North American Groundwater Subbasin (NASb)

Water Year (WY) 2023 Annual Report

NASb 2024 Public Meeting

June 26, 2024

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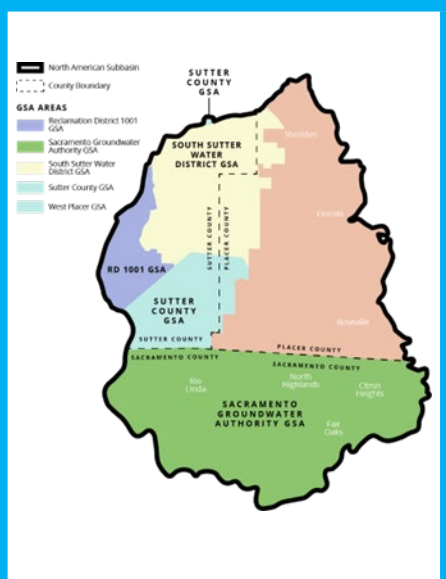

Agenda

- Welcome and Meeting Purpose
- NASb Introduction/Overview
- SGMA Background Refresher
- SGMA GSP vs. Annual Reports
- 2023 Annual Report Overview
- California Department of Water Resources (DWR) SGM Grant Round 2
- NASb - Timeline
- Questions/Comments

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Welcome and Meeting Purpose

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Meeting Purpose

The purpose of todays meeting is to:

- Present Subbasin groundwater conditions based on data and information obtained and analyzed within the NASb Water Year 2023 Annual Report
- To strengthen public understanding of the groundwater conditions in the Subbasin and to update/seek input from the public and other interested parties
- Provide an update on the progress and status of GSP and SGMA implementation

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How to Engage During the Meeting

- **On Zoom**:
  - "Raise hand" function to speak or
  - Type question in comment box
- **Via telephone**:
  - *9 to "Raise Hand"
  - *6 to unmute when called on

This meeting is being **recorded** and a copy of the presentation, along with additional meeting materials, will be uploaded and available at https://nasbgroundwater.org/

NASb Introduction/Overview

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NASb Overview/GSA Introduction

Reclamation District 1001 (RD 1001 GSA)

Kimberly Reese | Reclamation District 1001
1959 Cornelius Ave | Rio Oso, CA 95674
530-656-2318 | kreese@rd1001.org

Sacramento Groundwater Authority GSA (SGA GSA)

Trevor Joseph | Manager of Technical Services | Sacramento Groundwater Authority
2295 Gateway Oaks Drive, Suite 100 | Sacrament, CA 95833
(916) 967-7692 | tjoseph@rwah2o.org

South Sutter Water District GSA

Hayden Cronwell| General Manager | South Sutter Water District
2464 Pacific Ave | Trowbridge, CA 95659
530-656-2242 |hcornwell@soutsutterwd.com

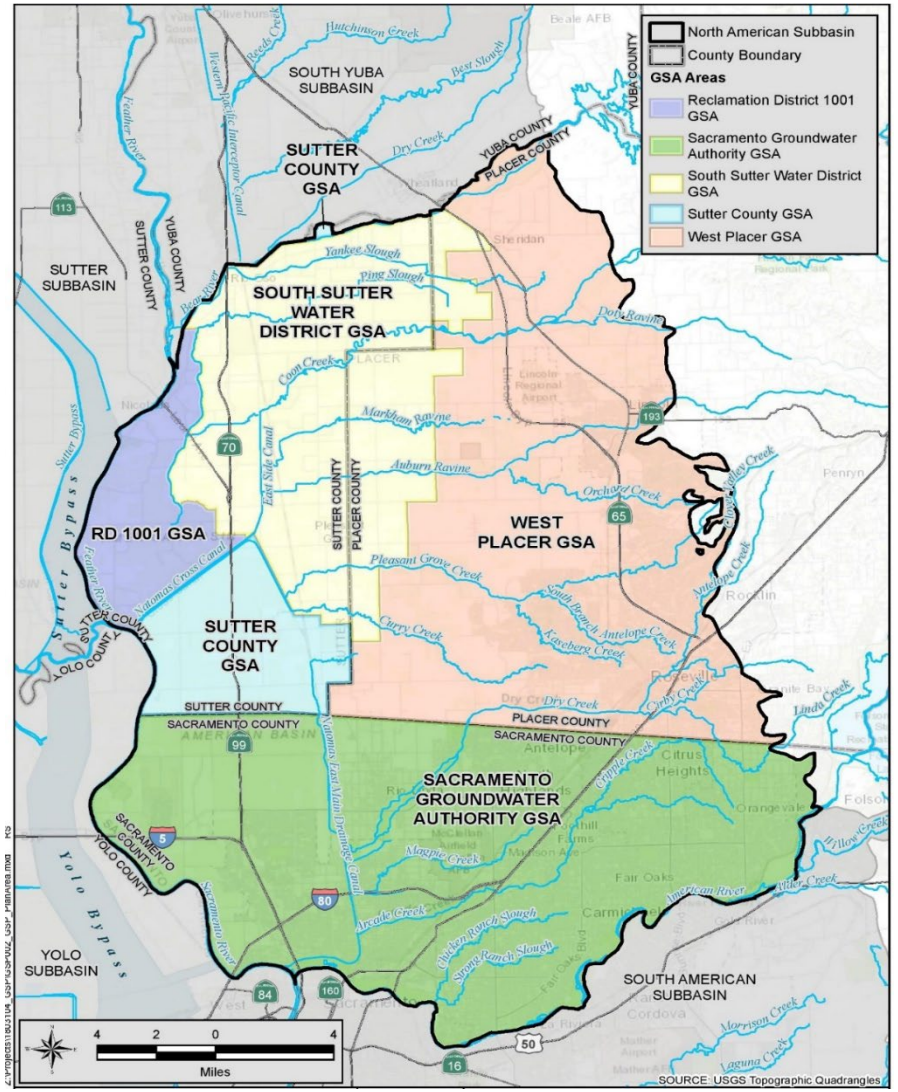
Sutter County GSA

Guadalupe Rivera | Principal Engineer | Sutter County
1130 Civic Center Blvd. | Yuba City, CA 95993
530-822-7400 | grivera@co.sutter.ca.us

West Placer GSA

Christina Hanson | Supervising Planner | Placer County
3091 County Center Drive, Suite 170 | Auburn, CA 95603
530-886-4965 | chanson@placer.ca.gov

NASb Website: nasbgroundwater.org



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SGMA Background/Refresher

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Sustainable Groundwater Management Act (SGMA)

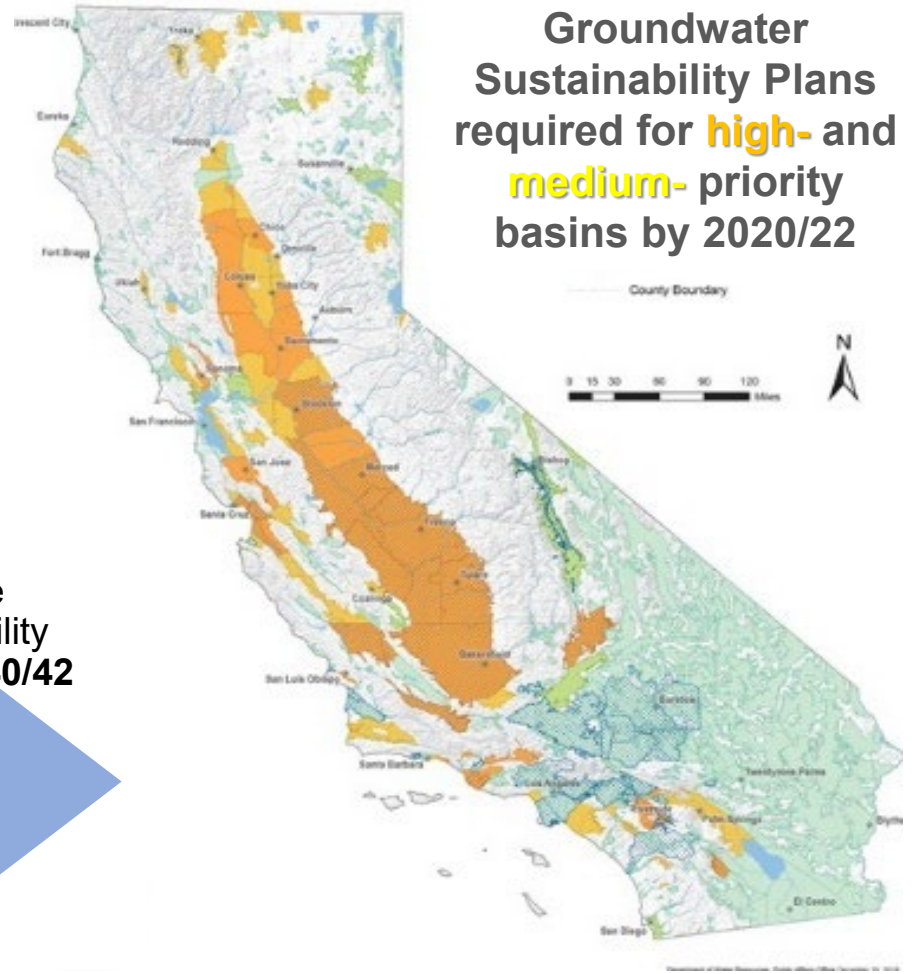
Local Control

"A central feature of these bills is the recognition that groundwater management in California is best accomplished locally."
Governor Jerry Brown, September 2014

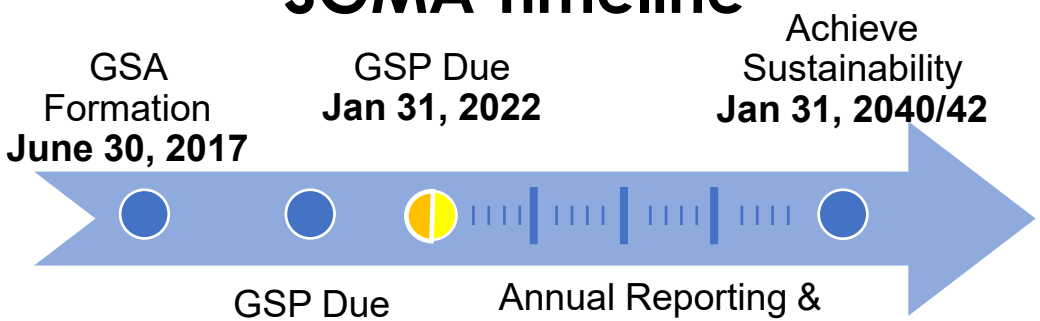
Roles

Groundwater Basins

Groundwater Sustainability Plans required for high- and medium- priority basins by 2020/22



SGMA Timeline



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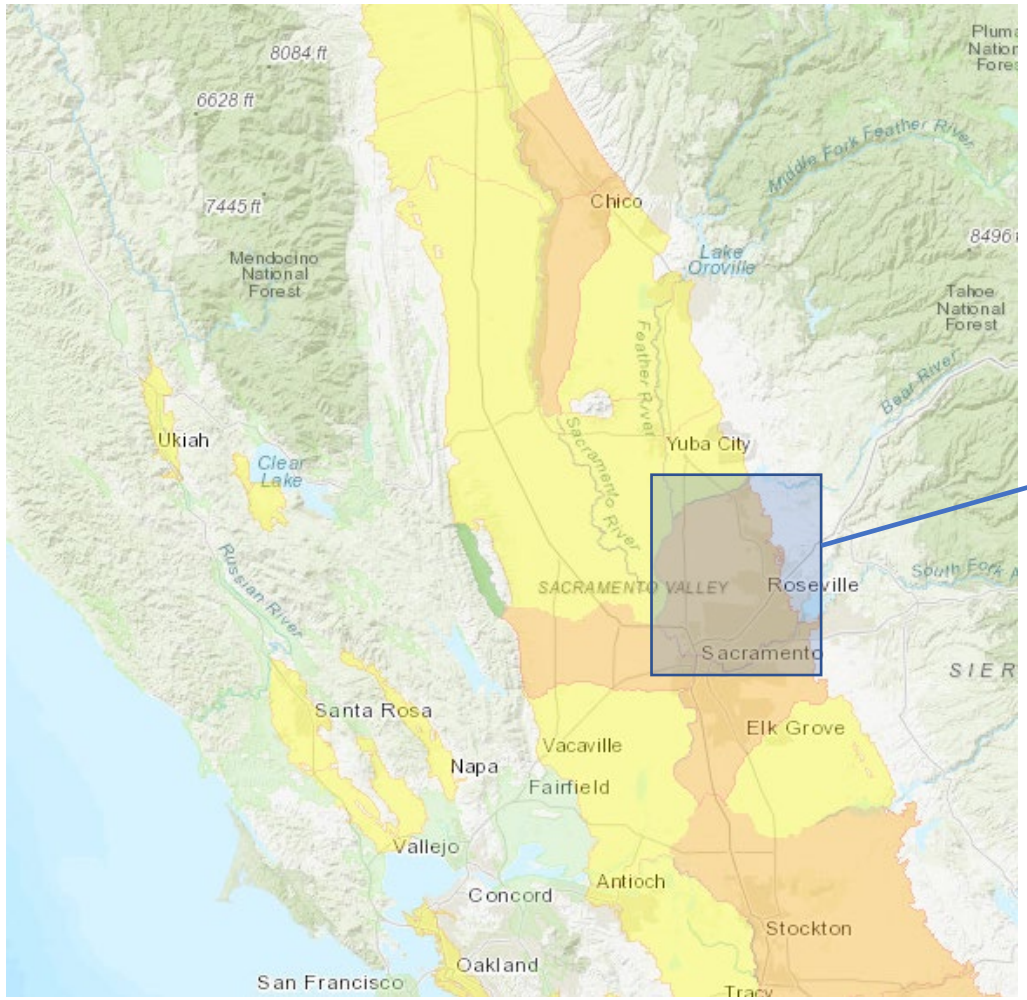
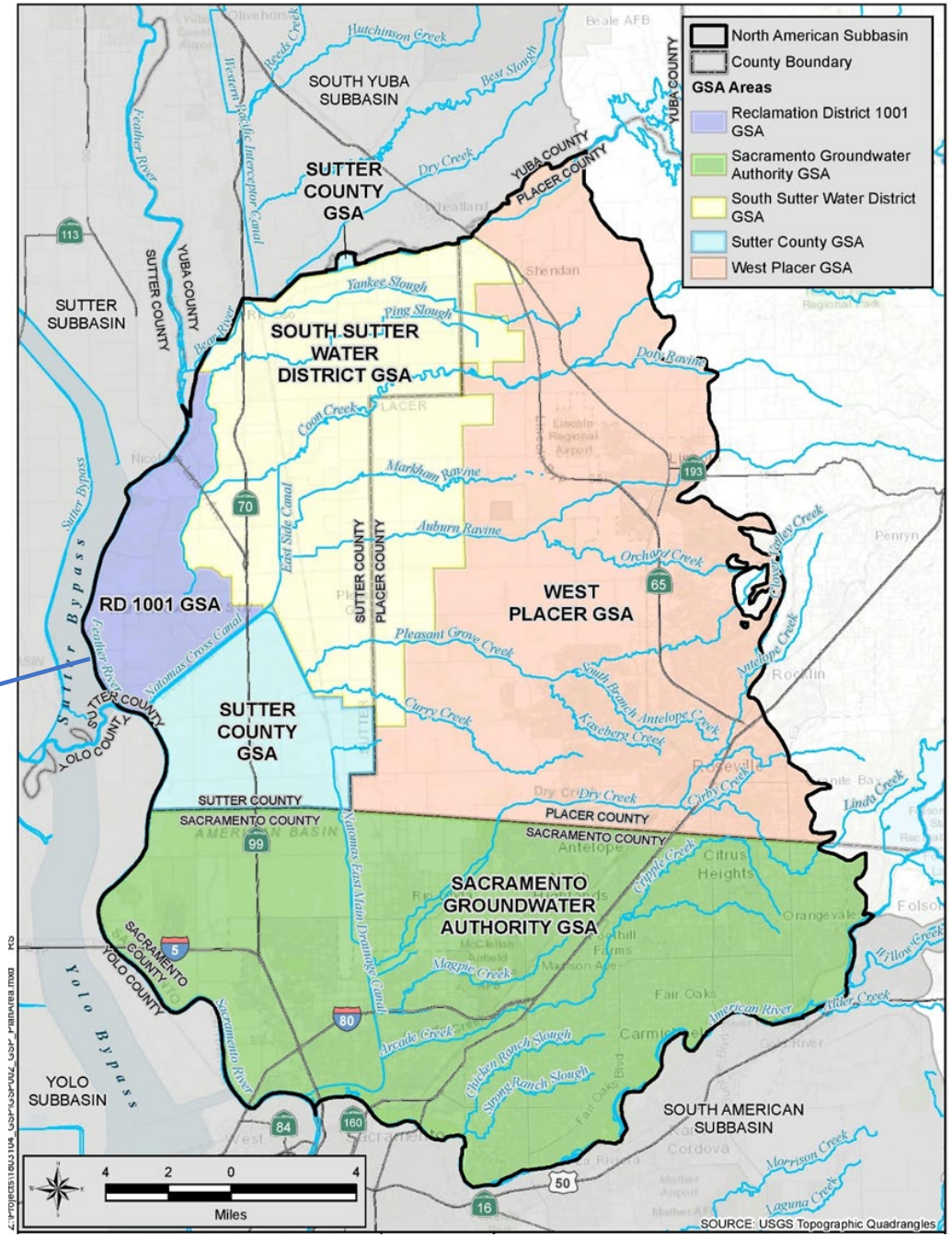
Groundwater Sustainability Agencies (GSAs)

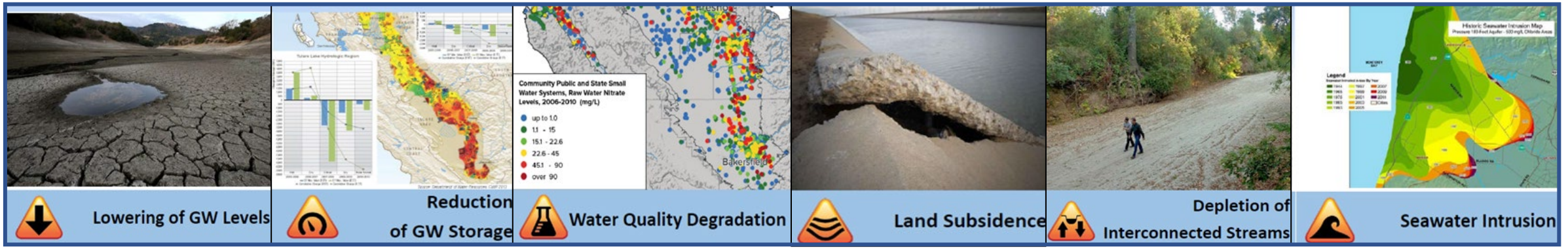




Sustainability Indicators

"effects caused by groundwater conditions throughout the basin that, when significant and unreasonable, cause undesirable results…"

Undesirable Results



NASb Applicable Sustainability Indicators

Lowering GW Levels; Reduction of Storage; Degraded Quality; Land Subsidence; Surface Water Depletion	Seawater Intrusion
Applicable NASb Sustainability Indicators	Not applicable in the NASb

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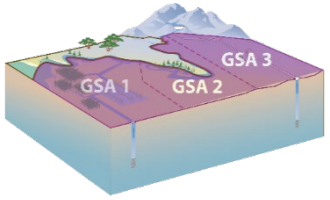
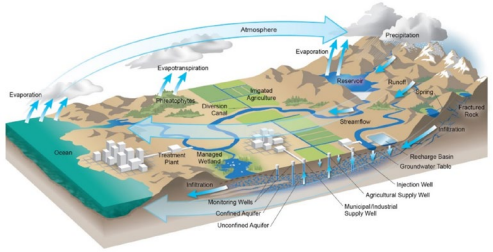
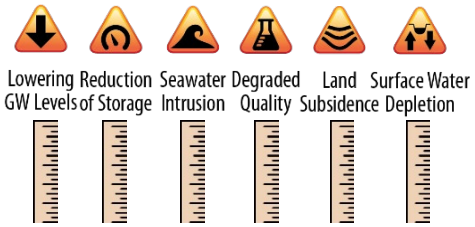
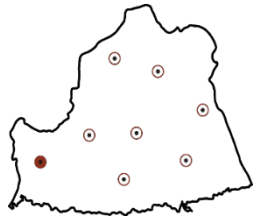
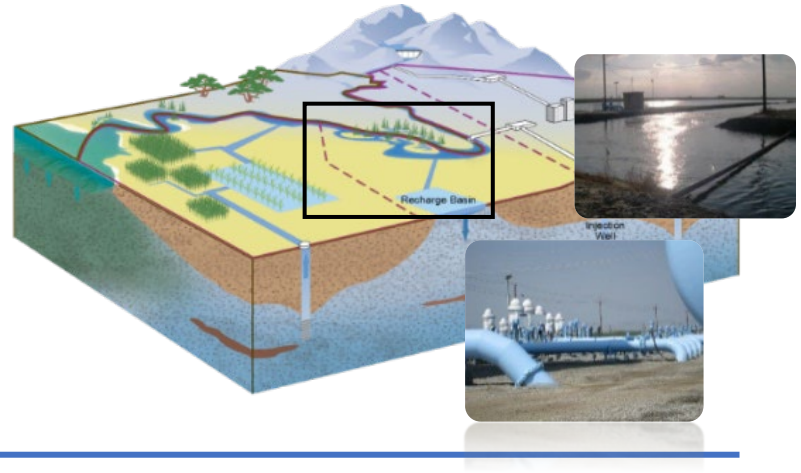
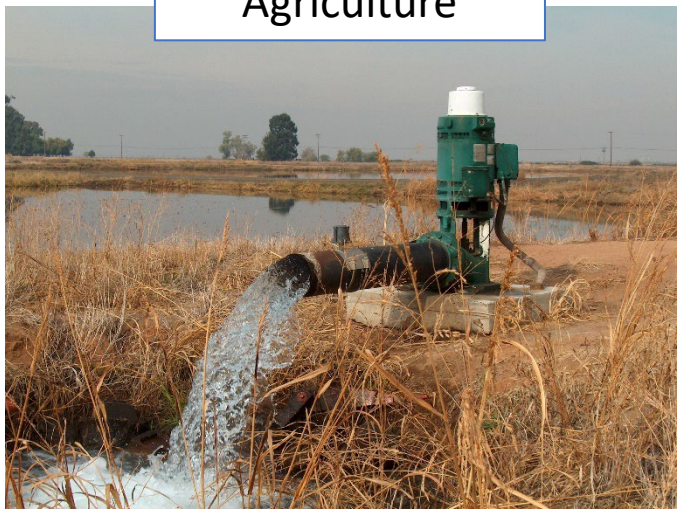
Groundwater Sustainability Plan (GSP) Regulations & NASb Sections

GSP Development Phases	1. Understand existing basin conditions	2. Develop water levels that consider beneficial uses and users	3. Develop management actions and/or projects to ensure basin is sustainable
GSP Regulation Requirements	**Who** *- Administrative Information -*  **What** *- Basin Setting -* 	**Where** *- Sustainable Management Criteria -*  *- Monitoring Network -* 	**How** *- Projects & Management Actions -* 
NASb GSP Sections	○ Section 1 Introduction ○ Section 2 Agency Information ○ Section 3 Plan Area ○ Section 4 Hydrogeologic Setting ○ Section 5 Groundwater Conditions	○ Section 6 Water Budgets ○ Section 7 Monitoring Networks ○ Section 8 Sustainable Management Criteria	○ Section 9 Projects and Management Actions ○ Section 10 Plan Implementation ○ Section 11 Notice and Communications

Beneficial Uses and Users

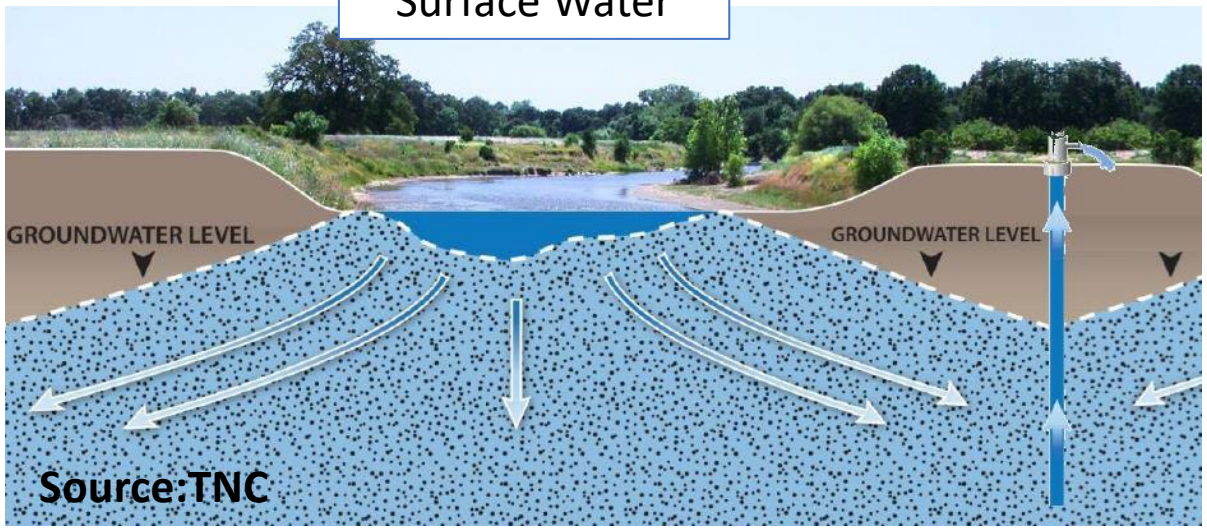
Agriculture



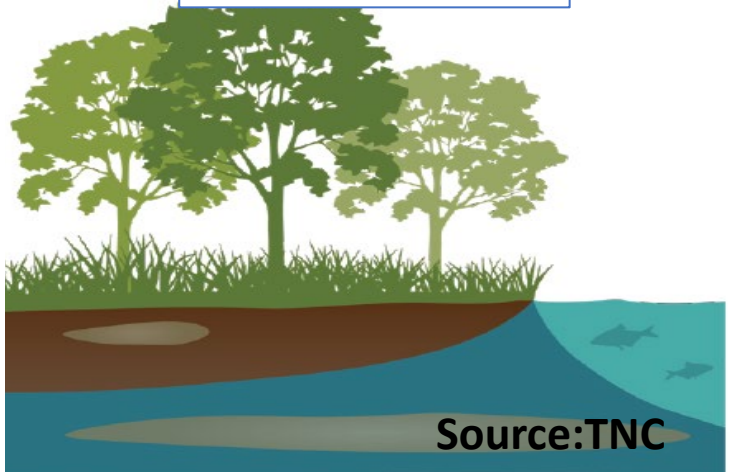
Municipal

Domestic

Surface Water



Environment



SGMA GSP vs Annual Reports

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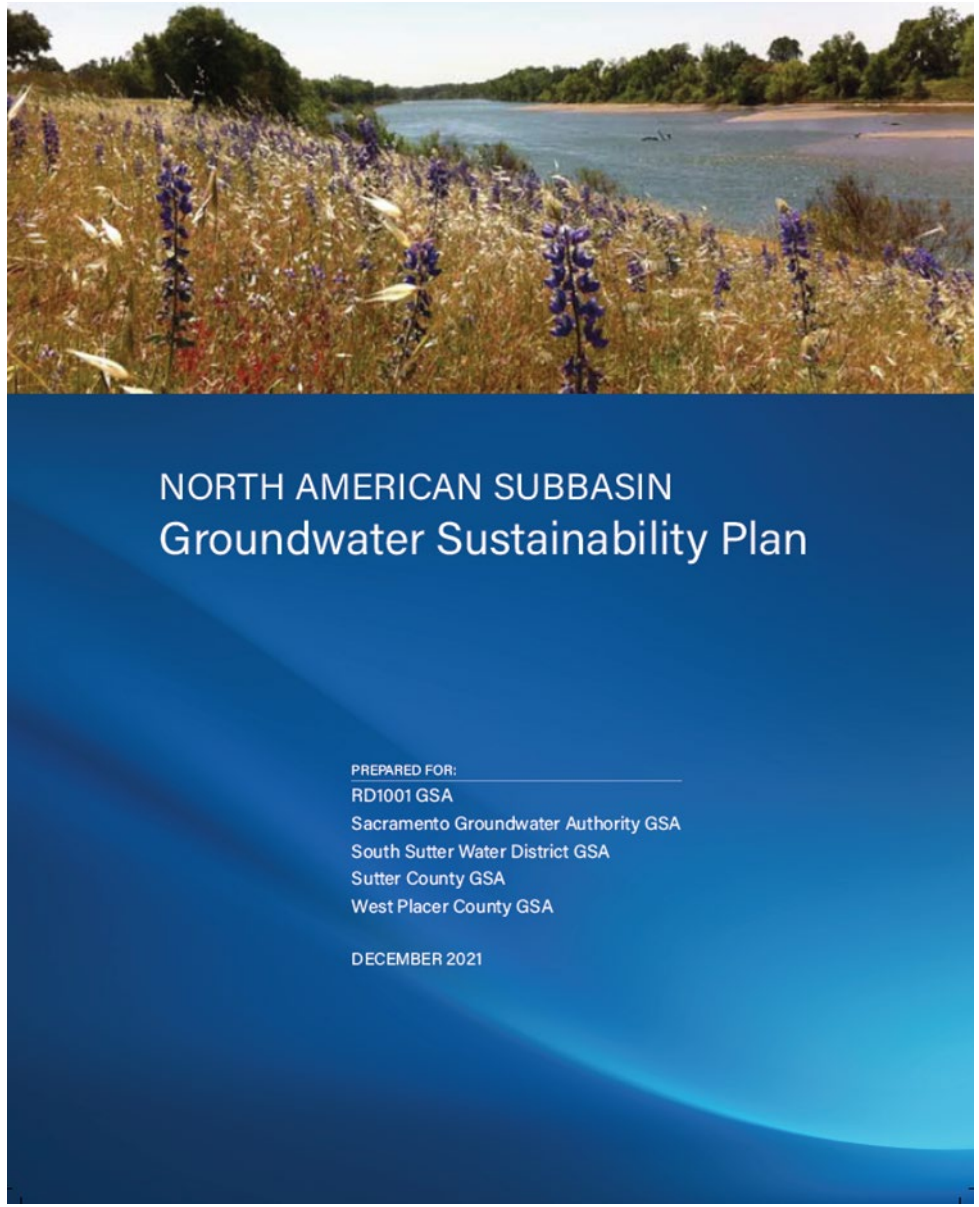

GSP vs Annual Report

- Current Status: Submitted in December 2021 - Department of Water Resources (DWR) initiated their review
  - Determination of Approved GSP received from DWR July 2023
  - Six recommended corrective actions
- Timing: Periodic evaluation every 5-years (or whenever plan is amended)
- Goal: Ensuring sustainability through projects and programs that will assist in meeting goal

- Water Year: October 1 to September 30
- Current Status: The third annual report for Water Year 2023 was submitted to DWR in March
- Timing: Each year submitted to DWR by April 1
- Goal: Non-interpreted data transmittal to DWR, that provides information on groundwater conditions and implementation of GSP for the prior water year

GSP and Annual Report(s) available at: nasbgroundwater.org

A Break for Questions/ Discussion

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  - Type question in comment box
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  - *6 to unmute when called on

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2023 Annual Report Overview

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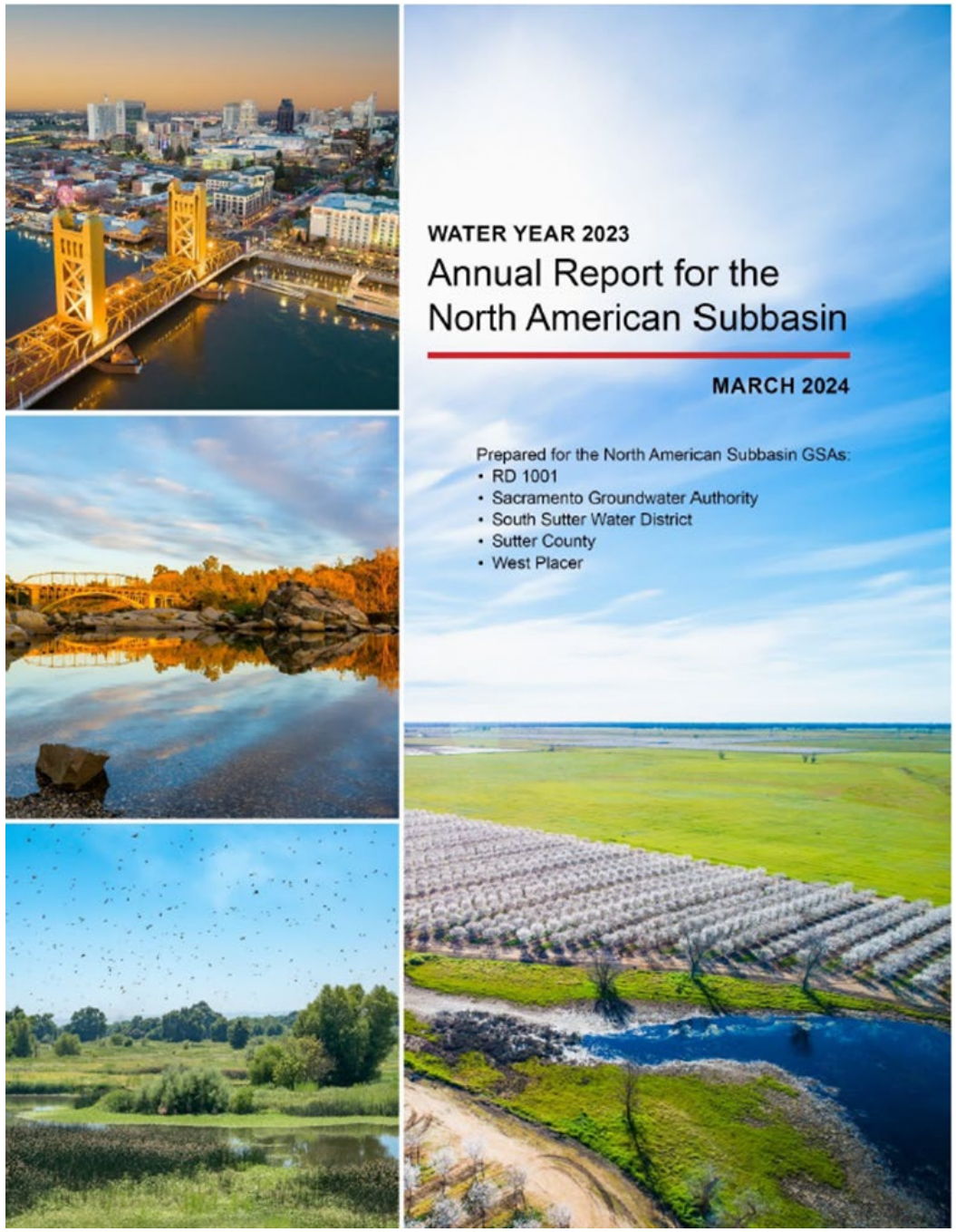
Annual Report

- Hydrologic Conditions
- Water Supply
- Groundwater Levels
- Change in Groundwater Storage
- GSP Implementation (e.g., Project and Management Actions/Supplemental Projects)
- Sustainability Indicators



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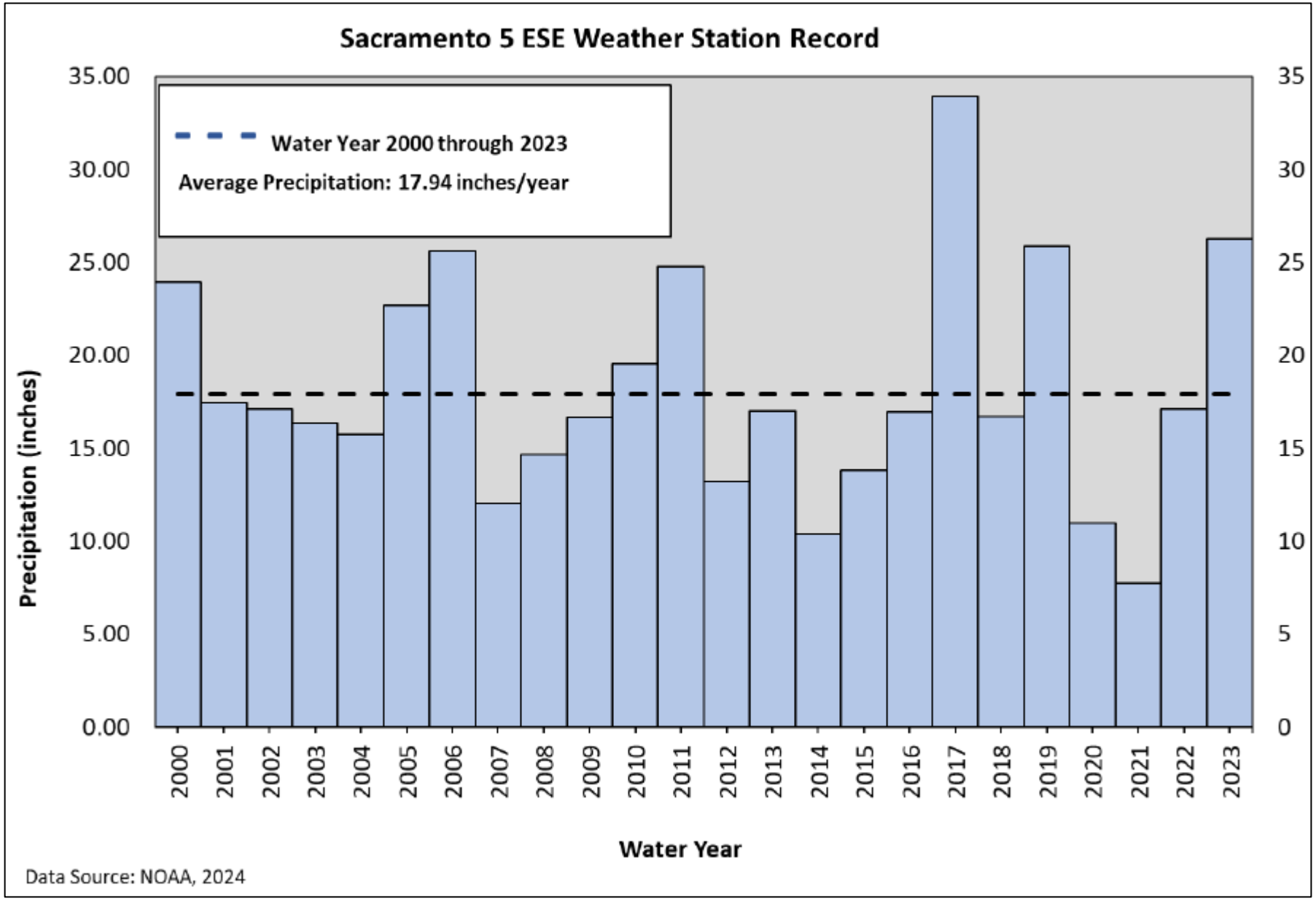
Hydrologic Conditions

WY 2023 annual precipitation was 26.27 inches



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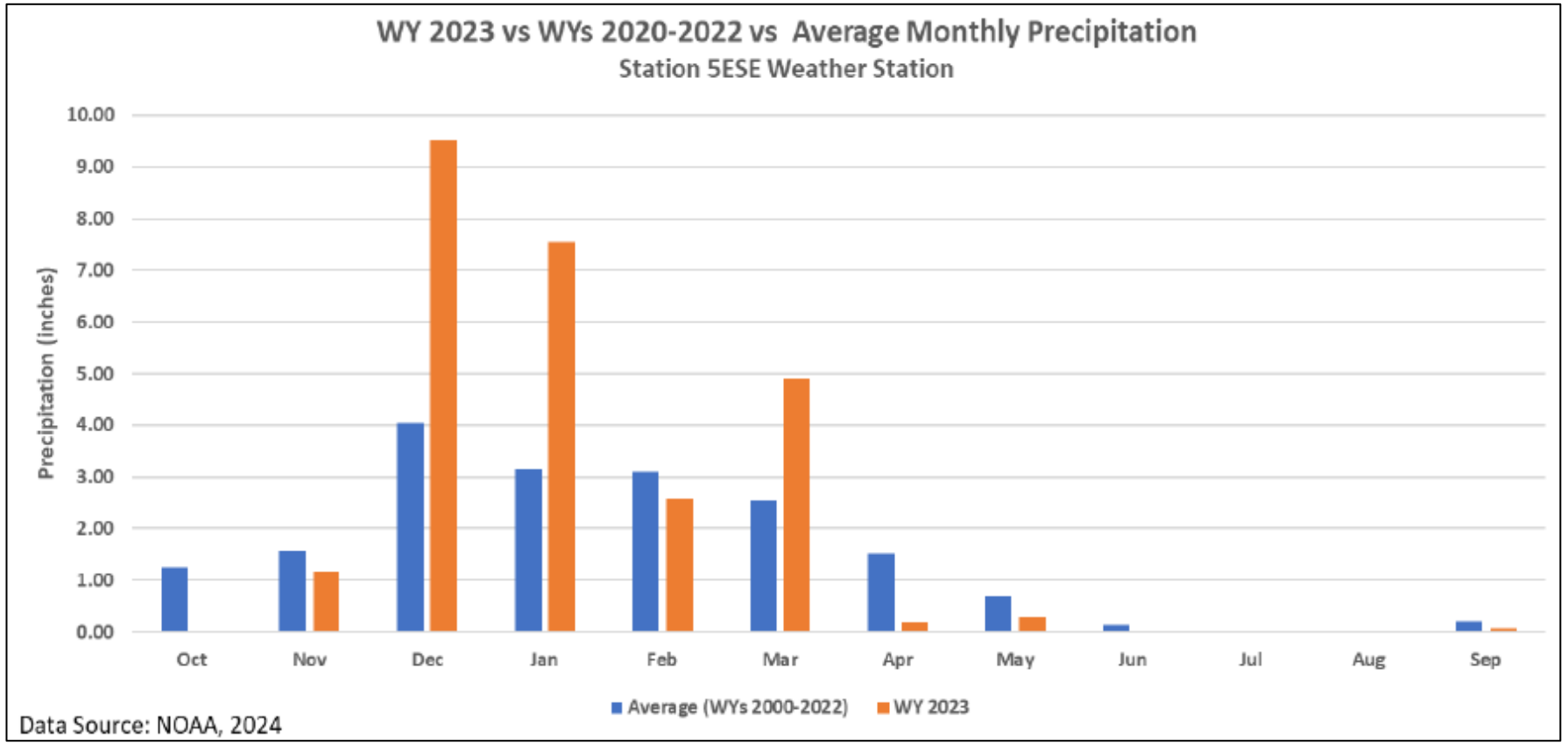
Average Monthly Precipitation

- Three of the 12 months in WY 2023 received higher than average monthly precipitation
- Seven of the 12 months received less than average monthly precipitation
- Two months (July and August) received no precipitation, similar to their averages



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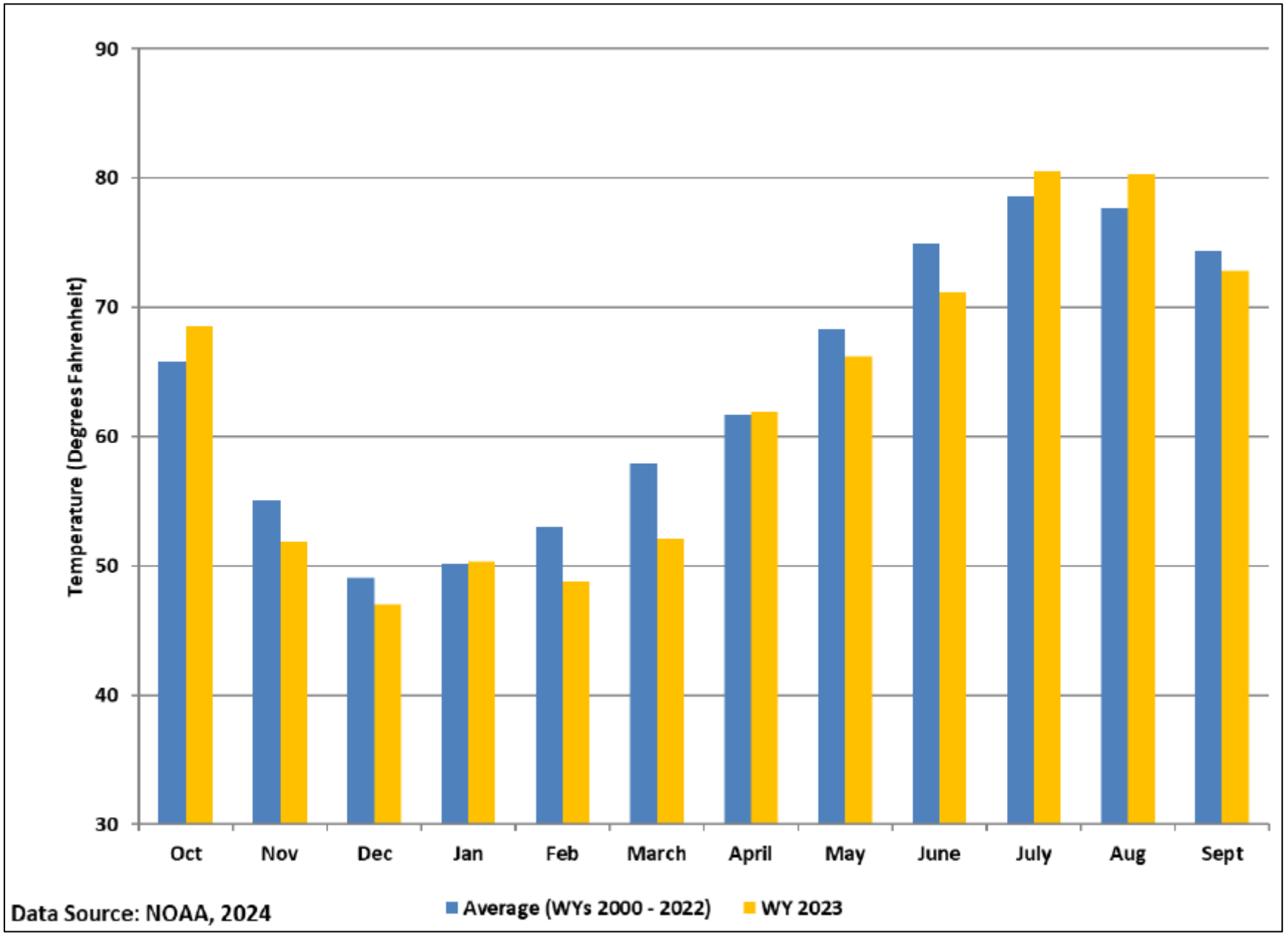
Average Air Temperature

- Seven of the 12 months in WY23 were cooler than the 2000 through 2022 average temperature for the same month
- Average annual air temperature was approximately 1.25 degrees °F cooler than the average (62.63 compared to 63.88 °F)



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WY 2023 Surface Water Use

Table 3-2. Surface Water Use by Sector

Surface Water Sector	WY2019 (AF)	WY2020 (AF)	WY2021 (AF)	WY2022 (AF)	WY2023 (AF)	Method Used to Determine
Urban	80,700	80,900	78,500	75,800	86,600	Metered
Industrial	34,600	34,700	33,600	32,500	37,100	---
Agricultural	201,600	197,700	130,300	179,200	200,100	Metered
Managed Wetlands	0	0	0	0	0	---
Managed Recharge	1,000	900	0	200	1,800	Metered
Native Vegetation	0	0	0	0	0	---
Other - Recycled	0	0	6,600	2,700	6,000	Metered
Total	**316,900**	**313,300**	**249,000**	**290,200**	**329,800**	

Source: Woodard & Curran, 2024. Managed recharge and recycled water from agencies.

Table 3-3. Surface Water Supplies by Source

Surface Water Supply	WY2019 (AF)	WY2020 (AF)	WY2021 (AF)	WY2022 (AF)	WY2023 (AF)	Method Used to Determine
Central Valley Project	0	0	96,900	0	0	Metered
State Water Project	0	0	0	0	0	Metered
Colorado River Project	0	0	0	0	0	---
Managed Local Supplies	316,900	313,200	145,500	287,500	323,800	Metered
Local Imported Supplies	0	0	0	0	0	Metered
Recycled Water	---	0	6,600	2,700	6,000	Metered
Reused Water	0	0	0	0	0	---
Desalination	0	0	0	0	0	---
Other	0	0	0	0	0	---
Total	**316,900**	**313,200**	**249,000**	**290,200**	**329,800**	

Source: Woodard & Curran, 2024. Managed recharge and recycled water from agencies.

AF = acre-feet

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WY 2023 Groundwater Extraction Water Use Sectors

Table 3-4. Groundwater Extraction Water Use Sectors

Groundwater Extraction Sector	WY2019 (AF)	WY2020 (AF)	WY2021 (AF)	WY2022 (AF)	WY2023 (AF)
Urban	45,400	57,800	61,500	62,600	42,100
Industrial	19,500	24,800	26,400	26,800	18,100
Agricultural	188,100	263,700	290,800	207,700	181,100
Managed Wetlands	0	0	0	0	0
Managed Recharge	0	0	0	0	0
Native Vegetation	0	0	0	0	0
Other - Remediation	4,700	4,300	7,100	7,300	3,500
Total	**257,700**	**350,600**	**385,800**	**304,400**	**244,800**
Sustainable Yield	**336,000**	**336,000**	**336,000**	**336,000**	**336,000**
Approximate Increase or Decrease in Storage	**78,300**	**-14,600**	**-49,800**	**31,600**	**91,200**

Notes: Managed recharge is not reported in this table as it is not groundwater extraction, see Table 3-7.
Source: Woodard & Curran, 2024.

AF = acre-feet

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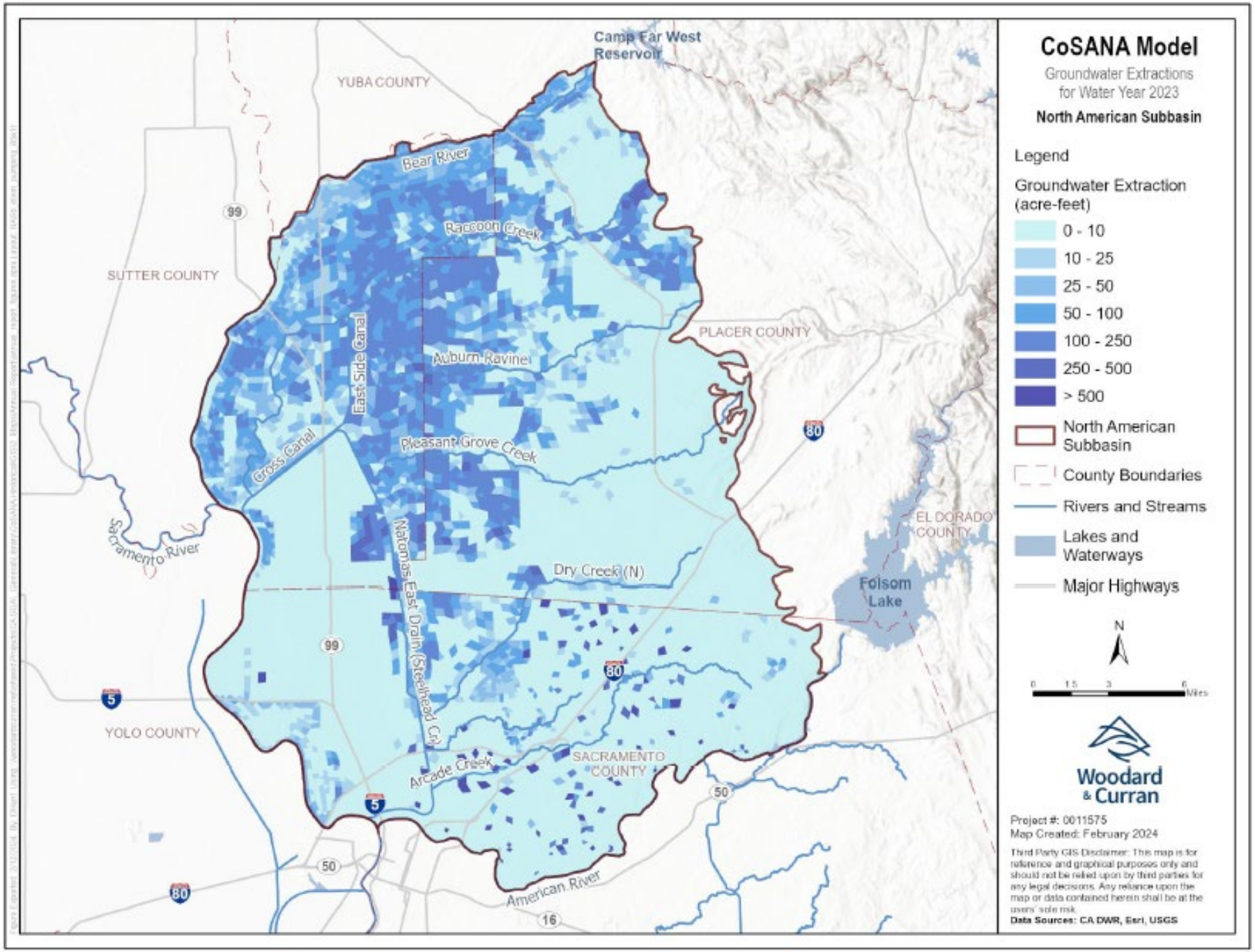
CoSANA Model – Groundwater Extractions for WY 2023



Source: Woodard & Curran, 2024.

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WY 2023 Total Water Use by Sector/Source

Table 3-5. Total Water Use by Sector

Water Use Sector	Total WY2019 (AF)	Total WY2020 (AF)	Total WY2021 (AF)	Total WY2022 (AF)	Total WY2023 (AF)	Method Used to Determine
Urban	126,100	138,700	140,000	138,400	128,700	Metered
Industrial	54,100	59,500	60,000	59,300	55,200	Metered
Agricultural	389,700	461,400	427,700	389,600	387,200	Metered and CoSANA Model
Managed Wetlands	0	0	0	0	0	---
Managed Recharge	1,000	900	0	200	1,800	Metered
Native Vegetation	0	0	0	0	0	---
Other - Remediation	4,700	4,300	7,100	7,300	3,500	Metered
Total	**575,600**	**664,800**	**634,800**	**594,800**	**576,400**	

Notes: -Managed recharge only includes the City of Roseville's Aquifer Storage and Recovery (ASR) program and does not include other forms of recharge (e.g., in-lieu) which has been a significant contribution of recharge - over the years within the NASb.
-Recycled water added to agricultural water use but includes water used within urban areas.
-Urban water use was reduced by water used for groundwater recharge.

Source: Woodard & Curran, 2024.

Table 3-6. Total Water Use by Water Source

Water Use Source	Total WY2019 (AF)	Total WY2020 (AF)	Total WY2021 (AF)	Total WY2022 (AF)	Total WY2023 (AF)	Method Used to Determine
Groundwater	253,000	346,300	378,700	297,100	241,300	Metered and CoSANA Model
Surface Water	317,900	314,200	242,400	287,700	325,600	Metered
Recycled Water	0	0	6,600	2,700	6,000	Metered
Reused Water	0	0	0	0	0	Metered
Other - Remediation	4,700	4,300	7,100	7,300	3,500	Metered
Total	**575,600**	**664,800**	**634,800**	**594,800**	**576,400**	

Source: Woodard & Curran, 2024.

AF = acre-feet

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WY 2023 Surface Water Used for Recharge

Table 3-7. Surface Water Used for Recharge

Managed Recharge	WY2019 (AF)	WY2020 (AF)	WY2021 (AF)	WY2022 (AF)	WY2023 (AF)
Groundwater Recharge	1,000	900	0	200	1,800

Notes: Managed recharge only includes the City of Roseville ASR programs and does not include other forms of recharge (e.g., in-lieu) which has been significant contribution of recharge over the years within the NASb.
Source: Woodard & Curran, 2024.

AF = acre-feet

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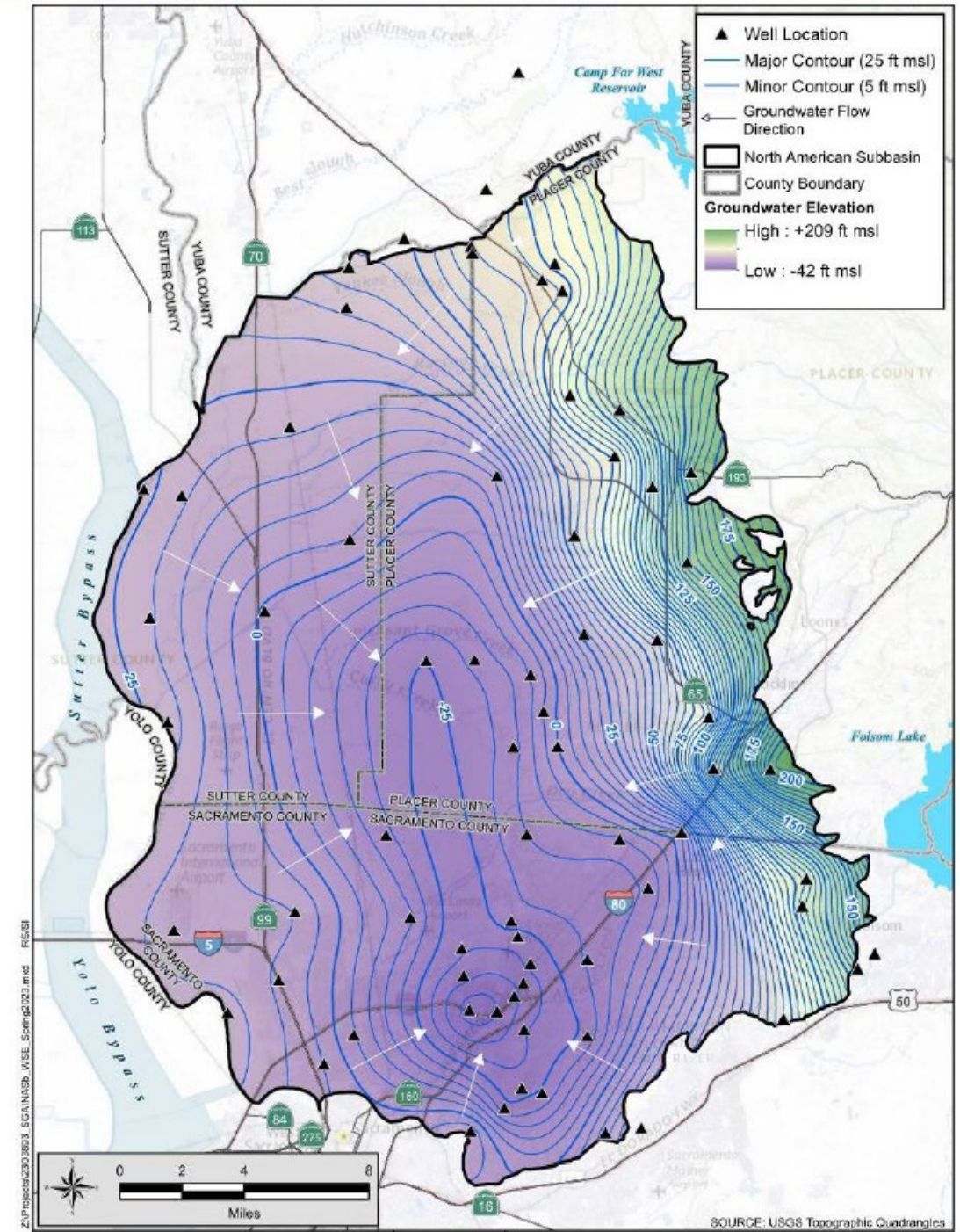
Figure 4-1. Spring 2023 Groundwater Elevation Contour Map



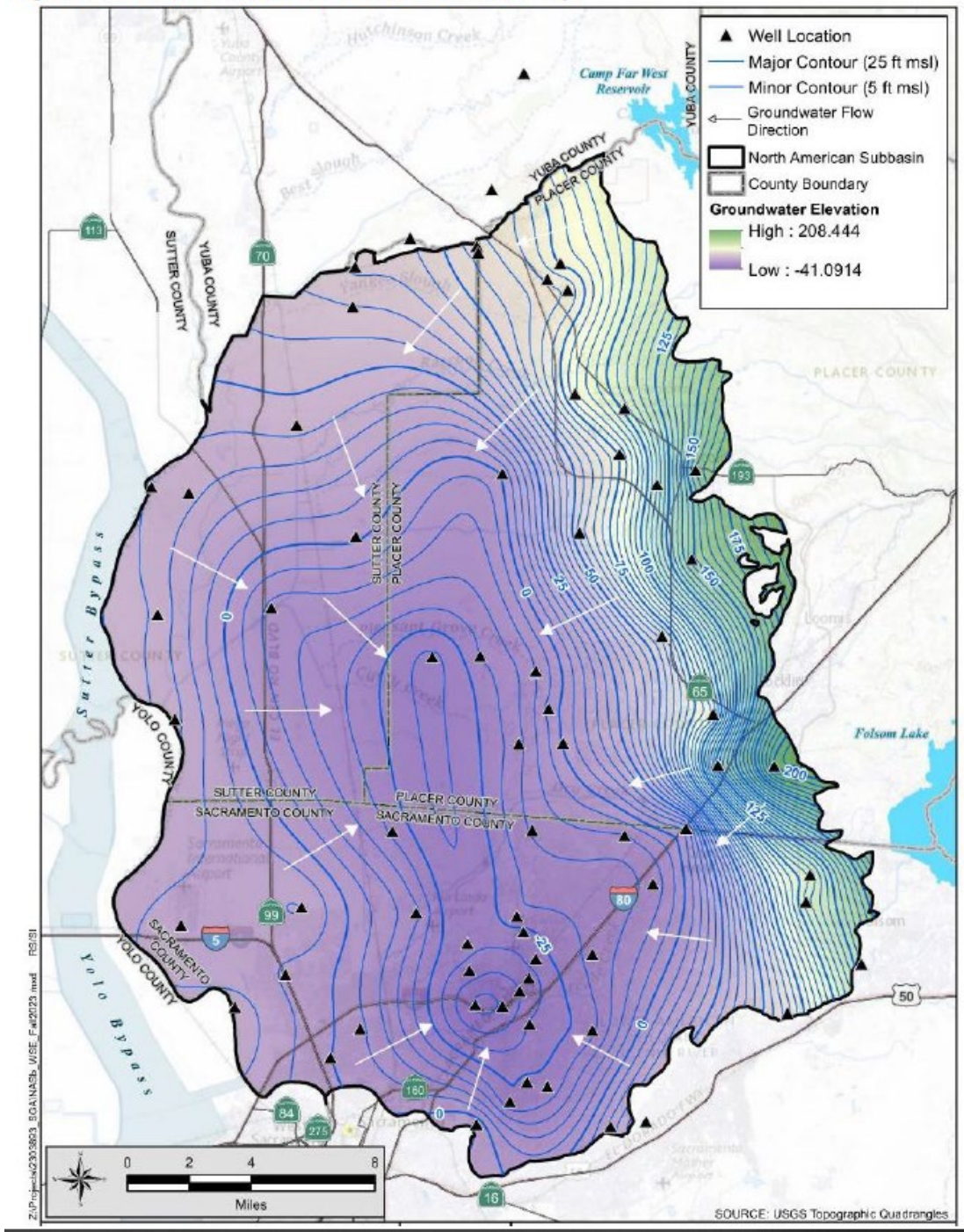
Spring 2023 Groundwater Elevation Contour Map

WY 2023

Groundwater Contour Maps

Fall 2023 Groundwater Elevation Contour Map

Figure 4-2. Fall 2023 Groundwater Elevation Contour Map



WY 2023 Change in Groundwater Storage

Table 5-1. Model-Estimated Annual Change in Groundwater Storage from WYs 2019–2023

Water Year	2019	2020	2021	2022	2023	Method Used to Determine
Water Year Type	Wet	Dry	Critical	Critical	Wet	
Groundwater Extraction (AF)	257,700	350,600	382,200	300,400	244,800	Metered, CoSANA Model
Difference to Sustainable Yield (AF)	78,300	-14,600	-46,200	35,600	91,200	
Estimated Change in Storage (AF)	113,000	-90,000	-134,800	2,800	161,100	CoSANA Model

Notes: [1] Year Type Classification: Index based on flow in million acre-feet:
Wet = equal to or greater than 9.2; Above Normal = greater than 7.8, and less than 9.2; Below Normal = greater than 6.5, and equal to or less than 7.8; Dry = greater than 5.4, and equal to or less than 6.5; Critical = equal to or less than 5.4.

Source: Woodard & Curran, 2024.

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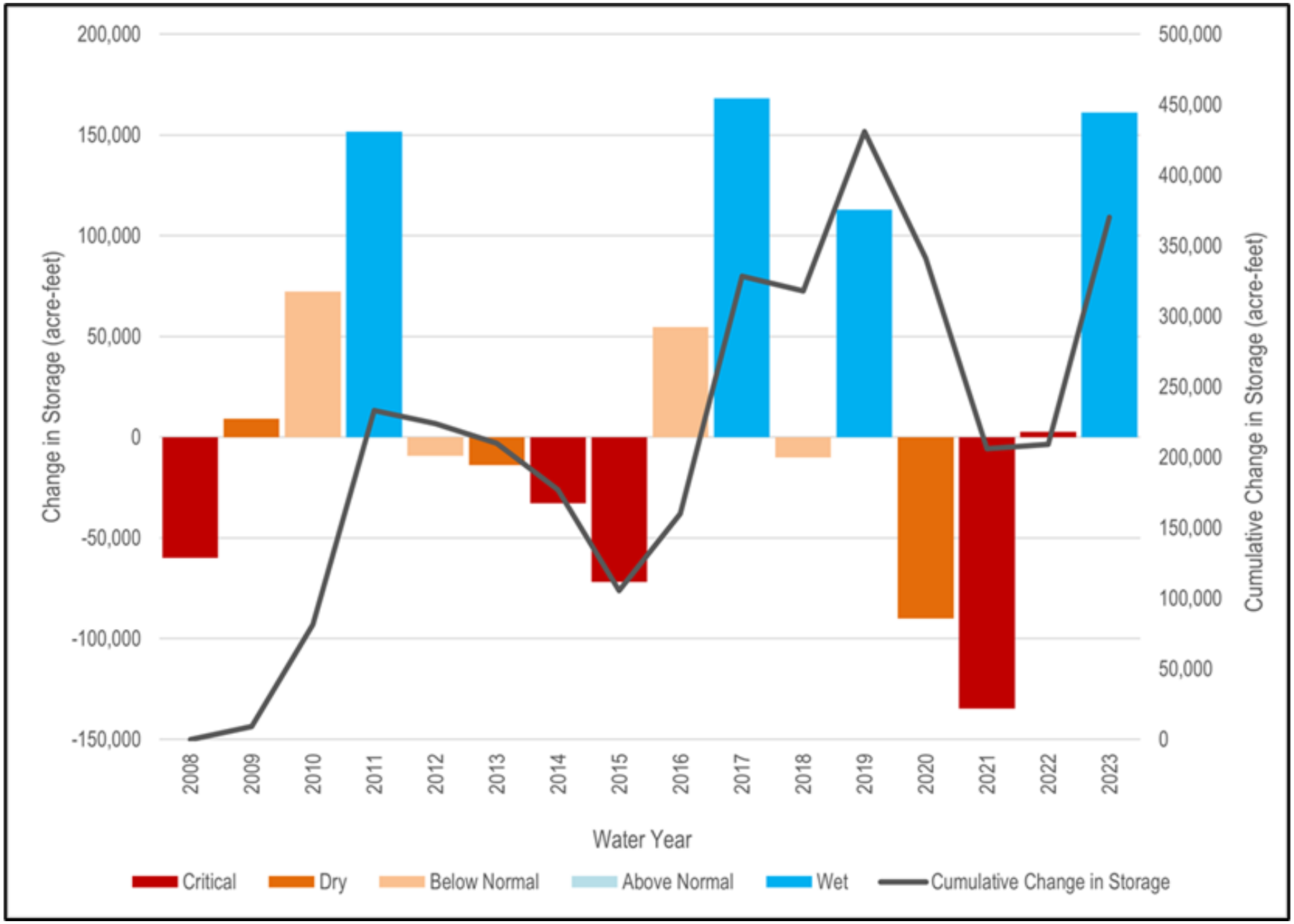
AF = acre-feet



Cumulative Change in Groundwater Storage for WY 2023 (and WYs 2008 – 2022)

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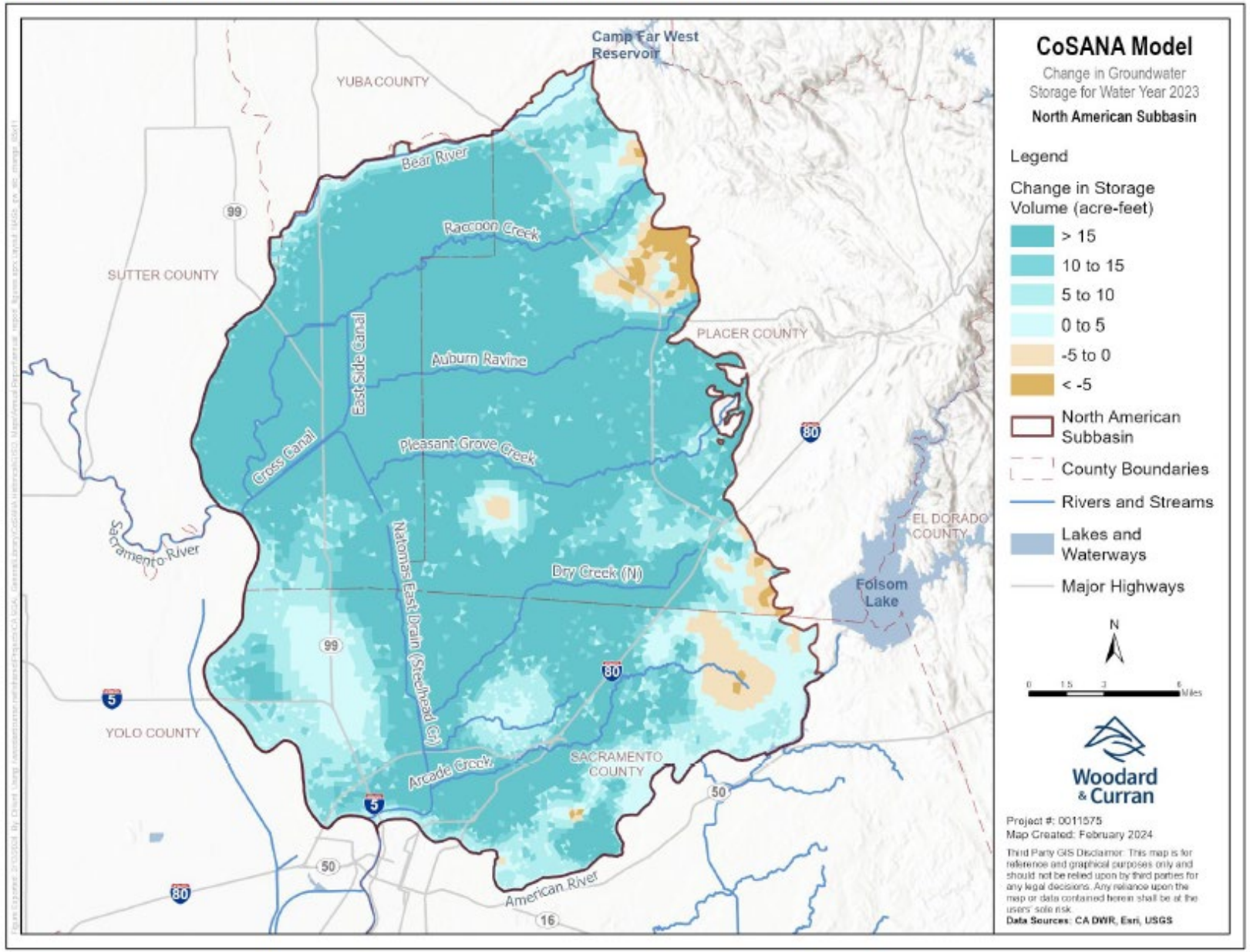
CoSANA Model (Fall 2022 to Fall 2023) Estimated Change in Groundwater Storage for WY 2023

Figure 5-2. Fall 2022 to Fall 2023 Model Estimated Change in Groundwater Storage Map



Source: Woodard & Curran, 2024.

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Current Groundwater Management Activities

- Continued conjunctive use in urban and agricultural areas
- Continued demand management through:
  - ✓Temporary conservation measures (e.g., water shortage contingency plans in Urban Water Management Plans during periods of constrained supply)
  - ✓Urban water use efficiency program
  - ✓Agricultural specific Efficient Water Management Practices
- Continued agricultural water reuse
- Continued recycled water use

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Projects and Management Actions

- **Project #1: Regional Conjunctive Use Expansion – Phase 1**
  - Continuation of implementing conjunctive use in accordance with WAF. Additional conjunctive use expansion will occur when Sacramento Regional Water Bank becomes operational – See Management Action #1 .

- **Project #2: Natomas Cross Canal Stability Berm and channel Habitat Enhancement Project**
  - Project is currently in progress. Permits are nearing completion and construction is anticipated to begin in late 2024 and be completed in 2025.

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Projects and Management Actions

- **Management Action #1: Complete Planning for Sacramento Regional Water Bank**
  - Planning and outreach activities commenced in Spring 2022. Multiple elements of project development were completed or are in development including:
    - ✓ Prepared Goals, Objectives, Principles and Constraints document that guides Water Bank development and implementation with Program Committee.
    - ✓ Prepared and developed Governance document that defines roles and responsibilities for Water Bank Implementation with Program Committee.
    - ✓ Worked with Program Committee to develop Project Description that was provided publicly to initiate the CEQA public engagement process.
    - ✓ Conducted Public Meetings associated with CEQA requirements on the Project Description and facilitated, presented, developed content for multiple Public Stakeholder Forum meetings.
    - ✓ Developed significant updates to the Water Bank website that included development of new content and a new modern website platform , a questions and answer forum, and education videos explaining the Water Bank, conjunctive use, and groundwater recharge.
    - ✓ Advanced preliminary CoSANA and CalSim development and begin modeling analysis consistent with the CEQA Project Description.
    - ✓ Engaged with multiple external partners evaluating the requirements to store and transfer future Water Bank supplies. The current target for completion of the environmental document necessary for federal acknowledgement of the Water Bank is in 2024.

Projects and Management Actions

- **Management Action #2: Explore Improvements with NASb Well Permitting Programs**
  - Coordination meetings were held with Placer, Sacramento, and Sutter counties well permitting agencies. GSAs are developing approaches to Executive Order (EO) N-7-22, Action 9.a and 9.b, which implemented temporary improvements to well permitting programs. Technical analysis and coordination with respective well permitting programs are anticipated to take approximately two years to complete.
  - West Placer GSA and Placer County Environmental Health maintain an approach for well permitting pursuant to the EO N-7-22. Only one well permit application was reviewed by WPGSA in WY 2023.

- **Management Action #3: Proactive Coordination with Land Use Agencies**
  - NASb GSAs regularly coordinate with land use planning agencies so they are aware of GSP analysis and implementation through methods such as stakeholder communications, annual public meetings, GSA meetings, and other methods. The WPGSA in coordination with the Placer County Planning Department developed a SGMA Guidance Document for Analysis of Groundwater Impacts for Development Requiring CEQA Analysis within Placer County. The document was shared with the other NASb GSAs.

Projects and Management Actions

- **Management Action #4: Domestic/Shallow Well – Data Collection and Communication Program**
  - The NASb GSAs are currently using DWR's well completion reports (WCR) and assessor parcel number (APNs) data to identify potential domestic well owners within the Subbasin. This information would be used to develop a mailing list that would be sent to high concentration areas of domestic and other shallow wells to assist with the following actions: confirm the presence of a well; establish a voluntary group of domestic well owners interested in local groundwater conditions; and, provide regular information to interested domestic well owners and NASb well permitting agencies.
  - SGA anticipates completing this effort for their portion of the Subbasin in spring and will develop an outreach method once completed.
  - WPGSA completed the first task as described (using DWR's WCRs and APNs to identify domestic well owners and develop a mailing list). Next steps will be development of outreach this spring.

- **Management Action #5: Groundwater Dependent Ecosystem (GDE) Assessment Program**
  - The NASb GSAs are researching options for assessing GDEs health. Additionally, the NASb was awarded funding through the DWRs SGM Grant Round II, and plans to construct four new monitoring wells within areas identified in Section 7.4.6 Data Gaps of the GSP that would help enhance the GSAs understanding of groundwater levels near priority GDE areas.

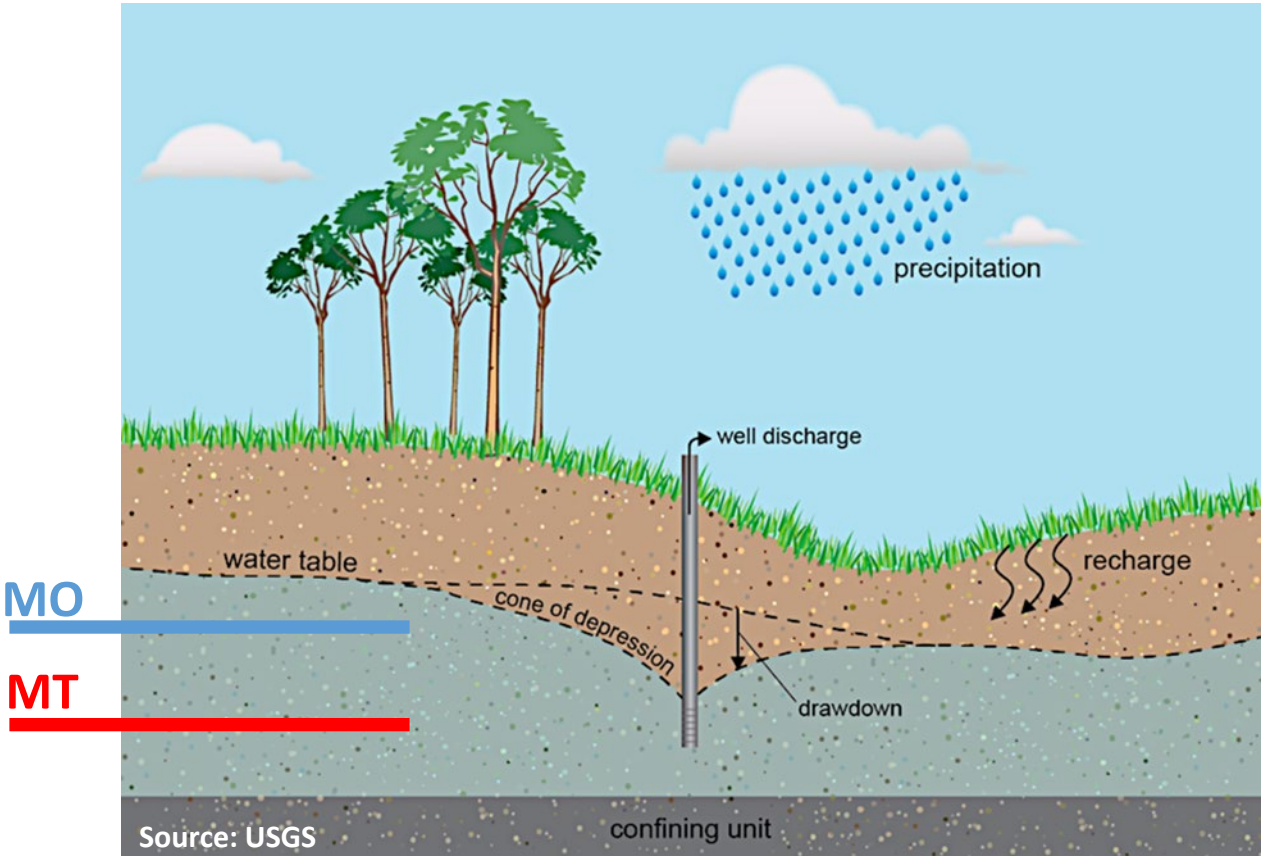
Supplemental Projects

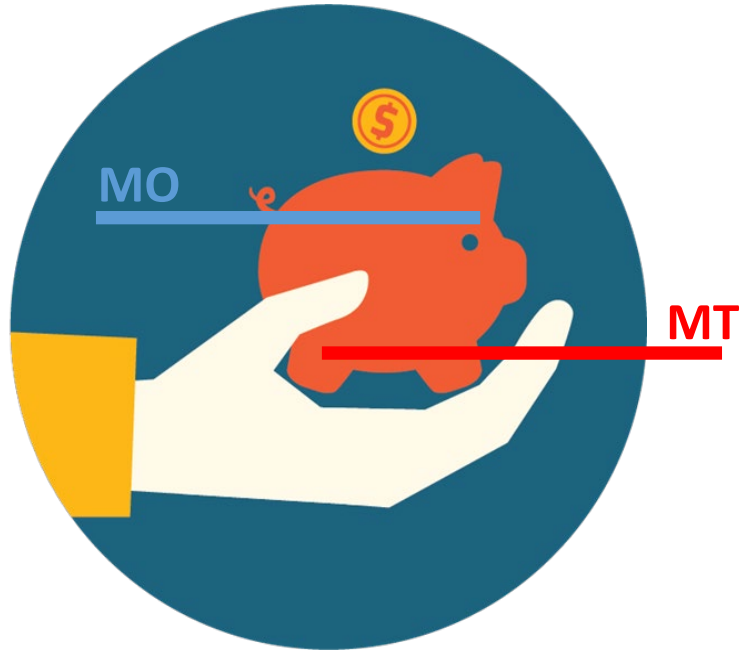
NORTH AMERICAN Subbasin

Supplemental Project	Comments
Regional Water Authority - Expansion of the Sacramento Regional Water Bank (Phase 2)	Planning and outreach activities started in early 2022 and will continue until the project is completed in early 2025. The Water Bank environmental documentation will begin later this year and ultimately result in a federal acknowledgement bank that can make approximately 60,000-acre feet of additional water supply available annually.
Placer County Water Agency - RiverArc	A new treatment plant and pipeline would be constructed to bring Sacramento River water for municipal and industrial water supplies. Improves water supply security by having a water source from a different watershed and expands in-lieu conjunctive use by offsetting existing groundwater demands.
South Sutter Water District - Water System Conveyance System Improvements	Enlarging of district laterals to allow greater surface water deliveries during wet years and a reduction of groundwater pumping to achieve in-lieu recharge.
Natomas Mutual Water Company - Service Area Expansion	Annexation of about 2,300 acres and supplying the area with surface water reducing groundwater pumping. This area has previously been solely dependent on groundwater.
Expansion City of Lincoln – Recycled Water Conjunctive Use	Lincoln is proposing to utilize recycled water into several of the proposed GW recharge projects.
Placer County - Sustainable Agricultural Groundwater Recharge Program	Placer County with the WPGSA has completed a recharge project assessment and is now looking at developing and implementing those projects for the area. WPGSA recently completed a Groundwater Recharge Site Investigation and applied for grant funds to make further progress on a site in rural Lincoln.

Measurable Objectives and Minimum Thresholds

- ***Measurable Objective (MO)*** = target water levels/water quality that represent optimal water level/quality conditions
- ***Minimum Threshold (MT)*** = water levels/water quality values set that if exceeded, could result in negative effects





Sustainability Indicators

Lowering GW Levels

Reduction of Storage

Surface Water Depletion

Land Subsidence

Degraded Quality

Table 7-1. Sustainability Indicators and Undesirable Results

Sustainability Indicator	Undesirable Result Definition
Chronic lowering of groundwater levels	*20% or more of all NASb RMS have MT exceedances for 2 consecutive Fall measurements (8 out of 41 wells)*
Reduction of storage	*20% or more of all NASb RMS have MT exceedances for 2 consecutive Fall measurements (8 out of 41 wells)*
Depletion of surface water	*20% or more of the NASb interconnected surface water RMSs have MT exceedances for 2 consecutive Fall measurements (5 out of 21 wells)*
Land Subsidence	*The rate of inelastic subsidence exceeds 0.5 feet over a 5-year period over an area covering approximately 5 or more square miles*
Degraded groundwater quality	For public water system wells • *The basin-wide average TDS concentrations of all public water system wells exceeds 400 mg/L* *OR* • *The basin wide average nitrate (as N) concentration of all public water system wells exceeds 8 mg/L* For the shallow aquifer (i.e., domestic and self-supplied) wells *25% of the RMSs, TDS and nitrate (as N) concentrations exceed state maximum contaminant levels*

Notes: mg/L= milligrams per liter; MT = minimum threshold; NASb = North American Subbasin; RMS = representative monitoring site;
TDS = total dissolved solids

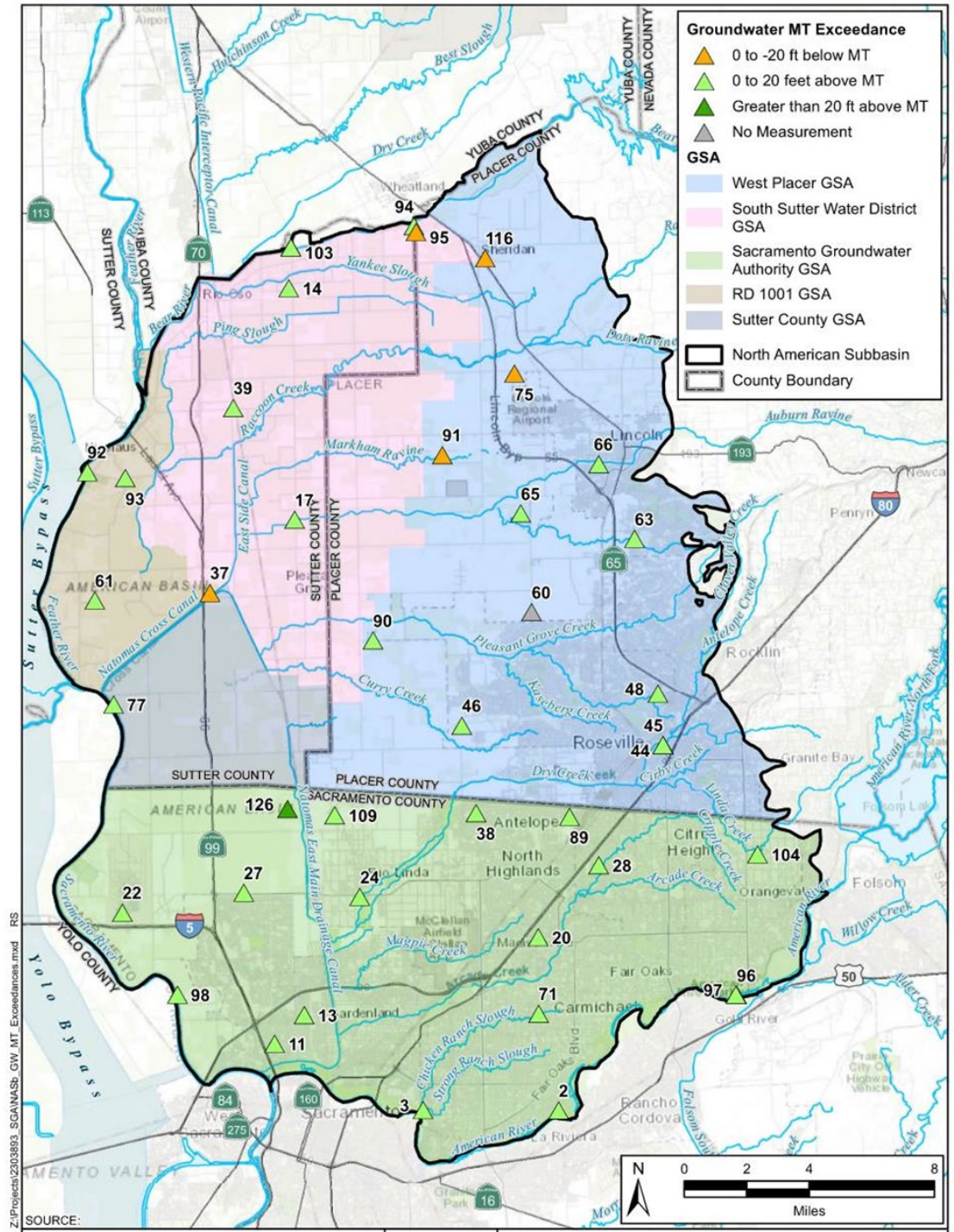
Chronic Lowering of Groundwater Levels

Lowering GW Levels

Reduction of Storage

DWR Assigned Well Number	NASb GSP RMS Number	Local Well Name	20-Year MO	MT	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	5-Year Spring Average	Distance to 20-Year MO
DWR Assigned Well Number	NASb GSP RMS Number		Groundwater Elevation (ft msl)	Groundwater Elevation (ft msl)	Groundwater Elevation (ft msl) Shaded Values Below are Below the MT Value --- Represents No Measurement										Spring 2019 - Spring 2023	5-year Average minus 20-Year MO (ft above or below MO)
385828N1213385W001	2	SGA_MW06	5	1	13.79	12.34	12.59	9.24	9.69	7.79	9.44	7.78	13.09	11.97	12	7
385841N1214185W001	3	SGA_MW04	-1	-5	9.94	3.14	2.59	0.19	0.89	-1.36	0.34	-0.42	7.58	3.39	4	5
386160N1215054W001	11	Bannon Creek Park	-2	-5	5.31	0.46	1.66	-1.09	-0.40	-1.54	0.26	-1.74	4.65	0.16	2	4
386292N1214877W001	13	Chuckwagon Park	-13	-15	-5.99	-7.29	-7.19	-8.94	-8.69	-10.49	-9.39	-11.34	-4.54	-3.79	-7	6
389669N1214897W001	14	13N04E23A002M	45	26	51.38	45.58	45.28	40.98	39.88	28.88	32.18	27.88	36.64	34.72	41	-4
388593N1214885W003	17	AB-2 shallow	13	-17	24.23	19.37	19.8	10.01	11.61	-8.41	3.07	-7.69	7.24	0.91	13	0
386635N1213486W001	20	SGA_MW05	-25	-37	-13.93	-17.38	-13.68	-22.28	-16.78	-27.98	-19.63	-27.43	-19.44	-18.26	-17	8
386782N1215943W004	22	AB-4 shallow	4	-1	12.24	8.07	8.59	4.98	6.26	4.93	9.03	3.46	11.45	7.53	10	6
386836N1214536W001	24	SGA_MW02	-23	-27	-13.86	-14.16	-13.36	-15.11	-14.96	-16.86	-15.46	-16.91	-14.21	-13.91	-14	9
386864N1215222W003	27	AB-3 shallow	-1	-4	10.76	10.43	8.52	8.91	7.95	8.06	8.75	5.70	9.53	9.81	9	10
386964N1213120W001	28	Twin Creeks Park	-19	-28	-7.9	-9.45	-6.40	-12.75	-9.20	-16.10	-12.30	-16.00	-13.45	-12.85	-10	9
388260N1215394W004	37	SUT-P1	20	10	29.24	21.59	19.23	18.71	16.50	18.65	16.51	12.21	24.81	19.50	21	1
387216N1213842W001	38	Lone Oak Park	-21	-27	-12.23	-13.48	-10.53	-15.03	-12.88	-17.68	-15.23	-16.91	-15.18	-14.43	-13	8
389116N1215238W003	39	AB-1 shallow	31	3	40.18	33.63	34.16	27.46	27.08	9.70	17.66	5.39	22.92	21.38	28	-3
387515N1212725W001	44	WPMW-10A	140	133	139.31	136.21	137.21	135.21	136.11	134.01	135.51	134.37	139.56	134.81	138	-2
387517N1212727W001	45	WPMW-9A	143	135	141.56	138.46	140.66	137.86	139.26	136.76	138.53	137.46	142.08	136.86	140	-3
387623N1213915W001	46	SVMW West - 1A	-22	-32	-14.25	-18.35	-12.35	-17.45	-13.81	-20.70	-16.55	-21.25	-16.48	-16.27	-15	7
387755N1212753W001	48	WPMW-4A	78	75	76.97	77.77	78.47	79.07	79.47	79.07	79.19	79.07	79.37	81.68	79	1
388145N1213491W001	60	WPMW-2A [1]	26	22	26.98	26.80	29.25	27.48	28.30	23.80	26.10	24.70	27.20	---	28	2
388235N1216079W001	61	Sutter County MW-5A	18	10	21.42	17.98	17.15	16.80	14.34	10.88	14.95	14.40	20.7	18.4	18	0
388476N1212872W001	63	WPMW-3A	147	145	147.97	147.43	147.57	147.43	147.29	146.60	147.51	146.90	148.60	148.00	148	1
388604N1213544W003	65	MW 1-3	55	49	58.01	54.02	58.37	56.47	57.88	55.23	57.03	54.74	58.31	56.86	58	3
388826N1213078W002	66	MW 5-2	112	108	112.64	109.80	110.51	108.65	109.31	108.05	110.96	108.93	112.59	110.05	111	-1
386280N1213493W001	71	WCMSS	-32	-40	-19.76	-20.06	-15.26	-28.76	-20.26	-27.76	-22.41	-29.31	-22.76	-21.26	-20	12
389255N1213566W003	75	MW 2-3	94	89	97.53	89.70	95.19	87.79	91.72	83.83	88.58	83.04	90.95	84.72	93	-1
387749N1215975W001	77	SREL-1-27-F1	16	9	28.45	14.51	14.061	11.55	13.84	11.57	11.84	10.38	22.22	16.26	18	2
387191N1213287W001	89	Roseview Park - 315	-13	-22	-6.21	-7.51	-4.86	-9.41	-6.61	-11.91	-9.46	-11.76	-10.46	-10.06	-8	5
388026N1214432W002	90	WPMW-12A	-30	-45	---	-22.93	-13.98	-27.28	-18.93	-34.54	-23.08	-35.53	-24.63	-30.95	-20	10
388882N1214005W002	91	WPMW-11A	13	3	---	14.34	22.47	13.43	19.55	6.04	12.58	0.52	11.48	0.72	17	4
388829N1216110W001	92	RDMW-101	18	15	---	19.98	19.69	17.92	17.65	16.73	19.49	16.46	26.35	19.71	21	3
388798N1215885W001	93	RDMW-102	16	12	---	17.02	19.26	13.86	15.48	10.40	15.33	11.03	20.85	16.28	18	2
389950N1214148W002	94	RDMW-103	65	58	---	65.97	68.09	61.09	62.99	54.13	59.71	50.68	65.76	58.38	64	-1
389919N1214141W002	95	RDMW-104	65	57	---	65.18	67.20	59.91	61.80	52.01	58.52	51.08	64.58	56.68	63	-2
386348N1212319W001	96	Aerojet - 1516 [2]	70	67	72.72	69.8	70.87	70.2	69.89	69.43	69.76	69.72	73.89	---	71	1
386351N1212323W001	97	Aerojet - 1518 [2]	59	57	64.92	62.85	62.5	61.46	60.56	59.87	60.42	60.48	65.56	62.97	63	4
386397N1215624W001	98	URS71000-700+00C	10	7	9.76	9.98	11.80	9.85	9.04	7.74	10.38	7.60	16.03	11.84	11	1
389857N1214880W001	103	BR-1B	45	36	49.45	43.92	46.81	43.95	40.46	36.28	40.99	36.97	43.86	41.17	44	-1
387000N1212180W001	104	SGA_MW08	99	97	107.06	106.96	107.21	106.71	106.76	106.31	106.21	105.76	105.76	105.46	107	8
387218N1214677W001	109	SGA_MW01	-30	-33	-17.16	-18.01	-15.66	-18.61	-16.51	-20.41	-18.26	-20.61	-18.71	-21.08	-17	13
389791N1213727W001	116	Old Well #2	76	68	79.03	77.45	78.3	72.93	72.98	67.22	69.10	65.30	69.05	66.05	74	-2
387251N1214954W001	126	DeWit	-13	-25	---	---	---	---	4.95	-2.30	5.30	-3.80	6.85	5.30	6	19

Notes: [1] Reason for missing Fall 2023 data is because the well has been destroyed



Chronic Lowering of Groundwater Levels – RMS Wells with MT Exceedances

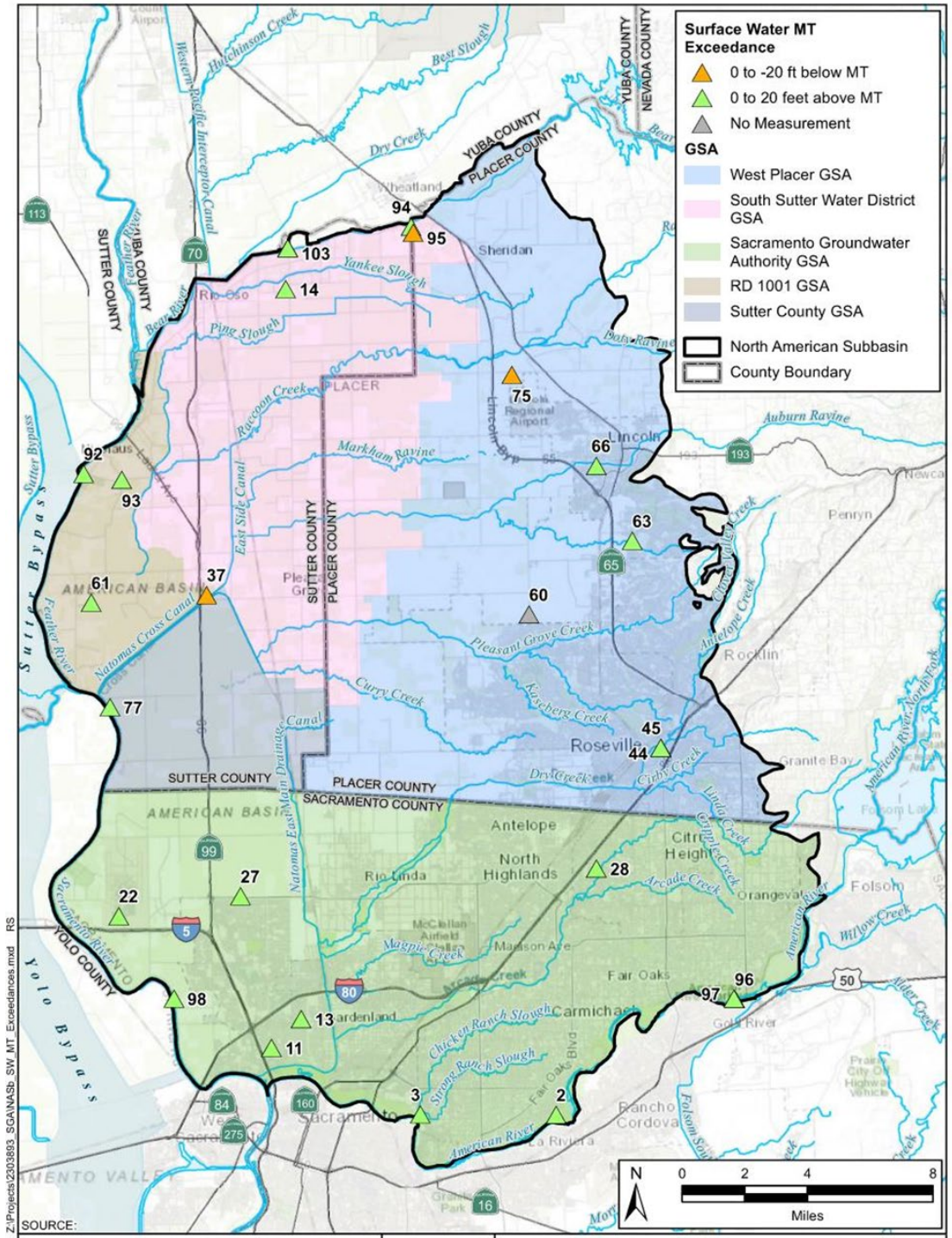
NORTH AMERICAN Subbasin

Depletion of Surface Water

Surface Water Depletion

DWR Assigned Well Number	Representative Well Number	Local Well Name	20-yr Measurable Objective	Minimum Threshold	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	5-yr Spring Average	Distance to 20-year Measurable Objective
DWR Assigned Well Number	NASb GSP Well Number	Local Well Name	Groundwater Elevation (feet msl)	Groundwater Elevation (feet msl)	Groundwater Elevation (feet msl) Shaded Values Below are Below the Minimum Threshold Value --- Represents No Measurement										Spring 2019 - Spring 2023	5-year Average minus 20-year Measurable Objective (feet above or below MO)
385828N1213385W001	2	SGA_MW06	5	1	13.79	12.34	12.59	9.24	9.69	7.79	9.44	7.78	13.09	11.97	12	7
385841N1214185W001	3	SGA_MW04	-1	-5	9.94	3.14	2.59	0.19	0.89	-1.36	0.34	-0.42	7.58	3.39	4	5
386160N1215054W001	11	Bannon Creek Park	-2	-5	5.31	0.46	1.66	-1.09	-0.40	-1.54	0.26	-1.74	4.65	0.16	2	4
386292N1214877W001	13	Chuckwagon Park	-13	-15	-5.99	-7.29	-7.19	-8.94	-8.69	-10.49	-9.39	-11.34	-4.54	-3.79	-7	6
389669N1214897W001	14	13N04E23A002M	45	26	51.38	45.58	45.28	40.98	39.88	28.88	32.18	27.88	36.64	34.72	41	-4
386782N1215943W004	22	AB-4 shallow	4	-1	12.24	8.07	8.59	4.98	6.26	4.93	9.03	3.46	11.45	7.53	10	6
386864N1215222W003	27	AB-3 shallow	-1	-4	10.76	10.43	8.52	8.91	7.95	8.06	8.75	5.70	9.53	9.81	9	10
386964N1213120W001	28	Twin Creeks Park	-19	-28	-7.9	-9.45	-6.4	-12.75	-9.20	-16.10	-12.30	-16.00	-13.45	-12.85	-10	9
388260N1215394W004	37	SUT-P1	20	10	29.24	21.59	19.23	18.71	16.50	18.65	16.51	12.21	24.81	19.5	21	1
387515N1212725W001	44	WPMW-10A	140	133	139.31	136.21	137.21	135.21	136.11	134.01	135.51	134.37	139.56	134.81	138	-2
387517N1212727W001	45	WPMW-9A	143	135	141.56	138.46	140.66	137.86	139.26	136.76	138.53	137.46	142.08	136.86	140	-3
388235N1216079W001	61	Sutter County MW-5A	18	10	21.42	17.98	17.15	16.8	14.34	10.88	14.95	14.40	20.7	18.4	18	0
388476N1212872W001	63	WPMW-3A	147	145	147.97	147.43	147.57	147.43	147.29	146.60	147.51	146.90	148.6	148	148	1
388826N1213078W001	66	MW 5-2	112	108	112.64	109.8	110.51	108.65	109.31	108.05	110.96	108.93	112.59	110.05	111	-1
389255N1213566W003	75	MW 2-3	94	89	97.53	89.7	95.19	87.79	91.72	83.83	88.58	83.04	90.95	84.72	93	-1
387749N1215975W001	77	SREL-1-27-F1	16	9	28.45	14.51	14.061	11.55	13.84	11.57	11.84	10.38	22.22	16.26	18	2
388829N1216110W001	92	RDMW-101	18	15	---	19.98	19.69	17.92	17.65	16.73	19.49	16.46	26.35	19.71	21	3
388798N1215885W001	93	RDMW-102	16	12	---	17.02	19.26	13.86	15.48	10.40	15.33	11.03	20.85	16.28	18	2
389950N1214148W002	94	RDMW-103	65	58	---	65.97	68.09	61.09	62.99	54.13	59.71	50.68	65.76	58.38	64	-1
389919N1214141W002	95	RDMW-104	65	57	---	65.18	67.2	59.91	61.80	52.01	58.52	51.08	64.58	56.68	63	-2
386348N1212319W001	96	Aerojet - 1516	70	67	72.72	69.8	70.87	70.2	69.89	69.43	69.76	69.72	73.89	---	71	1
386351N1212323W001	97	Aerojet - 1518	59	57	64.92	62.85	62.5	61.46	60.56	59.87	60.42	60.48	65.56	62.97	63	4
386397N1215624W001	98	URS71000-700+00C	10	7	9.76	9.98	11.8	9.85	9.04	7.74	10.38	7.60	16.03	11.84	11	1
389857N1214880W001	103	BR-1B	45	36	49.45	43.92	46.81	43.95	40.46	36.28	40.99	36.97	43.86	41.17	44	-1

NORTH AMERICAN Subbasin



Depletion of Surface Water MT Exceedances

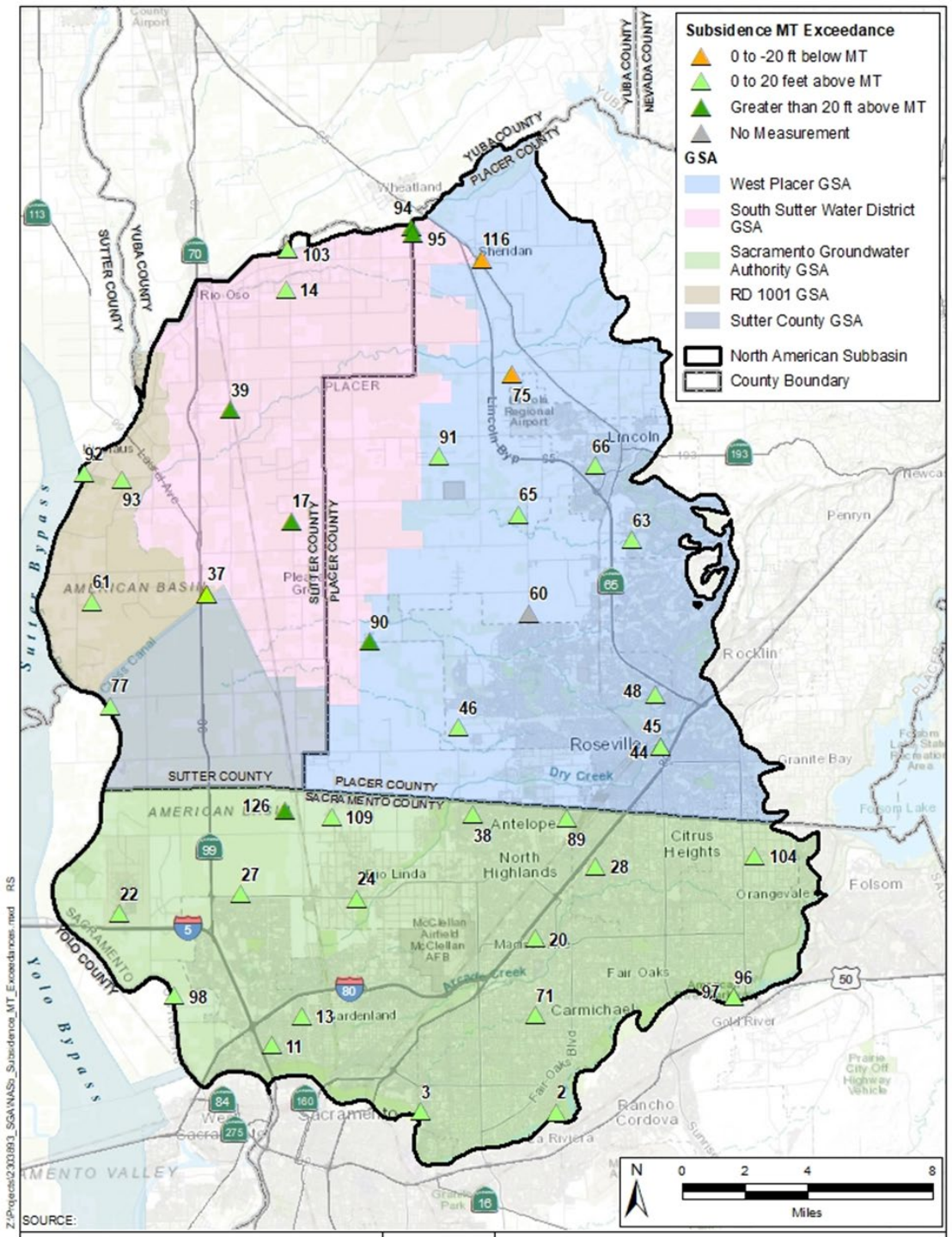
NORTH AMERICAN Subbasin

Land Subsidence Groundwater Levels

Land Subsidence

DWR Assigned Well Number	Representative Well Number	Local Well Name	20-yr Measurable Objective	Minimum Threshold	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	5-yr Fall Average	Distance to 20-year Measurable Objective
DWR Assigned Well Number	NASb GSP Well Number	Local Well Name	Groundwater Elevation (feet msl)	Groundwater Elevation (feet msl)	Groundwater Elevation (feet msl) Shaded Values Below are Below the Minimum Threshold Value --- Represents No Measurement										Spring 2019 - Spring 2023	5-year Average minus 20-year Measurable Objective (feet above or below MO)
385828N1213385W001	2	SGA_MW06	5	1	13.79	12.34	12.59	9.24	9.69	7.79	9.44	7.78	13.09	11.97	12	7
385841N1214185W001	3	SGA_MW04	-1	-5	9.94	3.14	2.59	0.19	0.89	-1.36	0.34	-0.42	7.58	3.39	4	5
386160N1215054W001	11	Bannon Creek Park	-2	-5	5.31	0.46	1.66	-1.09	-0.40	-1.54	0.26	-1.74	4.65	0.16	2	4
386292N1214877W001	13	Chuckwagon Park	-13	-15	-5.99	-7.29	-7.19	-8.94	-8.69	-10.49	-9.39	-11.34	-4.54	-3.79	-7	6
389669N1214897W001	14	13N04E23A002M	45	15	51.38	45.58	45.28	40.98	39.88	28.88	32.18	27.88	36.64	34.72	41	-4
388593N1214885W003	17	AB-2 shallow	13	-21	24.23	19.37	19.8	10.01	11.61	-8.41	3.07	-7.69	7.24	0.91	13	0
386635N1213486W001	20	SGA_MW05	-25	-37	-13.93	-17.38	-13.68	-22.28	-16.78	-27.98	-19.63	-27.43	-19.44	-18.26	-17	8
386782N1215943W004	22	AB-4 shallow	4	-1	12.24	8.07	8.59	4.98	6.26	4.93	9.03	3.46	11.45	7.53	10	6
386836N1214536W001	24	SGA_MW02	-23	-27	-13.86	-14.16	-13.36	-15.11	-14.96	-16.86	-15.46	-16.91	-14.21	-13.91	-14	9
386864N1215222W003	27	AB-3 shallow	-1	-4	10.76	10.43	8.52	8.91	7.95	8.06	8.75	5.70	9.53	9.81	9	10
386964N1213120W001	28	Twin Creeks Park	-19	-28	-7.9	-9.45	-6.4	-12.75	-9.20	-16.10	-12.30	-16.00	-13.45	-12.85	-10	9
388260N1215394W004	37	SUT-P1	20	8	29.24	21.59	19.23	18.71	16.50	18.65	16.51	12.21	24.81	19.5	21	1
387216N1213842W001	38	Lone Oak Park	-21	-27	-12.23	-13.48	-10.53	-15.03	-12.88	-17.68	-15.23	-16.91	-15.18	-14.43	-13	8
389116N1215238W003	39	AB-1 shallow	31	-5	40.18	33.63	34.16	27.46	27.08	9.70	17.66	5.39	22.92	21.38	28	-3
387515N1212725W001	44	WPMW-10A	140	133	139.31	136.21	137.21	135.21	136.11	134.01	135.51	134.37	139.56	134.81	138	-2
387517N1212727W001	45	WPMW-9A	143	131	141.56	138.46	140.66	137.86	139.26	136.76	138.53	137.46	142.08	136.86	140	-3
387623N1213915W001	46	SVMW West - 1A	-22	-32	-14.25	-18.35	-12.35	-17.45	-13.81	-20.70	-16.55	-21.25	-16.48	-16.27	-15	7
387755N1212753W001	48	WPMW-4A	78	72	76.97	77.77	78.47	79.07	79.47	79.07	79.19	79.07	79.37	81.68	79	1
388145N1213491W001	60	WPMW-2A	26	21	26.98	26.8	29.25	27.48	28.30	23.80	26.10	24.70	27.2	---	28	2
388235N1216079W001	61	Sutter County MW-5A	18	-1	21.42	17.98	17.15	16.8	14.34	10.88	14.95	14.40	20.7	18.4	18	0
388476N1212872W001	63	WPMW-3A	147	145	147.97	147.43	147.57	147.43	147.29	146.60	147.51	146.90	148.6	148	148	1
388604N1213544W003	65	MW 1-3	55	38	58.01	54.02	58.37	56.47	57.88	55.23	57.03	54.74	58.31	56.86	58	3
388826N1213078W001	66	MW 5-2	112	104	112.64	109.8	110.51	108.65	109.31	108.05	110.96	108.93	112.59	110.05	111	-1
386280N1213493W001	71	WCMSS	-32	-40	-19.76	-20.06	-15.26	-28.76	-20.26	-27.76	-22.41	-29.31	-22.76	-21.26	-20	12
389255N1213566W003	75	MW 2-3	94	86	97.53	89.7	95.19	87.79	91.72	83.83	88.58	83.04	90.95	84.72	93	-1
387749N1215975W001	77	SREL-1-27-F1	16	9	28.45	14.51	14.061	11.55	13.84	11.57	11.84	10.38	22.22	16.26	15	-1
387191N1213287W001	89	Roseview Park - 315	-13	-22	-6.21	-7.51	-4.86	-9.41	-6.61	-11.91	-9.46	-11.76	-10.46	-10.06	-8	5
388026N1214432W002	90	WPMW-12A	-30	-65	---	-22.93	-13.98	-27.28	-18.93	-34.54	-23.08	-35.53	-24.63	-30.95	-20	10
388882N1214005W002	91	WPMW-11A	13	-18	---	14.34	22.47	13.43	19.55	6.04	12.58	0.52	11.48	0.72	17	4
388829N1216110W001	92	RDMW-101	18	14	---	19.98	19.69	17.92	17.65	16.73	19.49	16.46	26.35	19.71	21	3
388798N1215885W001	93	RDMW-102	16	8	---	17.02	19.26	13.86	15.48	10.40	15.33	11.03	20.85	16.28	18	2
389950N1214148W002	94	RDMW-103	65	36	---	65.97	68.09	61.09	62.99	54.13	59.71	50.68	65.76	58.38	64	-1
389919N1214141W002	95	RDMW-104	65	36	---	65.18	67.2	59.91	61.80	52.01	58.52	51.08	64.58	56.68	63	-2
386348N1212319W001	96	Aerojet - 1516	70	67	72.72	69.8	70.87	70.2	69.89	69.43	69.76	69.72	73.89	---	71	1
386351N1212323W001	97	Aerojet - 1518	59	57	64.92	62.85	62.5	61.46	60.56	59.87	60.42	60.48	65.56	62.97	63	4
386397N1215624W001	98	URS71000-700+00C	10	6	9.76	9.98	11.8	9.85	9.04	7.74	10.38	7.60	16.03	11.84	11	1
389857N1214880W001	103	BR-1B	45	36	49.45	43.92	46.81	43.95	40.46	36.28	40.99	36.97	43.86	41.17	44	-1
387000N1212180W001	104	SGA_MW08	99	97	107.06	106.96	107.21	106.71	106.76	106.31	106.21	105.76	105.76	105.46	107	8
387218N1214677W001	109	SGA_MW01	-30	-33	-17.16	-18.01	-15.66	-18.61	-16.51	-20.41	-18.26	-20.61	-18.71	-21.08	-17	13
389791N1213727W001	116	Old Well #2	76	68	79.03	77.45	78.3	72.93	72.98	67.22	69.10	65.30	69.05	66.05	74	-2
387251N1214954W001	126	DeWit	-13	-25	---	---	---	---	4.95	-2.30	5.30	-3.80	6.85	5.3	6	19

Land Subsidence MT Exceedances



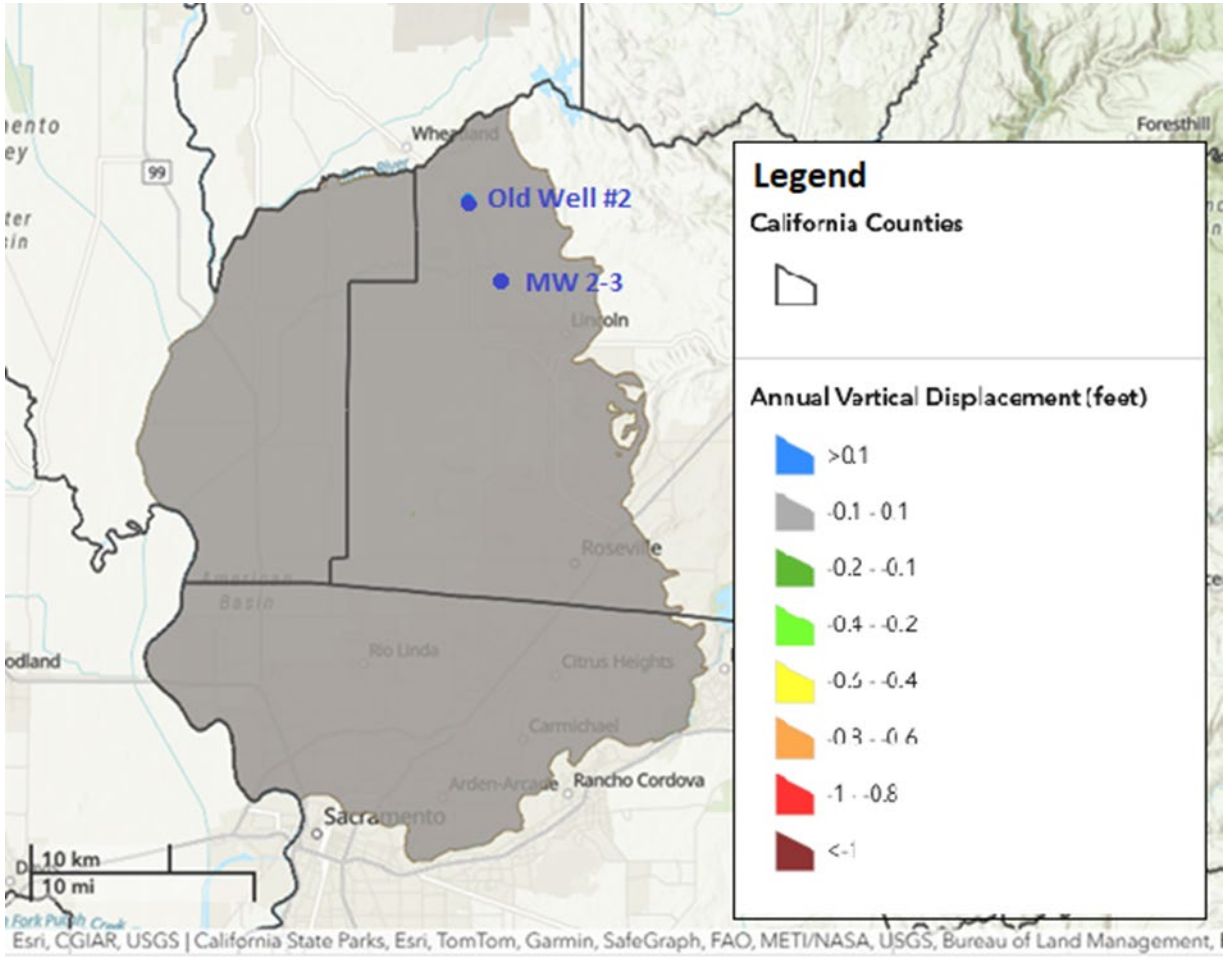


Table 7-5. Subsidence Rates and Area Affected

InSAR	WY2019 (feet)	WY2020 (feet)	WY2021 (feet)	WY2022 (feet)	WY2023 (feet)
Subsidence Rate (feet/water year)	ND	ND	ND	>0.1	>0.1
Square Miles Affected	ND	ND	ND	1.8	0

Notes: ND = No Data

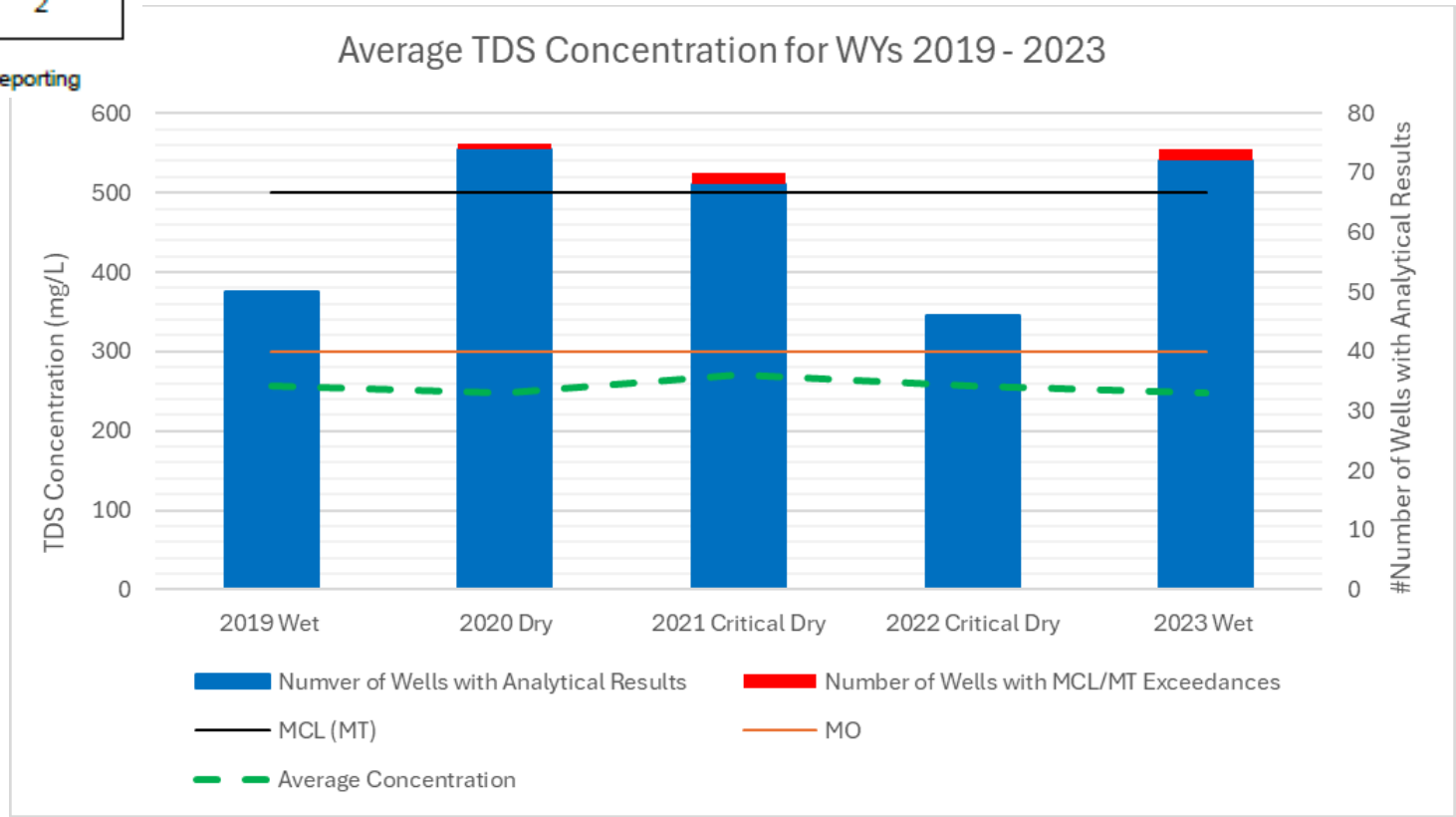
Degraded Water Quality – Total Dissolved Solids (TDS) Analysis

Table 7-6. Summy of TDS in Municipal/Public Water Supply Wells from WY 2019 to WY 2023

TDS	WY 2019	WY 2020	WY 2021	WY 2022	WY 2023
Number of Wells with Analytical Results	50	75	70	46	74
Date Range of Samples	12/19/2018 - 9/17/2019	10/10/2019 - 9/3/202	11/19/2020 - 8/25/2021	12/7/2021 - 8/30/2022	10/6/2022 - 10/16/2023
Units	mg/L	mg/L	mg/L	mg/L	mg/L
Minimum Concentration	42	38	48	10	47
Maximum Concentration	460	500	650	471	510
Average Concentration[1]	256	247	270	256	247
MCL or Notification Level (MT)[2]	500	500	500	500	500
MO	300	300	300	300	300
Number of Wells Exceeding MCL	0	1	2	0	2

Notes: mg/L= milligrams per liter; TDS = total dissolved solids.
(1) For average concentrations, values below laboratory detection levels were calculated as half the reporting

Degraded Quality



NORTH AMERICAN Subbasin

Degraded Water Quality – Nitrate (as N) Analysis

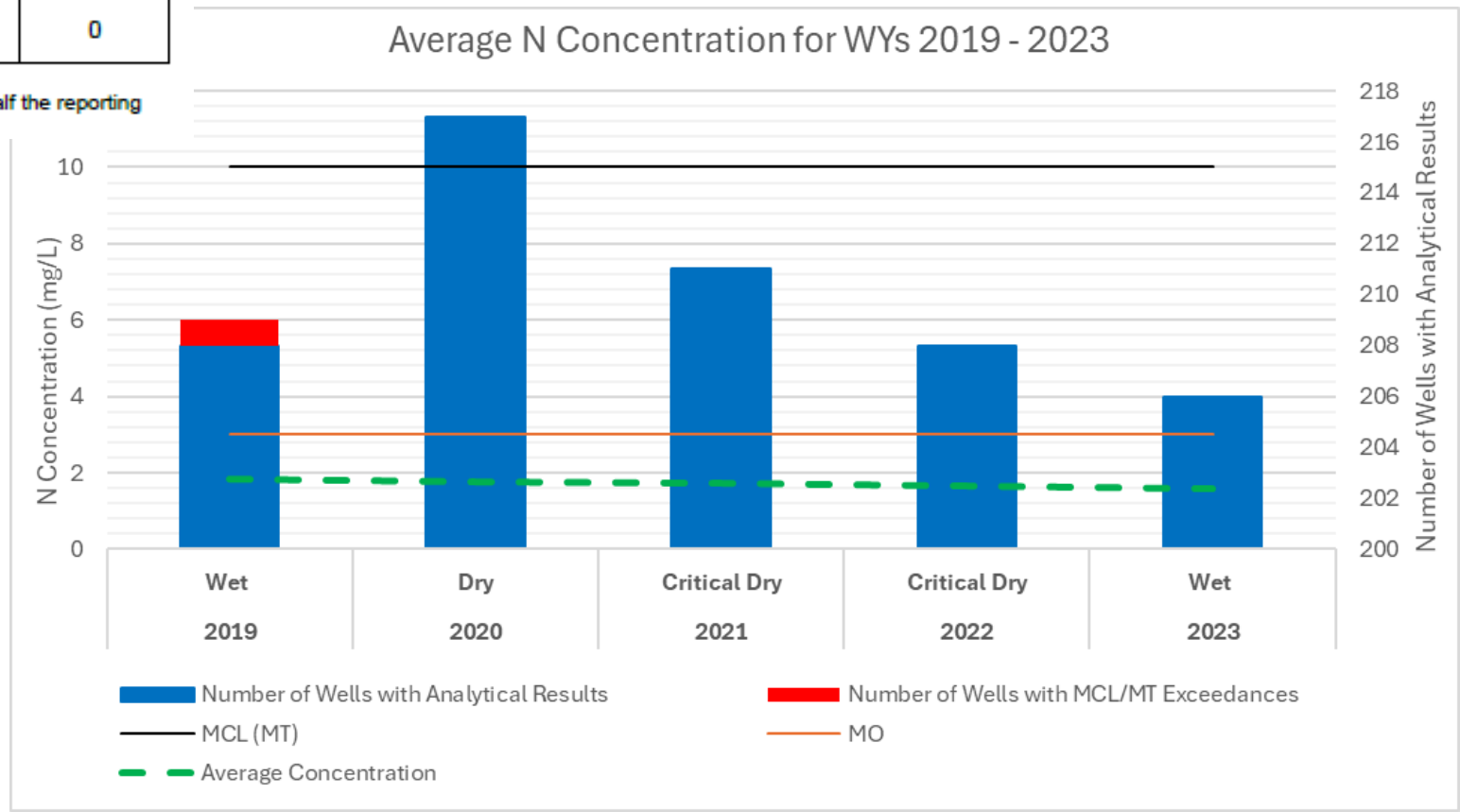
Table 7-7. Summy of N in Municipal/Public Water Supply Wells from WY 2019 to WY 2023

N	WY 2019	WY 2020	WY 2021	WY 2022	WY 2023
Number of Wells with Analytical Results	209	217	211	208	206
Date Range of Samples	11/6/2018 - 9/23/2019	10/10/2019 - 9/23/2020	10/9/2020 - 9/27/2021	11/17/2021 - 9/27/2022	10/13/2022 - 9/25/2023
Units	mg/L	mg/L	mg/L	mg/L	mg/L
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5
Maximum Concentration	10.10	9.60	9.80	9.40	9.10
Average Concentration[1]	1.84	1.75	1.72	1.65	1.58
MCL or Notification Level (MT)[2]	10	10	10	10	10
MO	8	8	8	8	8
Number of Wells Exceeding MCL	1	0	0	0	0

Notes: mg/L= milligrams per liter; N = Nitrate (as N).

(1) For average concentrations, values below laboratory detection levels were calculated as half the reporting limit.

Degraded Quality



NORTH AMERICAN Subbasin

Shallow Aquifer TDS

Degraded Quality

Well Number	Representative Well Number	Local Well Name	20-yr Measurable Objective	Minimum Threshold	2019	2020	2021	2022	2023	5-yr Average	Concentration to 20-year Measurable Objective
DWR Assigned Well Number, DDW Assigned PWS-Source Number, GeoTracker Assigned Well Number	NASb GSP Water Quality Well Number	Local Well Name	Concentration (mg/L)	Concentration (mg/L)	Concentration (mg/L) Shaded Values Below are Above the Minimum Threshold Value --- Represents No Measurement					WY 2019 - WY2023	5-year Average minus 20-year Measurable Objective (concentration above or below MO)
388593N1214885W003	17	AB-2 shallow	220	500	200	--	--	--	250	225	5
386635N1213486W001	20	SGA_MW05	300	500	--	--	--	--	98	98	-202
386836N1214536W001	24	SGA_MW02	300	500	--	--	--	--	250	250	-50
386864N1215222W003	27	AB-3 shallow	170	500	150	--	--	--	170	160	-10
388260N1215394W004	37	SUT-P1	120	500	110	--	--	--	97	104	-17
389116N1215238W003	39	AB-1 shallow	150	500	140	--	--	--	170	155	5
387623N1213915W001	46	SVMW West - 1A	TBD	500	--	--	180	--	200	190	
389740N1213606W001	80	Cemetery (IRLP)	290	500	--	--	240	--	260	250	-40
387749N1215975W001	89	Roseview Park - 315	210	500	--	--	--	--	240	240	30
388026N1214432W002	90	WPMW-12A	230	500	210	200	210	--	220	210	-20
388882N1214005W002	91	WPMW-11A	240	500	220	--	210	--	220	217	-23
3400396-001	99	Main Well	TBD	500	--	--	--	--	--	--	
387218N1214677W001	109	SGA_MW01	360	500	--	--	--	--	320	320	-40
L10007939295	133	LW-1	220	500	240	200	220	240	260	232	12
3410002-013	177	Well 22 - Northrop	120	500	--	110	--	--	94	102	-18
3110025-014	298	Tinker Road Well	240	500	160	220	280	200	241	220	-20
3110048-005	299	Well 03	290	500	260	--	--	260	--	260	-30

NORTH AMERICAN Subbasin

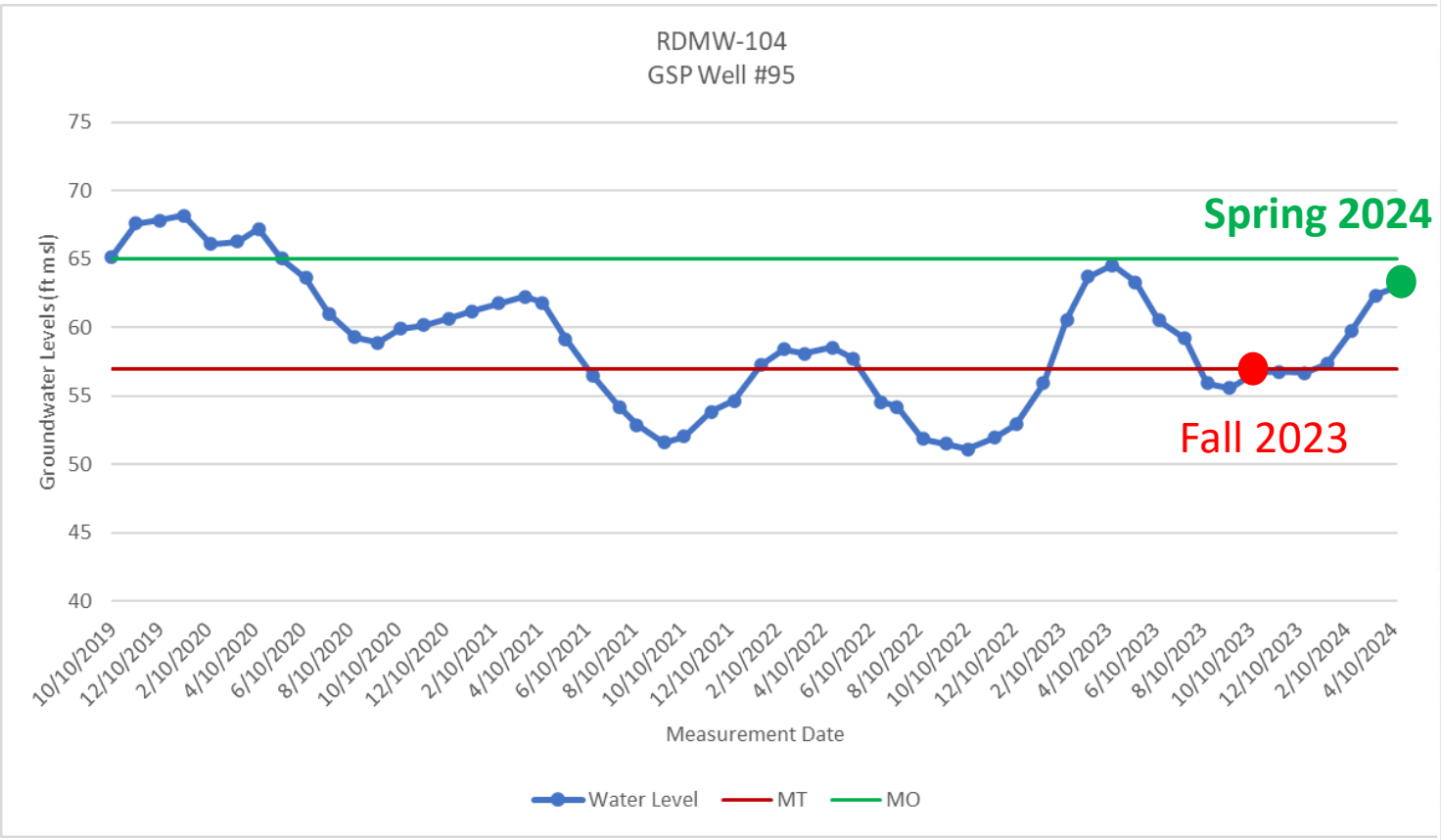
Shallow Aquifer N

Degraded Quality

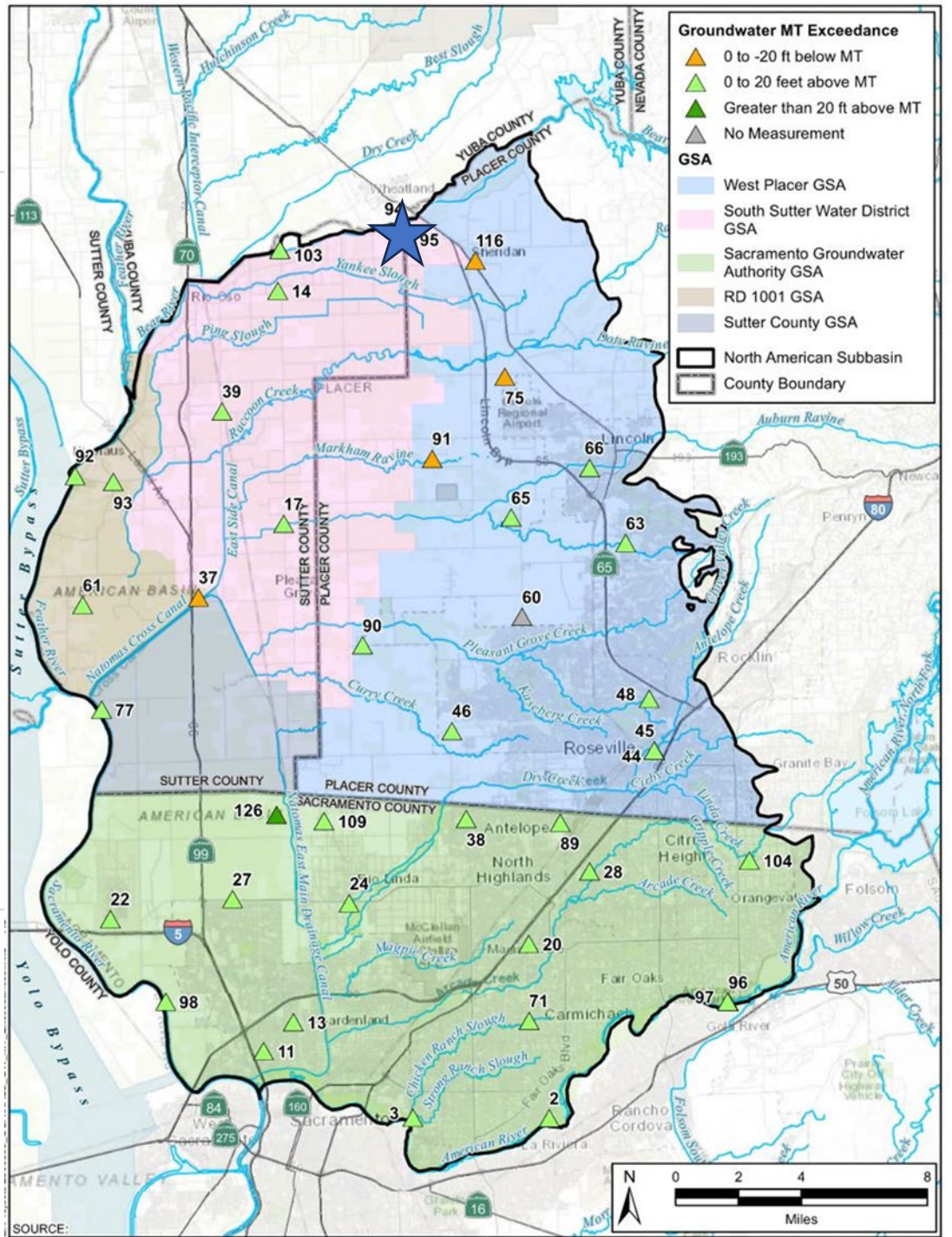
Well Number	Representative Well Number	Local Well Name	20-yr Measurable Objective	Minimum Threshold	2019	2020	2021	2022	2023	5-yr Average	Distance to 20-year Measurable Objective	
DWR Assigned Well Number, DDW Assigned PWS-Source Number, GeoTracker Assigned Well Number	NASb GSP Water Quality Well Number	Local Well Name	Concentration (mg/L)	Concentration (mg/L)	Concentration (mg/L) Shaded Values Below are Above the Minimum Threshold Value --- Represents No Measurement					WY 2019 - WY2023	5-year Average minus 20-year Measurable Objective (concentration above or below MO)	
388593N1214885W003	17	AB-2 shallow	ND	10	--	--	--	--	<0.23	<0.23	ND	ND
386635N1213486W001	20	SGA_MW05	1.7	10	--	--	--	--	0.63	0.63		-1.07
386836N1214536W001	24	SGA_MW02	4.5	10	--	--	--	--	6.2	6.2		1.7
386864N1215222W003	27	AB-3 shallow	ND	10	--	--	--	--	<0.23	<0.23	ND	ND
388260N1215394W004	37	SUT-P1	ND	10	--	--	--	--	<0.23	<0.23	ND	ND
389116N1215238W003	39	AB-1 shallow	ND	10	--	--	--	--	<0.23	<0.23	ND	ND
387623N1213915W001	46	SVMW West - 1A	TBD	10	--	--	1.6	--	1.8	1.7		
389740N1213606W001	80	Cemetery (IRLP)	TBD	10	--	--	1.5	--	1.4	1.45		
387749N1215975W001	89	Roseview Park - 315	TBD	10	--	--	--	--	1.1	1.1		
388026N1214432W002	90	WPMW-12A	0.64	10	0.58	0.33	0.73	--	0.72	0.59		-0.05
388882N1214005W002	91	WPMW-11A	1.1	10	1	--	1.2	--	1.3	1.17		0.07
3400396-001	99	Main Well	ND	10	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	ND	ND
387218N1214677W001	109	SGA_MW01	1	10	--	--	--	--	6	6		5.00
L10007939295	133	LW-1	4	10	3.2	3.6	3.0	3.9	4	3.5		-0.46
3410002-013	177	Well 22 - Northrop	ND	10	<0.4	<0.4	<0.4	<0.4	<0.23	<0.37	ND	ND
3110025-014	298	Tinker Road Well	4.26	10	4.18	3.87	3.83	3.75	3.72	3.87		-0.39
3110048-005	299	Well 03	1.42	10	1.29	1.61	--	1.82	--	1.57		0.15

NORTH AMERICAN Subbasin

Hydrograph (RDMW-104) – Recovering Groundwater Levels



"Undesirable result" as defined by **Water Code §10721** – "Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods"



A Break for Questions/ Discussion

- **On Zoom**:
  - “Raise hand” function to speak or
  - Type question in comment box
- **Via telephone**:
  - *9 to “Raise Hand”
  - *6 to unmute when called on

NORTH AMERICAN Subbasin

California Department of Water Resources (DWR) SGM Grant Round 2

NORTH AMERICAN Subbasin

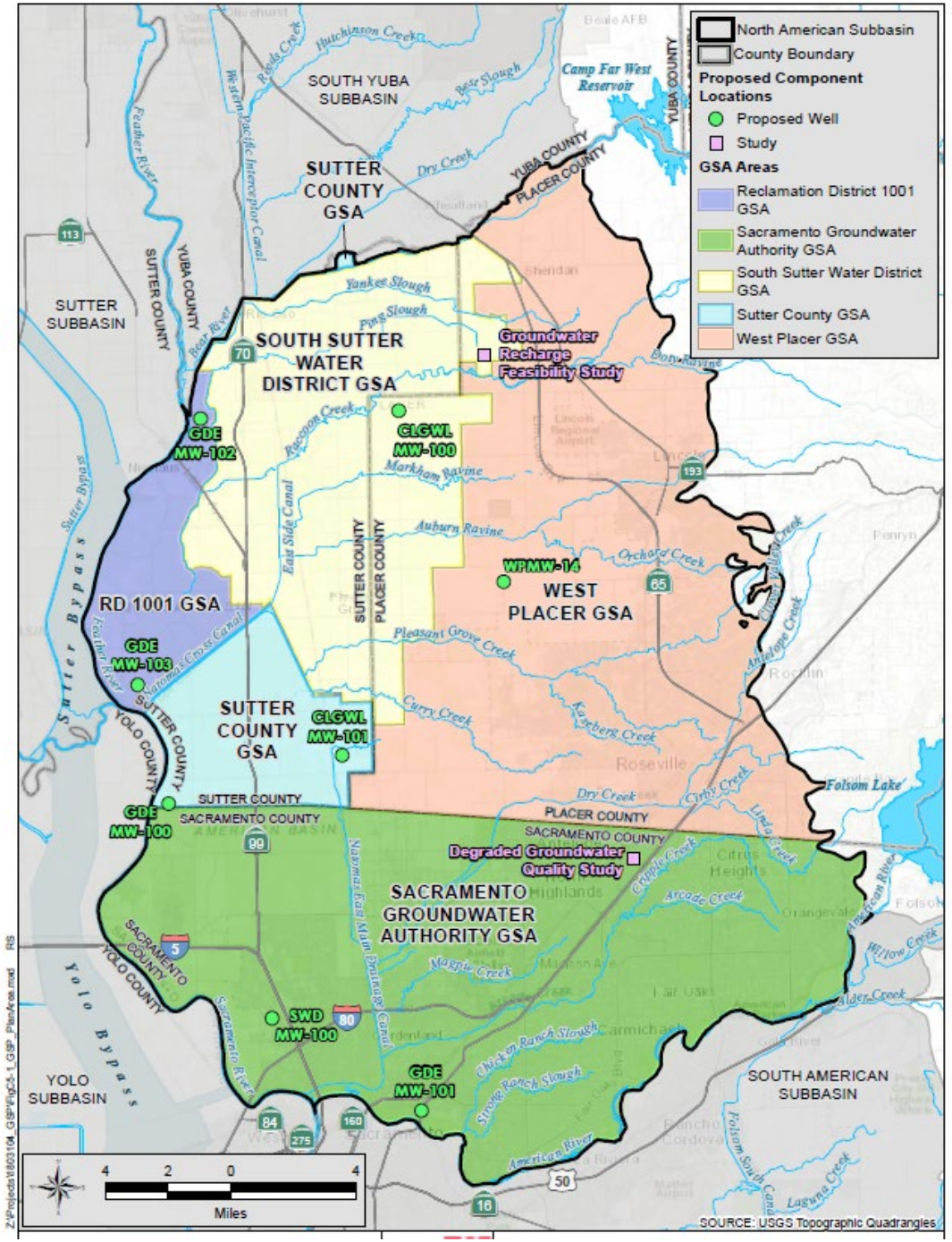
Department of Water Resources (DWR) SGM Grant Overview

- DWR administered the Sustainable Groundwater Management (SGM) Grant Program
- Round 1 Awards ($150 million for Critically Overdrafted Basins, ~$7.6 million per basin
  Round 2 Solicitation Opened: October 4, 2022 Deadline: December 16, 2022
  - High, Medium, & Critically Overdrafted basins eligible, approx. $231 million avail.
  - Grant awards: Minimum – $1 million per basin; Maximum– $20 million per basin
  - Only one application per basin/subbasin
- **Round 2 Draft Funding Recommendations Announced May 19, 2023**
  - DWR received 82 applications requestion over $780 million
  - Recommended 31 applications receive a total award of $187.3M
  - Public comment period ended June 9, 2023
  - Final award announced September 13, 2023
- **DWR awarded NASb the full requested grant amount of $3,560,500 for Advancing NASb Sustainable Groundwater Management**

NASb Grant *Proposed* Components

Advancing NASb SGM (Proposed) Components

1. Grant Administration
2. Groundwater Recharge Feasibility Study
3. Groundwater Quality Degradation Study
4. Groundwater Monitoring Wells Construction
   - GDE (4)
   - Lowering of Levels (1)
   - SW Depletion (1)
5. Groundwater Monitoring Well/Emergency Supply Well
   - Domestic and Emergency Supply (1)
6. GSP Update and Annual Reporting
7. CoSANA Model Upgrade and Enhancements



Exact locations of proposed components may vary

Data Gaps

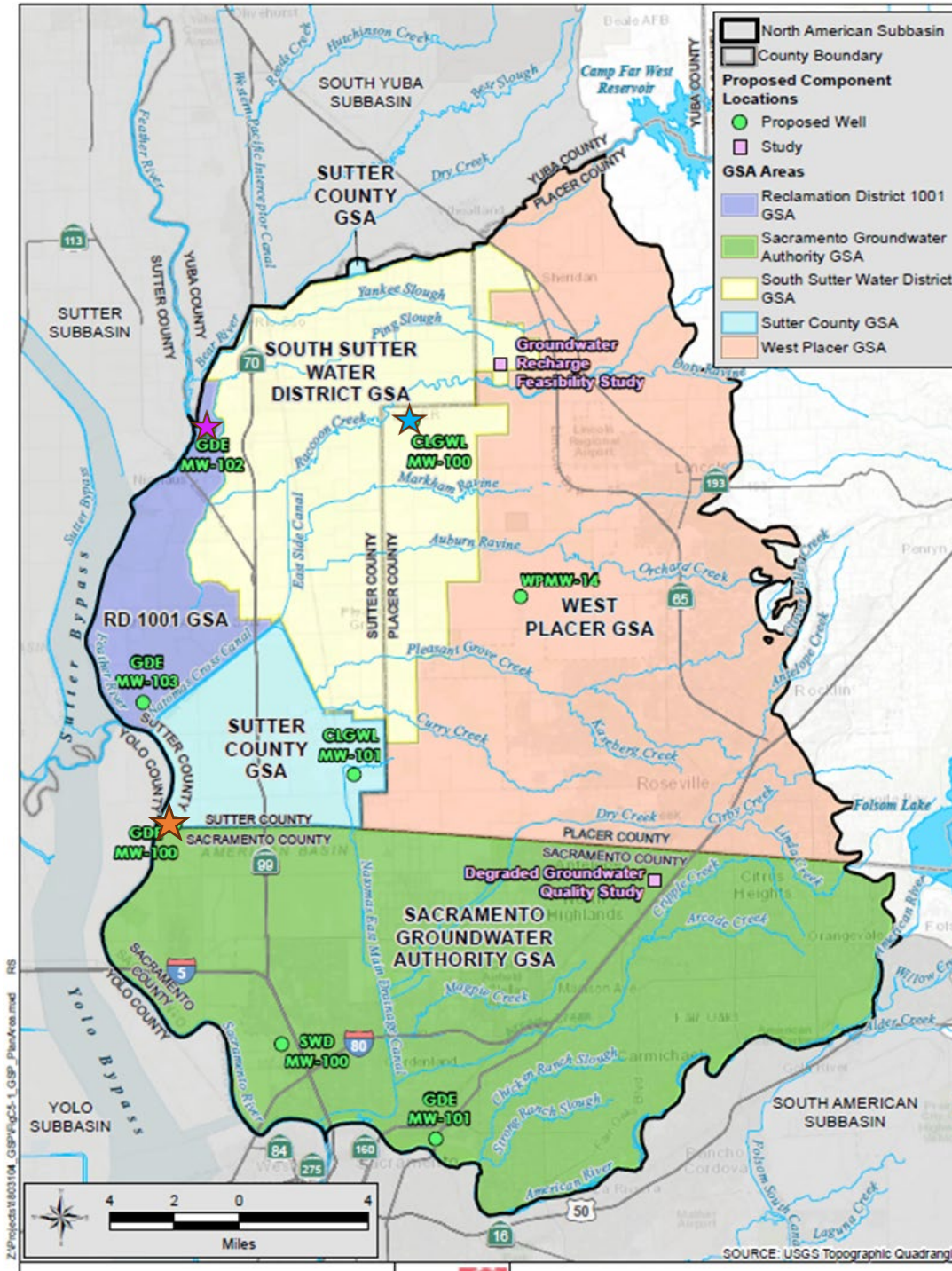
NASb Grant *Proposed* Component #4 – Groundwater Monitoring Wells Construction addresses data gaps:

- Groundwater Dependent Ecosystems (GDEs)
  - ★➢ Proposed GDE MW-100 location - near existing well 128
  - ★➢ Proposed GDE MW-102 location – near existing well 78

- Chronic Lowering of Groundwater Levels (CLGWL)
  - ★➢ Proposed CLGWL MW-100 location - near existing well 112

Exact locations of proposed components may vary

NORTH AMERICAN Subbasin



NASb GSAs WY 2022 SGM Report

- **Basin wide Sustainability** – No Undesirable Results have been observed in the NASb as defined in the NASb GSP.
- **Site Specific Sustainability Indicators** – Less than 10 percent (4 of 41) of the representative monitoring sites (RMS) in the NASb observed minimum threshold (MT).
  - For the 4 RMS with Fall 2023 MT exceedances, an average increase in groundwater levels of 5.65 feet mean sea level was observed during Spring (April) 2024.
  - Currently, zero[1] RMS have minimum threshold exceedances based on Spring 2024 data.
- **Projects & Management Actions** – NASb GSAs continue to make progress on a majority of PMAs and with implementation of DWR SGM Round II grant, will be able to move forward with addressing data gaps and NASb GSP implementation activities at a quicker schedule.

1. 4 of the 41 RMS wells have not had Spring 2024 Water Levels collected

NASb - Timeline

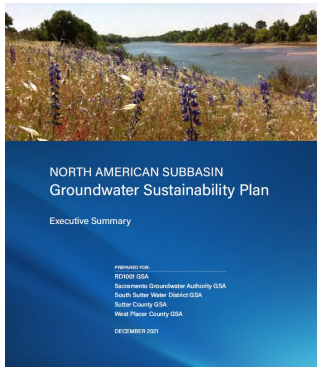
NORTH AMERICAN Subbasin

NASb – Timeline of Activities

GSP development and adoption

GSP Implementation Begins and continues…

5-year Evaluation (2026, 2031, 2036, 2041)



Annual Reporting

Projects and Management Actions

Groundwater Sustainability Agency (GSA) Coordination

Outreach and Engagement

Monitoring and Data Management

Budgeting and Funding

2016 to 2021

2022

2024

Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

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Final Questions/Comments?

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Thank you!

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