

EAST TURLOCK GROUNDWATER SUSTAINABILITY AGENCY

Proposed Proposition 218 Groundwater Use Fee Landowner Workshop

November 19, 2024





AGENDA

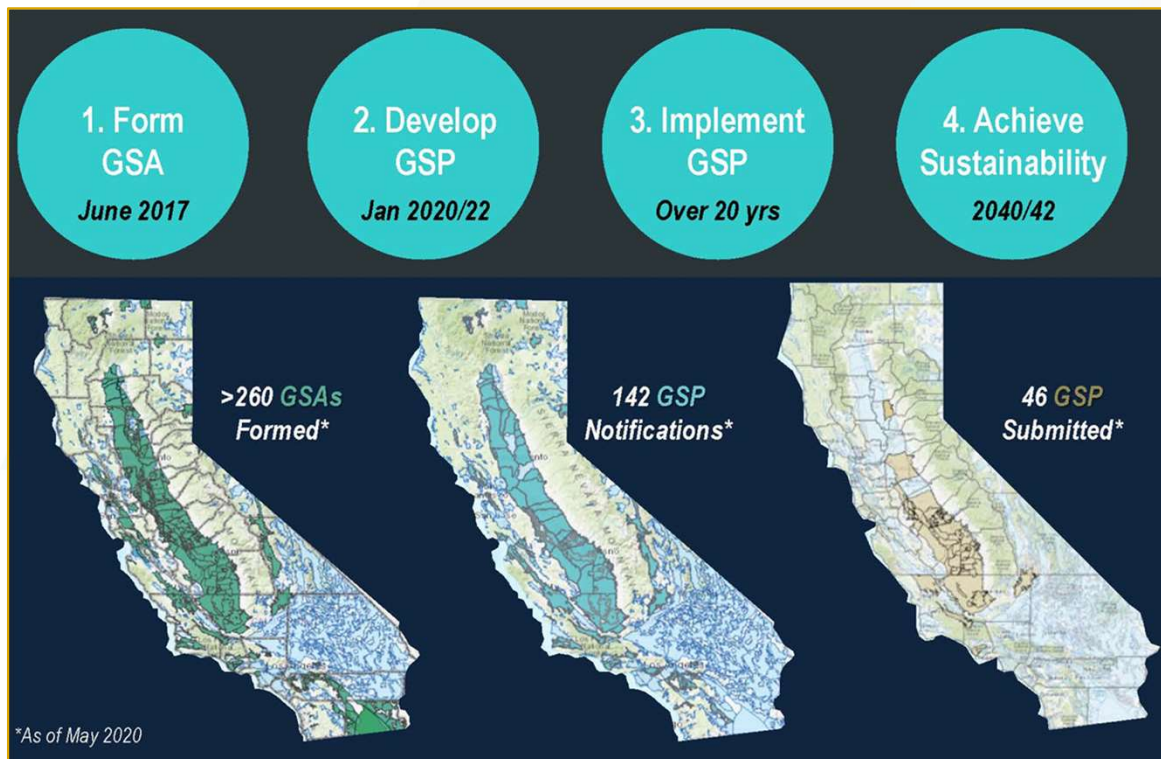
1. Background information
2. Proposed Fee Structure
3. Proposed Budget and Programs
4. Groundwater Accounting Platform and Fee Calculator



BACKGROUND

SGMA and ETSGSA

Sustainable Groundwater Management Act (SGMA)



- Achieve groundwater sustainability in medium and high priority GW basins.
- Implement monitoring, projects and management actions to achieve sustainability in 20 years.
- Local control if successful, backstopped by State intervention.

Groundwater Conditions are the Metrics of Sustainability

Sustainable Yield Definition: “The maximum quantity of water ... that can be withdrawn annually from a groundwater supply without causing an undesirable result.” (California Water Code §10721(w))

Undesirable Results (our metrics for sustainability):



DECLINING
GROUNDWATER
LEVELS



REDUCTION OF
GROUNDWATER
STORAGE



SEAWATER
INTRUSION



WATER
QUALITY
DEGRADATION



LAND
SUBSIDENCE

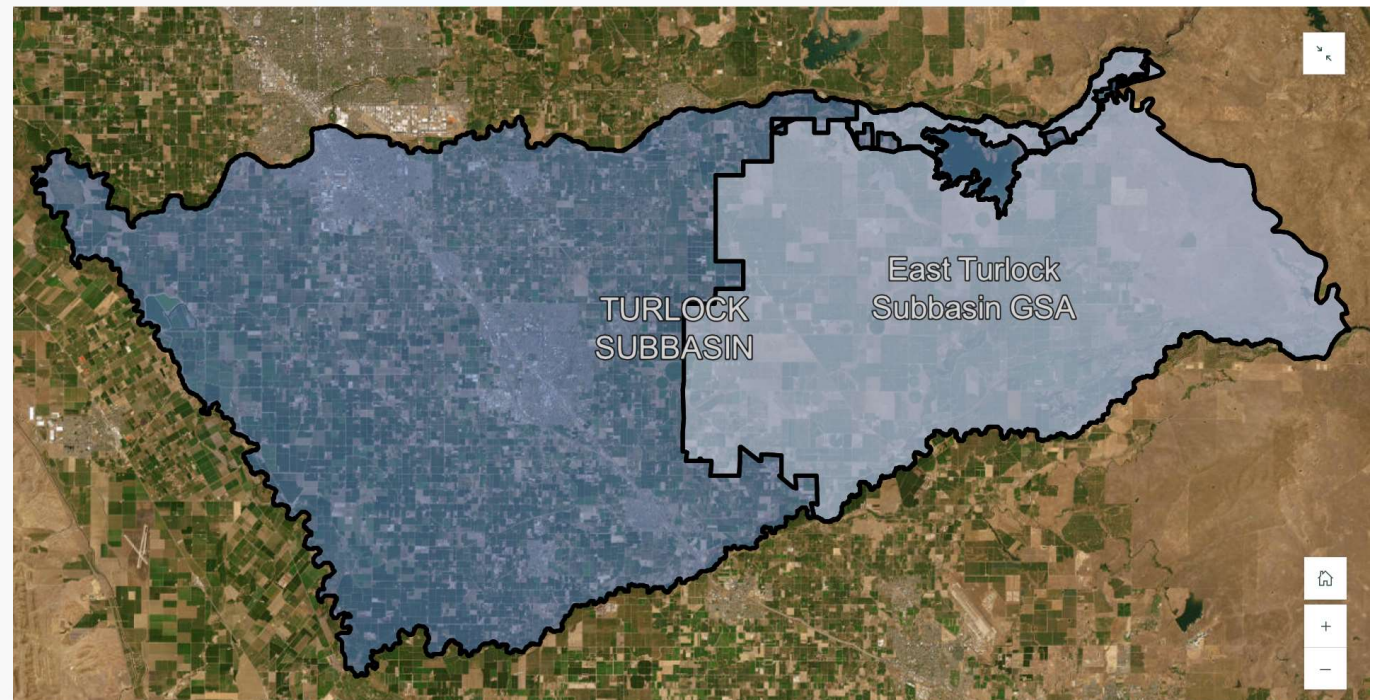


SURFACE
WATER
DEPLETIONS

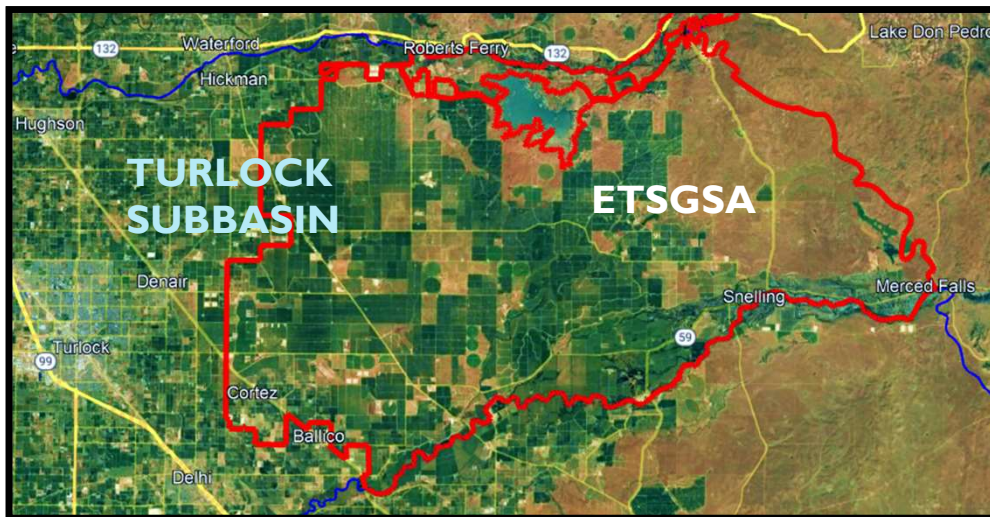
Overview Turlock Subbasin

A single GSP being implemented jointly with West Turlock Subbasin GSA.

Our GSP was initially found incomplete by DWR. A revised GSP was adopted by ETSGSA and WTSGSA and timely submitted to DWR. The Revised GSP is currently under DWR review.



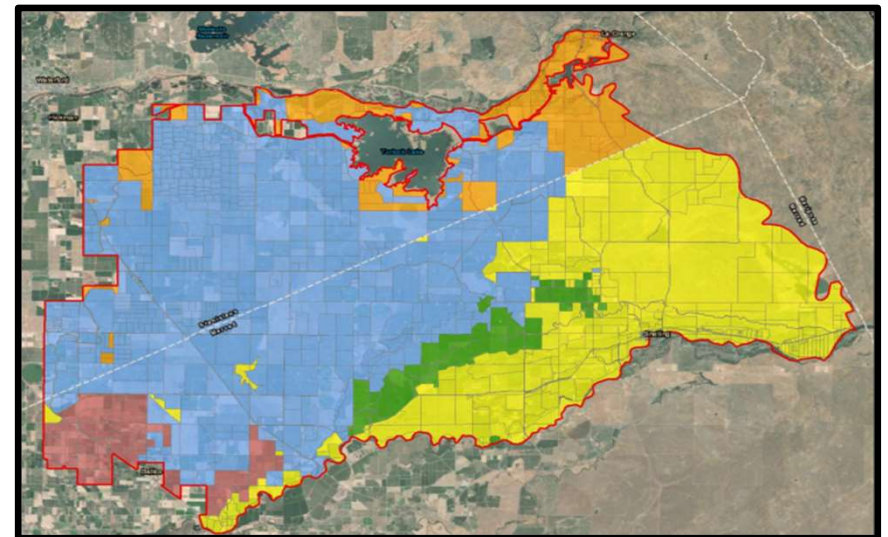
ETSGSA LOCATION AND OVERVIEW



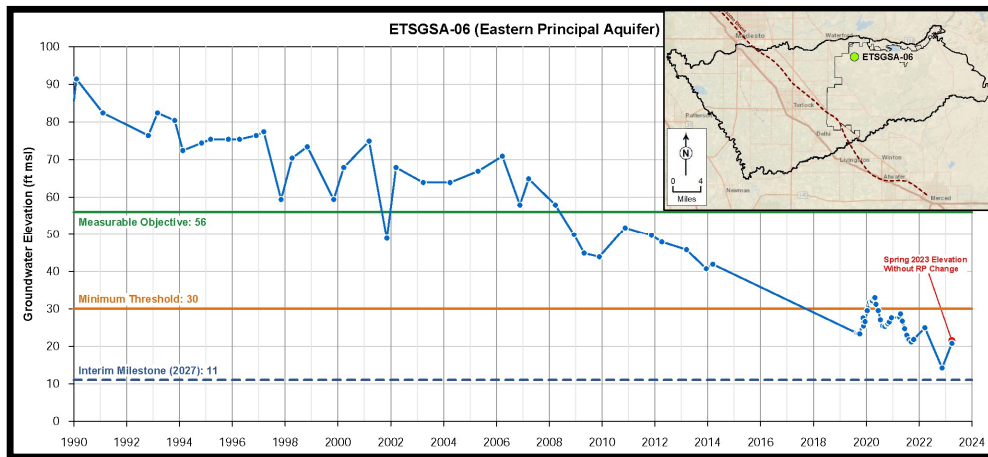
- > 90,000 acres of high value ag land
- Mostly permanent crops
- Little surface water available
- Productive aquifers, low recharge

■ Joint Powers Authority

- ✓ Eastside Water District
- ✓ Ballico-Cortez Water District
- ✓ Merced Irrigation District
- ✓ Merced County
- ✓ Stanislaus County

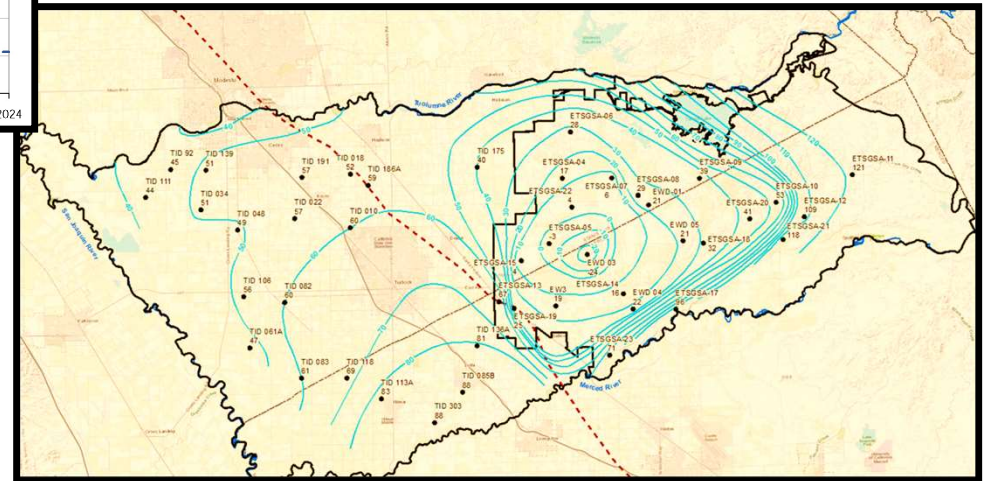


ETSGSA GROUNDWATER CONDITIONS

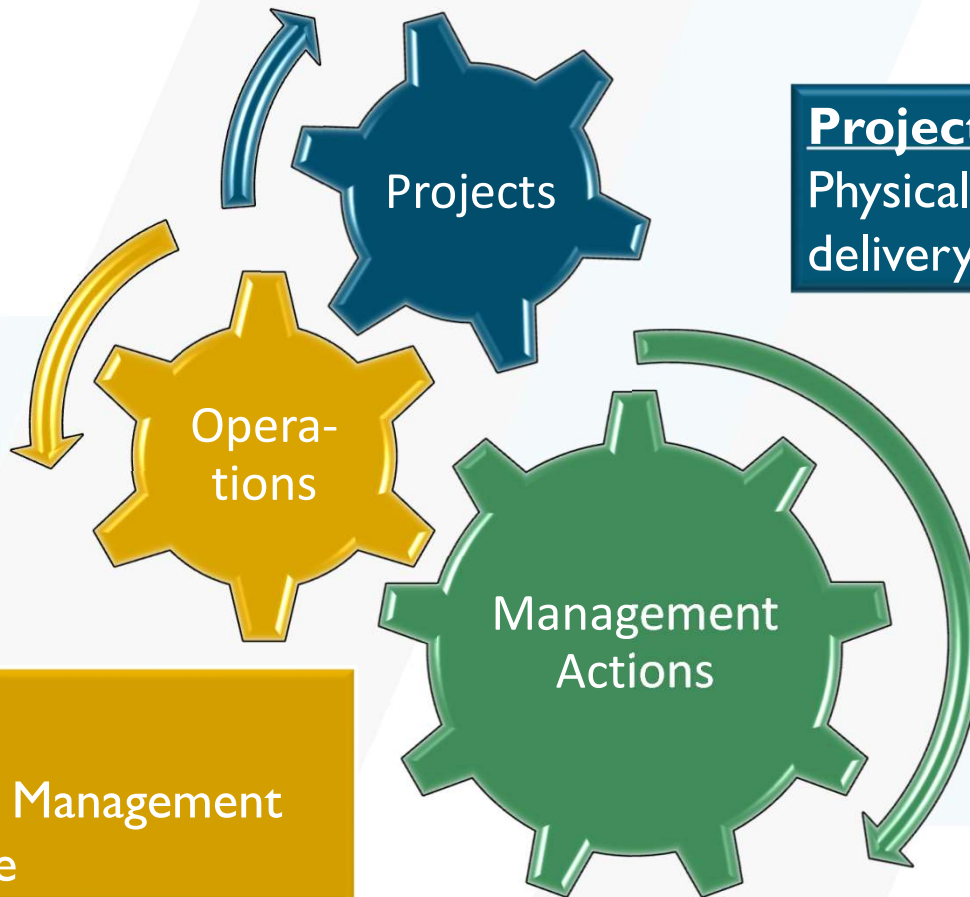


- Declining groundwater levels
- Below GSP Minimum Thresholds
- Groundwater demand exceeds sustainable yield by ~96,000 AFY

- Estimated 40% net demand reduction needed
- Arrest groundwater decline by 2027
- Sustainable Yield by 2042



Strategy to Meet Sustainability Goals



Projects:

Physically constructed water delivery and recharge projects

Operations:

Administration, Management and Compliance

Management Actions:

Programs or policies that reduce groundwater demand

Guiding Objectives

Integrated agricultural land use planning to facilitate required changes under SGMA:

- ✓ Build a multi-benefit land repurposing strategy for demand reduction that is integrated into working agricultural operations and landscapes.
- ✓ Adopt sound financing strategies and incentive programs.
- ✓ Preserve high value agricultural land for the benefit of local communities, economies, and the environment.
- ✓ Promote grower-implemented solutions from a menu of options for flexibility, adaptability, optimized ROI and long-term success.

Funding Needs

- ✓ SGMA Operational Assessment for administration, management and compliance.
 - \$17.75/acre for Irrigated Parcels
 - \$1.54/acre for Non-Irrigated Parcels
- ✓ Proposed Groundwater Use Fee (today's topic) to fund Projects & Management Actions to implement the GSP
 - Multibenefit Land Repurposing Program (MLRP)
 - Rotational Fallowing Program
 - Well Mitigation Program
 - Transitional Water Payments and Related Projects
 - Replenishment Water Payments

GROUNDWATER USE FEE RESOURCES

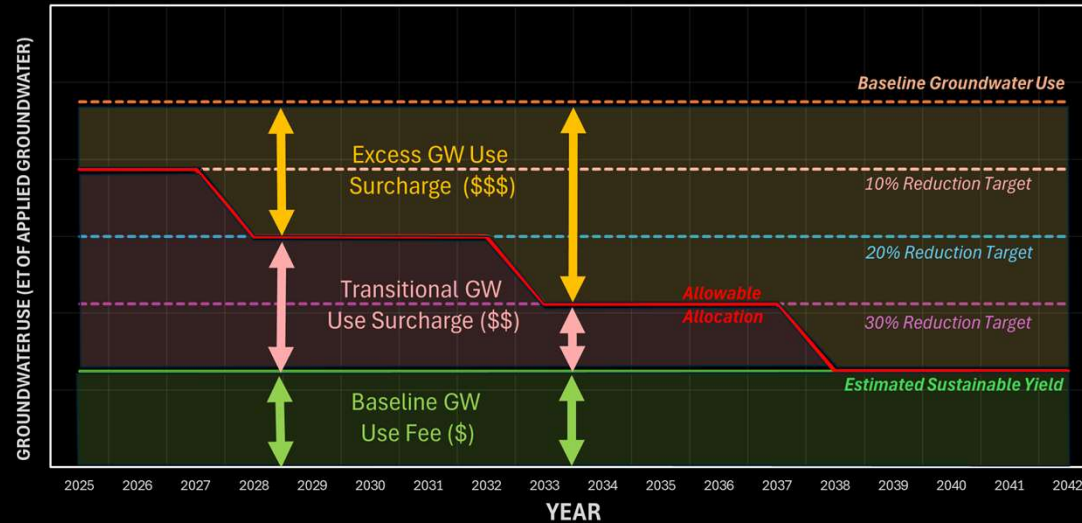
The proposed Groundwater Use Fee will enable to GSA to:

- ➔ Implement Projects and Management Actions needed to implement the GSP to the satisfaction of DWR and comply with SGMA
- ➔ Provide access to up to 35,000 AF of surface water from Turlock Irrigation District (known as “replenishment water”) that was recently made available under the new Groundwater Accounting Agreement ETSGSA entered with them.
- ➔ Provide incentive payments to landowners for participating in the Multi-Benefit Land Repurposing Program (MLRP).
- ➔ Provide incentive payments to landowners for rotational land fallowing.

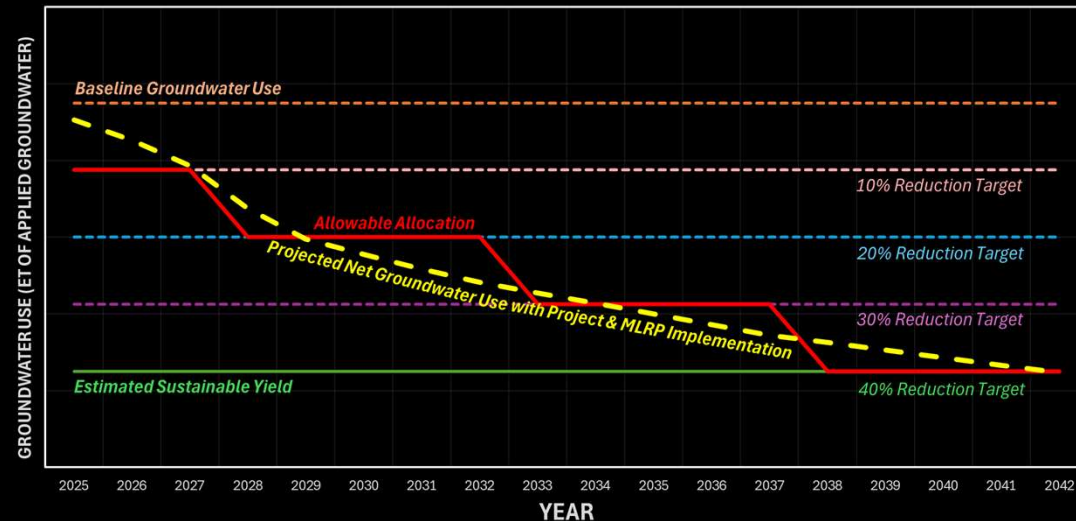
Groundwater Management Framework

- Phase in groundwater use reduction targets and proposed groundwater use fees starting 2025
- Reduction targets decrease over time in 10% steps
- Proposed Fees will fund P&MAs
- Projected demand reduction from P&MAs aligns with reduction targets
- 21,000 acres are eventually planned to be repurposed or rotationally fallowed

GROUNDWATER USE FEE FRAMEWORK



GROUNDWATER USE REDUCTION FRAMEWORK AND PROJECTIONS





PROPOSED FEE STRUCTURE

Groundwater Use Fee

BASIS OF PROPOSED FEES (1)

- ETSGSA is proposing a Groundwater Use Fee in accordance with Water Code Section 10730.2 and Proposition 218 – a ‘property related fee.’
- The proposed Fee would recover the cost of service provided to non-de minimis users (those who use more than 2 acre-feet (AF) of groundwater per year).
- The costs of the Project and Management Action Budget are apportioned only to non-de minimis groundwater users because their larger quantity of groundwater use necessitates the elevated service provided by Projects and Management Actions described in the GSP.

BASIS OF PROPOSED FEES (2)

- For agricultural landowners that irrigate, groundwater use will be identified by using *evapotranspiration* (ET) measurements of consumed groundwater use.
- These measurements are gathered using satellite data and on-field stations to determine the amount of groundwater consumed by crops.
- For non-agricultural users that exceed de minimis use or dairy, poultry, or food processing operations, fee calculations will rely on self-reporting.
- ETSGSA intends to allow property owners to appeal the use of ET data and seek to use metered extraction data instead, which can be converted to consumed groundwater use for Fee calculation.

EVAPOTRANSPIRATION (“ET”)

Applied Water

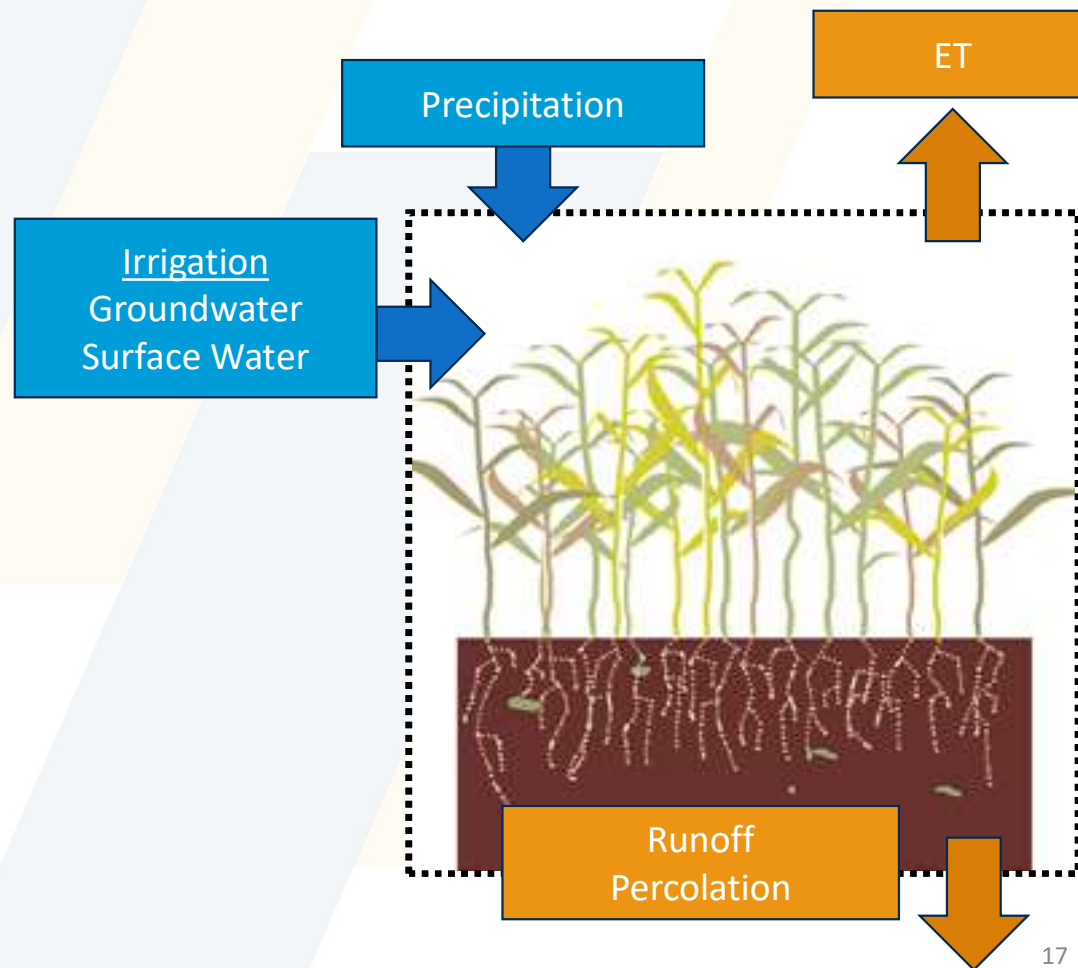
The amount of water applied to the field.

- Precipitation
- Surface Water
- Groundwater

Consumed Water (ET)

The amount of water consumed is what is used by the crop. The rest of the water leaves the system.

Plants and delivery systems are not 100% efficient. So, there is some amount of applied water and precipitation that is usually lost to percolation or runoff.



CALCULATING CONSUMED GROUNDWATER

- In order to calculate the total amount of consumed groundwater, we can use this equation:

$$\text{Consumed Groundwater} = \text{Total Consumed Water (ET)}$$

- ET from **Precipitation (Effective Precipitation)**
- ET from **Applied Surface Water**

Key Takeaways:

- We are using ET as the GSA-wide groundwater use measurement tool because it is available and can be compared to a historical baseline.
- Growers will have an option to appeal to use meter data (rules are under development).
- Groundwater ET is less than irrigation demand (or the amount of groundwater pumped).
- The average groundwater ET of an almond orchard in ETSGSA is 2.33 acre-ft/acre/year, compared to a commonly assumed irrigation demand of about 3 to 3.4 acre-ft/acre/year.

PROPOSED FEE STRUCTURE CATEGORIES

Groundwater Use Fee Category	Category Description	GW ET Category Threshold
		AF / Acre
Category 3 Excess GW Use Fee	Groundwater Use Above the Use Reduction Target	Greater Than 1.6* (*Threshold will shift over time)
Category 2 Transitional GW Use Fee	Groundwater Use Above the Estimated Sustainable Yield	1.1 - 1.6*
Category 1 Base GW Use Fee	Groundwater Use Within the Intended Long-Term Additional Sustainable Yield Once Sustainable Thresholds are Met	0.5 - 1.1
Category 0 No Fee Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5

- Proposed fee categories are used to identify the cost of service tied to the amount of groundwater consumed (in ET per acre).
- The upper threshold of Category 2 will shift over time as reduction goals are implemented.

YEAR 1 PROPOSED FEES

Phase 1				
2025-2026				
Consumptive Groundwater Use Measured by ET	Use Fee Category	Category Description	GWET Category Threshold (Af per Acre)	Total Fee
171,000 afy (1.8 ft) Excess Pumping Over Reduction Target	Category 3 Excess Groundwater Use	Groundwater Use Above the Use Reduction Target	Greater Than 1.6	\$138.61
154,000 afy (1.6 ft) -10% Reduction Target (2025-2027)	Category 2 Transitional Groundwater Use	Groundwater Use Above the Estimated Sustainable Yield and Below the Use Reduction Target	1.1 - 1.6	\$138.61
105,000 afy (1.1 ft) Estimated Sustainable Yield	Category 1 Long-Term Sustainable Groundwater Use	Groundwater Use Within the Intended Long-Term Sustainable Yield	0.5 - 1.1	\$57.81
47,500 afy (0.5 ft) Estimated Lower-Bound Native Sustainable Yield	Category 0 Native Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5	\$0.00

PROPOSED FEE PROGRAM PHASES (1)

Phase 1

Year 1

Category 2 defined by 10% reduction target (upper threshold is 1.6 AF per acre).

Category 3 rate not charged; all ET within Category 3 is charged Category 2 rate.

Phase 2

Years 2-3

Category 2 continues to be defined by 10% reduction target (upper threshold is 1.6 AF per acre).

Category 3 rate begins; ET within C3 is charged accordingly.

Phase 3

Years 4-8

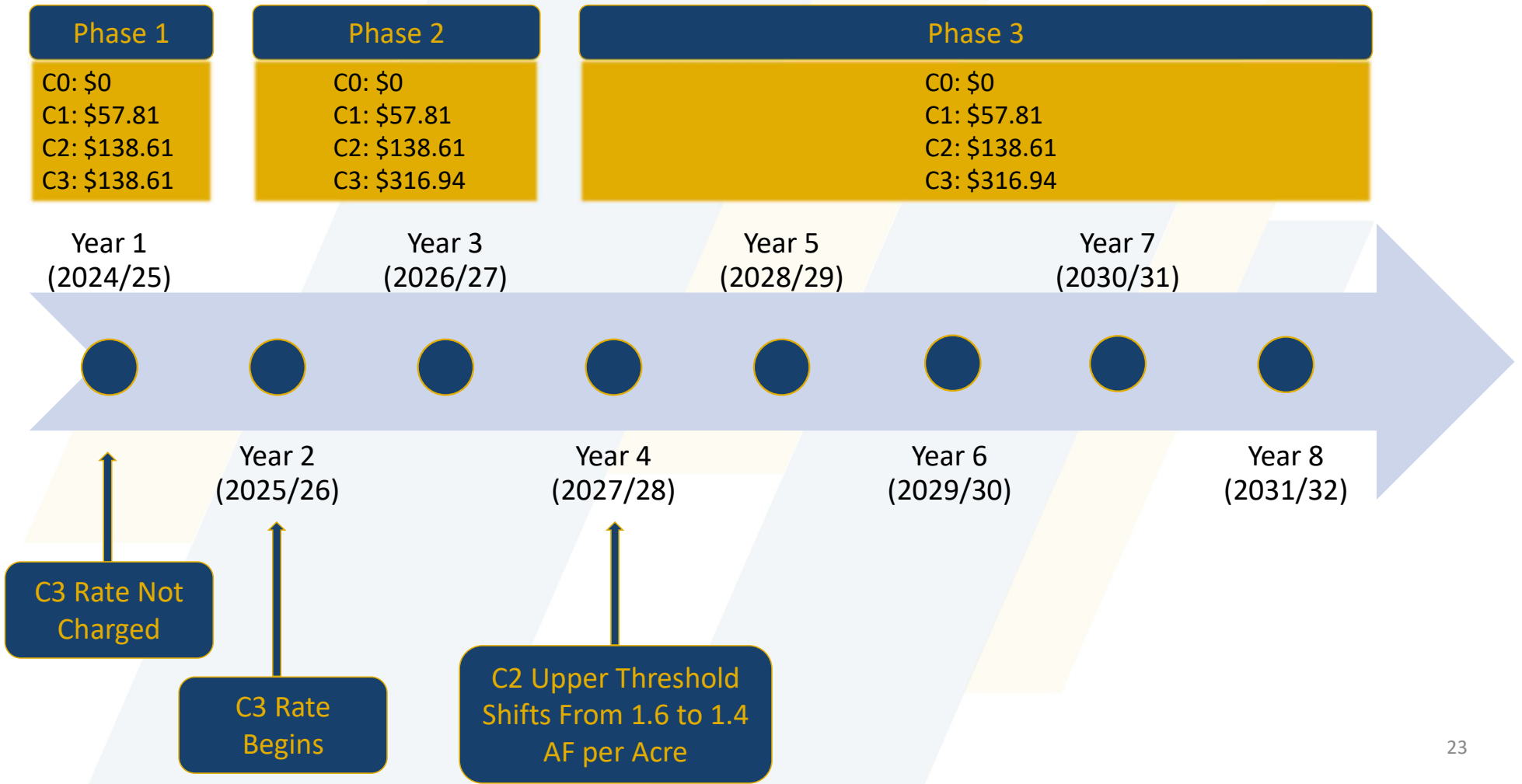
Category 2 threshold shifts – now defined by 20% reduction target (upper threshold is 1.4 AF per acre).

Fee structure remains consistent going forward.

PROPOSED FEE PROGRAM PHASES (2)

Phase 1 2025-2026					Phase 2 2026-27					Phase 3 2028-2032				
Consumptive Groundwater Use Measured by ET	Use Fee Category	Category Description	GW ET Category Threshold (Af per Acre)	Total Fee	Consumptive Groundwater Use Measured by ET	Use Fee Category	Category Description	GW ET Category Threshold (Af per Acre)	Total Fee	Consumptive Groundwater Use Measured by ET	Use Fee Category	Category Description	GW ET Category Threshold (Af per Acre)	Total Fee
171,000 afy (1.8 ft) Excess Pumping Over Reduction Target	Category 3 Excess Groundwater Use	Groundwater Use Above the Use Reduction Target	Greater Than 1.6	\$138.61	171,000 afy (1.8 ft) Excess Pumping Over Reduction Target	Category 3 Excess GW Use Fee	Groundwater Use Above the Use Reduction Target	Greater Than 1.6	\$316.94	171,000 afy (1.8 ft) Excess Pumping Over Reduction Target	Category 3 Excess GW Use Fee	Groundwater Use Above the Use Reduction Target	Greater Than 1.4	\$316.94
154,000 afy (1.6 ft) -10% Reduction Target (2025-2027)	Category 2 Transitional Groundwater Use	Groundwater Use Above the Estimated Sustainable Yield and Below the Use Reduction Target	1.1 - 1.6	\$138.61	154,000 afy (1.6 ft) -10% Reduction Target (2025-2027)	Category 2 Transitional GW Use Fee	Groundwater Use Above the Estimated Sustainable Yield and Below the Use Reduction Target	1.1 - 1.6	\$138.61	137,000 afy (1.4 ft) -20% Reduction Target (2028-2032)	Category 2 Transitional GW Use Fee	Groundwater Use Above the Estimated Sustainable Yield and Below the Use Reduction Target	1.1 - 1.4	\$138.61
105,000 afy (1.1 ft) Estimated Sustainable Yield	Category 1 Long-Term Sustainable Groundwater Use	Groundwater Use Within the Intended Long-Term Sustainable Yield	0.5 - 1.1	\$57.81	105,000 afy (1.1 ft) Estimated Sustainable Yield	Category 1 Base GW Use Fee	Groundwater Use Within the Intended Long-Term Sustainable Yield	0.5 - 1.1	\$57.81	105,000 afy (1.1 ft) Estimated Sustainable Yield	Category 1 Base GW Use Fee	Groundwater Use Within the Intended Long-Term Sustainable Yield	0.5 - 1.1	\$57.81
47,500 afy (0.5 ft) Estimated Lower-Bound Native Sustainable Yield	Category 0 Native Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5	\$0.00	47,500 afy (0.5 ft) Estimated Lower-Bound Native Sustainable Yield	Category 0 No Fee Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5	\$0.00	47,500 afy (0.5 ft) Estimated Lower-Bound Native Sustainable Yield	Category 0 No Fee Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5	\$0.00

PROPOSED FEE PROGRAM PHASES - TIMELINE



PROPOSED FEE IMPLEMENTATION PROCESS (1)

Prop. 218 Property Related Fee Implementation Procedures *(for water-related services)*

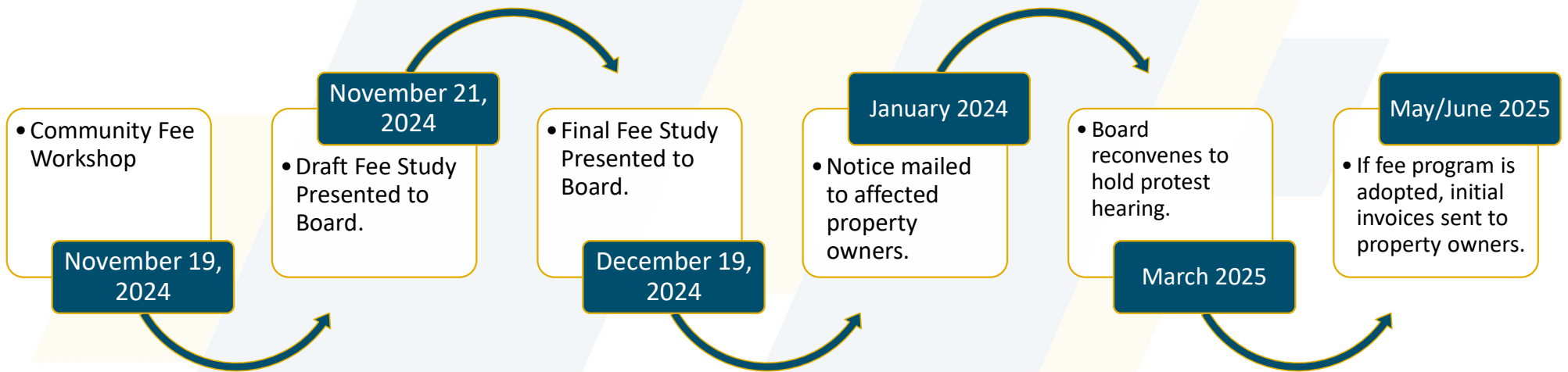
1. Notice of the proposed fee amount is mailed to owners of all affected parcels (45-day notice period required).
2. Property owners may submit written protest to the GSA during this period or at the public hearing (1 protest per parcel).
3. GSA Board reconvenes to hold a protest hearing.
4. If the number of parcels for which protest was submitted represents a majority (50% + 1) of the affected parcels, the fee cannot be imposed (“majority protest”).
5. Absent a majority protest, the Board may vote to adopt the proposed fee program.

MAX RATES

- Pursuant to Prop. 218, property owners will be mailed notice of the proposed maximum rates. In this case, the Phase 3 rates will be included in the mailed notice.
- The notice will also include information on the planned Three-Phase roll-out.

Phase 3				
2028-2032				
Consumptive Groundwater Use Measured by ET	Use Fee Category	Category Description	GW ET Category Threshold (Af per Acre)	Total Fee
171,000 afy (1.8 ft) Excess Pumping Over Reduction Target	Category 3 Excess GW Use Fee	Groundwater Use Above the Use Reduction Target	Greater Than 1.4	\$316.94
137,000 afy (1.4 ft) -20% Reduction Target (2028-2032)	Category 2 Transitional GW Use Fee	Groundwater Use Above the Estimated Sustainable Yield and Below the Use Reduction Target	1.1 - 1.4	\$138.61
105,000 afy (1.1 ft) Estimated Sustainable Yield	Category 1 Base GW Use Fee	Groundwater Use Within the Intended Long-Term Sustainable Yield	0.5 - 1.1	\$57.81
47,500 afy (0.5 ft) Estimated Lower-Bound Native Sustainable Yield	Category 0 No Fee Groundwater Use	Groundwater Use Within the Estimated Native Sustainable Yield	0.0 - 0.5	\$0.00

PROPOSED FEE IMPLEMENTATION PROCESS TENTATIVE TIMELINE





QUESTIONS / DISCUSSION

Proposed Fee Structure



PROPOSED BUDGET AND PROGRAMS

Projects and Management Actions

PROPOSED PROGRAMS DESCRIBED IN THE GSP

- **Rotational Land Fallowing** (extended fallowing) with incentive payments.
- **Well Mitigation.**
- **Transitional Water** (payments to TID will be used to fund P&MAs in the Turlock Subbasin).
- **Replenishment water** used in lieu of groundwater.
- **Multibenefit Land Repurposing Program (MLRP)** with incentive payments.

Total Annual Cost			
Fee Program Phases	Phase 1	Phase 2	Phase 3
	2025-2026	2026-2027	2028-2032
Total Annual Costs (Rounded to Nearest Thousand Dollars)	\$10,116,000	\$10,116,000	\$7,760,000

ROTATIONAL LAND FALLOWING

- Program supports general land fallowing efforts.
- Funds incentive payments for growers to participate in the program.
- Contributes to **groundwater demand reduction**.
- Preliminary cost allocation:
 - Category 0: No cost allocation.
 - Category 1: No cost allocation.
 - Category 2: Total projected costs for rotational land fallowing.
 - Category 3: Costs of additional land fallowing to make up for un-met reduction goals – this would only be necessary if these goals aren't met, so these costs may not be needed. This aligns with the goal of minimizing GW use within Category 3.

WELL MITIGATION

- Program will support efforts to mitigate the effects of overpumping on Subbasin wells.
- Funds protective measures to avoid significant adverse impacts to wells from management of groundwater levels.
- Contributes to **well replacement**.
- Preliminary cost allocation:
 - Category 0: No cost allocation.
 - Category 1: Costs for well mitigation program establishment (~40% of total cost).
 - Category 2: Majority of costs for well mitigation program (~60%) if reduction targets are met.
 - Category 3: Costs for additional well mitigation costs if reduction targets are not met (assumes mitigation at twice the Category 1 rate).

TRANSITIONAL WATER

- Transitional water refers to groundwater owned by TID and used within ETSGSA.
- Costs will be paid to TID under the Accounting Agreement. Transitional water will initially be 140,000 AFY, which is expected to decrease over time.
- Pending discussion with TID, may contribute to **GSP Project Implementation.**
- Preliminary cost allocation:
 - Category 0: No cost allocation.
 - Category 1: Costs for proportional share of Transitional Water paid to TID.
 - Category 2: Costs for proportional share of Transitional Water paid to TID.
 - Category 3: Costs for proportional share of Transitional Water paid to TID.

REPLENISHMENT WATER

- Replenishment water refers to water provided to property owners to use in lieu of groundwater.
- Funds the purchase of water that can then be brought into the Subbasin.
- Replenishment water costs are likely to increase over time as project capacity is built out.
- Preliminary cost allocation:
 - Category 0: No cost allocation.
 - Category 1: costs for proportional share of Replenishment Water.
 - Category 2: costs for proportional share of Replenishment Water.
 - Category 3: costs for proportional share of Replenishment Water.

MULTI-BENEFIT LAND REPURPOSING PROGRAM (MLRP)

- Program supports land repurposing that has multiple benefits, such as
 - Rotational extended fallowing.
 - Orchard swale rewilding.
 - Floodplain reconnection / floodwater spreading.
- Funds incentive payments for growers to participate in the program. Incentives vary depending on the repurposing strategy.
- Contributes to **groundwater demand reduction**.
- Preliminary cost allocation:
 - Category 0: No cost allocation.
 - Category 1: Costs for MLRP Maintenance Fund and 20% of the MLRP Reserve Fund.
 - Category 2: Costs for MLRP implementation and 80% of the MLRP Reserve Fund.
 - Category 3: No cost allocation (Category 3 will be allocated additional costs related to rotational land fallowing due to increased cost of service caused by this volume of pumping).

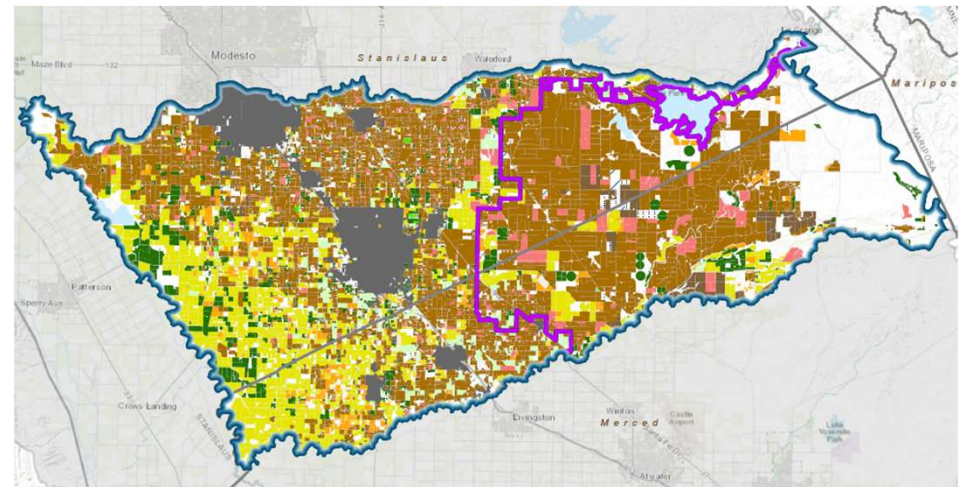
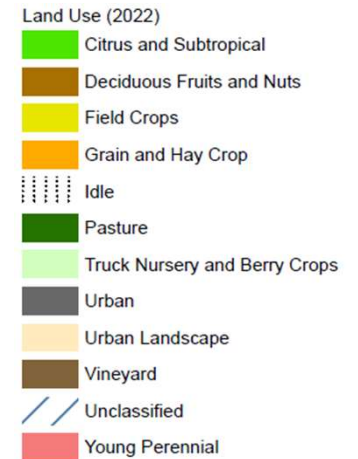
**INTRODUCTION TO THE
EAST TURLOCK SUBBASIN GROUNDWATER SUSTAINABILITY
AGENCY (ETSGSA)
MULTIBENEFIT LAND REPURPOSING PROGRAM (MLRP)**

ETSGSA Fee Workshop

November 19, 2024

MLRP PROJECT OVERVIEW

- ETSGSA is a Round 2 grantee of the Department of Conservation's (DOC) MLRP grant program
 - Turlock's grant award: **\$8.9 million**
- Tasks in grant Work Plan
 1. Multibenefit Agricultural Land Repurposing Plan (MALRP)
 2. Project Development and Permitting
 3. Project Implementation
 4. Partner Capacity
 5. Outreach, Education, and Training
 6. Monitoring
 7. Grant Management and Reporting
- Grant duration is through March 2027



TURLOCK MLRP PURPOSE, VISION, PRIORITIES, & VALUES

Purpose

Reduce groundwater demand, with concurrent benefits to:

- Recharge
- Habitat
- Disadvantaged Communities
- Local economy factors
- Other (Water quality, flood protection, soil health, etc.)

Long-Term Vision

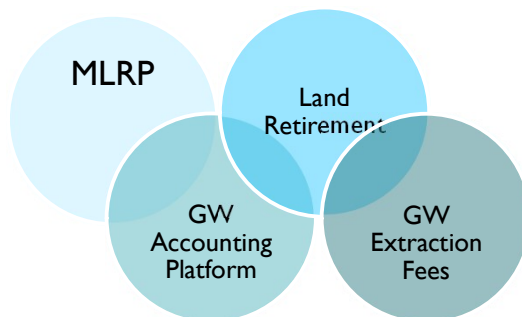
Reduce Turlock Subbasin's groundwater demand equivalent to **21,000 acres** of agricultural land by repurposing to new, high value uses integrated into working lands that provide additional benefits and have no/low irrigation requirements

Near-Term Goal

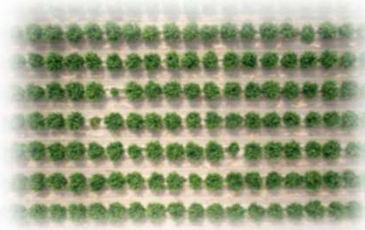
Repurpose groundwater demand equivalent to **5,000 acres** of agricultural land during MLRP grant term (through March 2027) to reduce groundwater demand and demonstrate proof-of-concept for repurposing strategies

Key Values of Turlock MLRP Approach

- Integrate repurposing strategies into working lands
- Repurpose less-productive land
- Low-tech and self-implementable
- Streamlined design and permitting approaches
- Use incentive payments to encourage participation
- Integration and alignment with other ETSGSA programs



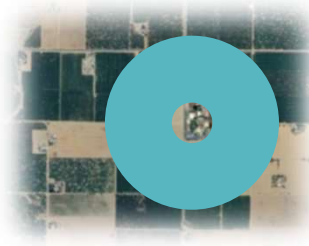
POSSIBLE MLRP PROJECT TYPES (“ALTERNATIVES”)



Extended Rotational Fallowing



Orchard Swale Rewilding



Agricultural Buffer Zones



Recharge / Retention Ponds

POTENTIAL BENEFITS Land Repurposing Alternative	Groundwater Demand Reduction	Groundwater Recharge	Improvements to Habitat	Flood Risk Reduction	Community Benefits	Soil Health Improvement	Economic Diversification	Climate Resilience	Clean Energy Generation
	Agricultural Buffer Zones	✓		✓	✓	✓		✓	
Orchard Swale Rewilding	✓		✓	✓	✓		✓		
Extended Rotational Fallowing	✓		✓		✓		✓		
Recharge and Retention Ponds	✓	✓	✓	✓			✓		
Floodplain Reconnection	✓	✓		✓			✓		
Floodflow Dispersal (Flood-MAR)	✓*	✓		✓			✓		
Solar and Agrivoltaics	✓			✓		✓	✓	✓	✓



Floodflow Dispersal (Flood-MAR)



Floodplain Reconnection



Cover Cropping

Key Message: Other types of projects may be possible / eligible...

MLRP PROCESS

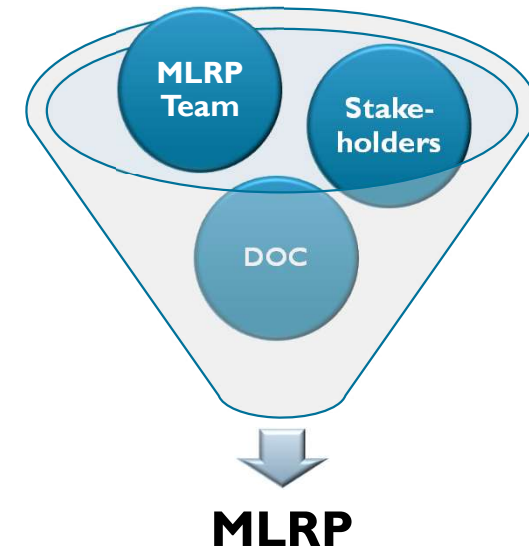
- Outreach / Planning
 - Priorities, Benefits, & Incentives

- Project Development, Solicitation, & Selection

- Project Implementation

	MLRP Team	Community	Landowner	DOC
1. Formulation and Communication of Priorities and Goals	Develops MLRP vision & priorities	Provides input on vision & priorities	Provides input on vision & priorities	
2. Education, Outreach, and Plan Development	Shares info on process/tools; writes Plan	Provides input to process	Provides input to process	
3. Solicitation of Project Proposals	Establishes & announces application			
4. Submission of Initial Project Applications			Prepares & submits initial application	
5. Screening and Eligibility Assessment	Conducts preliminary scoring			Conducts initial project review
6. Development of Detailed Project Proposals	Supports refinements		Refines project proposal	
7. Final Evaluation and Project Agreement Preparation	Quantifies benefits; contracts		Executes contracts	Approves projects for funding
8. Project Implementation			Permitting, construction, ongoing O&M	
9. Monitoring and Reporting	Reviews impl. monitoring data		Collects monitoring data	
10. Program-Level Tracking and Integration	Evaluates against key goals/metrics			
11. Payments and Grants Administration	Disperses funds to projects		Uses funds towards project	Disperses funds to block grantee
12. Continuous Communication and Adaptive Management	Considers program refinements	Provides ongoing feedback	Provides ongoing feedback	

Potential for “Pilot Projects” to inform the broader MLRP program and future project solicitation



OPEN CALL FOR DEMAND REDUCTION PROJECT CONCEPTS

<https://turlockgroundwater.org/multibenefit-land-repurposing>

- **We are very interested in hearing landowner/grower ideas for land repurposing (or other types of) demand reduction projects!**
- Open Call for Project Concepts (not an official application solicitation):
 - Your Contact Information
 - Description of your Project Concept, including the following:
 - Description
 - Location (with map and APN)
 - Acres affected
 - Current land use and irrigation
 - Implementation schedule and duration
 - Estimated demand reduction, if known
 - Needs for technical assistance

Submit by mail or email: etsgsa-support@formationenv.com
Deadline to submit to be considered for potential pilot project:
January 7, 2025



GROUNDWATER ACCOUNTING PLATFORM AND FEE CALCULATOR

- Presentation by ESA on the Groundwater Accounting Platform and Fee Calculator.

QUESTIONS / DISCUSSION

Proposed Proposition 218 Groundwater Use Fee
Landowner Workshop
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