EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

# ESJ Public Meeting - Background

## August 29, 2018

# About SGMA

# What is SGMA?

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

The **Sustainable Groundwater Management Act**, or SGMA, is new statewide legislation that establishes a path for the sustainable management of groundwater for the first time in California's history.

# What Does SGMA Require?

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- Groundwater Sustainability Agencies (GSAs) must be formed, and prepare and submit Groundwater Sustainability Plans (GSPs) by
  - **January 2020 for critically overdrafted basins**
  - January 2022 for remaining high and medium priority basins
- GSPs must include measurable objectives and milestones in increments of five years to **achieve sustainability within 20 years of GSP adoption**
- GSP development must be open and transparent

# Eastern San Joaquin is Classified as Critically Overdrafted

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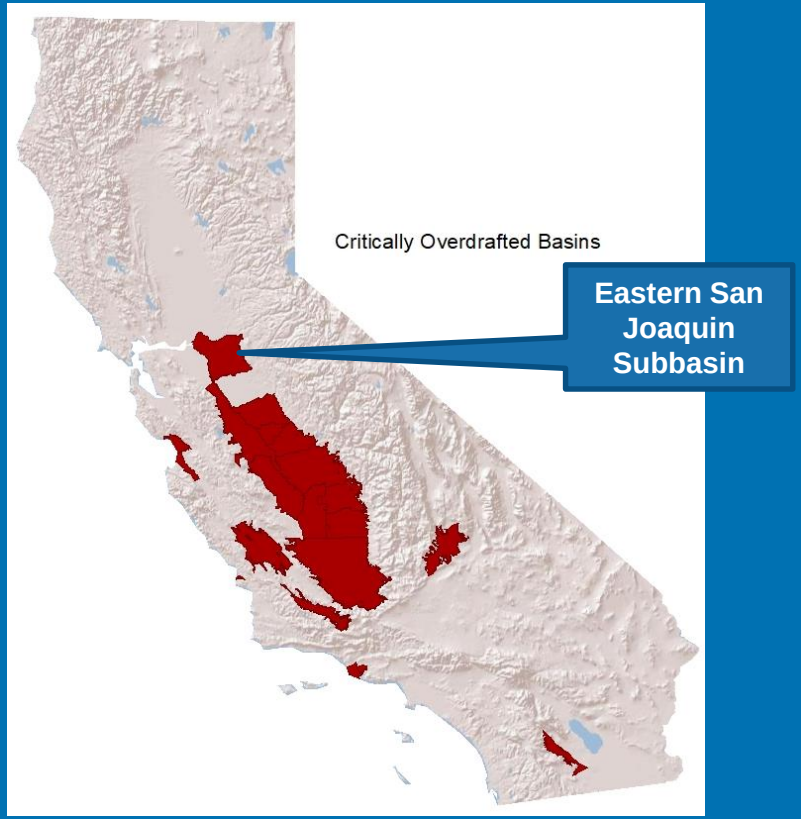


This means an accelerated GSP submittal deadline of January 31, 2020

# Eastern San Joaquin is Classified as a "High Priority" Basin

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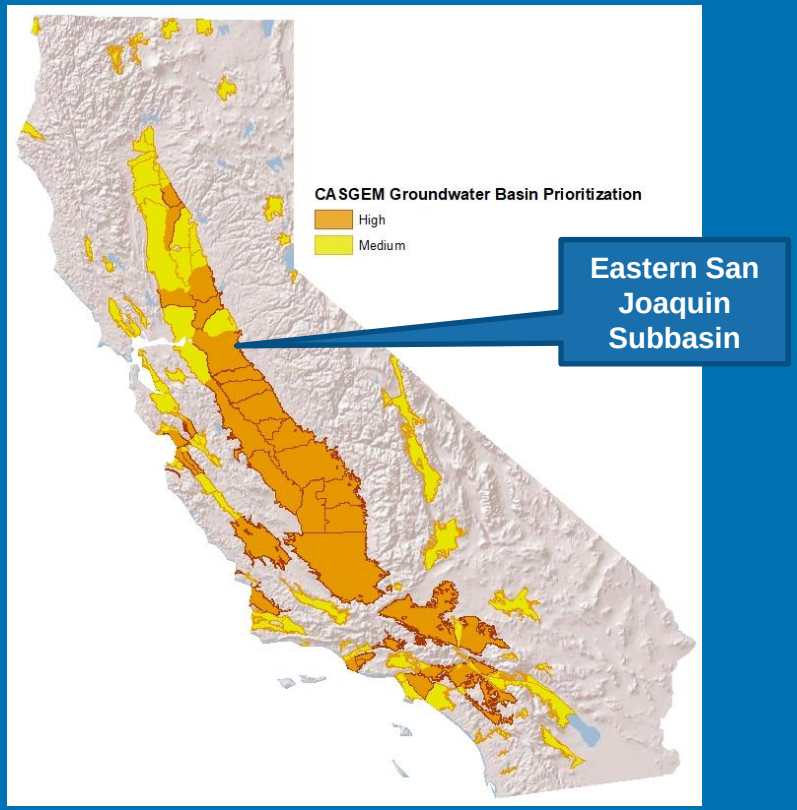


If not critically overdrafted, all other high and medium priority basins have a January 2022 deadline

# GSP Development Approaches

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## 1 Basin, 1 GSA, 1 Plan

- One GSA assumes responsibilities and authorities for the entire basin
- New or existing agency

## 1 Basin, Multiple GSAs, 1 Plan

- Several GSAs in same basin
- Requires significant coordination among GSAs
- Still evaluated based on basin-level implementation of GSP


## 1 Basin, Multiple GSAs, Multiple Plans

- Flexibility in terms of responsibilities and authorities
- Requires a single coordination agreement among all GSAs for the entire basin
- Still evaluated based on basin-level implementation of GSP (could get messy)

# GSPs are Required to Include Common Elements

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- Basin Setting
- Undesirable Results & Sustainability Goals
- Measurable Objectives, Minimum Thresholds, and Interim Milestones
- Monitoring Network
- Projects and Management Actions
- Annual Groundwater Sustainability Plan (GSP) Reporting

# SGMA Requires Accounting of All Water Uses and Sources

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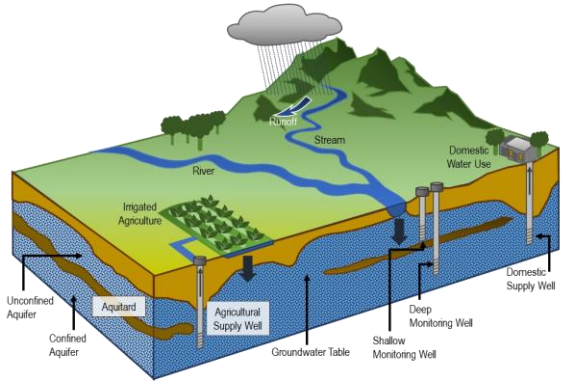
## Water Budget:

- Accounting of the total groundwater and surface water entering and leaving a basin
- Developed using the ESJ Basin's calibrated and validated integrated groundwater-surface model



# SGMA Requires Six Sustainability Indicators to be Addressed

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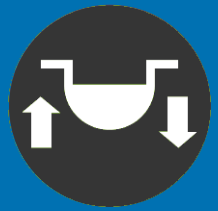
Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply

Significant and unreasonable degraded water quality

Significant and unreasonable reduction of groundwater storage

Significant and unreasonable land subsidence

Significant and unreasonable seawater intrusion



Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

# SGMA in ESJ

# Where is the Eastern San Joaquin Subbasin Boundary?

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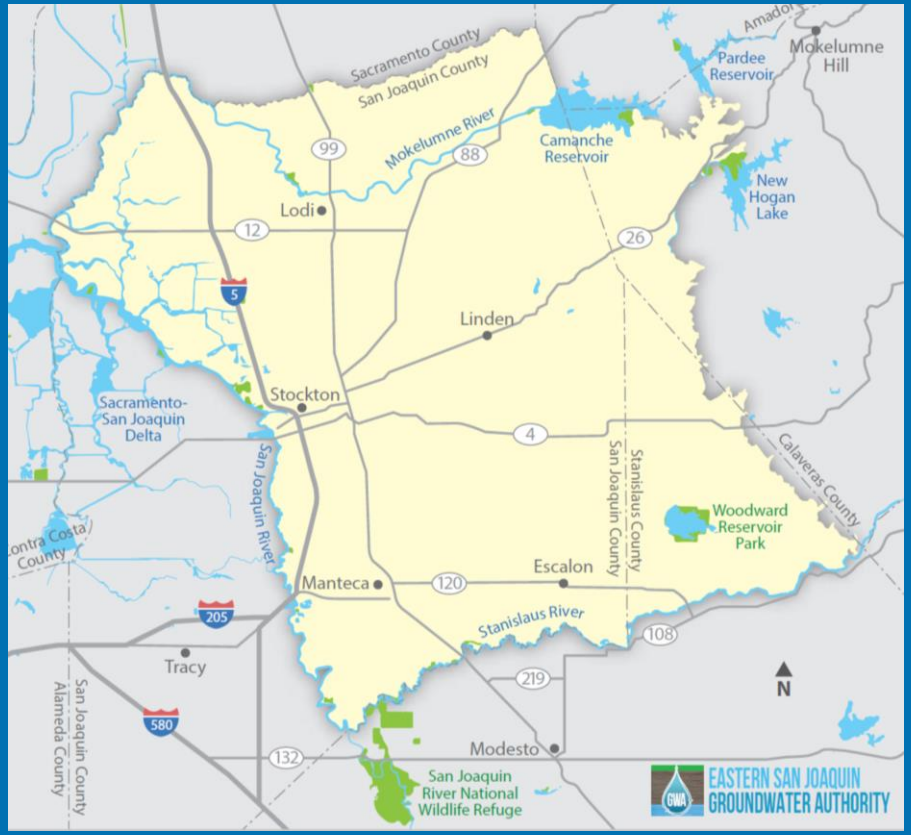

# ESJ Subbasin: 17 GSAs, One GSP

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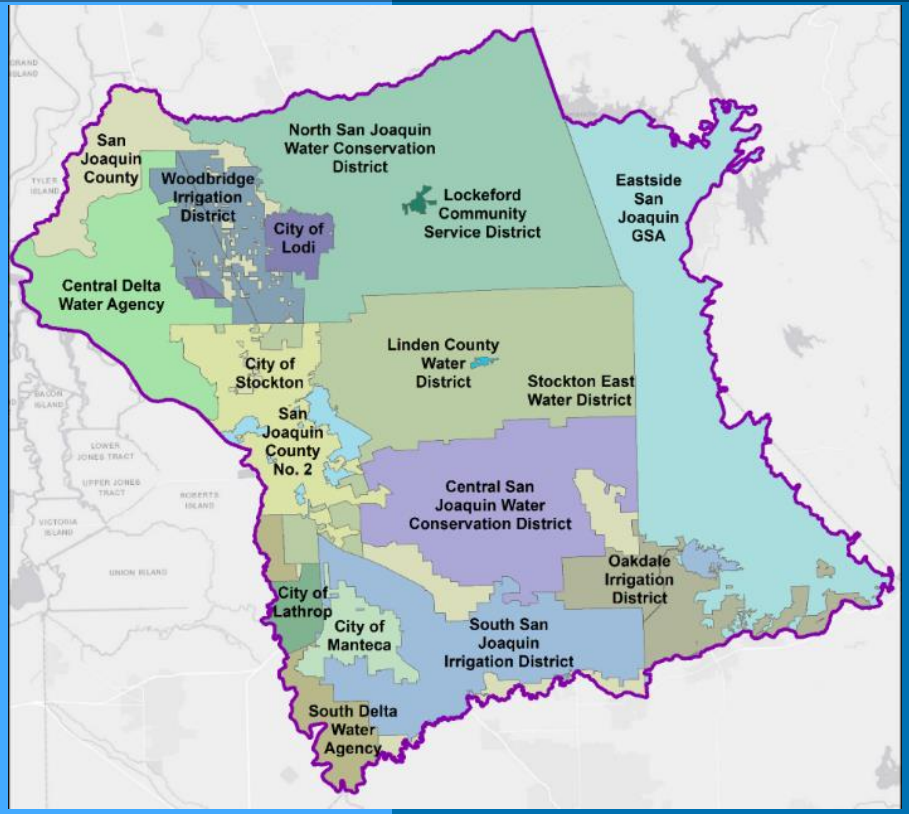


Eastern San Joaquin Groundwater Authority (GWA) includes all 17 GSAs plus California Water Service Company (Cal Water)

Working collaboratively to develop a single GSP

# Neighboring Basins

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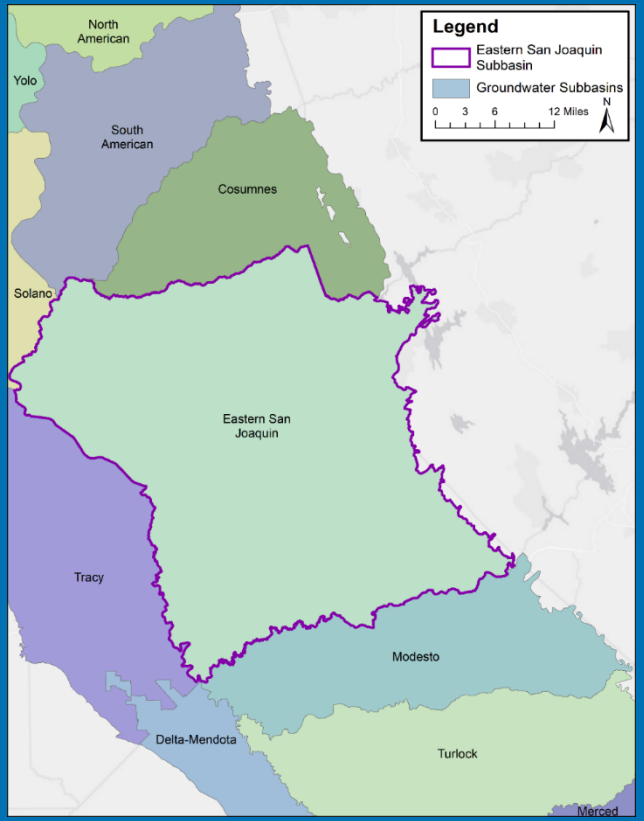


Neighboring groundwater subbasins

- Cosumnes
- South American
- Solano
- Tracy
- Delta-Mendota
- Modesto

# The ESJ GSP Prioritizes Local Control and Local Needs

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The purpose of the Eastern San Joaquin GSP is to develop a cost-effective plan for groundwater management that reflects the local needs and conditions and prioritizes and preserves local control over water resources while meeting the SGMA regulatory requirements for the California Department of Water Resources (DWR) by the January 31, 2020 deadline.

# Basin Background

# Topography and Basin Boundaries

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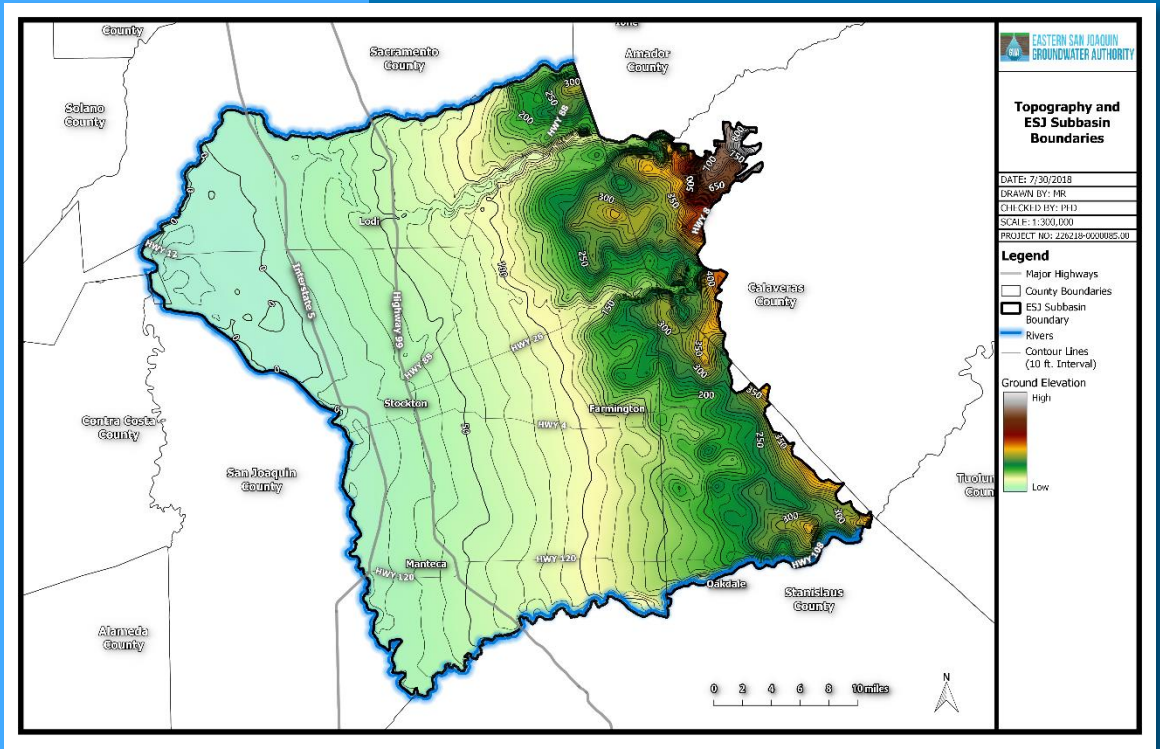


ESJ Subbasin boundaries:

- North – Cosumnes River
- West – San Joaquin River
- South – Stanislaus River
- East – Bedrock Outcrop

# Several Rivers and Streams Traverse the Subbasin

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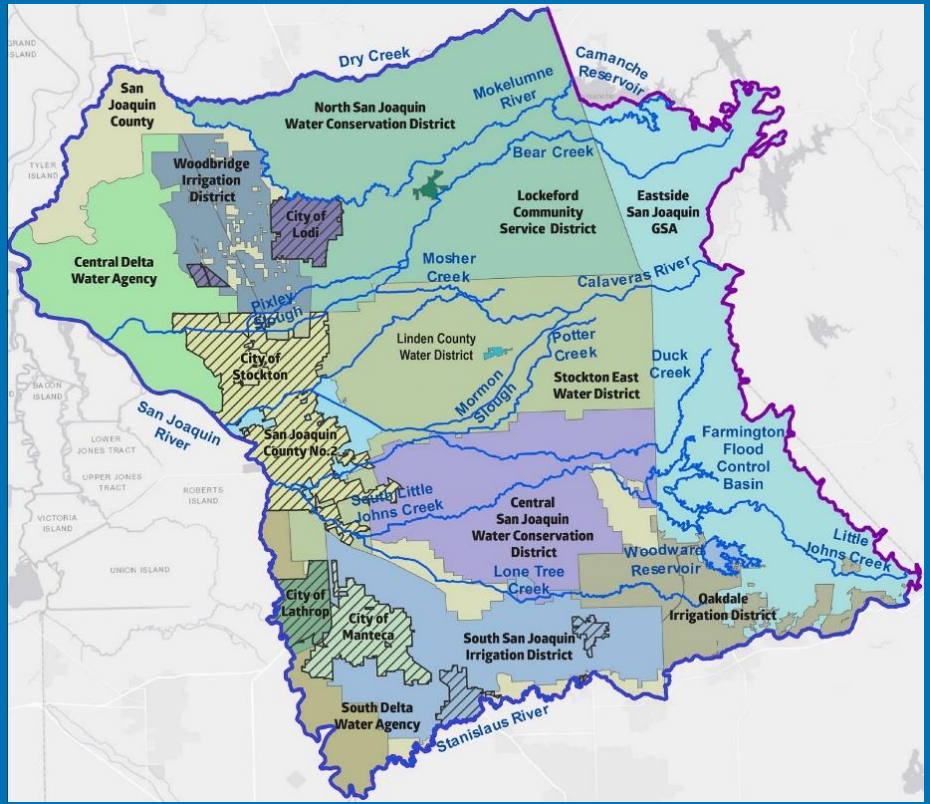

# ESJ is a Well-Monitored Subbasin – However, Some Data Gaps Exist

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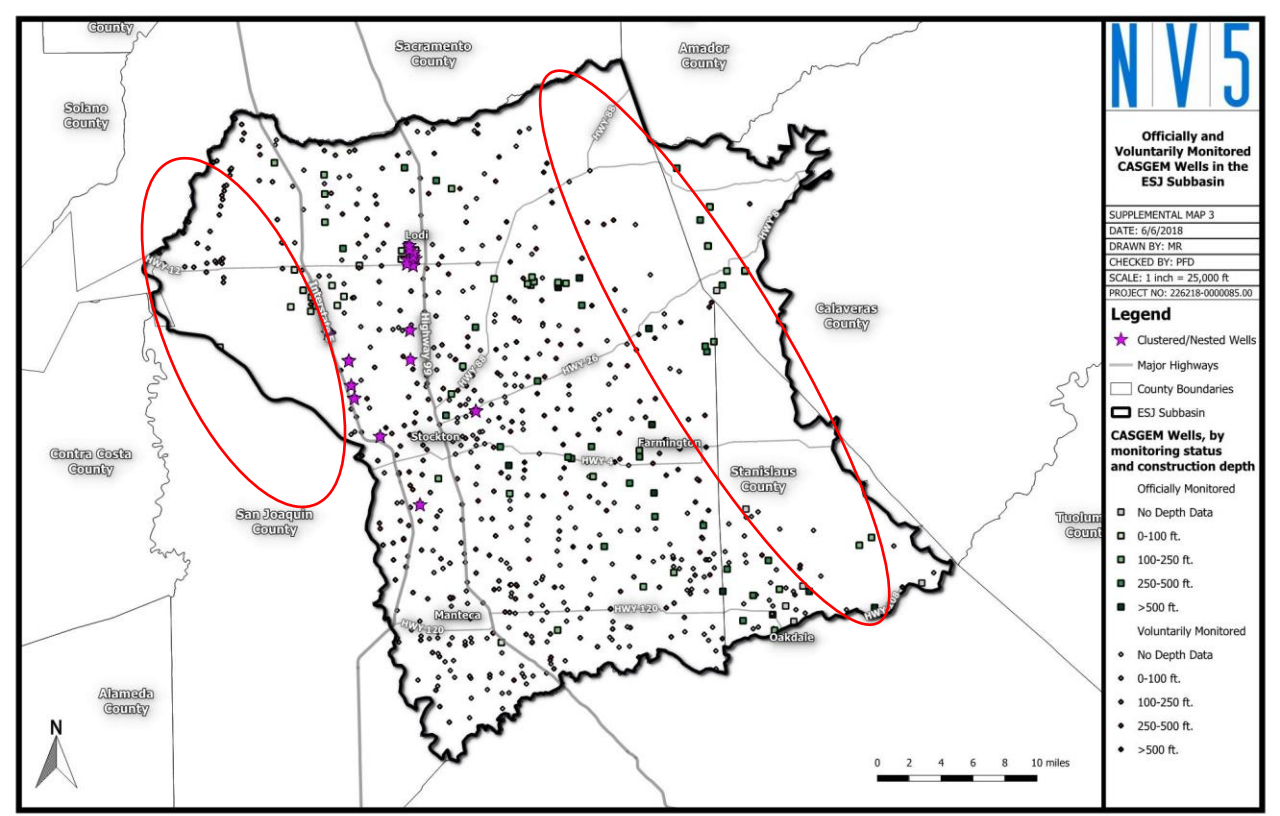

# Agriculture is the Dominant Land Use in the Subbasin

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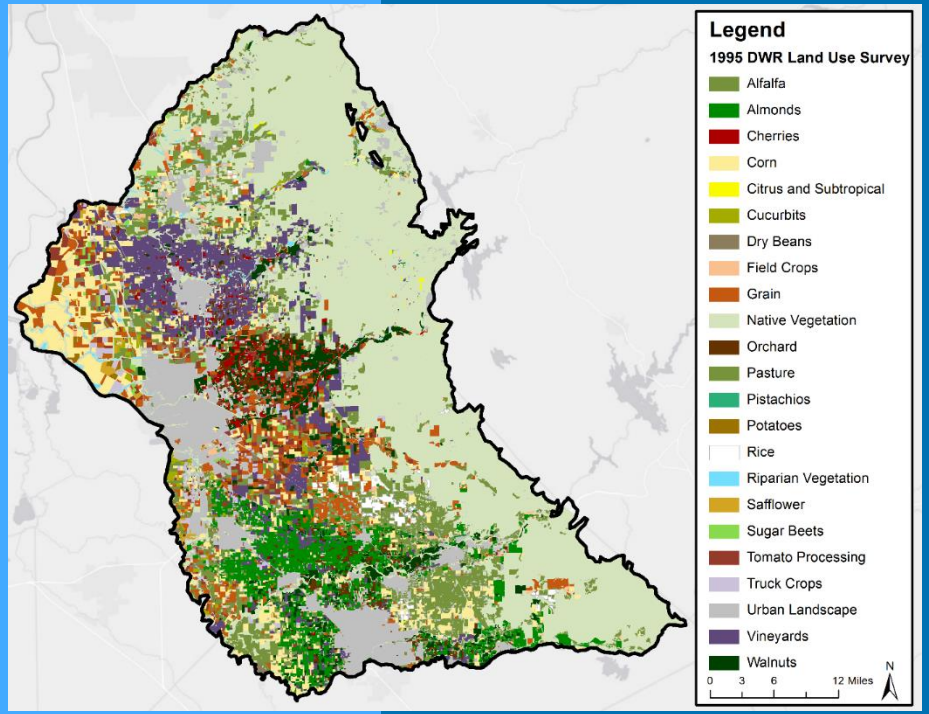


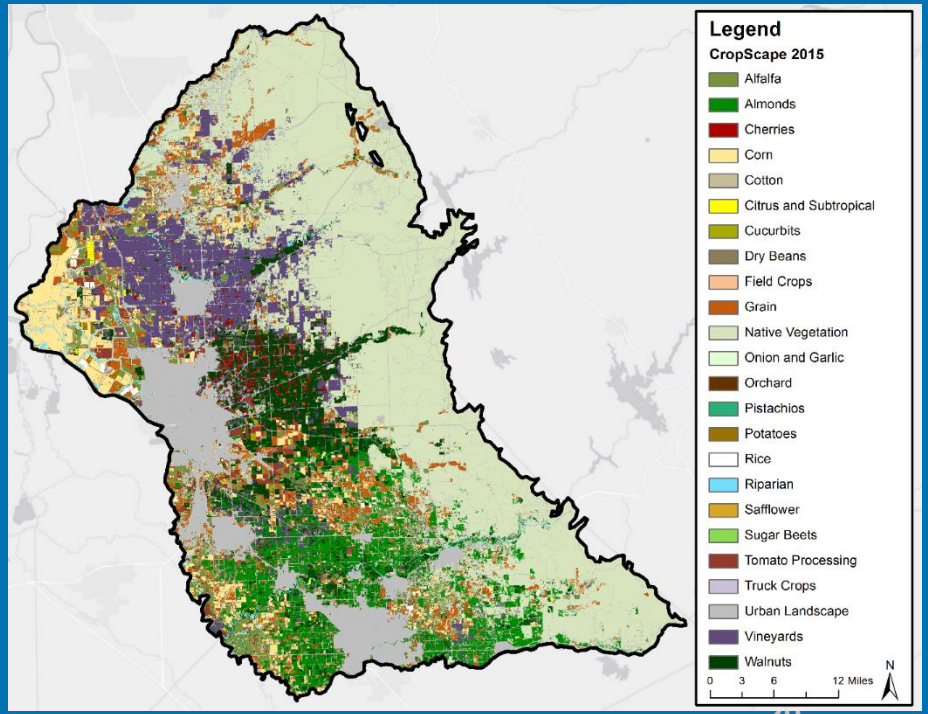

# Primary Cropping Patterns Have Changed Over Time

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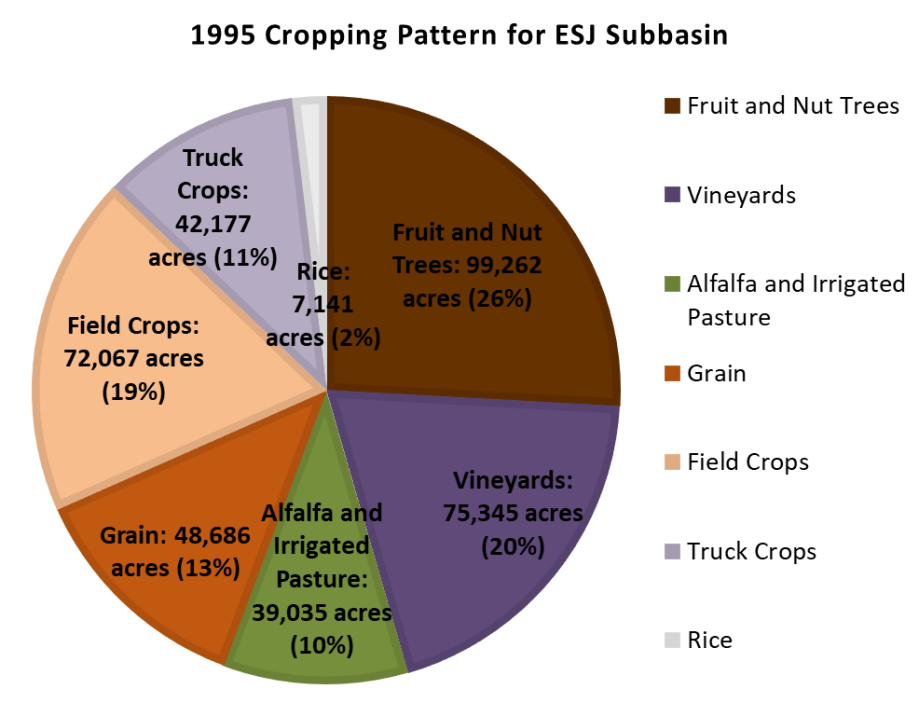


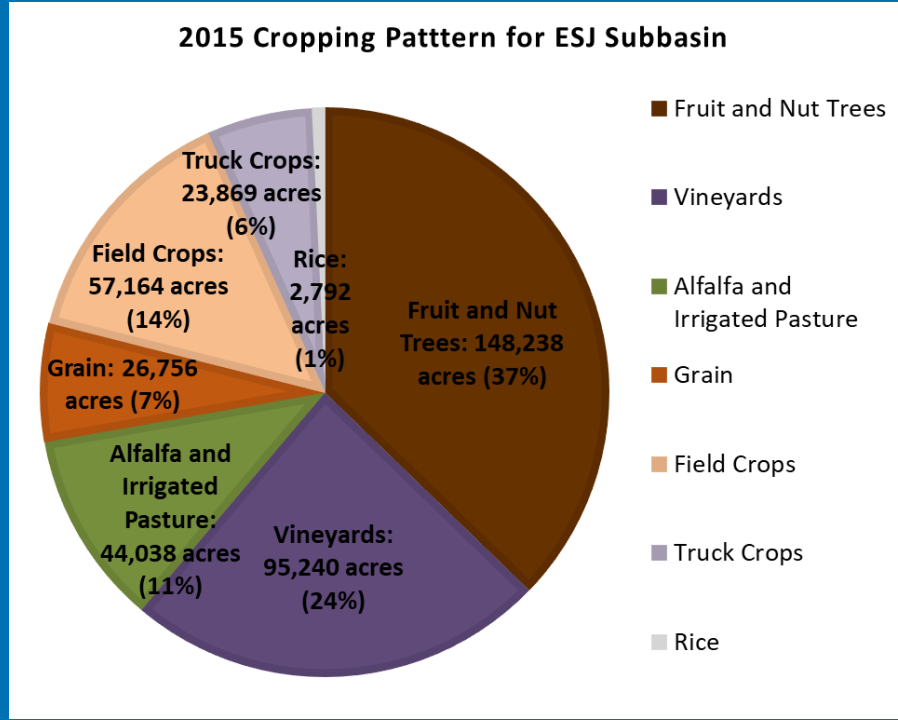

# Private Domestic Wells Are Distributed Throughout the Basin

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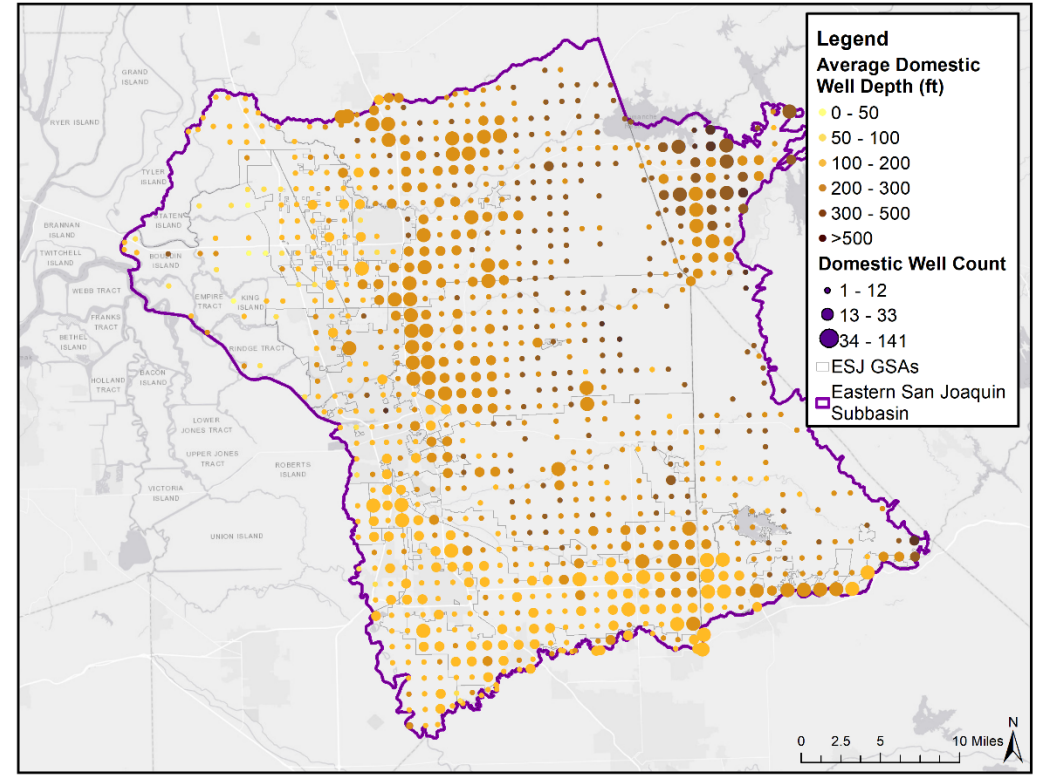

# Average Domestic Well Depth Increases from East to West

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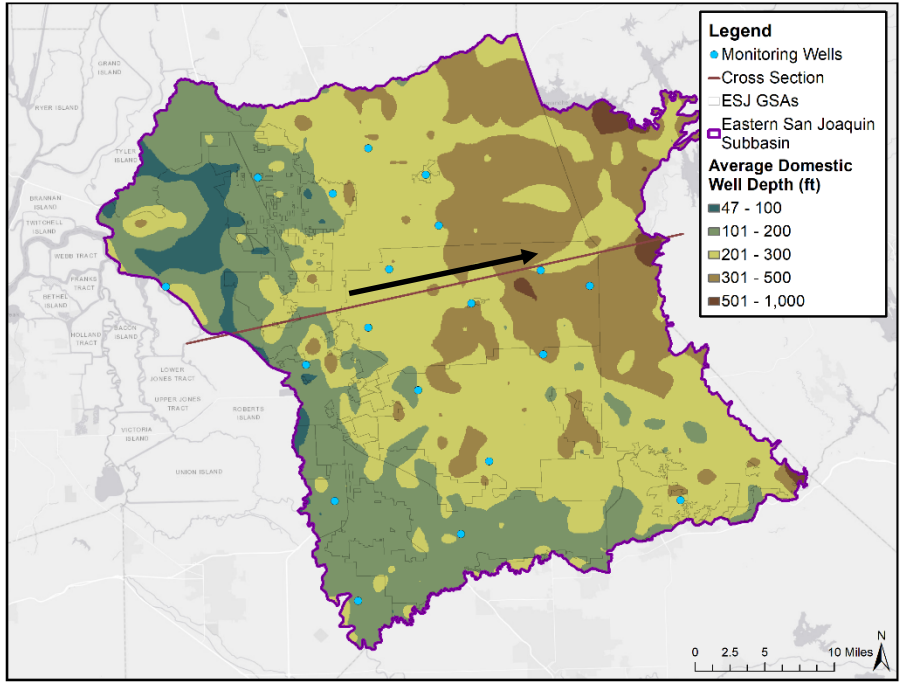


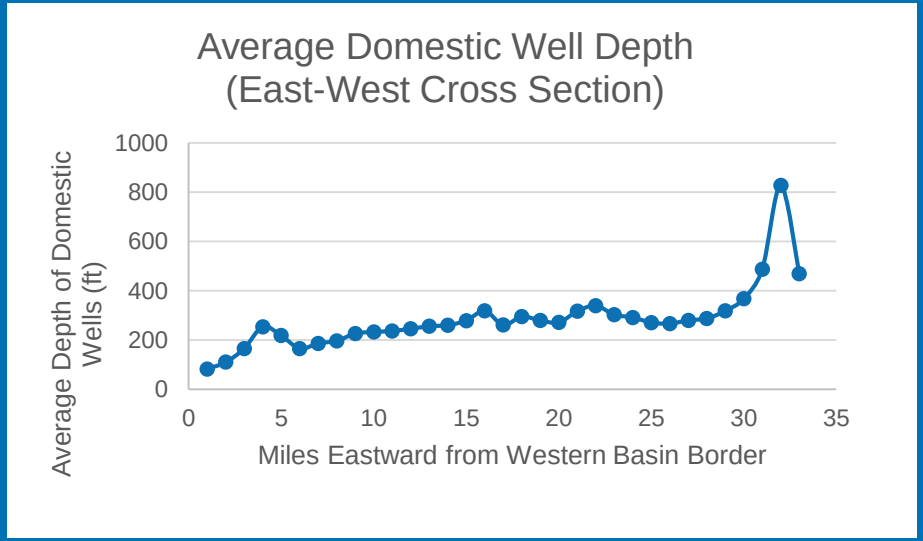


Source: Online System for Well Completion Reports

# Current Basin Conditions

# Current Groundwater Elevations

Some Areas Have Recovered and Some Have Declined Since 1992 Drought

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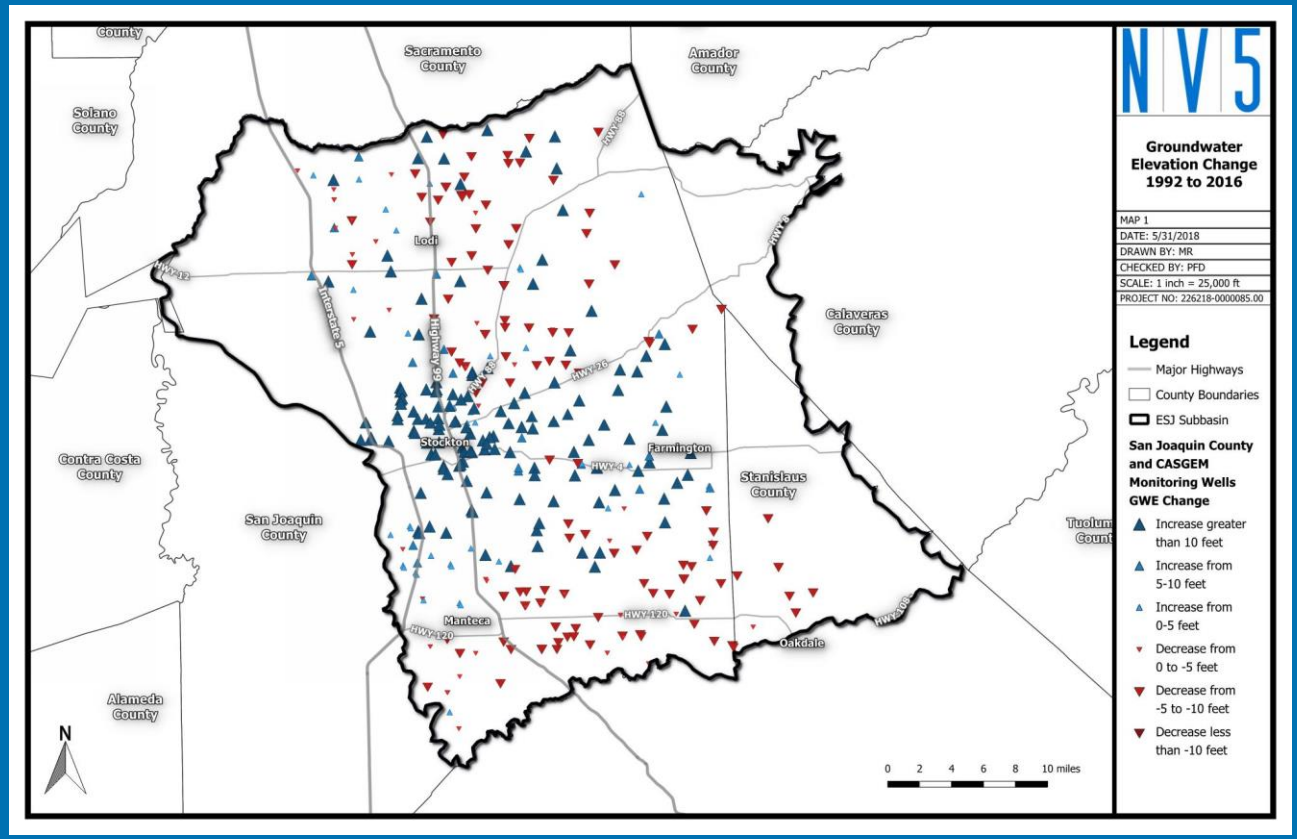
(blue) – Areas that have recovered since 1992

(red) – Areas that have declined since 1992



# The Basin has Large Amounts of Groundwater in Storage – the Problem is Reaching It

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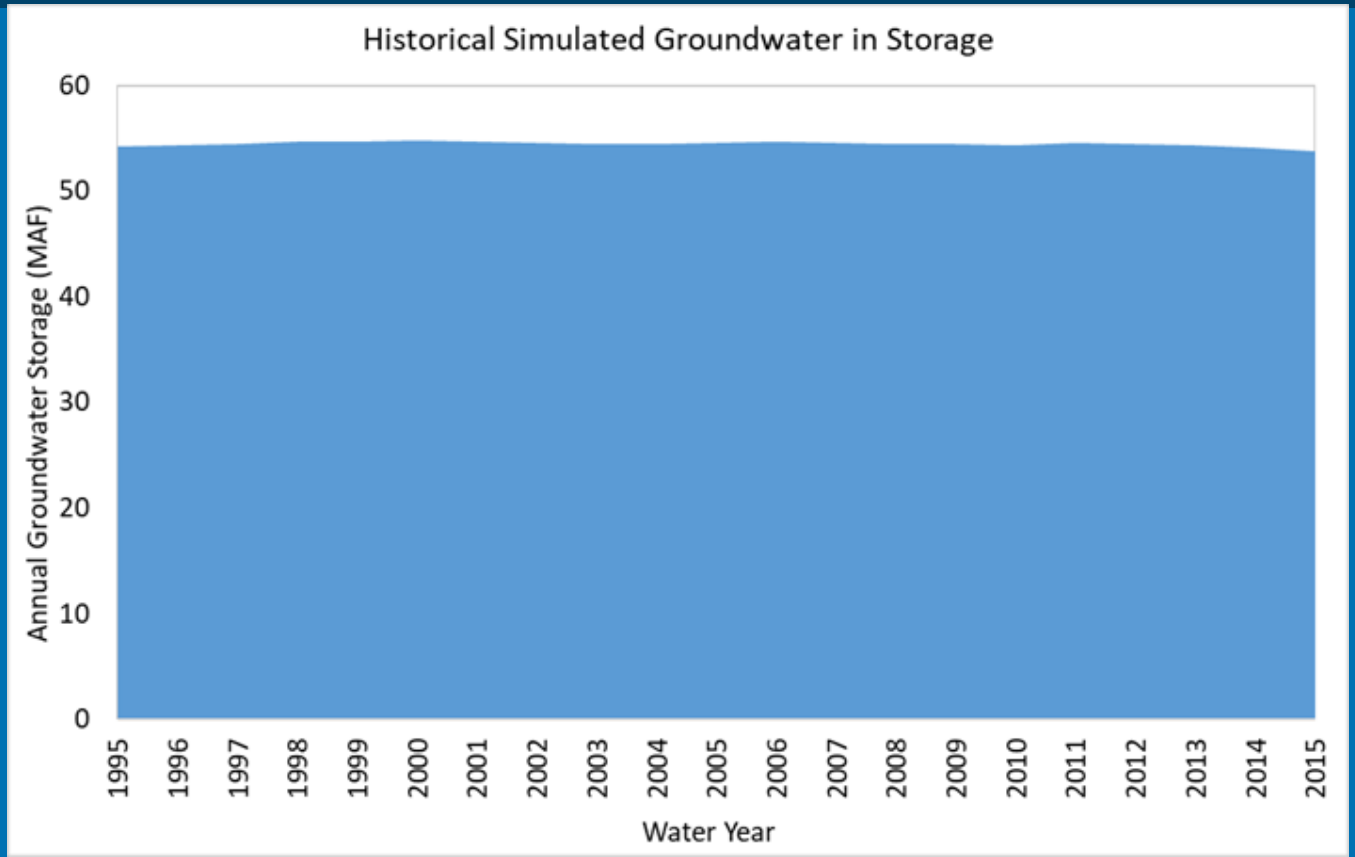
This graph shows freshwater only



# Groundwater Quality

Salinity Contamination of Freshwater Wells is a Concern in Some Areas

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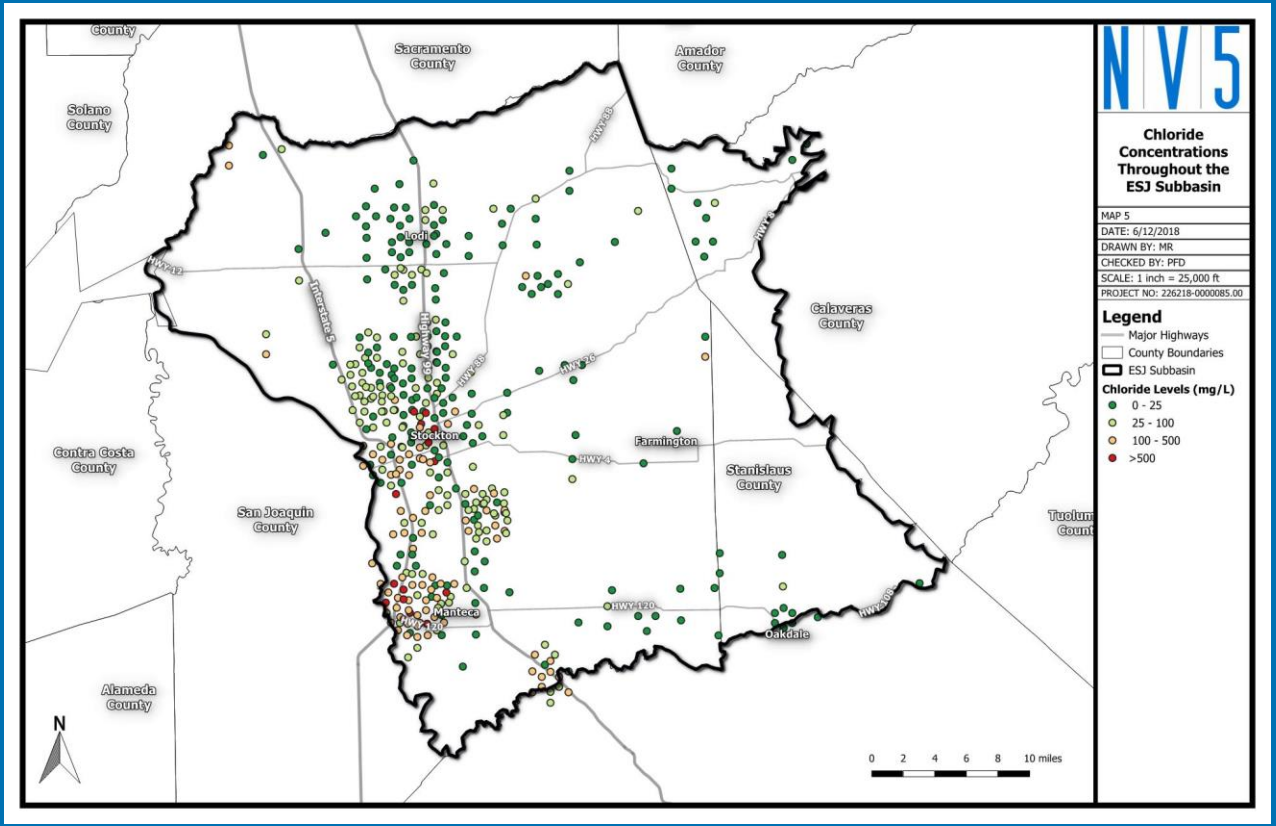

# Subsidence is Not a Concern in the Subbasin

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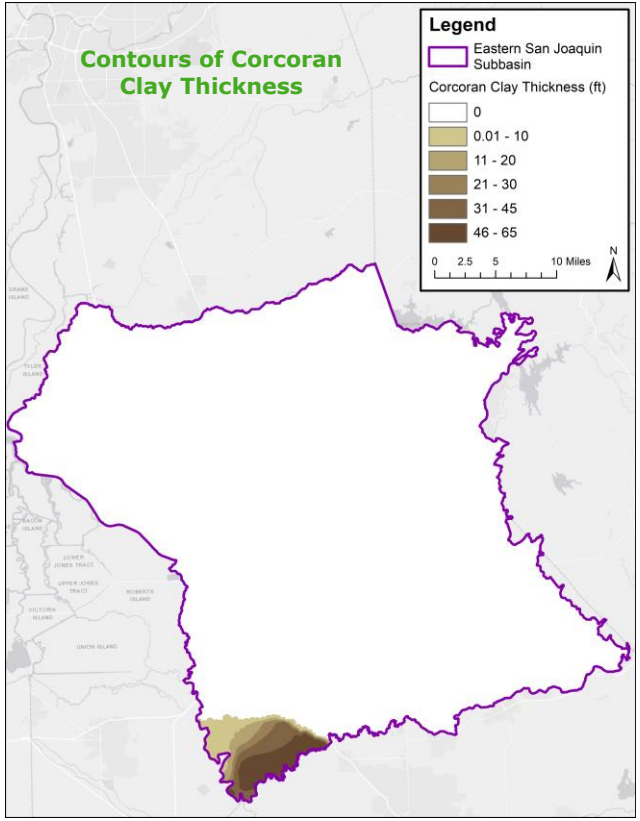


Data Source: USGS, by Page (1986), Central Valley Hydrogeologic Model

- The area with subsidence potential (where there is pumping from below the Corcoran Clay layer) is limited
- Groundwater elevations in this area are typically high compared to the rest of the basin, and subsidence is not likely

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