Pajaro Valley Water Resources Management

Santa Cruz County Water Advisory Commission, August 2, 2023

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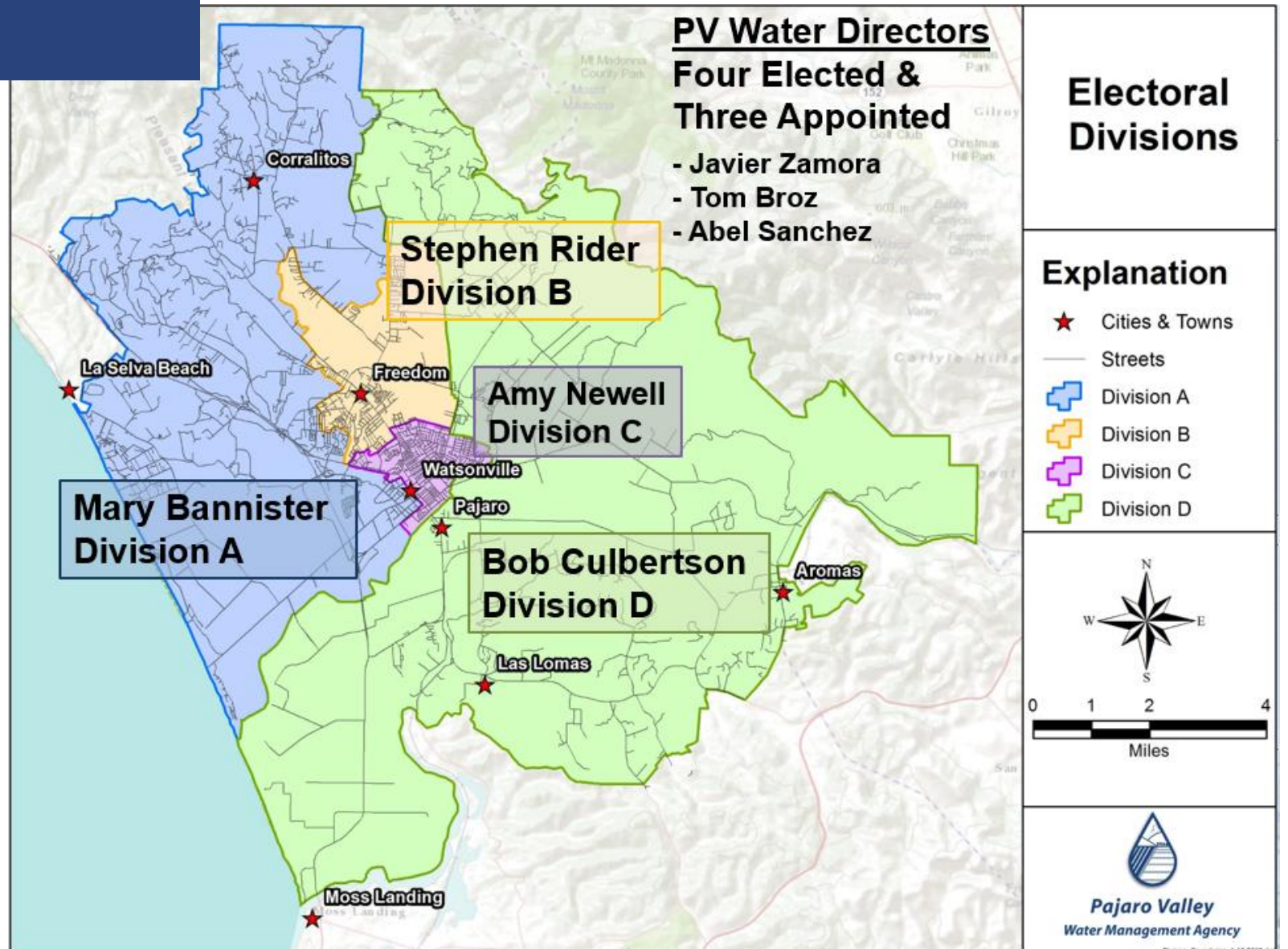
Pajaro Valley
Water Management Agency

Presentation Outline

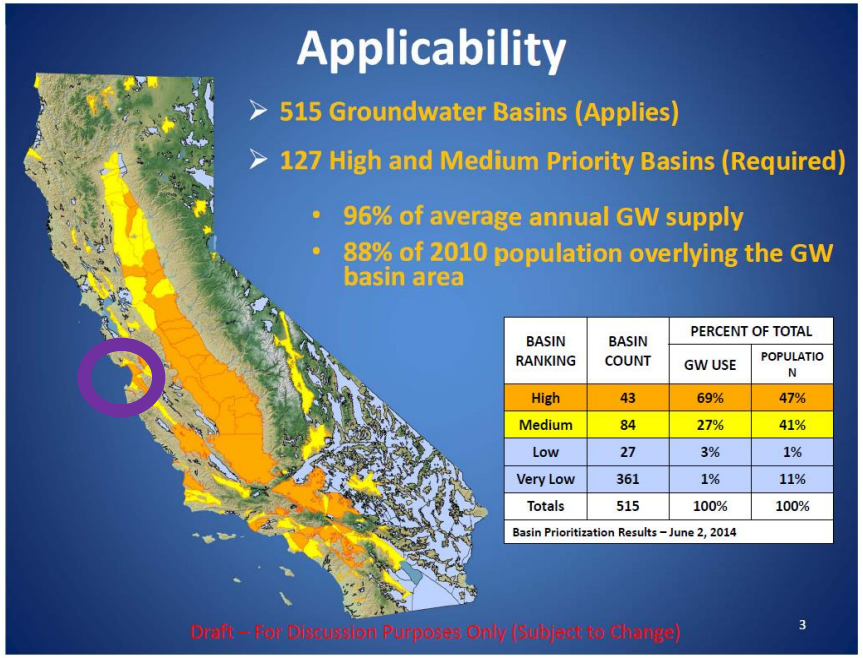
- Acknowledgements
- Governance
- SGMA
- State of the Basin
- Summary of Management Actions & Water Supply Projects
- College Lake Integrated Resources Management Project
- Watsonville Slough System Managed Aquifer Recharge & Recovery Project
- Questions

PV Water Governance



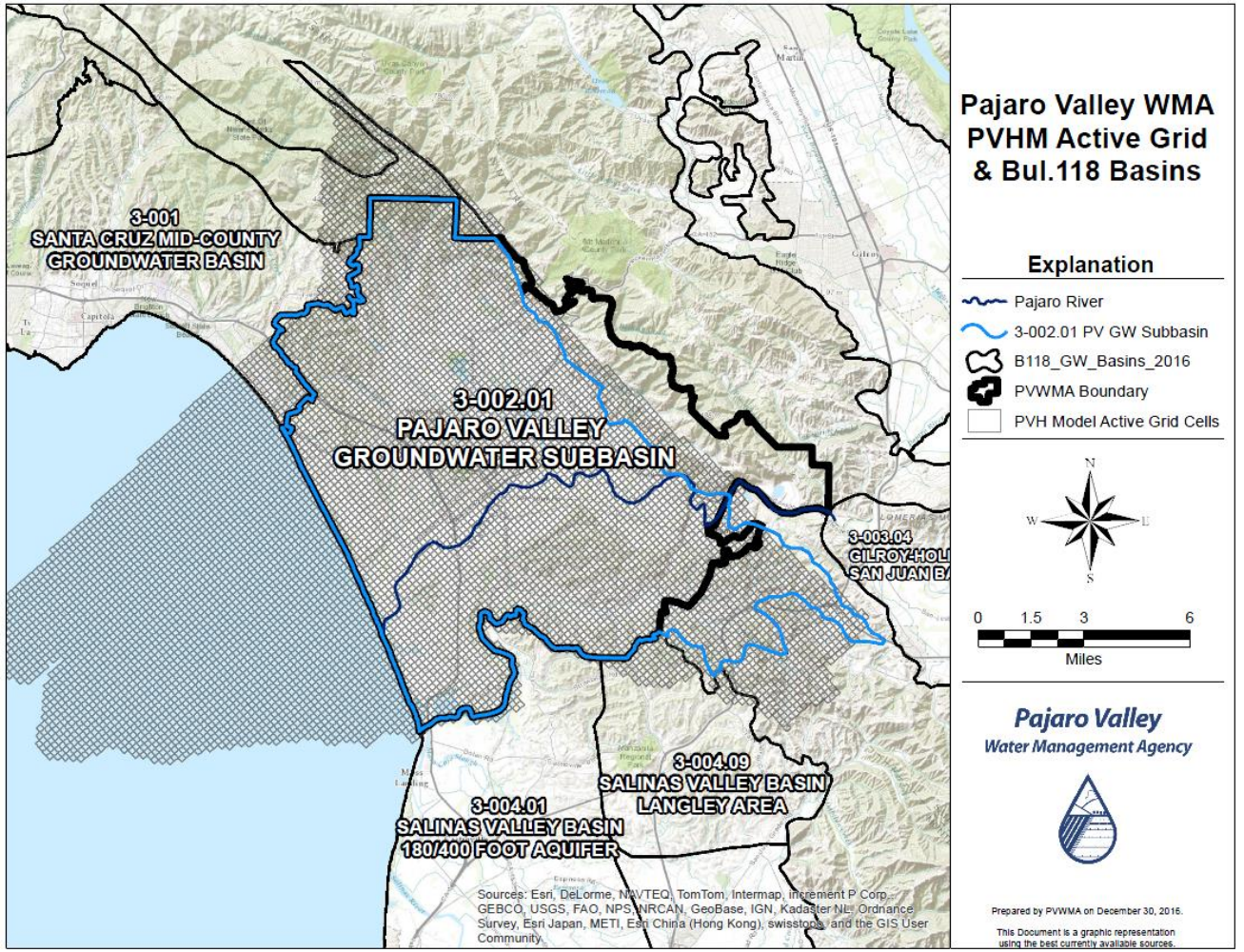
Sustainable Groundwater Management Act

- The Sustainable Groundwater Management Act (SGMA, 2014) requires that high priority, critically overdrafted groundwater basins such as the Pajaro Valley Basin achieve sustainable groundwater resources by 2040.
  - *If not, the State Water Resources Control Board has the authority to impose pumping restrictions to achieve sustainability*.
  - Six Sustainability Indicators

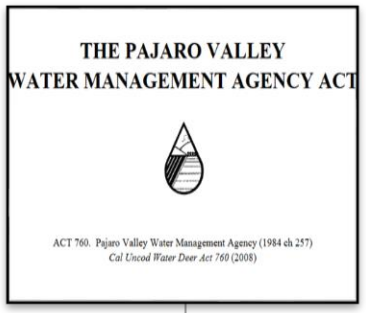


PV Water & SGMA

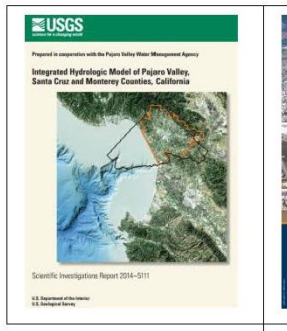
- PV Water est. 1984 (30 years before SGMA)
- Multi-jurisdictional: Portions of Santa Cruz, Monterey and San Benito Counties; City of Watsonville
- Well metering begins in 1995 (water accounting and revenue generating)
- Basin Management Plans (aka Plan to achieve Groundwater Sustainability) in 1993, 1999, 2002, 2014
- SGMA Adopted, Fall 2014
- Groundwater Sustainability Agency, Fall 2015
- Basin Boundary Modification, Spring 2016
- Groundwater Sustainability Plan - Alternative Submittal, Winter 2016, Annual Reports
- DWR Approves GSP Alternative, July 2019
- First Periodic Update Submitted Dec. 2021
- Implementing Management Actions and Projects

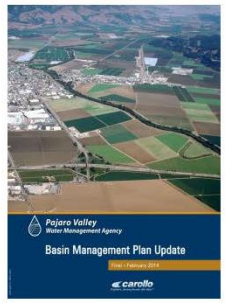


PV Water, SGMA, and the GSP Alternative



Pajaro Valley Water Management Agency Act Establishes PV Water" in 1984



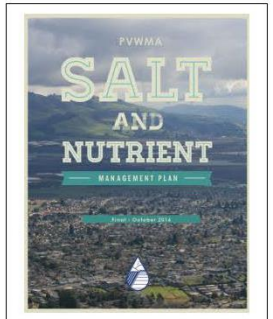


2014 PVHM Report*

February BMP 2014*

September SGMA

August 2015 PV Water elects to be GSA



Early 2016 Basin Boundary Modification

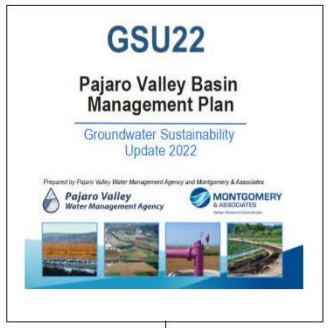
October 2016 SNMP*

December PV GSP Alternative

July 2019 DWR approves PV GSP Alternative

2020 Prop 68 grant to fund GSU22

August 2020 GSU22 process commences



January 2022 GSU22 due**

2025 Planned completion of BMP 2014 Phase 1 implementation

PV Water submitted GSP Alternative in 2016; Basin Management Plan: Groundwater Sustainability Update 2022 (GSU22), the 5-Year Update of the GSP Alternative, submitted in December 2021

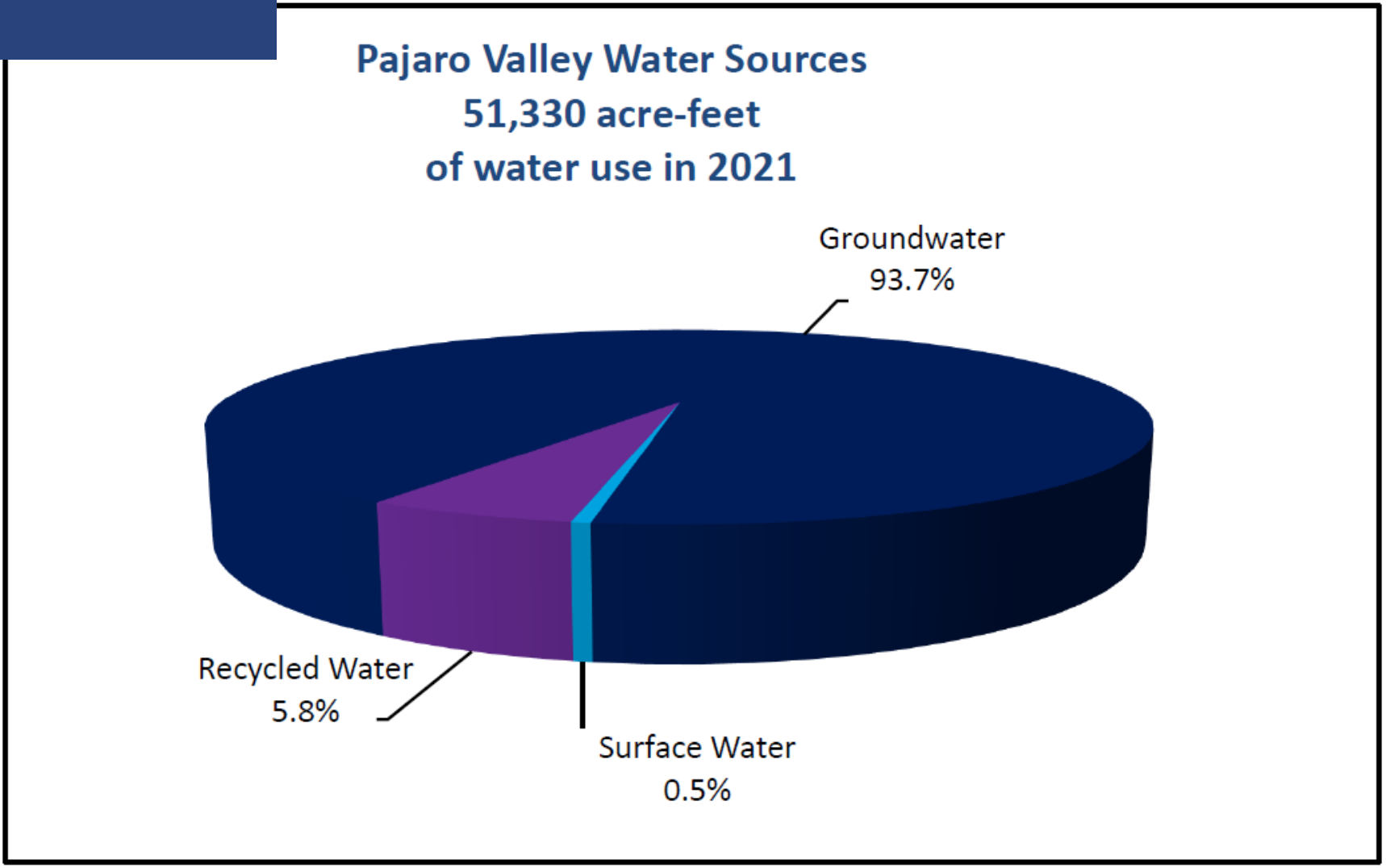
Pajaro Valley Water Use

2021 Valley-wide Water Use

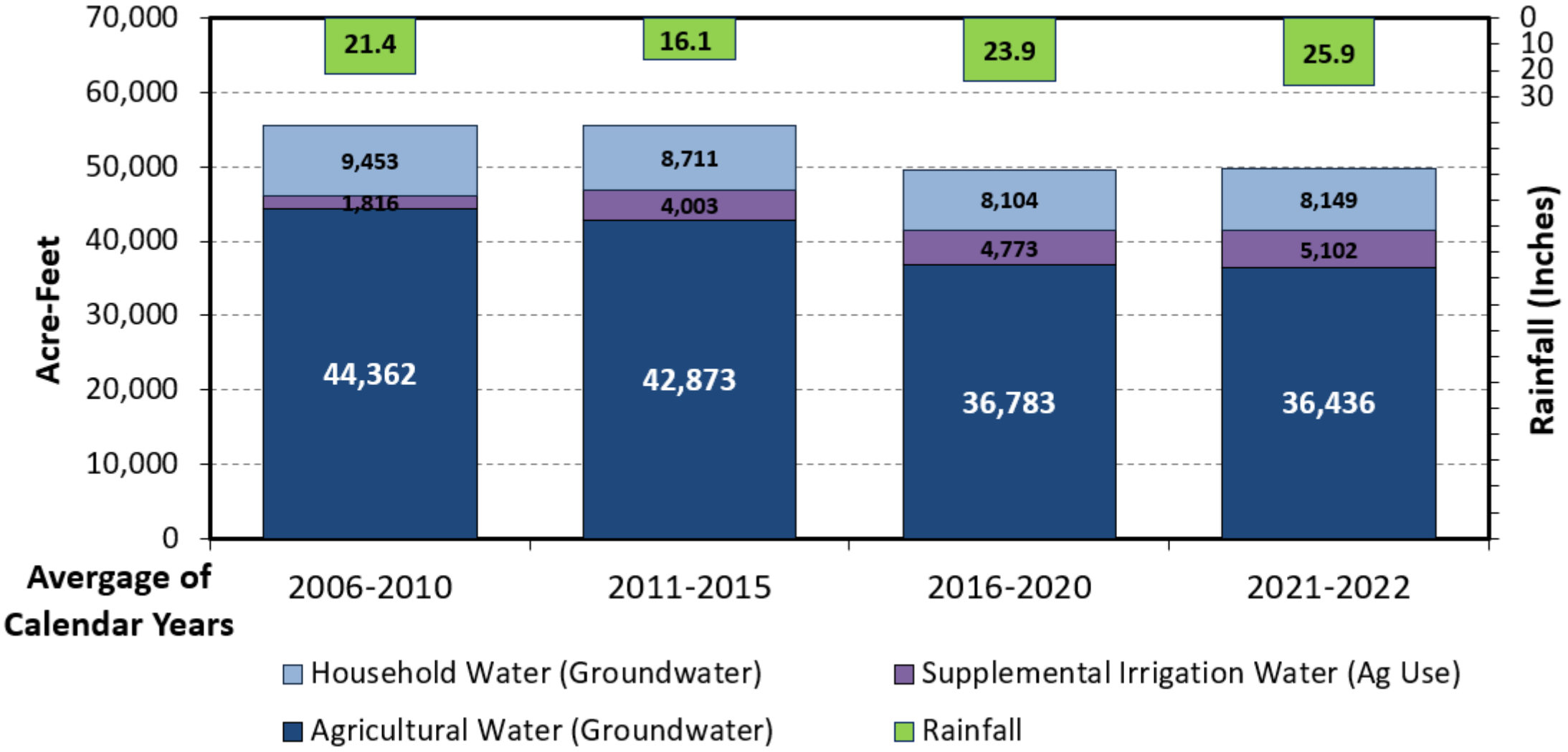
- Agriculture ~ 81%
- M & I ~ 19%

Water Sources

- 93.7% Groundwater
  - ~850 Ag Wells
  - ~1,200 RR Wells
- 5.8% Recycled Water
- 0.5% Surface Water

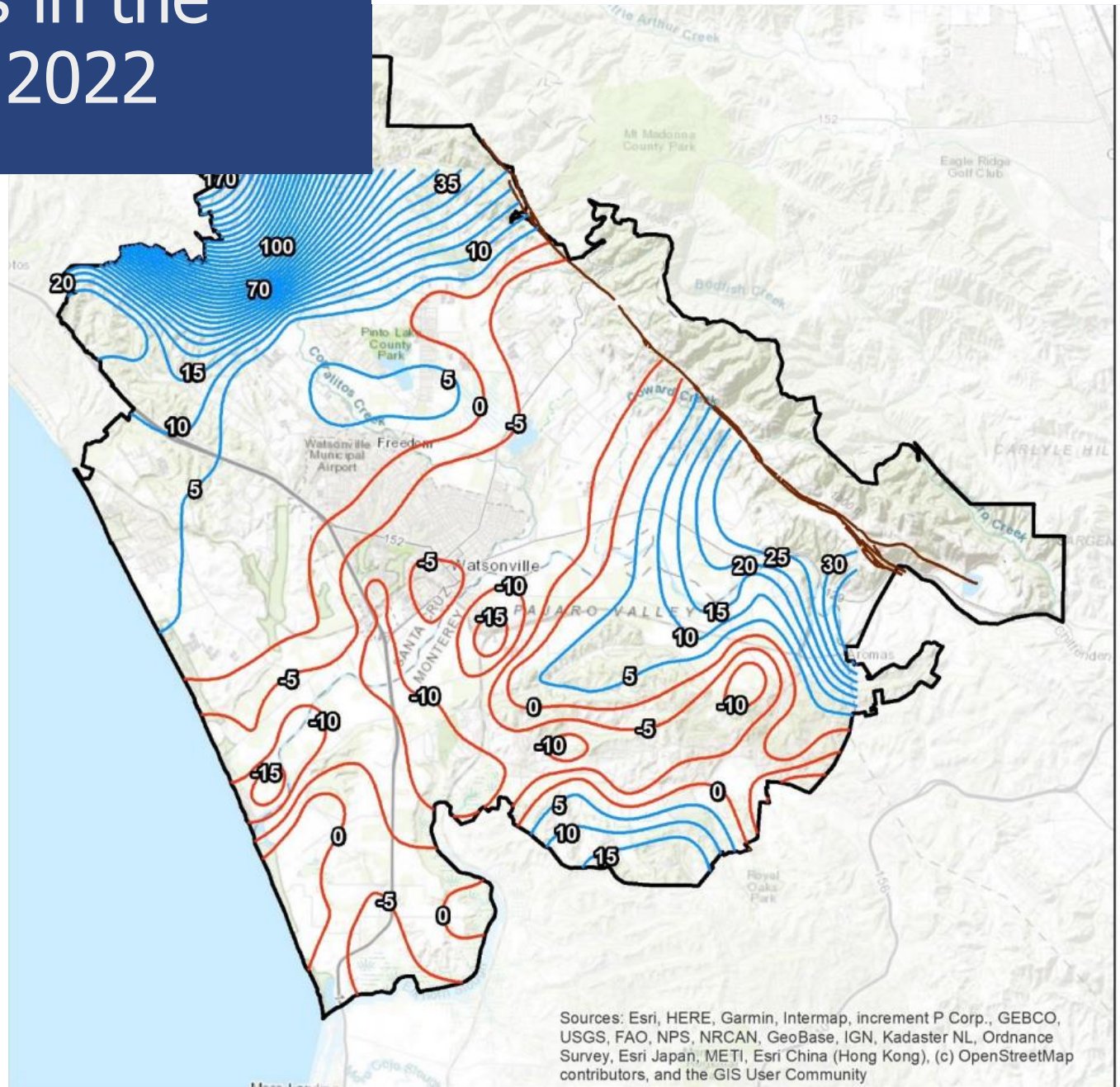


Pajaro Valley Water Use



Groundwater Levels in the Pajaro Valley – Fall 2022

Groundwater levels are regularly below sea level from ocean to the San Andreas Fault.



Pajaro Valley Basin Groundwater Elevation Fall 2022

Explanation

Groundwater Contours (ft NAVD88)

- Above Mean Sea Level
- Below Mean Sea Level
- San Andreas Fault
- PV Water Boundary

N
W
E
S

0 1 2 4

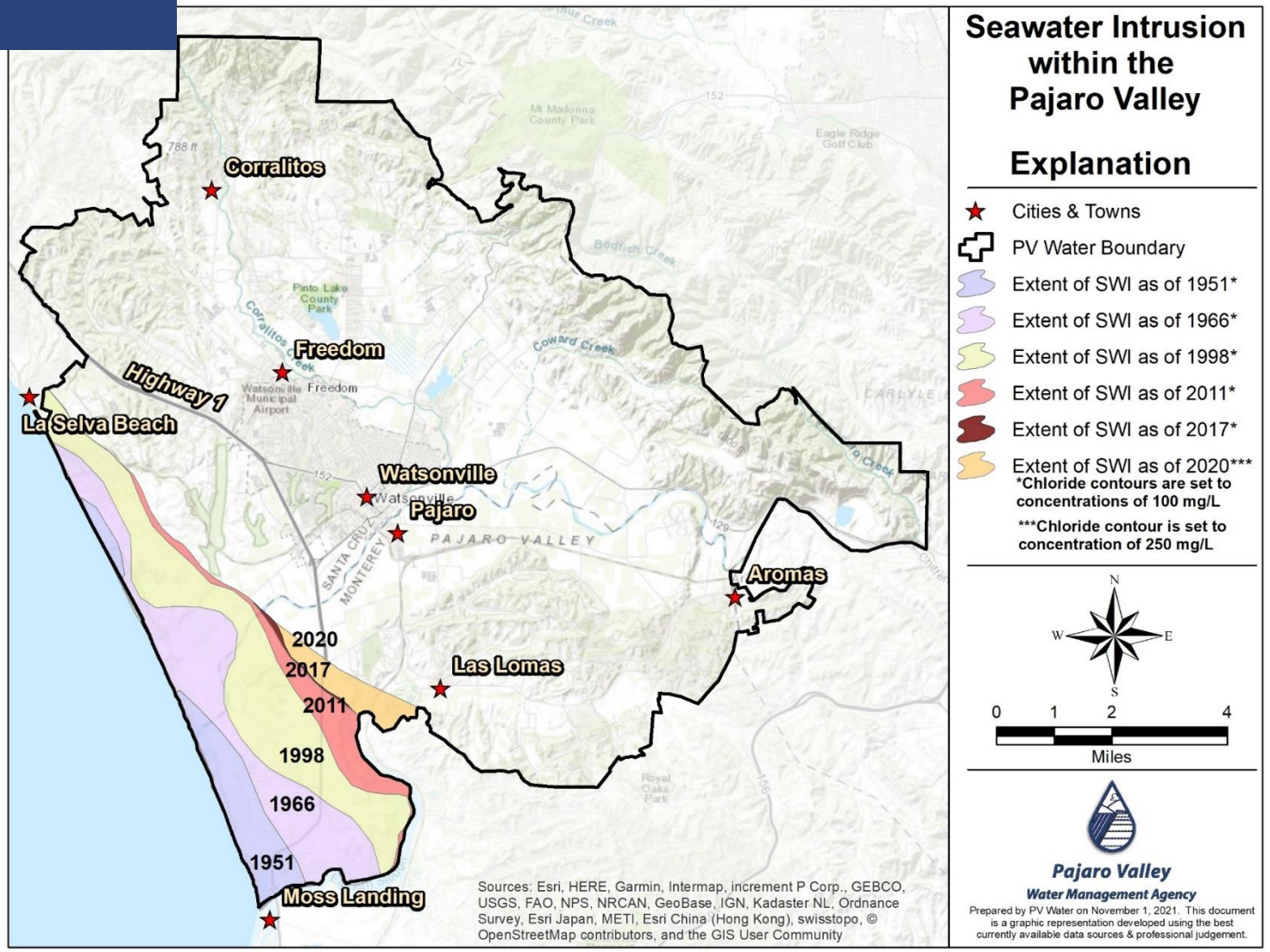
Miles

Pajaro Valley Water Management Agency

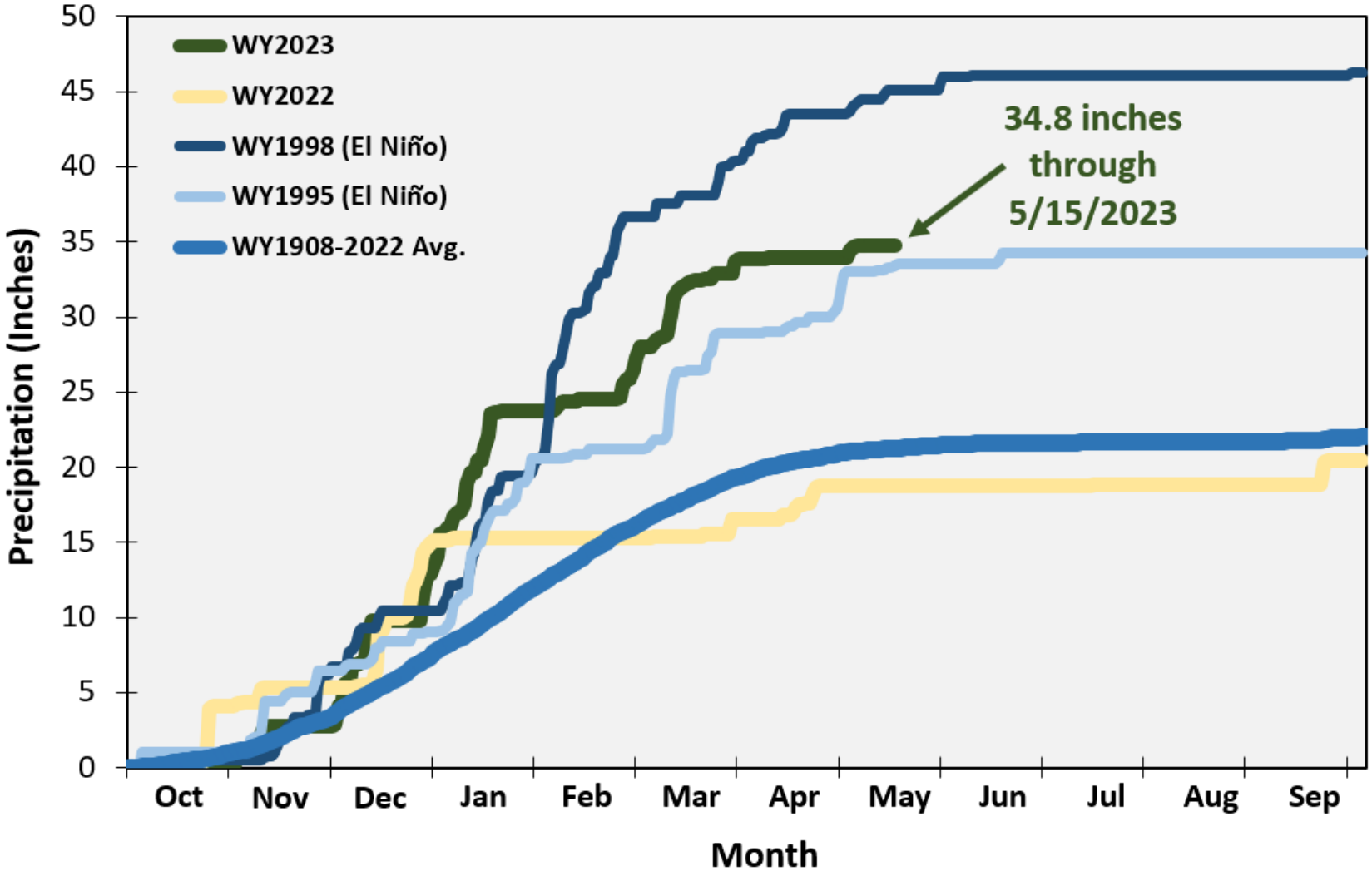
Prepared by PV Water on February 9, 2023.
This Document is a graphic representation developed using the best currently available data sources & professional judgement.

Seawater Intrusion

Seawater Intrusion as indicated by minimum groundwater chloride concentrations of 250 mg/L



Pajaro Valley
Cumulative Precipitation



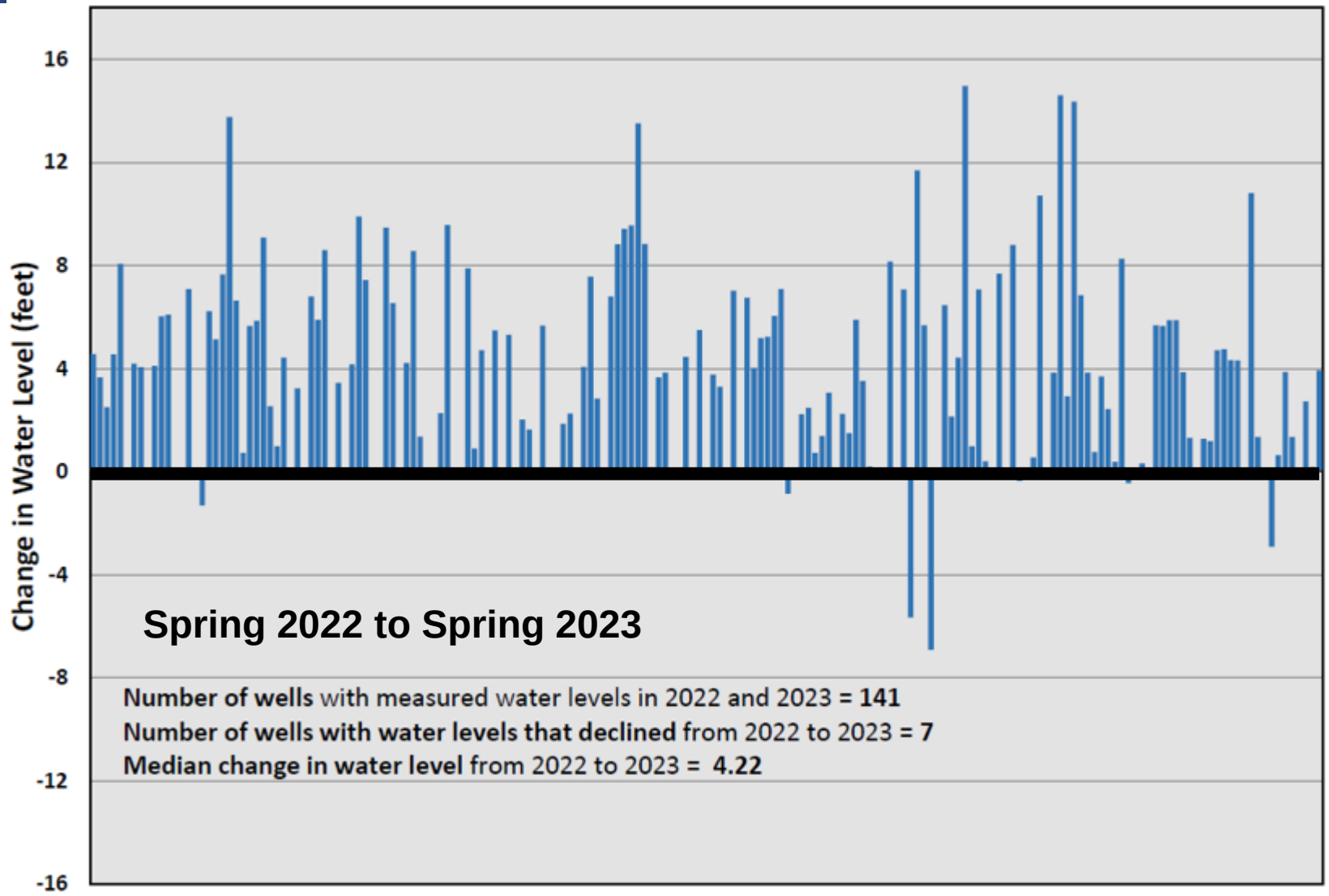
Data Source: Station WTW operated by City of Watsonville, https://xmacis.rcc-acis.org/

Existing Water Supply Facilities to Reduce Overdraft & Seawater Intrusion

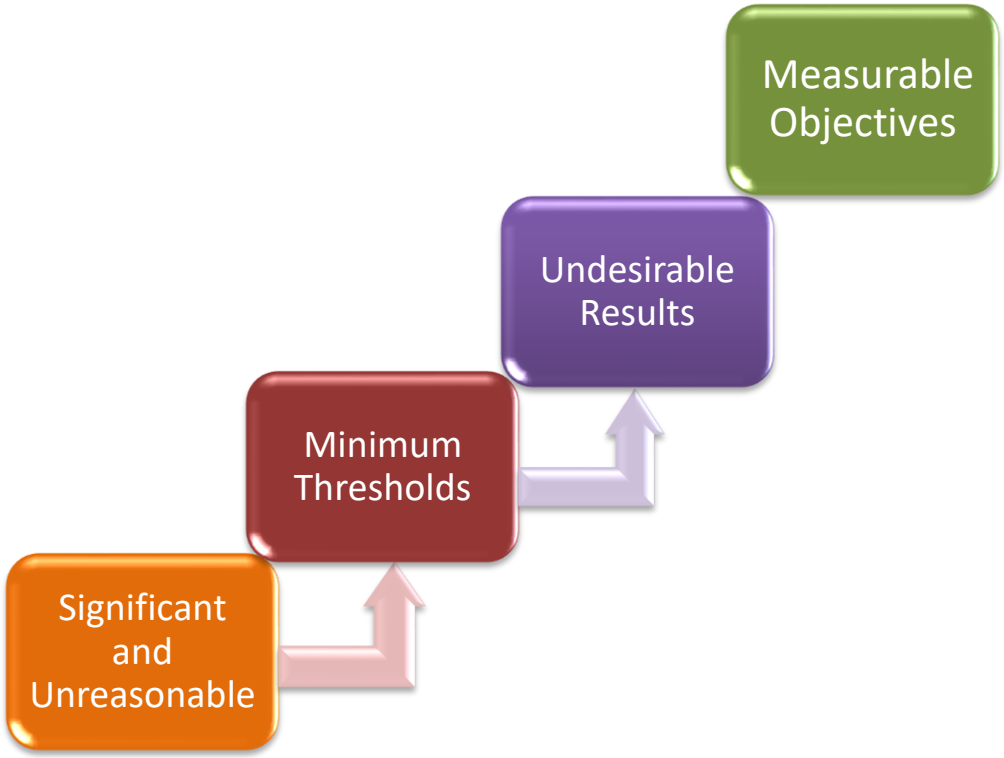
- **Harkins Slough Facility**
  - Managed Aquifer Recharge & Recovery
  - Stream flow diversion
  - Over 10,000 AF recharged since 2002
- **Recycled Water Facility**
  - Average of 3,180 AFY, 2018 through 2022
  - Drought tolerant supply
  - Reduced discharge of secondary effluent to Monterey Bay National Marine Sanctuary
- **Coastal Distribution System**
  - Over 22 miles of water conveyance pipeline
- **Blend Supplies**

One-Year Change in Groundwater Levels

Groundwater levels have increased 4.2 feet in the since spring 2022.



Sustainability Status – Important Terminology



Sustainable Management Criteria (SMC)

- Sustainability achieved by avoiding undesirable results
- **Undesirable results (UR)** are combination of **minimum threshold (MT)** exceedances that represent **significant and unreasonable conditions**
- Undesirable results after 2040 may result in State intervention in Basin management
- **Measurable objectives (MO)** are management goals to provide operational flexibility to prevent undesirable results and include **interim milestones (IM)**

Sustainability Status

	WY2022 Sustainability Evaluation	Minimum Threshold	Undesirable Results	2025 Interim Milestone	Measurable Objective
	Seawater Intrusion	✓	✓	N/A	☒
	Groundwater in Storage	✓	✓	✓	✓
	Groundwater Levels	✓	✓	✓ 2 of 18	☒
	Interconnected Surface Water	N/A	N/A	☒	☒
	Water Quality	☒ Coastal Zone Nitrate	☒ Coastal Zone Nitrate	N/A	☒

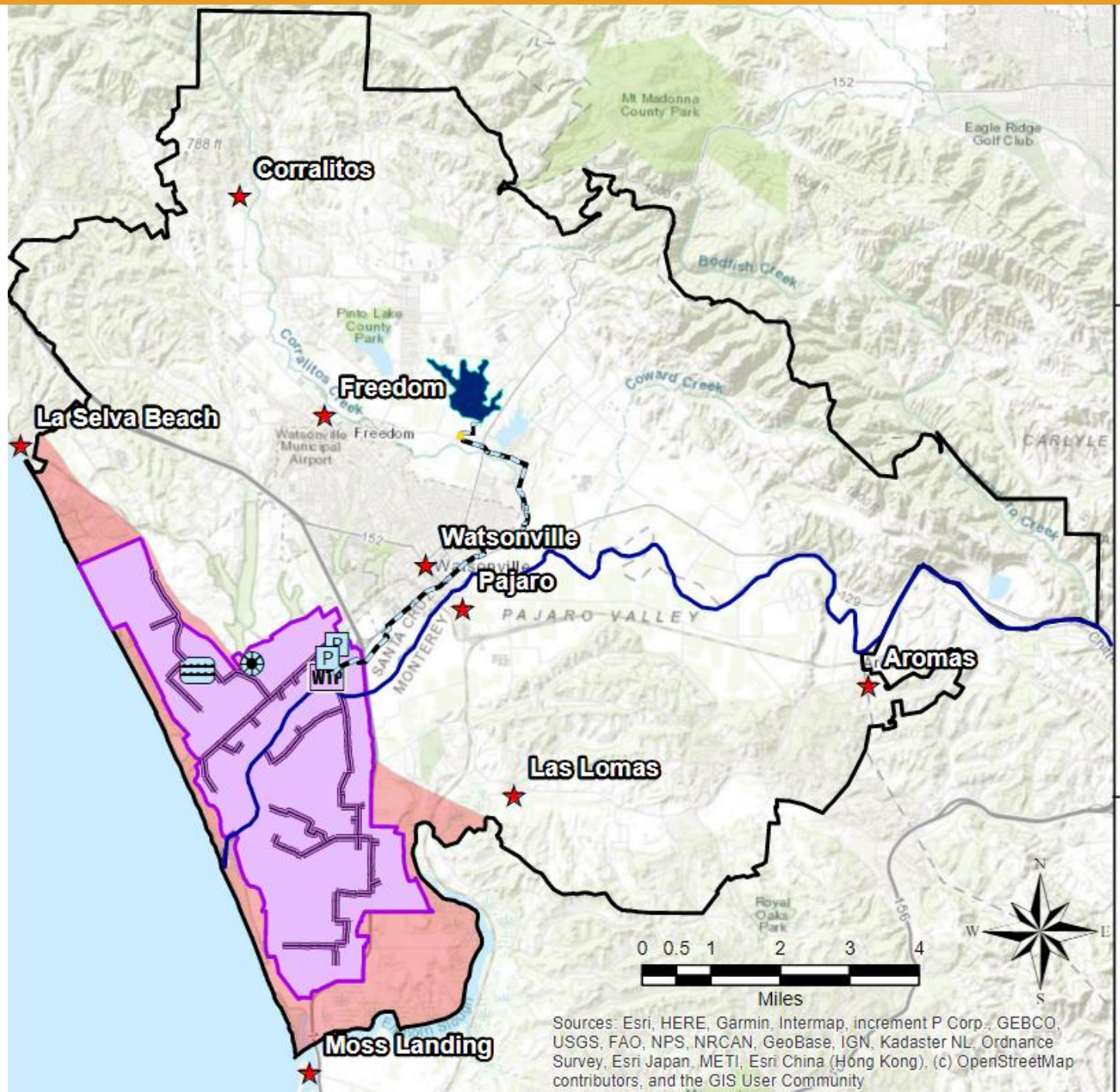
College Lake Project

To Further Protect our Shared Water Resources

Agricultural Water Demand in Delivered Water Zone ~ 10,000 AFY

Existing Facilities Produce ~ 5,000 AFY

College Lake Project will yield an average of 1,800 to 2,300 AFY



College Lake Project & Existing Water Supply Facilities

Explanation

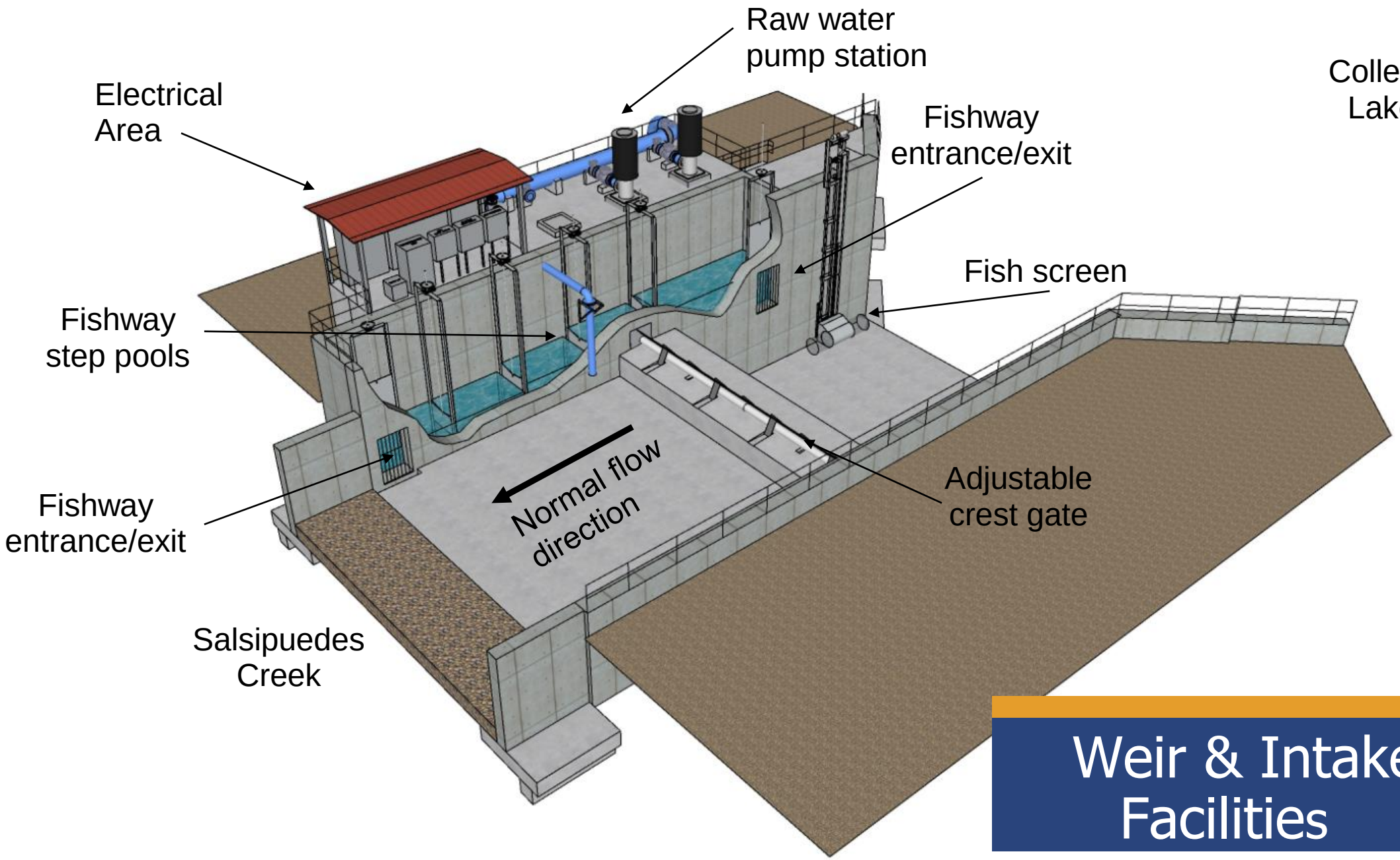
- Blend Wells
- Harkins Slough Diversion
- Recharge Basin
- Recycled Water Facility
- Coastal Distribution System
- College Lake Pipeline
- Pajaro River
- Delivered Water Zone
- PV Water Boundary
- Water Treatment Plant
- College Lake
- Seawater Intrusion*

*Extent of seawater intrusion area represents chloride concentrations greater than 250 mg/L.

Pajaro Valley Water Management Agency

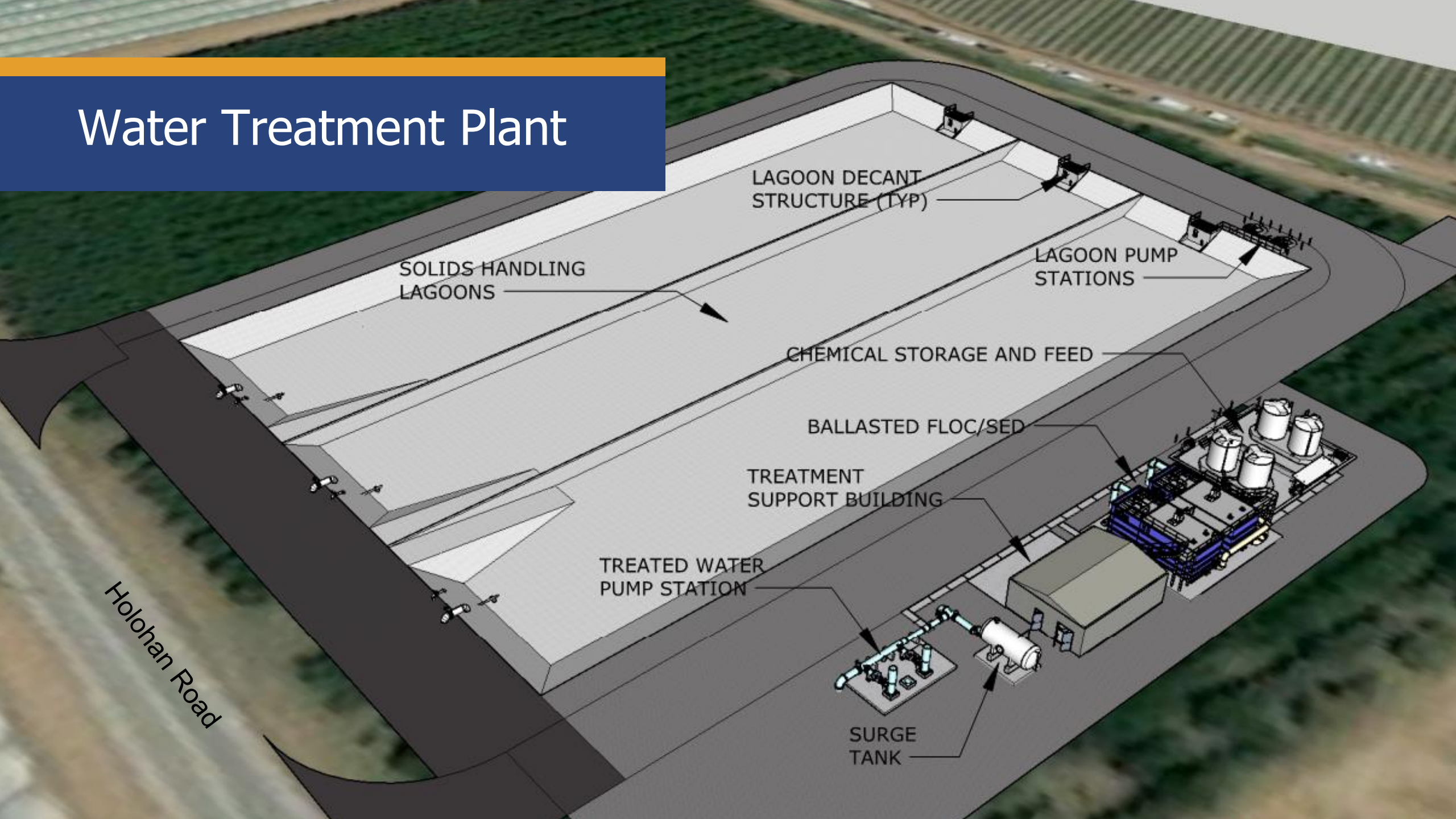
Prepared by PV Water on October 28, 2022.
This Document is a graphic representation developed using the best currently available data sources & professional judgement.

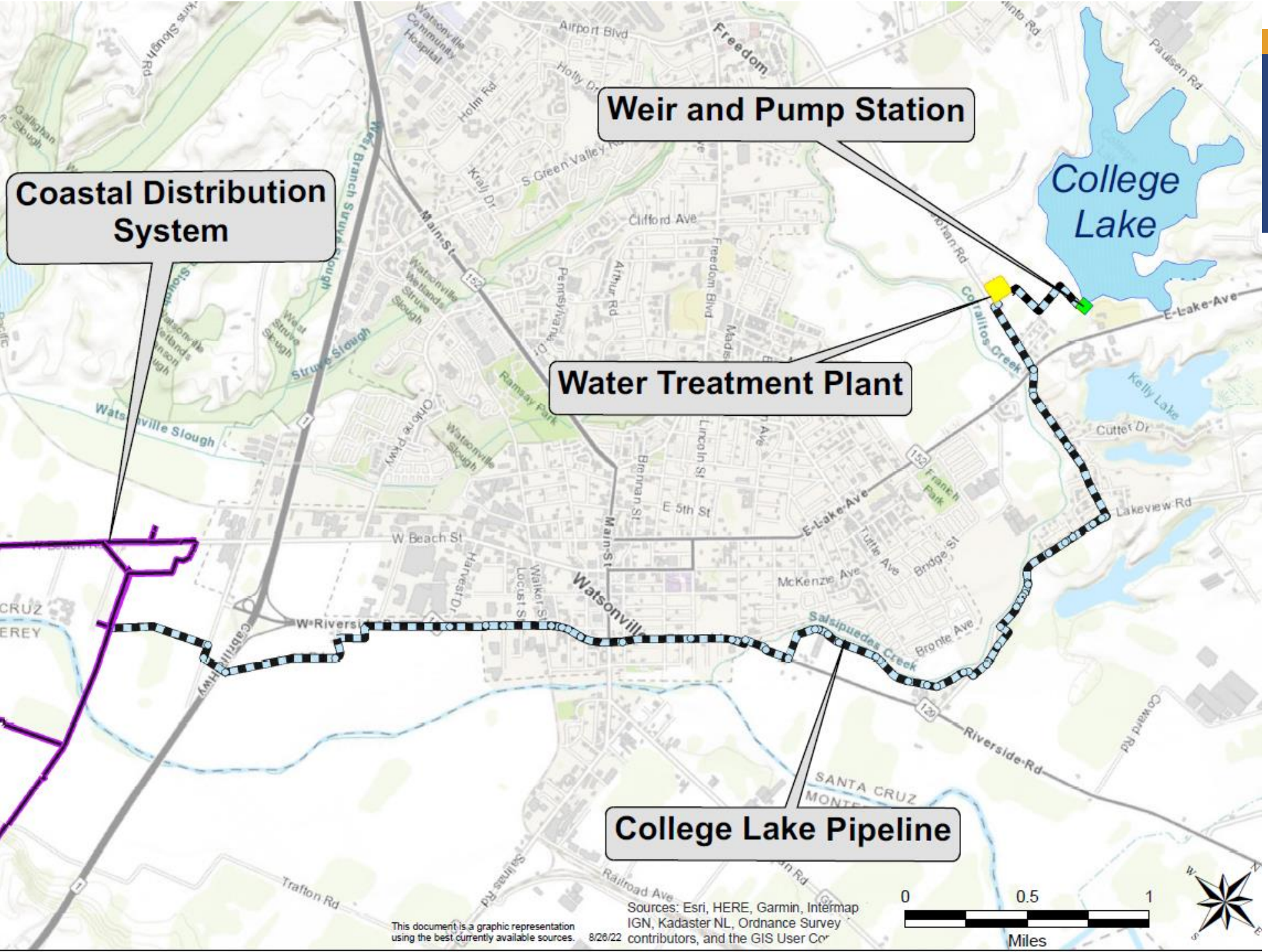

1990s
College Lake Identified as a Potential Water Supply Project
2000 - 2002
Local Water Supply Projects EIR and Revised Basin Management Plan (BMP)
2010 - 2012
Ad Hoc BMP Committee Recommends College Lake as a Phase I Project
2014
Board Certifies Program EIR & Approves "BMP Update"
2016
PV Water hosts Community Meeting and prepares BMP Implementation Strategy
2017
PV Water hosts several College Lake Project Meetings
2019
PV Water hosts EIR Public Meetings; Board Certifies EIR
2021
State Water Board Approves Water Right Permit
2022
Board Adopts Adaptive Management Plan, Approves EIR Addendum
2023
Construction Commences



Weir & Intake Facilities

Water Treatment Plant





Pipeline Route - 6 miles

Traffic management during construction on the following roads:

- Holohan Rd
- East Lake Ave
- College Rd
- Lakeview Rd
- Riverside Rd/ HWY129
- All intersections of the above roadways

Watsonville Slough System Managed Aquifer Recharge and Recovery Project

- Harkins Slough Facilities Upgrade Project
- Struve Slough Project
- Goals:
  - Diversion, recharge & recovery of up to 4,000 AFY

Thank you.

Comments / Questions?
Email: Lockwood@pvwater.org
Website: www.pvwater.org

Protecting the future of the Pajaro Valley
COLLEGE LAKE
WATER SUPPLY PROJECT
pvwater.org

College Lake Guide

College Lake Page