

# Sustainable Agricultural Lands Conservation (SALC) Program

## Madera County GSAs

January 14<sup>th</sup>, 2021

10am – 12pm

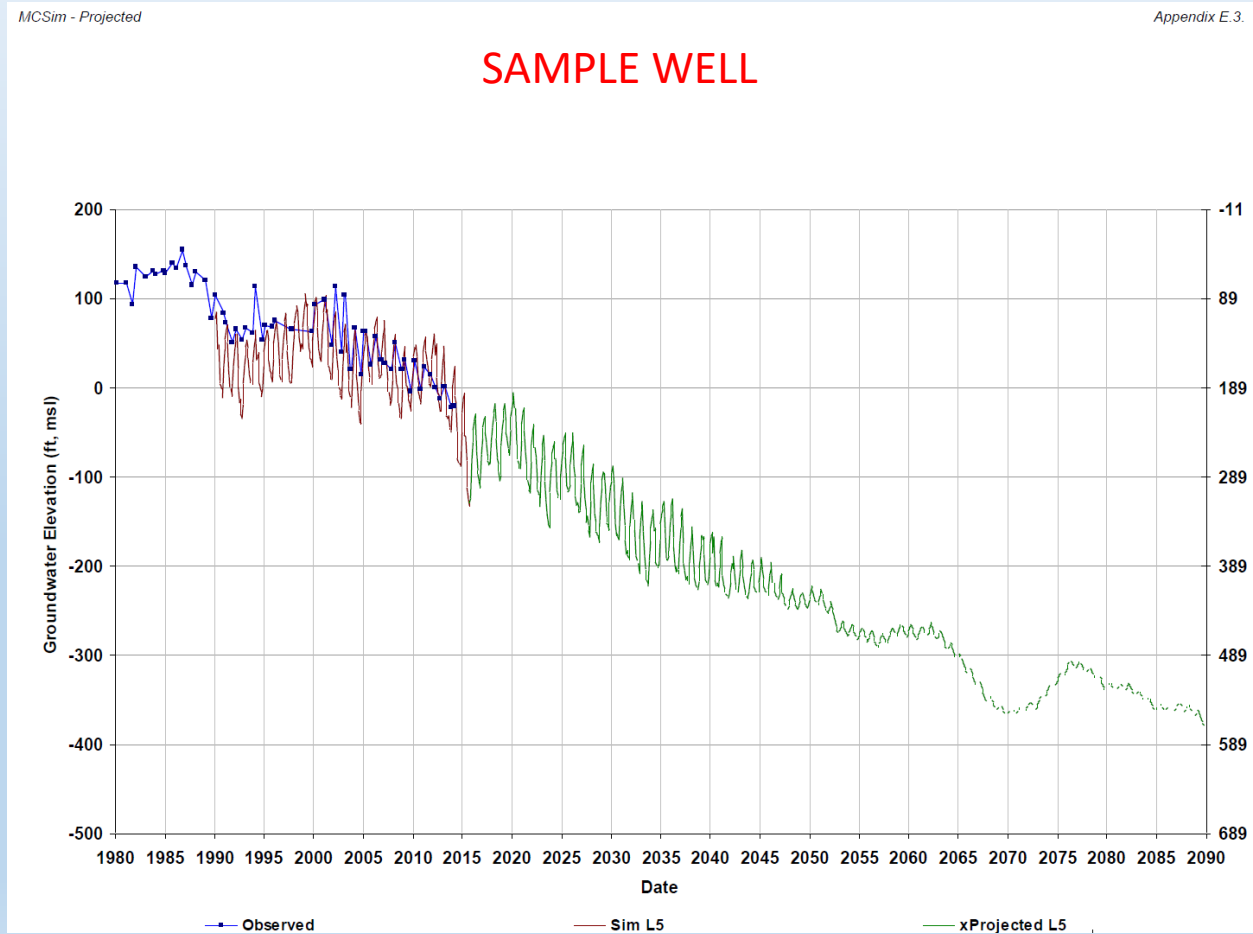
Virtual Meeting

# Agenda

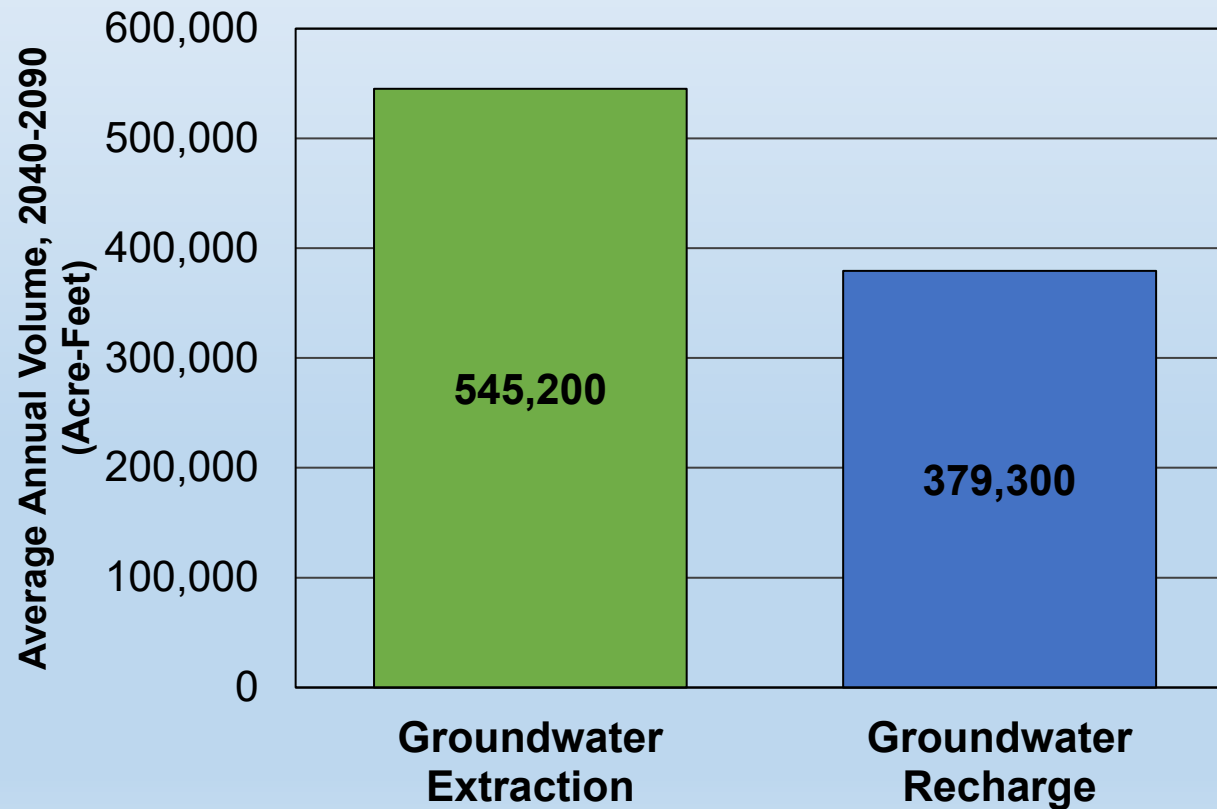
1. Welcome and introductions
  - Presentation will feature live discussion, please use the following survey link:  
<https://bit.ly/3bAD2vO>
2. SALC study overview
  - Objectives
  - Progress
3. Other land idling / demand management programs
  - Kern Subbasin and Klamath Basin examples
4. SALC program options and interactive discussion
5. Next steps

# Introduction and GSP Review

# Groundwater Conditions Without Projects

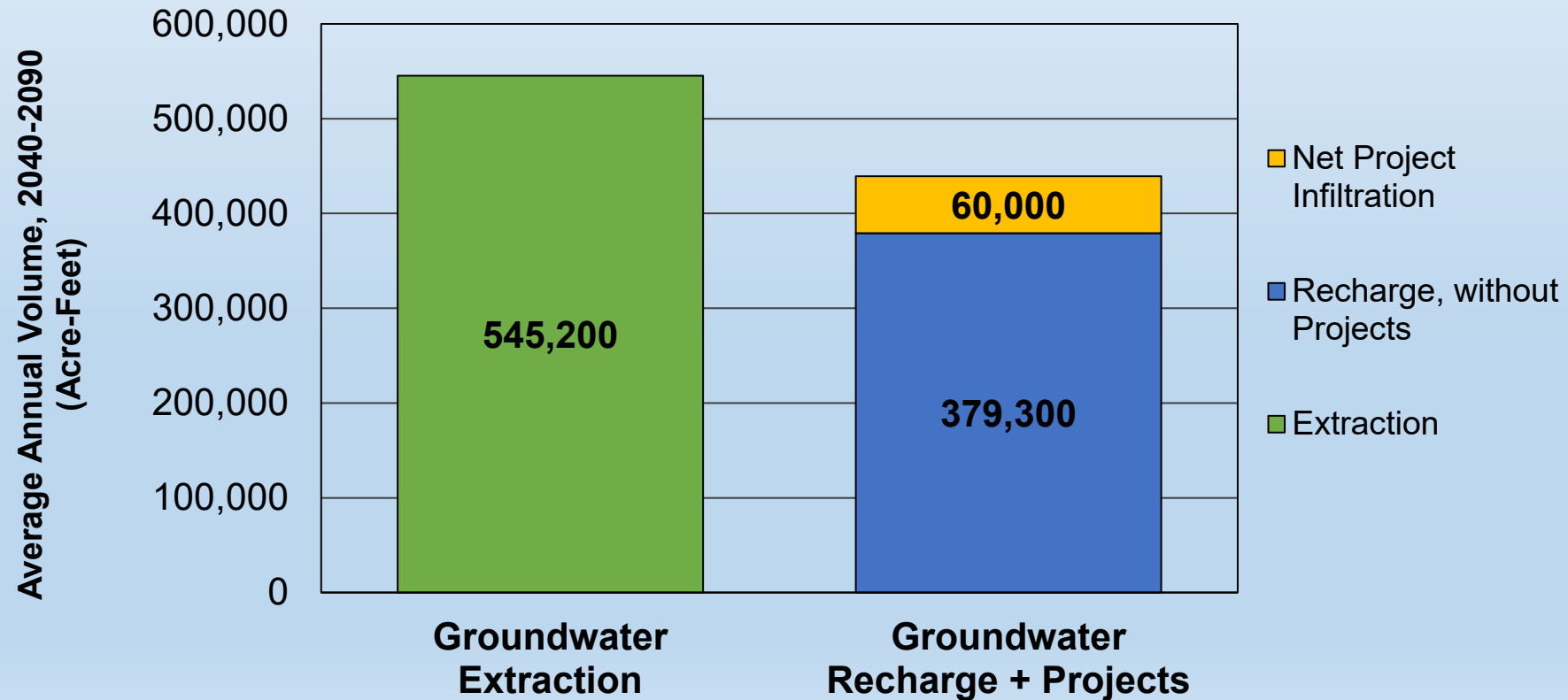


# Simplified Groundwater Budget Without Projects Madera Subbasin



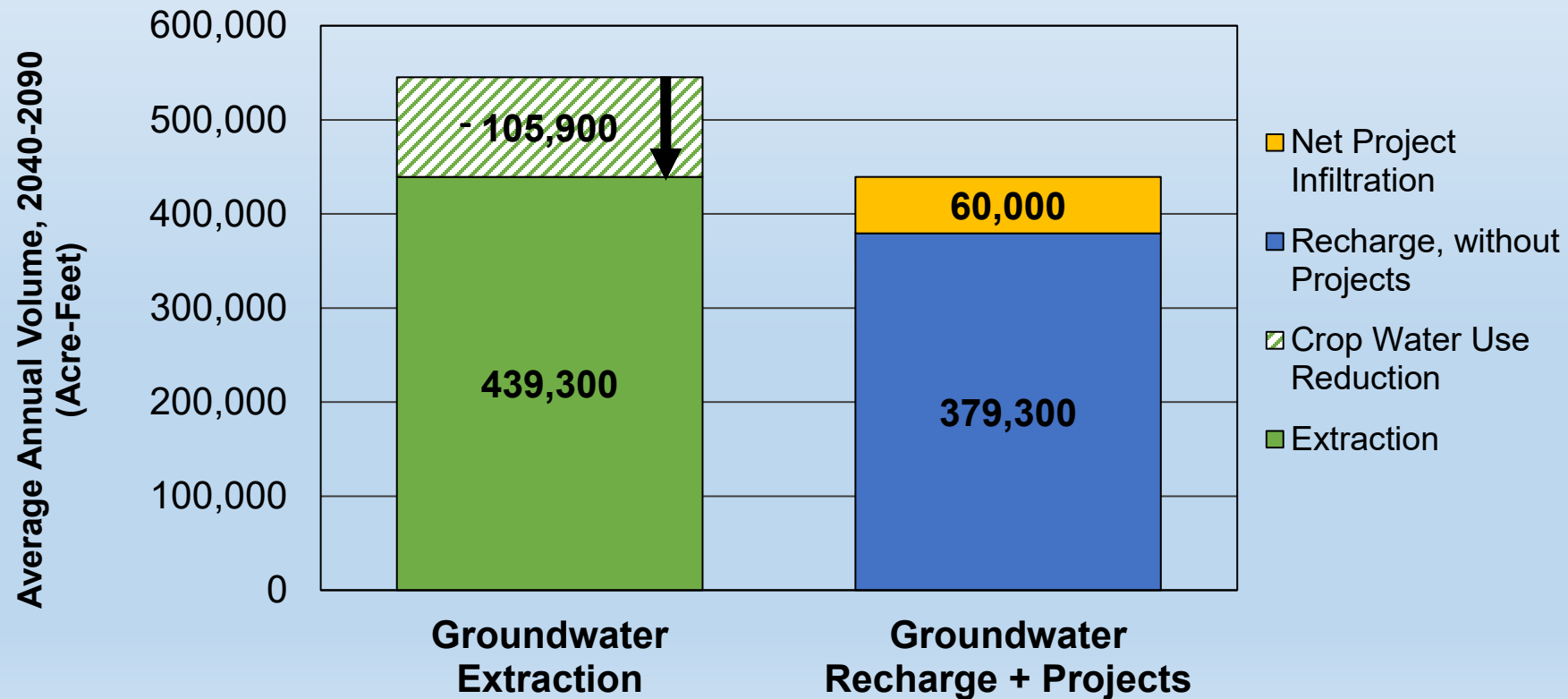
# Step 1: Develop Projects to Increase Recharge

- Madera County Recharge Program: Divert all available flood waters to increase recharge

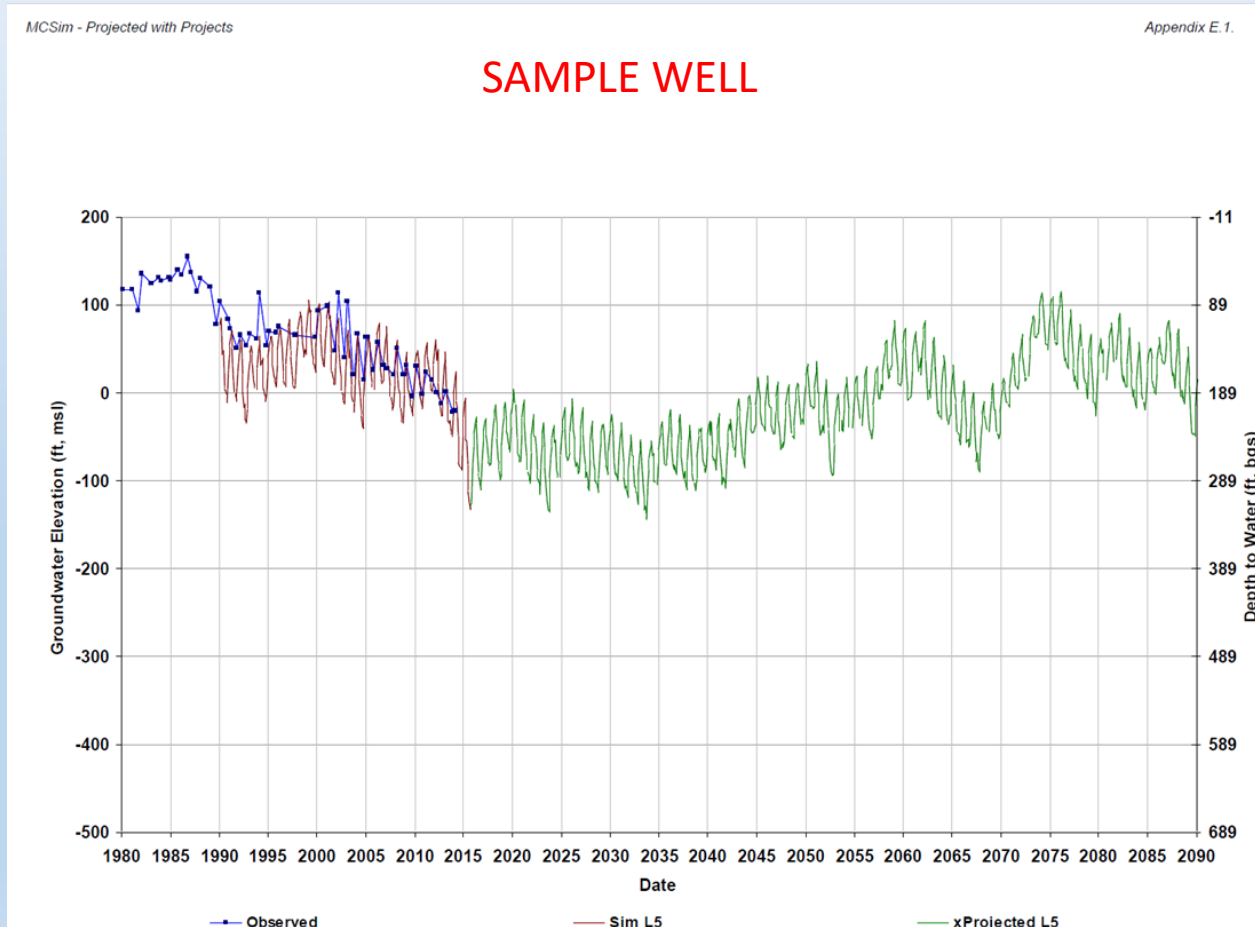


# Step 2: Demand Management

- Crop Water Use Reduction Program: Madera County GSA 90,000 AF. Remaining crop water use reduction due to permanent recharge basins replacing irrigated area



# Groundwater Conditions With Projects



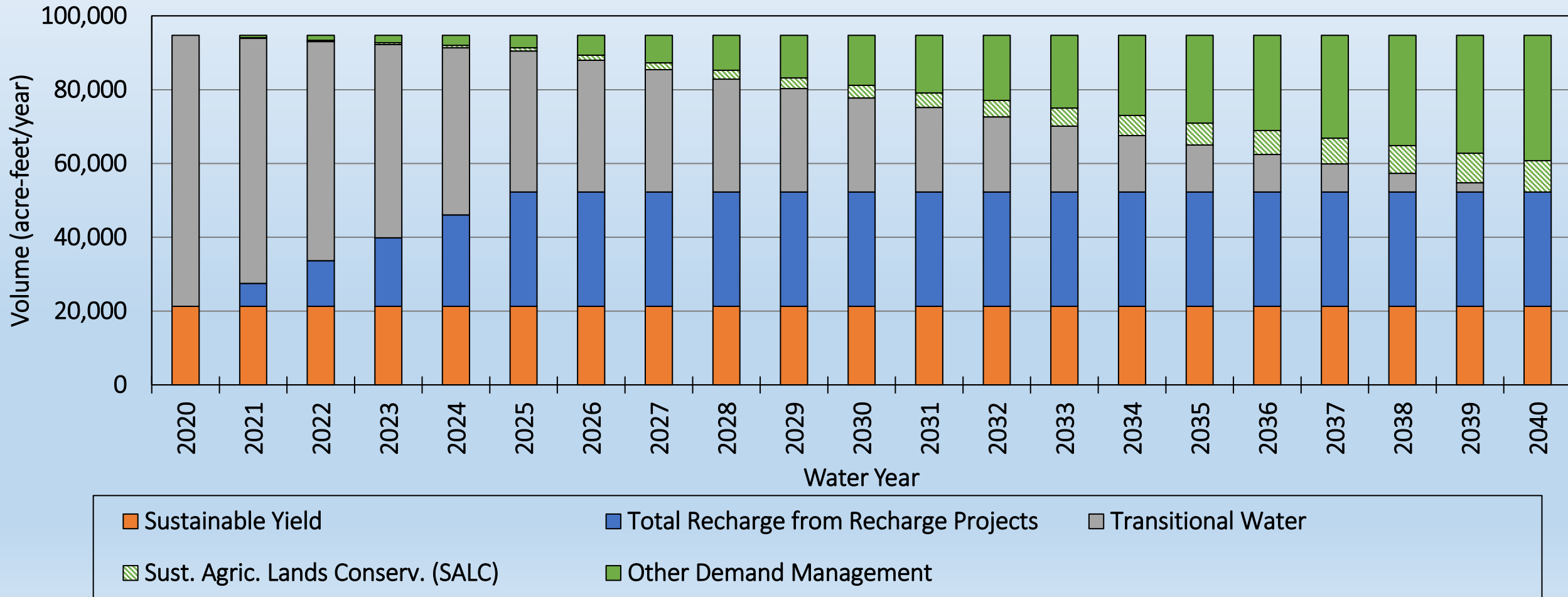


# GSP Requires Increased Recharge and Consumptive Use Reduction

- Increased recharge in the Madera County GSAs
  - Recharge (basins, flood-MAR, in-lieu)
  - Other supplies and transfers
- Consumptive use reduction (demand management) program
  - Allocation
  - Allocation + Water Market
  - Land Resting/Retirement and Easements
  - Fee structures



# Example GSP Implementation



# SALC Study Overview

# SALC Study Objective

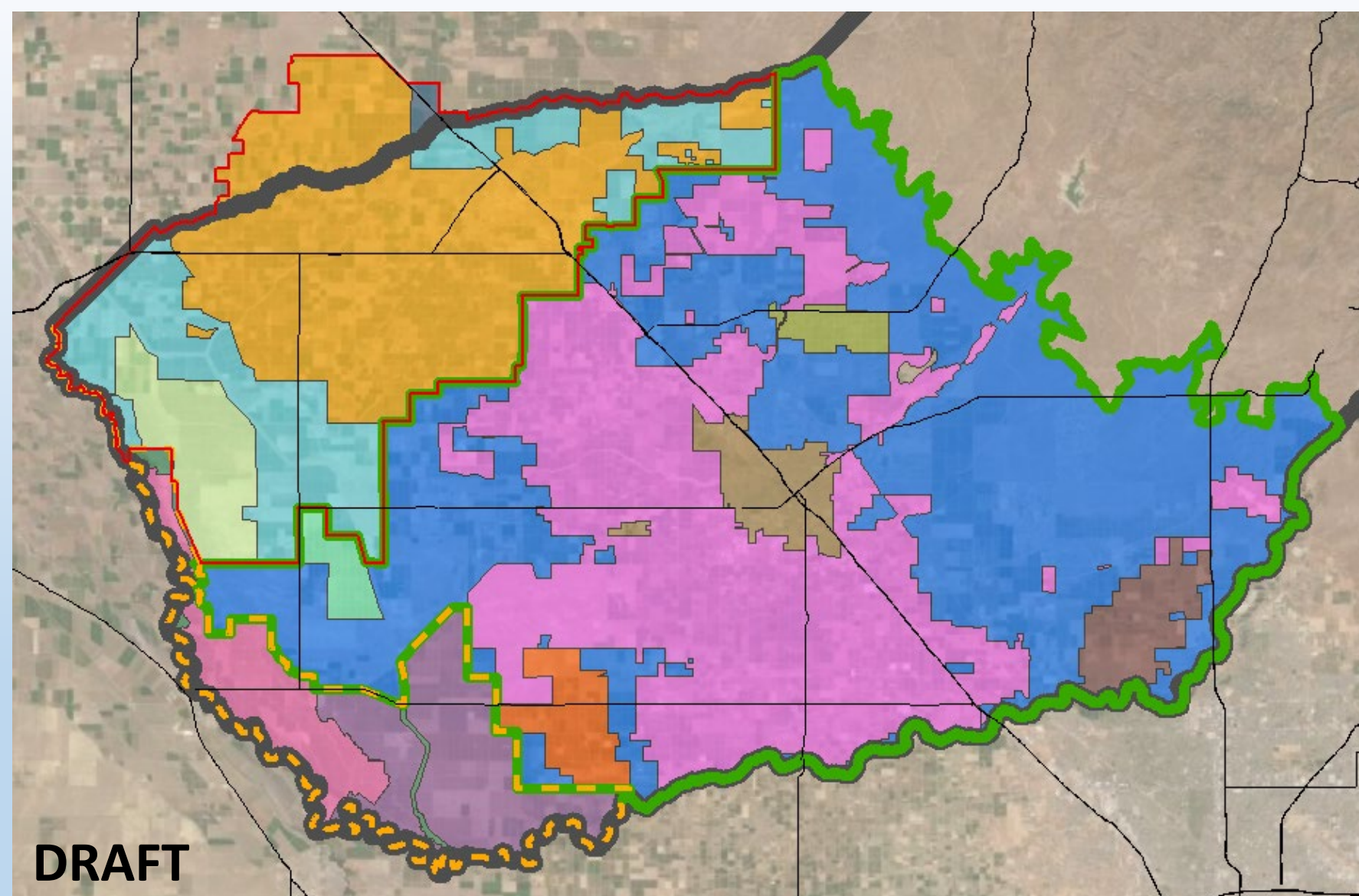
- Agricultural land conservation program study with the primary objectives of developing:
  - Criteria for identifying and prioritizing land for its potential to be temporarily rested, permanently retired, or retired and restored and
  - An incentive program structured for resting, retiring, restoring, or protecting land under alternative water-centric conservation easements/land retirement
- Program incentives should be consistent with other GSA demand management program efforts

# Project Timeline and Workplan

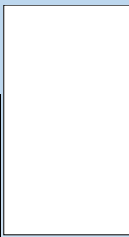
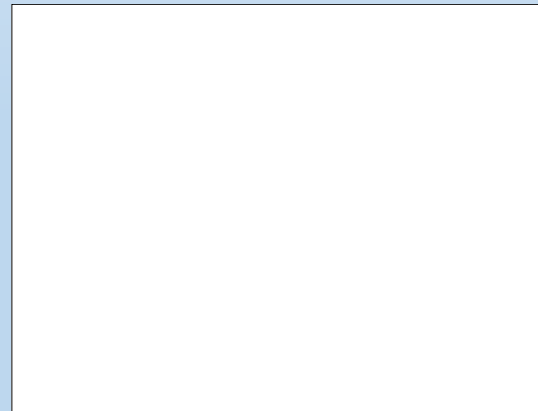
Tasks		2020						2021			
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
✓ Task 1.	Collaborative Outreach										
✓ Task 2.	Create a map of relevant layers for land prioritization										
→ Task 3.	Create criteria for land ranking and fee structure										
→ Task 4.	Collaborative Outreach										
Task 5.	Completion of Final Plan										

- ✓ • Collaborative Outreach—meetings with key Stakeholders, obtain input
- ✓ • Maps—land use categories
- • Criteria and fee structure
- • Collaborative Outreach--Meetings, present criteria and fee/incentive structure for feedback
- Final plan—Land use categories, criteria, fee/incentive structure

# Madera County GSAs and Subbasins



DRAFT





# Madera County Land Mapping Data

- GIS map layers assembled into a geospatial database
- Data can be queried to select different types of lands
  - Flexible for future program needs
- Database will be used to evaluate alternative SALC program structures

GIS Layer Category	Layer Count
Boundaries	8
Environmental	13
Land Use	7
Roads	3
Soils	4
Urban	10
Hydrology	17
<b>Total</b>	<b>62</b>

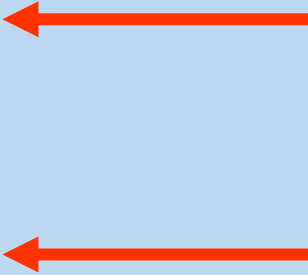
# Example Demand Management Programs



# Other Programs Reviewed

- Other programs were reviewed to identify key features and important differences

Area
Palo Verde Irrigation District
Imperial Irrigation District
Walker River Basin
Klamath Basin
Deschutes River
DWR Drought Transfer Program
Kern 7 <sup>th</sup> Standard Land Idling

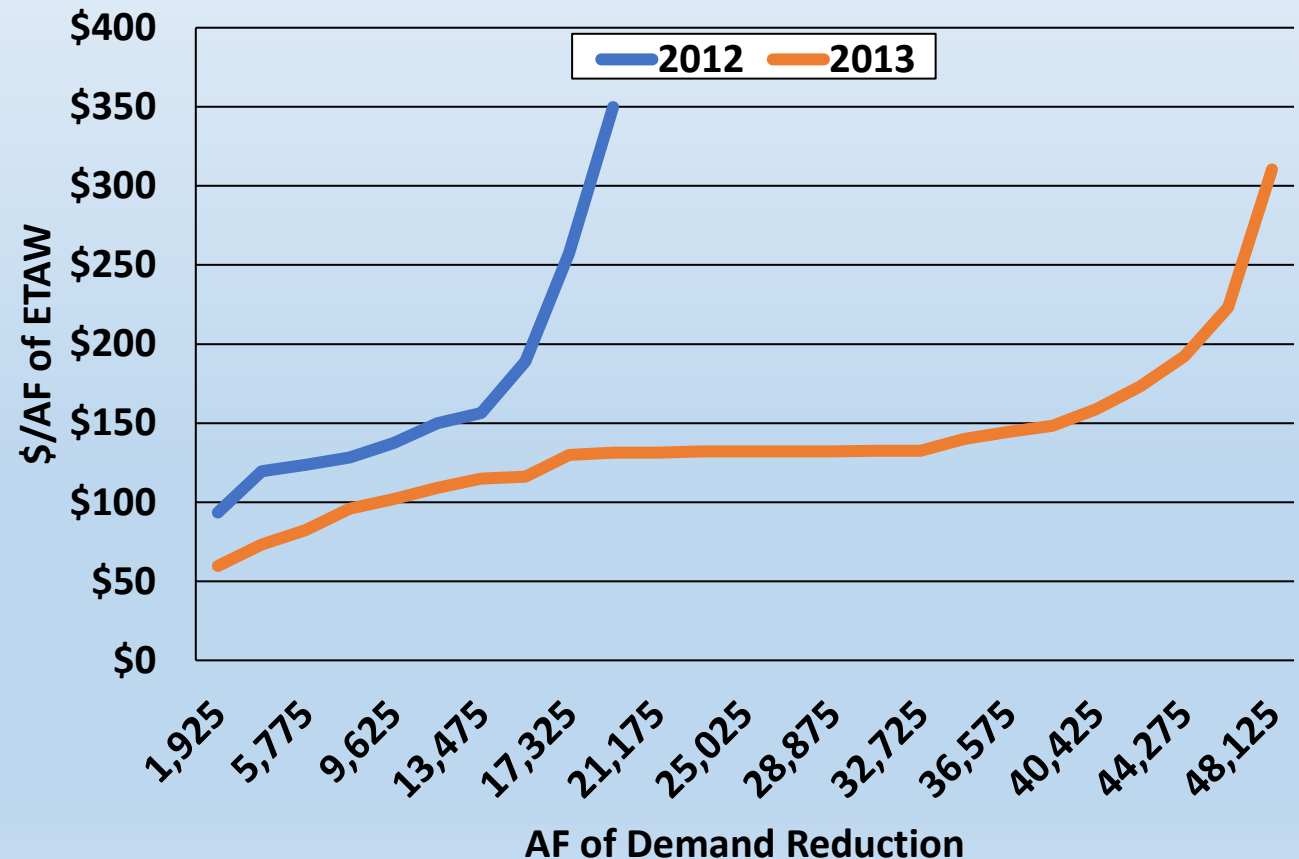


# Klamath Demand Management Programs

- **Program goal.** Central agency operates program to reduce demand based on expected annual shortage
  - Initial pilot programs offered fixed price (\$/ac) to voluntary participants
  - Klamath Water and Power Agency (KWAPA) administration from 2008 - 2016, accepting bids with no price ceiling
- **KWAPA Water User Mitigation Program operation.** Bids with voluntary participation
  - Landowners bid crop type, acres, and per acre payment
  - Crop factors are used to calculate the price per AF of ET
  - Agency accepts lowest priced bids until desired water quantity is met

# Klamath Basin Bids Example

- Program funding primarily through federal grants
- Programs
  - 2012 partial season (late irrigation July – September only)
  - 2013 full season program
- Important features
  - Annual crops (grains, hays, mint, potatoes, onions)
  - Generally lower return per unit water crop mix than Madera County GSA



# Kern 7<sup>th</sup> Standard Rotational Fallowing

- **Program goal.** Achieve targeted demand reduction in the SWID 7<sup>th</sup> Standard Annex Management Area (part of the KGA GSP)
  - Approximately 10,000 irrigated acres (3,900 acres are permanent crops)
  - Target of average 430 acres idled per year (estimated average 1,443 AFY of demand reduction), up to 2,690 AF by 2035
- **Voluntary Rotational Fallowing Program Operation.** Direct payments offered to landowners on an annual basis
  - SWID board administration and voluntary participation
  - Additional landowner costs include charges for other projects (\$150/ac in 2022)

# Kern 7<sup>th</sup> Standard Payment Summary

- Crop mix

- 35% almonds
- 25% alfalfa
- 30% corn/grains
- 11% other

- Reported Initial Program

- Initial offer of \$300/ac, no enrollment
- Second round of offer/bids at \$600/ac
- Total cost \$140,000 (approx. 230 irrigated acres enrolled)
  - Around 540 AF of ETAW demand reduction

	2021 Fallowing	2022 Projects Cost
2020 First Offer	\$300 per acre (\$130 per AF)	
2020 Second Offer	\$600 per acre (\$260 per AF)	
Additional Costs (Project)		\$150 per acre (\$65 per AF)

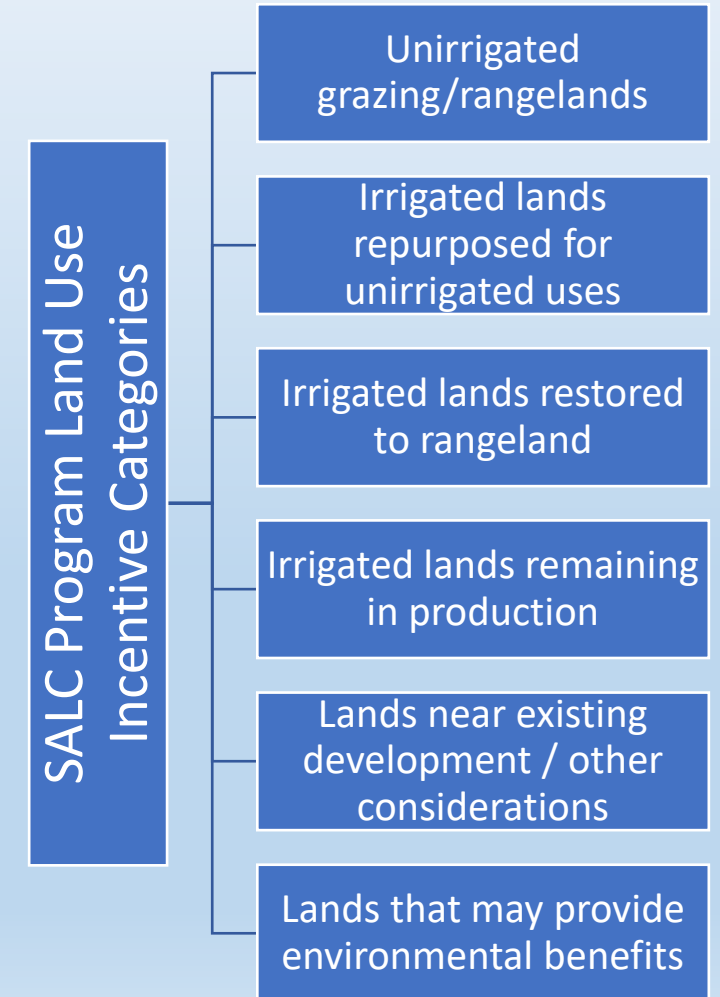
# SALC Program Options and Discussion

# Demand Management and SALC

- Potential demand management options
  - Allocation
  - Allocation + Water Market
  - Land Resting/Retirement and Easements
  - Fee structures
- Madera County GSA demand management targets:
  - Chowchilla Subbasin: 27,550 AF by 2040
  - Madera Subbasin: 90,000 AF by 2040
- The SALC program can be scaled up or down to help achieve any demand management targets

# SALC Program Options

- Madera County GSAs: Chowchilla, Madera, Delta Mendota
- The program would include:
  - Incentives to participating landowners, potentially including incentives for different land uses
  - Cost recovery from landowners within Madera County GSAs
- SALC program considerations:
  - Incentives for lands providing multiple benefits
  - Funding partners and sources
  - SALC easement terms (flexibility)





# What is the SALC Program Goal?

Incentivize demand management

- Goals set based on GSP objectives and other GSP projects
- Incentive structure to meet program goals and maximize program benefits

How much would the program cost?

- Potential funding opportunities for multi-benefits lands
- Other costs recovered through landowner charges

What incentives would participants need?

- Value of water to potential voluntary participants

# Defining SALC Program Incentives

- The SALC program would be voluntary
- Landowner incentives to repurpose land would need to be comparable to the expected return to farming
- Incentives depend on the value of water:
  - Crop market conditions (prices)
  - Available water supply
  - Other regulatory program costs
  - GSP charges for projects and other programs
  - Crops produced
  - Capital investments and operating costs
- What incentives do you think would result in participation in the program, and what are other important factors that might affect incentives?
  - <https://bit.ly/3bAD2vO>

# Covering SALC Program Costs

- Partners/funding for land repurposing that provides multiple benefits
- Recover remaining SALC program costs through landowner charges
- Options for recovering costs
  - All lands: include irrigated and non-irrigated lands
  - Irrigated lands: include all irrigated lands
  - Irrigated lands excluding enrolled lands: include all irrigated lands, but lands that enroll in SALC or another demand management program are no longer charged

# SALC Program Cost: Example 1

- SALC program is used to achieve 20 percent of total GSP demand management
  - Madera: 18,000 AFY
  - Chowchilla: 5,500 AFY
  - Delta Mendota: 200 AFY
- All irrigated acres not enrolled in SALC are charged
- No additional funding for potential multi-benefit lands

Madera County GSA	Annual cost per irrigated acre (\$/ac)	Total annual cost (\$M)
Madera	\$57	\$3.88
Chowchilla	\$31	\$1.02
Delta Mendota	\$50	\$0.045

EXAMPLE

Note: Includes incentives only, does not include SALC program admin costs

# SALC Program Cost: Example 2

- SALC program is used to achieve 20 percent of total demand management
  - Madera: 18,000 AFY
  - Chowchilla: 5,500 AFY
  - Delta Mendota: 200 AFY
- All irrigated acres not enrolled in SALC are charged
- 10 percent of SALC enrolled lands provide benefits that are covered through other funding partners

Madera County GSA	Annual cost per irrigated acre (\$/ac)	Total annual cost (\$M)
Madera	\$51	\$3.88
Chowchilla	\$28	\$1.02
Delta Mendota	\$45	\$0.045

EXAMPLE

Note: Includes incentives only, does not include SALC program admin costs

# SALC Program Cost: Example 3

- SALC program is used to achieve all demand management
  - Madera: 90,000 AFY
  - Chowchilla: 27,550 AFY
  - Delta Mendota: 2,000 AFY
- All irrigated acres not enrolled in SALC are charged
- No additional funding for potential multi-benefit lands

Madera County GSA	Annual cost per irrigated acre (\$/ac)	Total annual cost (\$M)
Madera	\$748	\$31.01
Chowchilla	\$259	\$6.32
Delta Mendota	\$550	\$0.338

EXAMPLE

Note: Includes incentives only, does not include SALC program admin costs

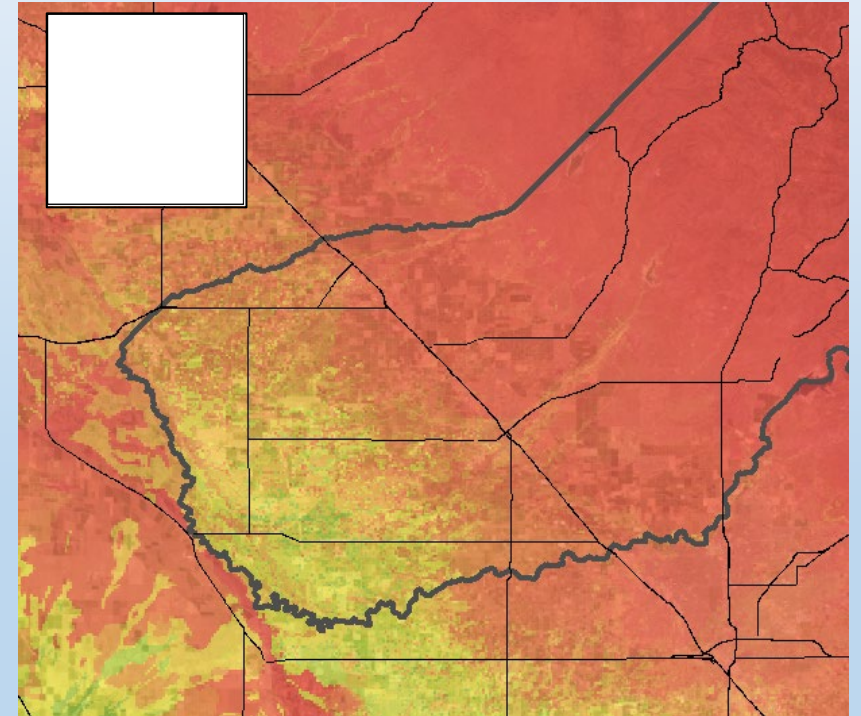
# SALC Program Options: Length of Easements

- Easements can be annual or multi-year
- What length of easements would you be interested in? What are some other pros and cons with different types of easements?
  - <https://bit.ly/3bAD2vO>

Short Term Annual	Medium Term (5-10 years)	Permanent
<ul style="list-style-type: none"> <li>• Maximum flexibility</li> <li>• Prices may fluctuate from year-to-year</li> <li>• Difficult for GSP demand management planning</li> <li>• Difficult for multi-benefit lands</li> </ul>	<ul style="list-style-type: none"> <li>• Offers some flexibility to move lands in/out of the program</li> <li>• May be more consistent with permanent plantings</li> <li>• Potential for multi-benefit lands</li> </ul>	<ul style="list-style-type: none"> <li>• Limited flexibility for landowners</li> <li>• SALC incentive payment costs may be lower</li> <li>• Ideal for multi-benefit lands</li> </ul>

# SALC Program Options: Multi-Benefit Lands

- Multi-benefit opportunities may include lands that provide:
  - Desirable environmental benefits
  - Habitat or habitat corridors
  - Other benefits that help the subbasin achieve sustainability goals
    - Domestic wells, subsidence, disadvantaged communities



Example TNC Habitat Suitability Map



# SALC Program Options: Partners and Funding

- Funding considerations
  - Landowner payments for public benefits
  - Potential opportunities for state, federal, local, and NGO partners
- Partner funding would offset some program costs
- Example programs evaluating land repurposing for environmental uses
  - EDF Land Use Planning and Incentives Workshops
  - TNC Strategic Land Retirement and Restoration Program
  - Other State agency and NGO initiatives

# SALC Program Options: Other Considerations

- Potential for 3<sup>rd</sup> party impacts due to program participation
  - Positive: Opportunities for multiple benefit land repurposing
  - Negative: Issues associated with idle farmland
- Consistency with other GSP programs
  - Recharge projects
  - Water market
- Incentives for currently unirrigated lands
  - Consistent with irrigated lands
- What do you think is the potential for multi-benefit lands in the SALC program? What other partners, funding sources, or program considerations do you think are important?
  - <https://bit.ly/3bAD2vO>

# Discussion

# Discussion Topics

- Please submit written comments in the live survey link
  - <https://bit.ly/3bAD2vO>
- Recap of questions and topics covered in this meeting:
  1. What is your role in Madera County?
  2. Which Subbasin are you affiliated with?
  3. What incentives do you think would result in participation in the program, and what are other important factors that might affect incentives?
  4. What length of easements would you be interested in? What are some other pros and cons with different types of easements?
  5. What do you think is the potential for multi-benefit lands in the SALC program? What other partners, funding sources, or program considerations do you think are important?
  6. Please provide any other general thoughts and feedback about the SALC program in general or the SALC program study. Thank you.

# Wrap Up and Next Steps

# Next Steps

- Receive and incorporate feedback
- Develop SALC program options and potential incentive structures
  - Currently irrigated lands
  - Unirrigated lands
  - Other multi-benefit funding opportunities
- Prepare draft SALC program outline
  - This study will identify options, adoption and program specifics would be determined by the GSAs
- Next presentation in Spring 2021