
Napa County Groundwater Sustainability Agency

Napa County Groundwater Sustainability Annual Report: Water Year 2025

April 9, 2026





Outline

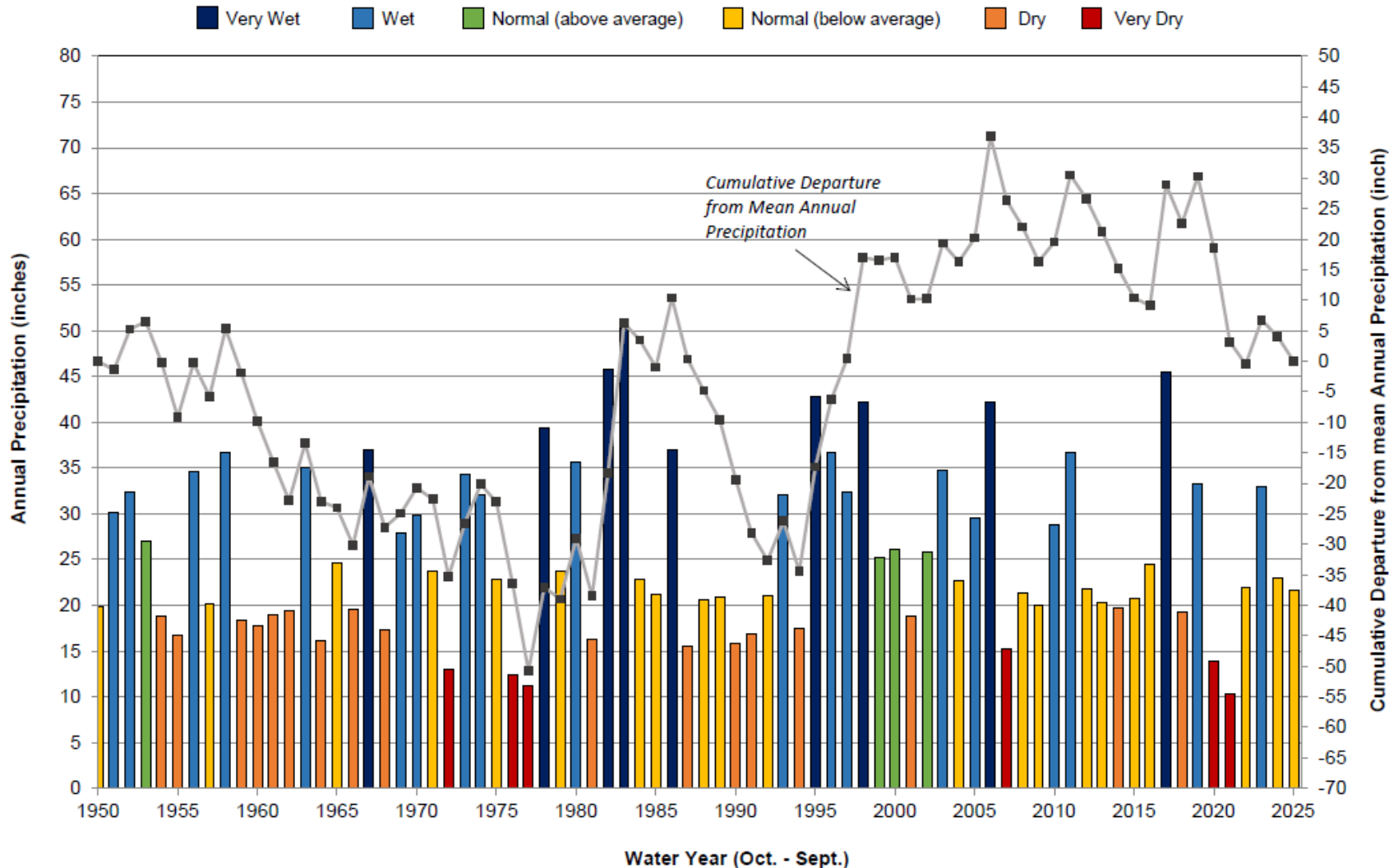
WY 2025 Conditions

Napa Valley Subbasin Water Budget

Sustainability Indicators

GSP Implementation

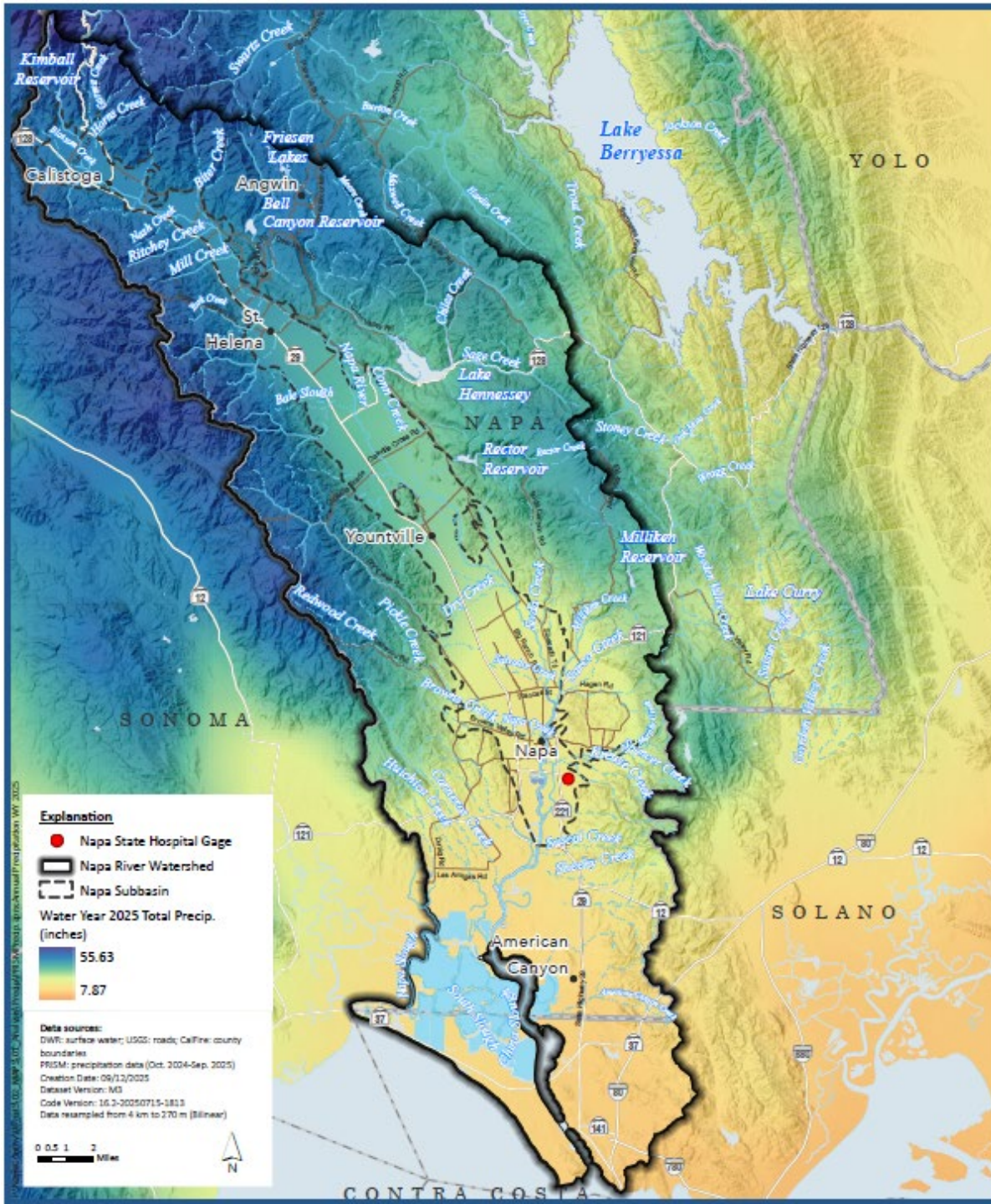
Historical Precipitation (at Napa State Hospital)



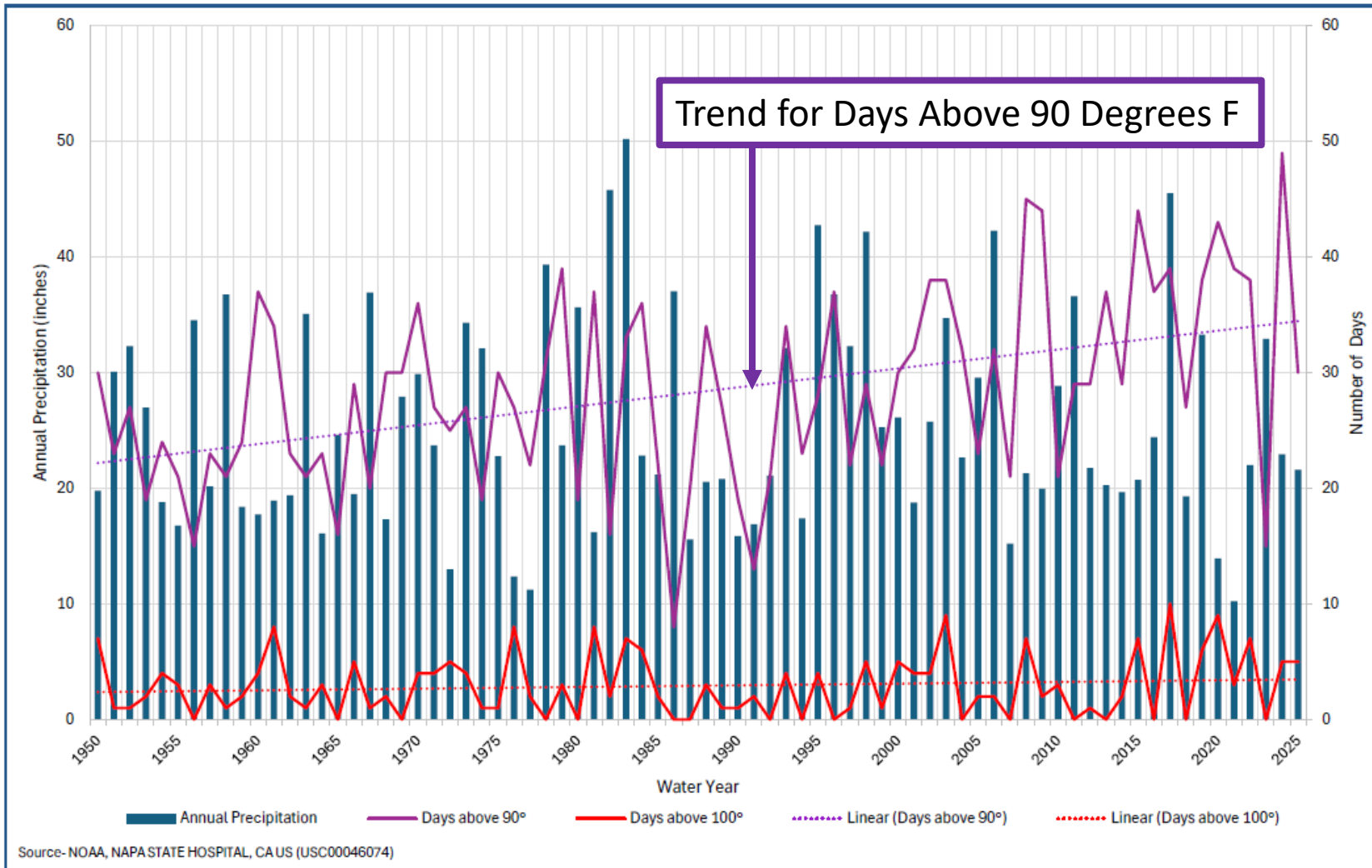
- Napa State Hospital weather station used for historical perspective, although other data are used to assess conditions throughout the watershed.
- The Napa State Hospital is in a relatively drier part of the watershed and the Subbasin.
- WY 2025 had normal (below average) precipitation.

Total Annual Precipitation WY 2025

- Precipitation varied across the region, with the highest amounts occurring to the north and west and decreasing toward the south and east.
- Napa Valley Integrated Hydrologic Model (NVIHM) incorporates spatially distributed precipitation to estimate water budgets.



Temperature and Annual Precipitation Napa State Hospital (1950-2025)



- WY 2025 had 30 days above 90 degrees (similar to historical average), but 19 days fewer than WY 2024.
- WY 2025 temperatures align with historical averages; however, temperatures are trending upwards.

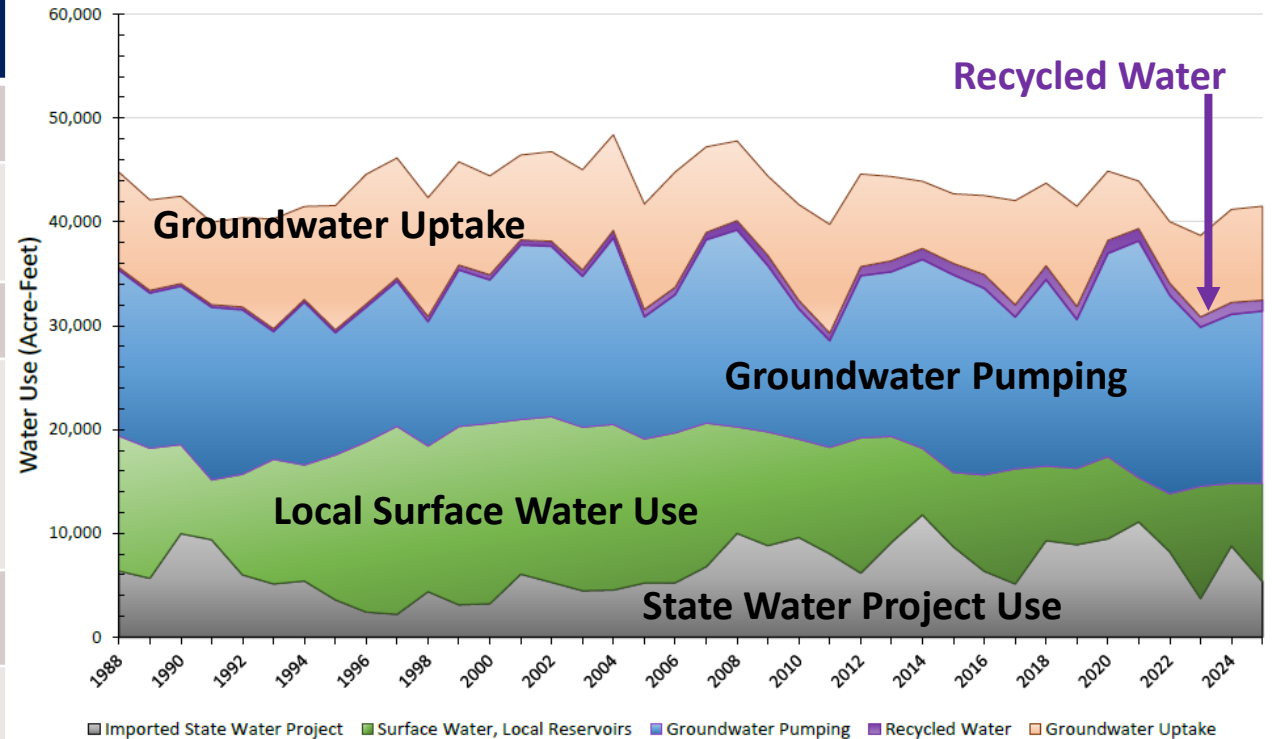


Napa Valley Subbasin Water Budget WY 2025



Total Water Use: WY 2025 (acre-feet)

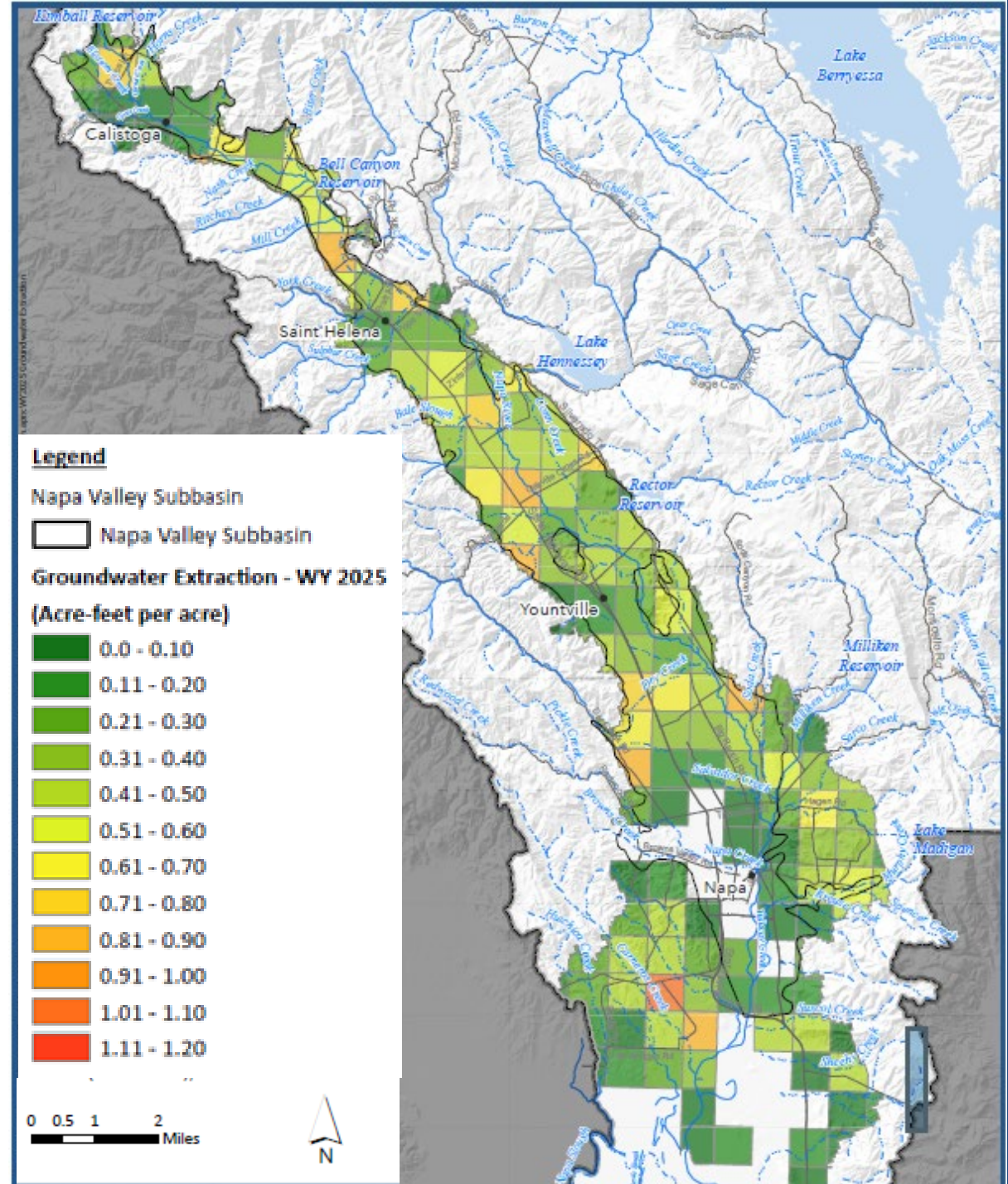
Water Use	2023 (W)	2024 (BN)	2025 (BN)
Groundwater Pumping	15,300	16,290	16,580
Native Veg, GDEs & Managed Wetlands	7,830	8,950	9,030
Recycled Water Use	1,020	1,140	1,080
Local Surface Water Use (including reservoirs, diversions, etc.)	10,780	6,001	9,434
State Water Project Use	3,750	8,803	5,368
TOTAL	38,680	41,184	41,493



Groundwater Pumping, WY 2025 (Acre-Feet)

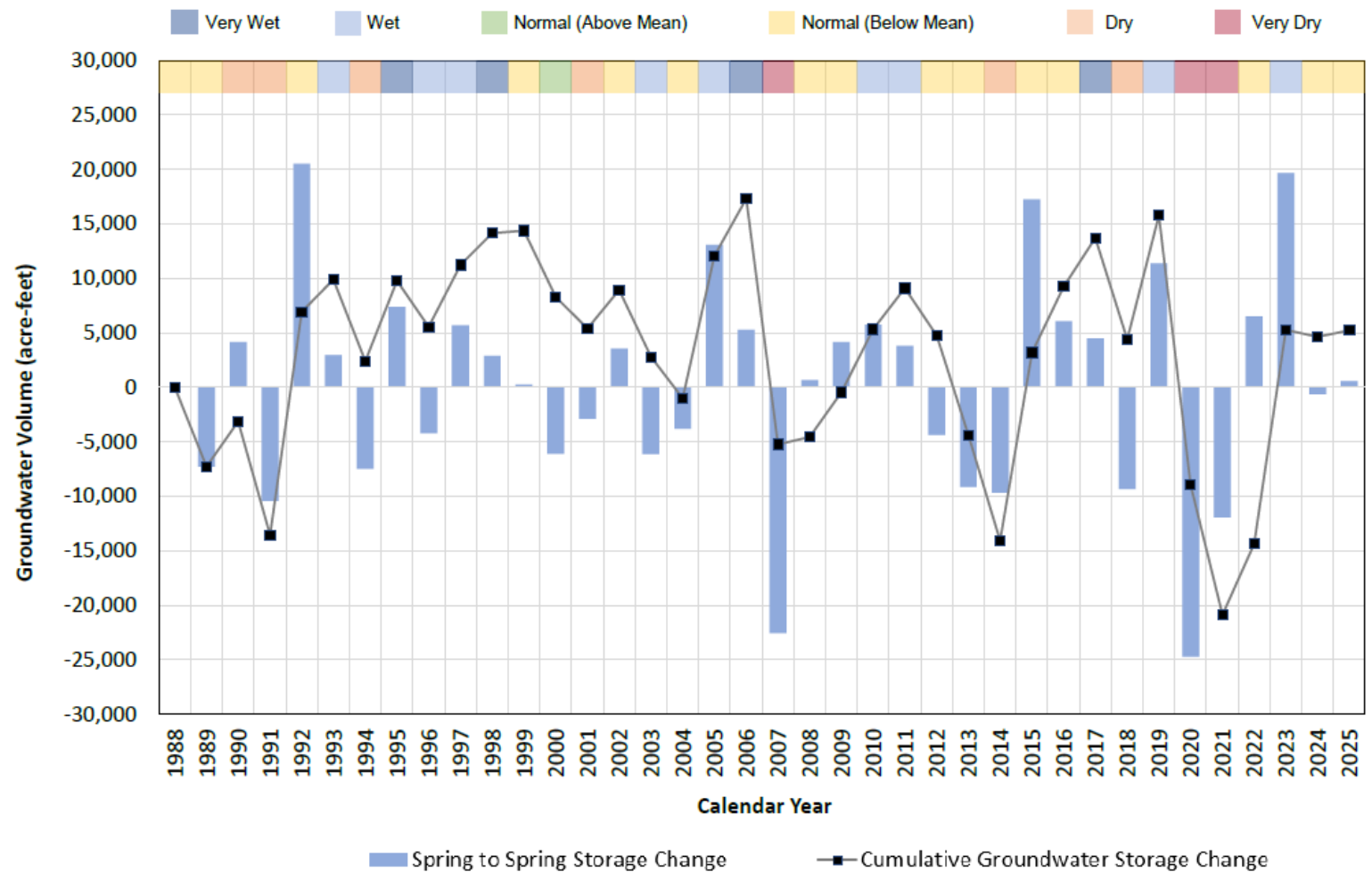
Groundwater Pumping	Acre-Feet	Percent Use
Ag (vines and other)	12,290	74%
Municipal	280	2%
Self-Supplied Users Domestic (2,870 AF for outdoor use)	2,940	18%
Small Public Water Systems	1,070	6%

TOTAL = 16,580 Acre-Feet



Change in Groundwater Storage: Spring 2024 to Spring 2025

- Change in groundwater storage influenced by water year type, pumping, and recharge.
- Slight increase in storage in WY 2025.
- Cumulative storage shows significant recovery since historical 2021 low and has remained steady.





Sustainability Indicators & Metrics

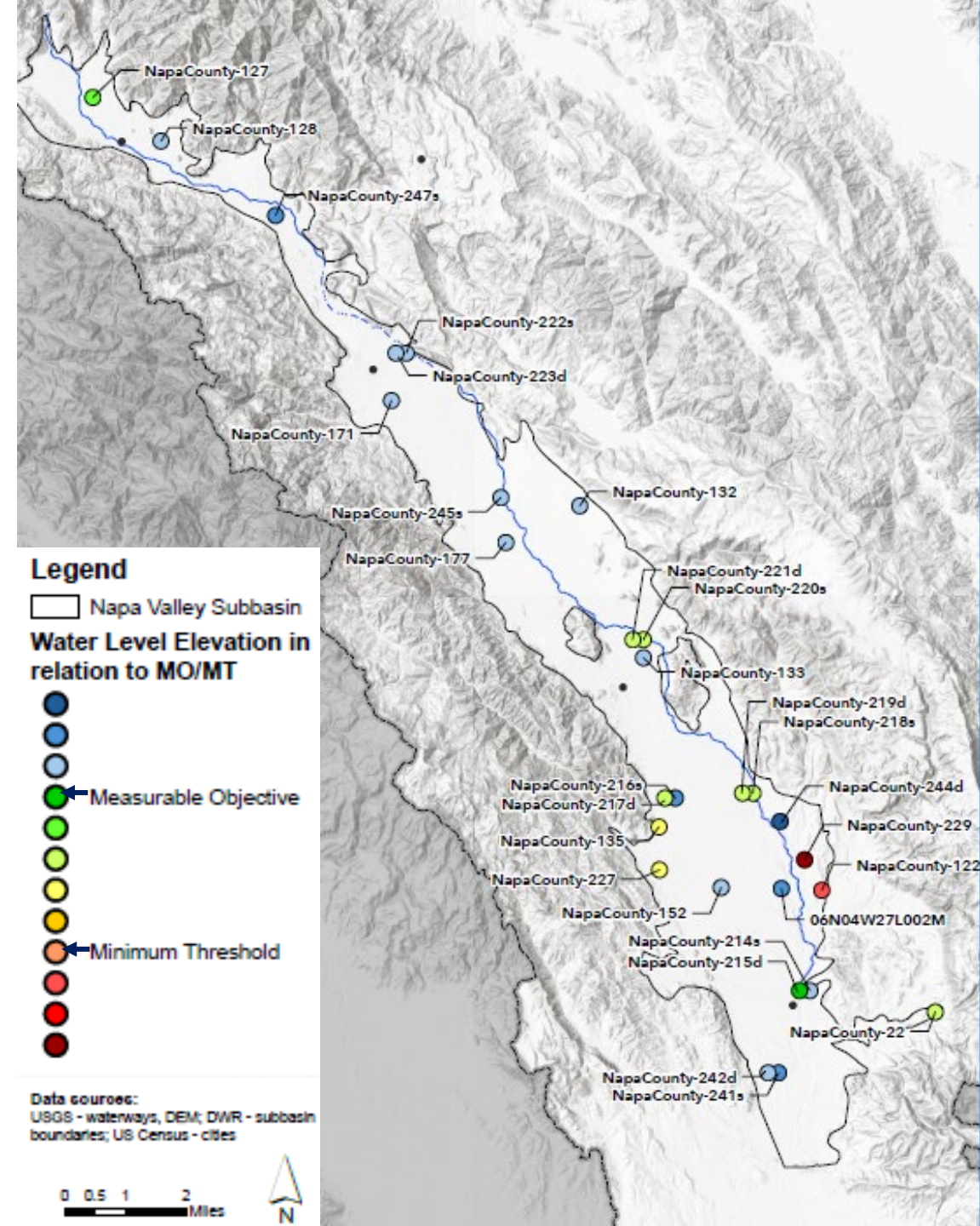


Sustainability Indicator Description and Summary

Sustainability Indicator	Description of Monitoring			Simplified Summary of Minimum Threshold and Undesirable Result
	Parameter	Observed	Modeled	
Chronic GW Lowering (CGWL)	GW elevations in representative wells.	✓		Based on observed low GW elevation prior to 2015.
Depletion of Interconnected Surface Water (ISW)	GW elevations and model results that equate pumping to streamflow depletion.	✓	✓	Minimum GW elevation from 2005-2014 and second highest seasonal depletion that occurred from 2005-2014.
GW Quality Degradation	Measurements of total dissolved solids (TDS), arsenic, and nitrate.	✓		Based on drinking water standards as well as historical range.
Reduction of GW Storage	Modeled GW extraction.		✓	GW extraction in exceedance of the Sustainable Yield for a single year and the 7-year average.
Land Subsidence	Based on remotely sensed changes in ground surface elevation.	✓		Inelastic subsidence of 0.2 feet per year.
Seawater Intrusion	Measurements of TDS and/or chloride near tidally influenced areas.	✓		Historical maximum chloride concentrations.

Water Levels Measurable Objective and Minimum Threshold – Fall 2025

- Many Representative Monitoring Site (RMS) wells were between the Measurable Objective (MO) and Minimum Threshold (MT).
 - Fall 2025 groundwater level measurements at many wells show progress towards achieving the MO for the Groundwater Level Sustainability Indicator.
- Two exceedances of MTs occurred in the Northeast Napa Management Area (wells NapaCounty-122 and -229).
 - This is an area of interest where groundwater levels are declining, particularly in wells completed in older formations beneath the alluvium.



Minimum Threshold and Measurable Objective Summary: Fall Groundwater Levels

Groundwater Level SMC:

- 2 level network wells exceeded the **MT** in the Northeast Napa Management Area
 - NC-122 is **5.9 ft below** the MT
 - NC-229 is **17.75 ft below** the MT

Chronic Lowering of Groundwater RMS Wells	Minimum Thresholds (ft msl)	Measurable Objective (ft msl)	Fall Groundwater Elevations (ft msl)		
			2023	2024	2025
06N04W27L002M	-2	9	10.2	7.6	16.32
NapaCounty-122	-45	-37	-11.6	-56.8	-50.9
NapaCounty-127	351	374	373.8	373.4	376.1
NapaCounty-128	330	331	330.8	331.1	331.55
NapaCounty-132	109	115	112.9	111.1	115.9
NapaCounty-133	73	75	75.4	73.6	75.9
NapaCounty-135	33	62	33.4	37.5	40.65
NapaCounty-152	55	61	61.4	58.0	62.41
NapaCounty-171	165	173	180.2	--	183.45
NapaCounty-177	131	136	137.8	137.2	137.76
NapaCounty-214s	2	4	4.9	3.8	4.14
NapaCounty-215d	2	4	4.4	2.7	3.46
NapaCounty-216s	66	75	75.1	74.8	71.61
NapaCounty-217d	60	67	65.4	63.0	63.43
NapaCounty-218s	29	33	31.7	30.1	31.30
NapaCounty-219d	29	33	31.5	30.0	31.16
NapaCounty-22	150	170	165.5	165.3	165.59
NapaCounty-220s	75	79	77.0	76.0	77.45
NapaCounty-221d	75	79	76.8	75.6	77.18
NapaCounty-222s	185	191	187.9	186.6	192.53
NapaCounty-223d	164	171	169.3	166.9	171.63
NapaCounty-227	59	72	64.5	85.5	62.04
NapaCounty-229	-69	-42	-91.4	-94.6	-86.75

Large **Bold Values** in the Table Indicate Groundwater Elevations Exceed the Minimum Threshold; see Annual Report Table 6-5 for Full Table and Additional Details.

Sustainable Management Criteria for Depletion of Interconnected Surface Water

Either metric over 3 consecutive years is an **Undesirable Result**

Water Levels

8 shallow RMS wells
Fall static water level

Minimum Threshold
= minimum static WL
2005-2014

Greater than
20% RMS
below MT

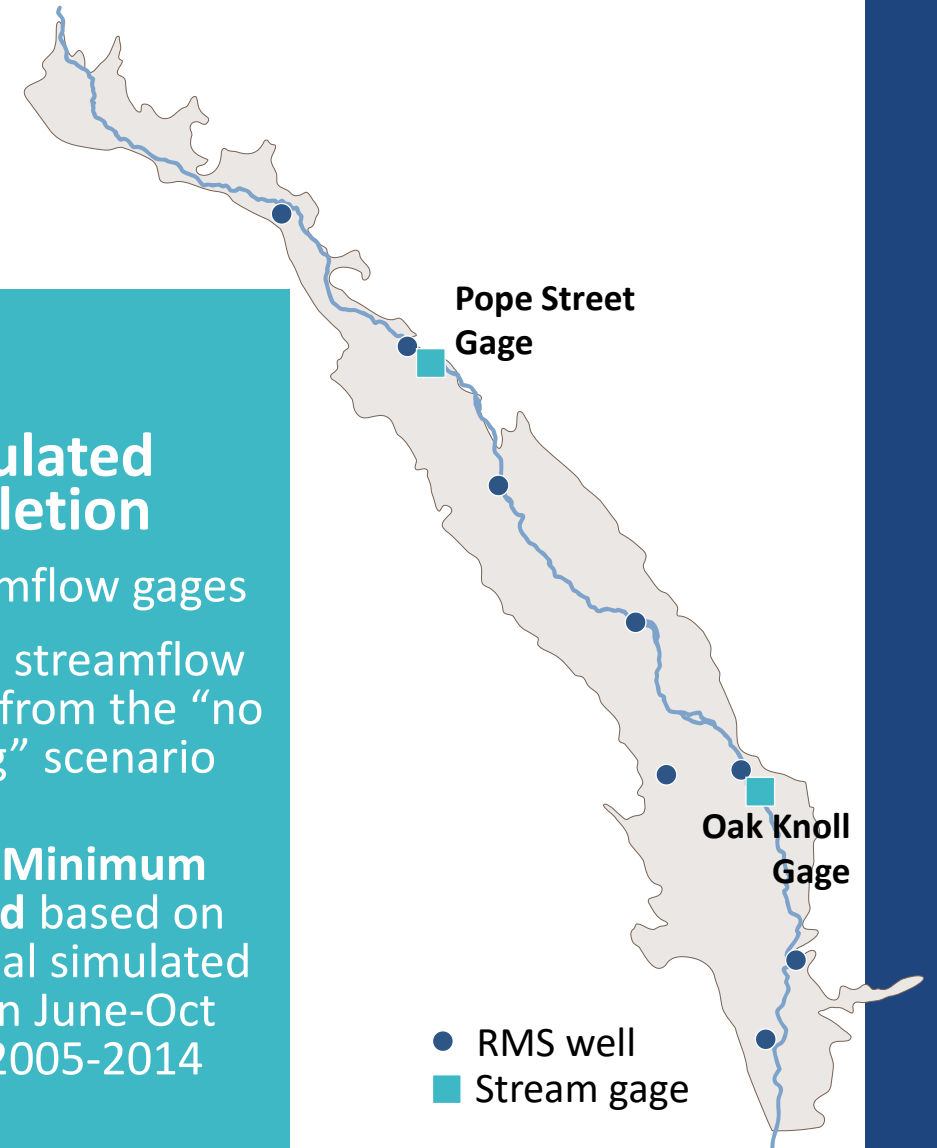
OR

Simulated
depletion
exceeded at
either gage

Simulated Depletion

At 2 streamflow gages
Simulated streamflow
difference from the “no
pumping” scenario

**Interim Minimum
Threshold** based on
total annual simulated
depletion June-Oct
during 2005-2014



Interconnected Surface Water: Fall Groundwater Elevations

➤ None of the 8 Wells Exceeded their MT

Well ID	Representative Site		Fall Minimum WLE (ft, NAVD88)			WY 2025 MT Exceedance	Three Consecutive WY MT Exceedances
	MT (WLE, ft)	MO (WLE, ft)	WY 2023	WY 2024	WY 2025		
NC-214s	2.0	4.0	4.90	3.82	4.14	No	No
NC-216s	66.0	75.0	75.1	74.80	71.61	No	No
NC-218s	29.0	33.0	31.7	30.12	31.3	No	No
NC-220s	75.0	79.0	77.00	75.97	77.45	No	No
NC-222s	185.0	191.0	187.90	186.63	192.53	No	No
NC-241s	0	2.0	5.20	5.08	4.69	No	No
NC-245s	129.0	133.0	133.70	130.43	132.74	No	No
NC-247s	258.0	260.0	277.40	277.43	267.95	No	No

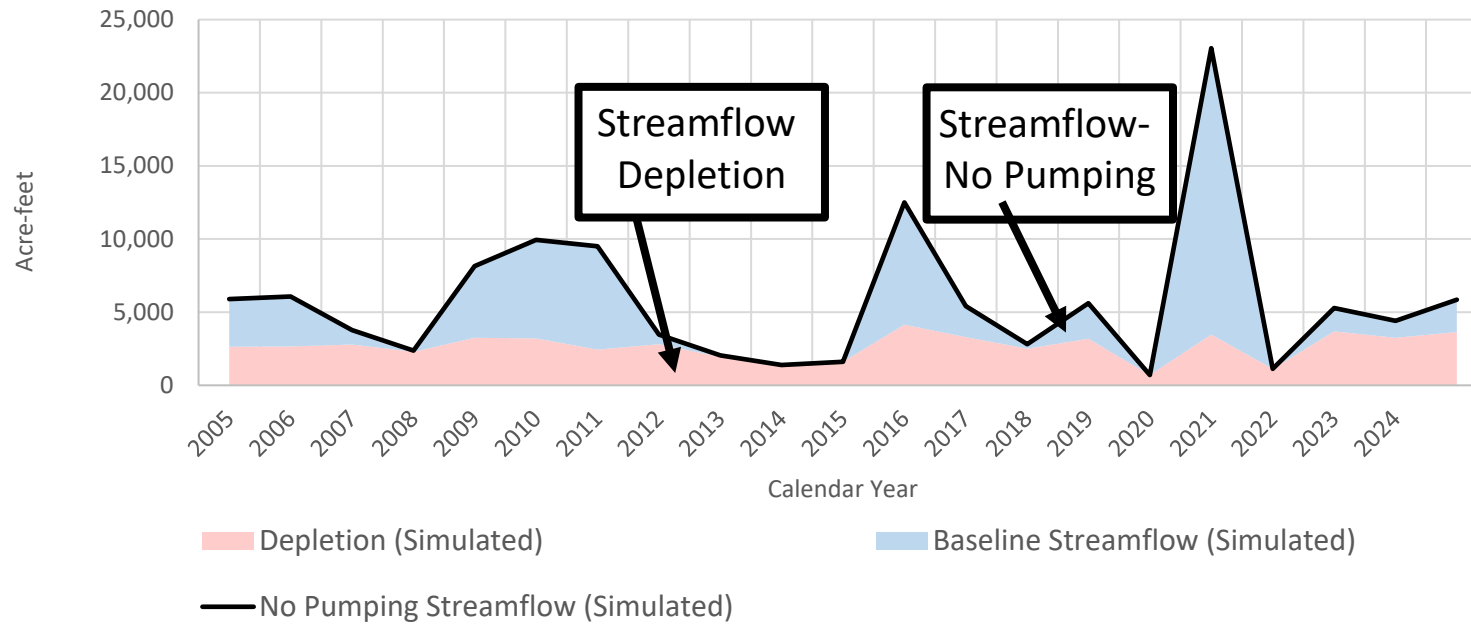
Interconnected Surface Water and Model Results

Seasonal (June to October) Streamflow Depletion Volume Estimated with Model at Stream Sites

Well ID	Representative Site		Seasonal Depletion (AF)			WY 2025 MT Exceedance	Three Consecutive WY MT Exceedances
	Minimum Threshold (AF)	Measurable Objective (AF)	WY 2023	WY 2024	WY 2025		
Napa River at Oak Knoll Avenue, Napa	3,220	2,370	3,680	3,240	3,650	Yes	Yes
Napa River at Pope Street, St. Helena	1,390	1,120	1,370	1,490	1,500	Yes	No

- Streamflow depletion volume conditions at Oak Knoll met the definition for an undesirable result.
- In WY 2025, groundwater elevations did not meet the definition for an undesirable result.

Simulated Streamflow Depletion Napa River at Oak Knoll



Total Seasonal Streamflow Depletion (June-October)	MT	2024	2025
	3,220	3,240	3,650

2025: More Depletion but also more Measured Streamflow during summer period

Base Period 2005-2014			
	JUL	AUG	SEPT
AVG % Depletion	77	88	90
	5 of 10 yrs 100%	6 of 10 yrs 100%	6 of 10 yrs 100%

2024 and 2025 Percent Percent Depletion			
	JUL	AUG	SEPT
2024	74	99	100
2025	65	94	100

Measured Streamflow (acre-ft)			
	JUL	AUG	SEPT
2024	280	97	14
2025	424	155	54

ISW Criteria and California Environmental Flows Framework (CEFF)

GSP regulations for depletion of interconnected surface water (California Code of Regulations §354.28 (c)(6)) require the minimum threshold to be the:

“rate or volume of depletions caused by groundwater use that has adverse impacts on beneficial uses of surface water and may lead to undesirable results.”

Importantly, as part of the ISW and GDEs Workplan, CEFF includes evaluation of actual surface water flows and the effect of depletion on the functional flows needed to support healthy GDEs.

This will be an area of emphasis in the upcoming Periodic Evaluation.



Reduction of Groundwater Storage

Minimum Threshold

Net GW extraction by pumping exceeding the SY for the Subbasin, where net GW extraction is the volume extracted less any volume of augmented recharge achieved by implemented projects.

Undesirable Result

Seven (7) year average annual net GW extraction in the Subbasin exceeds the sustainable yield.

UR occurred since the 7-year average exceeds the sustainable yield for the Subbasin.

Six of seven years exceeded the SY (exceedances are **bolded**). To achieve the Sustainability Goal by 2042, of protecting and enhancing, as well as preparing for a more extreme climate, requires augmented recharge and less pumping.

Sustainable Yield (Est.) =
~15,000 AFY

Year	Total Groundwater Extraction (AF)
2019	14,340
2020	19,570
2021	22,750
2022	19,120
2023	15,300
2024	16,260
2025	16,580
7-Year Avg.	17,700

Water Quality, Seawater Intrusion, and Subsidence

Water Quality:

- One RMS well exceeded the MT for Arsenic; this was in an area where Arsenic has been historically detected in the Napa Valley Subbasin. The exceedance was not attributable to groundwater conditions affected by groundwater management.
- One RMS well exceeded the MT for TDS. The exceedance was not attributable to groundwater conditions affected by groundwater management.

Seawater Intrusion:

- High TDS in the tidally influenced area of the Napa Valley Subbasin; no MT exceeded.

Subsidence:

- No notable subsidence occurred; no MT exceedances and little concern of potential for subsidence.

All monitoring networks are being continually reviewed and updated as needed.

Sustainability Indicator Summary of Undesirable Results

- Average GW pumping over a 7-year period exceeds Sustainable Yield
 - UR occurred for the reduction of GW Storage
- Seasonal streamflow depletion volume exceeds interim MT 3 times at the Oak Knoll gage and meets the definition for an Undesirable Result

Sustainability Indicator	WY 2022	WY 2023	WY 2024	WY 2025
	UR: Yes or No	UR: Yes or No	UR: Yes or No	UR: Yes or No
Chronic GW Lowering (CGWL)	No	No	No	No
Depletion of Interconnected Surface Water (ISW)	Yes	No	No	Yes
GW Quality Degradation	No	No	No	No
Reduction of GW Storage	Yes	Yes	Yes	Yes
Land Subsidence	No	No	No	No
Seawater Intrusion	No	No	No	No

Undesirable Results and Response Actions in Progress

Seasonal Streamflow Depletion

- Implement ISW and GDEs Workplan including aquatic and terrestrial GDEs monitoring at 6 sites
- Expand ISW monitoring network to 28 ISW MWs
- Expand wet/dry reach mapping with Napa County RCD; expand stream DO and temperature monitoring
- Reactivation of 5 historical USGS Stream Gages to improve streamflow monitoring (DWR CalSIP grant)
- Implement California Environmental Flows Framework approach to refine ISW sustainable management criteria

Chronic Reduction in Groundwater Storage

- In Spring 2024, began Groundwater Pumping Reduction Workplan implementation
- Develop Water Certification Partnership pilot concept; NCGSA partnering with existing certification entities
- Develop vineyard replant strategy
- Promote Water Conservation as a Napa Way of Life
- Release Public Draft WAA Guidance document for review and feedback (March 2026)

GSP Projects and Management Actions (PMAs)

- Sustainable groundwater management **required within 20 years**
 - 2040 (critically overdrafted basins) and 2042 (non-critically overdrafted basins)
- Must **achieve the sustainability goal** for the basin
- Must **annually describe progress** towards GSP implementation
- Beginning in WY 2025, DWR requires GSAs to upload their PMA summary template to DWR's website

Sustainable Groundwater Management Act Portal

Projects and Management Actions Module

User Manual

Department of Water Resources
SCMA PORTAL

Welcome, SCMA User 03/09/2024
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Home | GSA | GSP | Alternatives | Adjudicated Areas | Basin Modification | Monitoring Network | File Transfer

My Projects / Management Actions

[New Project](#) [Import](#) Search:

Project Name	GSA	Basin / Subbasin	GSP(s)	Status	Updated By	Last Updated	Actions
EP_Summary_1	SGM2 Fee	S-OBS YOSEMITE VALLEY		SUBMITTED	SGM2 Fee	03/09/2024 10:17:36	
EP_Summary_2	SGM2 Fee	S-OBS YOSEMITE VALLEY		SUBMITTED	SGM2 Fee	03/09/2024 11:48:47	
EP_Summary_3	SGM2 Fee	S-OBS YOSEMITE VALLEY		SUBMITTED	SGM2 Fee	03/09/2024 11:48:48	

Showing 1 to 3 of 3 entries Previous 1 Next

New Online DWR Portal : 2025

Other Ongoing GSP Implementation

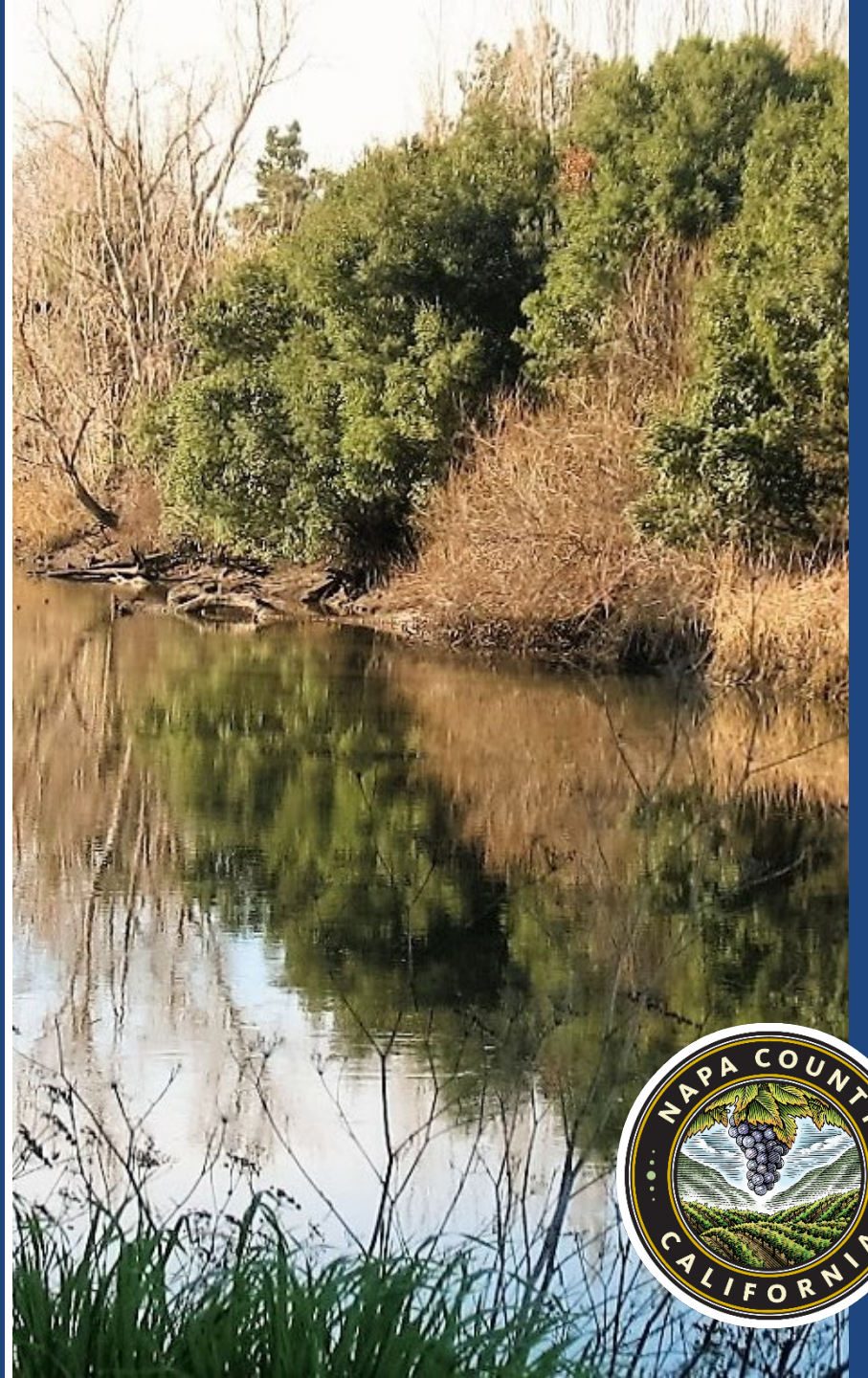
- **Annual Report – WY 2025**
(645 pages; 11 Appendices)
 - Public-Friendly Executive Summary
 - ISW and GDEs Monitoring (Spring 2025)
- **Refining Water Use Data, NVIHM Model Updates**
- **June 11, 2026 TAG Meeting**
 - Recharge feasibility scenarios
 - California Environmental Flows Framework for incorporation in the periodic evaluation
 - Model refinement update

*DWR Approved Napa Valley Subbasin GSP
January 26, 2023*



*Periodic Evaluation of
GSP to DWR January
31, 2027*

TAG Discussion





Thank You!

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