



Agricultural Water Use Baseline Study

**Presented by: Ashley Shannon, Water Supply Planning and Conservation Unit
Joshua Viers and Josue Medellin-Azuara, UC-Merced**

Water Conservation and Demand Management Committee, November 28, 2022

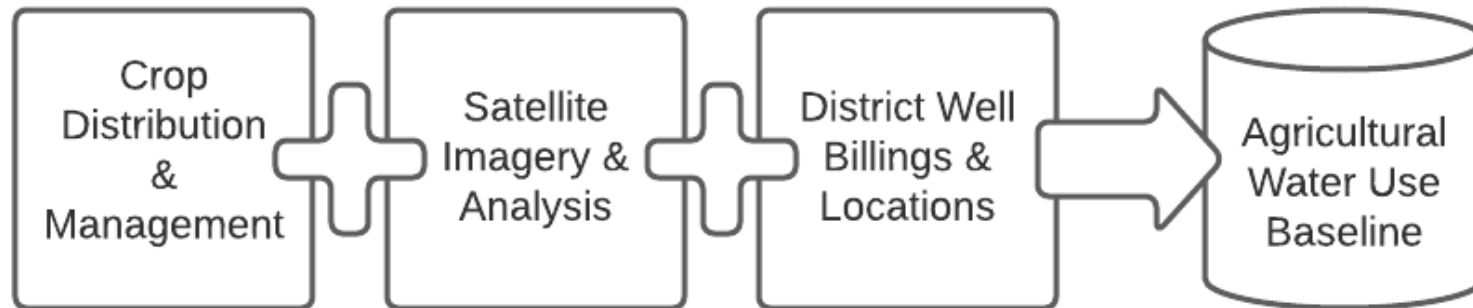
Photo courtesy of the Santa Clara Valley Open Space Authority



GOALS

Support agricultural community by:

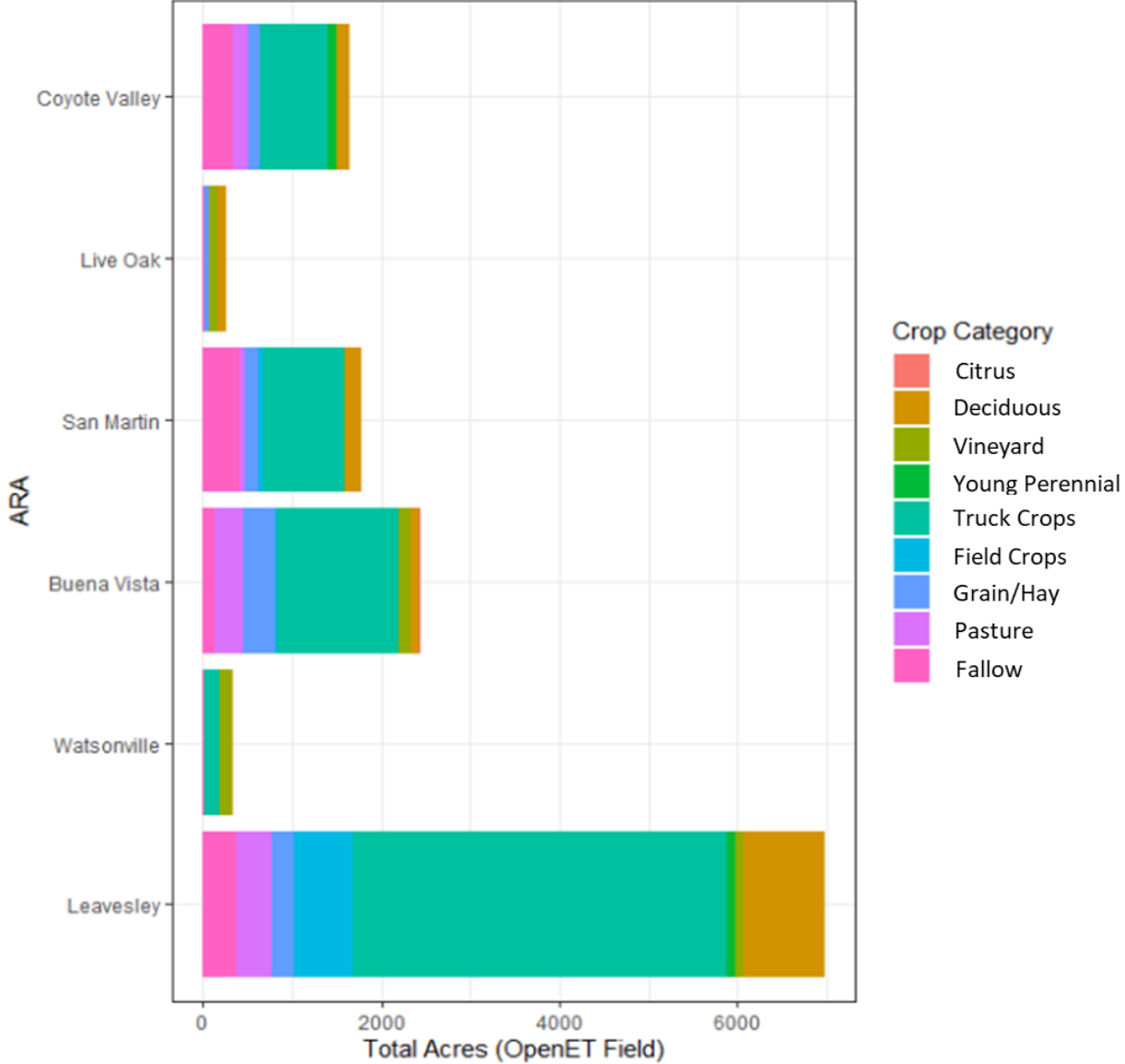
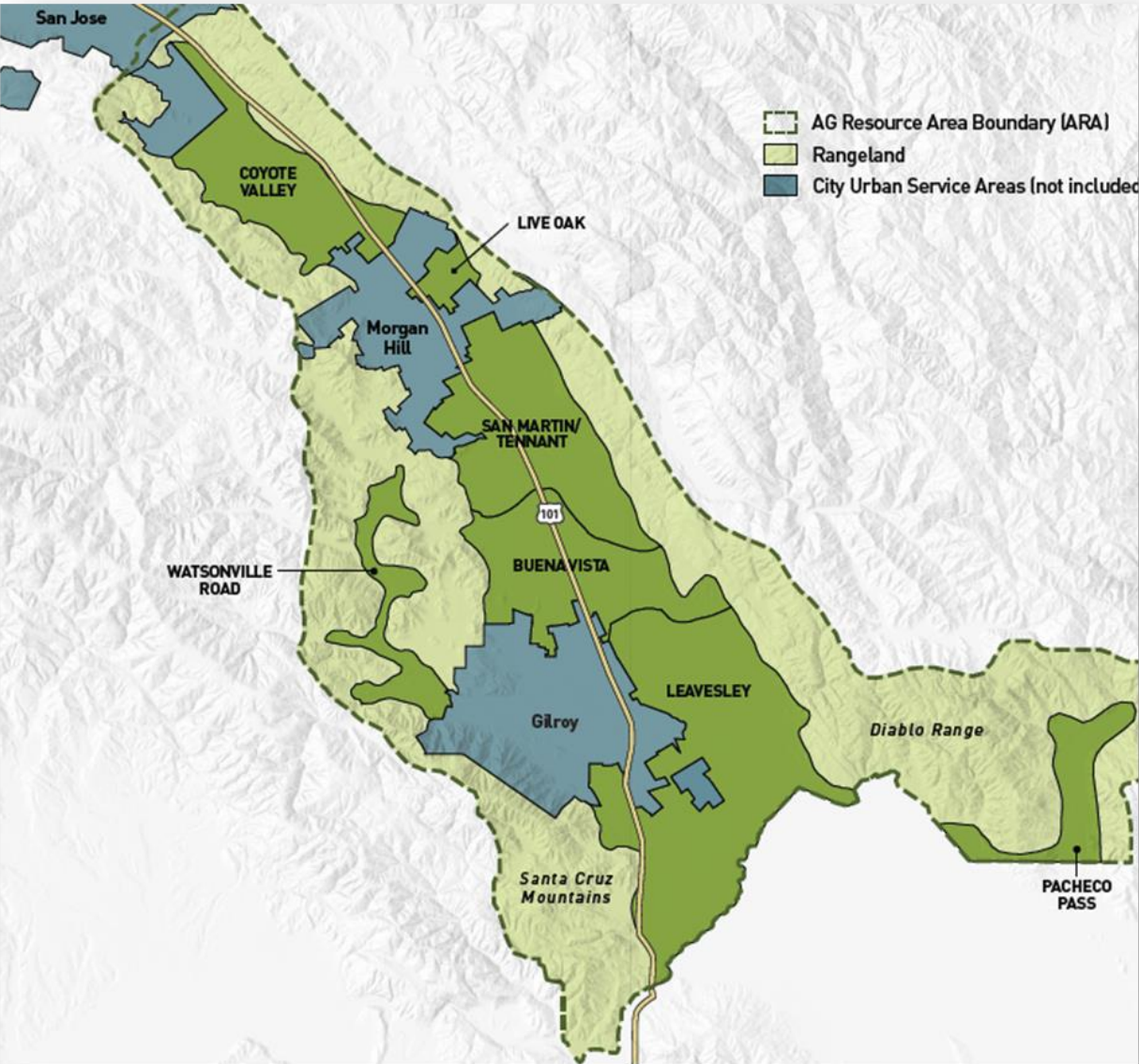
- 1) Better understanding current agricultural water use practices
- 2) Identifying opportunities for water use efficiency



Water Efficiency Background

- Existing farm-level services:
 - Santa Clara Farm Bureau Ag Water Quality Program
 - Valley Water's Mobile Irrigation Lab (MIL)
- Large irrigation investments not cost effective
- Limitations of irrigation types per crop

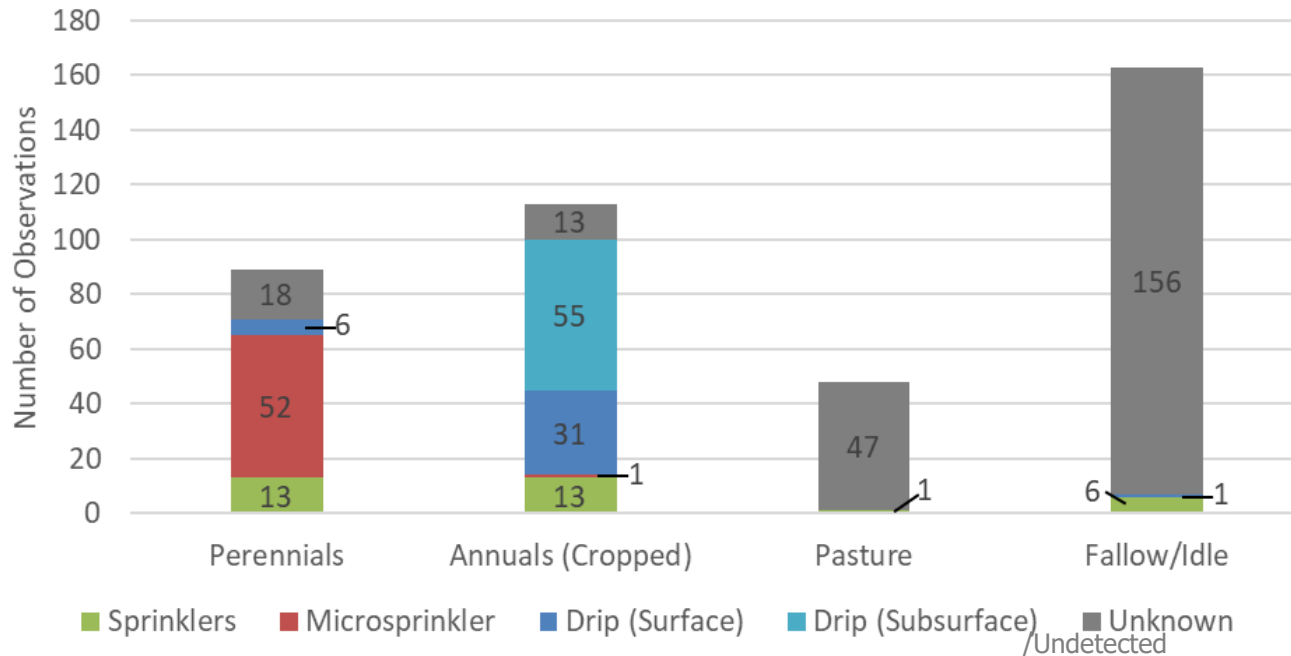
Scope: Cropped Agricultural Resource Areas (ARAs)



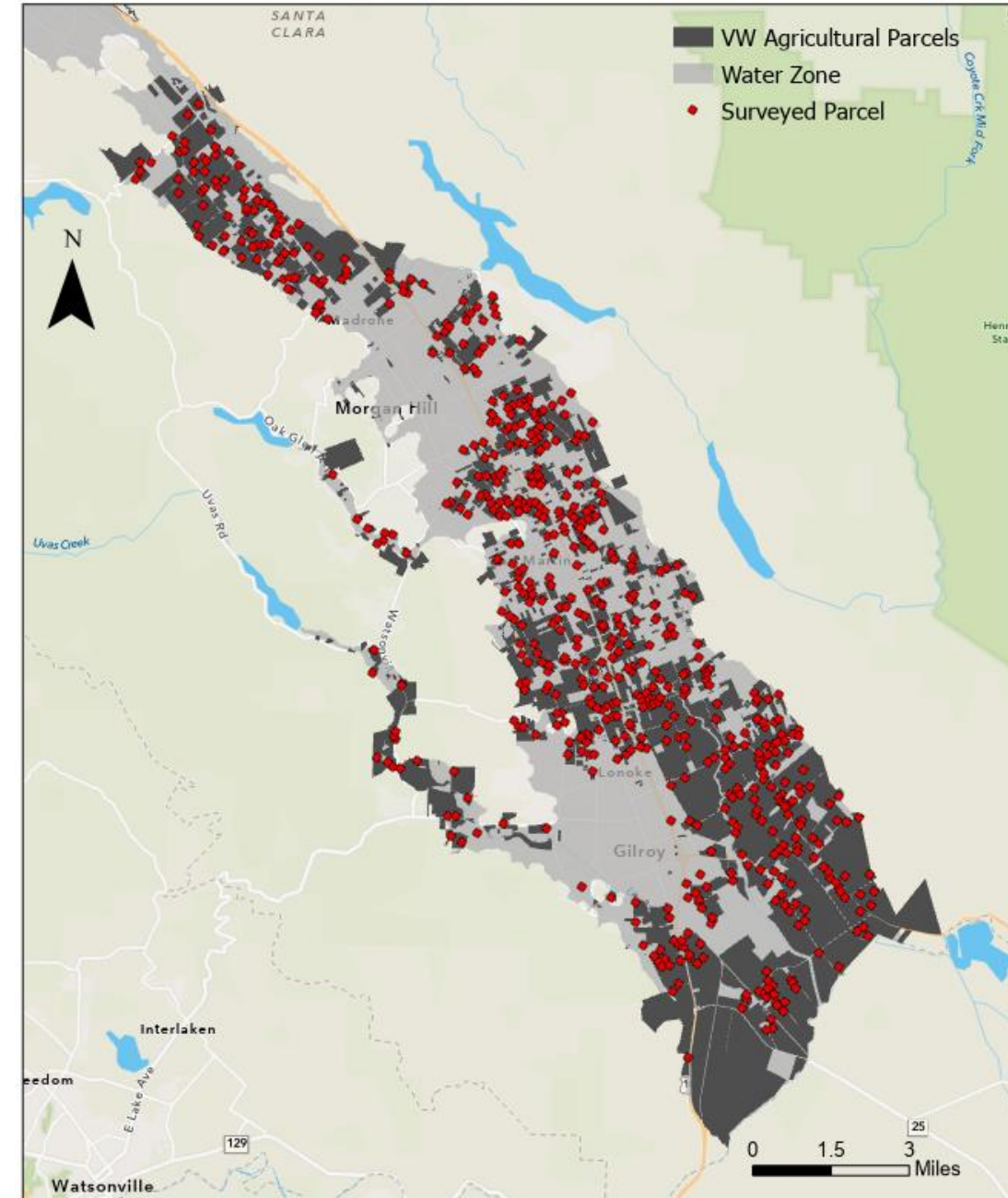
Data Collection

- Mapped County agriculture & interviewed producers
- Windshield survey conducted mid-Aug
 - Verifies spatial analysis
 - 675 unique parcels visited
 - Surveyed: Crop types, irrigation, site conditions
 - High variability in truck crops, high rate of fallow

Distribution of Irrigation Types over Crop Categories

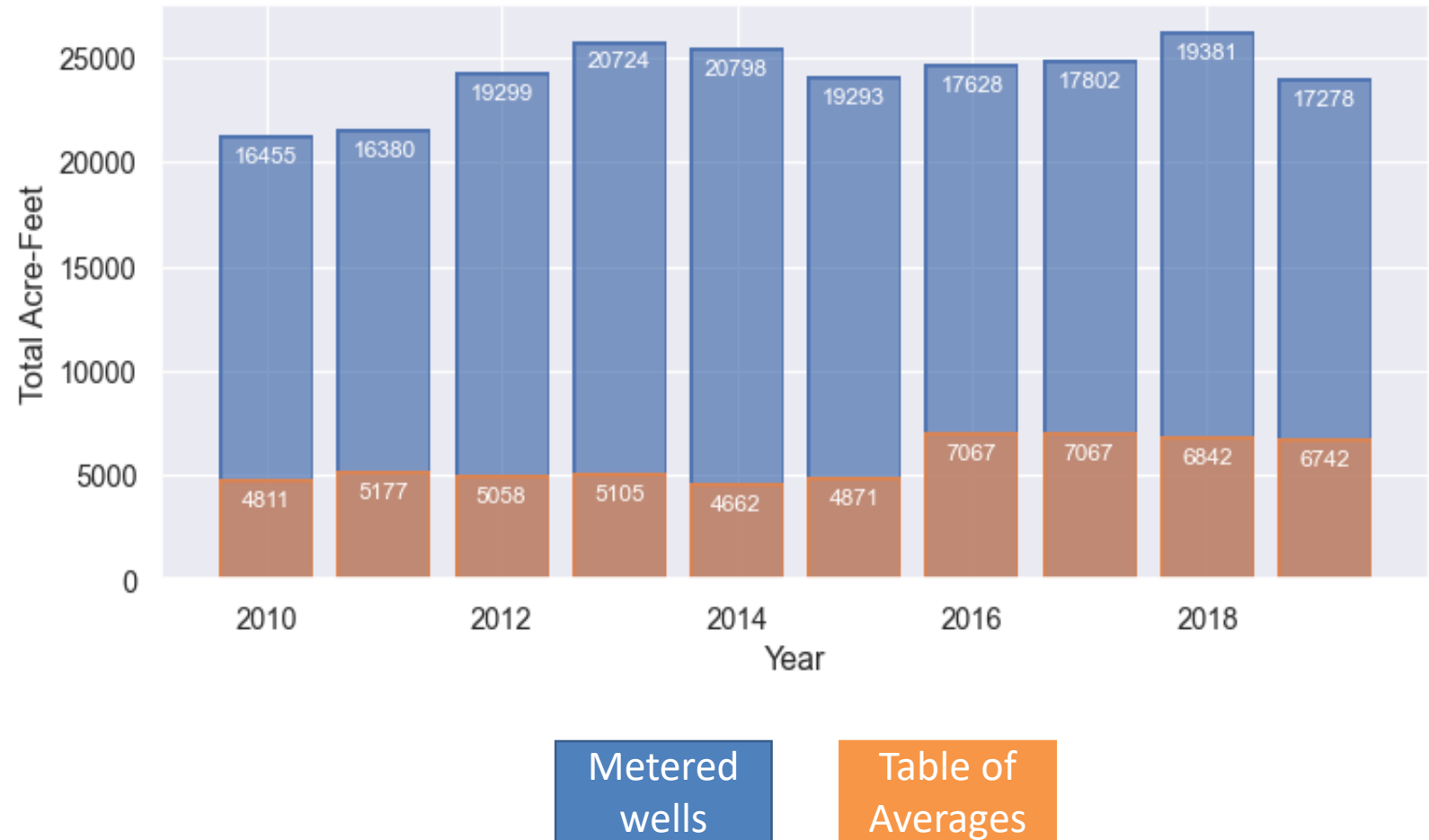


Distribution of Survey Points Collected Aug. 2021



Billing Data Source

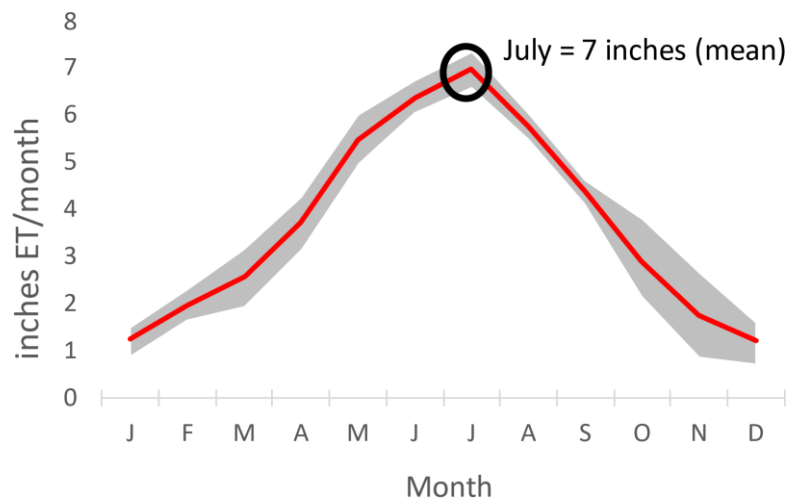
- Metered wells account for ~82% of agricultural water usage
- Meters primarily in southern portion of the County
- Table of averages relies on expected water use



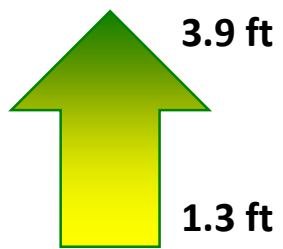
Evapotranspiration (ET)

- Water use and loss from soil and plants
- Can be compared to crop expectations

Cherry Field ET (inches) in 2018



Annual ET (2018)



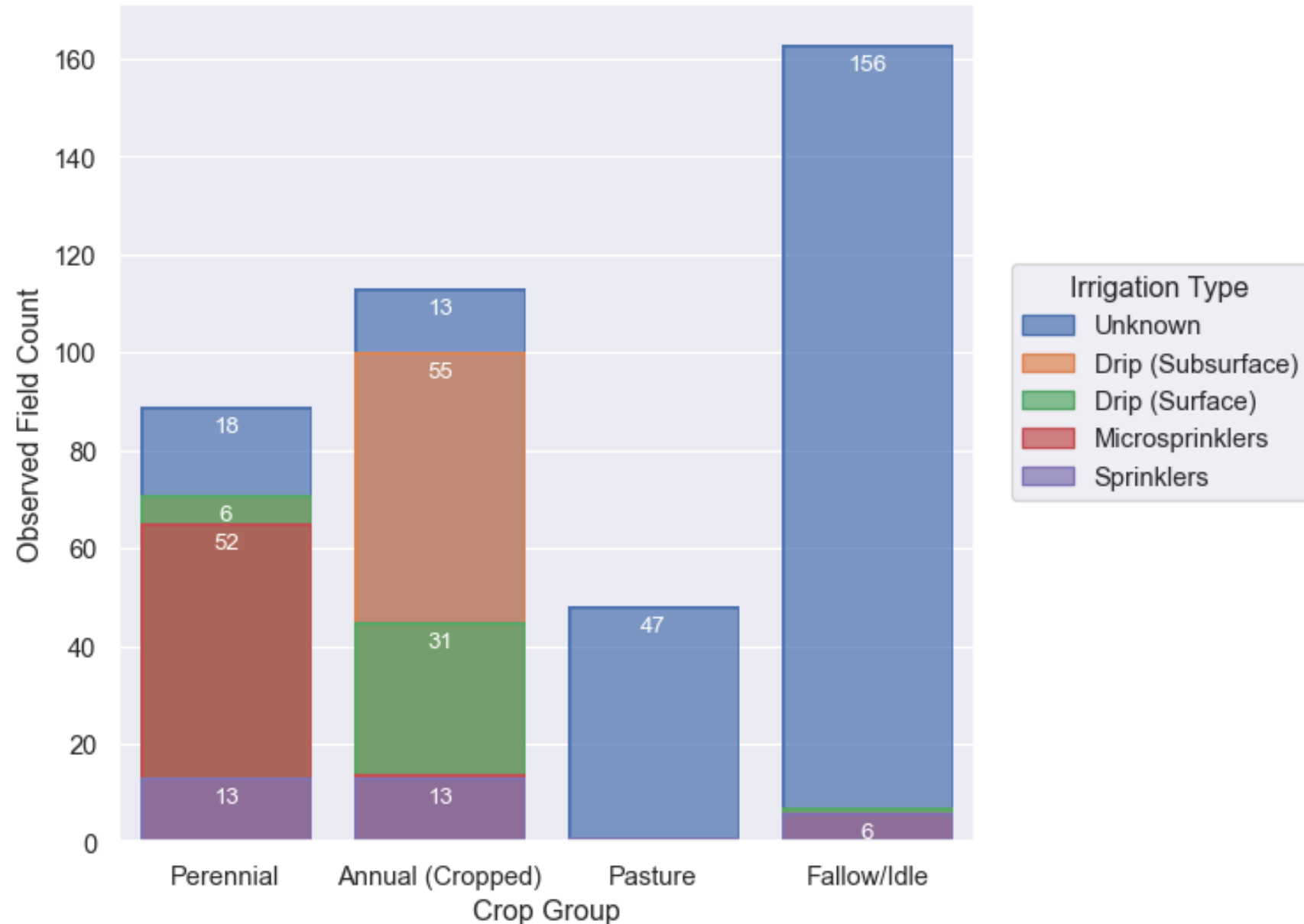


Mass Balance Key Findings

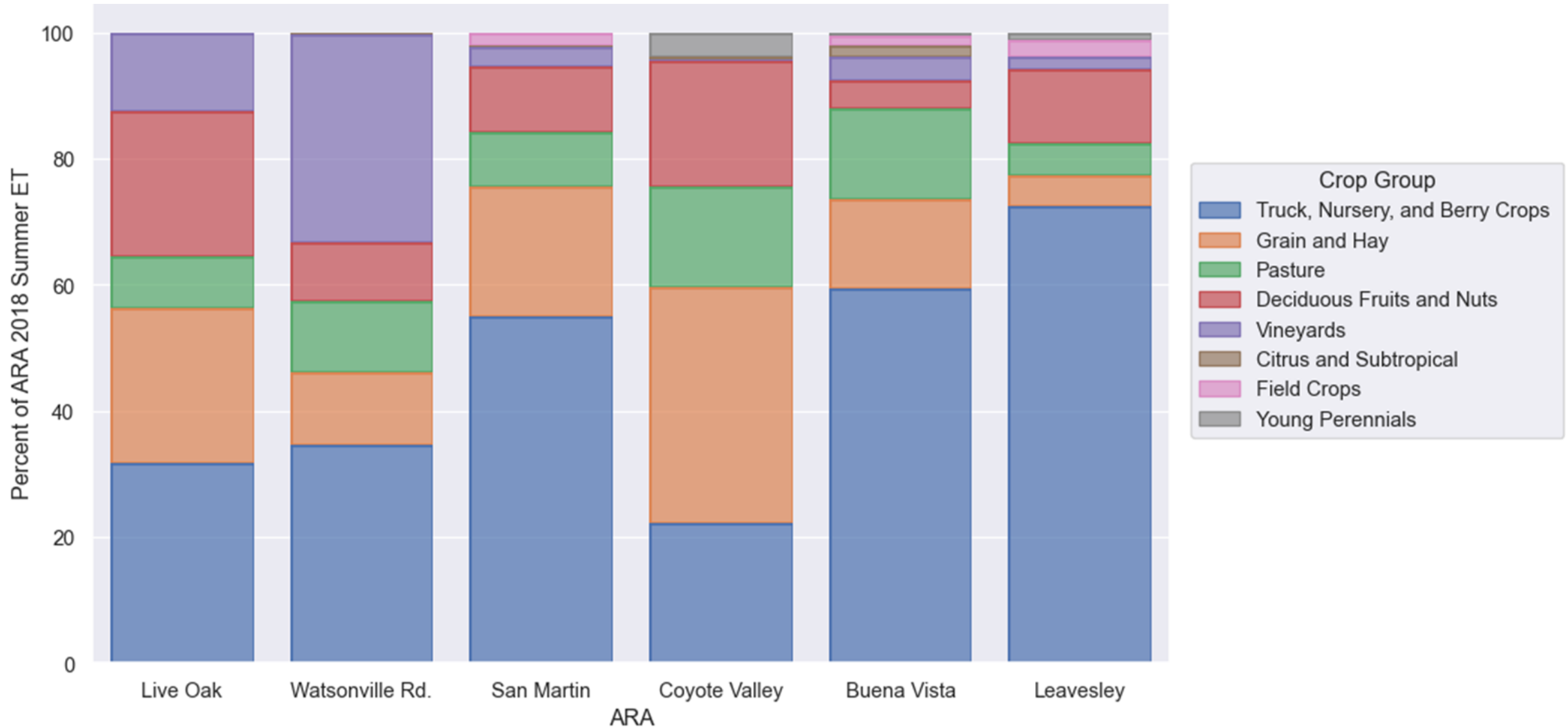
- **Overall, Santa Clara County agricultural water use is relatively efficient**
- **Dry year county-wide consumptive use of applied water is 93%**

Irrigation Type in Santa Clara County

No observed flood or furrow irrigation



Water Use By Crop Group





Study Recommendations

- **Continued enhancement of agricultural conservation programs and rebates**
- **Increase understanding of crop types by well supplies**