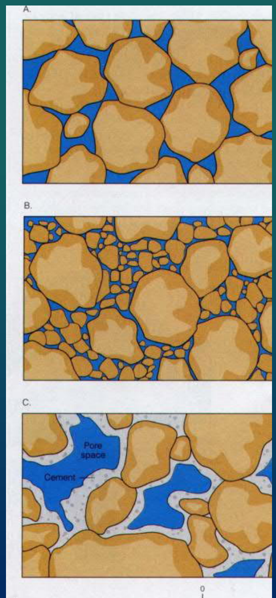
Sustainable Groundwater Management Act and Groundwater Sustainability Plan for the Solano Subbasin

Solano GSA Collaborative

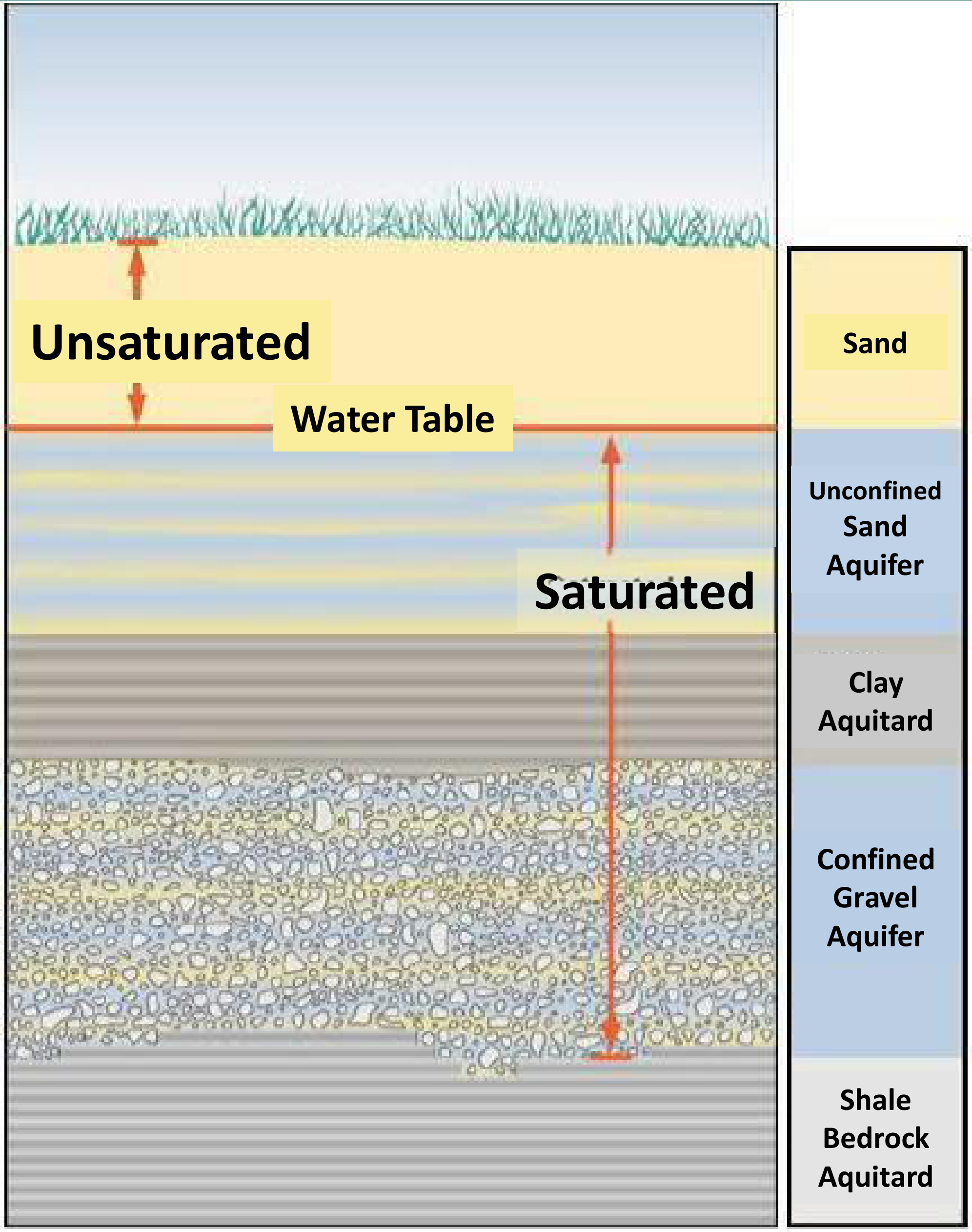
April 2019 Workshop

What is Groundwater?

- Groundwater occurs in small pore spaces within rock and alluvium (unconsolidated sediment)



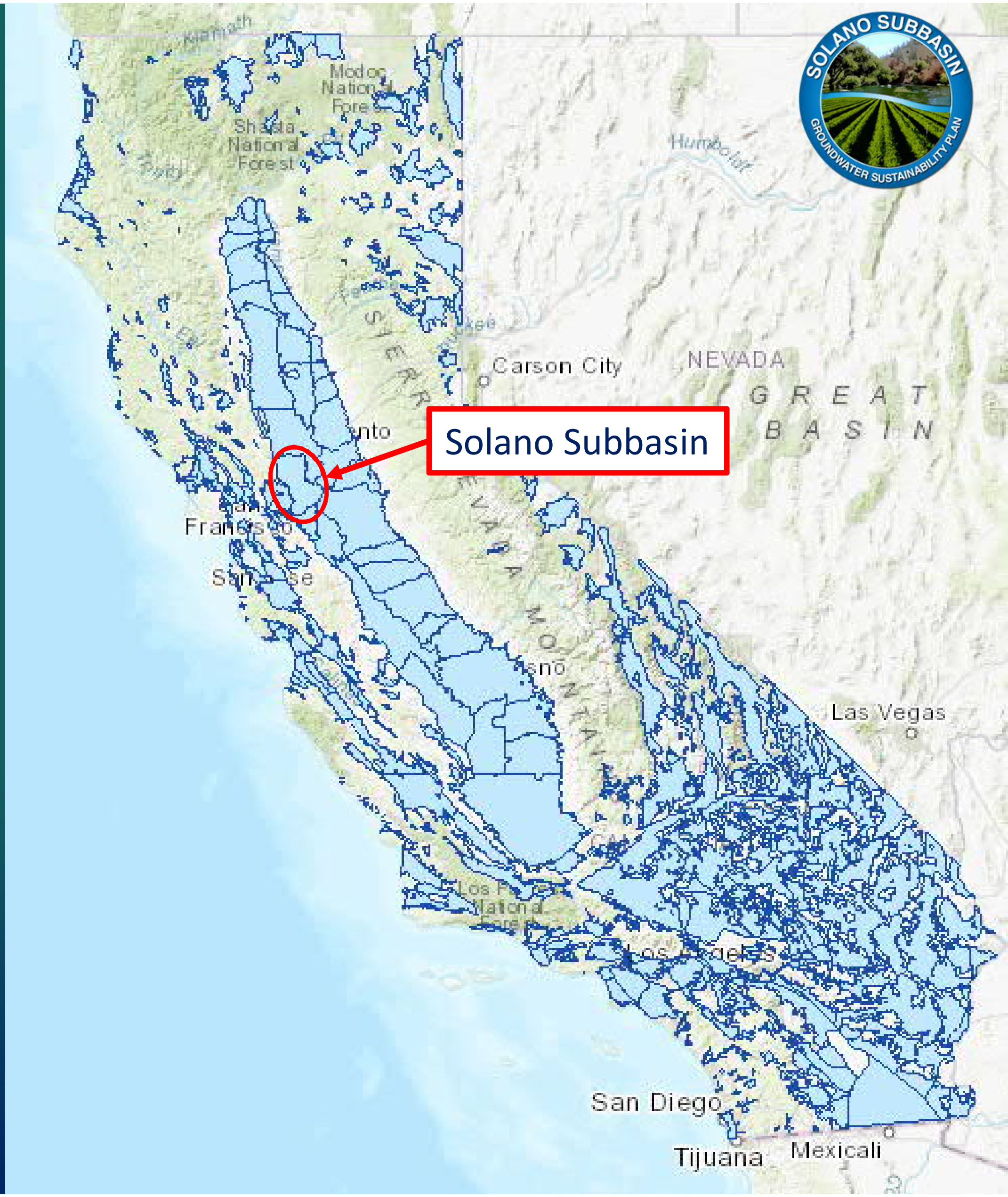
Phillips, 2015



Groundwater Basins & Subbasins

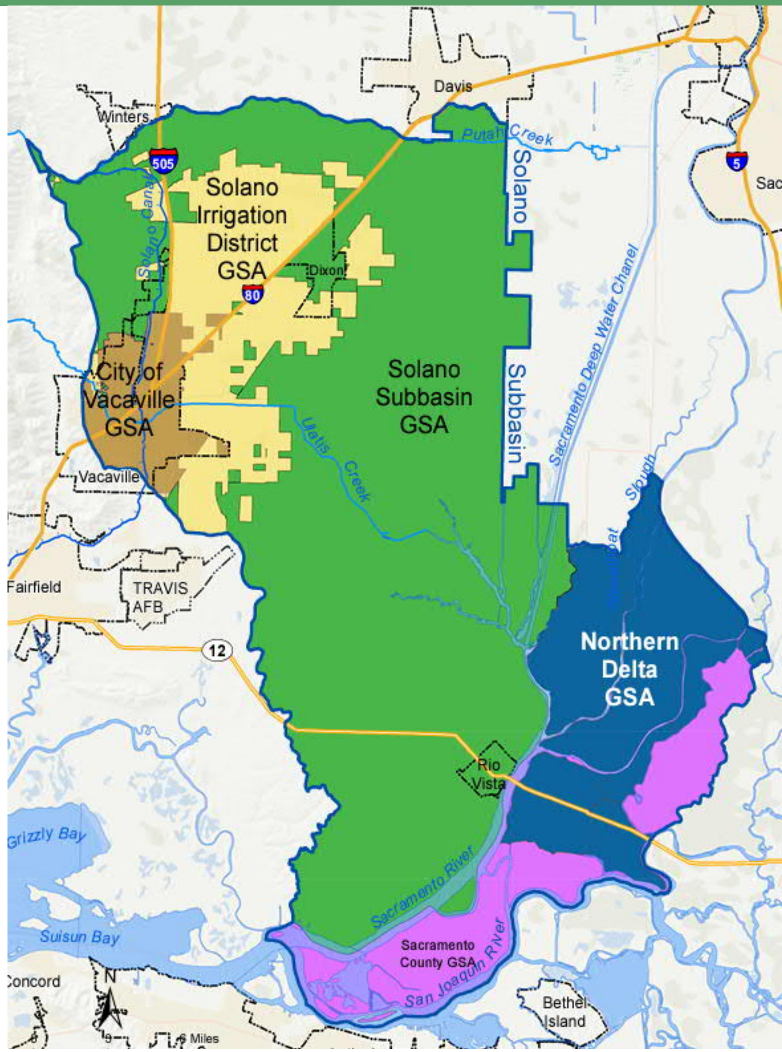
Basins: An alluvial aquifer or stacked series of aquifers with reasonably defined lateral boundaries and having a defined bottom

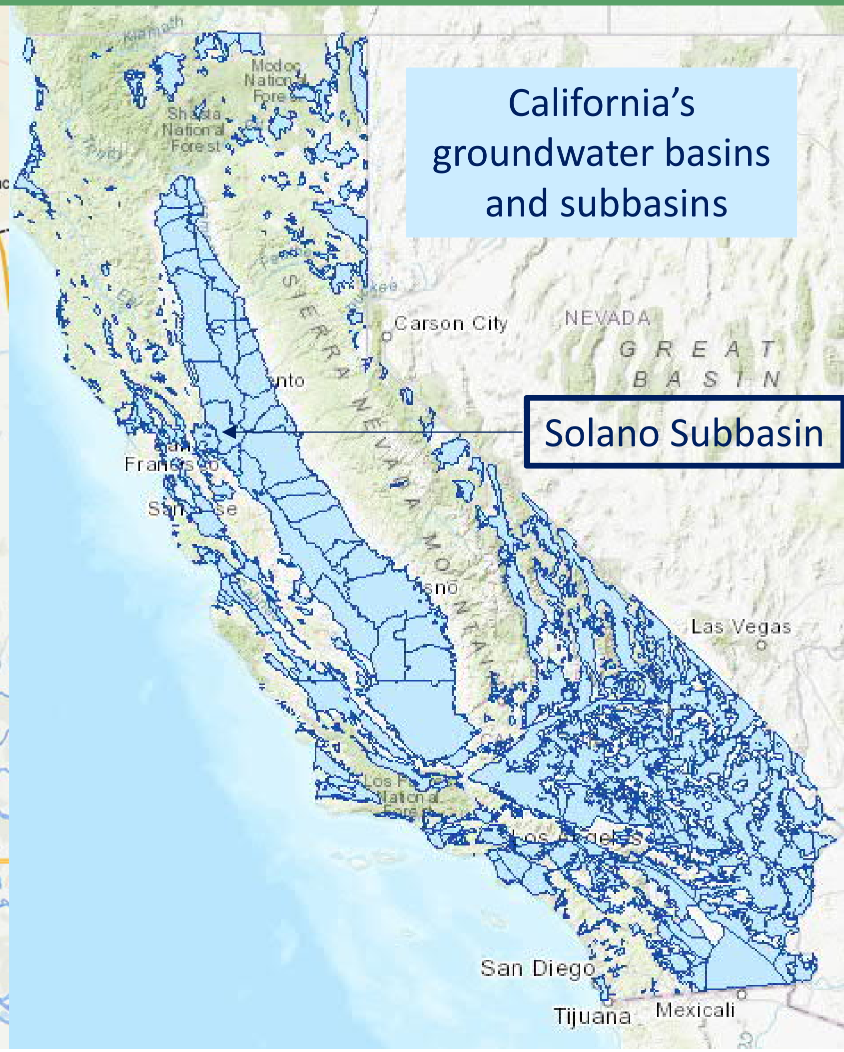
Subbasins: A subdivision of a groundwater basin created by dividing the basin using geologic or hydrologic conditions or institutional boundaries



Solano Subbasin

- California has 531* basins and subbasins
- Solano Subbasin is a subbasin within the Sacramento Valley Groundwater Basin

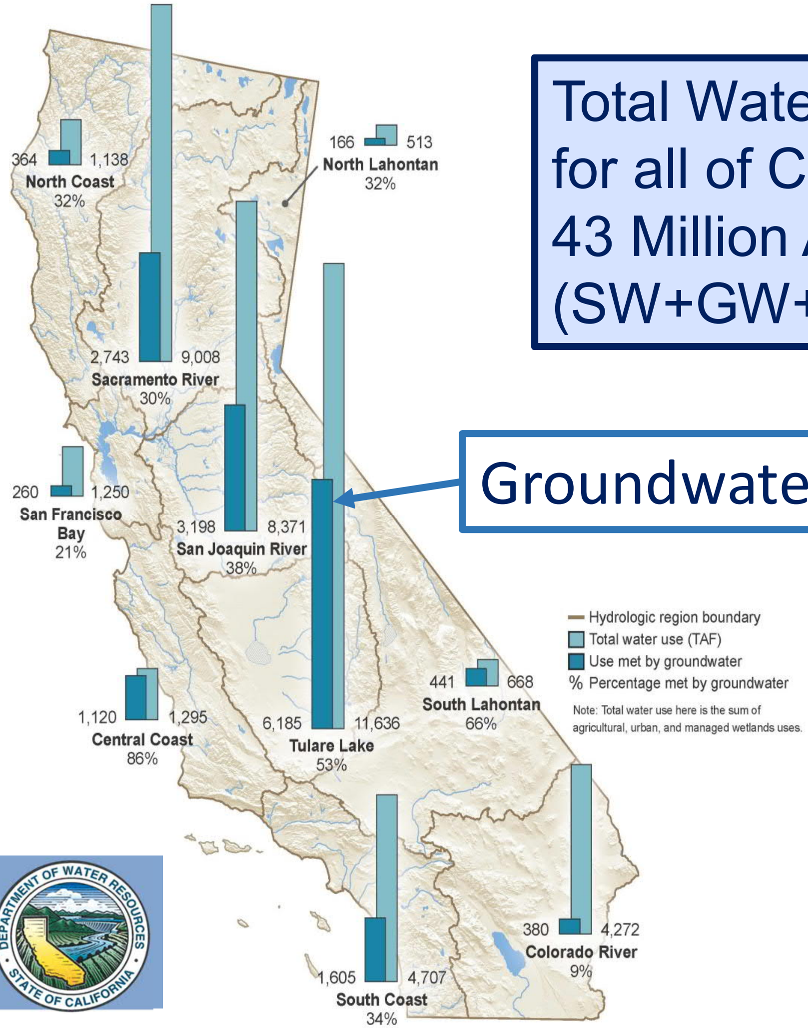




*DWR CA Water Plan Update 2018 (draft)

Groundwater Supply in California

- 2005-2010 Average
- Groundwater comprised nearly 40% of all water used in California, totaling >16 Million Acre Feet.
- During a drought, groundwater use increases to 60%



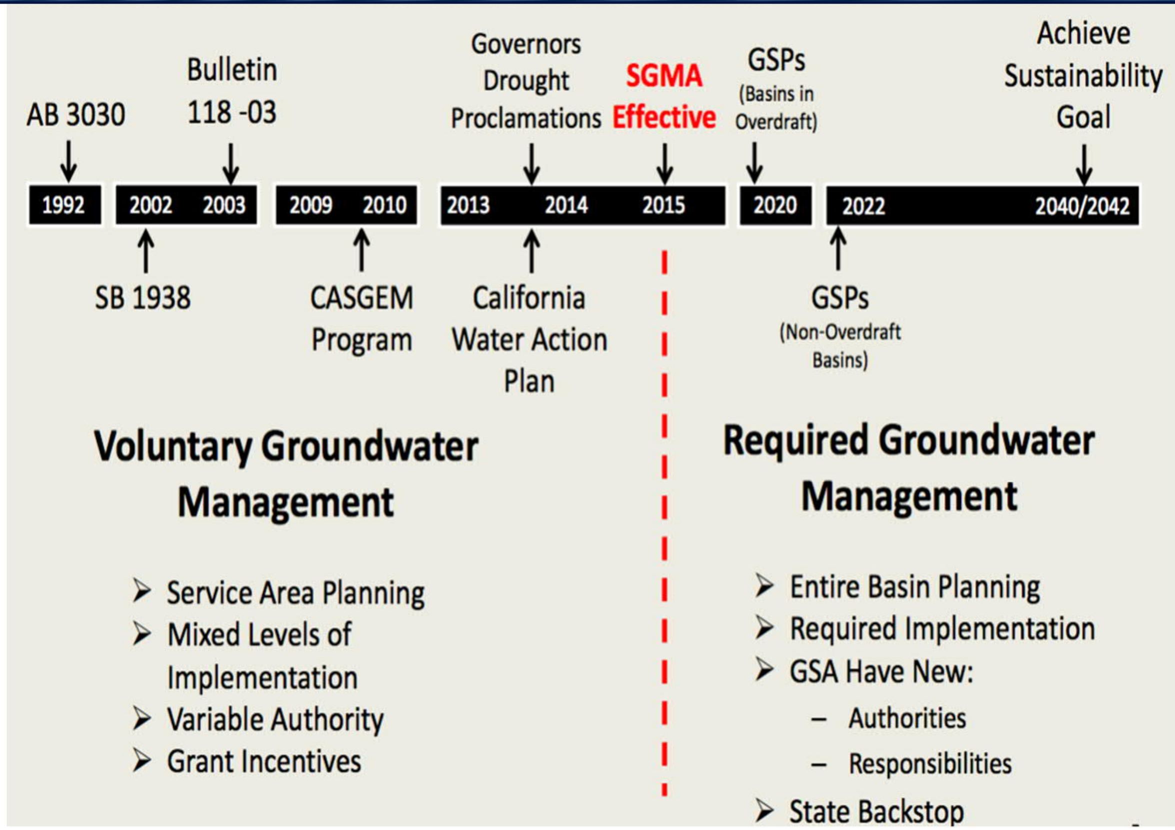
Total Water Supply for all of California: 43 Million Acre Feet (SW+GW+Reuse)

Groundwater

DWR CA Water Plan Update 2013

Groundwater Management in California

- Recent multi-year drought led California to regulate groundwater for the first time
- California is last western state to adopt groundwater regulations
- In 2016, California emerged from driest drought in 1200 years
- March 2019: California noted to be "drought free" after more than 7 years



The Sustainable Groundwater Management Act (SGMA) will help to ensure groundwater resources are available for the future.

Sustainable Groundwater Management Act

- SGMA established robust framework for sustainable management of groundwater resources for the first time in CA's history
- Enacted in September 2014, and implementation began January 1, 2015
- Requires groundwater sustainability plans in medium and high priority basins
- Recognizes management is most effective when done at the local level by local agencies with adequate info, tools, etc.
- Creates state "backstop"
- Defines timeframe for accomplishing goals

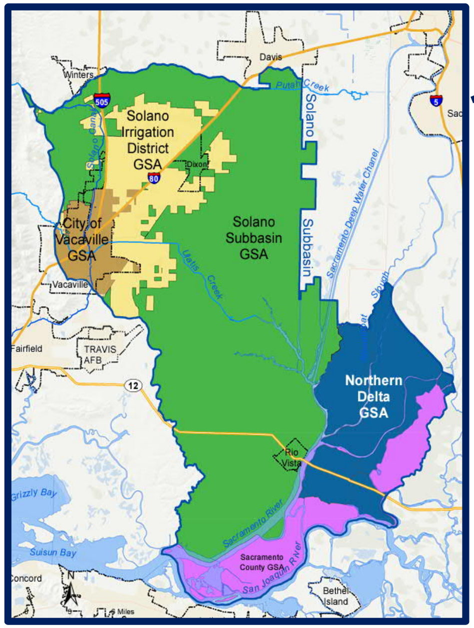
Local Control

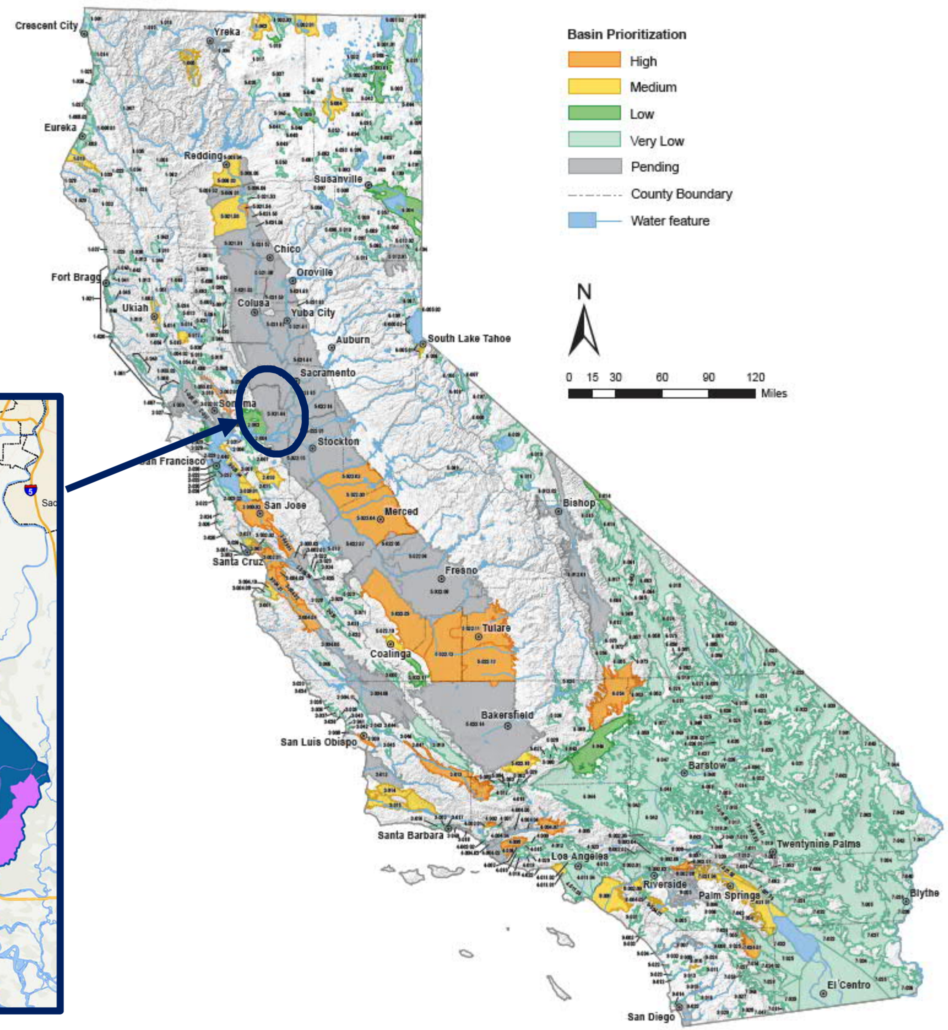
"A central feature of these bills is the recognition that groundwater management in California is best accomplished locally."

Governor Jerry Brown, September 2014

Solano Subbasin Prioritization

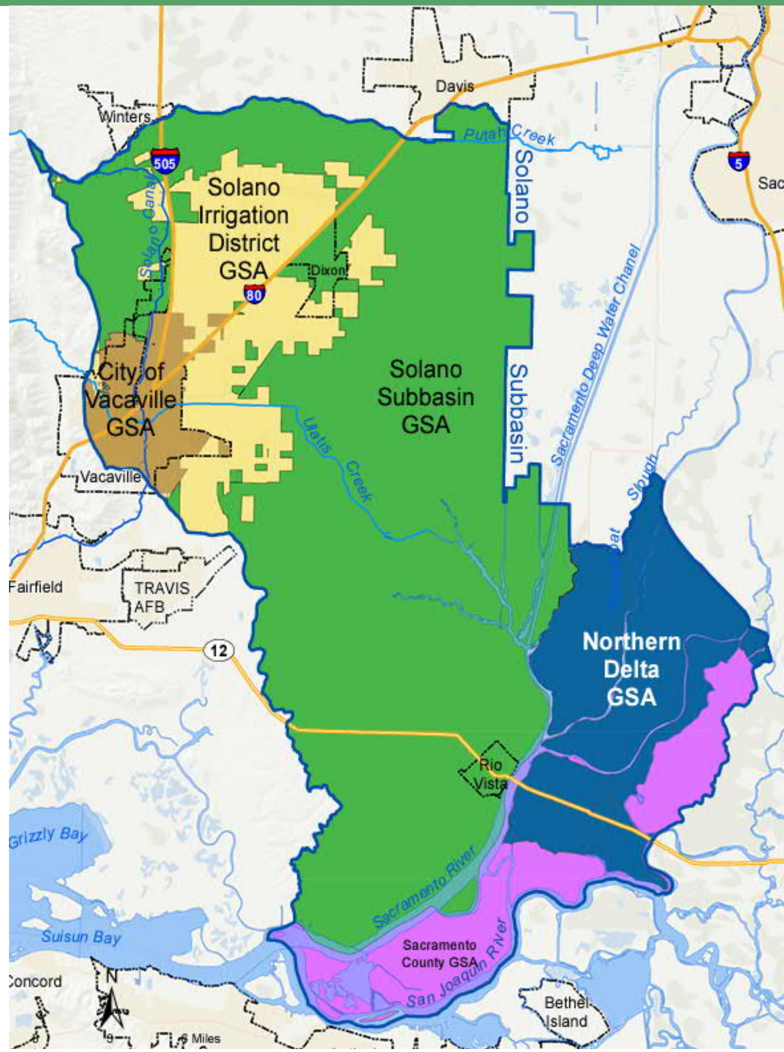
- What is Basin Prioritization?
  - Classification based on factors identified in statute (i.e., population, number of water wells, etc.)
- What do Rankings Mean?
  - Indicator of the overall importance of GW
- Solano Subbasin
  - Medium Priority (currently)
  - Updated Priority (pending)





Groundwater Sustainability Agencies (GSAs)

- A groundwater sustainability plan shall be developed and implemented for each medium- or high-priority basin by a GSA to meet the basin sustainability goal.
- A GSA is one or more local agencies that must develop, implement and enforce the subbasin's GSP.
- A local agency is any local public agency that has water supply, water management, or land use responsibilities within a groundwater basin.



Current Status of SGMA Compliance

1 ✓

Form GSA(s)

Required by June 30, 2017

2

Develop and Submit GSP

Required by January 31, 2022

3

Achieve/Maintain Sustainability

Required 20 Years after GSP Adoption

Solano Subbasin Groundwater Sustainability Plan

Describe the Basin Conditions
Plan Area, Subbasin Setting & Water Supplies

What water sources are used in the basin and what are the basin conditions related to those uses?

Define Basin Sustainability
Sustainable Management Criteria & Monitoring

What is sustainable groundwater management?

Develop Projects/Management Actions & Implementation Plan

How can we ensure groundwater sustainability?

Develop & Adopt GSP
Submit GSP to DWR: January 31, 2022

Will this plan meet our sustainability goals?

Sustainable Yield and Related Terms

Sustainable Yield (Definition; Water Code Section 10721(v)):

- *"Maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually without causing an undesirable result."*

Undesirable Result – key term linked to accomplishing sustainability.

Minimum Thresholds and Measurable Objectives

Measurable objectives and minimum thresholds are established to ensure groundwater sustainability or improve groundwater conditions.

- **Minimum Threshold (MT)**

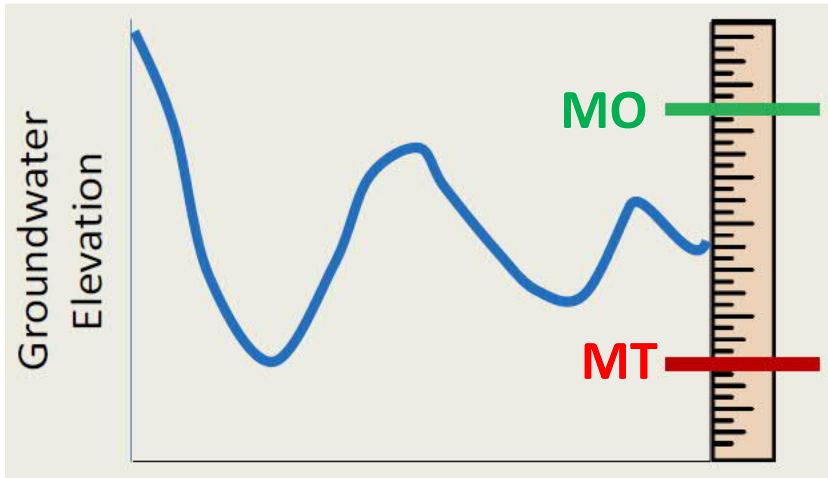
"a numeric value for each sustainability indicator used to define undesirable results" (Sec 351)

- **Measurable Objective (MO)**

"specific, quantifiable goals for the maintenance or improvement of specified groundwater conditions" (Section 351); term related to achieving the sustainability goal in the basin within 20 yrs of plan implementation.

- **MOs and MTs**

Required for each sustainability indicator and for each monitoring site for each indicator as applicable.



(DWR, March 2016)

Avoiding Undesirable Results for Six Sustainability Indicators

Not Causing Undesirable Results:
Means Avoiding Significant and Unreasonable …

- Lowering of GW Levels
- Reduction of GW Storage
- Seawater Intrusion
- Water Quality Degradation
- Land Subsidence
- Depletion of Surface Water

Solano Subbasin Groundwater Sustainability Plan

DESCRIBE THE BASIN CONDITIONS

Plan Area, Subbasin Setting & Water Supplies

- What water sources are used in the basin and what are the conditions in the basin related to those uses?

DEFINE BASIN SUSTAINABILITY

Sustainable Management Criteria & Monitoring

- What is sustainable groundwater management?

DEVELOP PROJECTS/MANAGEMENT ACTIONS & IMPLEMENTATION PLAN

- How can we ensure groundwater sustainability?

DEVELOP & ADOPT GSP

- Will this plan meet our Sustainability Goal?

Thank You