



# Harvest Water

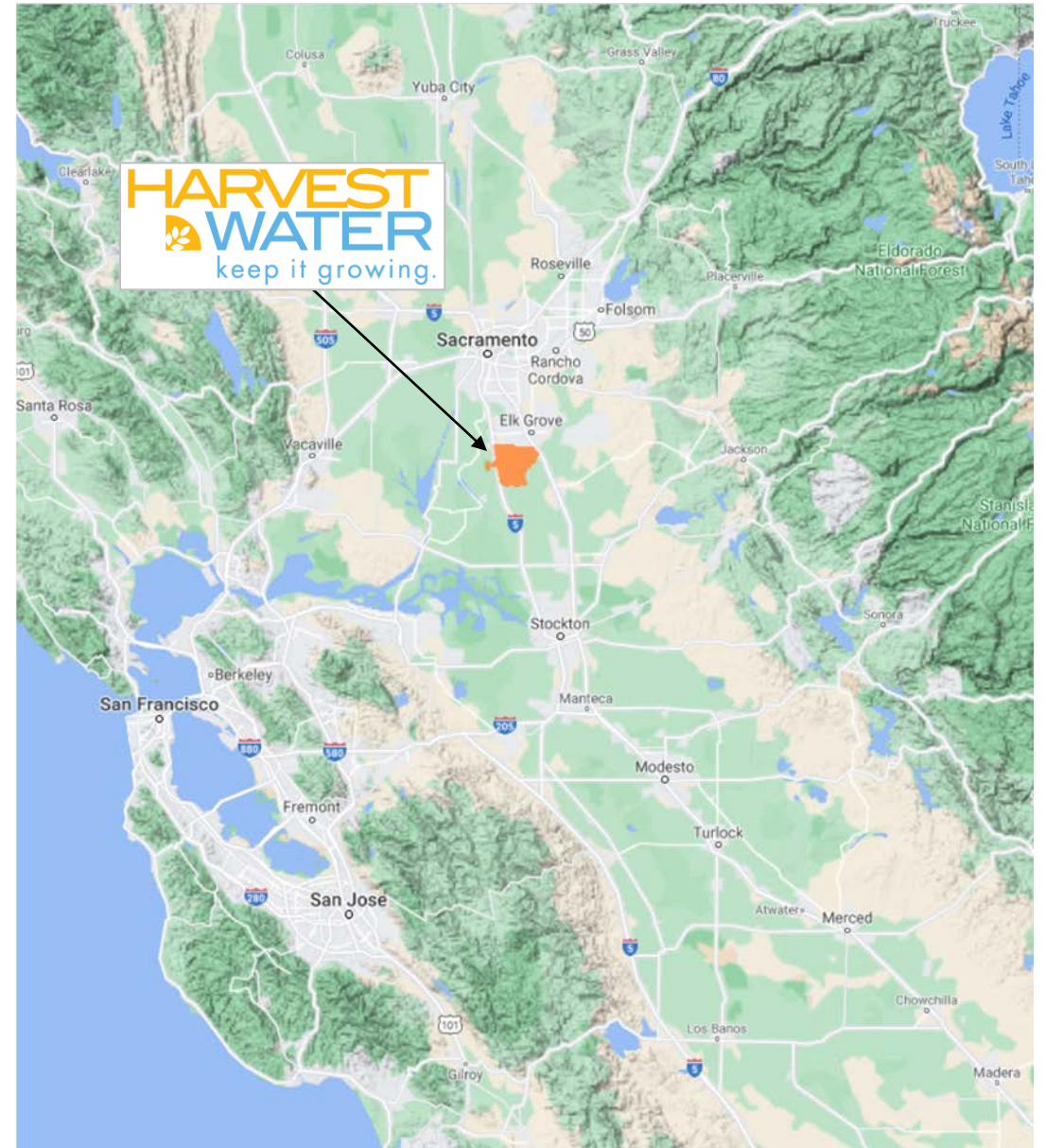
A Model Multi-Benefit  
Recycled Water,  
Groundwater Storage, and  
Conjunctive Use Project

California Water Commission

April 21, 2021

# Agenda

- Harvest Water Background
- Program Status Update
- Early Funding Request
- Next Steps





# Background



# Harvest Water provides an opportunity for California to invest in a water storage project that is:

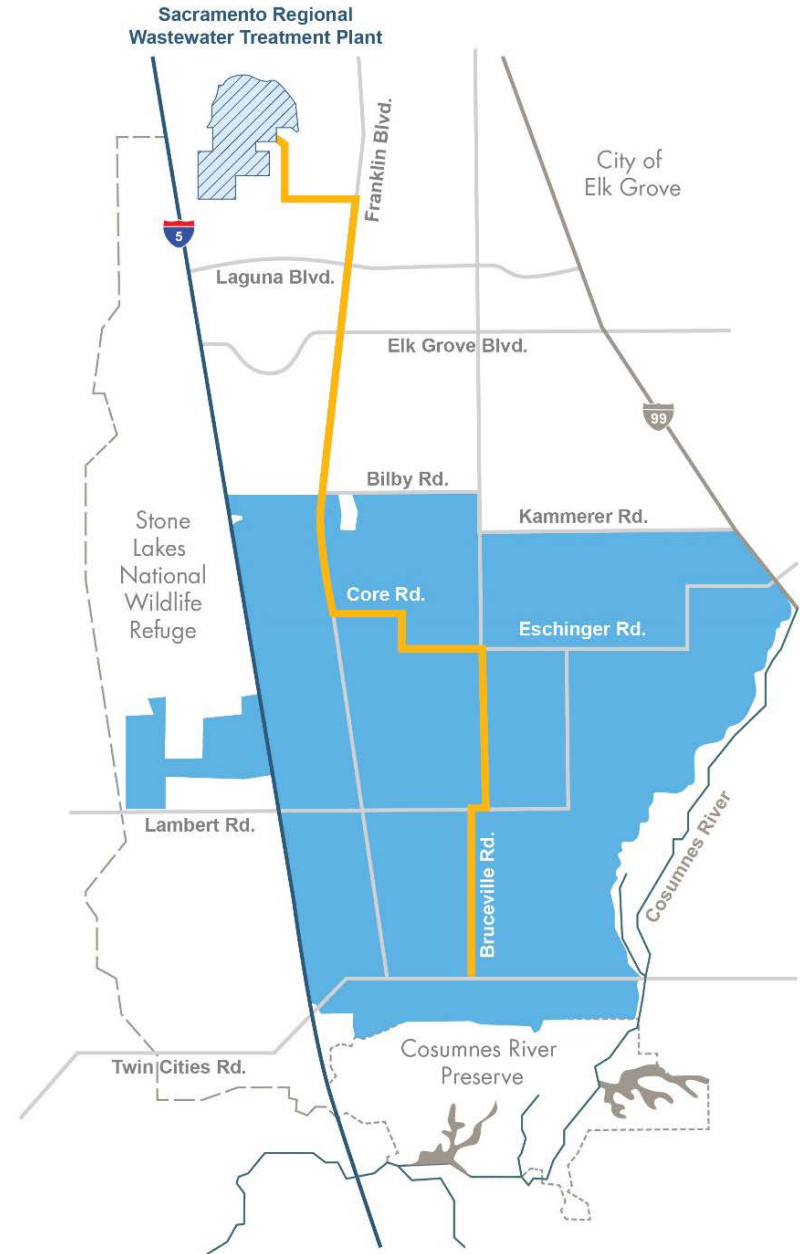
- Drought resistant and not rain dependent
- Resilient to the impacts of climate change
- Designed to optimize substantial public and ecosystem benefits
- Consistent with the objectives and intent of Proposition 1



# Harvest Water Overview

- Deliver up to 50,000 AFY of recycled water to 16,000 acres
  - Agricultural irrigation (allows in-lieu groundwater recharge)
  - Wintertime application
- Produces multiple public benefits
  - Groundwater restoration
  - Ecosystem improvements
  - Water quality improvements
  - Conjunctive use

## Harvest Water Program Area

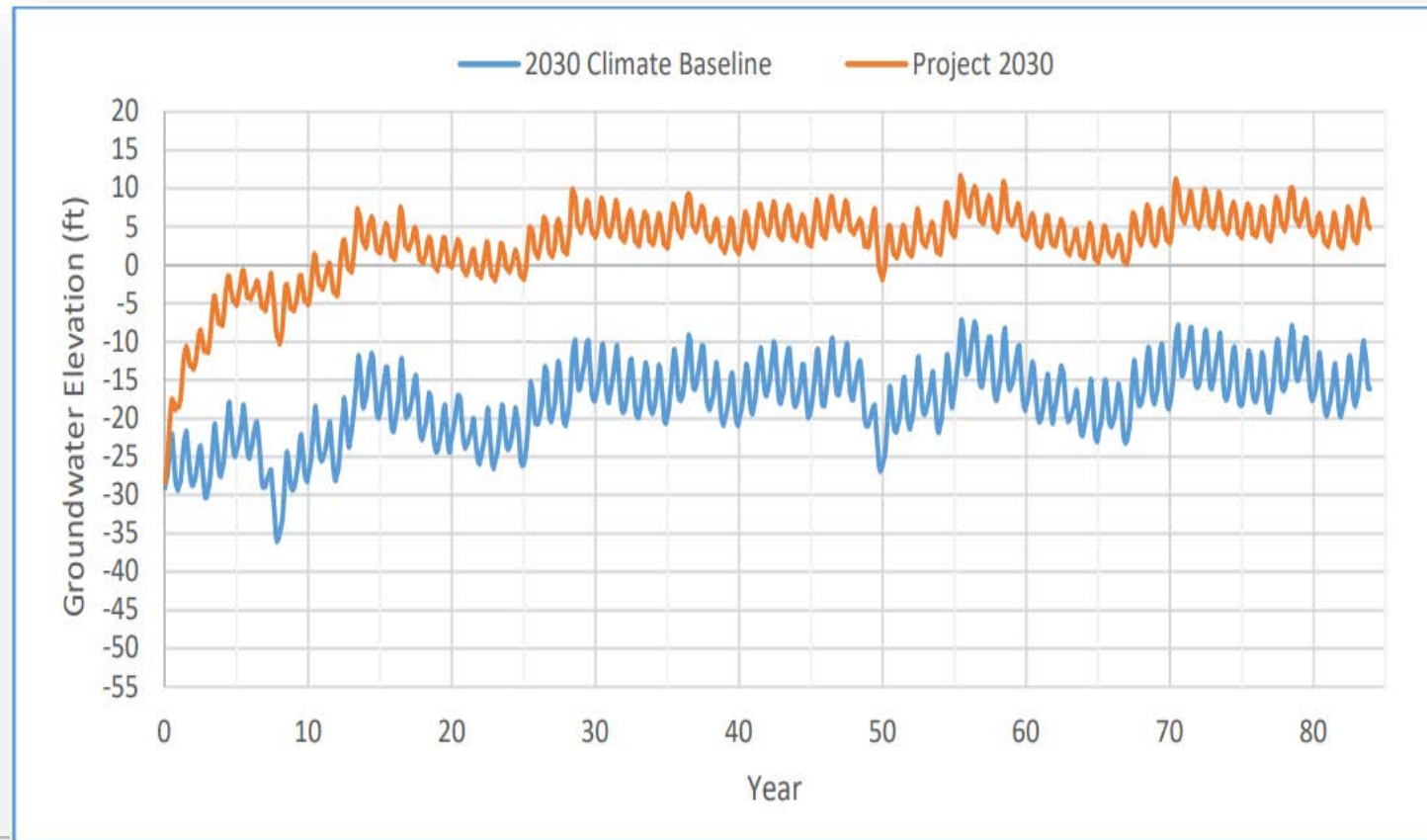


■ Harvest Water Program Area  
■ Proposed Recycled Water Alignment

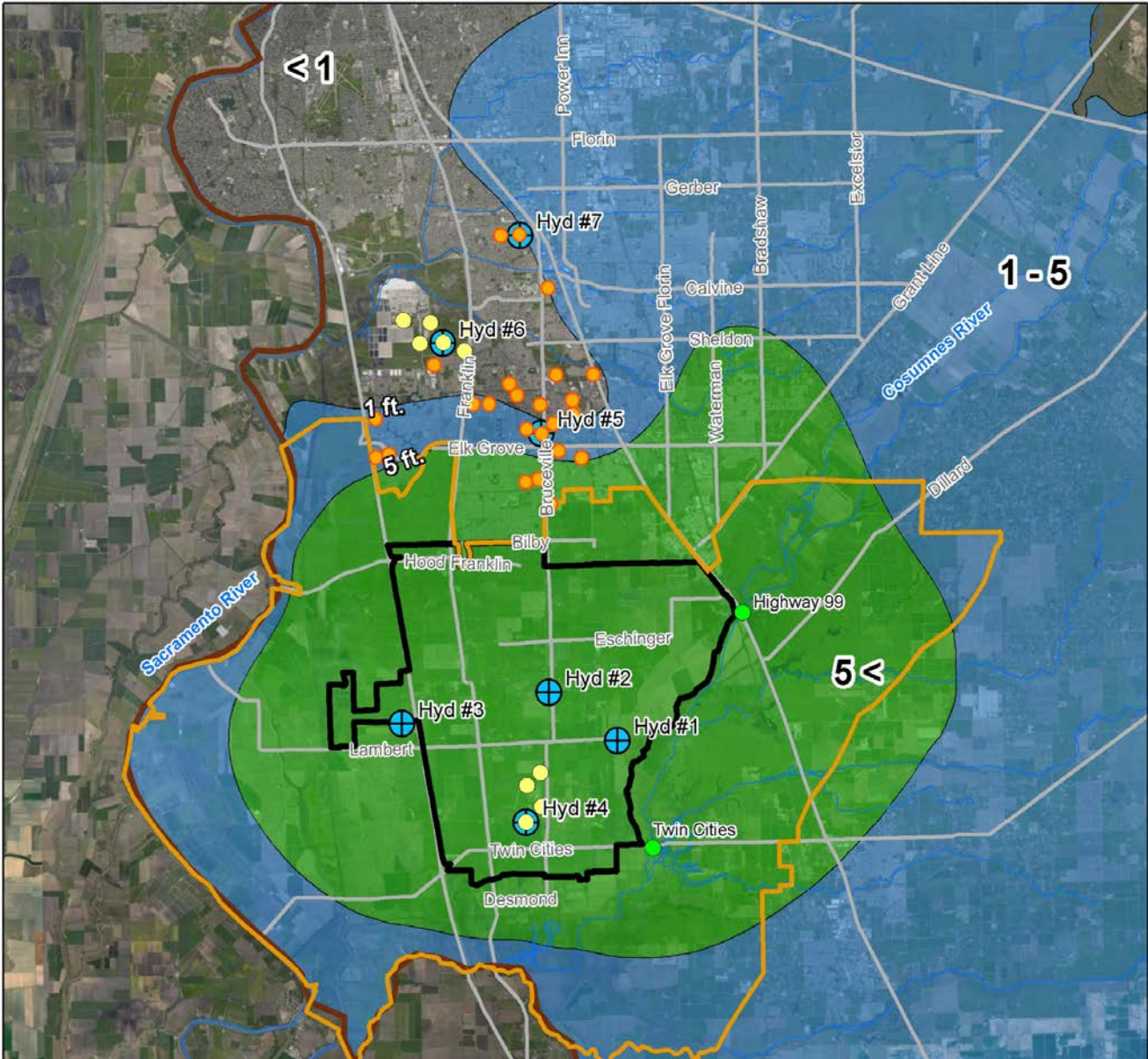


# Groundwater Restoration Benefits

- Restores groundwater levels up to 35 feet within 15 years
- Improves stream flows in the Cosumnes River
- Increases groundwater storage by ~ 245,000 AF in 10 years
- Provides ~30,000 AFY for conjunctive use during droughts
- Helps improve regional water supply sustainability
- Resilient to climate change



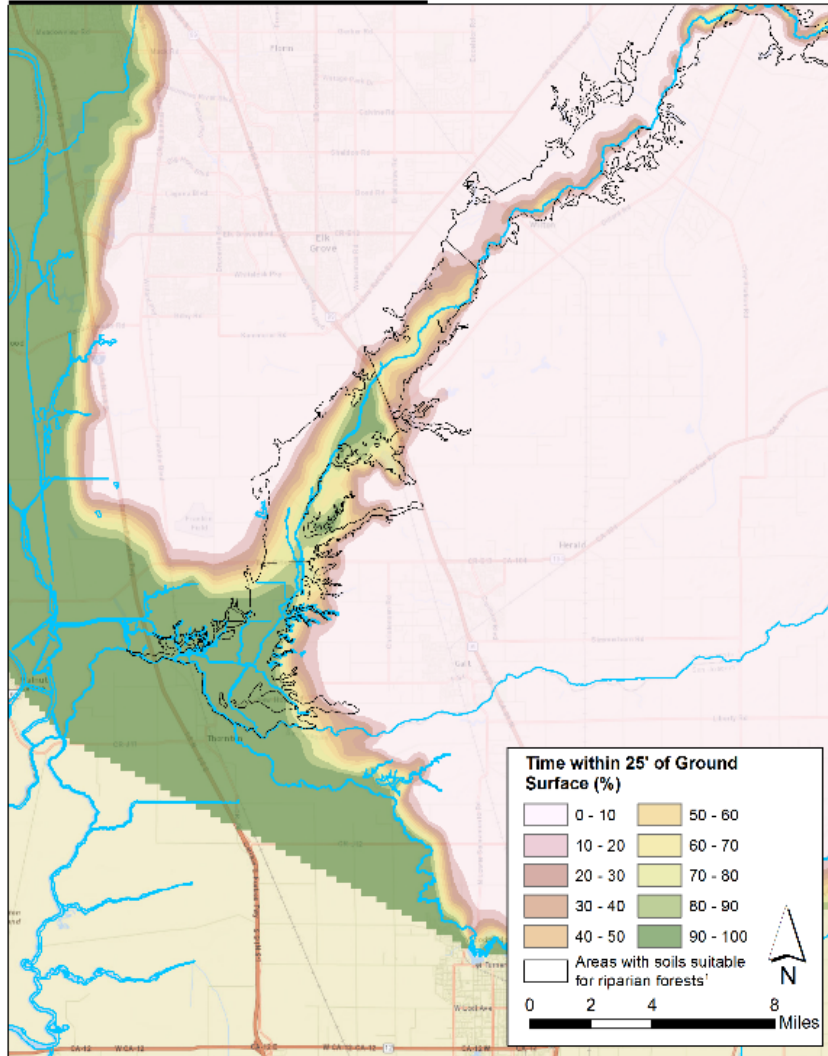
# Updated Draft Groundwater Improvement Area





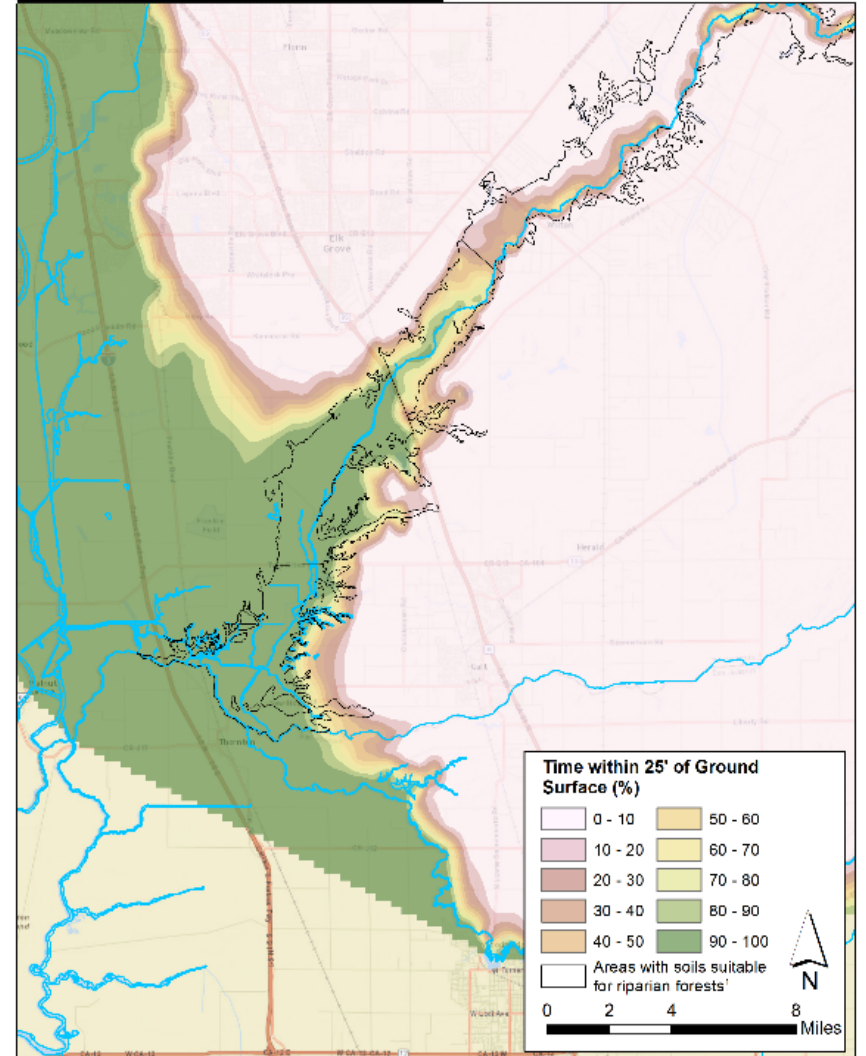
# Groundwater Elevations

**Baseline: Percentage of Time with Groundwater Within 25 ft of Ground Surface**



<sup>1</sup> Source TNC 2014

**Scenario: Percentage of Time with Groundwater Within 25 ft of Ground Surface**



<sup>1</sup> Source TNC 2014



# Ecosystem and Water Quality Improvements



Additional 3,500 acres of Sandhill crane habitat, which could support up to 700 additional individuals



Additional 500 acres of vernal pool habitat, which supports many listed species



Longer migration window for Fall-run Chinook salmon as a result of increased streamflow volume in the Cosumnes River

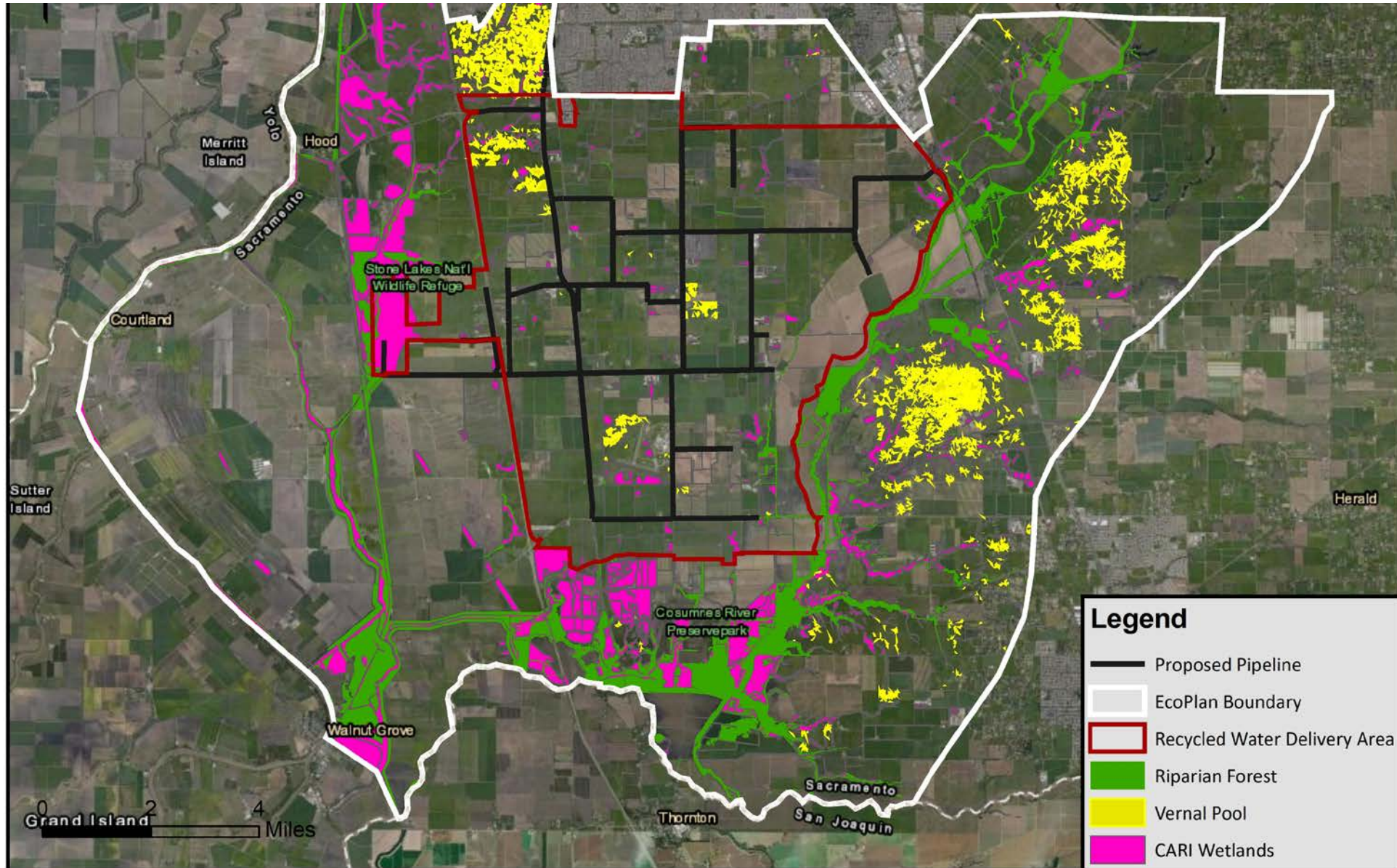
Improved groundwater conditions and strategic water delivery can improve up to approximately 5,000 acres of wetlands and riparian forests by 2030



Reduced salinity load to the Sacramento and Delta waterways by approximately 95 tons per day

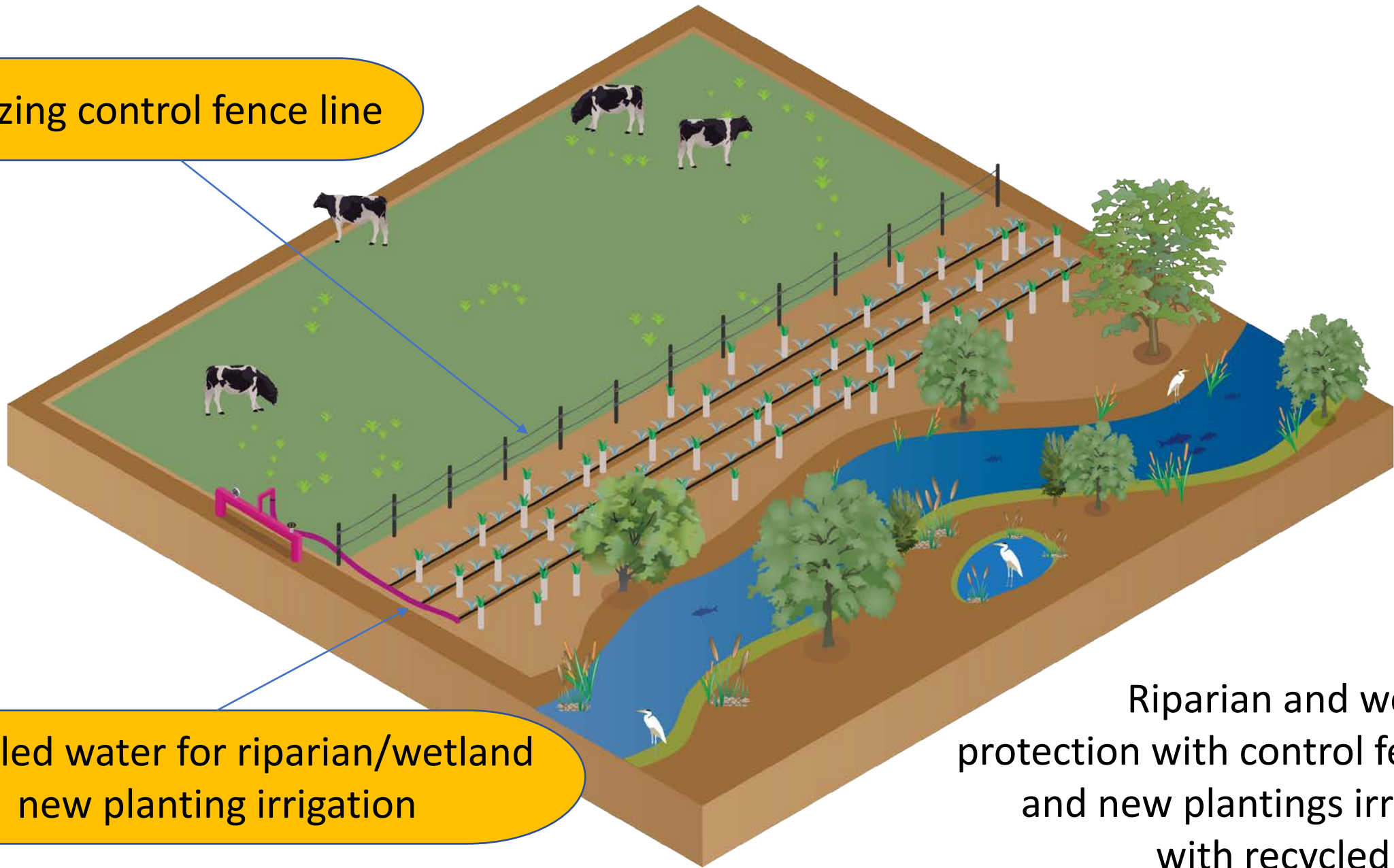


# EcoPlan Passive Benefits Area Boundary





Grazing control fence line

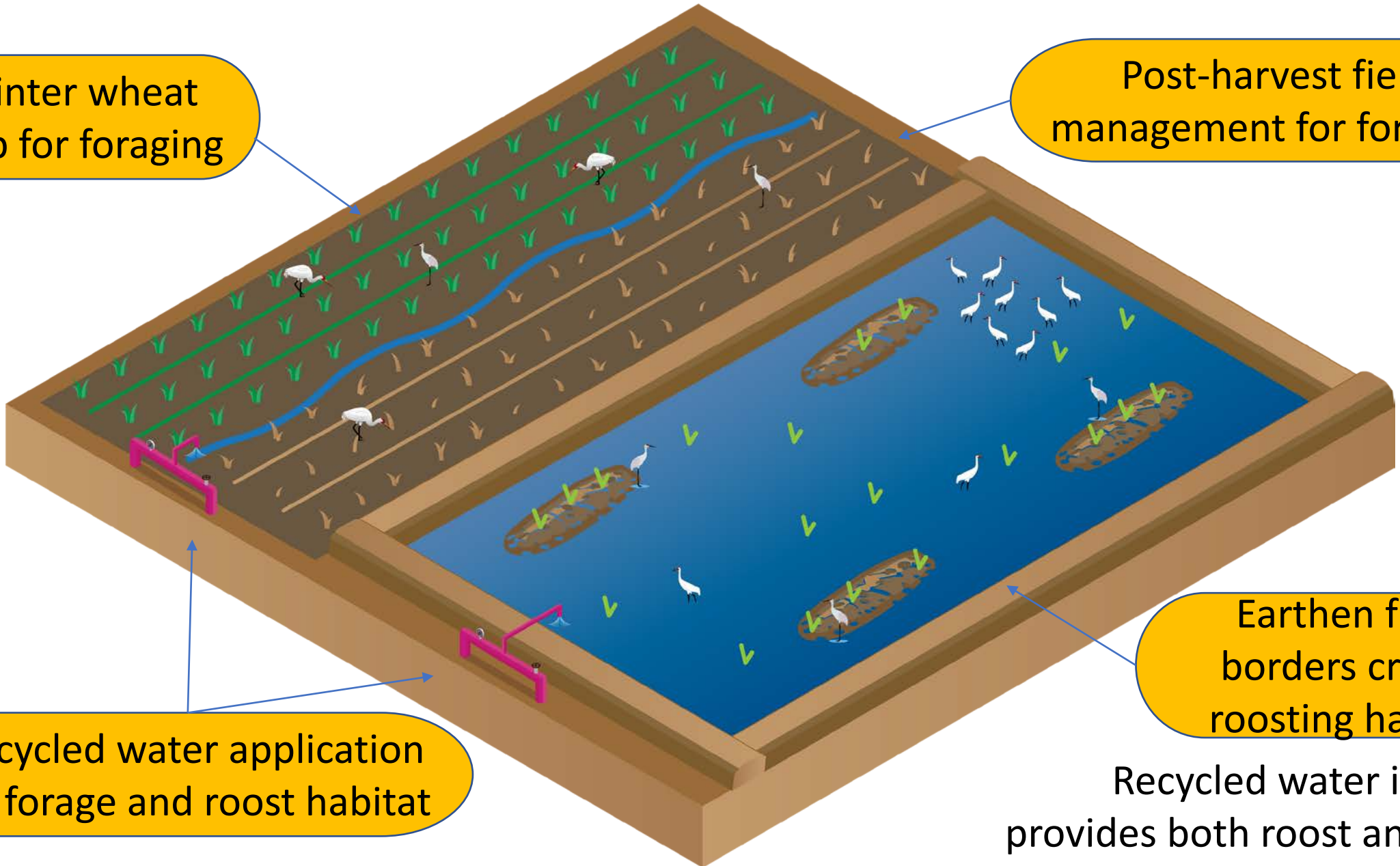


Recycled water for riparian/wetland new planting irrigation

Riparian and wetland protection with control fencing and new plantings irrigated with recycled water

Winter wheat  
crop for foraging

Post-harvest field  
management for foraging



Recycled water application  
for forage and roost habitat

Earthen field  
borders create  
roosting habitat

Recycled water irrigation  
provides both roost and forage  
opportunities for Sandhill cranes



# Other Non-Monetized Benefits

- Improved Climate Change Resiliency
- Habitat Connectivity – adjacent to other conservation projects
- Preserves Working Farmlands
- Improves Groundwater Dependent Ecosystem Science
- Recreational Benefits
- Emergency Fire Response

# WSIP Technical Scores and Determination

## Relative Environmental Value

- Received highest score of 27

## Implementation Risk

- Received highest score of 17 (normalized to 15)
- Illustrates vision and dedication to environmental stewardship
- Demonstrates quality of our analysis
- Meets the Public Benefit objectives of Prop. 1



# Program Supported by Multiple Partners



# Program Status Update





# Harvest Water Updates

- Feasibility study complete
  - Anticipate hearing by July 2021
- Petition for Change (water right) secured
- CEQA – 90% complete
  - Program Final Environmental Impact Report Certified March 2017
  - Four project-specific documents
- Environmental permitting underway
  - Lake and Streambed Alteration Agreement
  - South Sacramento Habitat Conservation Plan (HCP) - Harvest Water is a covered activity
  - Completion expected in late 2021
- LAFCo annexation approved





# Harvest Water Updates

- Branded Harvest Water name
- Achieving significant progress on landowner recruitment for both recycled water service and EcoPlan
- Developing recycled water agreements with landowners
- Performed additional groundwater and ecological benefit modeling
- Continuing work on public benefit agreements
- Developing water quality permitting strategy and coordinating with Regional Water Quality Control Board
- Achieving significant progress on capital program

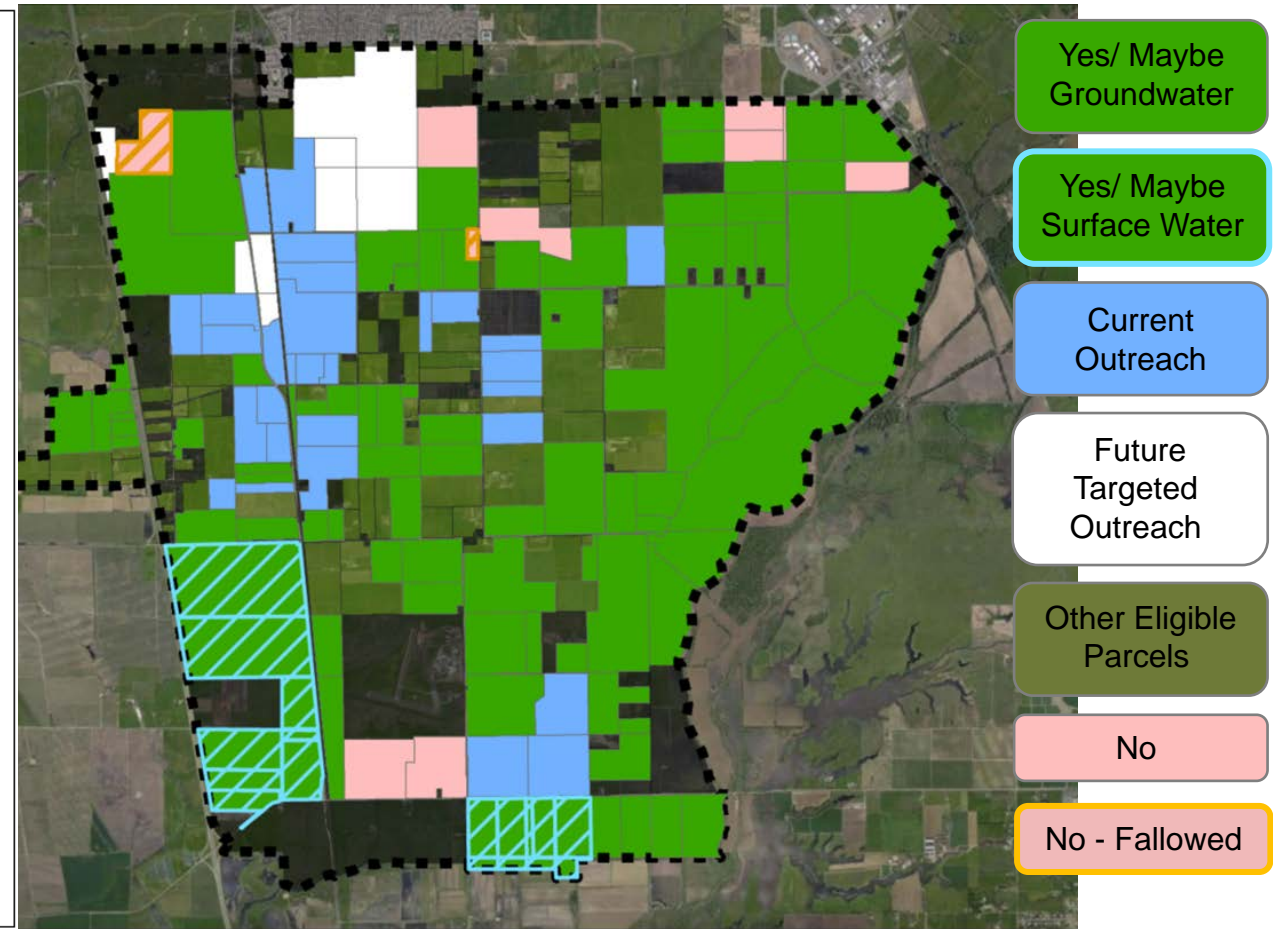
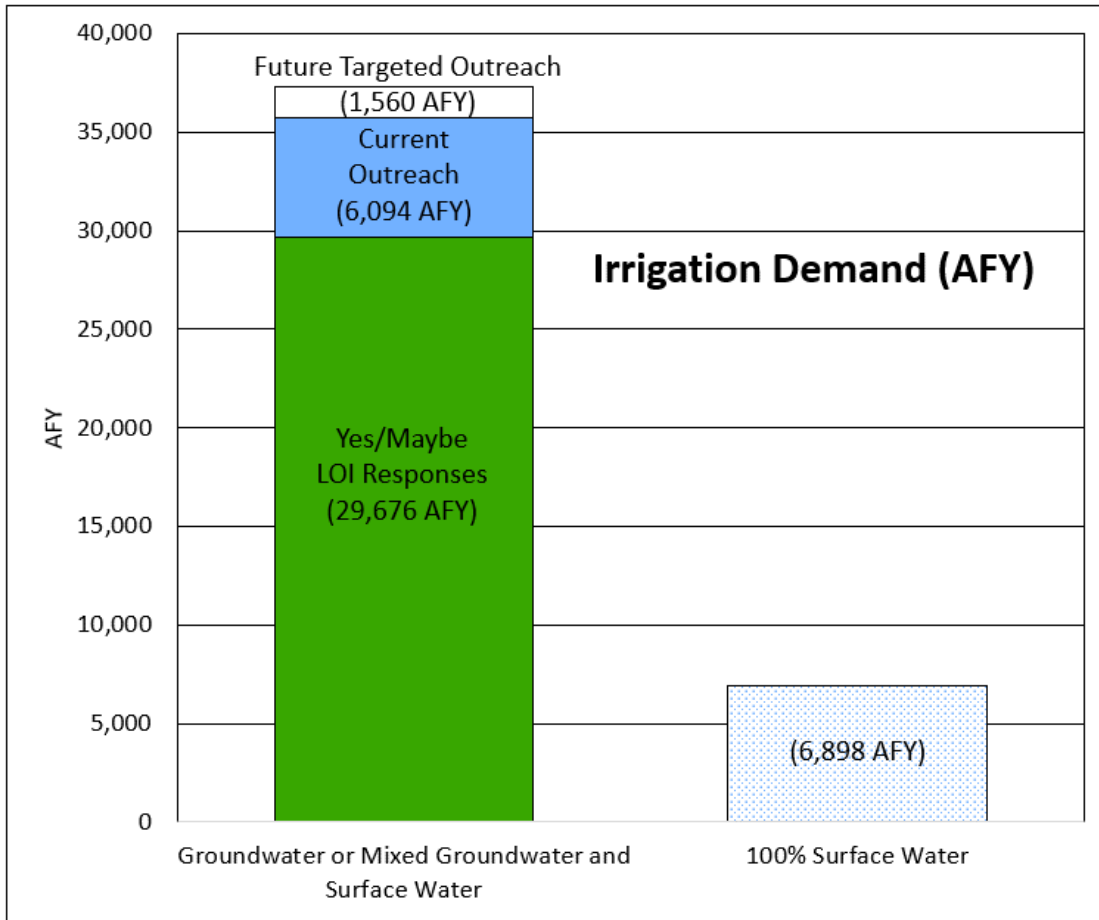


# Outreach & Recruitment

- Received 37 landowners' Letters of Intent
  - Represents ~30,000 AFY of irrigation demand
- Continued collaboration with Sac County Farm Bureau, GSAs, and other stakeholders
- Consulted with landowners about on-farm connection needs, monitoring wells, and potential for construction staging
- Developed *EcoPlan* communication materials and landowner interest survey
  - Initial efforts already show landowner interest from 38% of the total acres targeted for *EcoPlan* benefits



# Letters of Intent – Overwhelming Interest

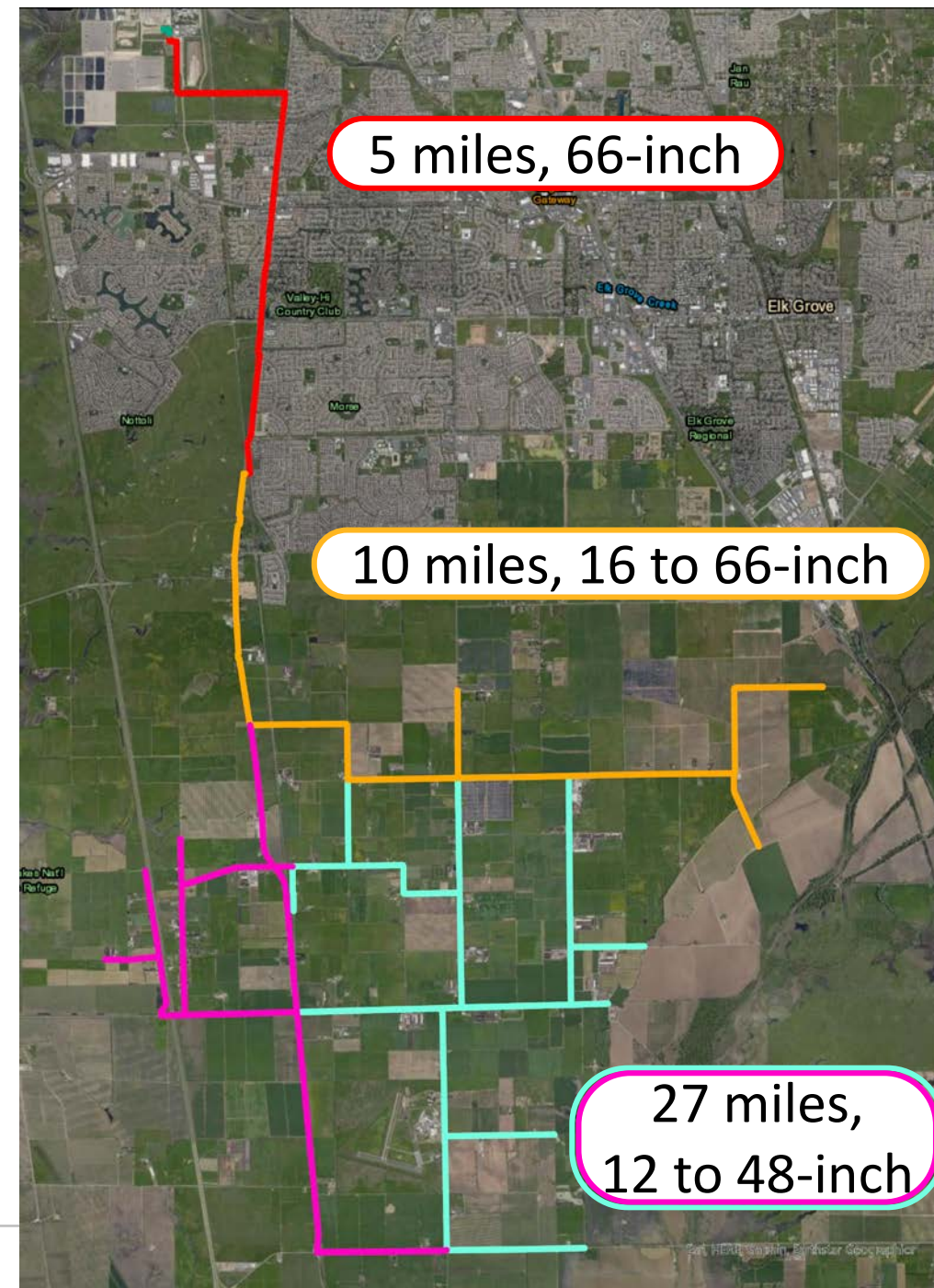


\* Letters of Intent received as of 3/10/21



# Capital Projects Overview

1. Harvest Water Pumping Station
2. Elk Grove Transmission Pipeline
3. Franklin/Eschinger Distribution Pipelines
4. Central/South Distribution Pipelines
5. West Distribution Pipelines
6. On-Farm Connections (approx. 75)

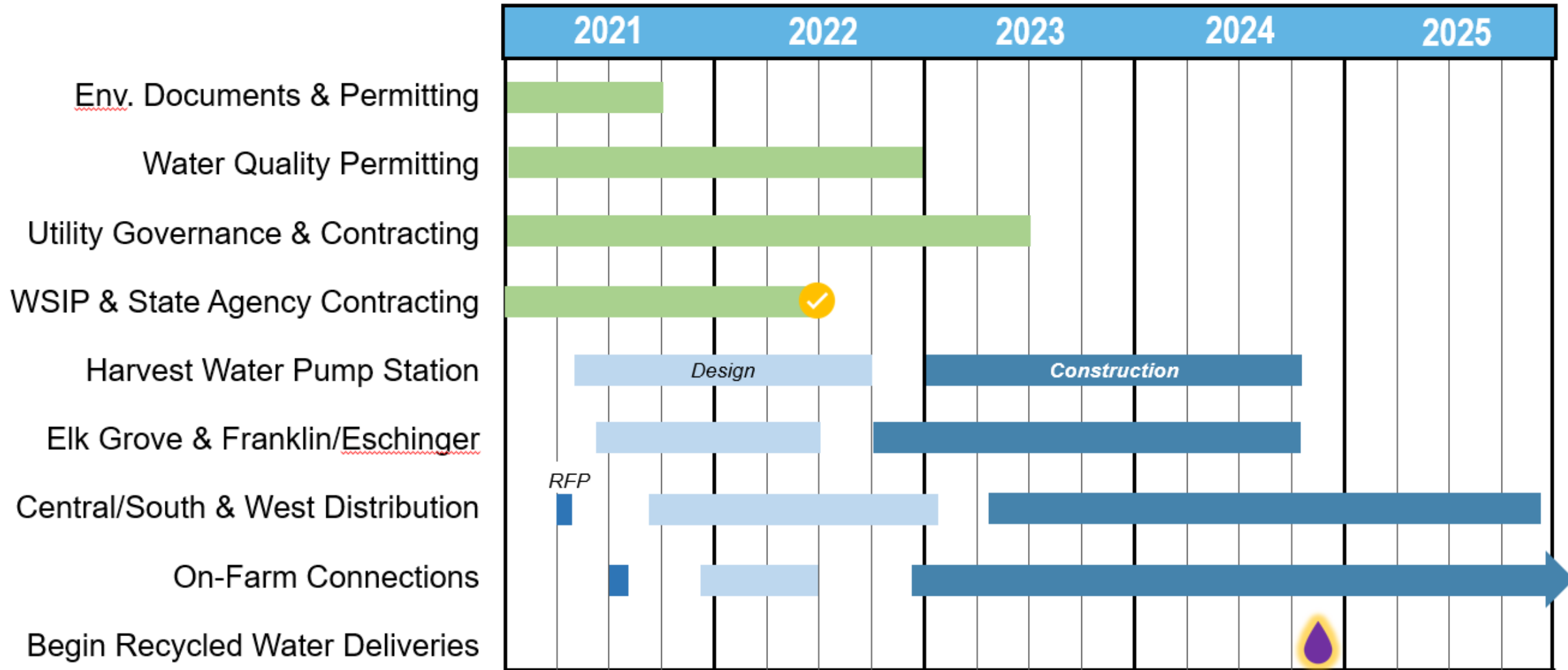


# Harvest Water Pump Station

- 105-mgd, 7 pumps
- Designer selected
- Design:
  - Apr 2021 – Sept 2022
- Construction:
  - Jan 2023 – Oct 2024



# Program Schedule





# WSIP Benefits Monetization

Benefit	\$M, 2015
Riparian	\$21.7
Wetland	\$73.6
Sandhill Cranes	\$61.2
Vernal	\$10.5
Fall-run Chinook and Flow	\$79.3
<b>TOTAL ECOSYSTEM BENEFIT</b>	<b>\$246.3</b>
Water Quality Benefit	\$47.7
<b>TOTAL PUBLIC BENEFITS</b>	<b>\$293.9*</b>

\*Approximately \$344M in today's dollars (Mar 2021).  
ENR 20-cities June 2015 to March 2021 = 17% escalation.



# Program Budget

Budget Item	\$M, 2023
Recycled Water Infrastructure Construction	\$257.4
Ecological Program	\$76.7
Other Program Costs	\$86.0
Construction & Program Contingencies	\$24.1
<b>TOTAL</b>	<b>\$444.2*</b>

\*Approximately \$358M in 2015 dollars.





# Outside Funding Sources

Secured Funding Source	\$M
WSIP Grant (2017 award)	\$280.5
WSIP Grant Increase (Jan 2021)	\$7.0
USBR WIIN Grant	\$4.2
<b>Grant Funding Secured to Date</b>	<b>\$291.7</b>

- Current funding gap of \$152.5M
- Pursuing additional funding via WSIP, WIIN and other grant sources
- Remainder to be funded by Regional San rate payers





# Early Funding Need

**Allow Regional San to continue pushing forward across all fronts to:**

- Ready the project for a CWC final funding award hearing as expeditiously as possible
- Keep an aggressive construction schedule so that the highly treated recycled water produced by EchoWater can be delivered to irrigation and habitat customers as early as possible
- Begin realizing the groundwater restoration and environmental benefits as soon as possible
- Provide continuing confidence that the State continues to support the Harvest Water Program and values its benefits



# Use of Early Funding

- Will be used to meet funding for work completed 2018-2022:
  - Program Planning
  - Basis of Design
  - Environmental Documentation
  - Environmental Permitting
- Harvest Water anticipates being ready for a feasibility hearing by July 2021
- Targeting CWC funding hearing 2022





# Early Funding Scope

- WSIP Administration
- Water Rights Support
- Recycled Water Utility Development
- Landowner/Stakeholder Outreach
- Permits and Regulatory Support
- Groundwater Accounting and Monitoring Program
- Ecological Program Development & Recruitment
- Hydraulic Modeling
- Project Validation
- Basis of Design Reports
- Project Level CEQA Documentation
- Environmental Permitting



# Early Funding

Tasks	Cost
Administrative Program Development and Management	\$3,734,000
Project Level CEQA Documentation	\$654,000
Environmental Permitting	\$543,000
Develop Ecological Program	\$4,354,000
Groundwater Accounting & Monitoring Program	\$1,398,000
Capital Program Development and Management	\$5,973,000
Regional San Staff Support	\$4,954,000
<b>ELIGIBLE ESTIMATED COST</b>	<b>\$21,610,000</b>



# Early Funding

	Cost
Eligible Estimated Costs	\$21,610,000
<b>Early Funding Request</b>	<b>\$14,375,625</b>
Total MCED	\$287,512,500
<b>Percent of Total MCED Requested</b>	<b>5%</b>





# Questions?

