2021 Water Year Annual Report

Vina Subbasin

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Vina GSA Board
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California Code of Regulations - GSP Regulation Sections	Groundwater Sustainability Plan Elements
Article 5	**Plan Contents**
Subarticle 4	***Monitoring Networks***
§ 354.40	**Reporting Monitoring Data to the Department**
	Monitoring data shall be stored in the data management system developed pursuant to Section 352.6. A copy of the monitoring data shall be included in the Annual Report and submitted electronically on forms provided by the Department.
	Note: Authority cited: Section 10733.2, Water Code. Reference: Sections 10728, 10728.2, 10733.2 and 10733.8, Water Code.
Article 7	**Annual Reports and Periodic Evaluations by the Agency**
§ 356.2	**Annual Reports**
	Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:
	(a) **General information, including an executive summary and a location map** depicting the basin covered by the report.
	(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:
	(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:
	(A) **Groundwater elevation contour maps** for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions. (B) **Hydrographs** of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year. (2) **Groundwater extraction** for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions. (3) **Surface water supply** used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year. (4) **Total water use** shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.
	(5) Change in groundwater in storage shall include the following:
	(A) **Change in groundwater in storage maps** for each principal aquifer in the basin. (B) A **graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage** for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year. (c) A **description of progress towards implementing the Plan**, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

2021 Water Year (WY)

Defined as

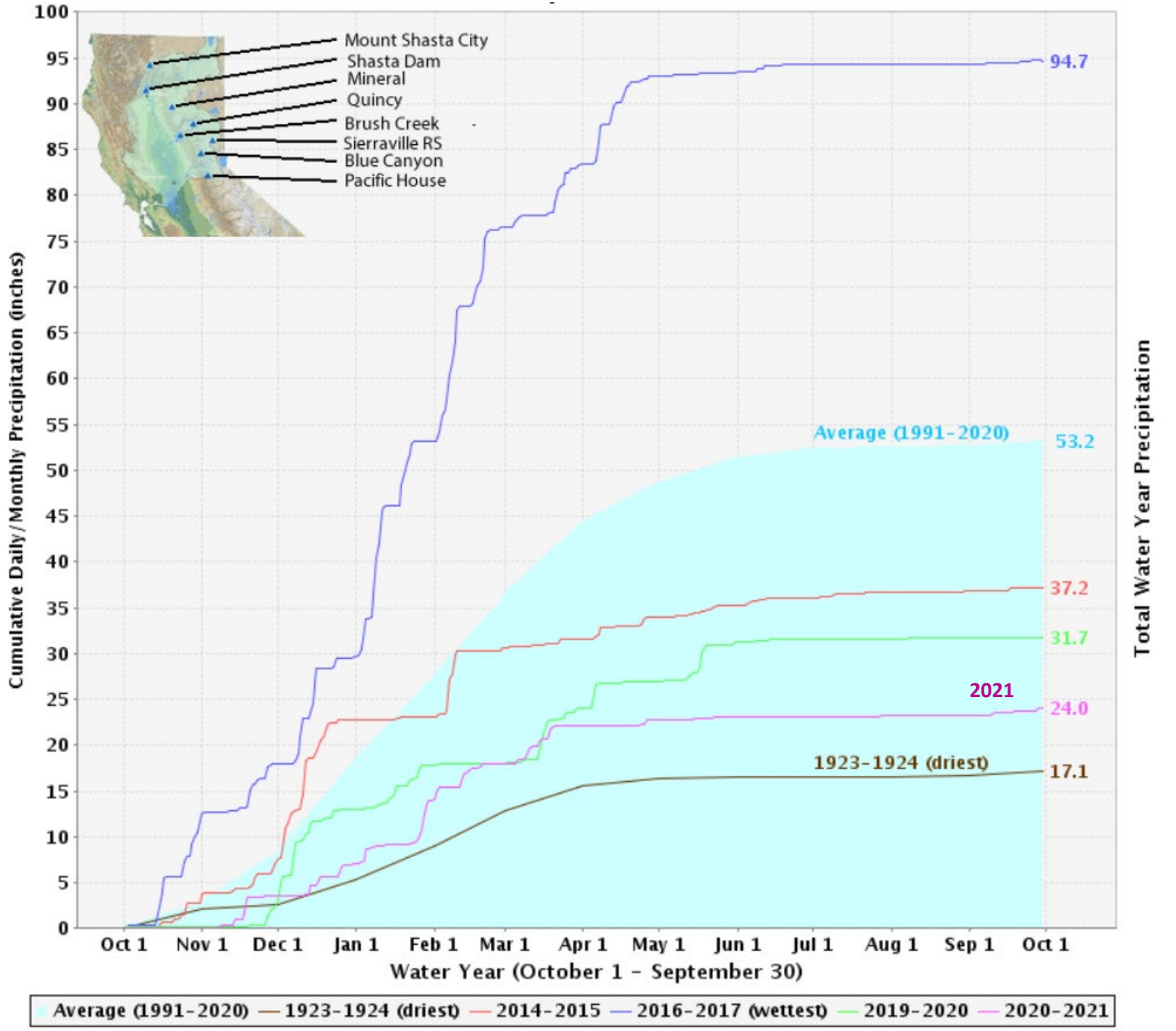
October 1, 2020 thru September 30, 2021

Unit: Acre-feet

The volume of water that covers one acre, one foot deep

2021 WY Conditions

- Classified as a "Critical" Water Year Type
  - 3rd driest year on record based on Sac Valley Water Year Type Index
- Statewide conditions at end of WY (as % of average)
  - Precipitation 49%
  - Runoff 33%
  - Reservoir Storage 58%
- Sacramento River Region unimpaired runoff, 36% of average (6.4 million acre-feet)

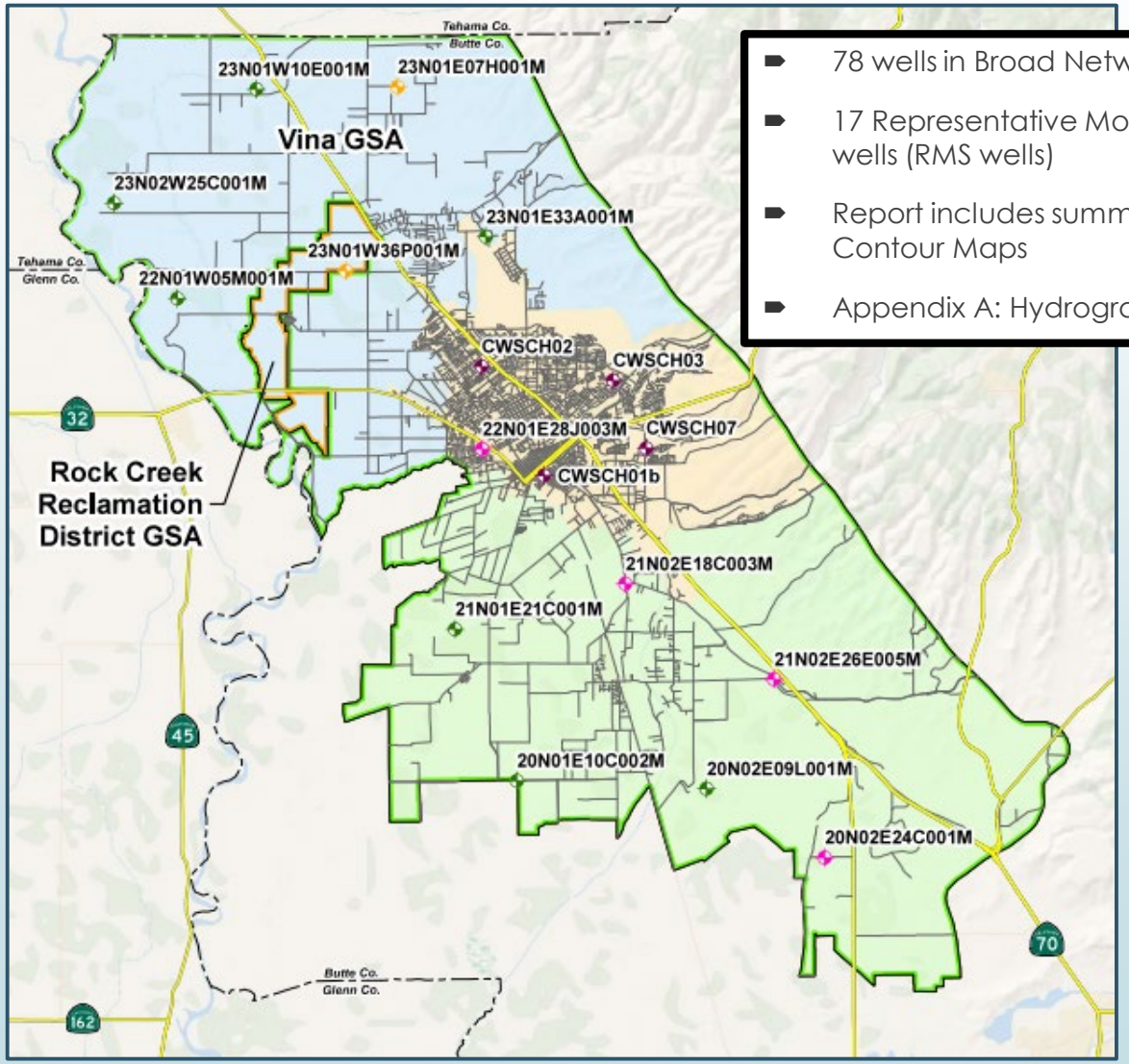


Overview of 2021 Regional Water Supplies

- Water supply conditions led to a **5% allocation for State Water Project** contractors statewide
- Curtailments of local water supplies (i.e. some Butte Creek water rights)
- 50% reduction in Feather River diversions in the Butte Subbasin (Western Canal Water District and the Joint Districts Board)
- County-wide: 45 reports were made to DWR's Household Water Supply Shortage Reporting System
  - One-quarter of which occurred within the Vina Subbasin
  - Likely under reported

Groundwater Level Conditions

- All measured groundwater levels remain within the Margin of Operational Flexibility (between the Measurable Objective and the Minimum Threshold)
- 2021 GW levels similar to 2014-2015 conditions with some new historical lows
- Spring and Fall 2021 levels are above the Measurable Objective (with one exception)



- 78 wells in Broad Network
- 17 Representative Monitoring Site wells (RMS wells)
- Report includes summary table, Contour Maps
- Appendix A: Hydrographs

Water Use: GW Extraction

Table 2. 2021 Water Year Groundwater Extraction by Water Use Sector

Sector	Extraction (AF)	Method
Agricultural		
Vina Subbasin	242,400	Estimate
Municipal		
City of Chico	22,640	Measured
Durham Irrigation District	640	Measured
Subtotal	23,280	
Domestic		
Rural Residential	2,300	Estimate
Total	***268,000***	

Note: Agricultural sector includes water for managed wetlands.

Water Use: Surface Water and Total Water Use

Table 3. Summary of 2021 Surface Water Deliveries by Source and Sector

Sector	Source	Surface Water (AF)	Method
Agricultural			
	Butte Creek & Mud Creek	9,700	Estimate
Total		***9,700***	

Note: Agricultural sector includes water for managed wetlands.

Table 4. 2021 Water Year Total Water Available by Water Use Sector and Water Source Type

Sector	Groundwater Extraction (AF)	Surface Water (AF)	Method	*Total (AF)*
Agricultural	242,400	9,700	**Estimate**	***252,100***
Municipal	23,280	Not Applicable	**Measured**	***23,280***
Domestic	2,300	Not Applicable	**Estimate**	***2,300***
Total	***268,000***	***9,700***		***277,700***

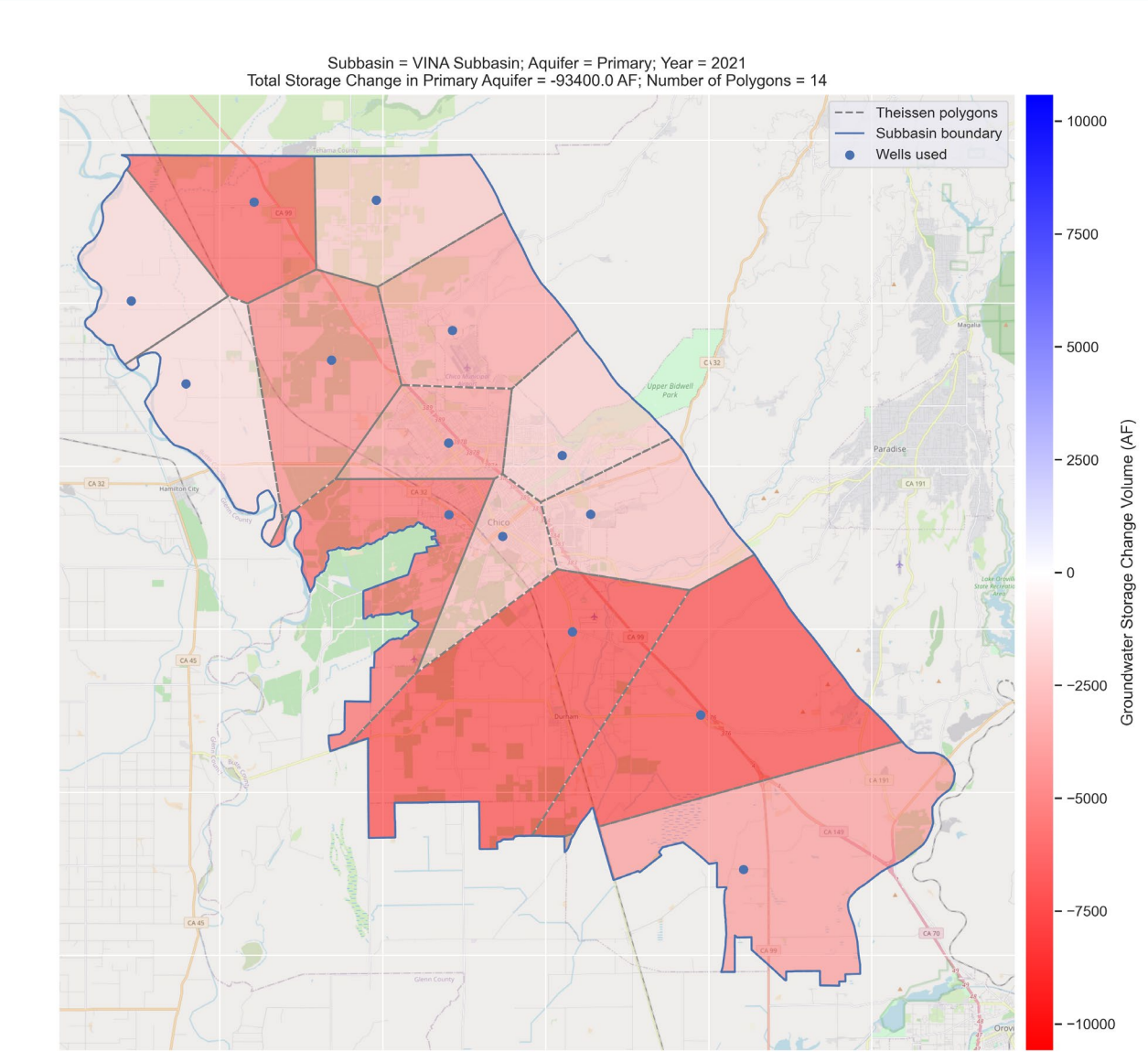
Note: Agricultural sector includes water for managed wetlands.

Change in Groundwater Storage

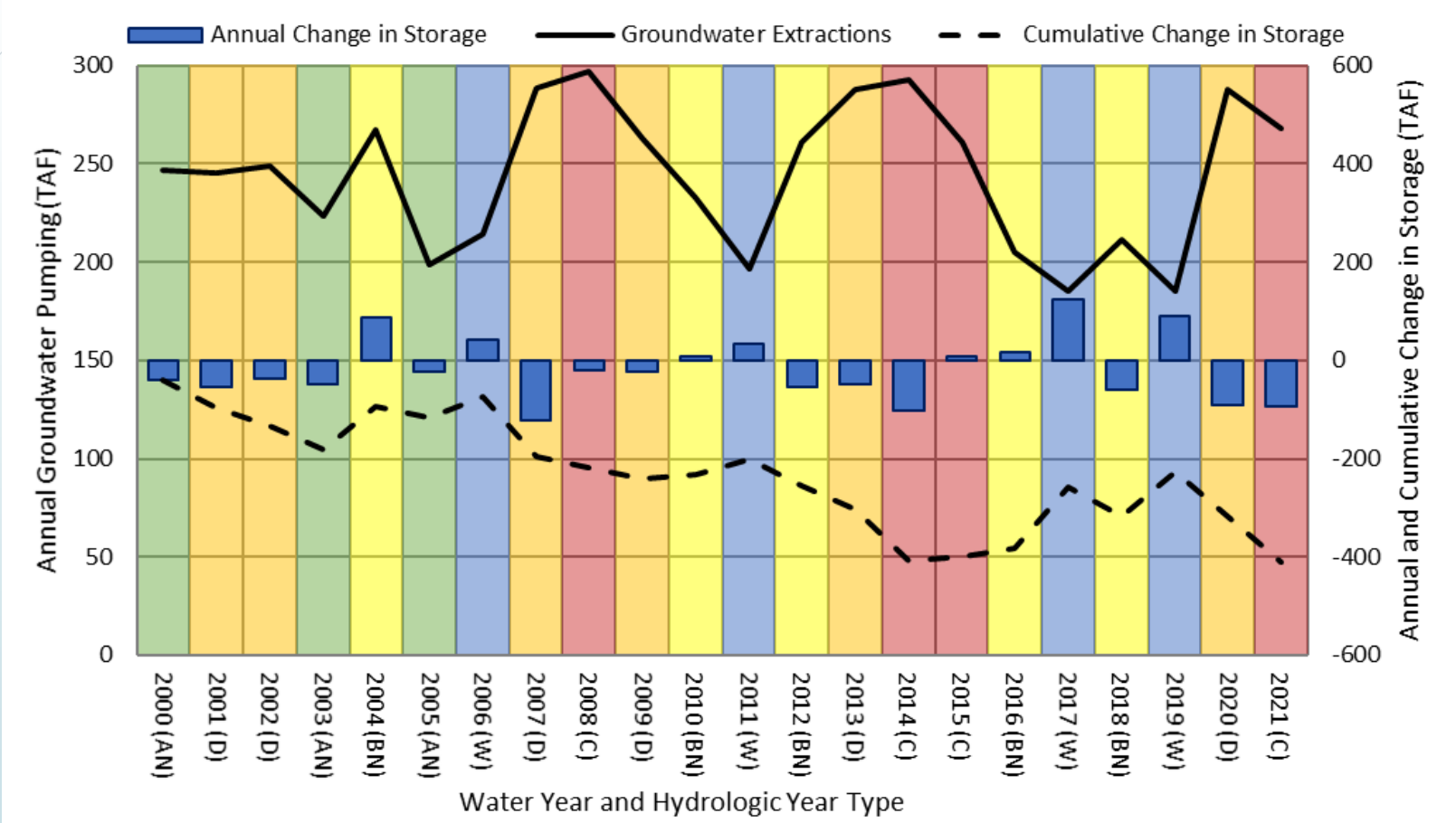
- Spring 2020 to Spring 2021: Groundwater Storage Change -93,000 AF
- Average Groundwater Level Change 2020 to 2021

  Spring: -4 feet

  Fall: 0 feet



Groundwater Use and Storage Change



Change in Groundwater Storage (Cumulative and Annual Change) and Groundwater Extraction by Water Year Type.

GSP Implementation Progress

Report provides update on the following Projects and Management Actions:

- Residential Water Conservation Project
- Agricultural Irrigation Efficiency Project
- Fuels Management for Watershed Health Project
- Paradise Irrigation District/Cal Water Service Intertie Project
- Streamflow Augmentation Project
- Rangeland Management and Water Retention Project
- Surface Water Supply and Recharge Project
- General Plan Updates

GSP Implementation Progress

Other Relevant Activities

- Monitoring and Data Management
- Annual Report
- Intra- and Inter-basin Coordination
- Drought Impact Analysis Study

Anticipated 2022 Annual Report Process

Fall/October	Late Fall/November	Winter/January	Late Winter/February
SHAC • Present preliminary fall monitoring numbers to SHAC • Review Annual Report (AR) requirements • Discuss AR format and presentation of information as well as additional information, analysis and reporting desired/needed • SHAC makes recommendations to GSA Board	**Board** • Present fall monitoring numbers • Present recommendations from SHAC • Identify potential additional resources, study and data needs based on SHAC recommendations • Board gives direction and/or authorization as applicable	**SHAC** • Present draft AR to SHAC • SHAC makes comments on draft AR and any recommendations to GSA Board	**Board** • Present to GSA Board for review and approval • AR gets folded into County Report for presentation to Board of Supervisors per Chapter 33 • Submit AR to DWR on or before April 1st

Acknowledgements

- Participating Butte County Well Owners
- Technical support from Davids Engineering, Inc. and Luhdorff and Scalmanini Consulting Engineers
- Groundwater Sustainability Agency managers in all three subbasins
- Technical Advisory Committee to the Butte County Water Commission

Thank you!

Questions?