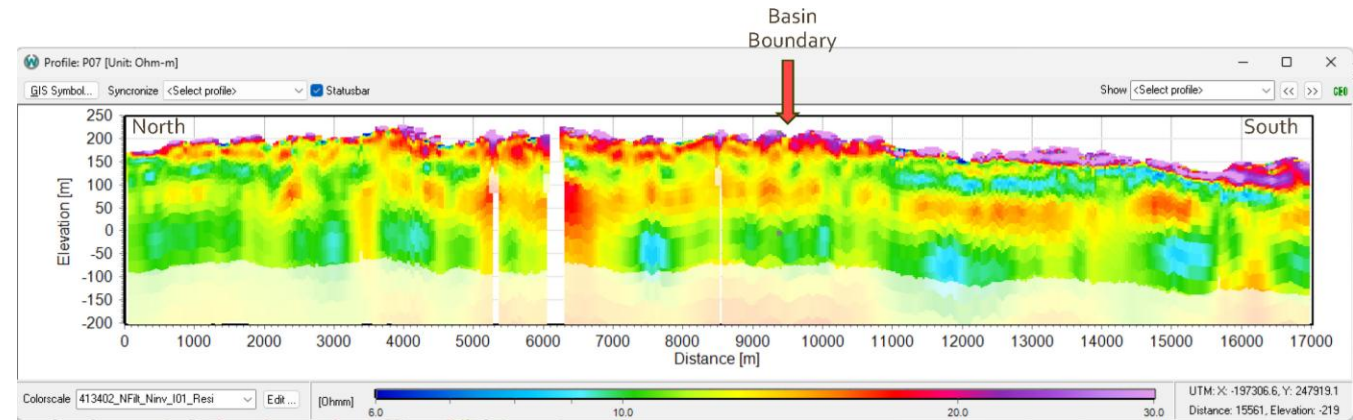
- Annual Reports: provided DWR with WY2023-2025 report deliverables.
- GSP Revisions: supported GSP updates addressing DWR review comments.
- Draft GSP Updates: provided DWR with Draft GSP Update deliverables.
- Modeling Updates: provided DWR with Modeling TM characterizing model updates.
- Financial Sustainability: provided DWR with draft fee report deliverable.
- Outreach: conducted outreach supporting all Component 2 actions.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

Red Bluff Arch Study

- DWR Corrective action to investigate flow between Bowman and Red Bluff Arch
- Does the Red Bluff Arch stop groundwater from flowing between two subbasins?
- Utilized AEM data to evaluate subsurface boundary to flow conditions
- Re-inverted raw AEM readings and adjusted color scale to show more detail specific to study area
- Found no evidence for large scale structures that impede groundwater flux between the two subbasins



Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Red Bluff Subbasin

Component 3: Project & Management Action Implementation – Recharge Focused

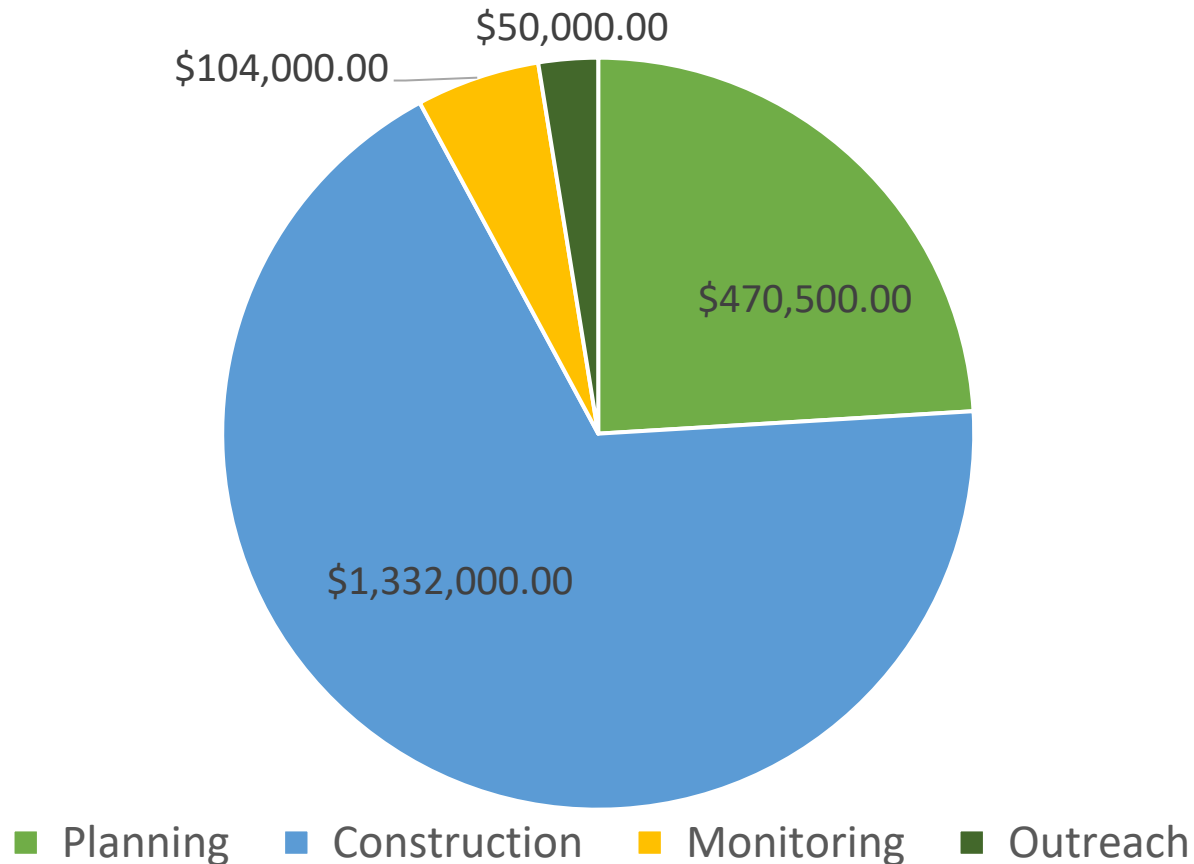
SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,956,500, and in December 2023, grant agreement number 4600015623 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: PMA Implementation – Recharge Focused

- Feasibility Studies: completed 3 studies to determine feasible recharge opportunities.
- CEQA Compliance: completed CEQA compliance documentation for feasible projects.
- Permits: secured necessary permits for implementation activities.
- Implementation: completed 3 pilot projects with groundwater sustainability benefits.
- Monitoring Plans: completed 3 monitoring plans for implementation activities.
- Outreach: conducted outreach supporting all Component 3 actions.

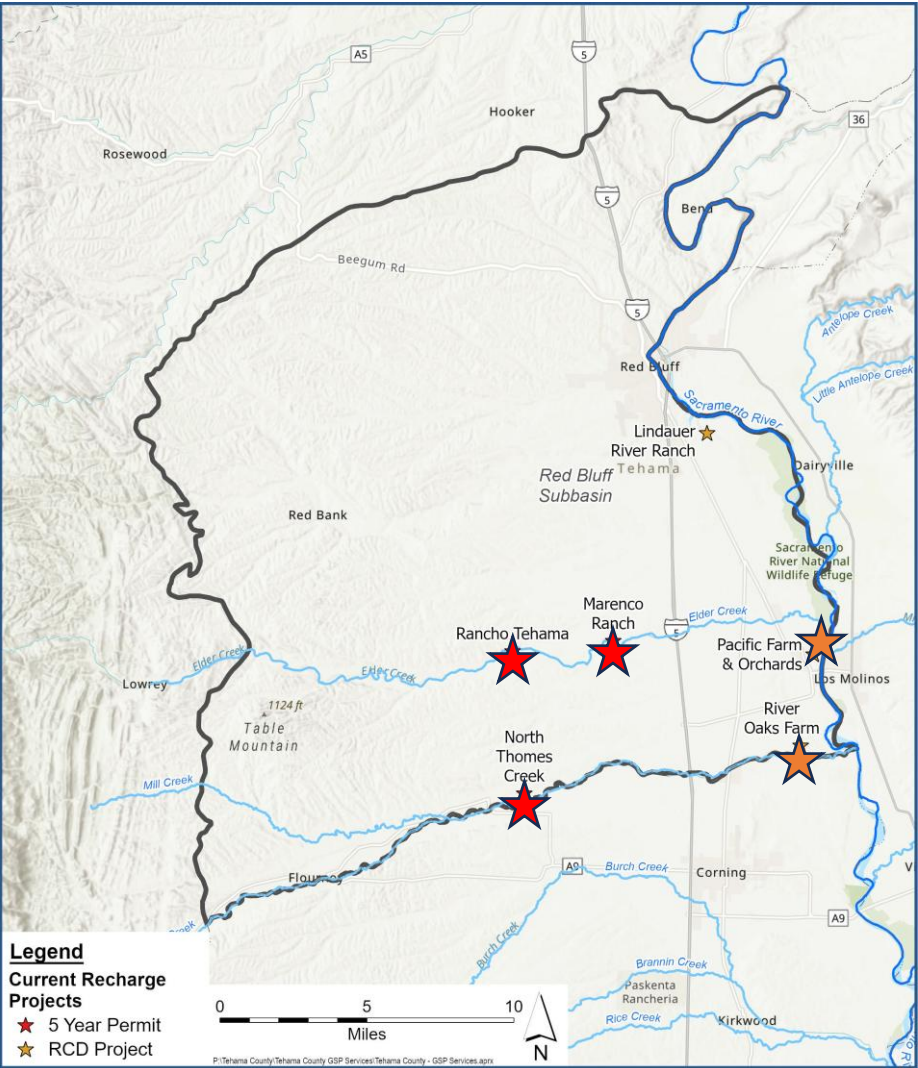
Recharge Focus – Red Bluff Subbasin

Allocated Budget Breakdown



- 98% of budget spent
- Planning:
 - Completed feasibility studies
 - Applied for and obtained 5-year GW recharge permits
 - Developed alert system for diversions
 - Completed subbasin wide study of peak flow
- Construction:
 - Purchased pumps and specialized fish screens for 5-year GW permits
 - Infrastructure for Ag ASR project

Recharge Focus – Red Bluff Subbasin



Recharge Focus – Red Bluff Subbasin

Red Bluff Construction Projects	Project Improvements	Estimated Annual Benefits
Demand Management-RCD	4 Farms/1,042 acres Irrigation Efficiency	520 afy
Ag ASR-Marenco Ranch	Recharge in Wells #3 and #4 Dependent of SW availability	33-232 afy
(*) Storm Recharge-Elder and Thomes Creeks (5-Yr. Permits)	Existing Diversions and Temporary Pumps	5,000-10,000 afy (10-days)
TOTAL	\$1,924,481	5,553-10,752 afy

(*) With landowner notification system.

Recharge Focus – Red Bluff Subbasin

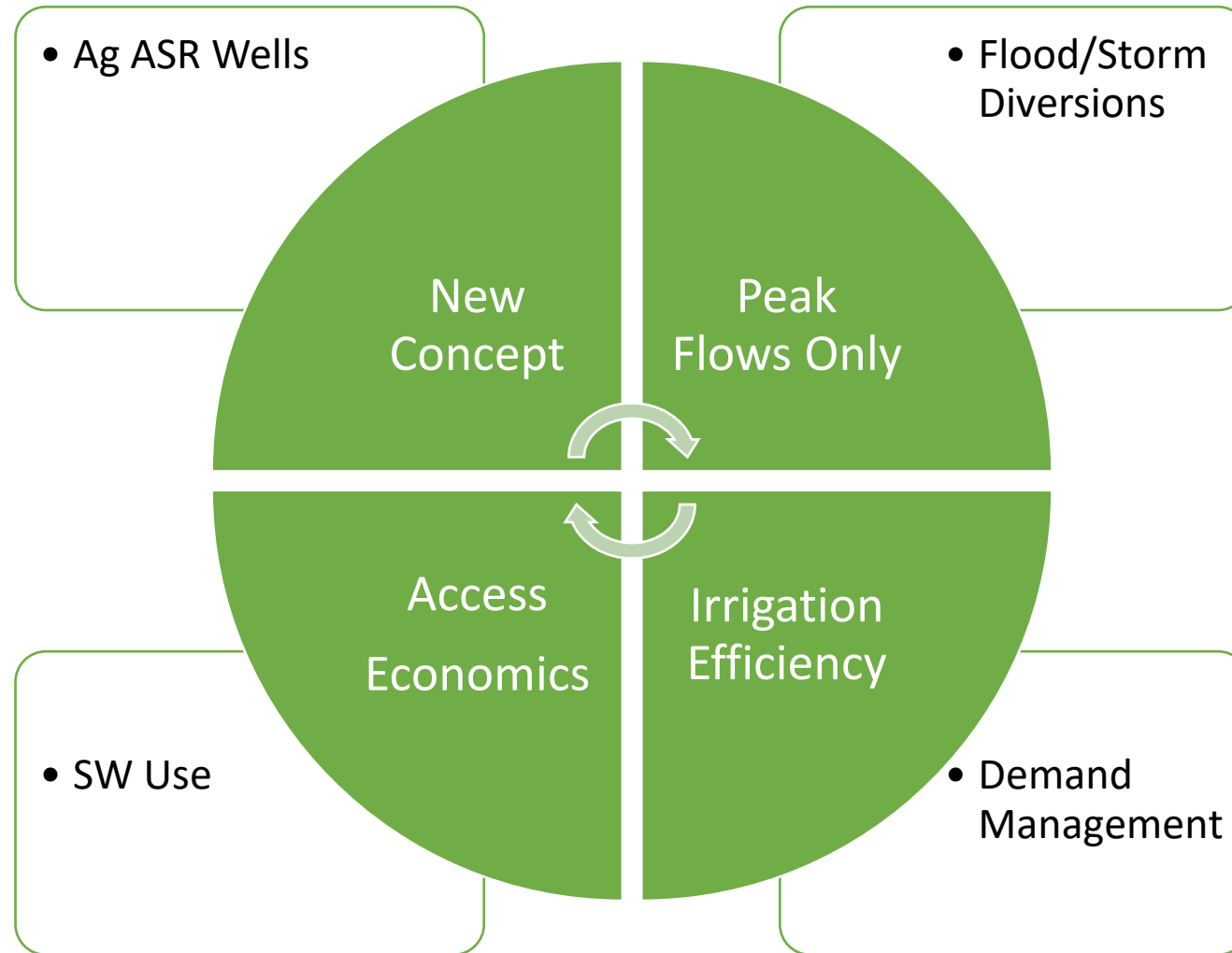
Lessons Learned:

State Water Permit System still developing.

Measures can be expensive.

Water rights and availability important.

Landowner participation required for success.



Recharge Focus – Red Bluff Subbasin

PERMIT RUNWAY

Alert system in place

Diversions can keep running through the full 5-year groundwater recharge permit period, with no new grant funding required.

EXPANSION ROADMAP

Subbasin-wide feasibility study

Flood-flow data for every creek supports targeted diversions, additional 5-year recharge permits, and appropriative water rights.

LOCAL OWNERSHIP

RCD demand management plan

Partners can continue and expand the plan to keep optimizing irrigation practices across the Subbasin.

Red Bluff is set up for future recharge: the mechanisms are in place.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Los Molinos Subbasin Agreement-Component	Grant Amount	Local Match	Expenditures To Date
Component 1: Grant Administration	\$165,000	\$0	\$127,702
Component 2: GSP Implementation/Outreach/Compliance	\$1,228,000	\$0	\$1,134,128
Component 3: PMAs - Recharge Focused	\$430,000	\$0	\$205,757
TOTAL	\$1,823,000	\$0	\$1,467,607

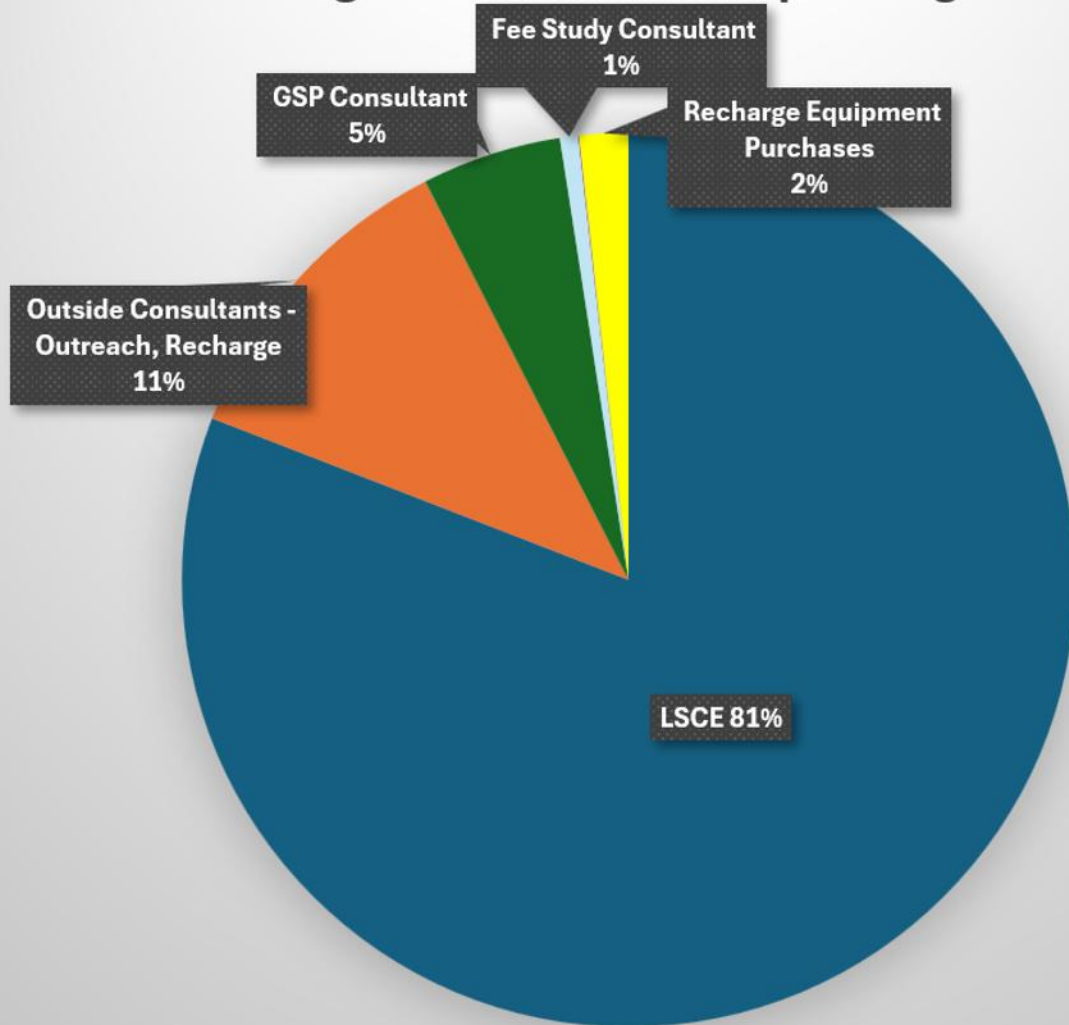
PROJECT MUST BE COMPLETED BY 12/31/2026; currently on schedule and within budget.

Remaining DWR deliverables in progress.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Percentages of Los Molinos Spending to date

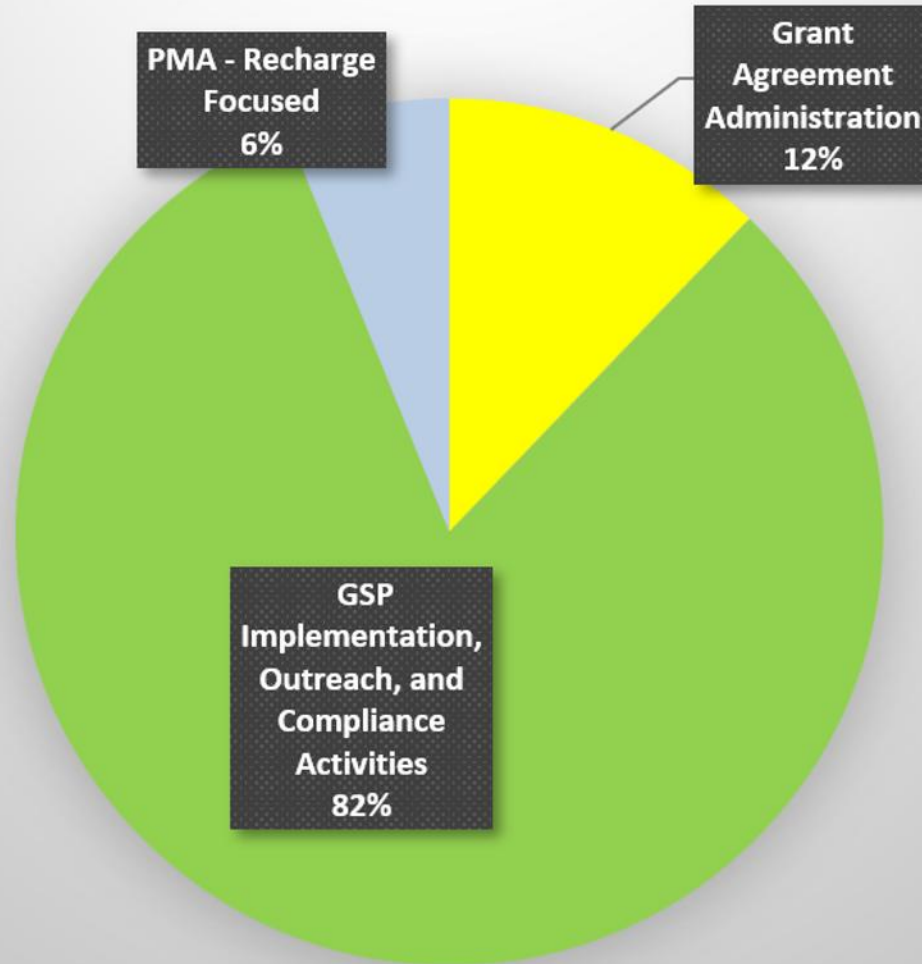


Color Key	Spending By Category	Percentage of Budget Spend
LSCE	\$ 1,287,588.70	81%
Outside Consultants - Outreach, Recharge	\$ 184,629.44	12%
GSP Consultant	\$ 80,578.08	5%
Fee Study Consultant	\$ 10,395.00	1%
Sampling & Lab Services	\$ 507.67	0%
Recharge Equipment Purchases	\$ 28,216.56	2%
Total	\$ 1,591,915.45	100%

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

LSCE Spending Los Molinos



Component Name		LSCE Spending	% of LSCE spending
1	Grant Agreement Administration	\$ 156,551.55	12%
2	GSP Implementation, Outreach, and Compliance Activities	\$ 1,052,405.15	82%
3	PMA - Recharge Focused	\$ 78,632.00	6%
Total		\$ 1,287,588.70	

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Component 1: Grant Administration

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$165,000, and in December 2023, grant agreement number 4600015633 was executed for the Los Molinos Tehama GSA GSP Implementation Project.

Additional Details: Grant Administration

- Quarterly Progress Reports: provided DWR with status and progress updates (11).
- Quarterly Invoicing Reports: provided DWR with budget and expenditure updates (11).
- Environmental Information Forms: provided DWR with CEQA compliance documents.
- Component Completion Reports: prepared and submitted to DWR.
- Grant Completion Report: prepared herein and submitted to DWR.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Component 2: GSP Implementation, Outreach, and Compliance Activities

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,228,000, and in December 2023, grant agreement number 4600015633 was executed for the Los Molinos Subbasin Tehama GSA GSP Implementation Project.

Additional Details: GSP Implementation, Outreach, and Compliance Activities

- Annual Reports: provided DWR with WY2023-2025 report deliverables.
- GSP Revisions: supported GSP updates addressing DWR review comments.
- Draft GSP Updates: provided DWR with Draft GSP Update deliverables.
- Modeling Updates: provided DWR with Modeling TM characterizing model updates.
- Financial Sustainability: provided DWR with draft fee report deliverable.
- Outreach: conducted outreach supporting all component 2 actions.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Component 3: Project & Management Action Implementation – Recharge Focused

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$430,000, and in December 2023, grant agreement number 4600015633 was executed for the Los Molinos Subbasin Tehama GSA GSP Implementation Project.

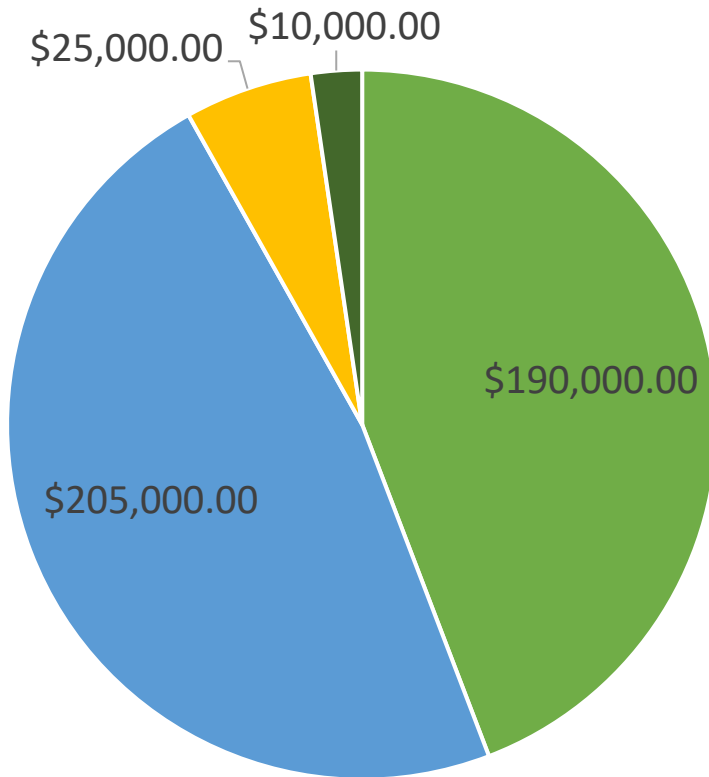
Additional Details: PMA Implementation – Recharge Focused

- Feasibility Studies: completed 2 studies to determine feasible recharge opportunities.
- CEQA Compliance: completed CEQA compliance documentation for feasible projects.
- Permits: secured necessary permits for implementation activities.
- Implementation: completed 1 pilot project with groundwater sustainability benefits.
- Monitoring Plans: completed 1 monitoring plan for implementation activities.
- Outreach: conducted outreach supporting all component 3 actions.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Los Molinos Subbasin

Allocated Budget Breakdown



■ Planning ■ Construction ■ Monitoring ■ Outreach



- 48% of budget spent
- Planning:
 - Completed feasibility studies
 - Completed subbasin wide study of peak flows in creek and identified thresholds for flood diversions
- Construction:
 - Ag ASR project planned for 2 wells with surface water from Los Molinos Mutual Water Company Canal (subject to water availability)

Recharge Focus – Los Molinos Subbasin

Los Molinos Construction Projects	Project Improvements	Estimated Annual Benefits
Ag ASR-Los Molinos (near LM Mutual Water Co. Canal)	Recharge in two (2) wells Dependent of SW availability	50-200 afy
TOTAL	\$205,000	50-200 afy

Recharge Focus – Los Molinos Subbasin

EXPANSION ROADMAP

Subbasin-wide flood flow study

The study is complete for the entire Subbasin, so partners can target flood flow diversions where they deliver the most recharge.

PERMIT PIPELINE

Creek-by-creek targeting

The same study shows which creeks to prioritize for future groundwater recharge permit applications.

Los Molinos is set up for future recharge: the mechanisms are in place.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin Agreement-Component	Grant Amount	Local Match	Expenditures To Date
Component 1: Grant Administration	\$734,600	\$0	\$308,307
Component 2: GSP Implementation/Outreach/Compliance	\$1,370,000	\$0	\$115,030
Component 3: Monitoring Network Enhancements COMPLETED	\$3,019,000	\$0	\$2,995,253
Component 4: PMA Implementation - Regional Conjunctive Use	\$1,215,000	\$0	\$394,238
Component 5: PMA Implementation - Recharge Focused	\$1,742,000	\$0	\$814,838
TOTAL	\$8,080,600	\$0	\$6,424,440

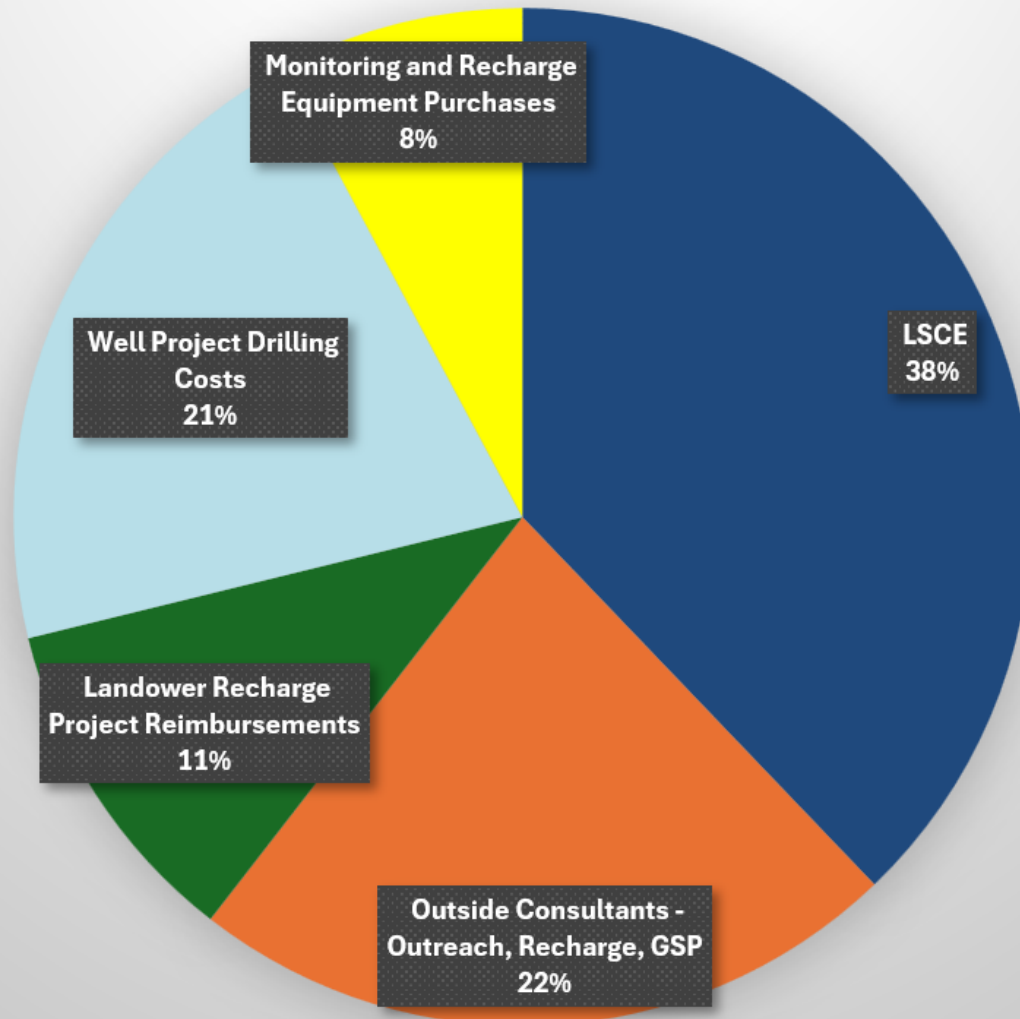
PROJECT MUST BE COMPLETED BY 6/30/2027; Component 3 was COMPLETED 3/31/2026.

Currently on schedule and within budget. Remaining DWR deliverables in progress.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Percentage of Corning Budget Spending to Date



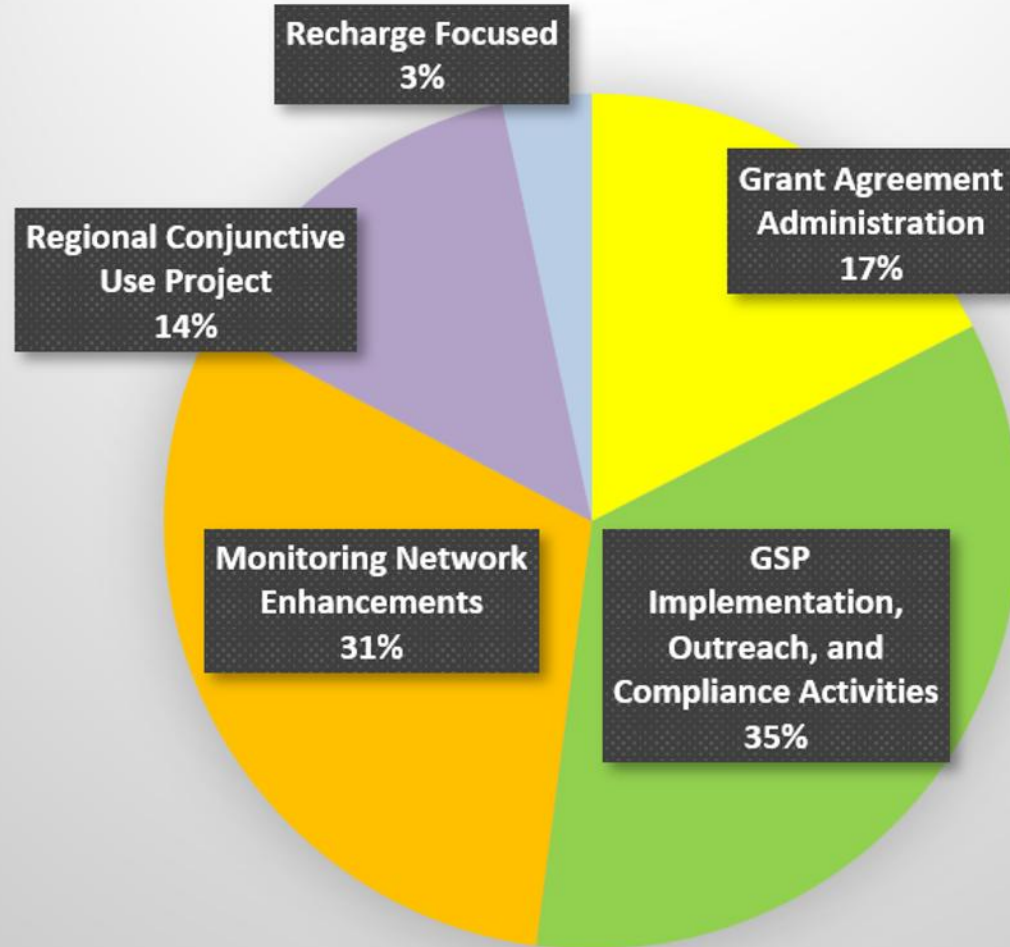
Color Key

Spending By Category		Percentage of Budget Spend
LSCE	\$ 2,445,507.05	38%
Outside Consultants - Outreach, Recharge, GSP	\$ 1,464,975.08	23%
Landowner Recharge Project Reimbursements	\$ 689,547.99	11%
Well Project Drilling Costs	\$ 1,357,210.04	21%
Monitoring and Recharge Equipment Purchases	\$ 505,715.70	8%
Total	\$ 6,462,955.85	100%

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

LSCE Spending Corning



	Component Name	LSCE Spending	% of LSCE spending
1	Grant Agreement Administration	\$ 426,939.85	17%
2	GSP Implementation, Outreach, and Compliance Activities	\$ 846,823.47	35%
3	Monitoring Network Enhancements	\$ 747,811.68	31%
4	Regional Conjunctive Use Project	\$ 341,764.48	14%
5	Recharge Focused	\$ 82,167.57	3%
	Total	\$ 2,445,507.05	

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Component 1: Grant Administration

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$734,600, and in December 2023, grant agreement number 4600015877 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: Grant Administration

- Quarterly Progress Reports: provided DWR with project status and progress updates.
- Quarterly Invoicing Reports: provided DWR with budget and expenditure updates.
- Env't. Information Forms: provided DWR with CEQA compliance documents.
- Component Completion Reports: prepared and submitted to DWR.
- Grant Completion Report: prepared herein and submitted to DWR.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Component 2: GSP Implementation, Outreach, and Compliance Activities

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,370,000, and in December 2023, grant agreement number 4600015877 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: GSP Implementation, Outreach, and Compliance Activities

- Annual Reports: provided DWR with WY2023-2025 report deliverables. **Completed**
- GSP Revisions: supported GSP updates addressing DWR review comments. **Completed**
- Draft GSP Updates: provided DWR with Draft GSP Update deliverables. **In Process**
- Modeling Updates: provided DWR with Modeling TM characterizing model updates. **In Process**
- Demand Management Framework: provided DWR with TM deliverable. **Completed**
- Financial Sustainability: provided DWR with draft fee report deliverable. **Completed**
- Outreach: conducted outreach supporting all component 2 actions. **Completed**

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Component 3: Monitoring Network Enhancements

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$3,019,000, and in December 2023, grant agreement number 4600015877 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: Monitoring Network Enhancements

- Feasibility Study: completed 1 study to determine optimal monitoring well locations.
- Planning: completed well design documents in preparation for well construction.
- Construction: completed 5 M-C and 10 ISW Shallow Wells and associated deliverables.
- Monitoring: completed groundwater conditions, level, & isotopic study report deliverable.
- Monitoring: completed Community Monitoring Plan deliverable.
- Monitoring: completed Well monitoring equipment TM deliverable.
- Monitoring: completed well monitoring data link to GSA website.
- Monitoring: completed stream gage TM deliverable.
- Monitoring: completed biological survey TM deliverable.
- Monitoring: completed expanded monitoring network TM deliverable.
- Outreach: completed workshop summary TM deliverable.
- Outreach: completed annual program summary deliverable.
- Outreach: completed presentation material deliverables.

COMPONENT 3
COMPLETED 3.31.2026

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

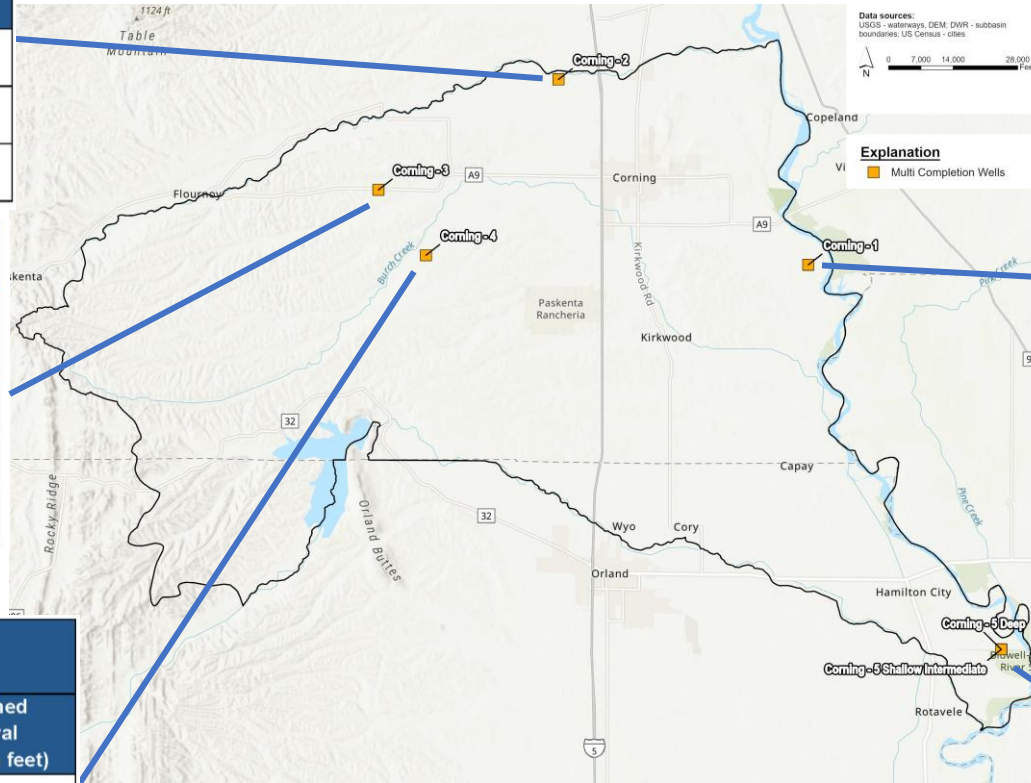
Corning Subbasin: 5 New Multi-Completion Wells Installed

- Help to fill spatial groundwater level data gaps
- New deep aquifer data can be collected
- Well cuttings help refine physical geologic understanding

Corning-2		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	175	160-170
Intermediate	295	280-290
Deep	365	320-360

Corning-3		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	140	125-135
Intermediate	690	665-685
Deep	940	925-935

Corning-4		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	200	185-195
Intermediate	625	600-620
Deep	925	900-920



Corning-1		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	115	100-110
Intermediate	495	450-490
Deep	905	870-900

Corning-5		
Depth Interval	Casing String (depth in feet)	Screened Interval (depth in feet)
Shallow	215	190-210
Intermediate	365	340-360
Deep	1145	1120-1140

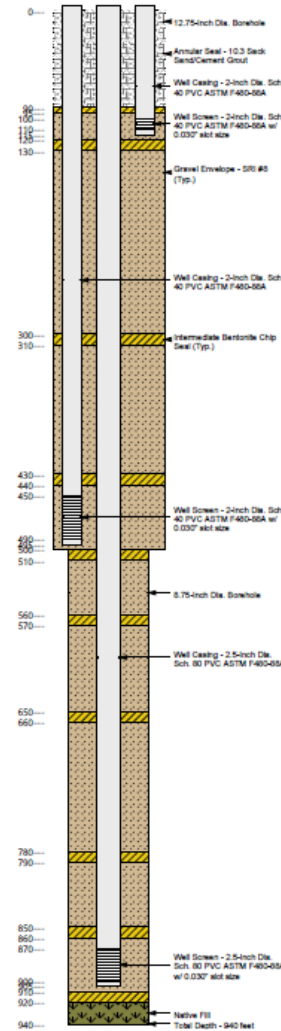
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin-During Construction



Multi-Completion Well



Corning Subbasin-Post Construction



Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin:

10 New ISW Monitoring Sites

- Each site consists of:
 - A shallow dual completion well
 - Temporary stream stage measurement transducer
 - Bench tested robust stream gage sensor (for future install)
- Water levels in wells and streams can inform stream-aquifer interaction



ISW Well Construction Summary

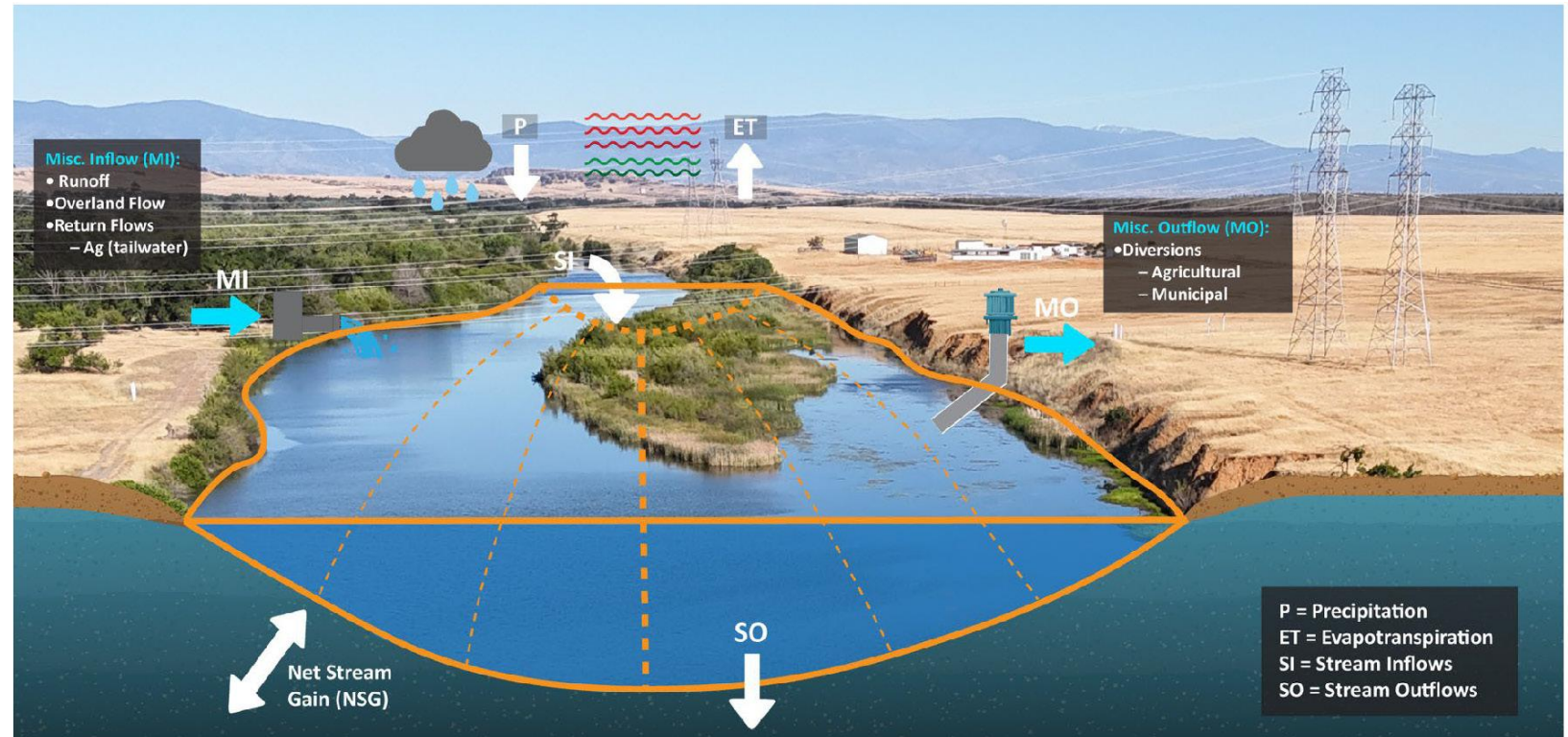
Well ID	Total Depth (ft bgs)	Screen Interval (ft bgs)
ISW-C1 Shallow	25	15-25
ISW-C1 Deep	40	30-40
ISW-C2 Shallow	30	20-30
ISW-C2 Deep	45	35-45
ISW-C3 Shallow	60	50-60
ISW-C3 Deep	80	70-80
ISW-C4 Shallow	25	15-25
ISW-C4 Deep	45	30-45
ISW-C5 Shallow	50	40-50
ISW-C5 Deep	100	90-100
ISW-C6 Shallow	65	55-65
ISW-C6 Deep	80	70-80
ISW-C7 Shallow	25	15-25
ISW-C7 Deep	45	30-45
ISW-C8 Shallow	25	15-25
ISW-C8 Deep	40	30-40
ISW-C9 Shallow	25	15-25
ISW-C9 Deep	50	30-40
ISW-C10 Shallow	30	20-30
ISW-C10 Deep	65	50-60

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Synoptic Stream Gaging Study

- Measured same-day synoptic flow conditions
- Measurements collected at points along streams define reaches
- Inflow at beginning of reach and outflow at the end quantifies gains/losses along reach and defines water budget
- Stream reach water budgets refine
 - stream-aquifer interaction (gaining/losing)
 - ISW/GDE delineations
 - potential refinements of the Tehama IHM.



Conceptual illustration of a stream reach water budget for Stony Creek in Tehama County showing the major flux components used in the Study. Stream inflows (SI), stream outflows (SO), precipitation (P), evapotranspiration (ET), miscellaneous inflows (MI), and miscellaneous outflows (MO), and net stream gain (NSG) all contribute to the stream reach water budget for a defined reach (outlined in orange). This framework allows field measurements and estimated fluxes to be integrated to quantify NSG and evaluate stream-aquifer interactions. Note that stream outflow (SO) is the amount of flow continuing downstream of the stream reach in the surface stream even though the arrow could be misinterpreted to mean that it is infiltrating through the streambed. (From DE 2026 Synoptic Stream Gaging Tech Memo)

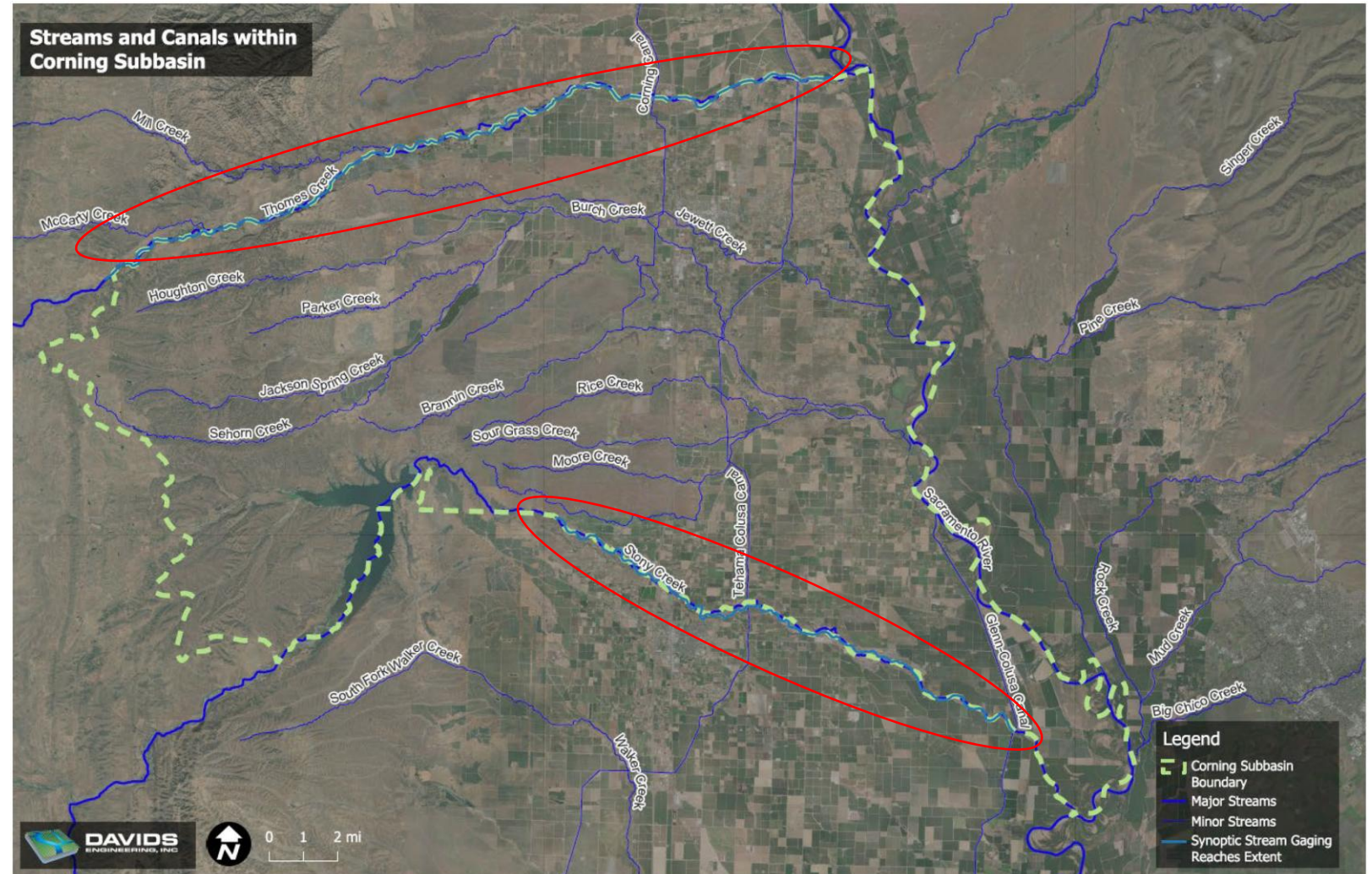
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin:

Synoptic Stream Gaging Study

- Measured same-day synoptic flow conditions along Thomes and Stony Creek



Corning Subbasin Surveyed streams (From DE 2026 Synoptic Stream Gaging Tech Memo)

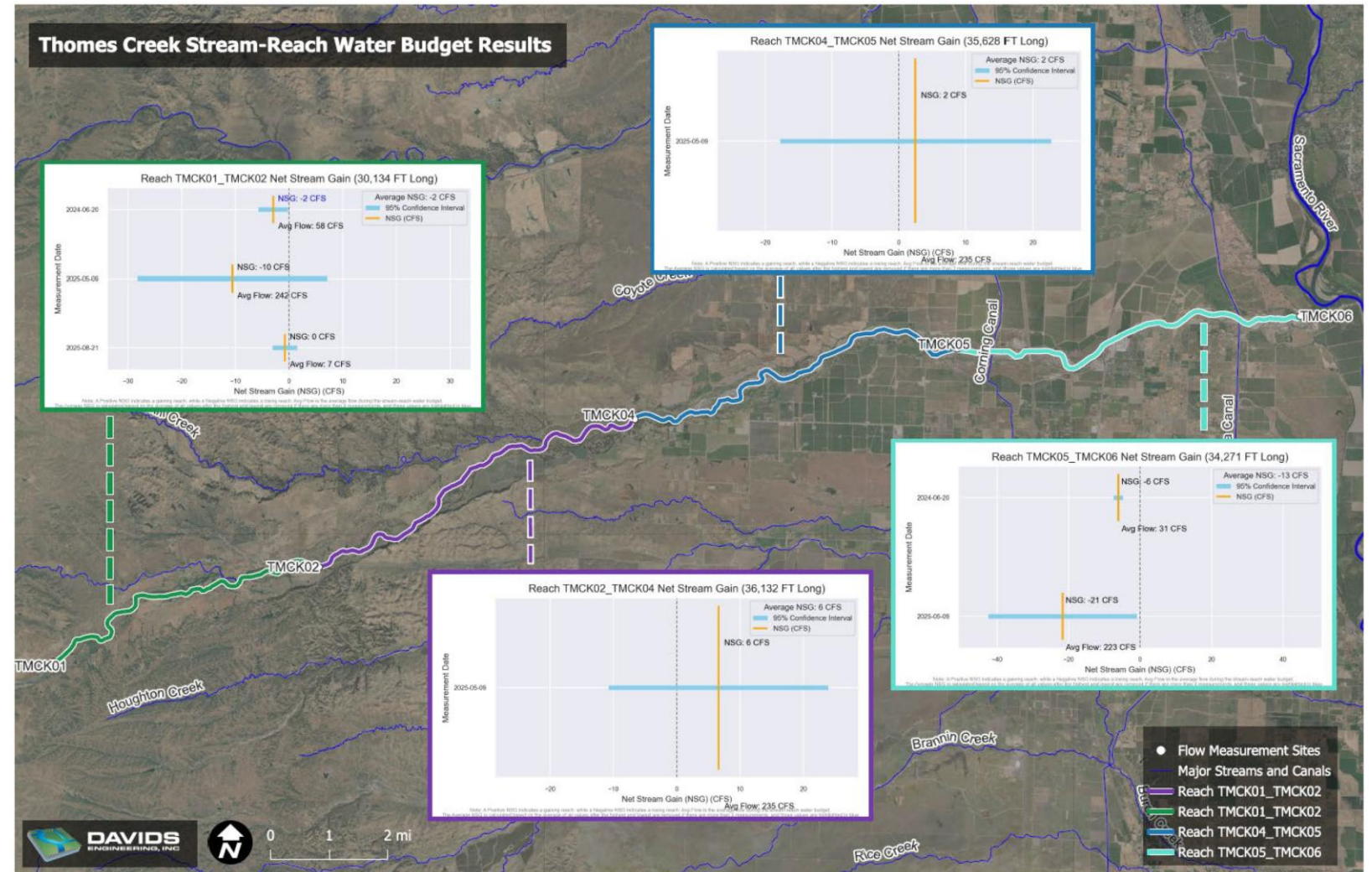
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin:

Synoptic Stream Gaging Study: Thomes Creek

- Stream reach water budgets indicate
 - Small to neutral gains in upper portions
 - Transition to losing conditions in mid/lower regions
 - Largest losing conditions in lower reach



Net stream gains calculated for the four monitored reaches of Thomes Creek show relatively small gains or near-neutral conditions in the upper and middle reaches, followed by a pronounced net loss in the downstream reach (TMCK05–TMCK06). The lower reach exhibits the largest reduction in flow, indicating greater channel losses relative to the upstream portions of the creek. (From DE 2026 Stream Gaging Tech Memo)

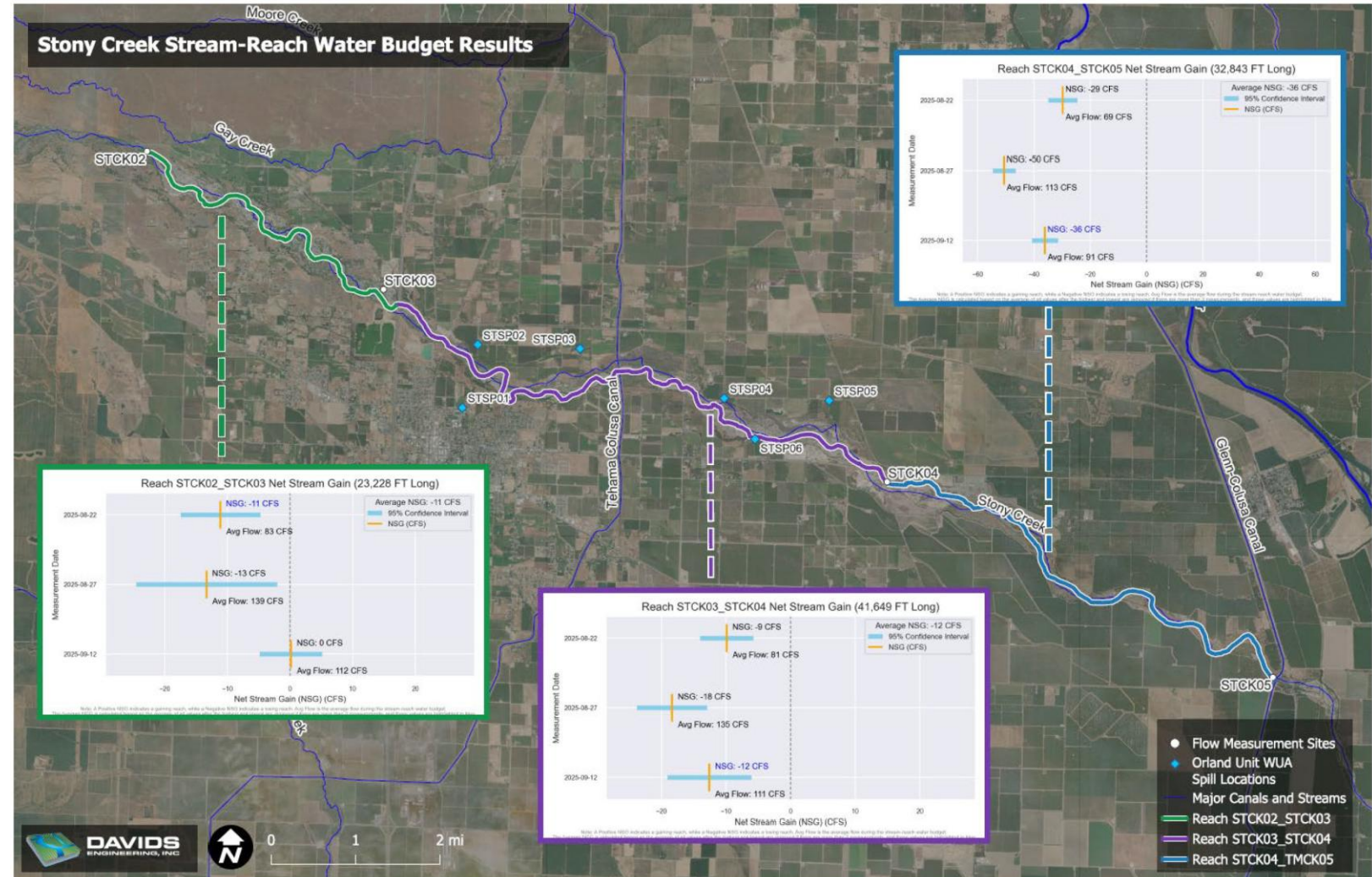
Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin:

Synoptic Stream Gaging Study: Stony Creek

- Stream reach water budgets indicate
 - Losing conditions across all reaches
 - Increasing losing conditions from upper to lower reaches



Net stream gains and their uncertainty calculated for the three Stony Creek reaches show increasing losses in STCK02–STCK03 and STCK03–STCK04 going west-to-east, followed by a substantial net loss in STCK04–STCK05. The downstream reach exhibits the largest reduction in flow, indicating significantly greater channel losses relative to the upstream reaches. (From DE 2026 Stream Gaging Tech Memo)

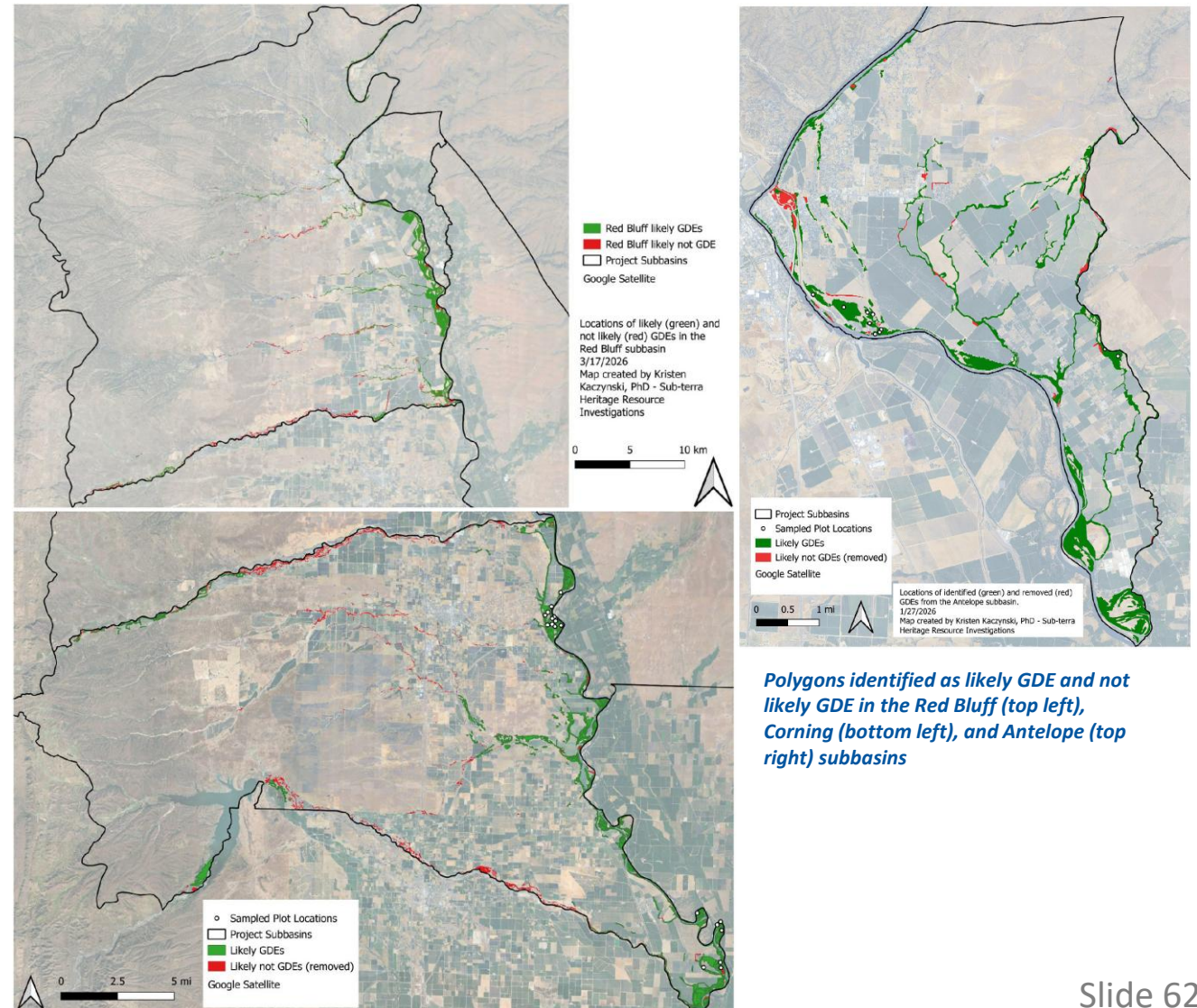
Slide 61

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Groundwater Dependent Ecosystem (GDE) Surveys

- Sampled 10 different 0.5-acre plots in Antelope and 20 in Corning to identify species and quantify GDE on the ground
- Utilized aerial imagery, shallow groundwater levels, and NDVI datasets to reassess GDE spatial extents in Antelope, Red Bluff, Los Molinos, and Corning Subbasins
- Refines Subbasin conceptual model and helps address DWR Corrective Actions requested in GSP (Los Molinos results expected by 09/28/2026)



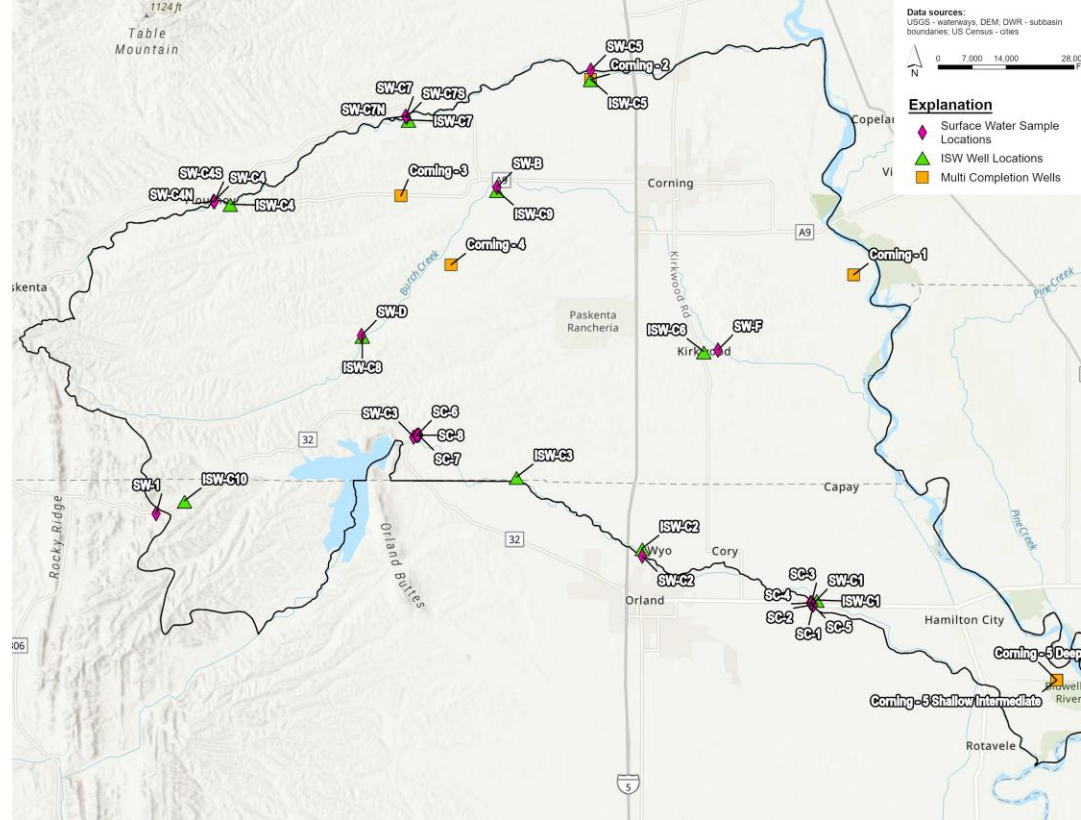
Polygons identified as likely GDE and not likely GDE in the Red Bluff (top left), Corning (bottom left), and Antelope (top right) subbasins

Tehama GSA – DWR Grant Project

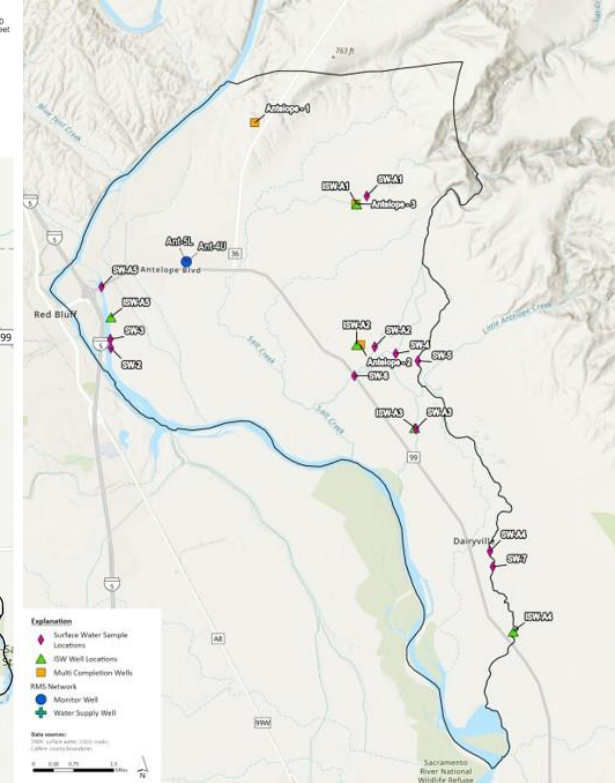
DWR Grant Funding Agreements

Antelope and Corning Subbasins: Water Quality Survey

- Conducted compliance sampling at RMS wells
- Collected samples for stable isotope analysis from nested wells and streams
- Isotope samples can help identify:
 - Where recharge occurs
 - Where streams are gaining/losing
 - Vertical connectivity of aquifers



Locations of multi-completion wells (triple and dual-completions) and surface water locations where samples were collected for isotope analysis in Corning (left) and Antelope (right) subbasins.

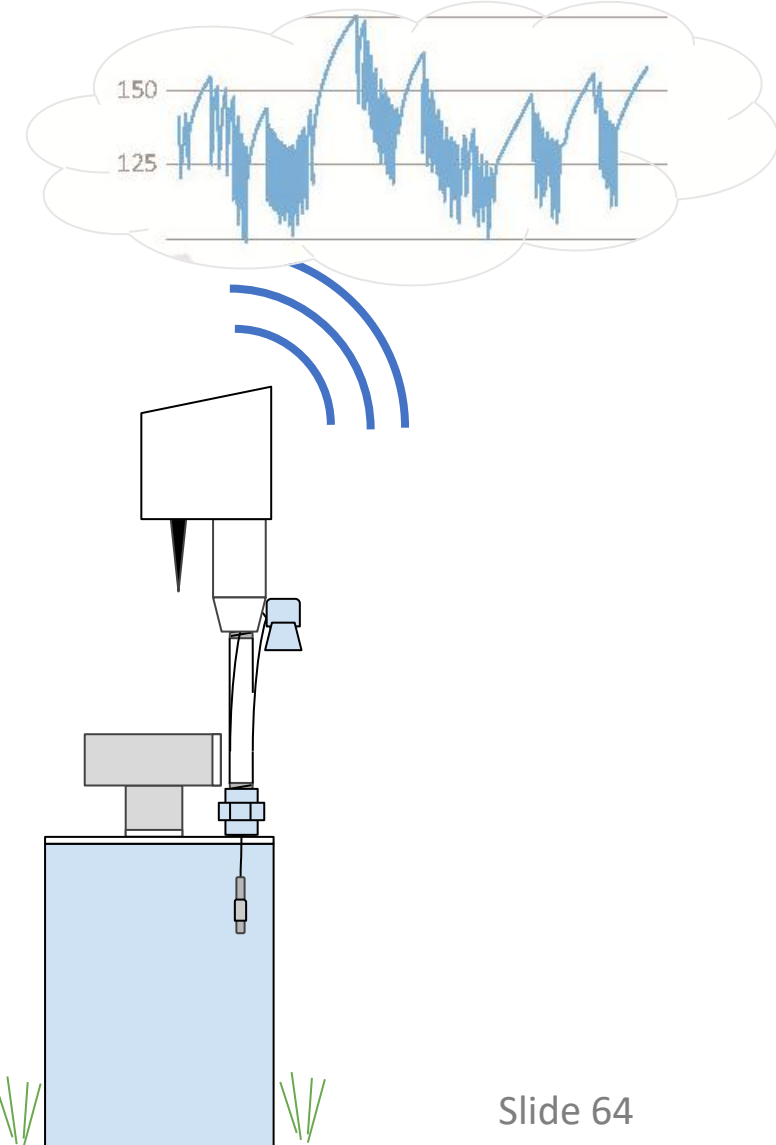
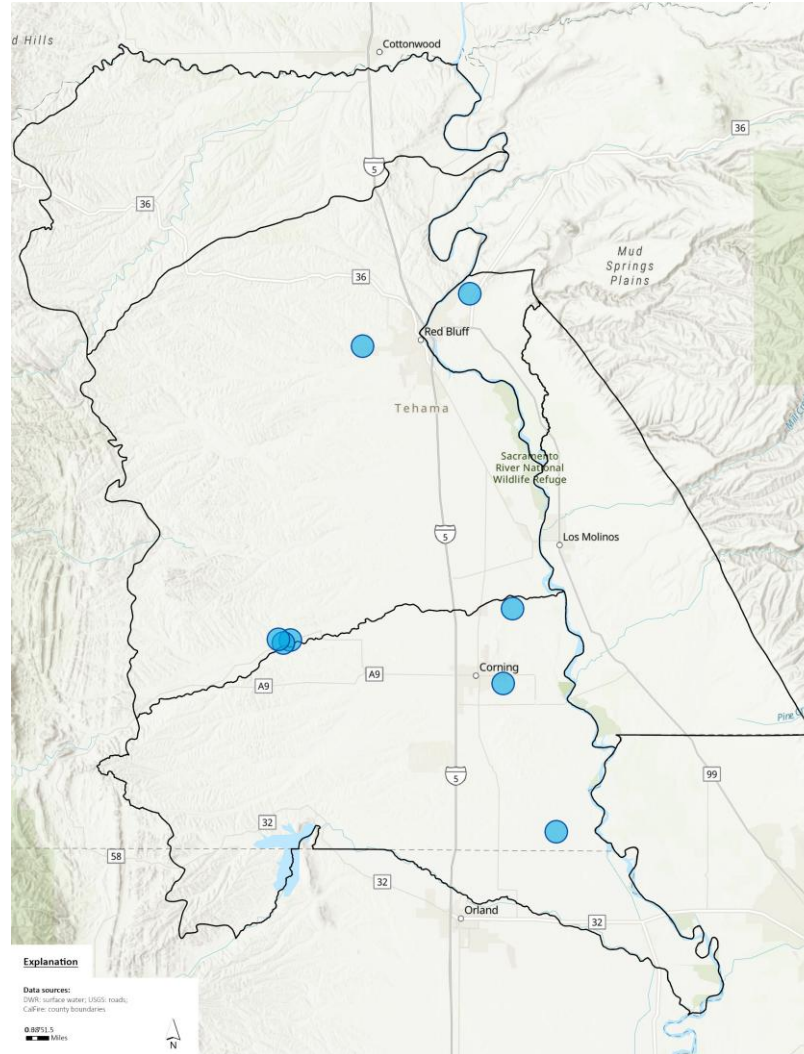


Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Volunteer Domestic Well Monitoring Program

- Developed a monitoring program and purchased 60 pieces of non-invasive well monitoring equipment.
- Acoustic sounders measure water levels in supply wells.
- Well owners have real time access to their well data.
- Real time data in domestic wells can help GSAs better consider drinking water users throughout SGMA implementation

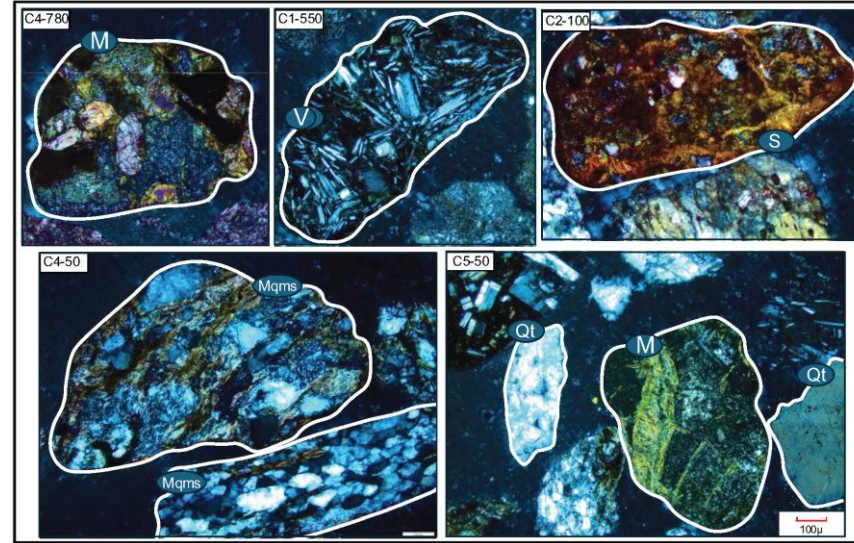


Tehama GSA – DWR Grant Project

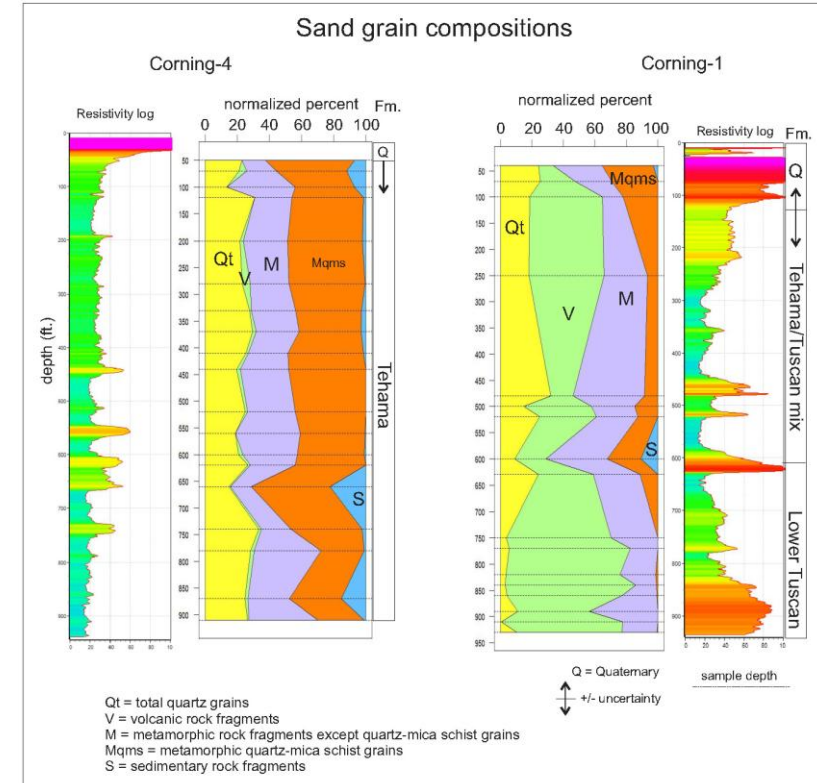
DWR Grant Funding Agreements – Corning Subbasin

Geologic Understanding Expansion

- Collected cuttings from installation of monitoring wells
- Created microscope thin sections from collected samples
- Examined thin sections from different depths to identify the aquifer unit
- Analyzed sample results with AEM data, well completion reports, and available e-logs



Photomicrographs of grain types in thin-section with cross-nichols. Labels refer to well name (C4=Corning-4, etc.) and number refers to depth of sample below ground surface. Grain types include: Qt = total quartz grains, V = volcanic rock fragments, M = metamorphic rock fragments except quartz-mica schist grains, Mqms = metamorphic quartz-mica schist grains, S = sedimentary rock fragments. Scale bar of 100 microns on lower right photo is the same for all photos. (From Sub-Terra 2026 Tech Memo)



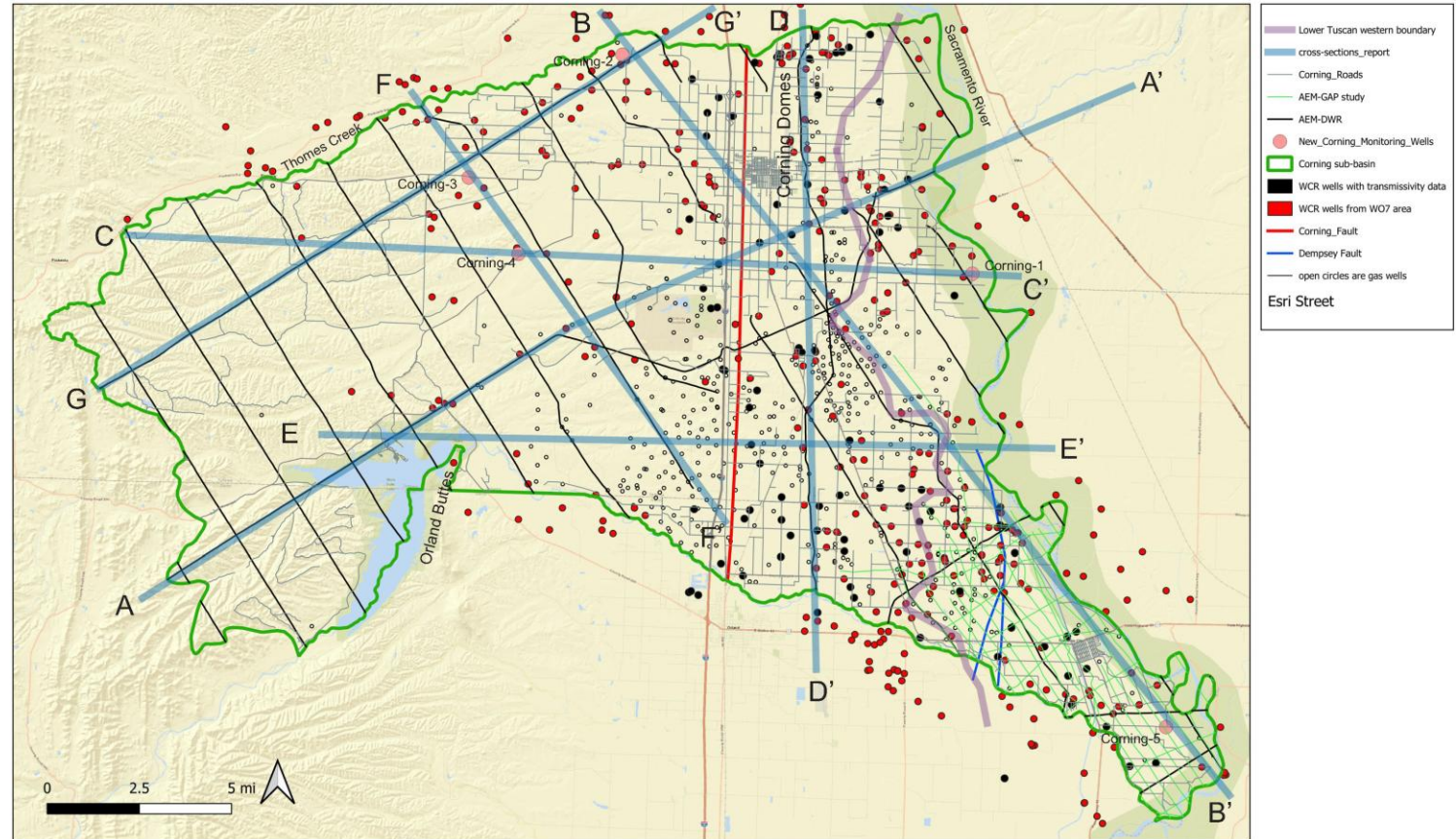
Results of thin section analysis for Corning-4 and Corning-1. E-log from the drilling is on the left with the percentage of each grain type counted at each sample is in the middle. On the right is the interpreted formation using the grain counts and e-log. (From Sub-Terra 2026 Tech Memo)

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Geologic Understanding Expansion

- Refined the understanding of western extent of Tuscan Formation
- Created 7 cross sections identifying formations at depth
- Compared results with numerical model and updated where needed



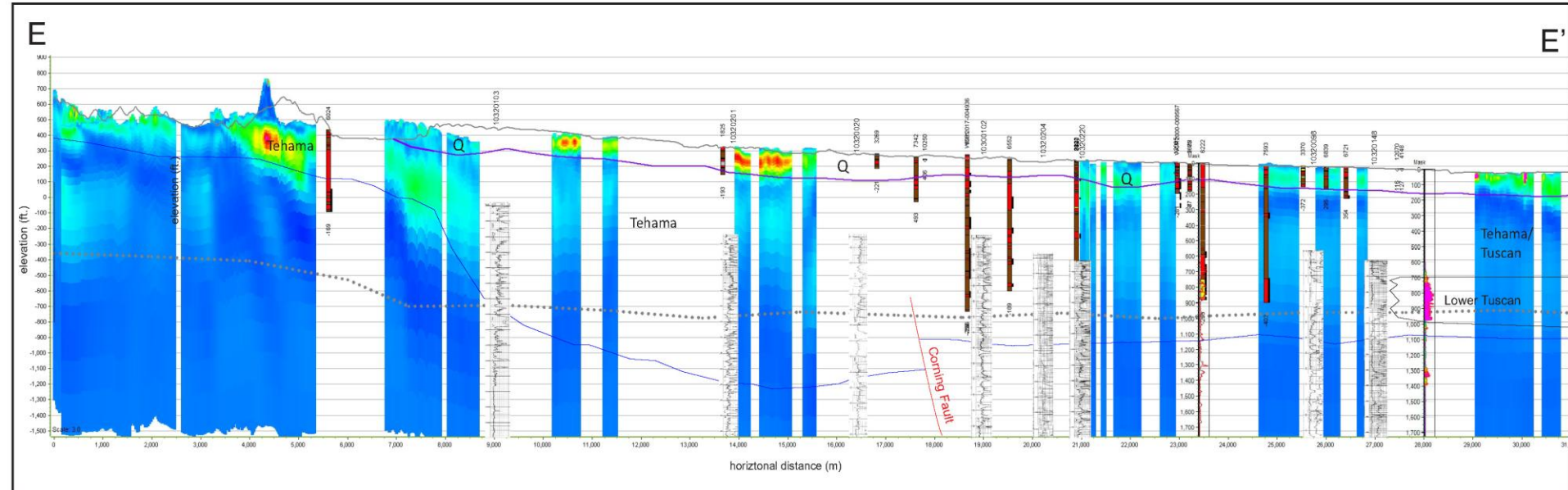
Corning Subbasin map showing project well data, structural and geographic features, cross-section traces, and western boundary of Lower Tuscan deposits (purple line). (From Sub-Terra 2026 Tech Memo)

DWR Grant Funding Agreements – Corning Subbasin

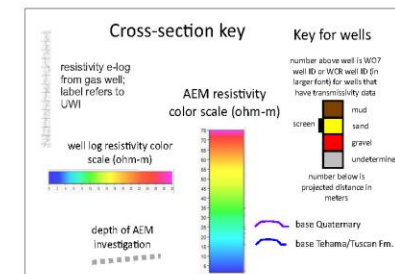
Understanding Expansion

- Refined the understanding of western extent of Tuscan Formation
- Created 7 cross sections identifying formations at depth
- Compared results with numerical model and updated where needed

Figure 8



Cross section E-E' showing key formation surfaces, well data, and AEM data. (From Sub-Terra 2026 Tech Memo)

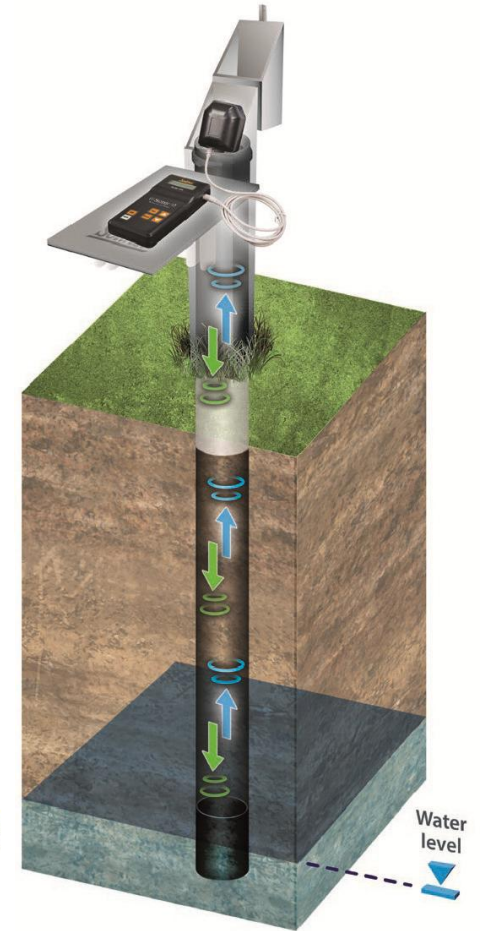


Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements

Monitoring Equipment Purchases

- Down hole well video camera
- Electronic water level measurement tapes and acoustic sounders
- 93 Transducers for continuous water level measurements across monitoring sites



Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Component 4: Project Management Action Implementation – Regional Conjunctive Use Project

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,215,000, and in December 2023, grant agreement number 4600015877 was executed for the Tehama GSA GSP Implementation Project.

Additional Details: PMA Implementation – Regional Conjunctive Use Project

- Initial Study: completed 1 study to determine feasible conjunctive use opportunities.
- CEQA Compliance: completed CEQA compliance documentation for feasible projects.
- Permits: secured necessary permits for implementation activities.
- Project Design: completed project designs for project participants.
- Landowner Agreements: executed landowner agreements for project participants.
- Implementation: constructed 8 pilot projects with groundwater sustainability benefits.
- Monitoring Plans: completed 8 monitoring plans for implementation activities.
- Outreach: conducted outreach supporting all component 3 actions.

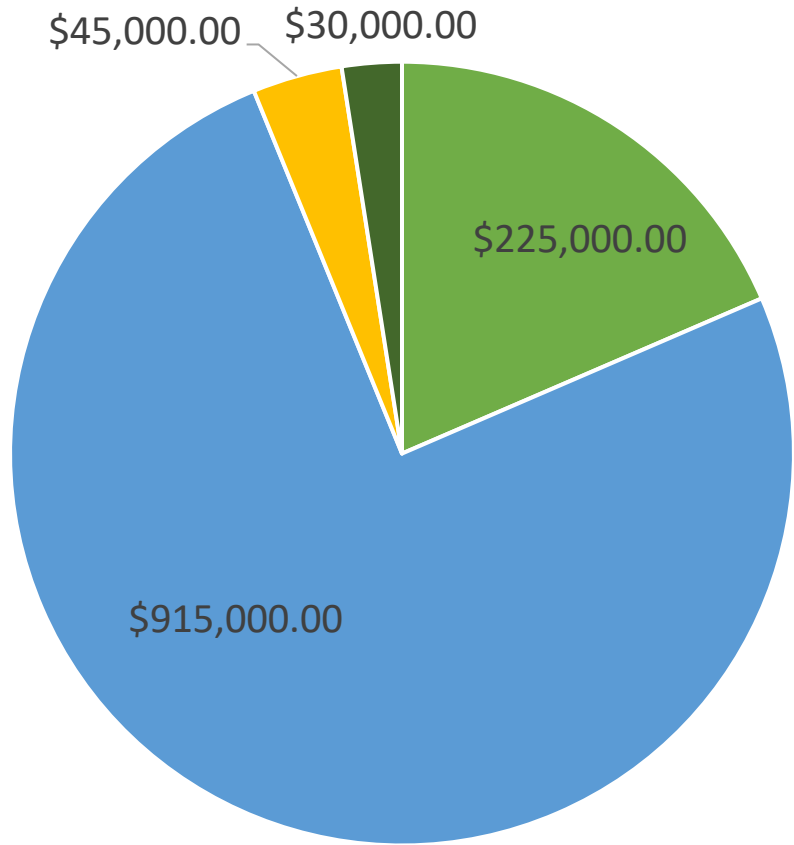
Final projects in process.

All surface water connection projects.

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements –Corning Subbasin

Allocated Budget Breakdown



■ Planning ■ Construction ■ Monitoring ■ Outreach



- 68% of budget spent
- Remaining funds allocated to additional surface water connections and identifying additional surface water projects
- Planning:
 - Completed study of Corning Water District
- Construction:
 - Installed/Upgraded surface water connections

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Corning Subbasin Construction Projects	Project Improvements	Estimated Annual Benefits
Surface Water Connection Project (10 sites constructed)	Connections from landowner property to SW source to allow SW use when available.	1,530 afy
Surface Water Connection Project (to be constructed)		250-320 afy
TOTAL	\$815,000	1,780 – 1,850 afy

Tehama GSA – DWR Grant Project

DWR Grant Funding Agreements – Corning Subbasin

Component 5: Project & Management Action Implementation – Recharge Focused

SGMA Round 2 Implementation Grant Funds were awarded in the amount of \$1,742,000, and in December 2023, grant agreement number 4600015877 was executed for the Tehama GSA GSP Implementation Project.

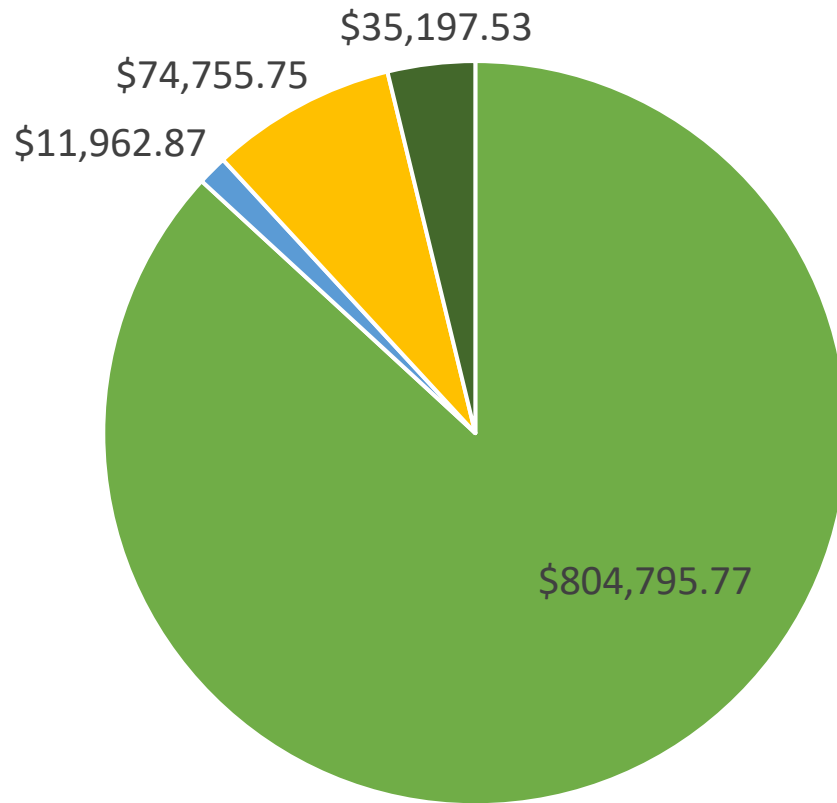
Additional Details: PMA Implementation – Recharge Focused

- Feasibility Studies: completed 6 studies to determine feasible recharge opportunities.
- CEQA Compliance: completed CEQA compliance documentation for feasible projects.
- Permits: secured necessary permits for implementation activities.
- Project Design: completed project design for projects being implemented.
- Implementation: completed 3 projects with groundwater sustainability benefits.
- Monitoring Plans: completed 3 monitoring plans for implementation activities.
- Outreach: conducted outreach supporting all component 3 actions.

Final projects in process.

Recharge Focus –Corning Subbasin

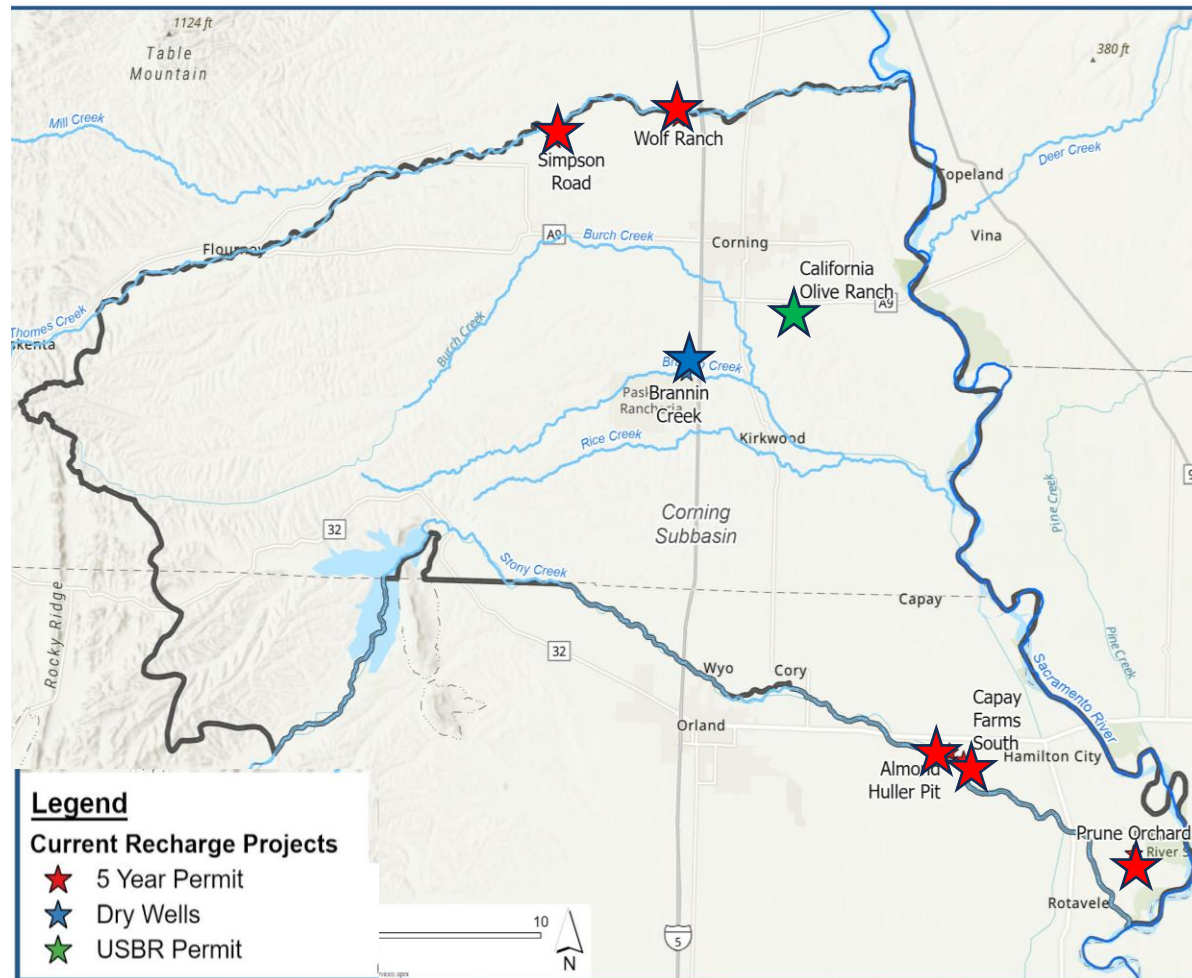
Allocated Budget Breakdown



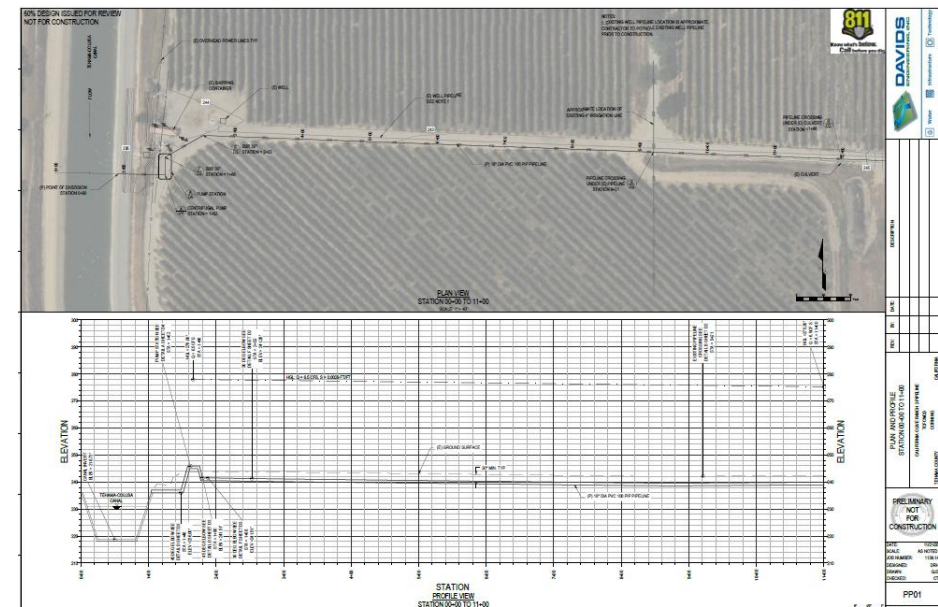
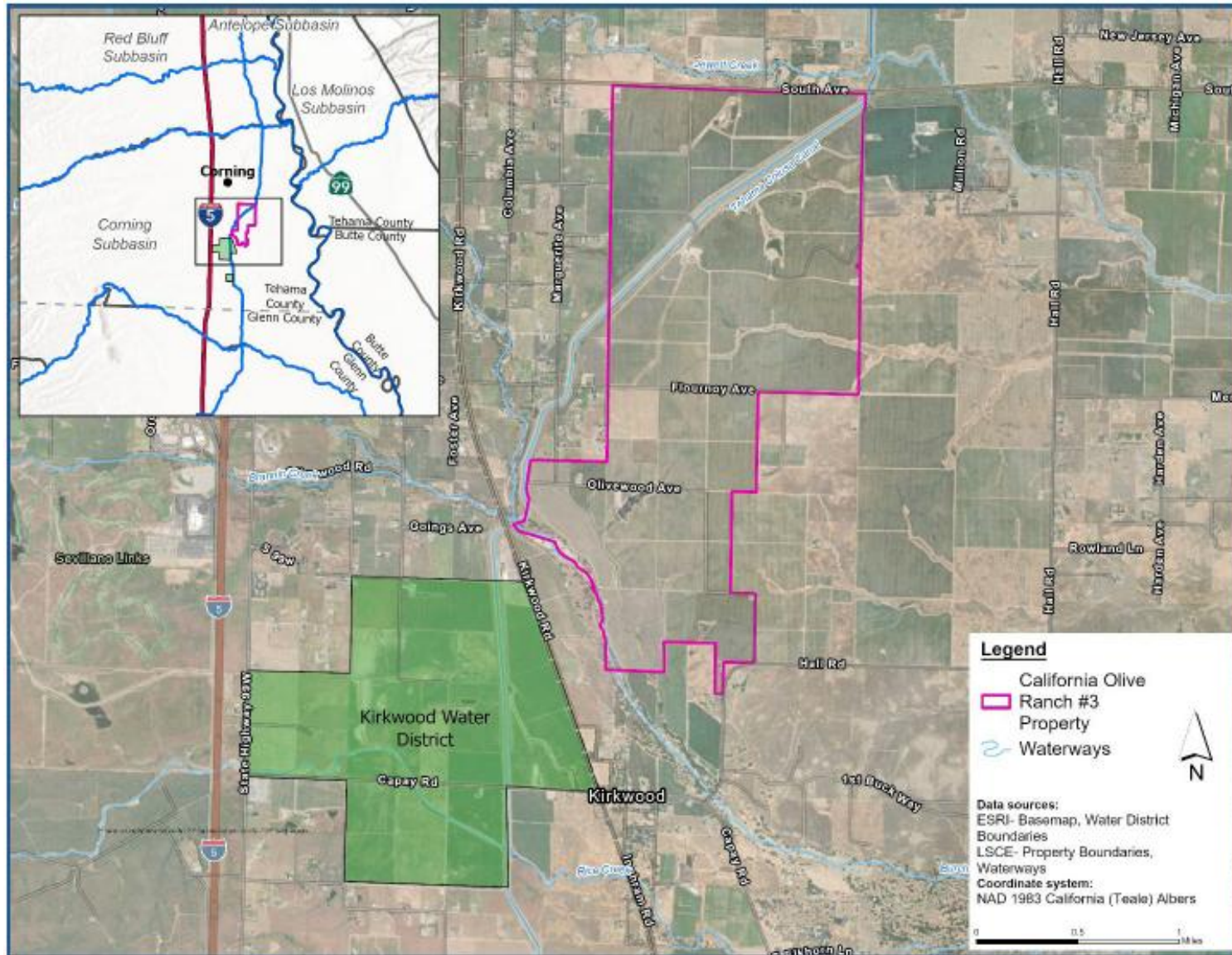
■ Planning ■ Construction ■ Monitoring ■ Outreach

- 53% of budget spent
- Only 815k of total budget was allocated to construction
- Planning:
 - Completed feasibility studies
 - Applied for and obtained 5-year GW recharge permits
 - Obtained USBR permit for California Olive ranch
 - Created Alert system for diversions
 - Completed subbasin wide study of peak flow
- Construction:
 - Purchased of pumps and specialized fish screens for 5-year GW permits
 - California Olive Ranch SW Turnout
 - Construction of 2 dry wells for recharge

Recharge Focus – Corning Subbasin



Recharge Focus – Corning Subbasin



Recharge Focus – Corning Subbasin

Corning Subbasin Construction Projects	Project Improvements	Estimated Annual Benefits
Storm Recharge-Elder and Thomes Creeks (5-Yr. Permits)	Existing Diversions and Temporary Pumps	5,000-10,000 afy (10-days)
CA Olive Ranch Project	Connections from landowner property to SW source to allow SW use when available.	Up to 1,100 afy
TOTAL	\$600,000	Up to 6,100 – 16,100 afy

Recharge Focus – Corning Subbasin

PERMIT RUNWAY

Alert system in place

Diversions can keep running through the full 5-year groundwater recharge permit period, with no new grant funding required.

READY FRAMEWORK

Surface water connections

Ranking matrix, NOE and landowner agreement templates, and benefit calculations are built, so the GSA can expand the program to more users.

WATER RIGHTS PATHWAY

Beyond the recharge permit

The 5-year recharge permit can be evaluated as a step toward pursuing appropriative water rights.

Corning is set up for future recharge: the mechanisms are in place.

Tehama GSA – DWR Grant Project

Future Recommendations – 2027 to 2032 period.

RECOMMENDATIONS

- Continue monitoring network enhancements to address remaining data gaps.
- Continue implementing the SW Connection Project.
- Continue implementing the Flood/Storm Diversion Program.
- Continue implementing Ag ASR projects.
- Continue the RCD Demand Management Program - in overdrafted subbasins.
- Consider quarterly Board/GW Commission meeting business model.
- Establish long term funding source to maintain local control.
- Pursue Prop. 4 PMA funding opportunities – where feasible (2027/2028).

Tehama GSA – DWR Grant Project

End of Presentation

QUESTIONS/COMMENTS/SUGGESTIONS?