

## Vina Sustainable Groundwater Management

Water managed locally, responsibly and as part of the whole



### Background

- California Department of Water Resources Sustainable Groundwater Management Implementation Grant
  - Vina Groundwater Sustainability Agency (GSA) awarded \$5.5M
- Vina GSA Board approved the approach to partner with Butte County Department of Water and Resource Conservation and Agricultural Groundwater Users of Butte County (AGUBC) to lead portions of the grant funded work.

## Vina SGM Projects

### Projects implemented through March 2026:

- Data Gap Identification and Data Improvement (GSA)
- Lindo Channel Recharge Feasibility (GSA)
- Outreach Program
- Project Management and Grant Administration
- Water Supply and Recharge Feasibility (Butte County)
- Inter-basin Coordination Analysis and Modeling (Butte County)
- Demand Reduction Strategies (AGUBC)



## Data Gap Identification & Data Improvement

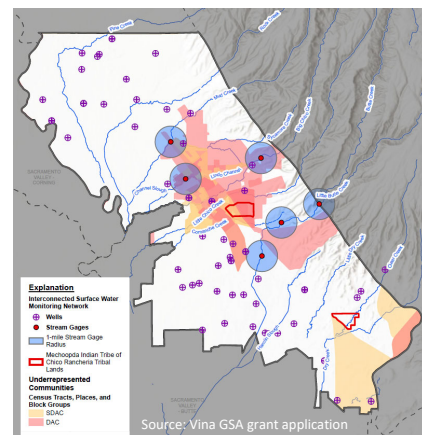


### Why it matters:

- **Accurate data** is essential for making informed decisions about water resources.

### Our plan:

- Invest in **new monitoring sites and equipment** for more precise data on surface and groundwater conditions.
- **Better understand the system** and amend the Vina GSA GSP over time to respond to new data and feedback from DWR.



# Data Gap Identification & Data Improvement

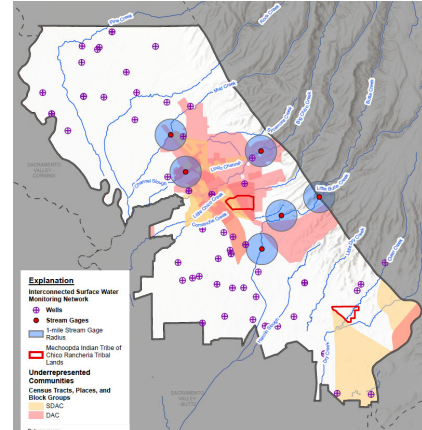


## Updates on Tasks during 4/1/24 - 8/31/24:

- Project is on track and within budget.

## Consultant Progress on Tasks Includes:

- Began identifying areas within the subbasin for potential new monitoring network sites. Coordination with Butte County to understand existing network.
- Developed approach to classify shallow and deep monitoring wells to support monitoring network enhancements. Analysis underway.
- In process of reviewing the GSP and DWR determination letter to identify data gaps and areas of refinement.

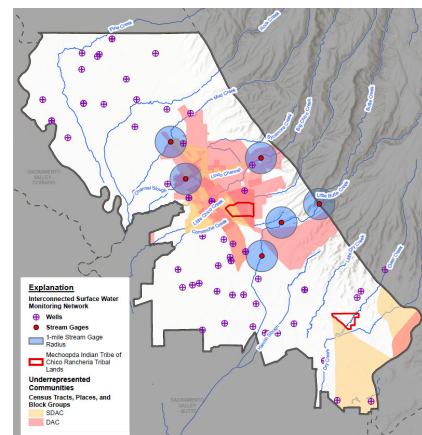


# Data Gap Identification & Data Improvement



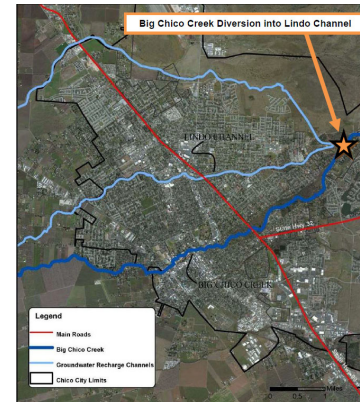
## Next Steps:

- October 1<sup>st</sup> and 2<sup>nd</sup> – Domestic Well User Outreach Event
- Finalize draft map of proposed locations for new monitoring sites.
- Present the map of proposed locations to the Stakeholder Advisory Committee (SHAC) on October 23<sup>rd</sup> for review.
- Present recommendations for proposed new monitoring sites to the Vina GSA Board for approval.



# Lindo Channel Recharge Feasibility

- Assess feasibility of enhancing natural recharge along the Lindo Channel in Chico.
- Project Outcomes:
  - Develop Recharge Feasibility Study
  - Monitoring Network
  - Stakeholder Engagement



# Lindo Channel Recharge Feasibility

## Updates on Tasks during 4/1/24 - 8/31/24:

- Project is within budget.
- Schedule has been slightly delayed but overall is on track

## Consultant Progress on Tasks Includes:

- Reviewed water rights to assist in developing the flow thresholds for diversion.
- Reviewed AEM data and well logs for assessment of groundwater recharge potential.
- August 5<sup>th</sup>, consultant came for a site visit.





# Lindo Channel Recharge Feasibility

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## Next Steps

- Revising the project schedule
- Stakeholder meeting



# Outreach Program

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## Updates on Tasks during 4/1/24 - 8/31/24:

- Project is within budget and getting underway

## Consultant Progress on Tasks Includes:

- Created a style guide to promote consistency in outreach materials.
- Began creating project-specific outreach plans.

## Upcoming:

- Finalize project-specific outreach plans.
- Develop and design outreach materials for projects.



# Project Management & Grant Administration

## Updates on Tasks during 4/1/24 - 8/31/24:

- Project is on track and within budget

## Progress on Tasks Includes:

- Hosted a big team kickoff meeting with all consultants
- Scheduled regular check-in meetings with each consulting team
- Filed environmental forms
- Submitted two quarterly invoices and progress reports to DWR



## Questions?

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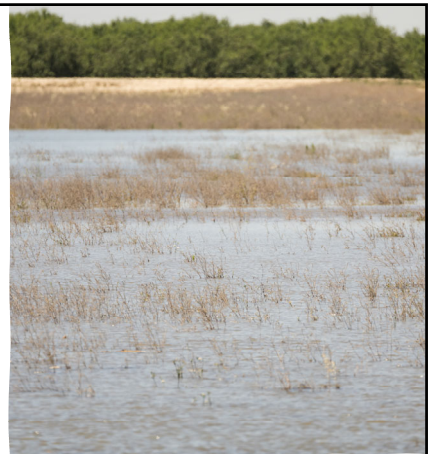


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- **Water Supply and Recharge Feasibility (Butte County)**
- **Inter-basin Coordination Analysis and Modeling (Butte County)**

**Project Manager:**  
**Christina Buck, Asst. Director**  
**Dept. of Water and Resource Conservation**  
**Butte County**



## Water Supply and Recharge Feasibility

- Identify two most promising water supply projects and complete feasibility analysis
- Identify potential recharge pilot projects
  - Collect data at site
  - Conduct recharge, if feasible
  - Lessons learned



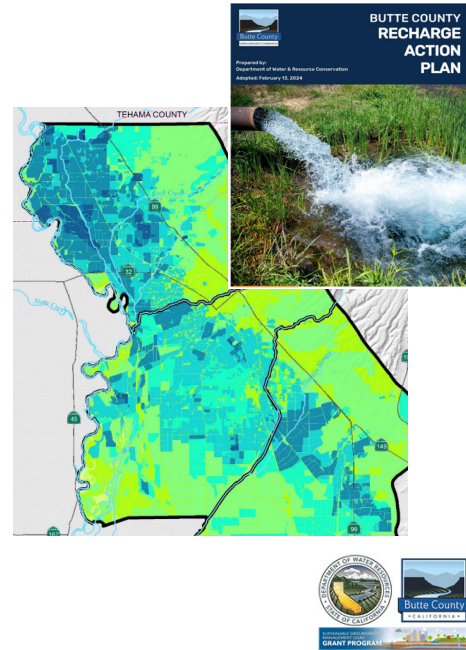
## Water Supply and Recharge

### Updates on Tasks during 4/1/24 - 8/31/24:

- Project is within budget and on schedule

### Consultant Progress on Tasks Includes:

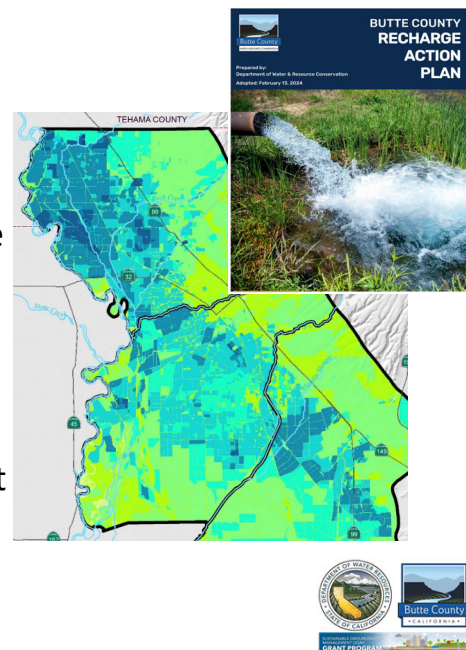
- Gathering relevant data and reports for review
- AEM data review and 3D model development to assess potential recharge areas
- Discussion with Butte County Water Commission August 7, 2024
- Consultant meeting with Butte County Public Works
- Stakeholder meeting with environmental stakeholders



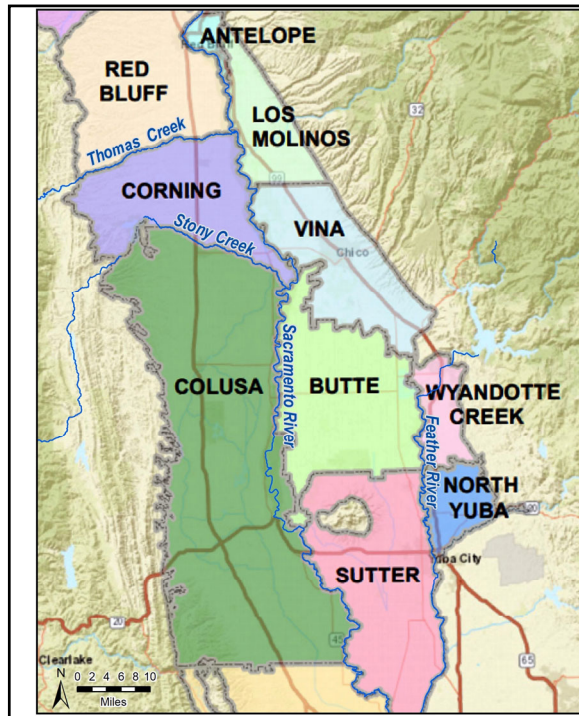
## Water Supply and Recharge

### Next Steps

- Continued information gathering to explore potential of water supply and recharge concepts
- Consultants to further define near-term recharge pilot projects
- Partner with Resource Conservation District for implementation of “leaky rock weirs” in Big Chico Creek watershed







## Inter-basin Coordination Analysis and Modeling

- Better understand the system at the boundaries
  - Rivers/streams connected to groundwater system
  - Water Budgets
  - Monitoring wells
- Refine modeling tools: Butte Basin Groundwater Model
- Will support coordination efforts with information and data



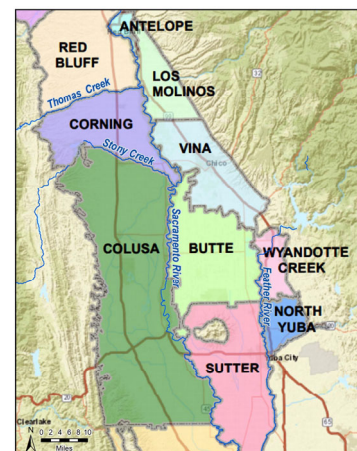
## Inter-basin Coordination Analysis and Modeling

### Updates on Tasks during 4/1/24 - 8/31/24:

- Project is within budget and on schedule

### Consultant Progress on Tasks Includes:

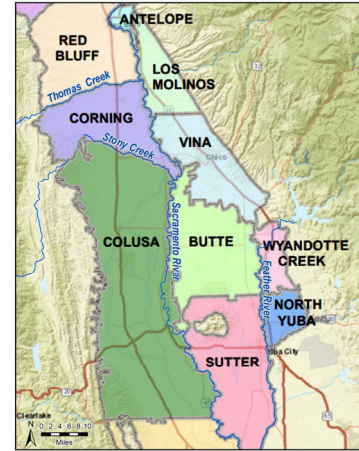
- Gathering relevant data, model files, and reports for review
- Compiling contents of GSPs along North Sac River Corridor
- Evaluating possible model refinements to be made to the Butte Basin Groundwater Model



# Inter-basin Coordination Analysis and Modeling

## Next Steps

- Continue pulling together information from GSPs
- Gather information from GSAs (ex. revised Sustainable Management Criteria)
- Determine model refinements to be completed by the project



## Questions?

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## Component 3: Demand Reduction Strategies

**Will improve subbasin sustainability** related to groundwater levels and groundwater storage **by decreasing consumptive use** through two programs:

1. Precision Irrigation Program
2. Extend Orchard Replacement Program

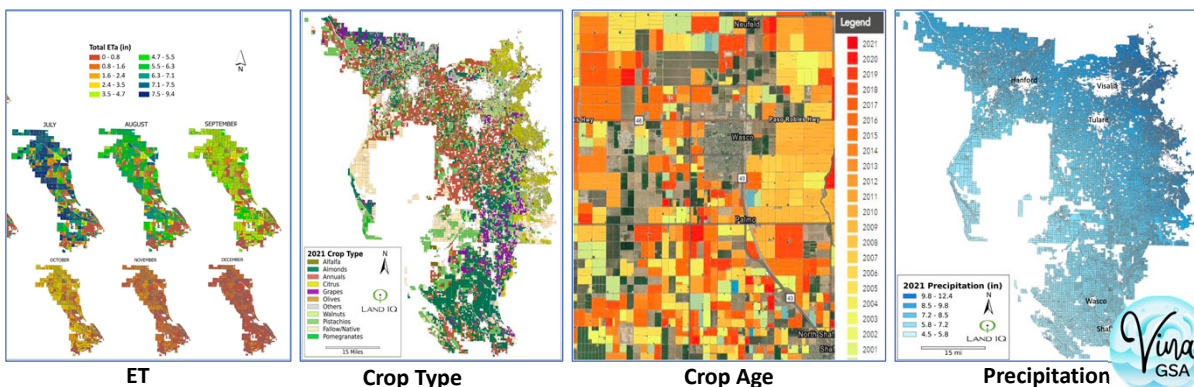


## Precision Irrigation Program

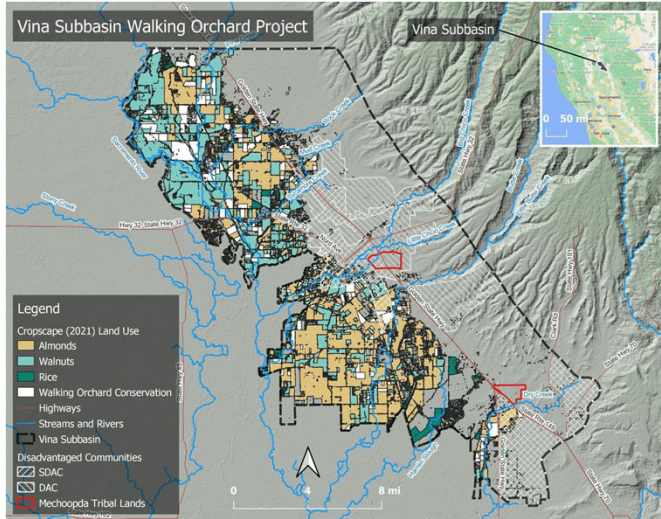
Perform a **comprehensive state of irrigation technology and systems analysis in the Subbasin**:

- Create a **spatial map** of the Subbasin using **Field-by-Field ET, Crop Type, Crop Age, & Precipitation** layers
- Add other layers to the spatial map, including **Irrigation Method, Soil Type, Elevation, & Ownership**

Develop a **Precision Irrigation Program for the Subbasin** that includes the **piloting of innovative irrigation technologies** and **leveraging of outreach and education** to improve ET-based water management at a broader scale in the Subbasin.



# Extend Orchard Replacement Program



**What:**

Incentivize local growers to **extend the duration of their current fallowing practice** between orchard removal and replanting by one or more growing seasons.

**Why:**

Extra time allows the soil to fallow and **reduces the overall demand** on groundwater.

**Goals & Benefits:**

- Temporarily fallow between 1,600 and 3,200 acres per year.
- Reduce groundwater use by 4,000 to 8,000 acre-feet per year in the Subbasin.



## Demand Reduction Strategies: Timeline & Activity

	2024	2025	2026
Phases	<b>Develop Pilot Programs</b>	<b>Implement Pilot Programs</b>	<b>Finalize Technical Memos / Programs</b>
Precision Irrigation	<ul style="list-style-type: none"> <li>• Install ET stations.</li> <li>• Develop spatial map.</li> <li>• Add layers to spatial map.</li> </ul>	<ul style="list-style-type: none"> <li>• Analysis of outputs from the spatial map.</li> <li>• Conduct educational outreach to landowners based on results and solicit input / feedback.</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize Technical Memo for the Subbasin, based on comprehensive spatial mapping analysis and grower input.</li> </ul>
Extend Orchard Replacement	<ul style="list-style-type: none"> <li>• Collect economic data.</li> <li>• Develop and Finalize Pilot Program Guidelines.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement Extend Orchard Pilot Program.</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize Technical Memo for the Subbasin, based on comprehensive spatial mapping analysis and results of Extend Orchard Pilot Program.</li> </ul>





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# Questions?

