Overview of Groundwater Conditions and Management in the Vina Subbasin

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Butte County Dept. of Water and Resource Conservation

League of Women Voters

January 10, 2026

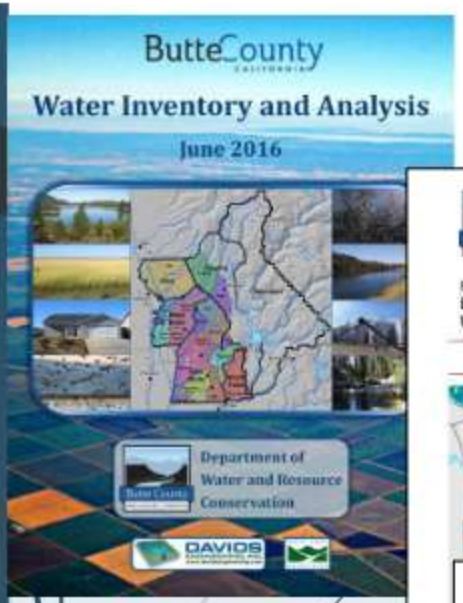
Who We Are…

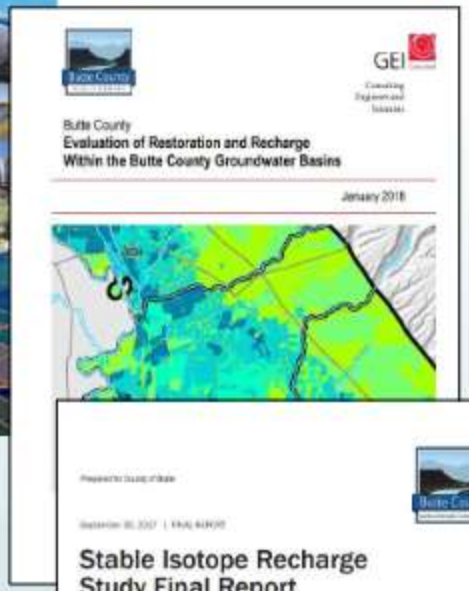
Butte County Department of Water and Resource Conservation, since 1999

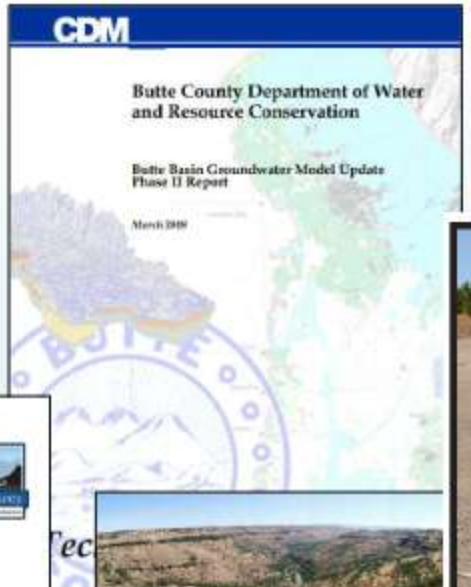
Department Vision

To work cooperatively…to enhance the County's water supply and environment through creative water management…to ensure an abundant and sustainable water supply to support all uses in Butte County; and to ensure that local water resources are protected to meet local water needs.

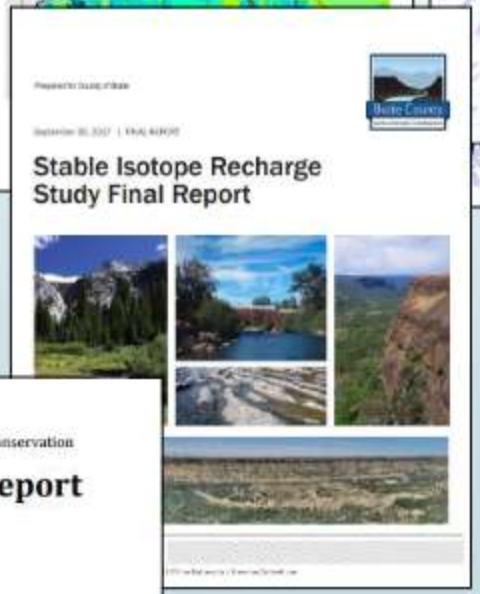
Monitoring & Special Studies

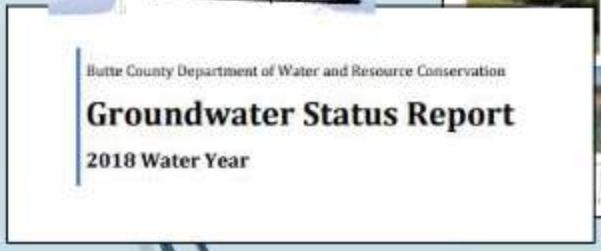






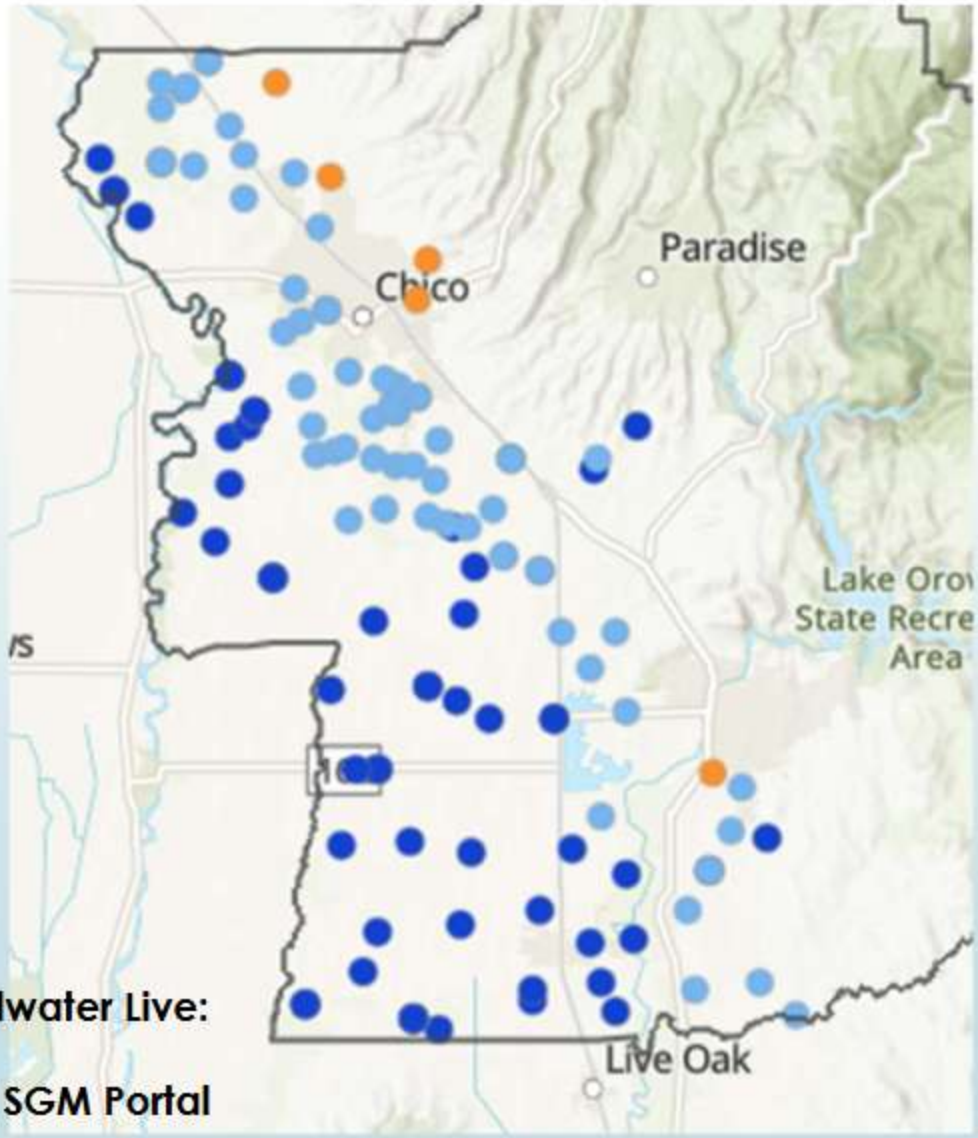
Monitoring





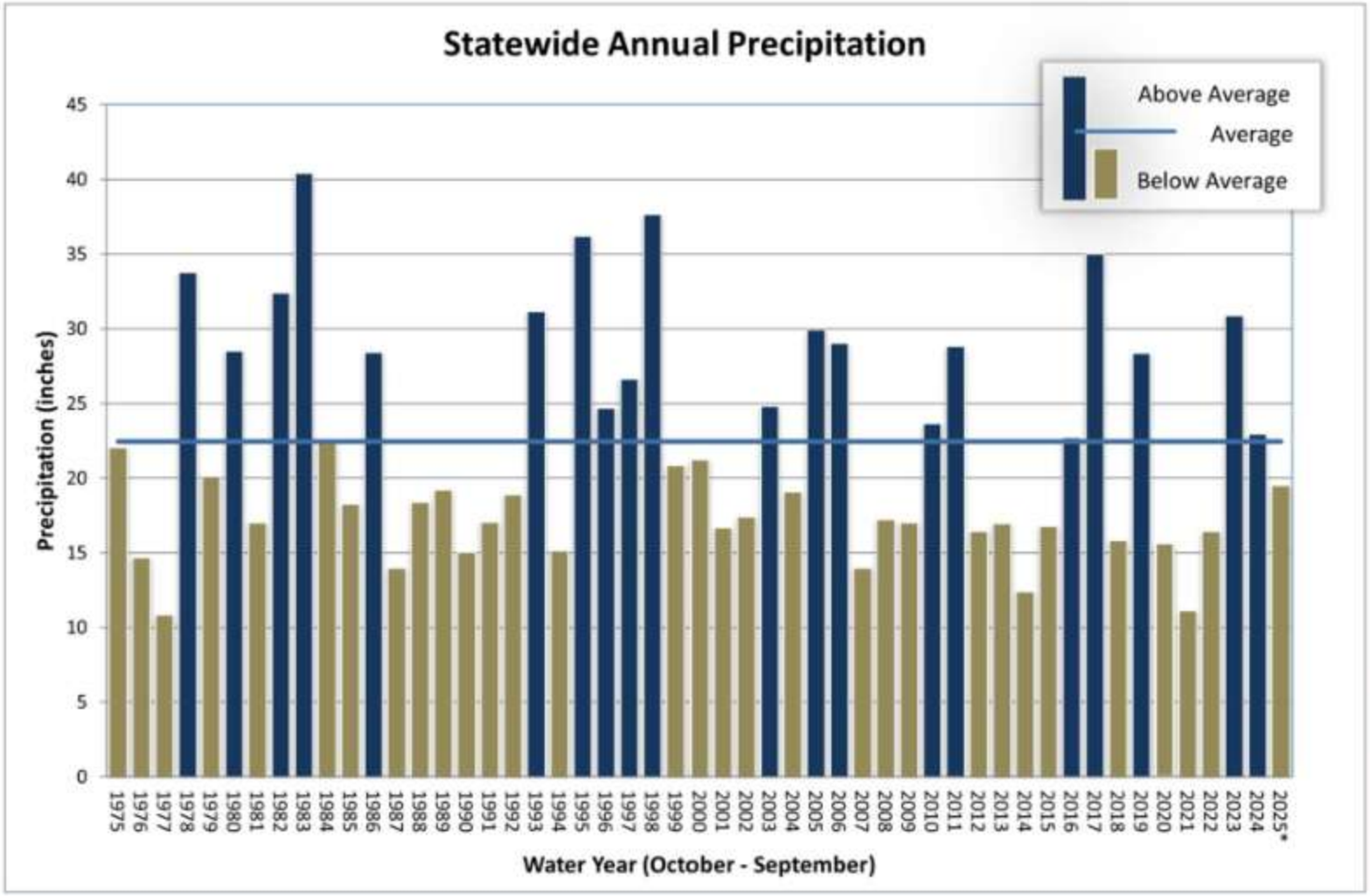
Monitoring Well Network

- Locations of Groundwater Level (depth to groundwater) Measurement
- ~140 wells in the network
- Mix of Ag, household, and dedicated monitoring wells
- Measured at least 4x per year
- 59 have data loggers that record levels every hour
- Long history of data (back to 1940s and 50s in some cases)



All data available online @ California Groundwater Live:
https://sgma.water.ca.gov/CalGWLive/
Also accessible from Water Data Library and SGM Portal

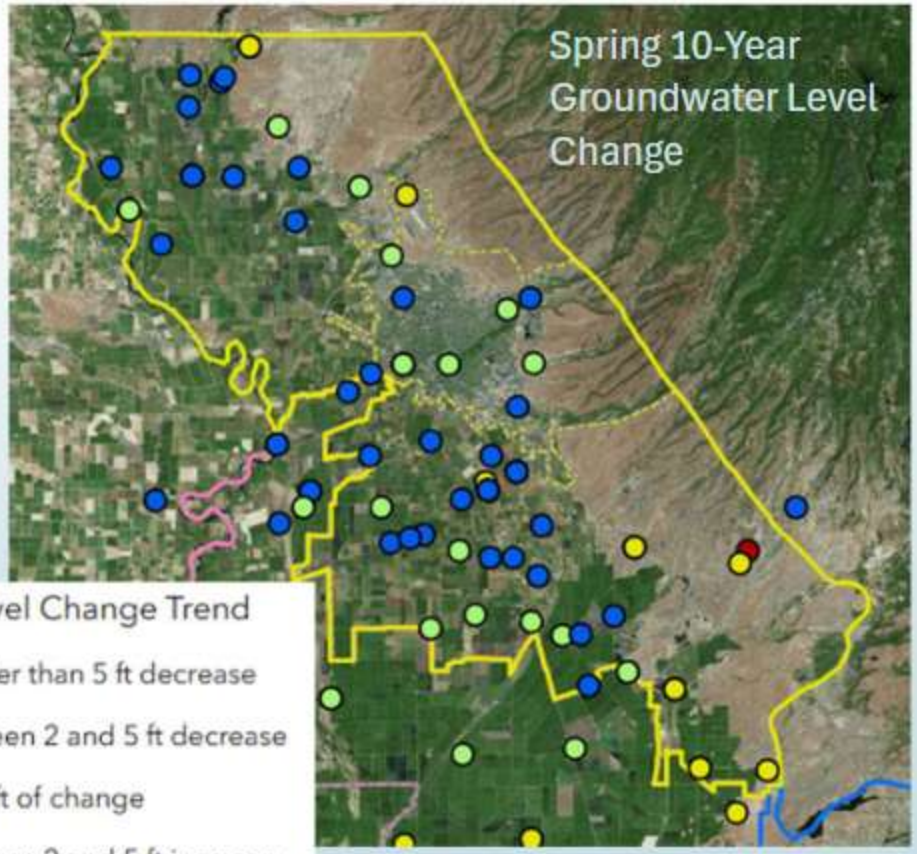
Figure 1: Statewide Annual Precipitation, NOAA National Centers for Environmental Information, (Climate at a Glance: U.S. Time Series, Precipitation). *WY 2025 Precipitation through August 2025.



Groundwater Conditions at a Glance:

Some Good News

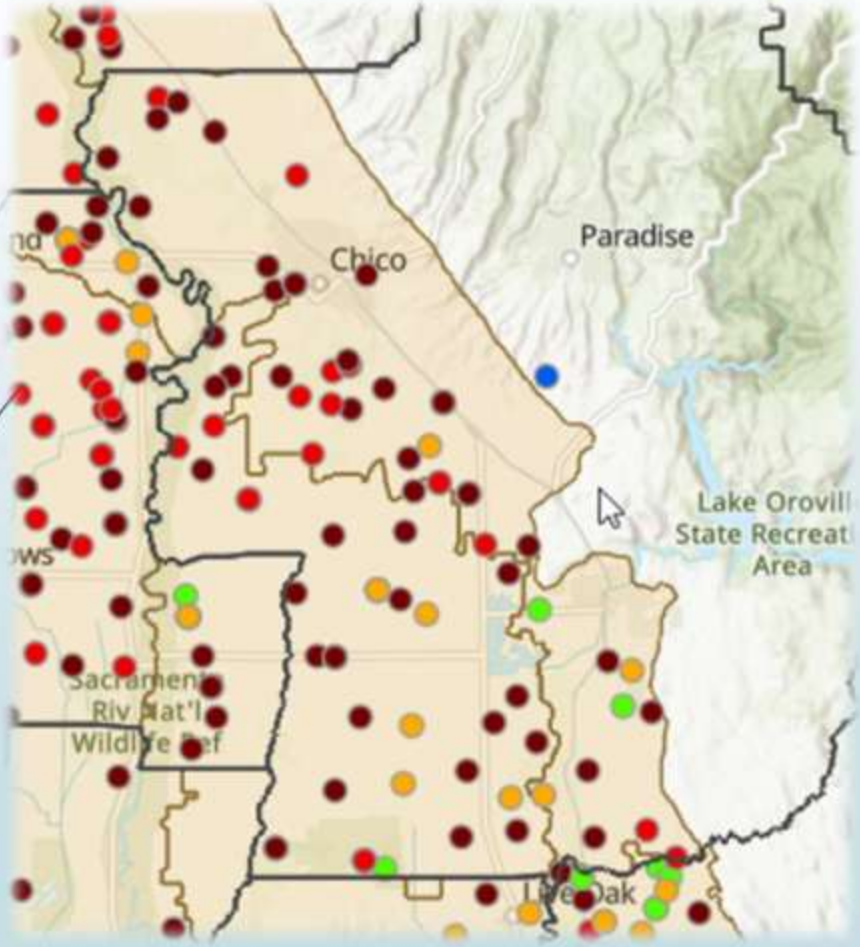
- 10 Year trend relatively stable
- Longer-term trend shows declines since ~2000
- Groundwater levels improved since 2014/2015 drought
  - *Increased average 6 feet (2016-2025); Max. increase ~20 feet*
  - *Increased by average 2 feet (spring 2024 → 2025 WY)*

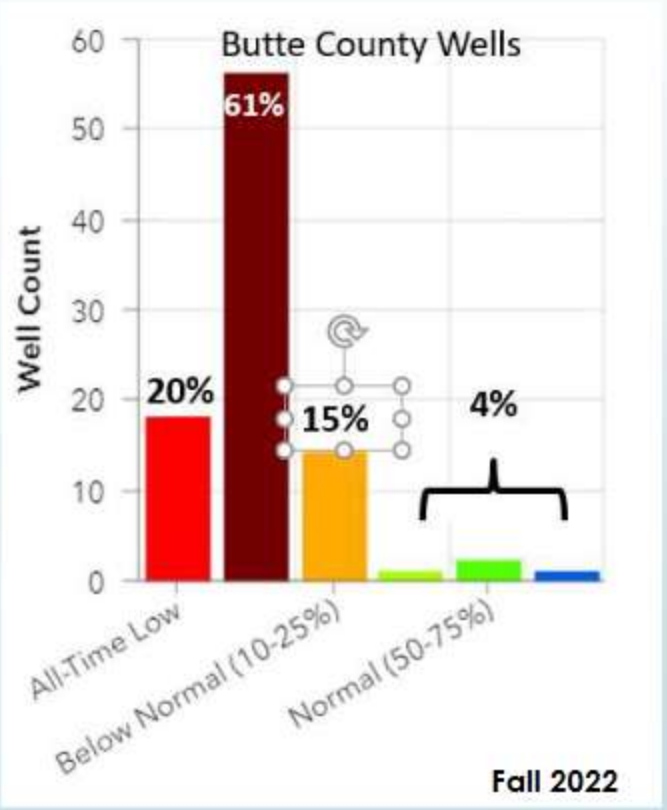


Butte County
WATER & RESOURCE CONSERVATION

New Historical Lows in 2022

Third year of severe drought





Groundwater Level Conditions Snapshot: North Vina

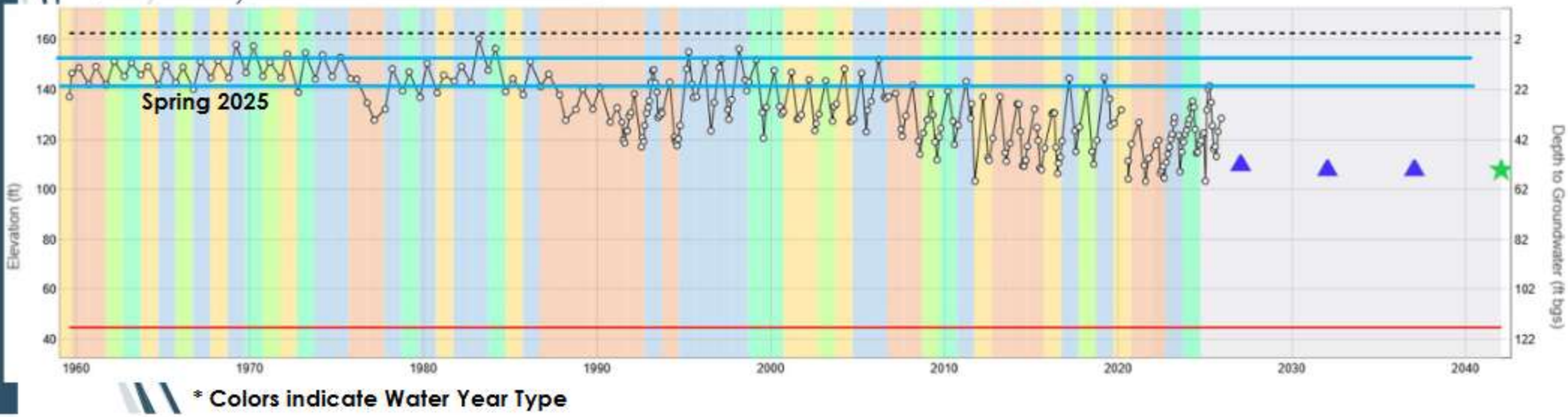
Vina: Residential well
165 ft. total well depth
Record begins in 1959
State Well Number: 23N01W36P001M

Depth to Water

Spring 2025: 21 ft
Fall 2025: 39 ft

Historical Low
Summer 2021: 59 ft
Spring 2022: 45 ft

24 feet
from historical low



*** Colors indicate Water Year Type**

Groundwater Level Conditions Snapshot: South Vina

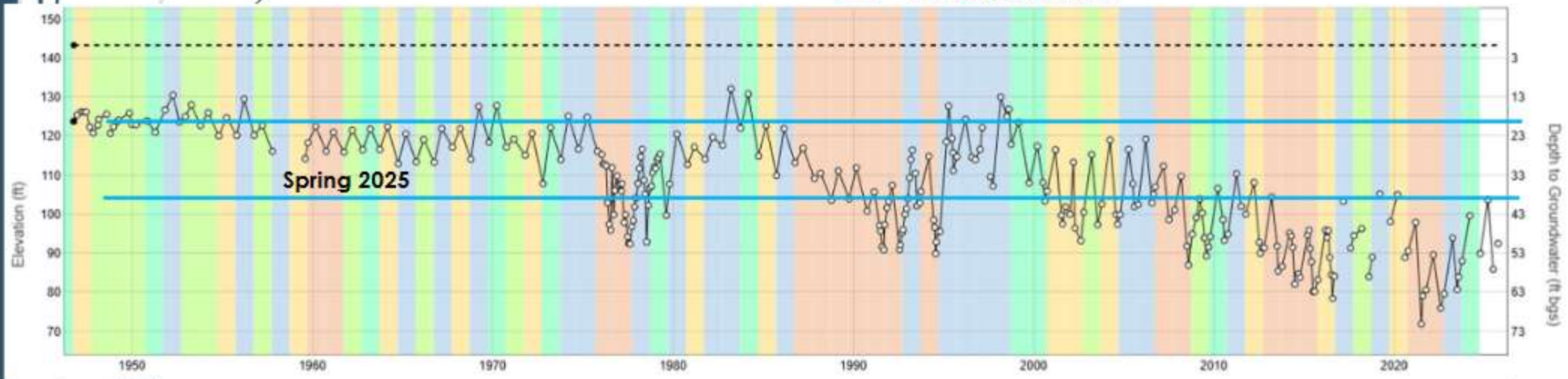
Vina: Residential well
112 ft. total well depth
Record begins in 1946
State Well Number: 21N01E27D001M

Depth to Water

Spring 2025: 40 ft
Fall 2025: 51 ft

Historical Low:
Summer 2021: 71 ft
Spring 2022: 54 ft

14 feet
from historical low



*** Colors indicate Water Year Type**

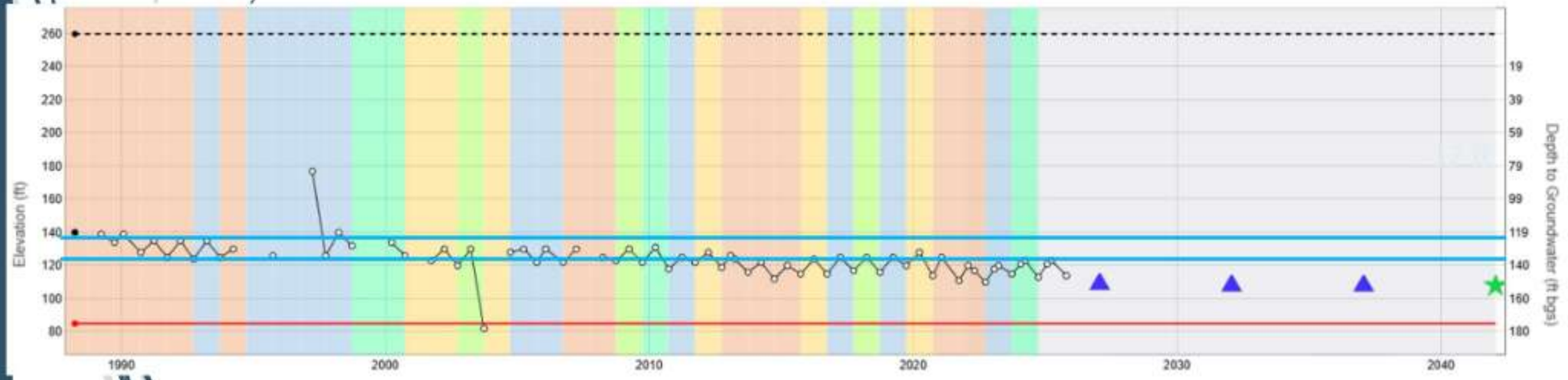
Groundwater Level Conditions Snapshot: Vina- Chico

Vina: Cal Water Well
Well Depth >600 feet
Well Name: CWSCH03

Depth to Water
Spring 2025: 137 ft
Fall 2025: 146 ft

Historical Low
Spring 2015, 2022:
140 ft

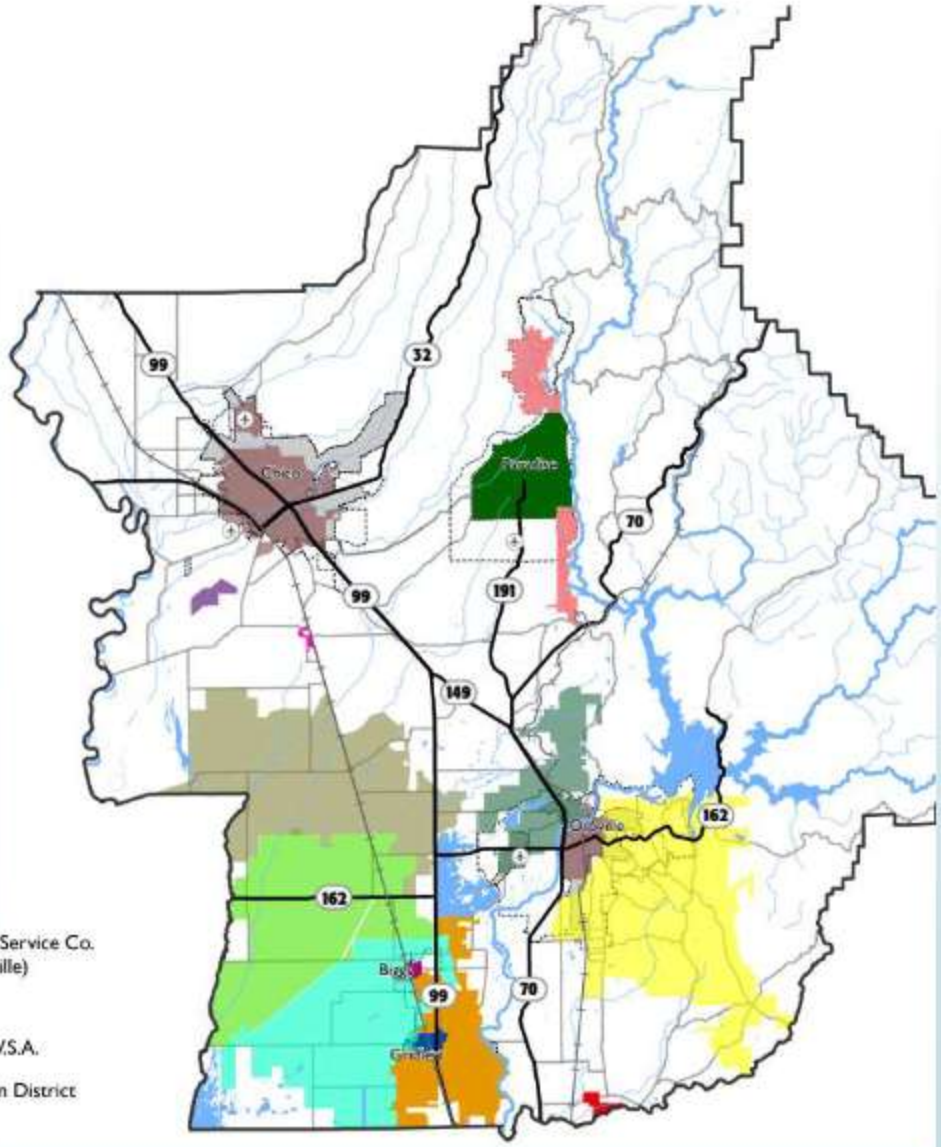
3 feet
from historical low



*** Colors indicate Water Year Type**

So Who's in Charge of Water?

Many Different Water Districts and Water Providers:
State
Water Districts
Cities
Counties
Private Companies

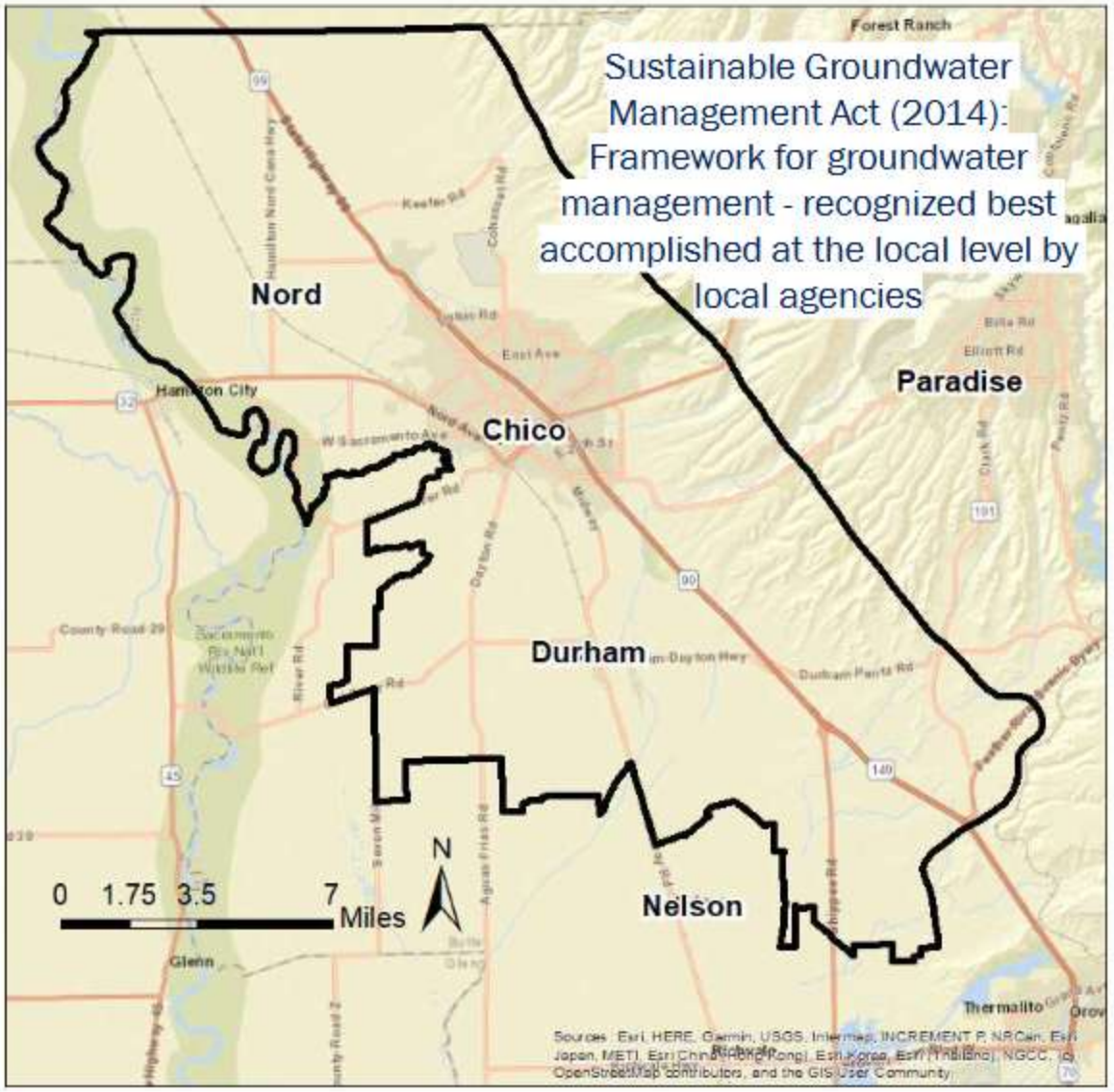


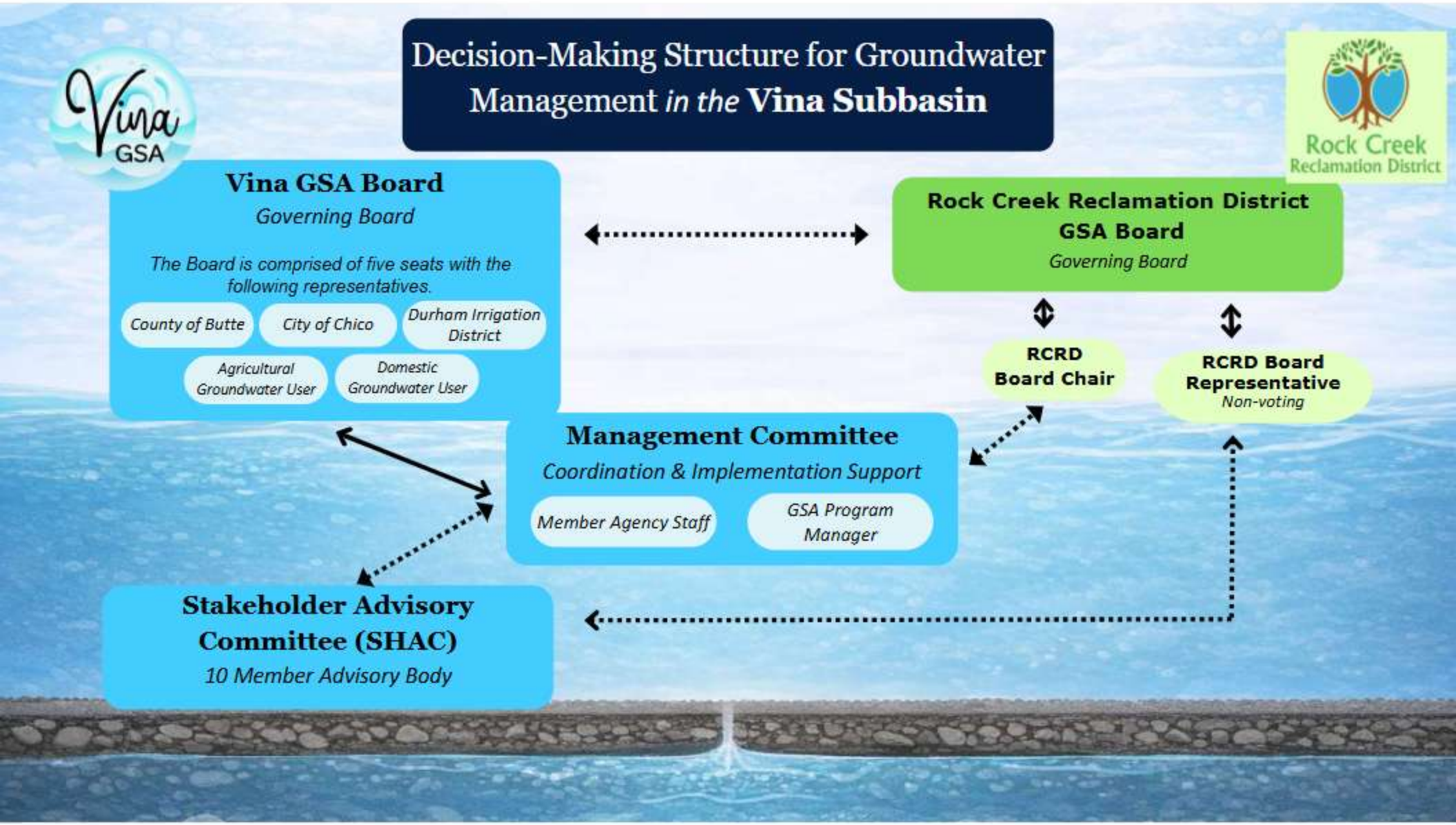
Vina Subbasin

- Two Agencies Responsible for Groundwater Management:

Vina GSA

Rock Creek Reclamation District

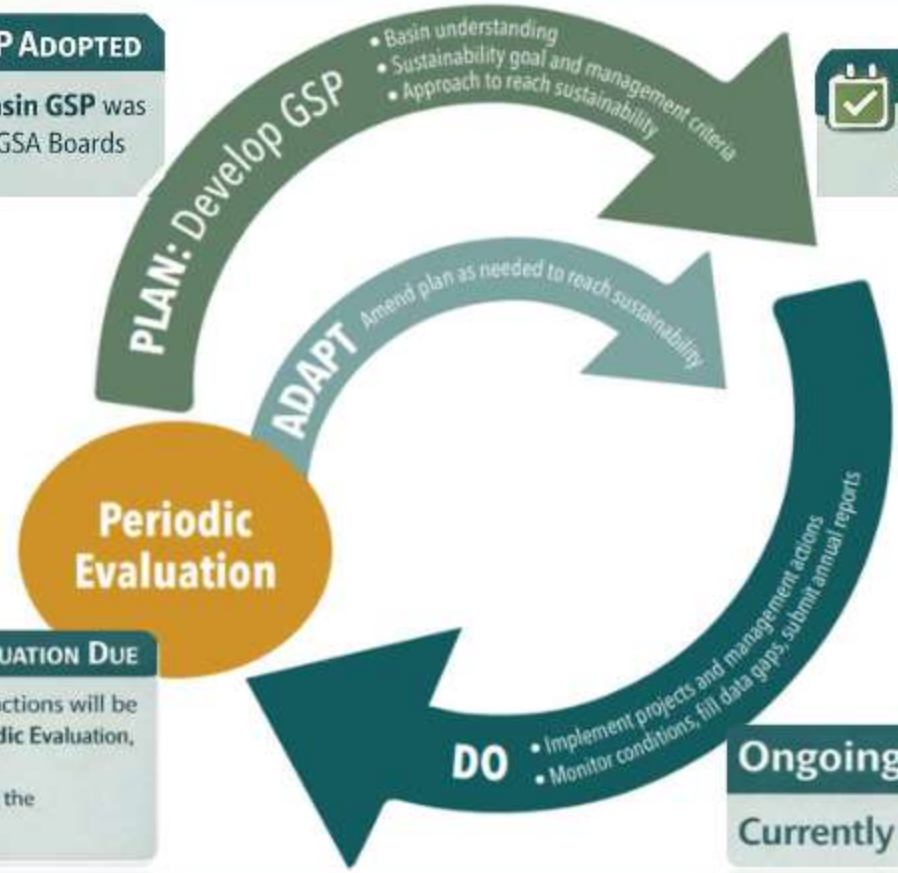



Decision-Making Structure for Groundwater Management *in the* **Vina Subbasin**
Vina GSA
Rock Creek Reclamation District
Vina GSA Board
Governing Board
The Board is comprised of five seats with the following representatives.
County of Butte
City of Chico
Durham Irrigation District
Agricultural Groundwater User
Domestic Groundwater User
Rock Creek Reclamation District GSA Board
Governing Board
RCRD Board Chair
RCRD Board Representative
Non-voting
Management Committee
Coordination & Implementation Support
Member Agency Staff
GSA Program Manager
Stakeholder Advisory Committee (SHAC)
10 Member Advisory Body

Groundwater Sustainability Plan Implementation

2021: GSP Adopted

Vina Subbasin GSP was adopted by GSA Boards in 2021.



2023: DWR Approved

DWR approved the Vina Subbasin GSP in 2023,

Jan. 2027 Periodic Evaluation Due

JAN. 2027

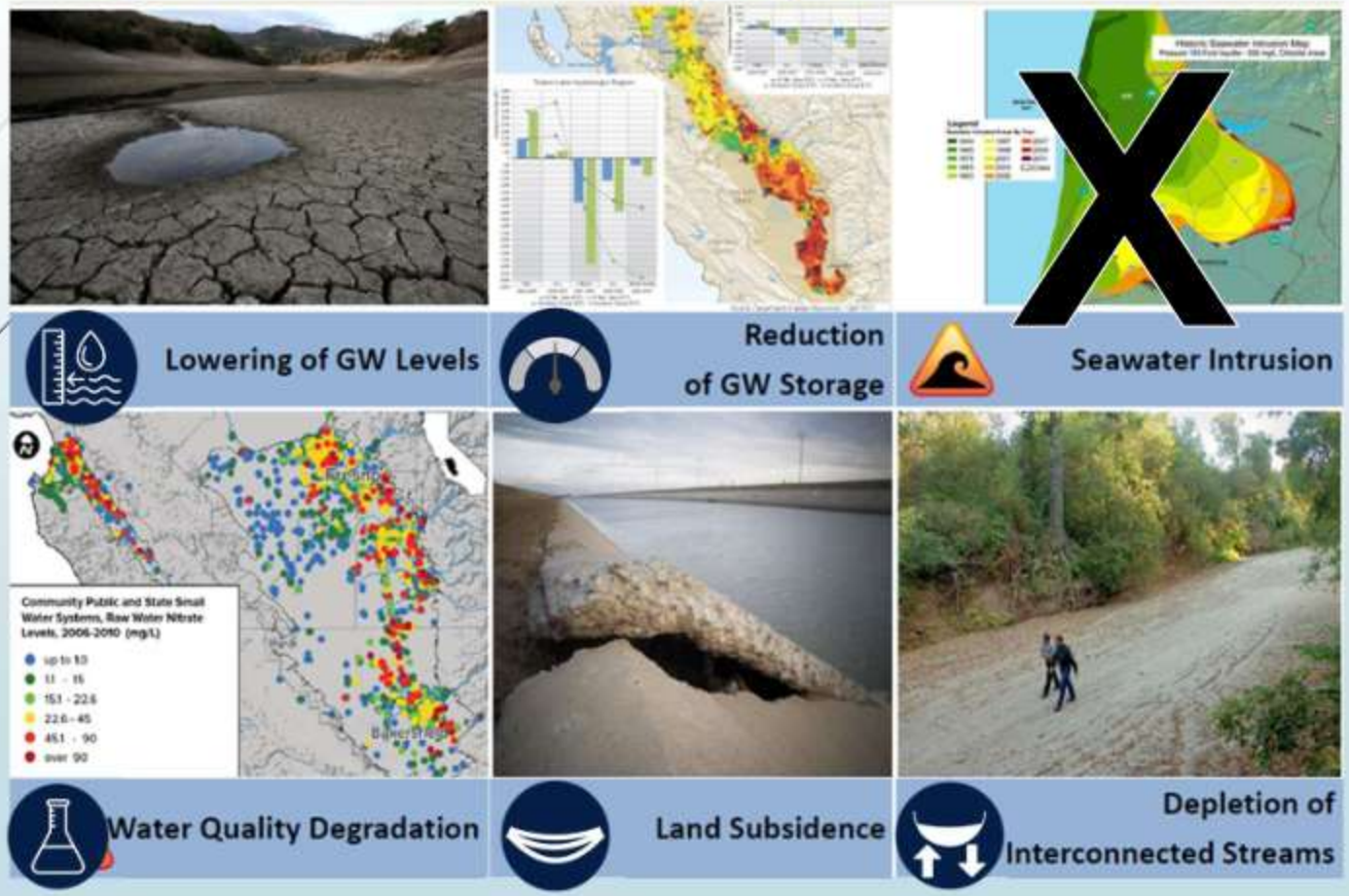
DWR-recommended corrective actions will be addressed through the first **Periodic Evaluation**, due January 2027.

Plan amendments may accompany the first PE if warranted.

Ongoing:

Currently grant funded

Managing Groundwater: What do we need to pay attention to?



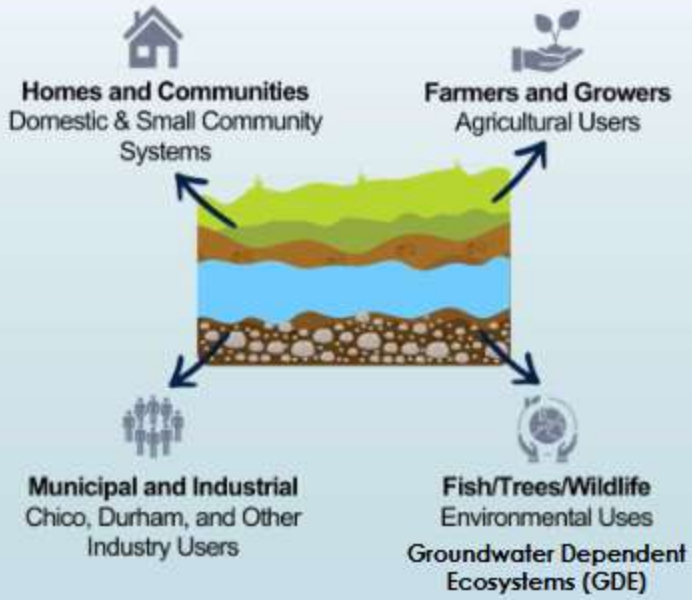
Monitoring Network required for each Sustainability Indicator to track conditions relative to Beneficial Uses of Groundwater

What are we paying attention to?

"Sustainability Indicators"

What are we trying to protect?

"Beneficial Uses and Users"



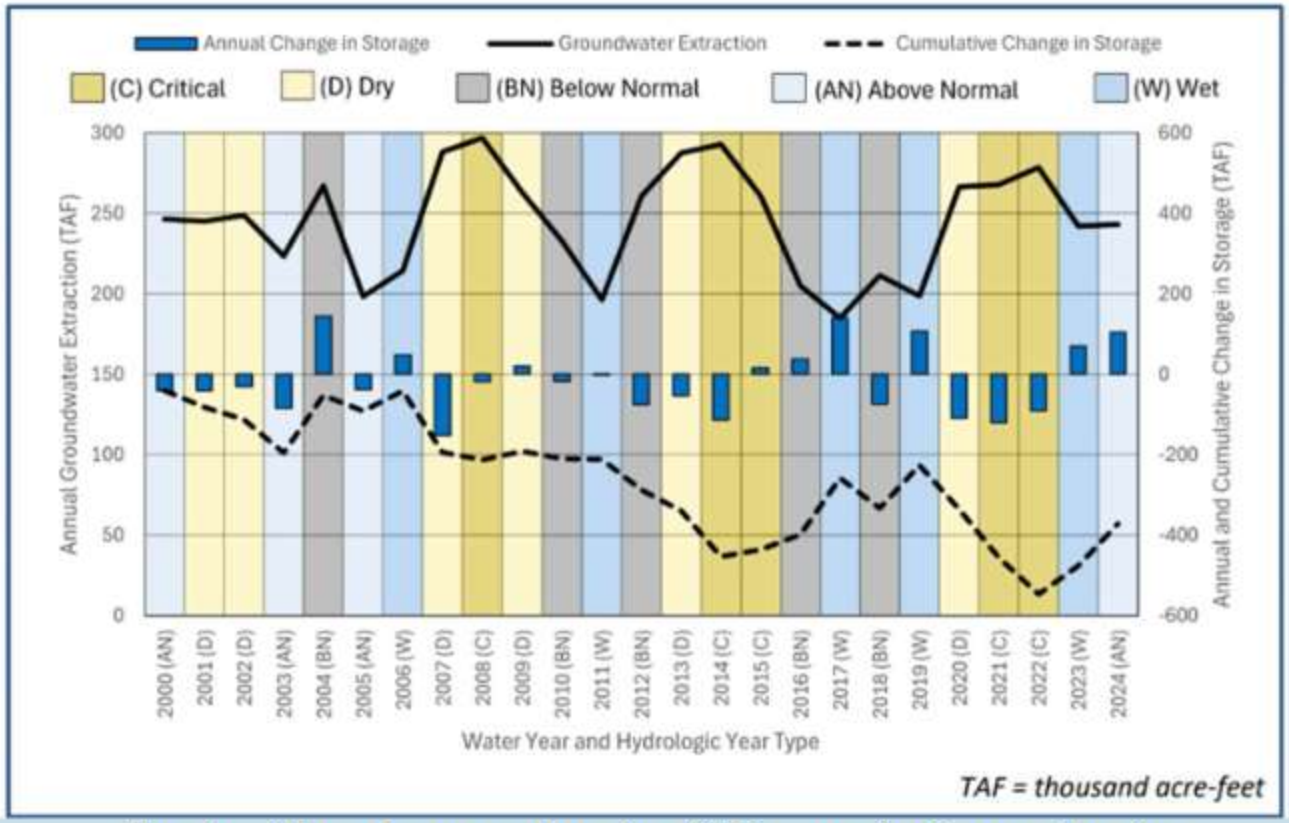
Groundwater Sustainability Plan

1. Describes the groundwater system (science) and governance (decision-making) of the subbasin
2. Defines what Sustainability is and looks like in the subbasin (policy)
    1. Observed conditions based on monitoring networks
    2. Comparison to established thresholds
3. Outlines what actions are needed to maintain or reach Sustainable conditions

Observed groundwater conditions, through monitoring and data collection, are used to gage success of groundwater management

Vina Subbasin

- State designated High Priority Basin
- 90/10 groundwater/surface water dependent
- Groundwater levels improved since 2020-2022 drought
- Long-term trend shows declining levels since 2000
- Action is needed to level off or improve groundwater conditions



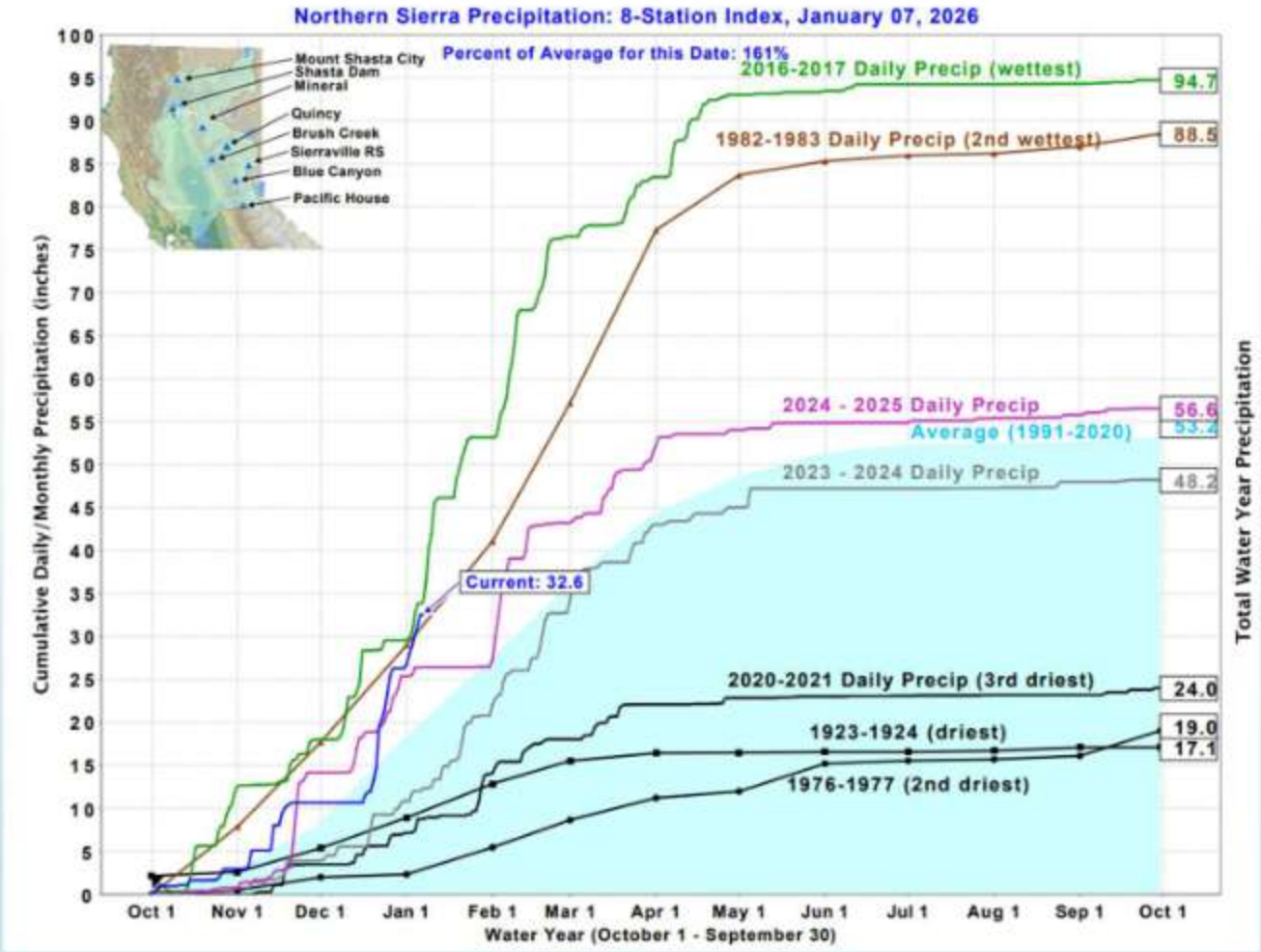
Dashed line shows estimate of Change in Groundwater Storage since 2000

Approach to Groundwater Sustainability

Vina GSA

Butte County
WATER & RESOURCE CONSERVATION

Thank you!



Contact:
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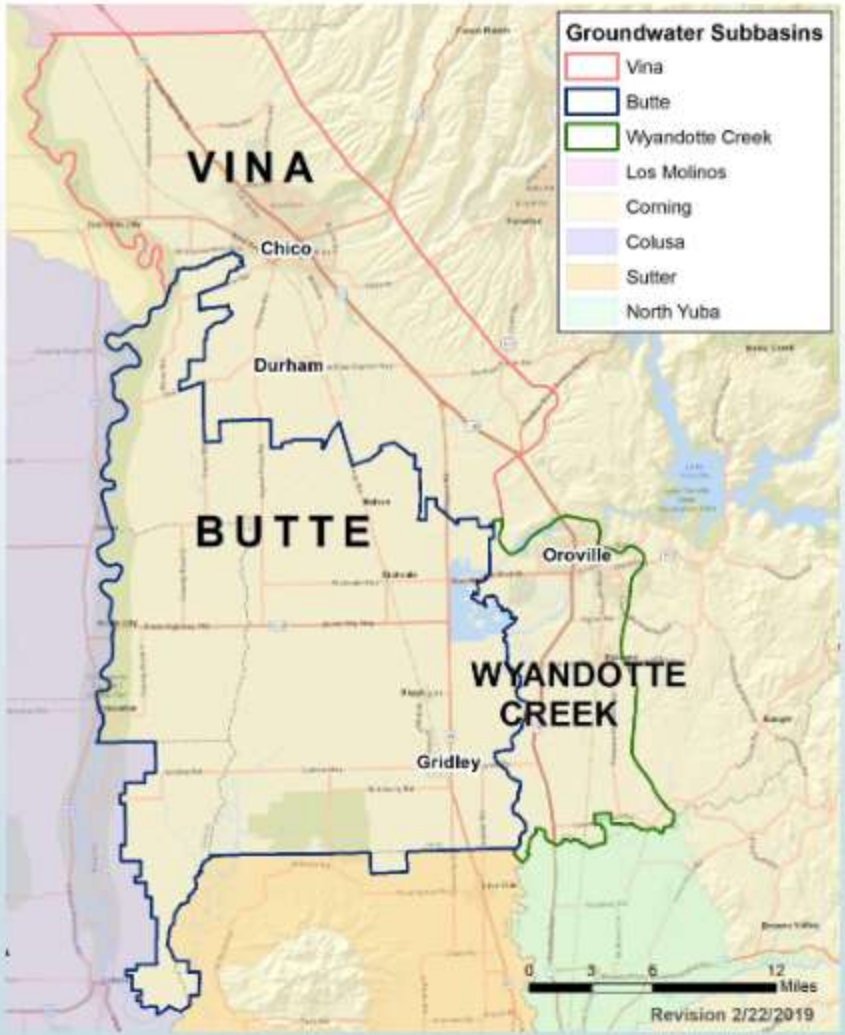
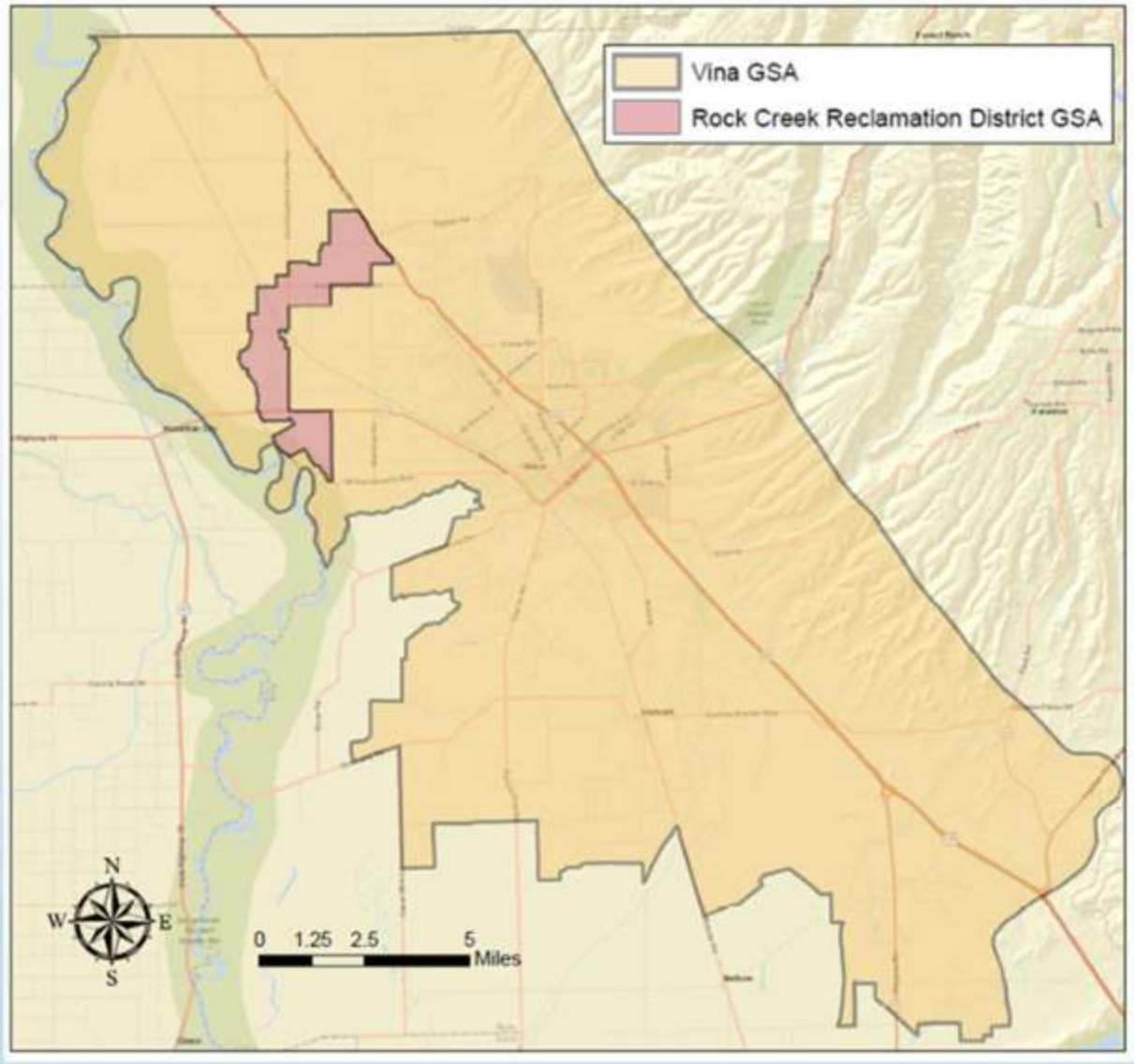
Butte County
WATER & RESOURCE CONSERVATION

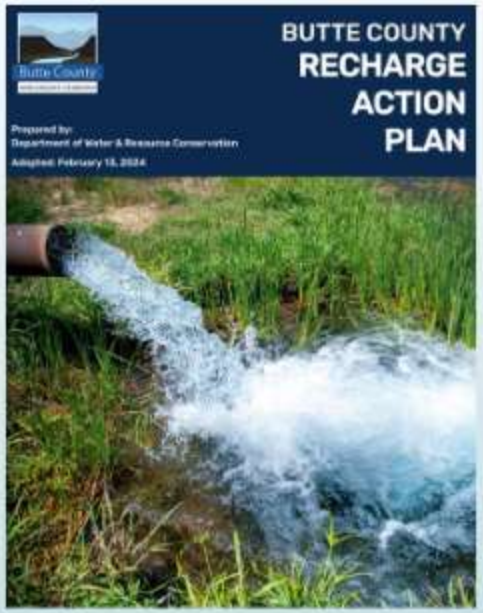

DWR Bulletin 118 Subbasins (2018)
Subbasin Boundary
ANDERSON
S. BATTLE CREEK
BOWMAN
BEND
ANTELOPE
RED BLUFF
LOS MOLINOS
CORNING
You are here!
VINA
COLUSA
BUTTE
WYANDOTTE CREEK
NORTH YUBA
SUTTER
YOLO
0 5 10 20 Miles


Groundwater Subbasins
Vina
Butte
Wyandotte Creek
Los Molinos
Corning
Colusa
Sutter
North Yuba
VINA
Chico
Durham
BUTTE
Oroville
WYANDOTTE CREEK
Gridley
0 3 6 12 Miles
Revision 2/22/2019


Vina GSA
Rock Creek Reclamation District GSA
N
W
E
S
0 1.25 2.5 5
Miles

Supply-side solutions: Recharge

Action	Vina Grant
#1 Spread out and Slow Down Flood Flows	Surface Water Supply and Recharge Feasibility Study ($725,000)
#2: Retain Stormwater Runoff on Agricultural Fields	Surface Water Supply and Recharge Feasibility Study ($725,000)
#3: Manage Flows in Natural Channels to Increase Recharge	Lindo Channel Surface Water Recharge Project ($330,000)
#4: Maximize Use of Existing and Underutilized Surface Water Supplies	Surface Water Supply and Recharge Feasibility Study ($725,000)
#5: Identify policy needs to address concerns of ownership and water rights	Legal Implications of Recharge Analysis ($125,000)

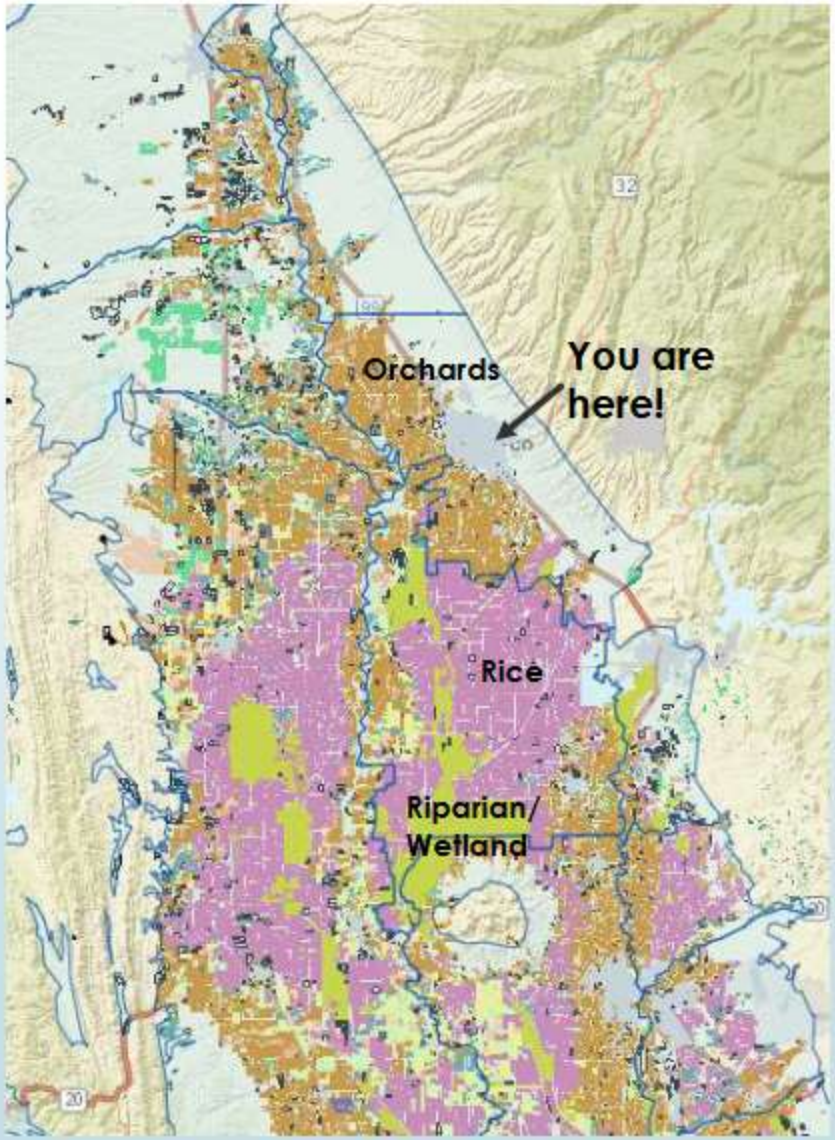


Land Use

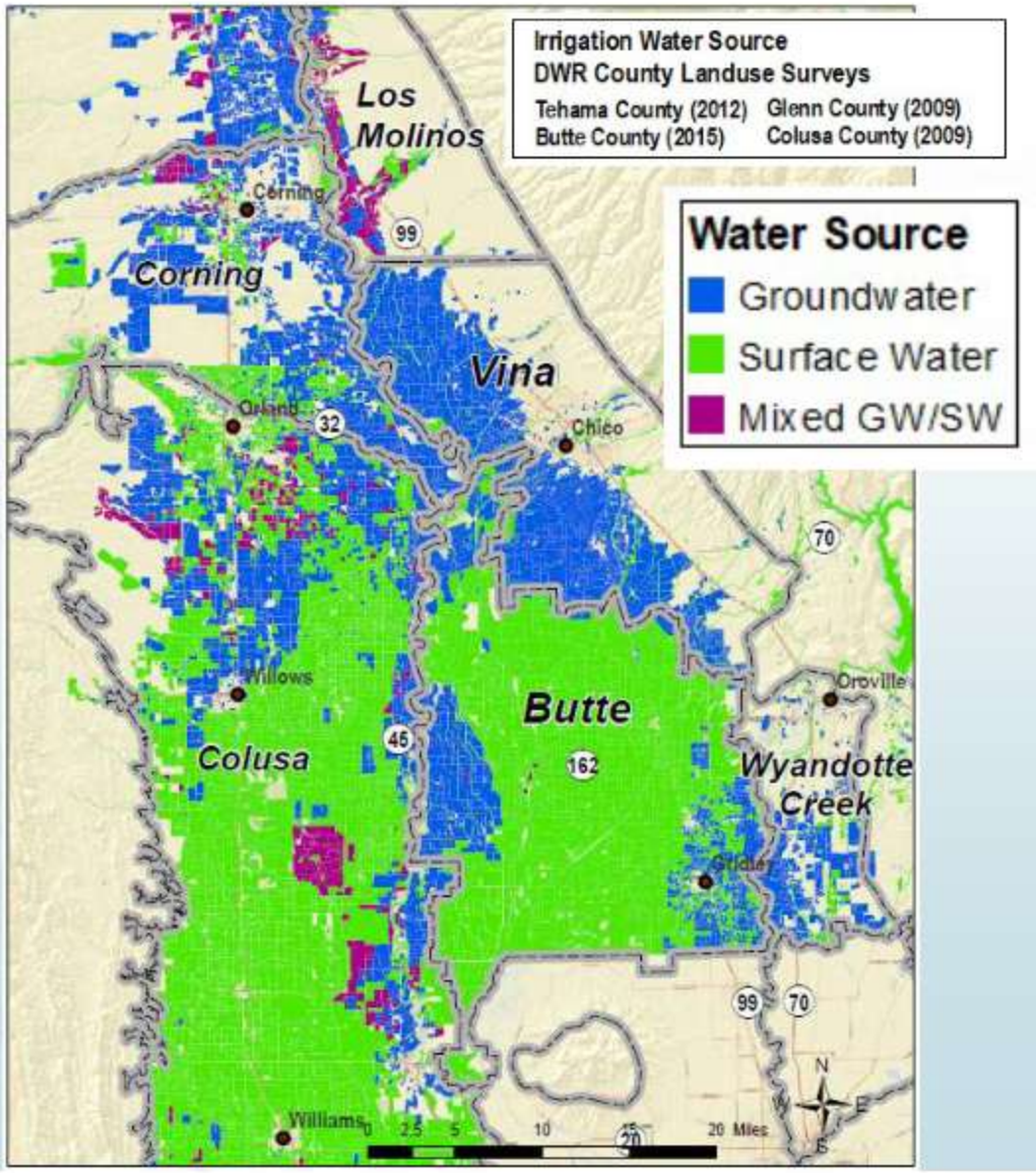
Statewide Crop Mapping 2016

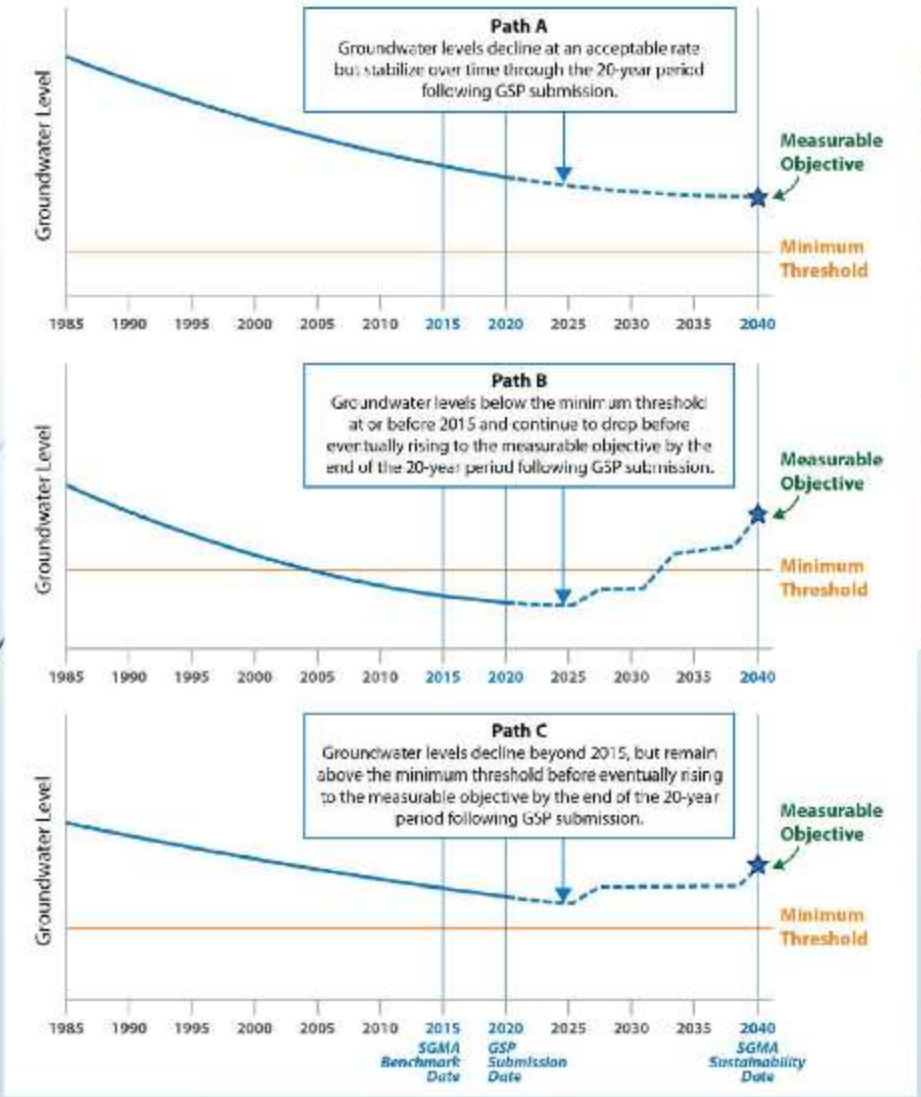
i15_Crop_Mapping_2016

- R | RICE
- P | PASTURE
- G | GRAIN AND HAY CROPS
- T | TRUCK NURSERY AND BERRY CROPS
- F | FIELD CROPS
- C | CITRUS AND SUBTROPICAL
- D | DECIDUOUS FRUITS AND NUTS
- V | VINEYARD
- YP | YOUNG PERENNIAL
- I | IDLE
- NR | RIPARIAN VEGETATION
- U | URBAN
- X | UNCLASSIFIED



Irrigation Water Source




Path A
Groundwater levels decline at an acceptable rate but stabilize over time through the 20-year period following GSP submission.
Groundwater Level
Measurable Objective
Minimum Threshold
1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040
Path B
Groundwater levels below the minimum threshold at or before 2015 and continue to drop before eventually rising to the measurable objective by the end of the 20-year period following GSP submission.
Groundwater Level
Measurable Objective
Minimum Threshold
1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040
Path C
Groundwater levels decline beyond 2015, but remain above the minimum threshold before eventually rising to the measurable objective by the end of the 20-year period following GSP submission.
Groundwater Level
Measurable Objective
Minimum Threshold
1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040
SGMA Benchmark Date
GSP Submission Date
SGMA Sustainability Date


DRAFT
Best Management Practices for the Sustainable Management of Groundwater
Sustainable Management Criteria

Groundwater Levels / Conditions

Overall Groundwater Monitoring Network

SACRAMENTO VALLEY - BUTTE

SACRAMENTO VALLEY - VINA

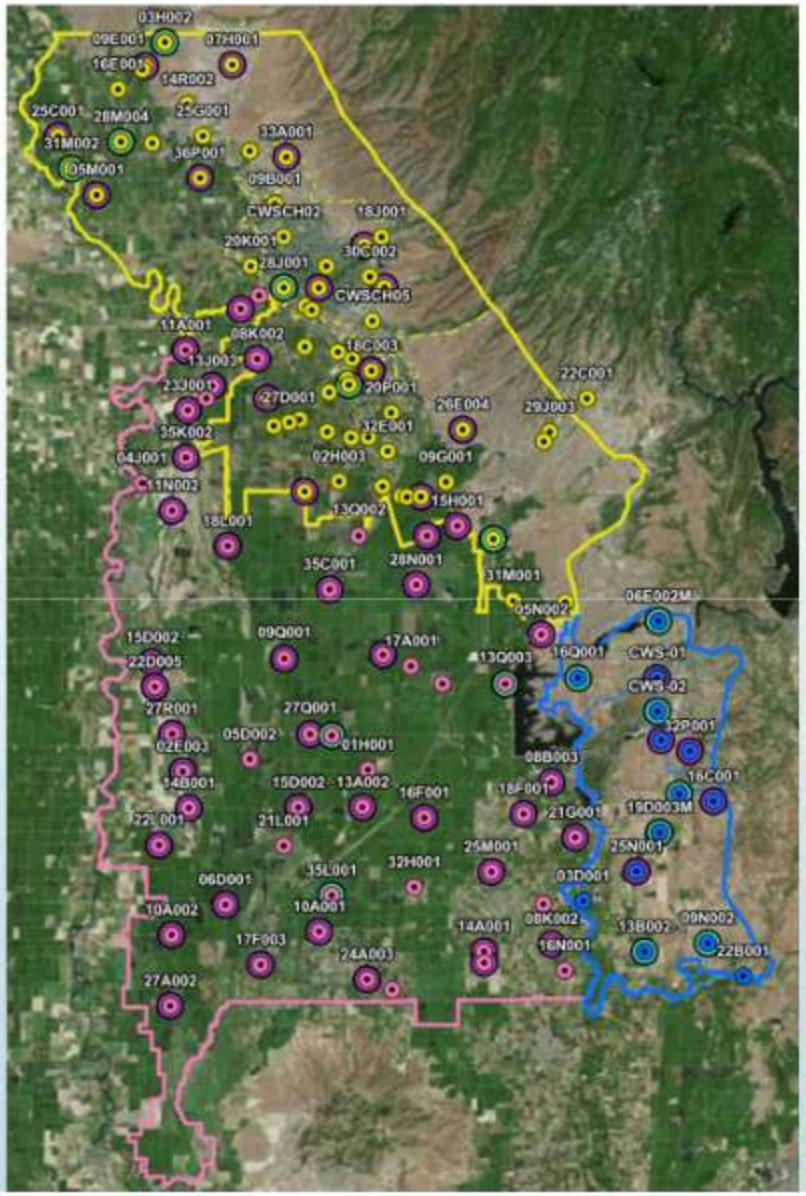
SACRAMENTO VALLEY - WYANDOTTE CREEK

Wells

- Butte
- Vina
- Wyandotte Creek

Representative Monitoring Site (RMS) Well Types

- GW Elevation Monitoring Only
- GW Elevation and GW Quality Monitoring



Contour Maps: GW Flow Direction