

STATUS: GROUNDWATER PUMPING REDUCTION FRAMEWORK AND PILOT PROGRAM

EAST TURLOCK SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY TECHNICAL ADVISORY COMMITTEE

MAY 31, 2023



2024 - 2042
Pumping
Management
Program



2024 - 2042
Groundwater
Extraction
Monitoring



2023 - 2042
Project
Implementation



Ongoing
Groundwater
Monitoring and
Data Evaluation



2027, 2032, 2037
Evaluate Trajectory;
Further Decrease
Pumping if Needed



Ongoing
Stakeholder
Engagement



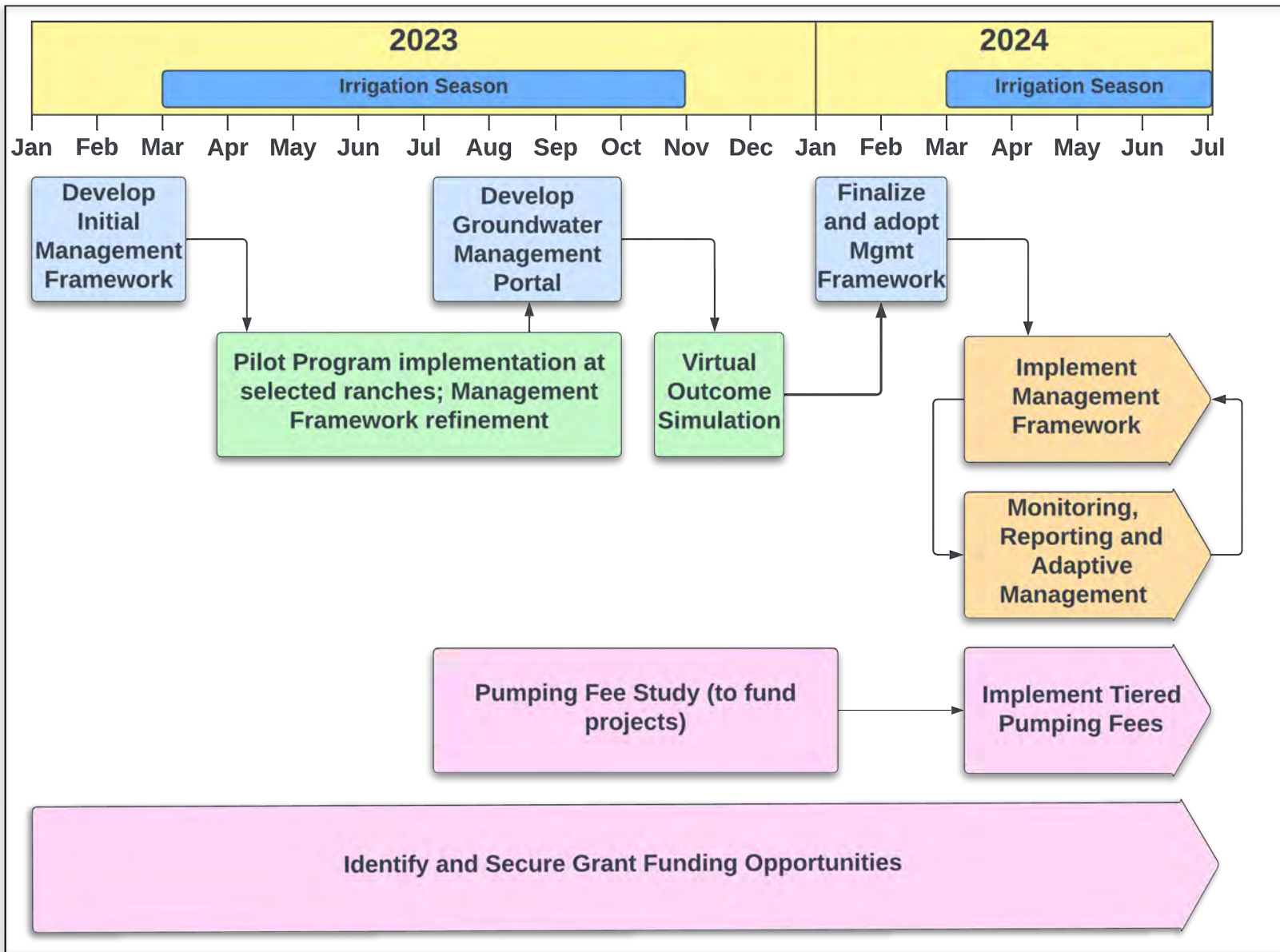
2042
Sustainable Groundwater
Management

PATHWAY TO SUSTAINABLE GROUNDWATER MANAGEMENT



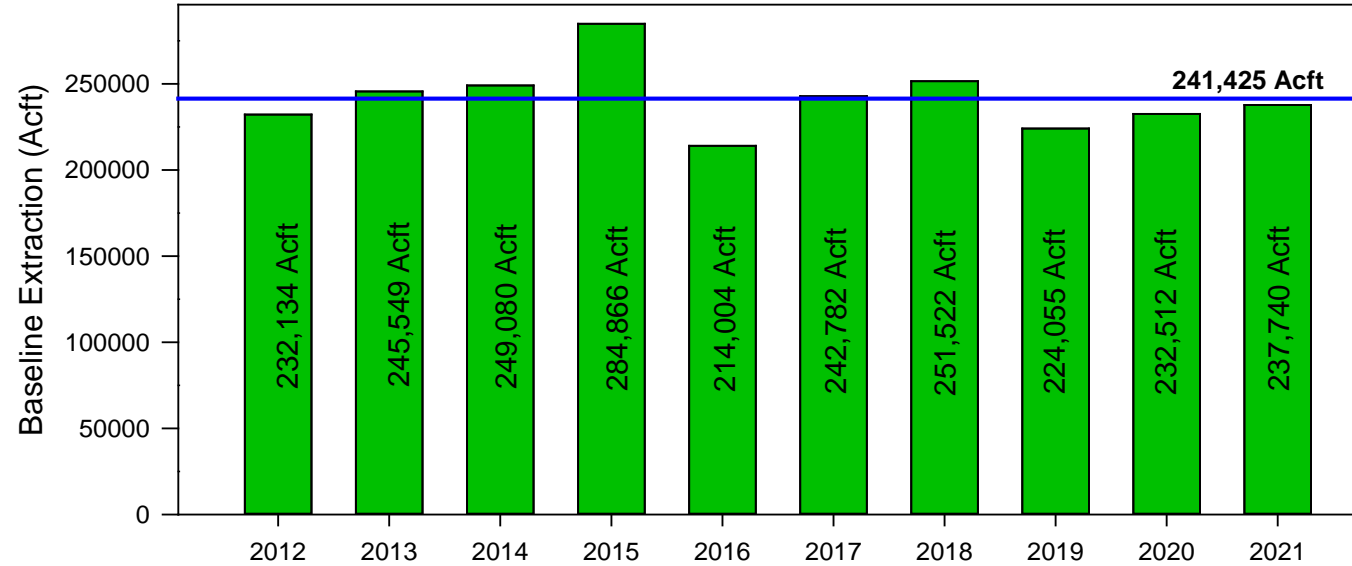
PUMPING MANAGEMENT APPROACH

- Sustainable Yield can't be precisely quantified yet. Preliminary estimate is ~ 25% reduction in net groundwater demand basin-wide is needed beyond currently planned projects
- Met through combination of Projects and Management Actions
- Goal is to achieve sustainable pumping over 20 years
- **Strategy:**
 1. **Identify opportunities and implement recharge projects to the extent water is available and they are physically and economically feasible**
 2. **Begin Management Actions early**
 3. **Monitor results and adjust approach to achieve Interim Milestones**

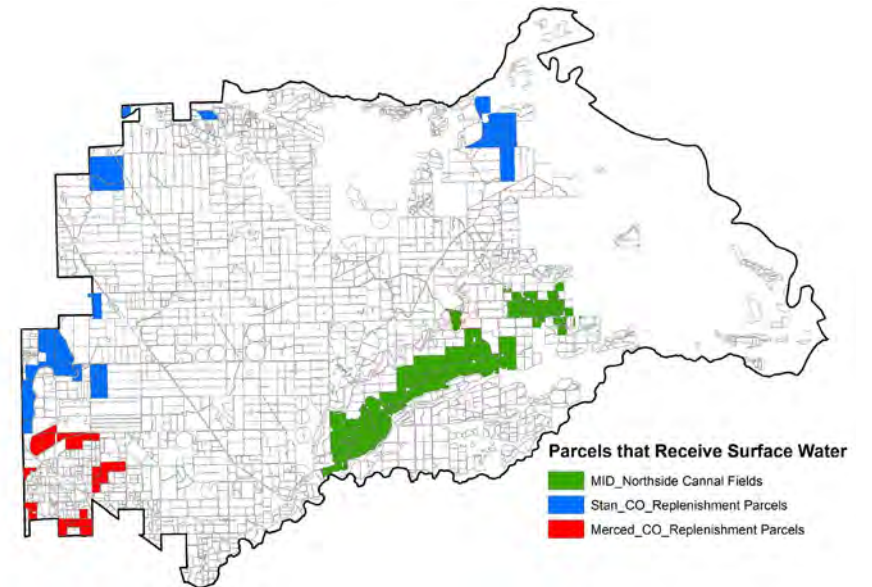
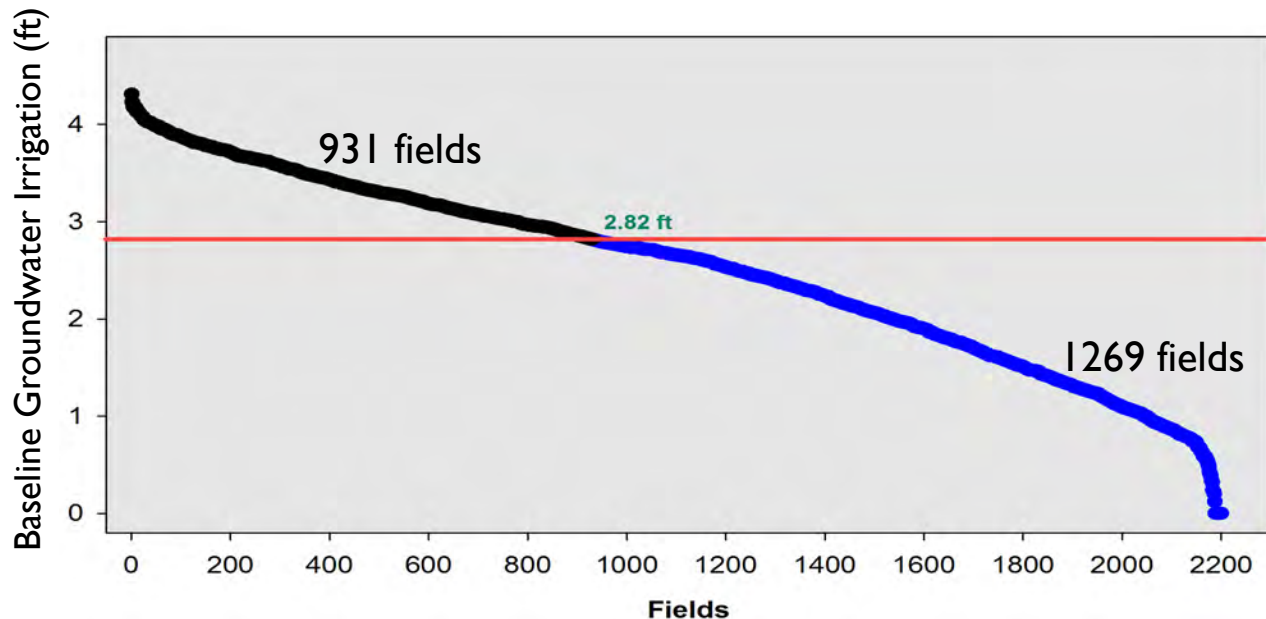


PUMPING MANAGEMENT IMPLEMENTATION TIMELINE

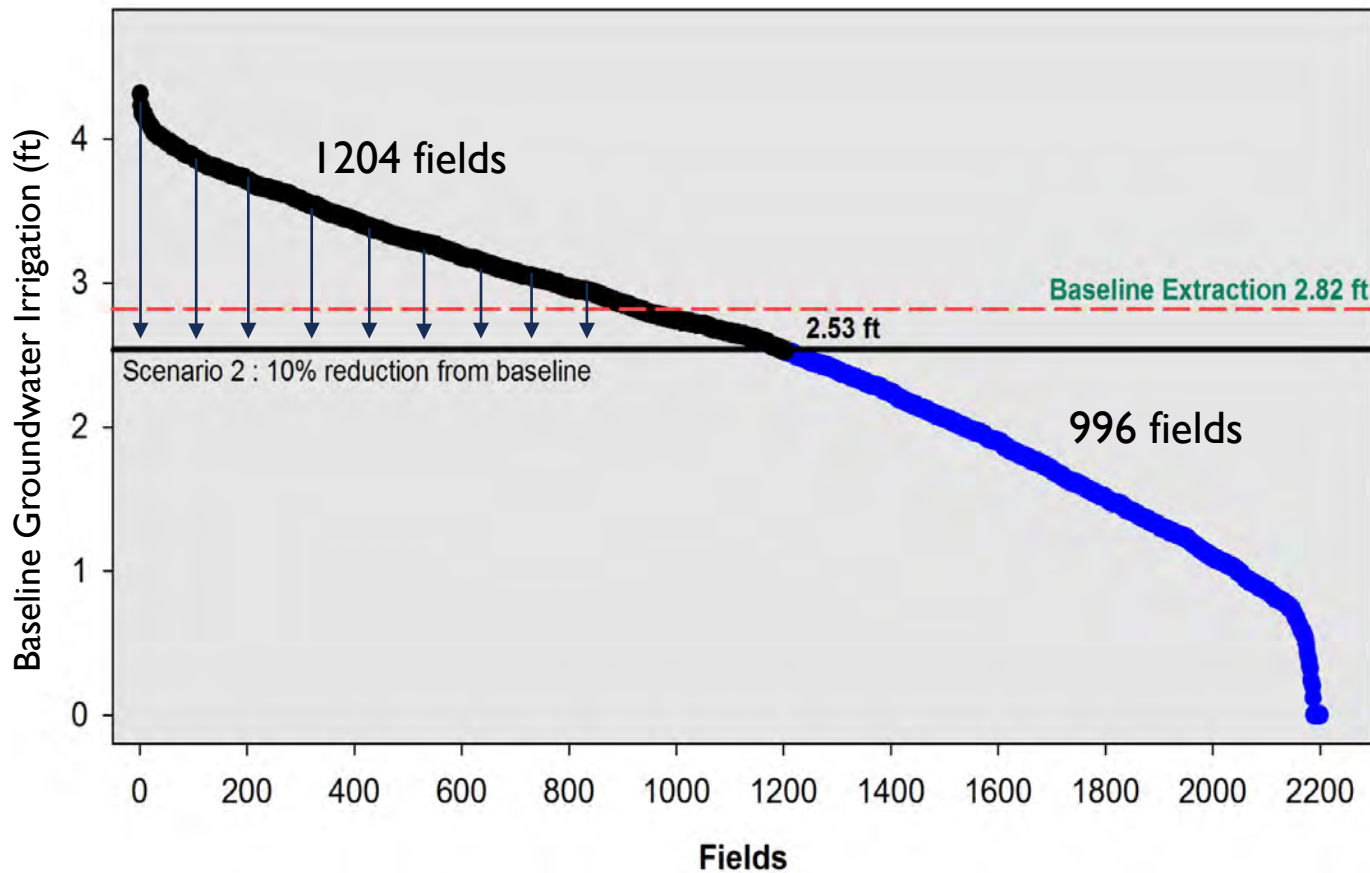
Baseline Extraction in Irrigated Lands, March - October



Baseline Groundwater Extraction
 = 241,425 AF/year
 Equivalent Irrigation Water Application
 = 2.82 ft/year (33.8 in/year)
 Approximate Surface Water Deliveries
 = 12,000 AF/year

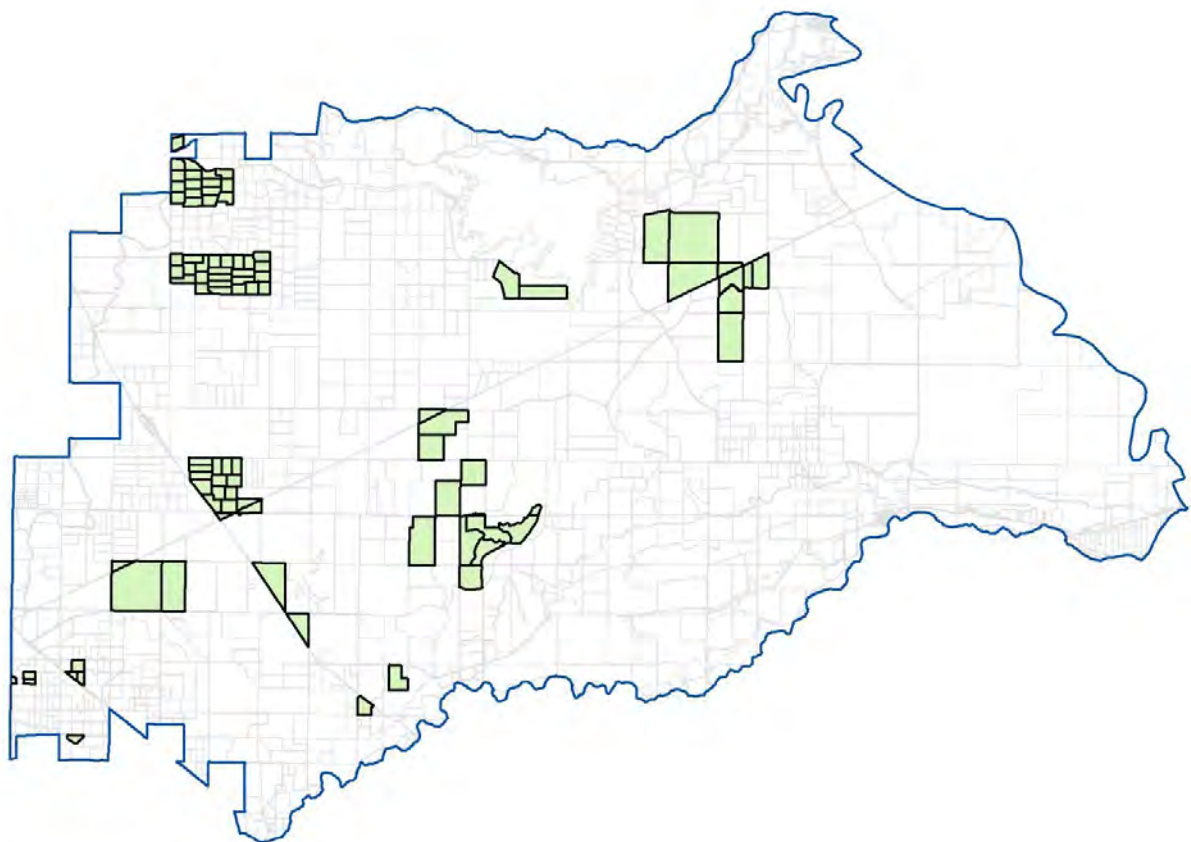


Pumping Reduction Target for Groundwater Irrigated Lands – 10%



Baseline Irrigation Water Application
= 2.82 ft/year (33.8 in/year)
Target Irrigation Reduction
= 2.53 ft/year (30.4 in/year)
Average Irrigation Reduction
Achieved (Without Credits)
= 2.27 ft/year (27.3 in/year)
Percent Reduction Achieved
= 19 %

ETSGSA Pilot Pumping Management Program Participants



Legend


- Parcels Enrolled In Pilot Study
- ETSGSA Boundary
- All Parcels in ETSGSA

- Goal:- Trial implementation of Groundwater Management Portal at selected Parcels
- Soliciting Participation And Finalizing the Participants Completed

	Participants	Number of Parcels	Crops
1	Darrell & Trevor Cordova	16	Almonds, Walnuts, Pistachio
2	Denis Yotsuya	2	Almonds, Walnuts
3	Gloria Erickson	2	Grazing land
4	Hampton Ranch	1	Walnuts
5	Jessie Espinoza	1	Almonds
6	Justine Pitts	2	Almonds
7	Mark Cederlind	1	Almonds
8	Minda Miyamoto	3	Almonds
9	Monica Burroughs	8	Almonds, Corn, Oats
10	Rodney Voumard	1	Almonds
11	Scott Severson	2	Walnuts
12	Todd Turley	3	Almonds
13	Wes Sperry	5	Almonds
14	Diego Ranch	9	Almonds
15	Grizzly Ranch	40	Almonds
	Total	96	

ETSGSA Pilot Pumping Management Program Portal

Groundwater Management Portal framework is ready. Data compilation and populating the portal with ET data is ongoing with a target release date for July 2023.

App by 

East Turlock GSA
Grower Decision Support Tool
Beta v0.01 (Framework Demo)

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Password

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ETSGSA Pilot Study Program Portal

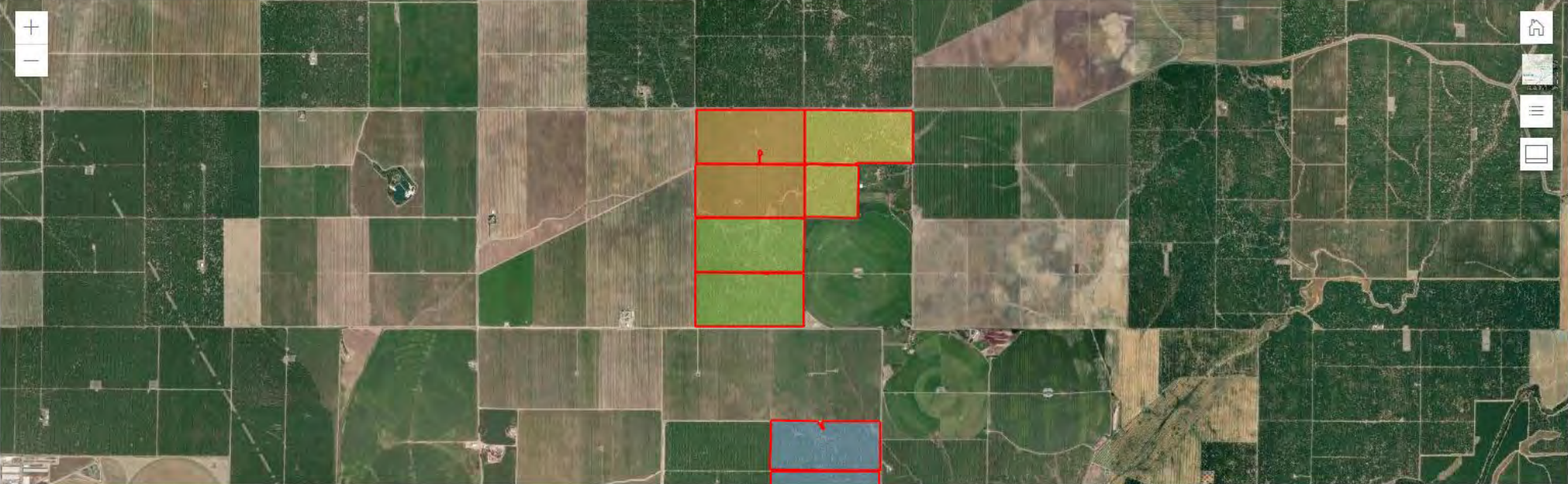
Grower Decision Portal Overview

ETSGSA Grower Decision Support Tool jsmith Sign Out

Target

- Ranch
- Field/Block
- ET Pixel

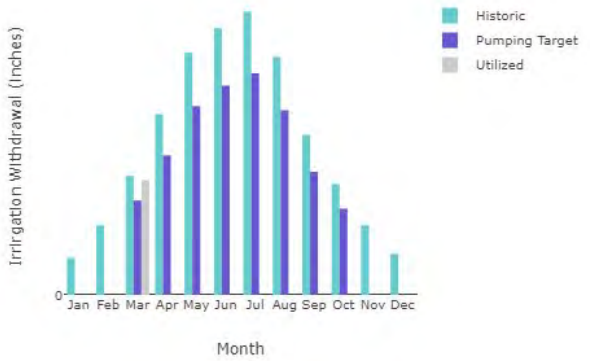
Filter Ranch



Click on a Ranch to view summary data.

Ranch Info	
Ranch Number	1 (2 fields)
APN	042-020-043
Acres	150.6
Crop	Almonds
Irrigation Method	Drip
Historic Irr. Season (Mar-Oct)	39.1 (inches)
Pumping Target (Annual)	30.4 (inches)
Actual Used To-Date	2.8 (inches)

Utilization				
Month	Historic	Target	Utilized	
Jan	0.9	-	-	
Feb	1.7	-	-	
Mar	2.9	2.3	2.8	
Apr	4.4	3.4	-	
May	5.9	4.6	-	
Jun	6.5	5.1	-	
Jul	6.9	5.4	-	
Aug	5.8	4.5	-	
Sep	3.9	3.0	-	
Oct	2.7	2.1	-	
Nov	1.7	-	-	
Dec	1.0	-	-	



Irrigation Withdrawal (Inches)

Month

- Historic
- Pumping Target
- Utilized

ETSGSA Pilot Pumping Management Program Portal

- Data Presentation (ET units)
 - Historical total and monthly consumptive groundwater use
 - Allocated total and monthly consumptive groundwater use
 - Actual monthly consumptive groundwater use
 - Interactive data by Assessors Parcel, field and pixel
- Data Analysis
 - Cumulative total consumptive groundwater use, credit or deficit to date
 - Projected total consumptive groundwater use, credit or deficit at end of season
- Pumping Management Tools (to be added)
 - Pooled analysis for multiple parcels
 - Identification of potential private credit transactions
 - Registration of pooling or private credit transactions

ETSGSA Pilot Pumping Management Program Next Steps

- June Pilot Pumping Management Program Workshop
 - Background and Recap
 - Integration of Pumping Management Program with Fee/Assessment Program
 - Interactive Review of Portal Data and Analysis
 - Discussion Regarding Management Tools
- July to September
 - Participant Data Access via Internet Portal
 - Review, Discussion and Consultation with Participants
- October Pumping Management Program Workshop
 - Background and Recap
 - Integration of Pumping Management Program with Fee/Assessment Program
 - Interactive Review of Portal Data, Analysis and Management Outcomes
 - Discussion Regarding Portal Improvements
 - Review ET vs. Meter Data