East Contra Costa Subbasin Groundwater Sustainability Plan

Transportation, Water and Infrastructure Committee

Public Meeting

November 8, 2021

9:00 AM

East Contra Costa Subbasin and SGMA

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Introduction to SGMA

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Groundwater Sustainability Plan

- In 2014, the state passed the Sustainable Groundwater Management Act – **SGMA**
- SGMA requires groundwater to be managed by local public agencies called Groundwater Sustainability Agencies – **GSA**
- GSAs are responsible to ensure a groundwater basin is managed sustainably
- Sustainable management is conducted through the Groundwater Sustainability Plan - **GSP**

Introduction to SGMA

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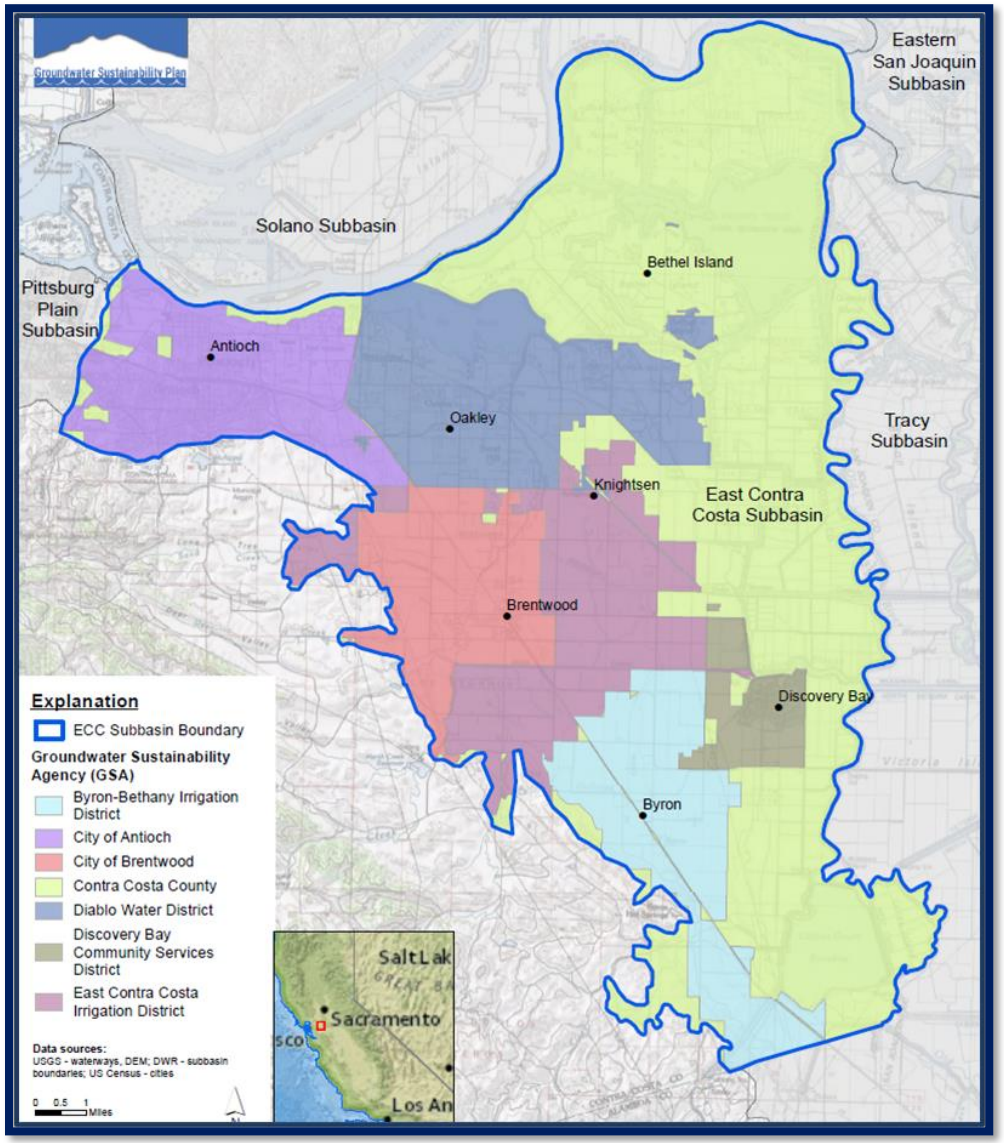
Groundwater Sustainability Plan

The GSP (Plan) is a plan to ensure that groundwater is sustainably managed over a 50-year planning and implementation horizon



Sustainability Indicators

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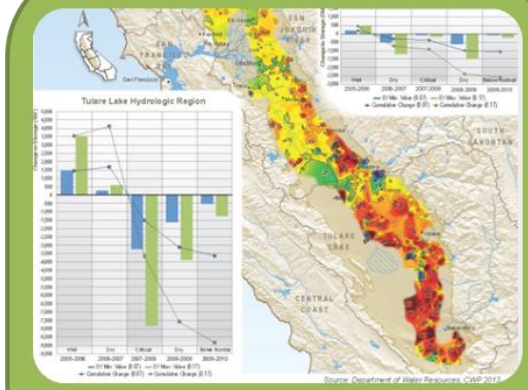
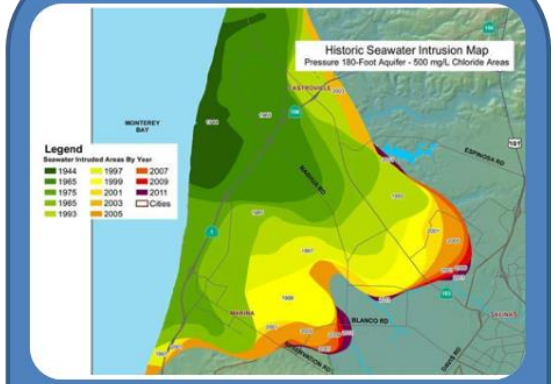
Groundwater Sustainability Plan

Avoiding Groundwater Conditions that Cause Significant and Unreasonable…..

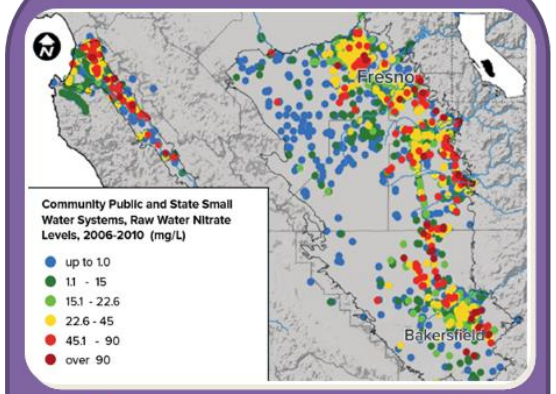
Lowering of GW Levels



Reduction of GW Storage



Seawater Intrusion



Degraded Water Quality

Land Subsidence

Depletion of Inter-connected Streams

What a GSP is and is not

East Contra Costa Groundwater Subbasin - has domestic, urban, agricultural and industrial uses, plus groundwater dependent ecosystems

Who the GSP affects

The GSP does **not** :

- affect or change water rights
- regulate individual domestic well owners (less than 2 AF or 650,000 gallons)
- mitigate pre-existing or native features of groundwater such as water quality

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What a GSP is not

- Also, it is **not:**
  - A land use plan
  - An environmental restoration plan
  - A flood control plan
  - Part of the Delta Conveyance Project

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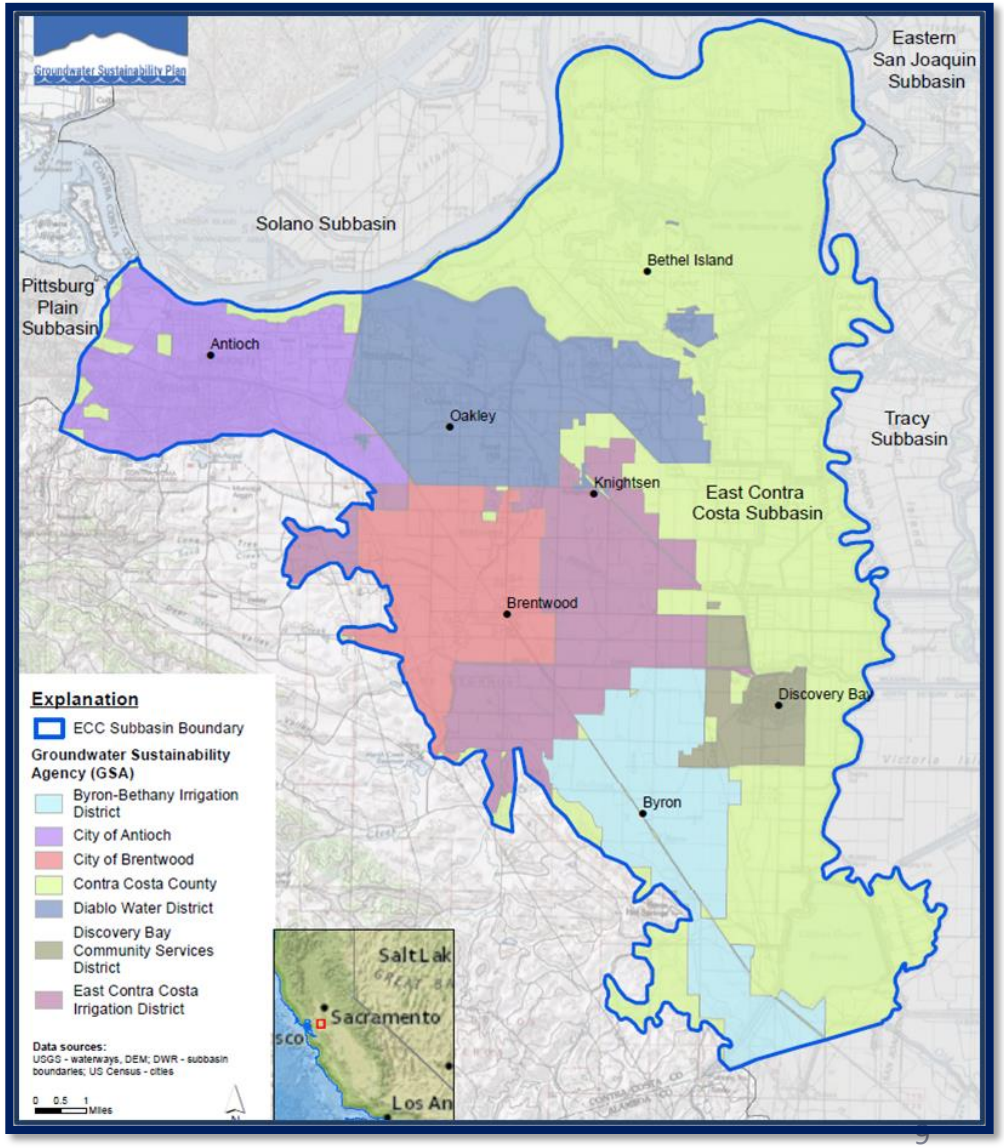
What a GSP is

The GSP **is** a plan to:

- ensure adequate groundwater supply for all beneficial uses and users in the Subbasin
- manage groundwater under climate change, sea level rise, and drought
- protect vulnerable users
- protect groundwater dependent ecosystems



What a GSP is

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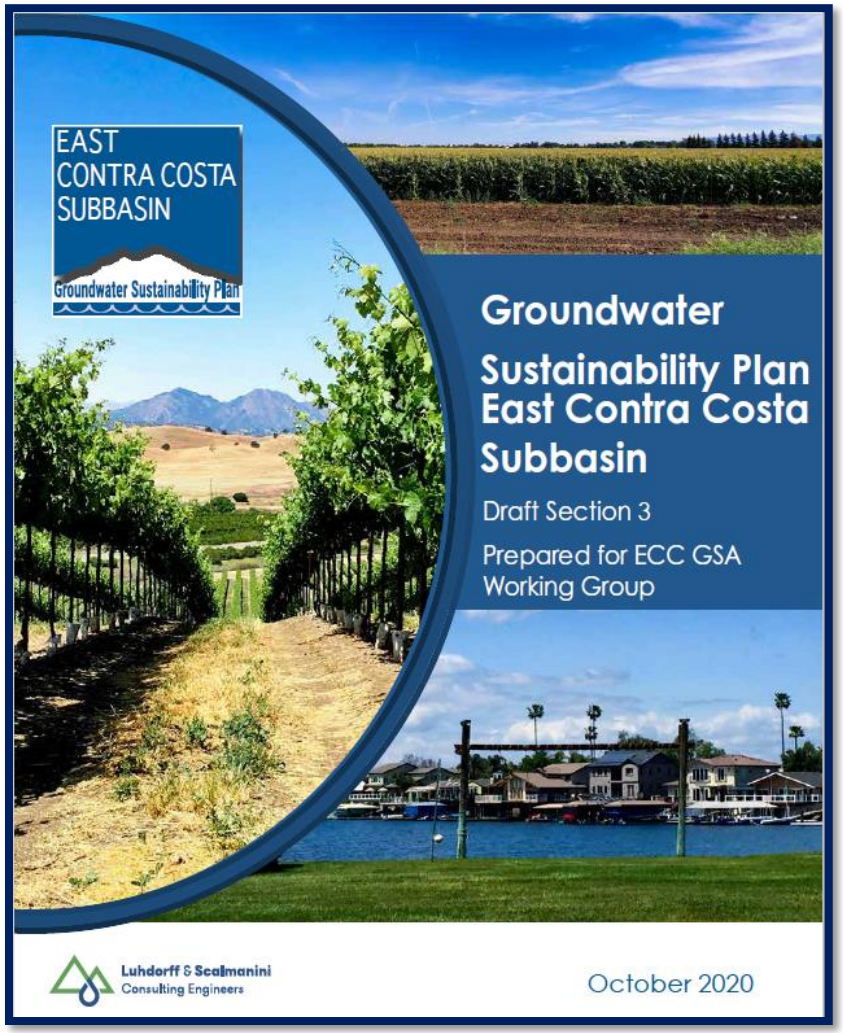
Under SGMA, GSAs have authorities to enact sustainability measures including:

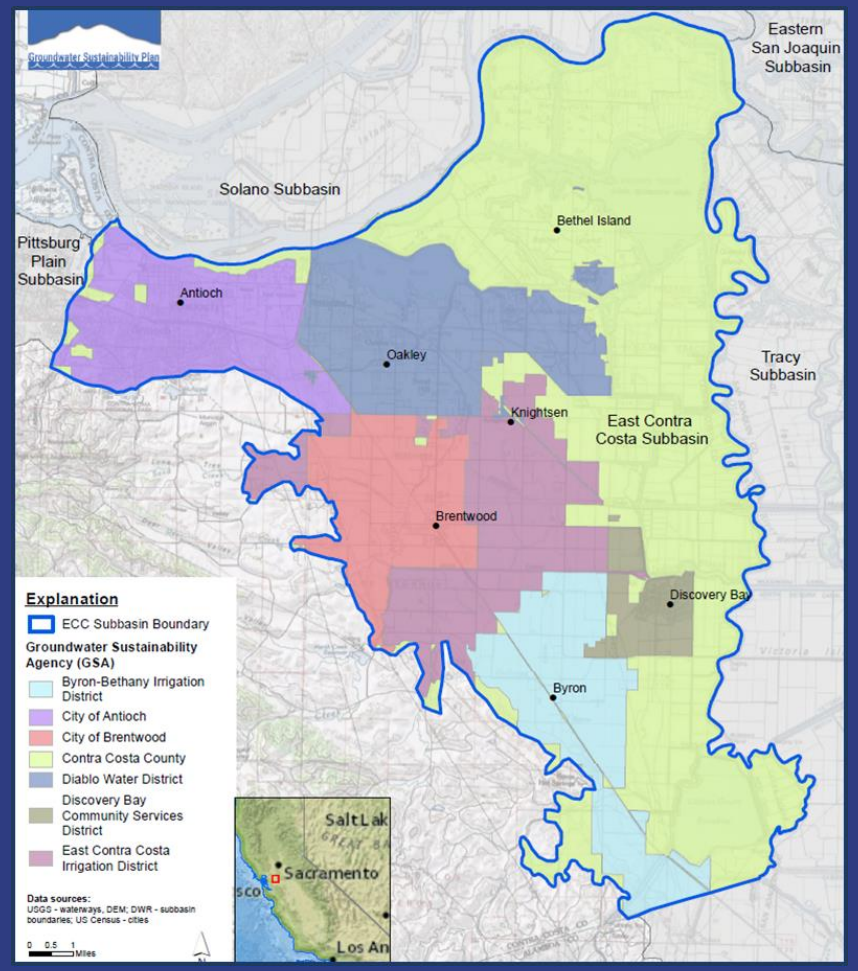
- Well monitoring
- Metering
- Pumping fees (does not apply to de minimis users)
- Well spacing restrictions

What a GSP is

Plan Sections

1. Introduction – Responsible Agencies
2. Plan Area – Water Resources, Land Use Elements, Environment
3. Basin Setting – Hydrogeology, Groundwater and Surface Water Conditions
4. Water Supply – Historical, Current, and Projected
5. Water Budget – Historical, Current and Projected Scenarios
6. Monitoring Networks – Sustainability Indicators
7. Sustainable Management Criteria – Goals
8. Projects and Management Actions – Implemented As-Needed
9. Plan Implementation – Budget and funding
10. Notice and Communication





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Groundwater Sustainability Plan

Byron –Bethany Irrigation District GSA *Board of Directors*	City of Antioch GSA *City Council*	City of Brentwood GSA *City Council*	Contra Costa County GSA *Board of Supervisors*	Contra Costa Water District *Board of Directors*	Diablo Water District GSA *Board of Directors*	Discovery Bay Community Services District GSA *Board of Directors*	East Contra Costa Irrigation District GSA *Board of Directors*

Agency Information

- What is a GSA?
- ECC GSA Information: 7 GSAs and CCWD
  - History of coordination and stewardship of East Contra Costa County water resources, including IRWMs and Basin Boundary Modification

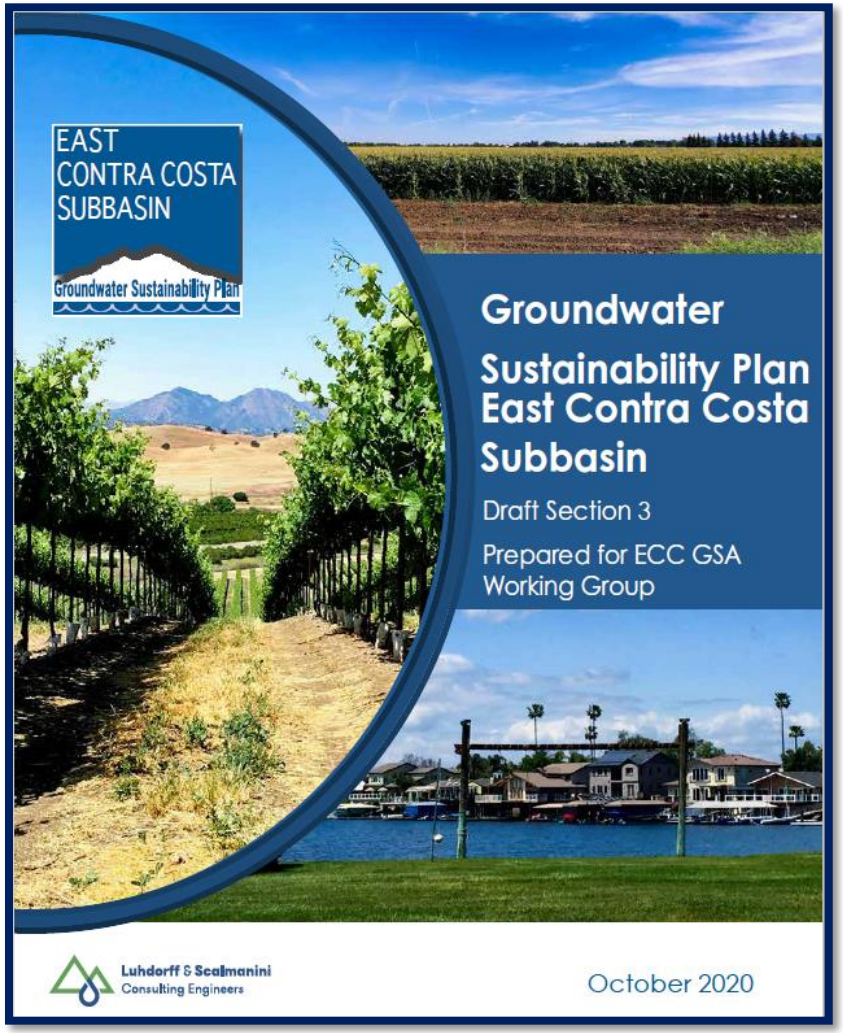
Sustainability Goal for the ECC Subbasin

- To protect and maintain safe and reliable sources of groundwater for all beneficial uses and users.
- To ensure current and future groundwater demands are met under climate change.
- To establish and protect sustainable yield by achieving measurable objectives set forth in this GSP over the 50-year implementation and planning horizon.
- Avoid undesirable results.

Process for Adopting a GSP

Groundwater Sustainability Plan Sections

1. Notice of Intent to Adopt (NOI) – Required 90 days prior to adoptions (sent prior to July 1, 2021)
2. Final Public Comment Period on Public Draft of entire GSP – September 7 to October 6, 2021
3. Publish Final GSP – October 15, 2021
4. **Adoption – Each GSAs shall adopt the Final GSP (October 15-Dec. 15)**
5. **Deadline – Submit GSP to state DWR January 31, 2022**



Why the Plan is Important

- Maintain sustainable groundwater management
- Protect your well
- Maintain local control
- Eligibility for benefits
- Coordination with other planning processes

Key Findings

Key Findings: ECC Subbasin Conditions

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Groundwater Sustainability Plan

The ECC Subbasin is in a stable condition

1. Chronic Groundwater Level Lowering

Not present

2. Groundwater Storage

Stable

3. Seawater Intrusion

Not present

4. Groundwater Quality

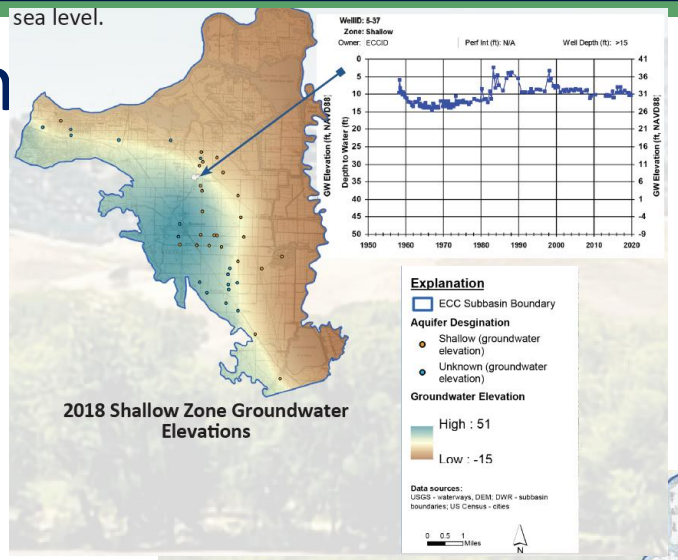
No degradation due to pumping

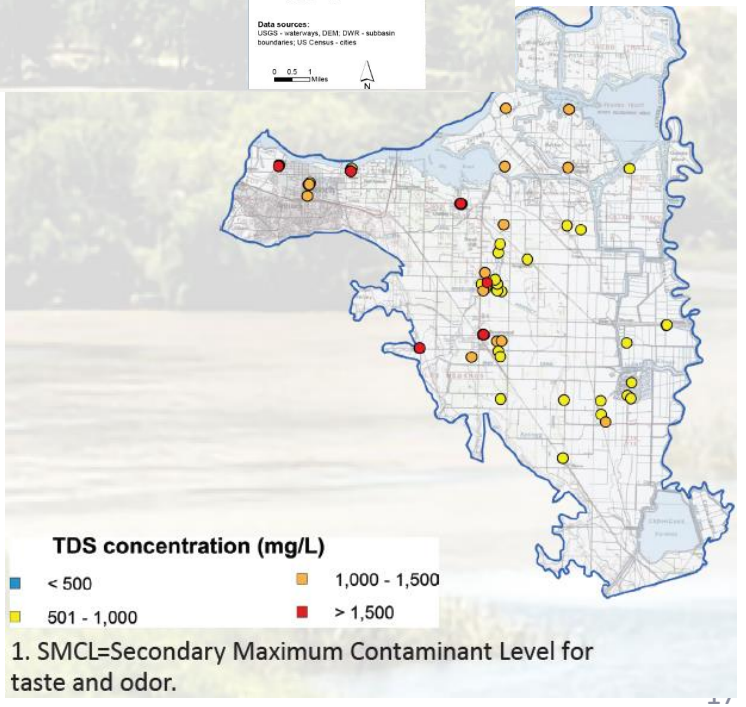
5. Land Subsidence due to groundwater pumping

Not present

6. Surface Water Depletion due to groundwater pumping

Not Present





Key Findings: Water Quality

- The ECC Subbasin has a high amount of naturally occurring salts and minerals
- The GSP does not mitigate existing water quality issues, **but it does protect and maintain safe and reliable sources of groundwater for all beneficial uses**
- Accomplished through monitoring, setting minimum thresholds, and developing actions
- For more information, see GSP Sections 3 and 7

Key Finding: Saltwater Intrusion

- Saltwater intrusion is **NOT** present. The ECC Subbasin is not adjacent to a coastal aquifer
- There is a potential for future bay water intrusion
  - Sea level rise
  - Regulatory changes
- Baywater intrusion is being monitored

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Key Findings: ECC Subbasin Future Conditions

Followed DWR SGMA Guidelines

2022 → 50 Years → 2071

Historical Pumping

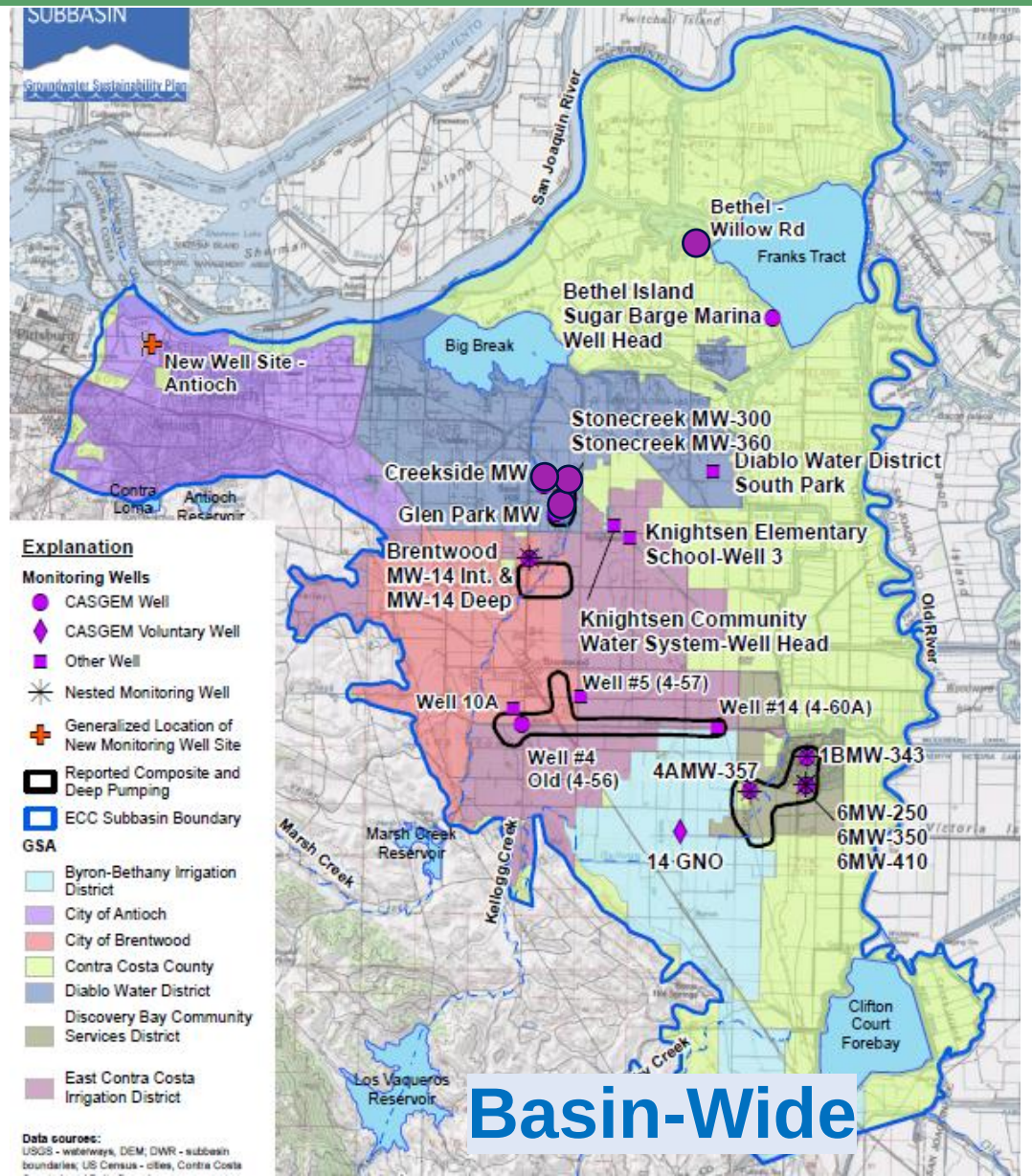
Consistent with Land Use Plans

Climate Change and Sea Level Rise

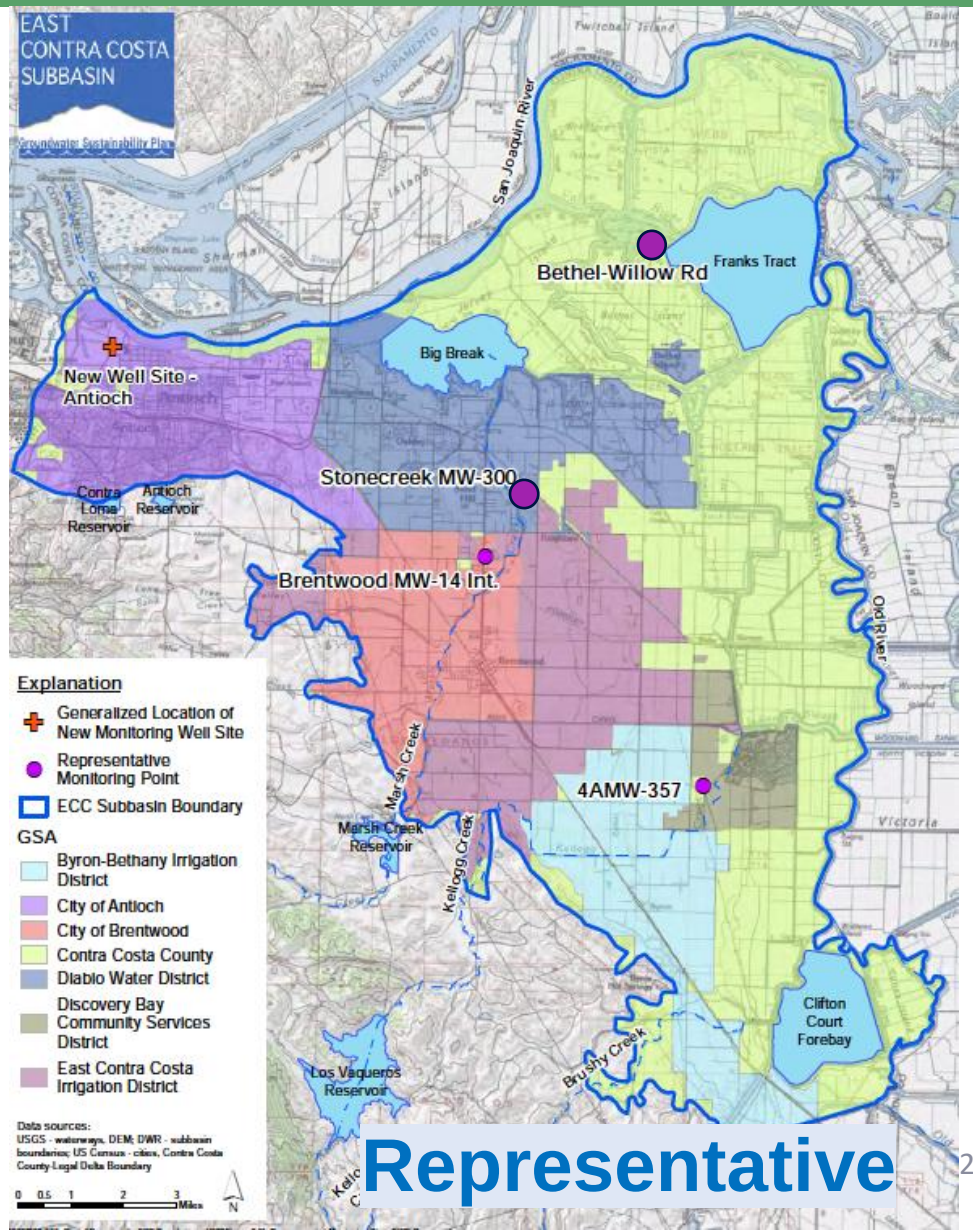
- Even under much higher pumping, groundwater storage and levels are sustainable
- Well capacity is unaffected

GSP Implementation

GSP Implementation: Monitoring commences now



Basin-Wide



Representative

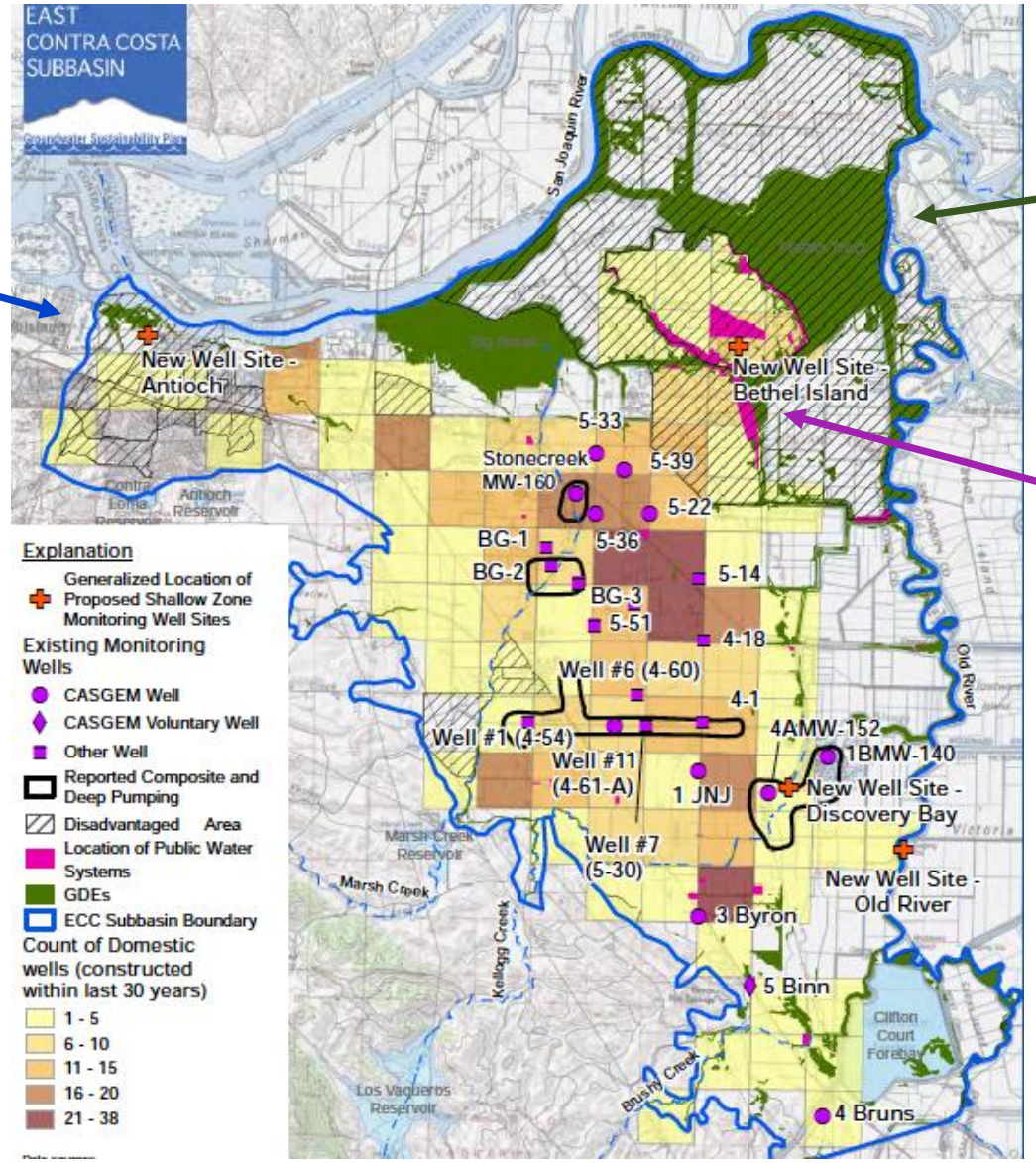
Monitoring Network – other basin concerns

Delta connections

Groundwater dependent ecosystems

Public water systems

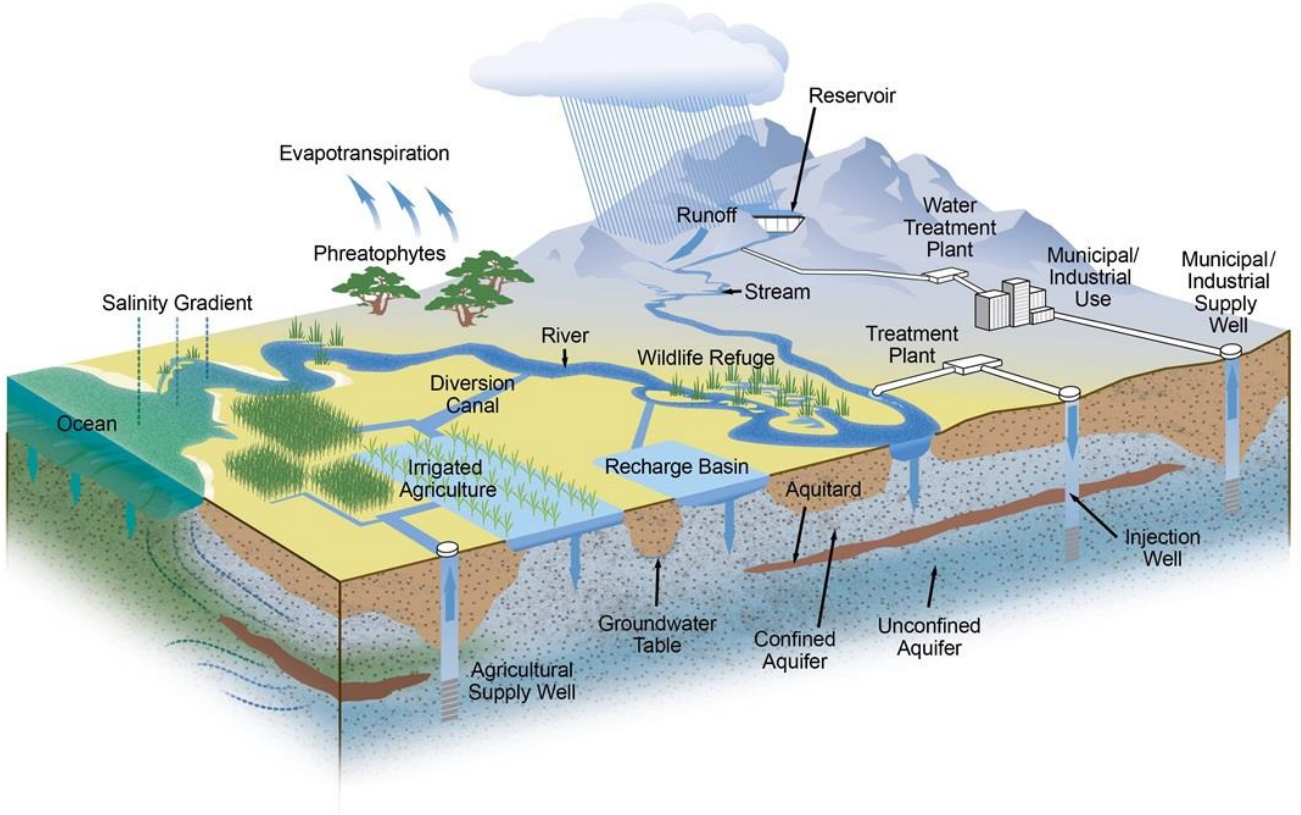
4 new monitoring sites under state grant



Water budget and groundwater flow model

A groundwater flow model was developed to evaluate:

- Water Budget Components
- Future Scenarios
- Sustainable Yield



Future Scenarios

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50-year Future

Climate Change

Management Actions/Projects

Predictive Future Model Scenarios

- DWR Produced SGMA Guidance Document
  - Provides adjustment data for different climate change scenarios
  - Pick a historic simulation period and apply the adjustments over a 50-year period
  - Scenarios for far-future 2070 central tendency
- Climate Change and Sea Level Rise
- Local Management Actions/Projects

Modeling Sustainable Yield

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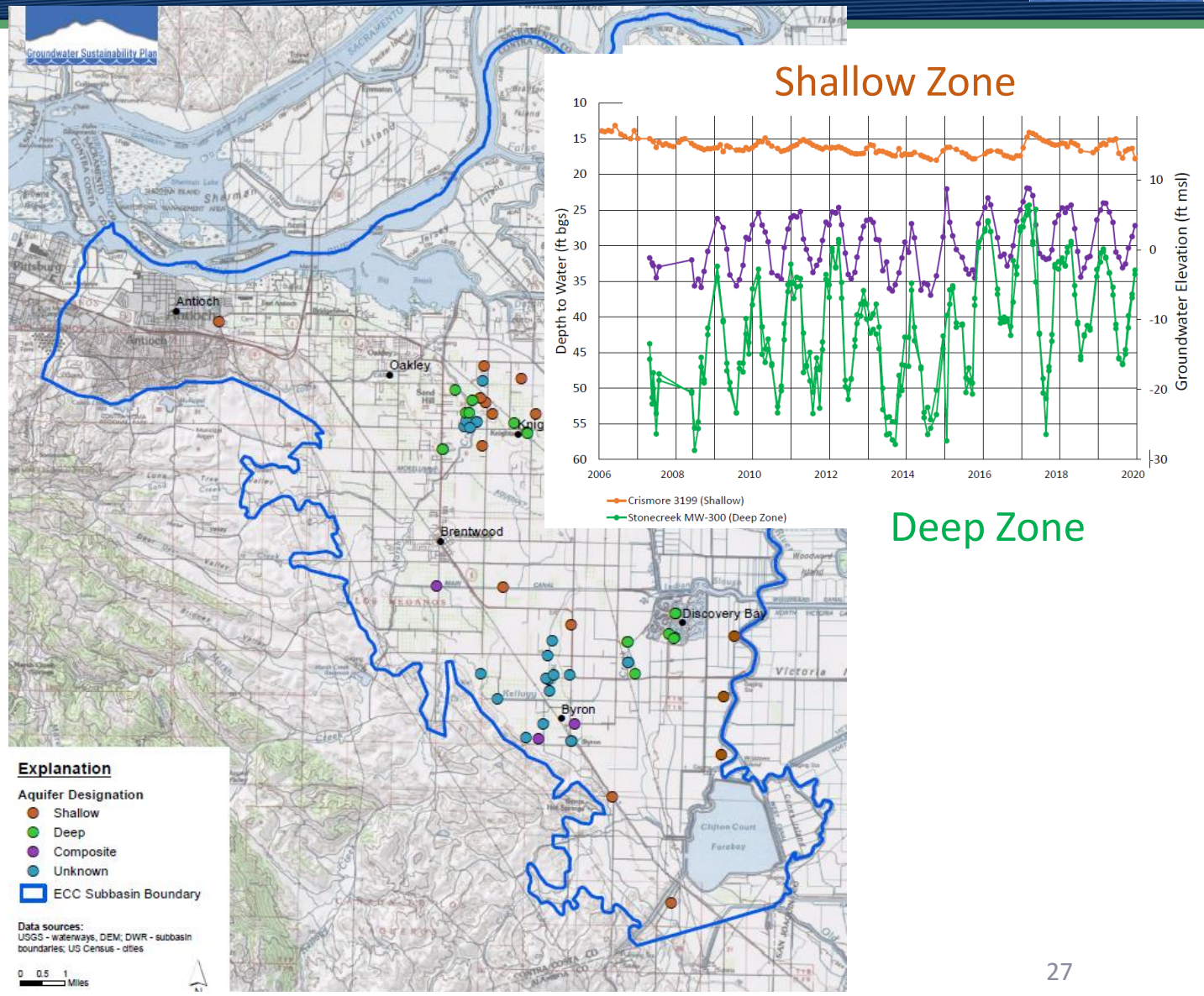
Sustainable Yield Scenarios

- Reduced surface water deliveries and increased groundwater pumping until undesirable results arise for sustainability indicator(s)
- Basin outflow and stream depletion indicators affected before storage and water level declines
- Sustainable yield on the order of *55 percent higher* than historical base period (1997-2018)

ECC Subbasin Conditions

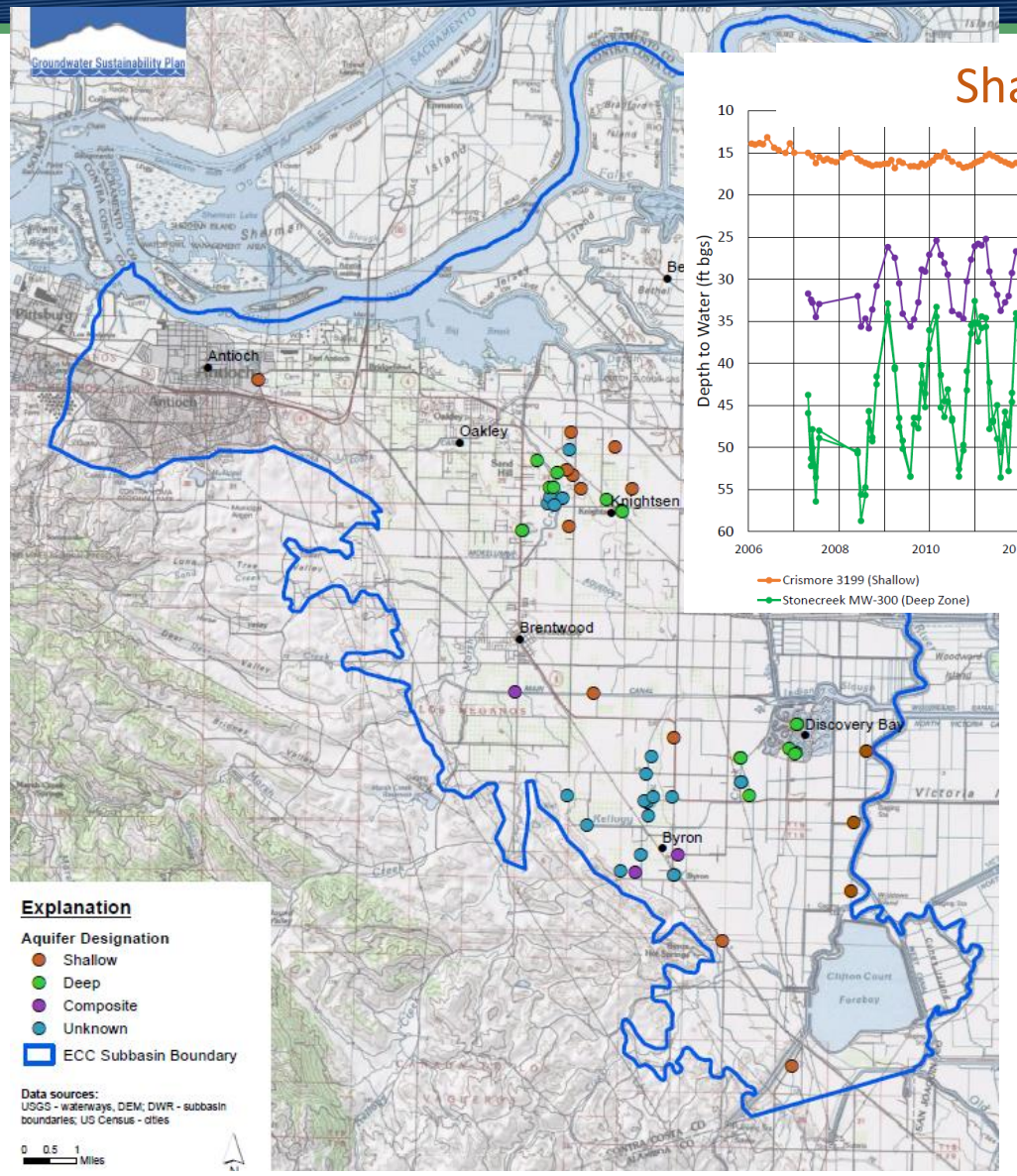
- Groundwater demand is 15 % of total, rest is surface water
- Even under much higher pumping, groundwater storage and levels are sustainable
- This provides opportunities to use groundwater conjunctively to provide reliability to the overall supply

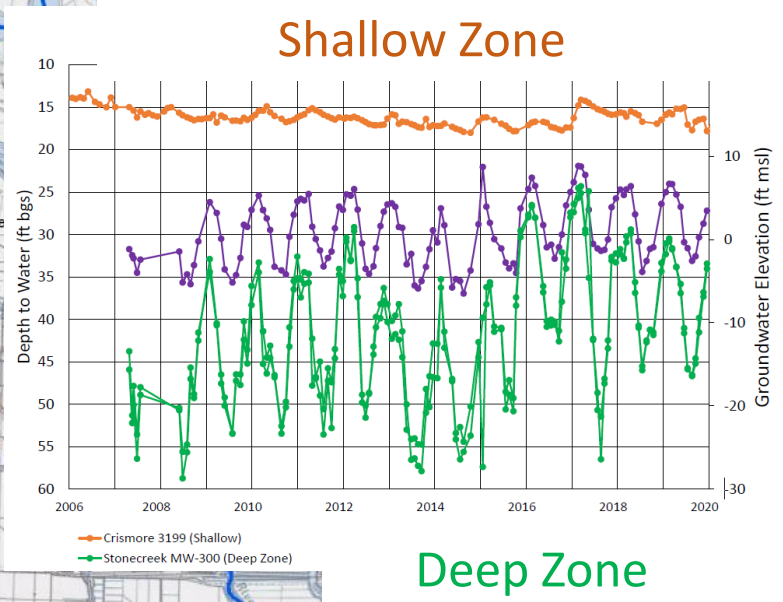


Historical perspective

Local agencies monitor water levels and water quality to understand groundwater conditions in the subbasin

- Have observed regionally stable groundwater conditions





Deep Zone

Local Issues

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Protecting rural domestic users:

The GSP seeks to avoid impacts that cause:

- a need to lower a well pump to ”chase water,” to replace a pump, or to deepen or replace a well.
- wells going “dry”
- water level declines due to well pumping interference

Projects and Management Actions

GSAs may develop projects and management actions for sustainability

Projects might include:

- Groundwater recharge
- Conjunctive use of surface water and groundwater
- Water exchanges

Management Actions might include:

- Conservation
- Pumping allocations
- Well location restrictions

Questions?

More Information

- ECC GSP Plan: https://www.eccc-irwm.org/sgma-documents-reports

- Email: groundwaterinfo@dcd.cccounty.us