Vina GSA SGM Grant

Demand Reduction Strategies Update

February 26, 2025

Quick Recap

Organizational

2014-15 – SGMA Passed

2017 – AGUBC formed

2019 – Vina GSA JPA formed

2024-15 – TWD formed, funded

Plans Developed & Focusing Efforts

2020-2022 – GSP Developed, Adopted

2023 – Stakeholders apply for MLRP Grant. Not approved.

2023-24 – Stakeholders apply for SGM Grant. Approved.

2023-24 – Water Commission develops Butte County Recharge Action Plan.

Overall Goals / Outcomes

Reduce GW use by at least 10,000 AF/year.

Avoid undesirable impacts (dry wells, impacts to GDEs, streams, etc.

Strategies: 1) Surface Water In-Lieu. 2) Groundwater Recharge. 3) Demand Conservation. 4) Management Actions.

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Vina: Demand Reduction Strategies

Goal:

Reduce Agricultural Groundwater Pumping

(i.e., Reduce Consumptive & Non-Beneficial Consumptive Use)

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Vina: Demand Reduction Strategies

Recap of Last Discussion

1. AGUBC & Land IQ developing **revised programs** to re-allocate implementation funds.

2. Meeting with the **Local Expert Group** (LEG) in late January to review revised programs.

3. Thinking through what **Core Competencies** we want to further develop in the Vina Subbasin.

4. Thinking through a **Potential Partnership** with the Tuscan Water District to implement.

Extend Orchard Replacement Pilot Program

Summary of the EOR Pilot Technical Approach and Methods

The **revised** EOR Pilot aims to:

- **Identify orchards** that were removed in 2024, as well as those that are abandoned, stressed, or past prime production years.
- Determine which **fallowing methods** are in use and which can be introduced (e.g., cover crops, short-season annuals).
- Work with growers on a **voluntary** basis to implement.

Spatial data (e.g., orchard crop type, age, soil, and ET) will be used to select pilot orchards and monitor the effects of different fallowing treatments.

Extend Orchard Replacement Pilot Program

Measuring & Verifying Water Savings

ET Measurements

Field-by-field ET measurements provide a direct estimate of consumptive water use and savings after orchard removal.

Fallowing Treatments

Different fallowing treatments (fallowing, chipping, burning, cover crops, etc.) can affect ET, so measuring these differences refines water savings estimates.

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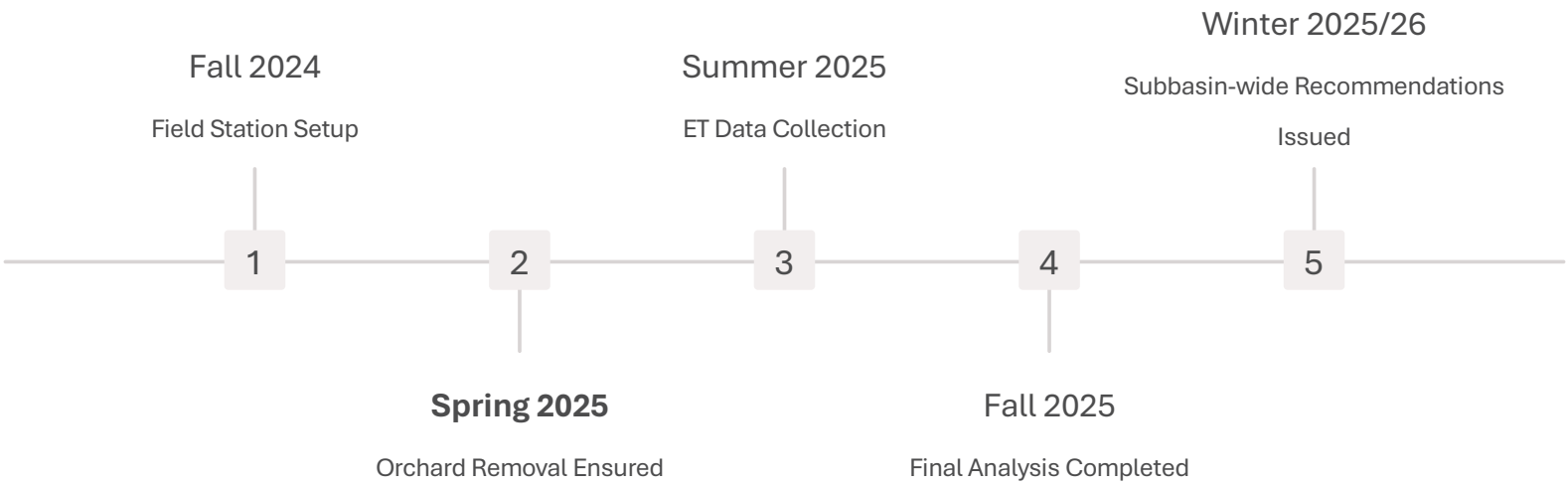
Extend Orchard Replacement Pilot Program

Key EOR Pilot Milestones



Ongoing stakeholder engagement (landowners, Local Expert Group, GSA) will continue to ensure community involvement and to help further refine orchard selection criteria.

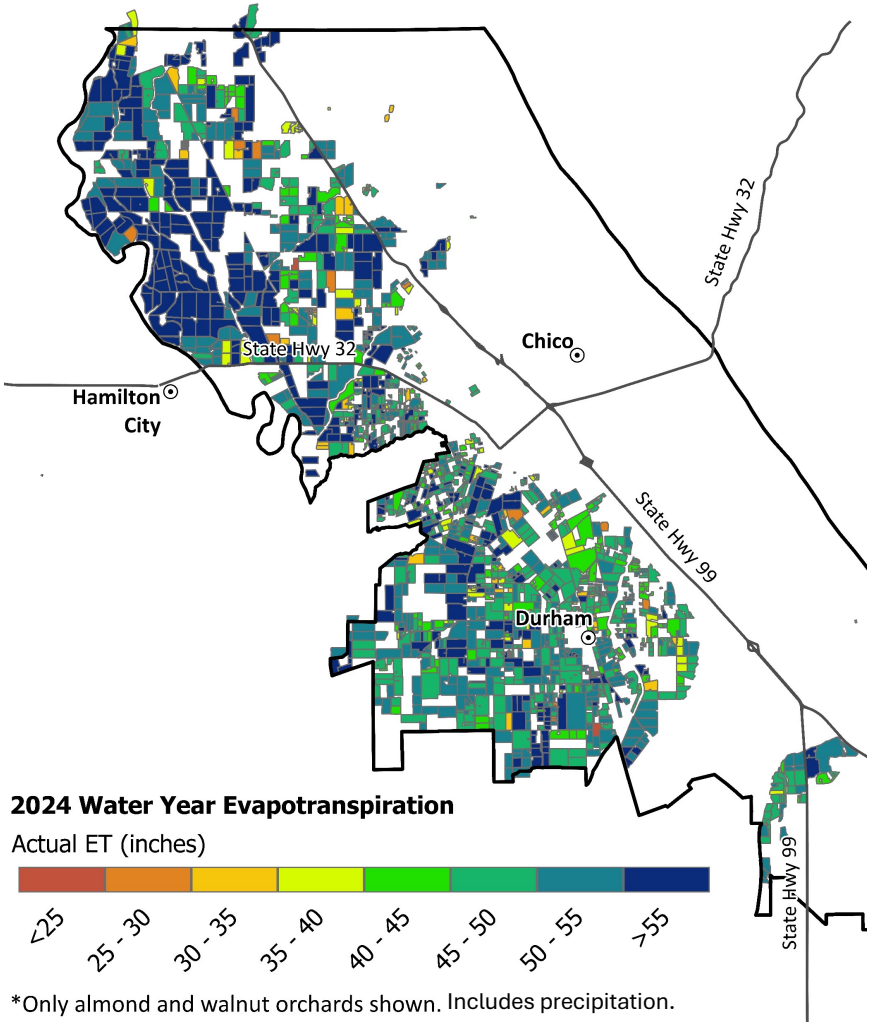
Precision Irrigation Pilot Program

Summary of the PI Pilot Technical Approach and Methods

The **revised** Precision Irrigation (PI) Pilot aims to:

- Use orchard-level spatial data to **identify orchards with high potential for non-beneficial ET**.
- **Develop strategies and introduce technologies to reduce water use while maintaining or improving yield.**
- Work with growers on a **voluntary** basis to develop and implement strategies and introduce advanced water use reduction technologies.

Spatial data (e.g., orchard crop type, age, soil, and ET), along with proximity to GDE and recent Dry Well reports, will be used to select pilot orchards and monitor the effects of different strategies and technologies.



Precision Irrigation Pilot Program

Technical Assistance

Technical Assistance Providers (TAPs)

- Technical Assistance Providers (TAPs) will participate in landowner outreach, PI Plan development, and implementation.
- The current plan is to have up to 2 TAPs working through Land IQ and 1 TAP working through TWD for the duration of the grant cycle (March 2026).
- TAPs will help orchard growers interpret data, adopt improved practices, ensure sensor technologies are deployed, and monitor progress.
- TAPs will receive additional, specialized training from Land IQ and collect and maintain confidential on-farm yield and management information from pilot orchard landowners to help inform PI Plan recommendations.

Precision Irrigation Pilot Program

Key Steps of the PI Pilot Approach

1

Data Compilation & Tool Development

Gather spatial data and develop necessary tools.

2

Orchard Identification & Selection

- Conduct outreach to growers to select suitable almond and walnut orchards for the Pilot.
- Participation is entirely voluntary, allowing growers to opt in based on their availability and interest.

3

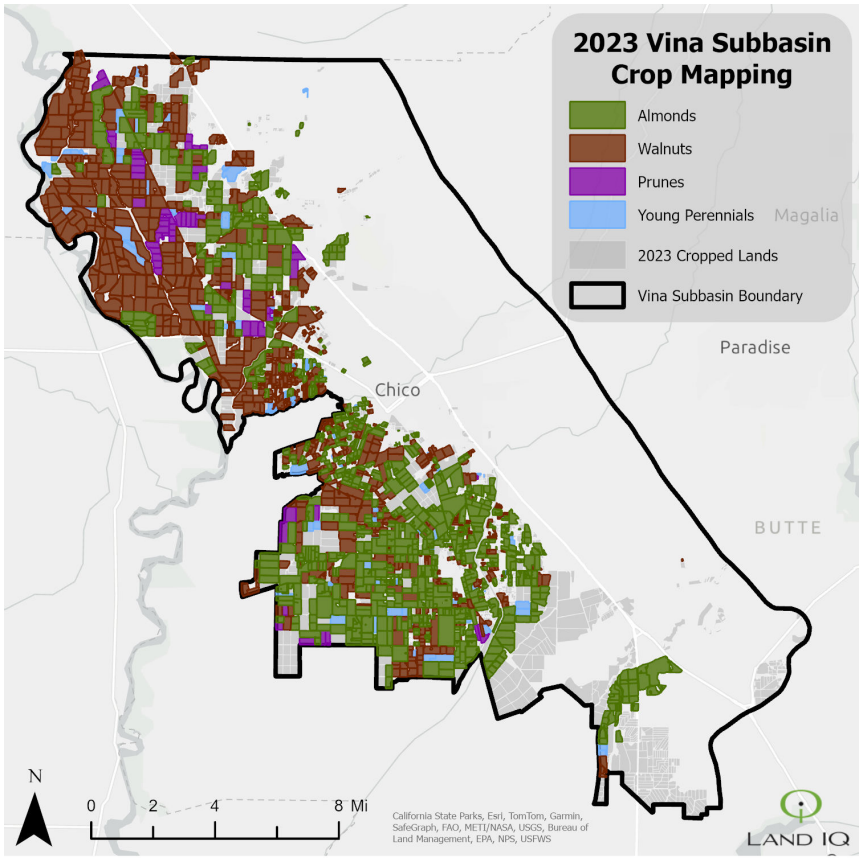
On-Farm Data & Analysis

- Collect yield history and management practices and cultural practices to diagnose non-beneficial ET sources.
- Formulate pilot orchard plans with targeted management changes - e.g., improved irrigation scheduling, advanced irrigation and sensor technologies, fertilizer management, orchard floor practices, etc.

4

Implementation & Monitoring

- Apply and document new practices during the 2025 growing season.
- Monitor ET changes, quantify water savings, and develop final recommendations for the entire subbasin.



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Demand Reduction Strategies

Implementation Budget

$270,000 - Orchard Replacement Pilot Program

- **$90,000** for cover crop seed purchase
- **$120,000** for contract to implement cover crop/fallow treatments
- **$60,000** for ET sensor equipment and economics analysis scope expansion to analyze impact of cover crops.

$1,110,000 - Precision Irrigation Pilot Program

- **$745,000** for web-tool development and advanced sensor technology installation on ~5,000-8,000 acres, including up to 2 additional monitoring wells.
- **$350,000** to hire and train TAPs, conduct outreach, work with selected landowners to implement management strategies and technology solutions, assist landowners in interpreting data and adopting improved practices, and monitor progress.

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Questions?