West San Jacinto Groundwater Sustainability Agency (GSA) Development of the West San Jacinto Groundwater Sustainability Plan (GSP) – September 24, 2019

Rachel Gray

September 24, 2019

Introduction

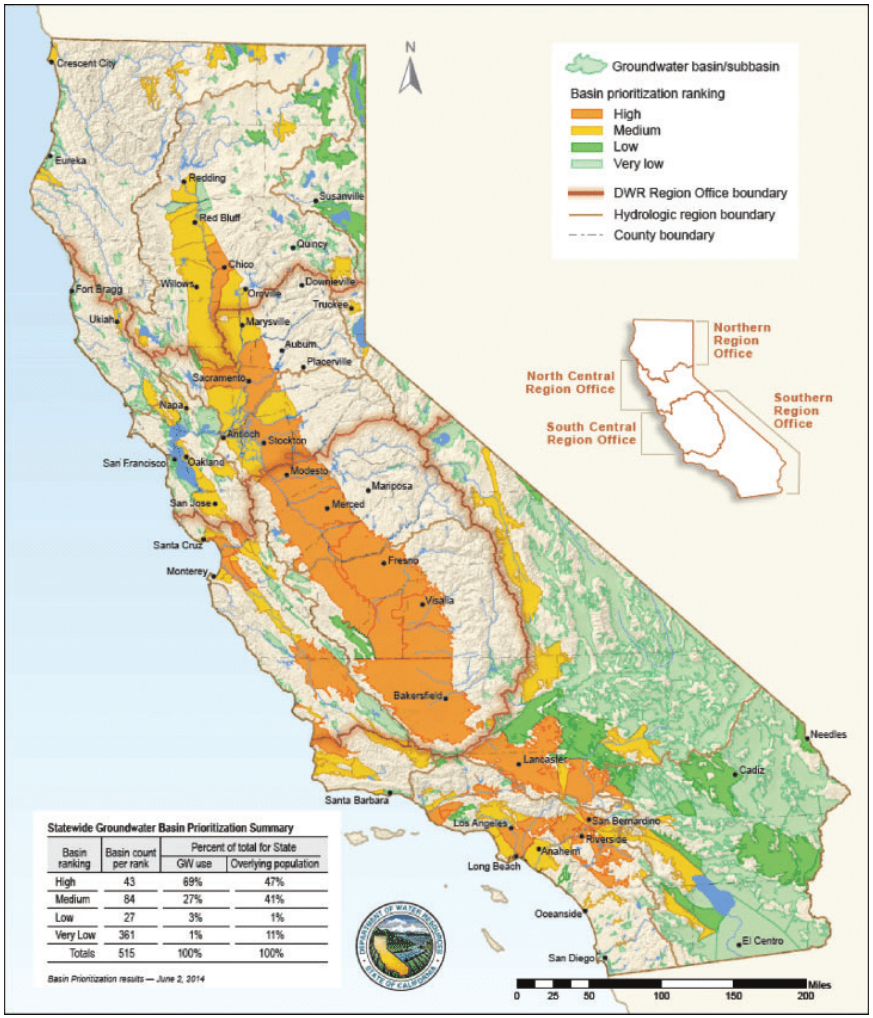
- Project Overview
  - What is the Sustainable Groundwater Management Act?
  - What is a Groundwater Sustainability Plan?
- Update on the Groundwater Sustainability Plan Development
  - Historical and Current Conditions
- Timeline and Next Steps
- SGMA Webpage
- Feedback
- Questions and Answers

Project Overview

What is the Sustainable Groundwater Management Act?

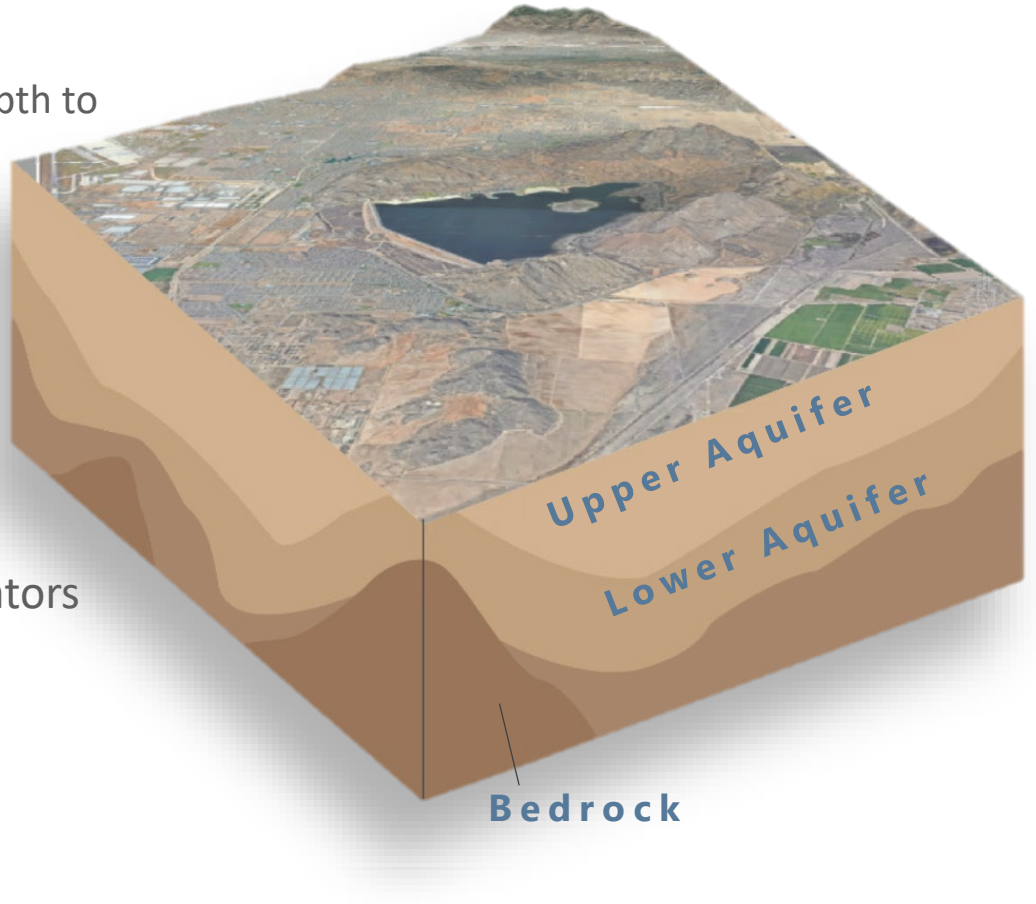
- Signed September 16, 2014
- Effective January 1, 2015
- Requires:
  - Formation of groundwater sustainability agencies (GSAs) for high and medium priority groundwater basins
  - Preparation of groundwater sustainability plans (GSPs) by 2022
  - Achieve sustainability within 20 years of plan adoption
- "A central tenet of these bills is the recognition that groundwater management is best accomplished locally."

  – Governor Edmund G. Brown Jr.



What is a Groundwater Sustainability Plan?

- Technical and planning document that includes
  - Hydrogeological understanding of the basin
    - Geologic setting
    - Aquifer location, thickness, and depth to groundwater
    - Sources of water
    - Uses of water
  - Predictions of future groundwater use and conditions in the basin
  - Criteria by which the basin will be managed sustainably by 2042
    - Based on 6 sustainability indicators



Determining Sustainability

SUSTAINABILITY INDICATORS


Groundwater elevation

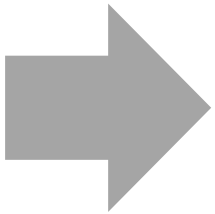

Groundwater in storage


Groundwater quality


Land Subsidence


Interconnected surface water and groundwater


Seawater Intrusion



SUSTAINABLE MANAGEMENT CRITERIA

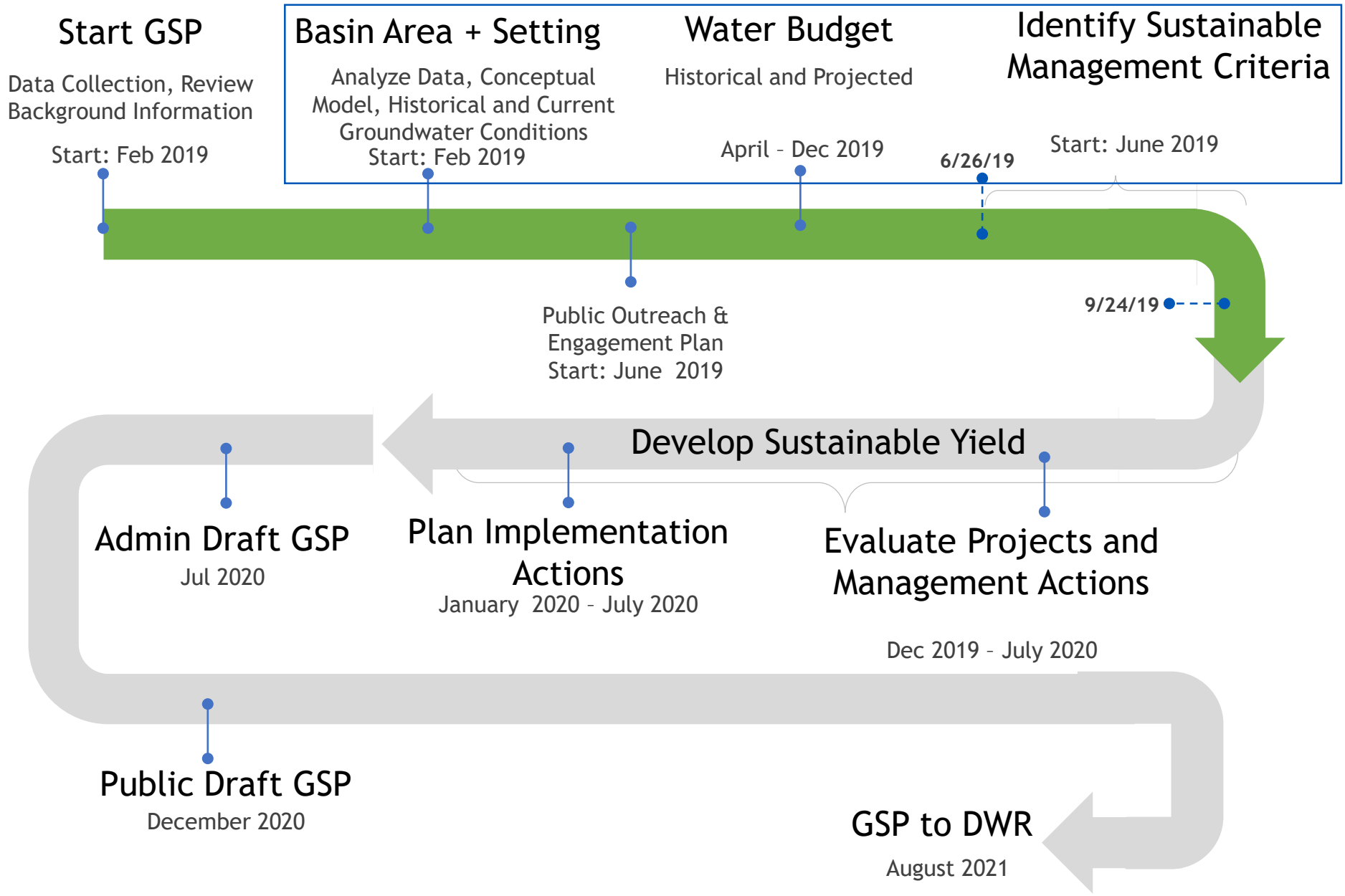
Sustainability goal

Undesirable Results

Minimum Thresholds

Measurable Objectives

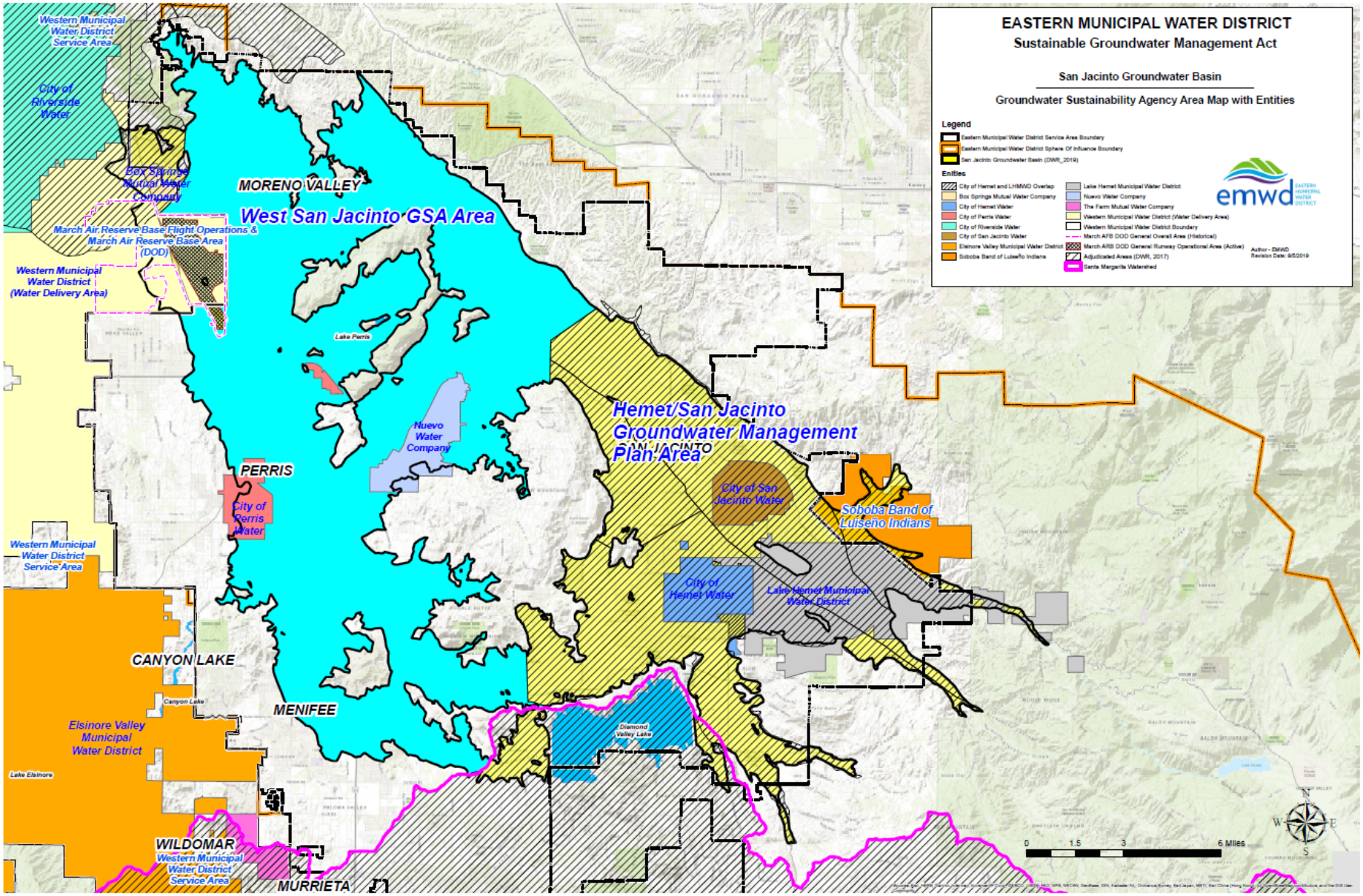
GSP Development Process Update



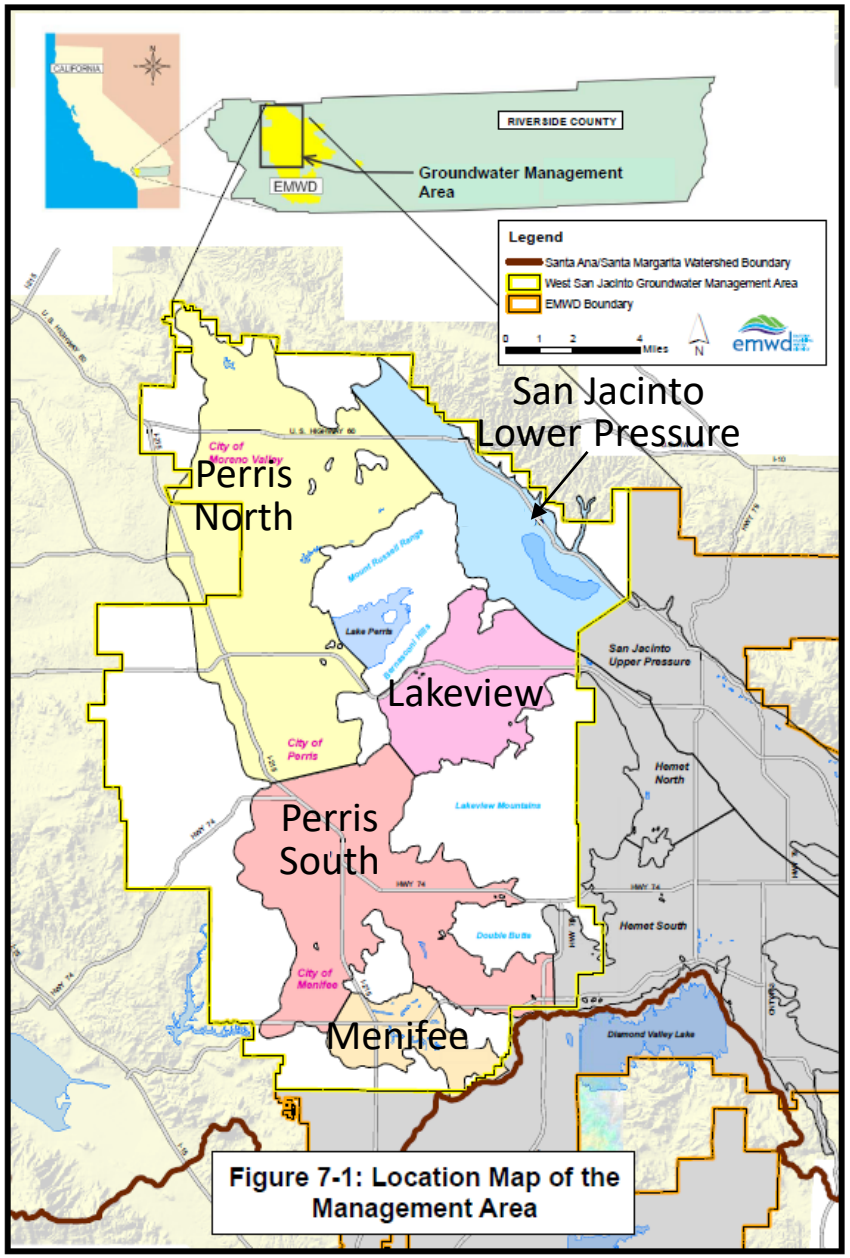
Update on the Groundwater Sustainability Plan Development

EASTERN MUNICIPAL WATER DISTRICT

West San Jacinto Groundwater Basin (WSJGB)



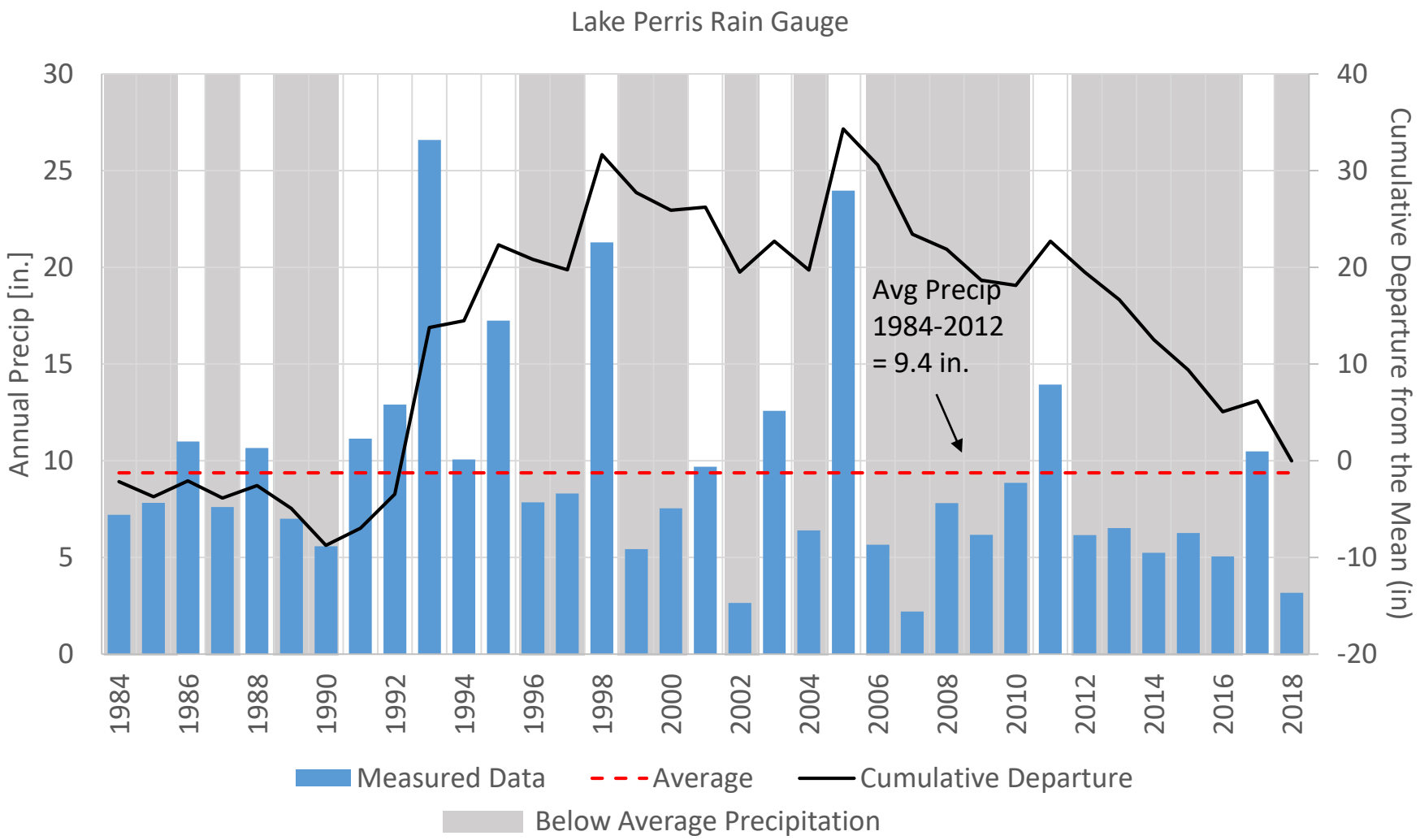
West San Jacinto Groundwater Basin (WSJGB)



- Managed under a groundwater management plan (GMP) since 1995

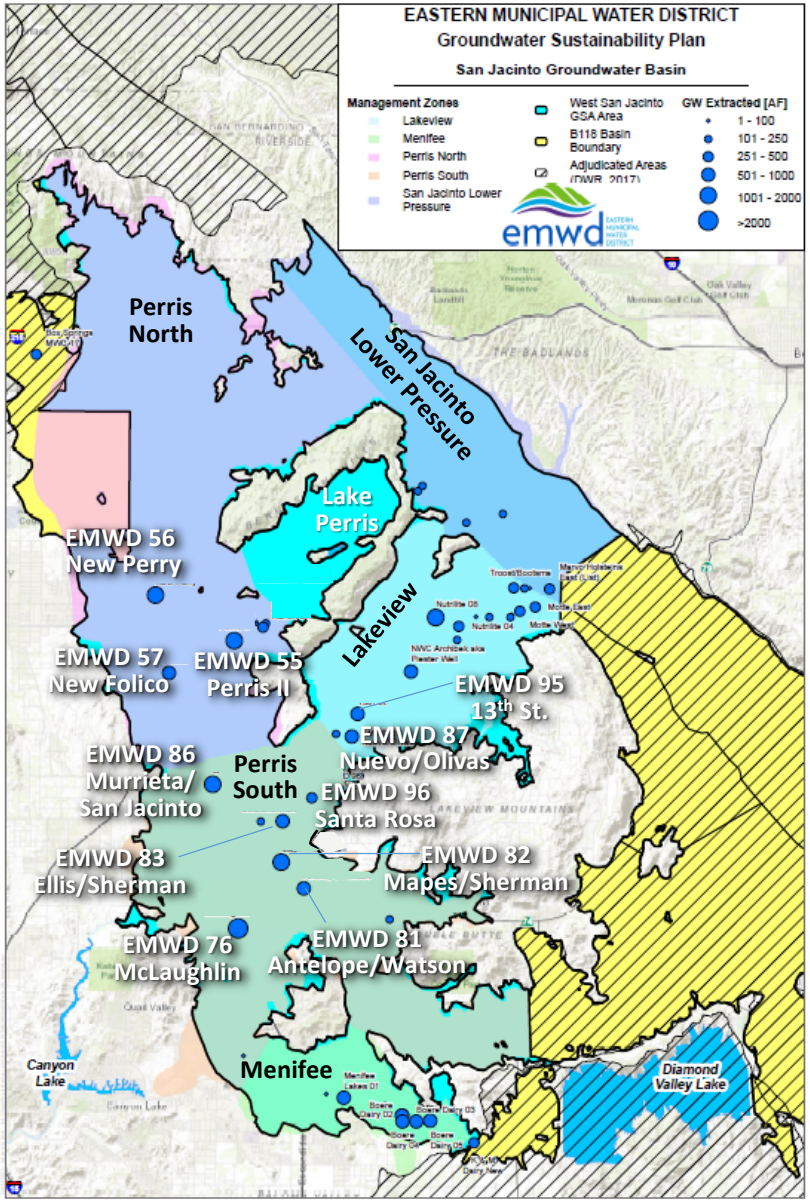
- 5 groundwater management zones:
  - Perris North
  - Perris South
  - Menifee
  - San Jacinto Lower Pressure
  - Lakeview

Precipitation



- Water year runs from October 1 to September 30
- Average precipitation 9.4 inches per year at the Lake Perris rain gauge

Groundwater Production



- Total Groundwater Production in 2018
  - ~22,051 Acre-feet (AF)
- Groundwater production not evenly distributed throughout the groundwater management zones
  - San Jacinto Lower Pressure ~1,088 AF
  - Menifee ~4,155 AF
  - Perris North ~4,406 AF
  - Lakeview ~5,637 AF
  - Perris South ~6,765 AF

Groundwater Elevations

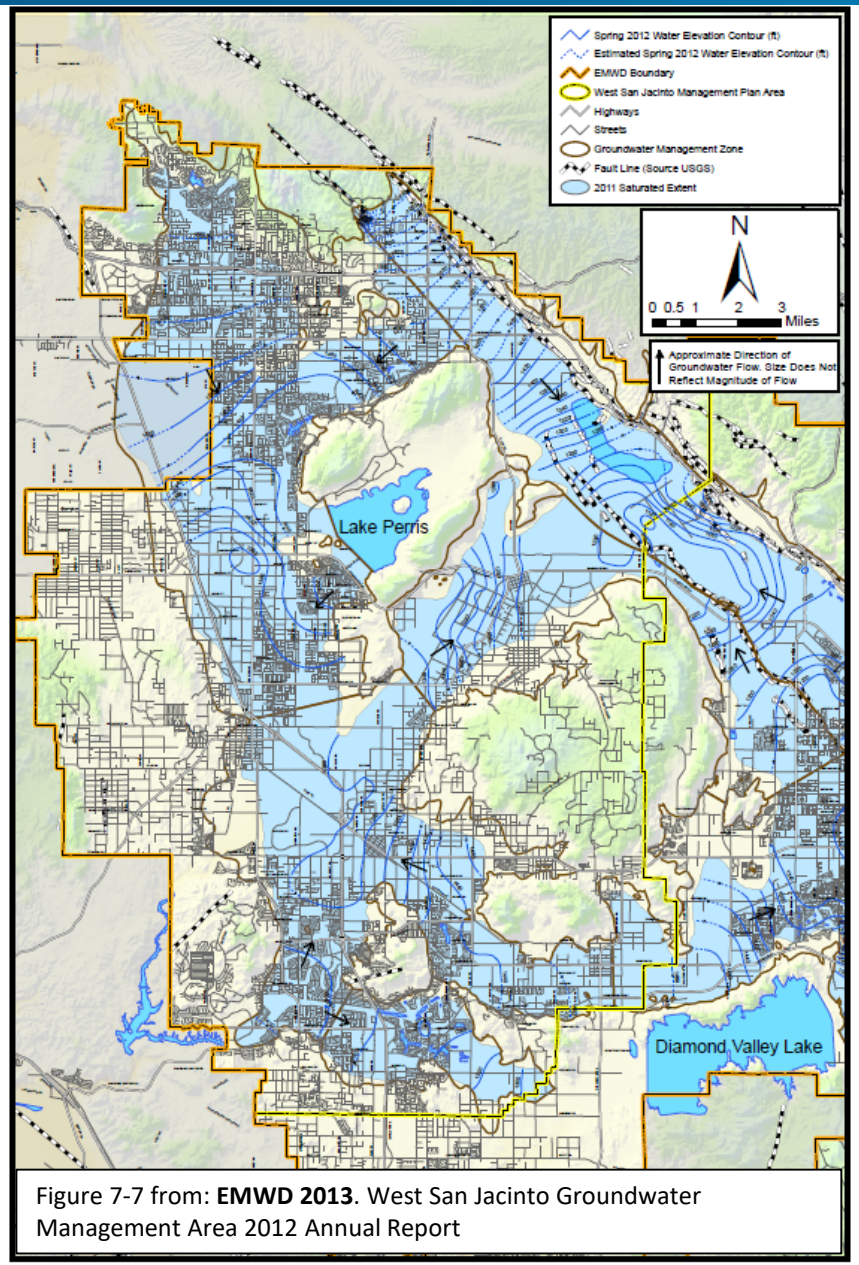


Figure 7-7 from: **EMWD 2013**. West San Jacinto Groundwater Management Area 2012 Annual Report

- Groundwater elevations control the direction of groundwater flow
- Groundwater elevations influenced by locations of groundwater recharge and discharge/extraction
- Flow direction varies throughout the West San Jacinto Groundwater Basin
- Groundwater elevations are similar in the Fall and Spring
- Groundwater flow directions are similar in the Fall and Spring

Groundwater In Storage

- To be determined from numerical groundwater model for the San Jacinto Basin

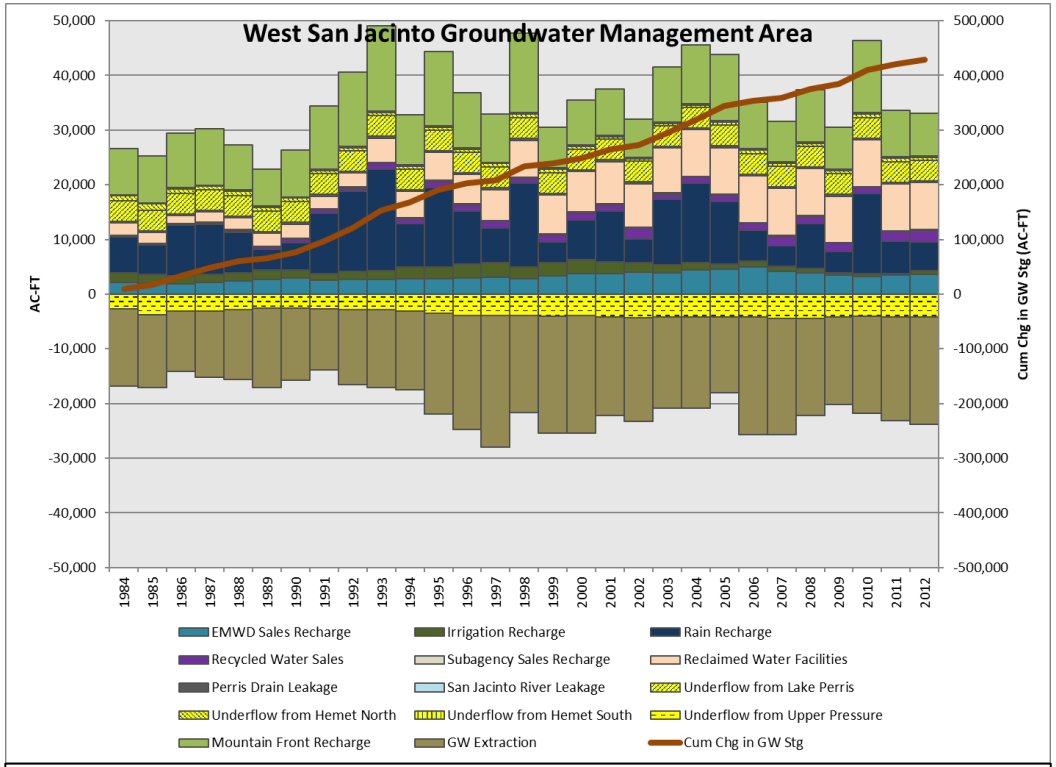
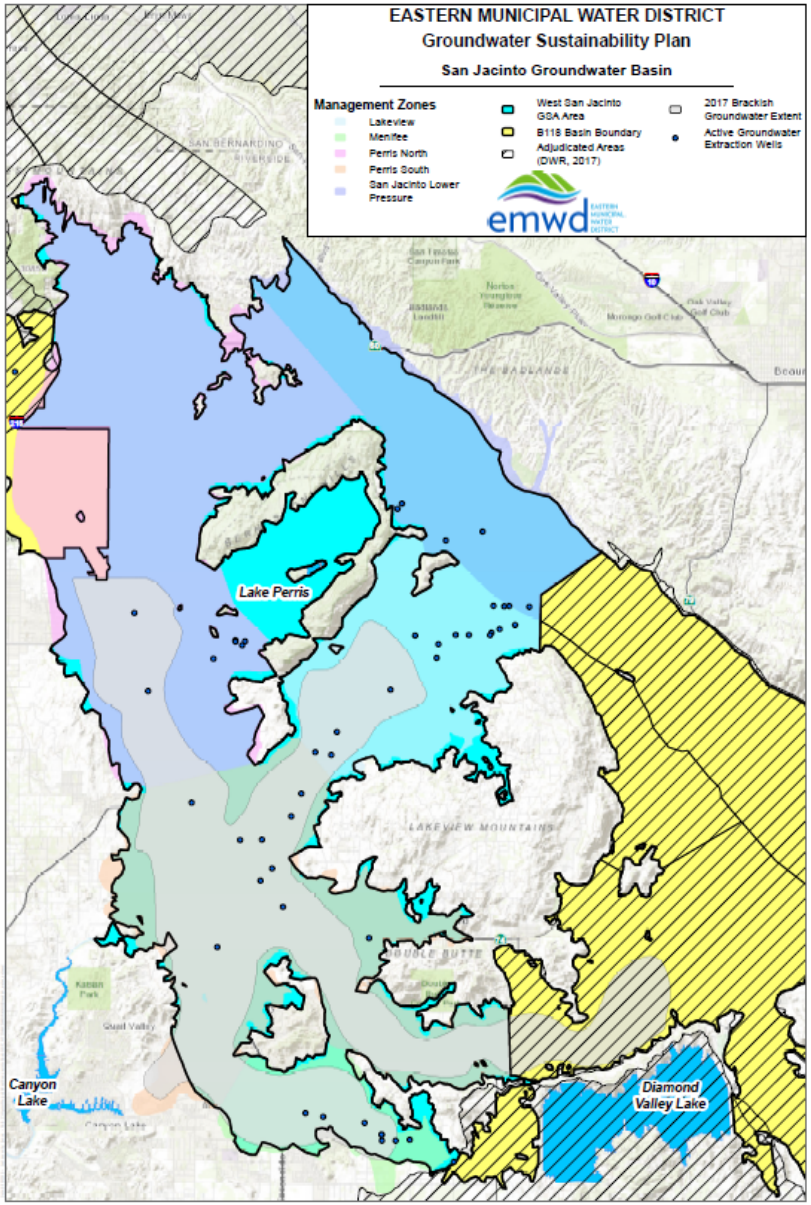


Figure from: **EMWD 2016**. San Jacinto Groundwater Flow Model Update 2014 (SJFM-2014).

- Historical change in storage (1984-2012) for each groundwater management zone:
  - Perris North: 186,000 AF
  - Perris South: 109,000 AF
  - Menifee: -5,700 AF
  - San Jacinto Lower Pressure: 61,200 AF
  - Lakeview: 70,600 AF

Groundwater Quality

Total Dissolved Solids (TDS)



- Primary constituents of concern in groundwater are total dissolved solids (TDS) and nitrate

Nitrate as Nitrogen

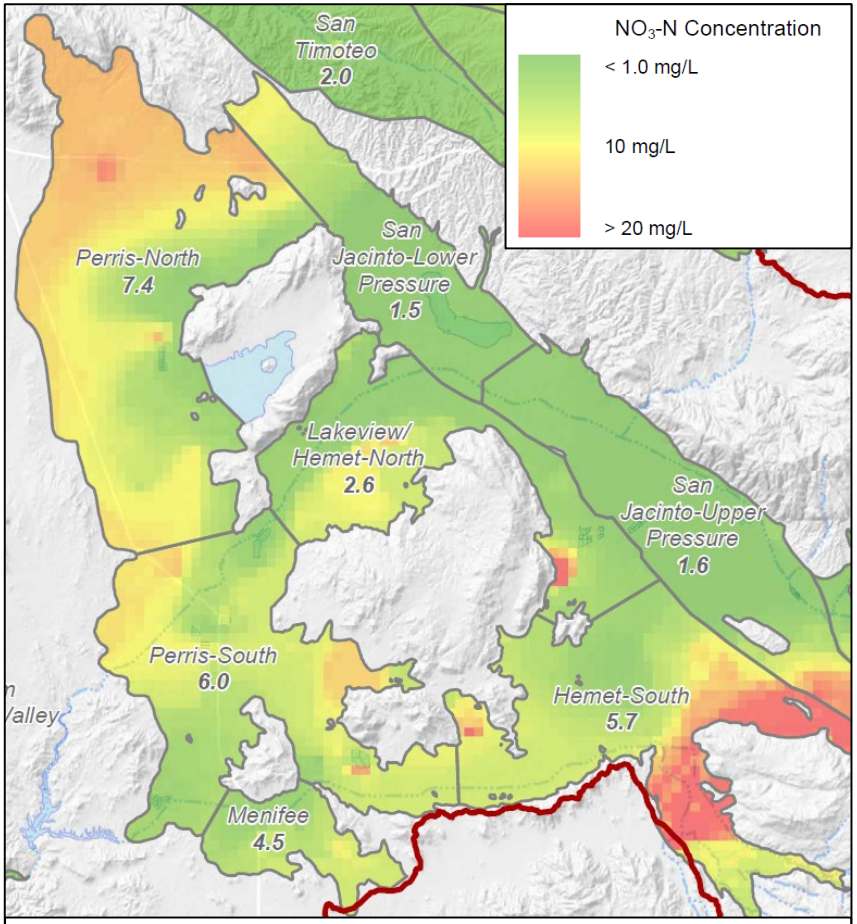


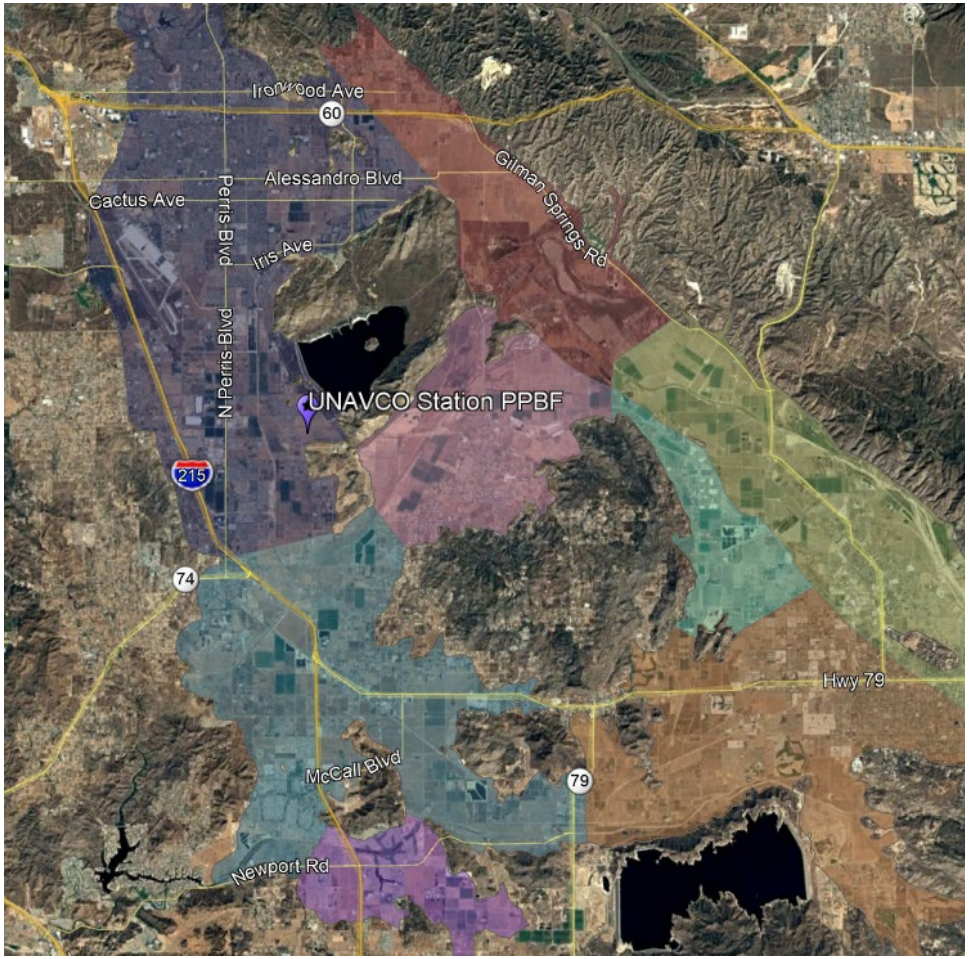
Figure from: **SAWPA 2017**; Recomputation of Ambient Water Quality in the Santa Ana River Watershed for the Period 1996 to 2015

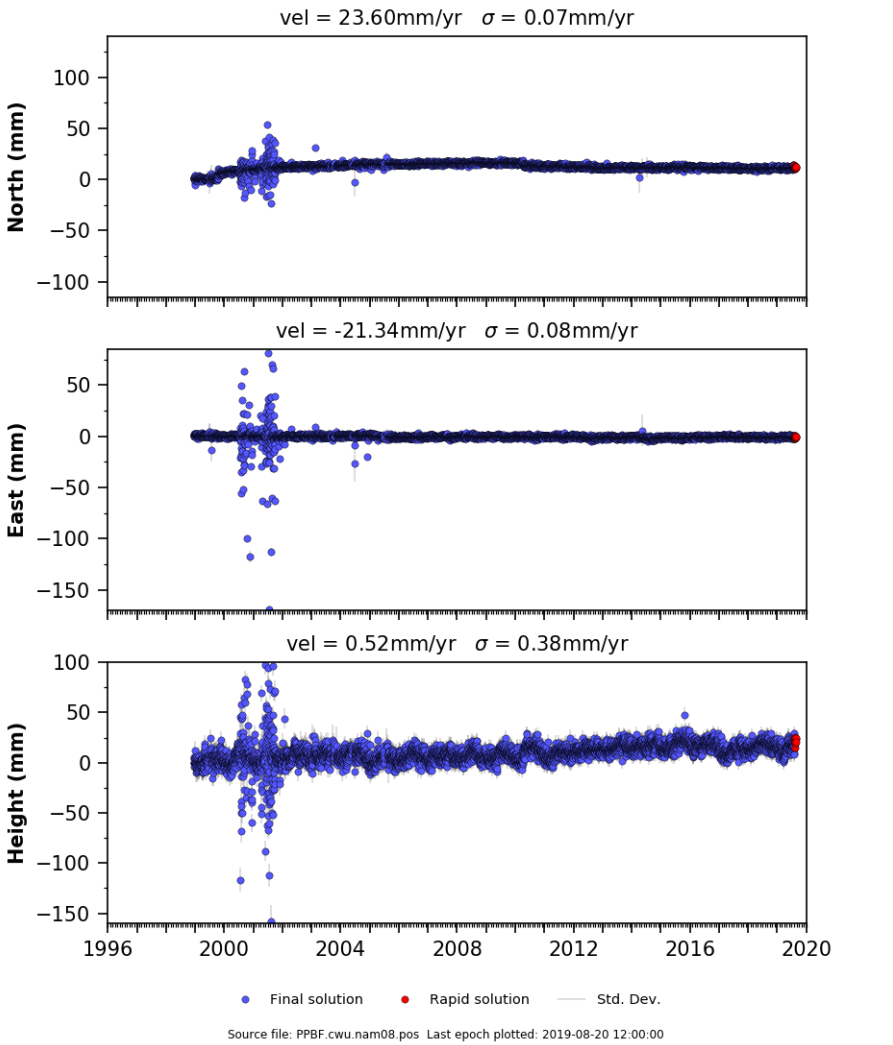
Groundwater Quality

- Other Constituents of Concern (COCs) Include:
  - Perchlorate
  - Iron
  - Manganese
  - Volatile Organic Compounds (VOCs)
  - PFAS (per- and polyfluoroalkyl substances)
- EMWD monitors groundwater quality regularly
  - Monitoring programs existed prior to SGMA
  - GSP will incorporate existing monitoring and regulatory framework

Land Subsidence

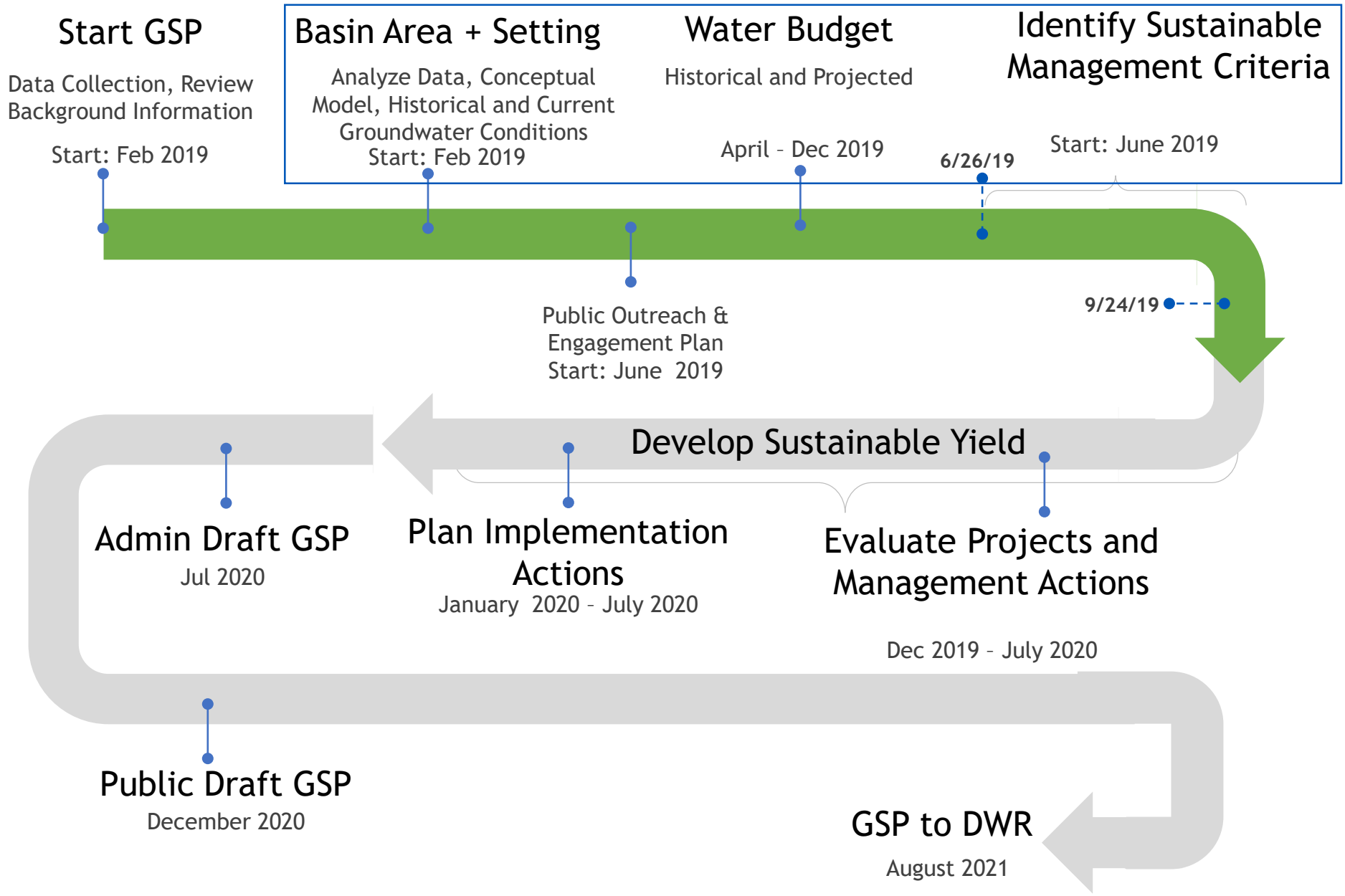
- Land subsidence related to groundwater production has not been documented in the West San Jacinto Groundwater Basin





Timeline and Next Steps

GSP Development Timeline and Next Steps

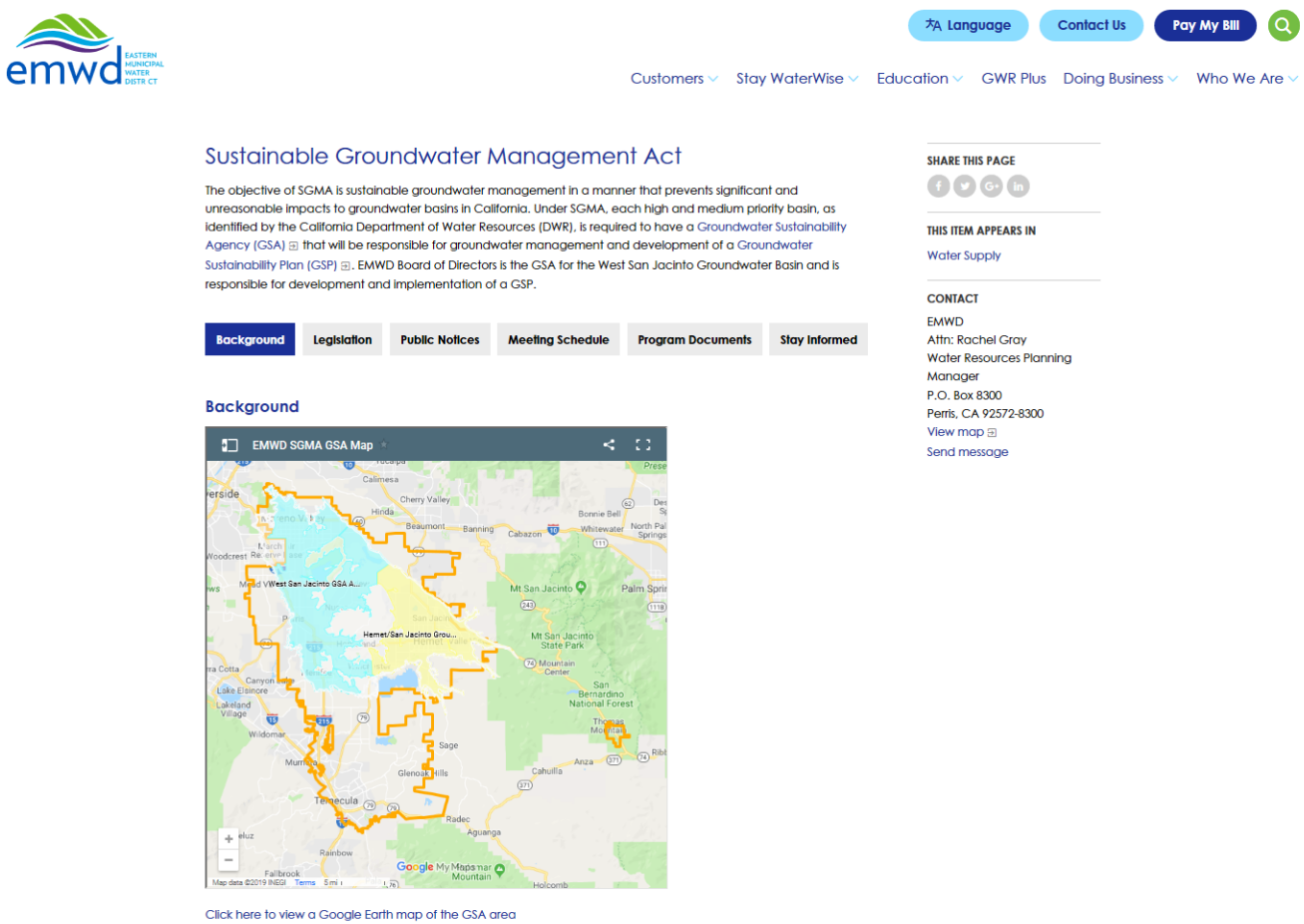


Next Steps

- EMWD and consultant team will continue to work together to:
  - Finalize figures to support technical background sections
    - Historical and Current Conditions
    - Historical Water Budget
  - Conduct future groundwater model scenarios
  - Continue to define sustainable management criteria
- Next stakeholder advisory group meeting scheduled for January 2020 to discuss the water budget and sustainability criteria

SGMA Webpage

https://www.emwd.org/post/sustainable-groundwater-management-act



Feedback / Questions & Answers

Contact Information

Rachel Gray
Water Resources Planning Manager
(951) 928-3777 Ext. 4514
Email: grayr@emwd.org