Draft – For discussion purposes only

EKI TECHNICAL PRESENTATION #39

COSUMNES SUBBASIN GSP IMPLEMENTATION

06 DECEMBER 2023

COSUMNES GROUNDWATER AUTHORITY BOARD OF DIRECTORS MEETING

eki environment & water

OUTLINE

- Fall 2023 Monitoring
  - Semiannual water level measurements for RMW-WL, RMW-ISW & supplemental wells
  - Annual water quality samples (Arsenic, Nitrate & Total Dissolved Solids) for RMW-WQ wells
- WY 2023 Annual Report Update

FALL 2023 WATER LEVEL AND WATER QUALITY MONITORING SUMMARY

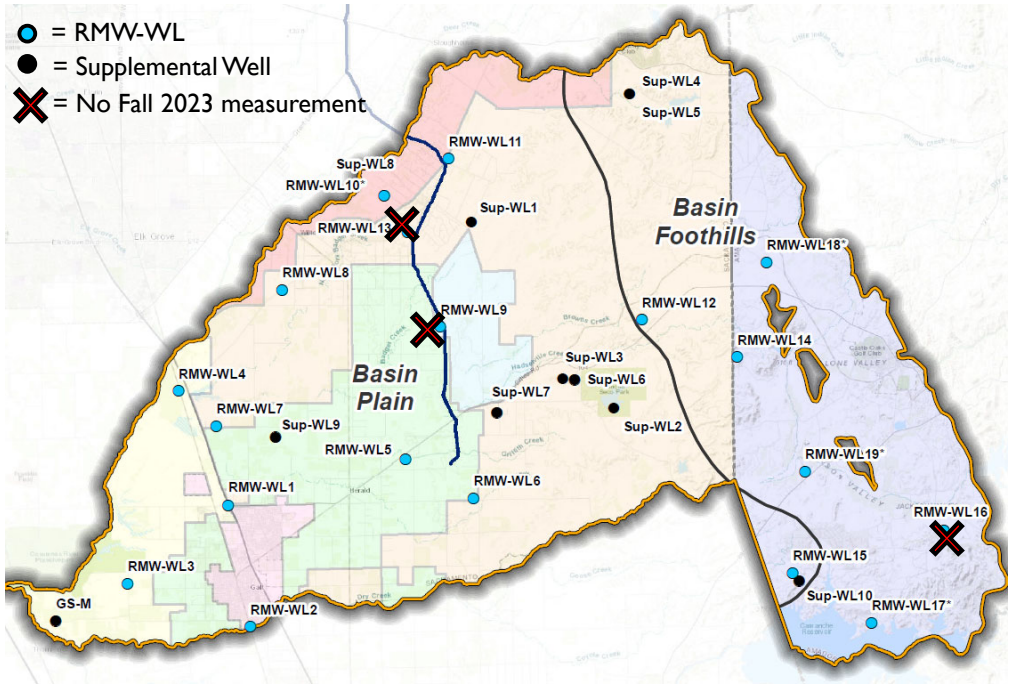
- Cosumnes Groundwater Authority (CGA) and Confluence conducted Fall 2023 monitoring 10/02/23 and 10/03/23.
- CGA and Sacramento County monitored remaining CGA wells on 11/03/2023.
- City of Galt monitored wells on 10/19/2023.
- ACGMA collected water quality samples on 10/25/23 and collected water level measurements on 11/30/23.

Responsible Monitoring Entity	Water Levels		Water Quality	
	GSP	Fall 23	GSP	Fall 23
ACGMA	8	7	4	4
City of Galt	1	1	2	1
CGA	13	11	8	8
DWR Water Data Library	6	2	--	--
TOTAL	**28**	**22*** **(-4)**	**14**	**13 (-1)**

**A total of 34 wells were monitored for groundwater levels: 22 required wells & 12 supplemental wells. The supplemental network includes: 4 wells measured as part of the monitoring event (RMW-WQ wells), the 2 new monitoring wells constructed at Grizzly Slough, and 6 volunteer stakeholder wells.*

THREE (3) RMW-WL MISSING FALL 2023 MONITORING DATA

- RMW-WL9: well obstruction.
  - *Work with well owner to resolve obstruction, or*
  - *Find alternative well and revise monitoring network*.*
- RMW-WL13: Data not available from CASGEM.
  - *Confirm that October & March measurements are planned prior to the Fall & Spring monitoring events, or*
  - *CGA take over responsibility for Fall & Spring monitoring.*
- RMW-WL16: No access.
  - *Find alternative well and revise monitoring network.*



*Note: *per DWR's guidance document, modifications made to the monitoring network may require a formal Plan Amendment. Guidance document can be found here:* Groundwater Sustainability Plan Implementation (ca.gov)

RMW-WL FALL 2023 MONITORING DATA (1 OF 2)

Network ID	MO (ft NAVD 88)	MT (ft NAVD 88)	Fall 2020 (ft NAVD 88)	Spring 2021 (ft NAVD 88)	Fall 2021 (ft NAVD 88)	Spring 2022 (ft NAVD 88)	Fall 2022 (ft NAVD 88)	Spring 2023 (ft NAVD 88)	Fall 2023 (ft NAVD 88)
RMW-WL1	**-55**	**-65**	-50	-46	-46	-47	-48	-46	**-47**
RMW-WL2	**-59**	**-69**	-64	-51	-68	-57	--	-60	**-68**
RMW-WL3	**-46**	**-56**	--	--	-41	--	--	-17	**-25**
RMW-WL4	**-24**	**-39**	--	-36	--	-20	-21	--	**-20**
RMW-WL5 & RMW-WQ3	**-70**	**-84**	--	--	**-92**	**-90**	**-93**	-83	**-92**
RMW-WL6	**-51**	**-78**	-66	-67	-69	-65	--	-67	**-73**
RMW-WL7	**-28**	**-38**	-22	-23	-27	-26	-28	-26	**-26**
RMW-WL8	**-36**	**-48**	--	-36	-42	-35	-41	-33	**-34**
RMW-WL9 & RMW-WQ13	**-75**	**-89**	--	-74	-87	-84	-79	-77	**--**
RMW-WL10 & RMW-WQ7	**-22**	**-32**	-26	-27	-32	-28	**-34**	-24	**-31**

Red text denotes measurements exceeding the MT

RMW-WL FALL 2023 MONITORING DATA (2 OF 2)

Network ID	MO (ft NAVD 88)	MT (ft NAVD 88)	Fall 2020 (ft NAVD 88)	Spring 2021 (ft NAVD 88)	Fall 2021 (ft NAVD 88)	Spring 2022 (ft NAVD 88)	Fall 2022 (ft NAVD 88)	Spring 2023 (ft NAVD 88)	Fall 2023 (ft NAVD 88)
RMW-WL11	**-28**	**-38**	--	-29	-33	-31	-35	-32	**-35**
RMW-WL12	**106**	**85**	105	104	**48**	**53**	**49**	**58**	**54**
RMW-WL13	**-36**	**-46**	-27	-24	-32	-29	--	-30	**--**
RMW-WL14	**250**	**232**	--	252	252	254	--	251	**251**
RMW-WL15	**141**	**119**	131	130	127	127	124	125	**124**
RMW-WL16	**269**	**259**	242	249	--	--	--	--	**--**
RMW-WL17 & RMW-WQ11	**116**	**89**	--	--	--	209	--	194	**194**
RMW-WL18 & RMW-WQ9	**195**	**185**	--	198	--	198	198	198	**198**
RMW-WL19 & RMW-WQ10	**171**	**161**	--	171	160	172	171	173	**172**

Red text denotes measurements exceeding the MT

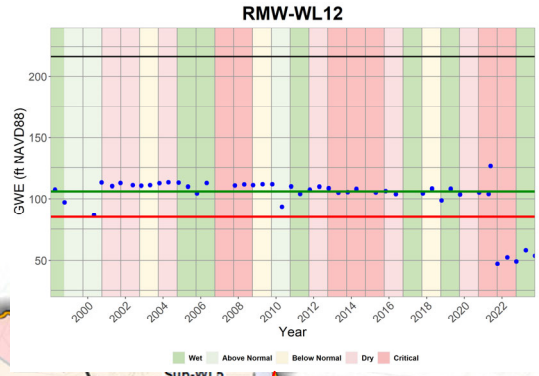
ACTION PLAN RELATED TO MINIMUM THRESHOLD EXCEEDANCES PER SECTION 15.8 OF THE GSP

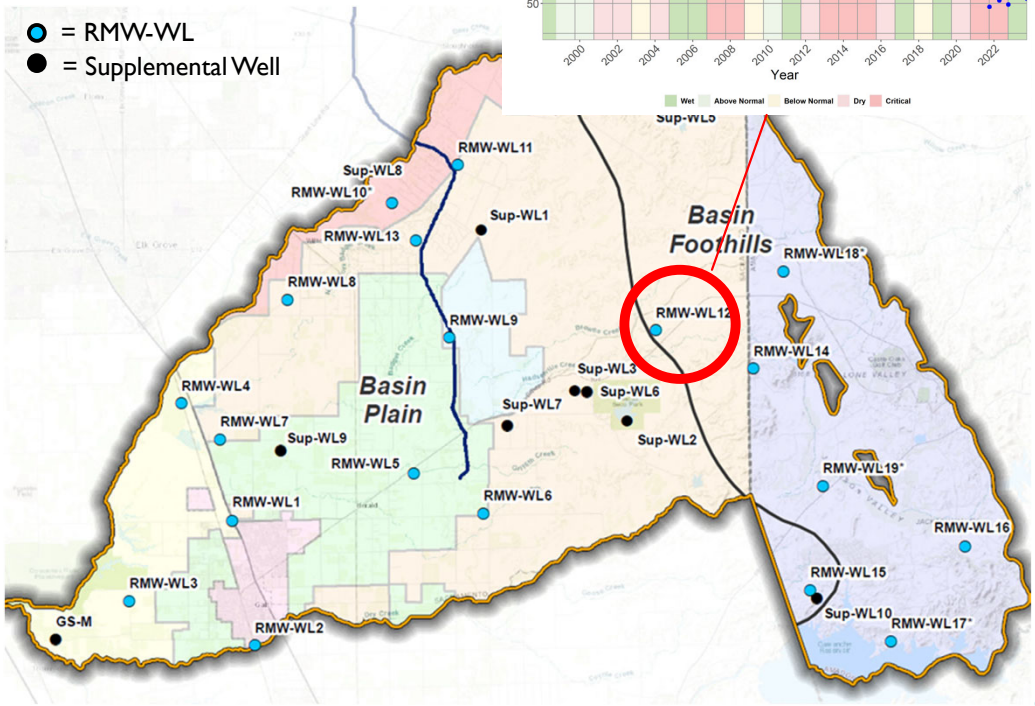
1. Identify Exceedance and Investigate the RMS Area.
2. Evaluate Potential for Outside Contributing Factors.
3. Consider the Need for Increased or Expanded Monitoring.
4. Consider Initiating and/or Expanding Project and Management Actions.
5. Consider Enforcement Action.

FALL 2023 MEASUREMENTS IN TWO RMW-WL WELLS EXCEEDED MINIMUM THRESHOLDS

Undesirable Results occur when MTs are exceeded in 25% of more of the RMW-WLs (5 out of 19) for two (2) consecutive years.

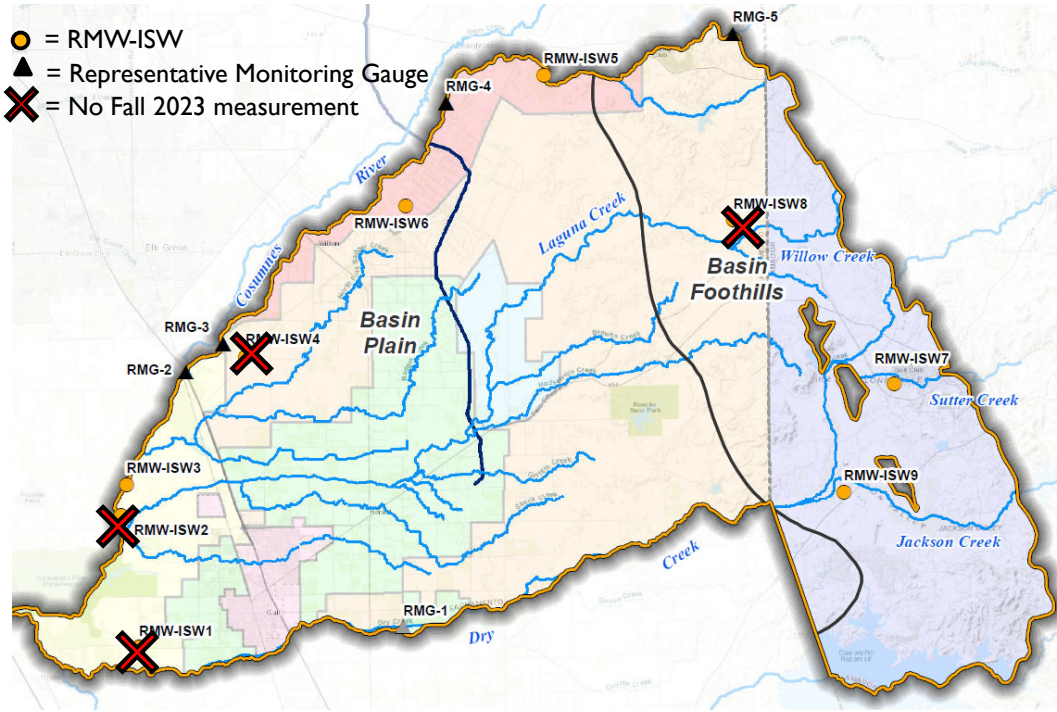
- RMW-WL5: Exceeded in Fall 2023
- RMW-WL12: Exceeded its MT for two consecutive years.
  - Contact landowner to confirm well status.
  - Confirm well information is correct.
  - If still unresolved, further investigation as required per Section 15.8 of the GSP.





FOUR RMW-ISW MISSING FALL 2023 MONITORING DATA

- RMW-ISW1, RMW-ISW4 & RMW-ISW8: Data not available from CASGEM
  - *Confirm that October & March measurements are planned prior to the Fall & Spring monitoring events, or*
  - *CGA take over responsibility for Fall & Spring monitoring.*
- RMW-ISW2: Unable to remove well cap and access well
  - *Work with TNC to resolve well cap issue, or*
  - *Find alternative well and revise monitoring network.*



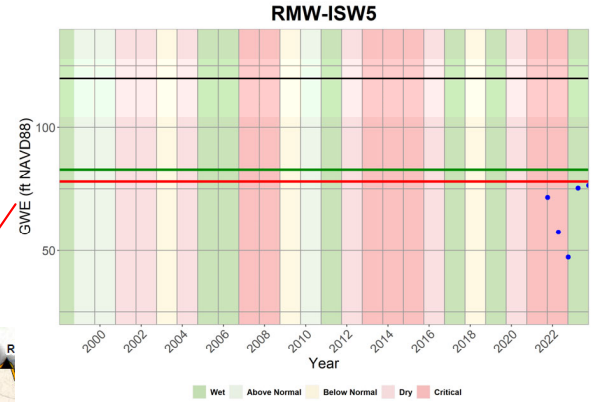
RMW-ISW FALL 2023 MONITORING DATA

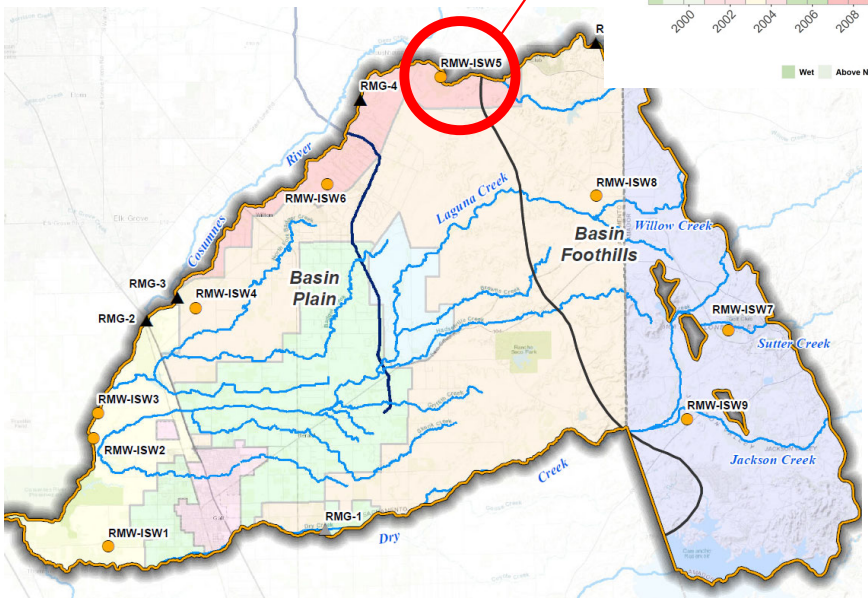
Network ID	MO (ft NAVD 88)	MT (ft NAVD 88)	Fall 2020 (ft NAVD 88)	Spring 2021 (ft NAVD 88)	Fall 2021 (ft NAVD 88)	Spring 2022 (ft NAVD 88)	Fall 2022 (ft NAVD 88)	Spring 2023 (ft NAVD 88)	Fall 2023 (ft NAVD 88)
RMW-ISW1	**-18**	**-23**	--	-13	-18	-13	-20	0	**--**
RMW-ISW2	**-3**	**-6**	54	--	--	--	--	--	**--**
RMW-ISW3	**-4**	**-10**	--	4	--	--	--	--	**-1**
RMW-ISW4	**-14**	**-19**	--	-17	**-27**	--	**-26**	-13	**--**
RMW-ISW5 & RMW-WQ8	**83**	**78**	--	--	**72**	**58**	**47**	**75**	**76**
RMW-ISW6	**-26**	**-31**	-26	-27	-31	-28	**-34**	-26	**-31**
RMW-ISW7	**257**	**247**	--	255	252	--	--	--	**252**
RMW-ISW8	**179**	**172**	178	179	176	178	178	183	**--**
RMW-ISW9	**171**	**164**	--	--	171	172	171	173	**172**

Red text denotes measurements exceeding the MT

FALL 2023 MEASUREMENT IN ONE RMW-ISW WELL EXCEEDED MINIMUM THRESHOLD

- Undesirable Results occur when MTs are exceeded in one or more RMW-ISWs (1 out of 9) for two (2) consecutive years.
  - RMW-ISW5:
    - Exceeded MT for 2 consecutive years (Undesirable Result).
    - Investigate potential localized pumping effects on the well.
    - Historical data not available (MT was estimated from model results); Revise SMCs based on available data as part of the 5-yr update.
    - If still unresolved, further investigation as required per Section 15.8 of the GSP.





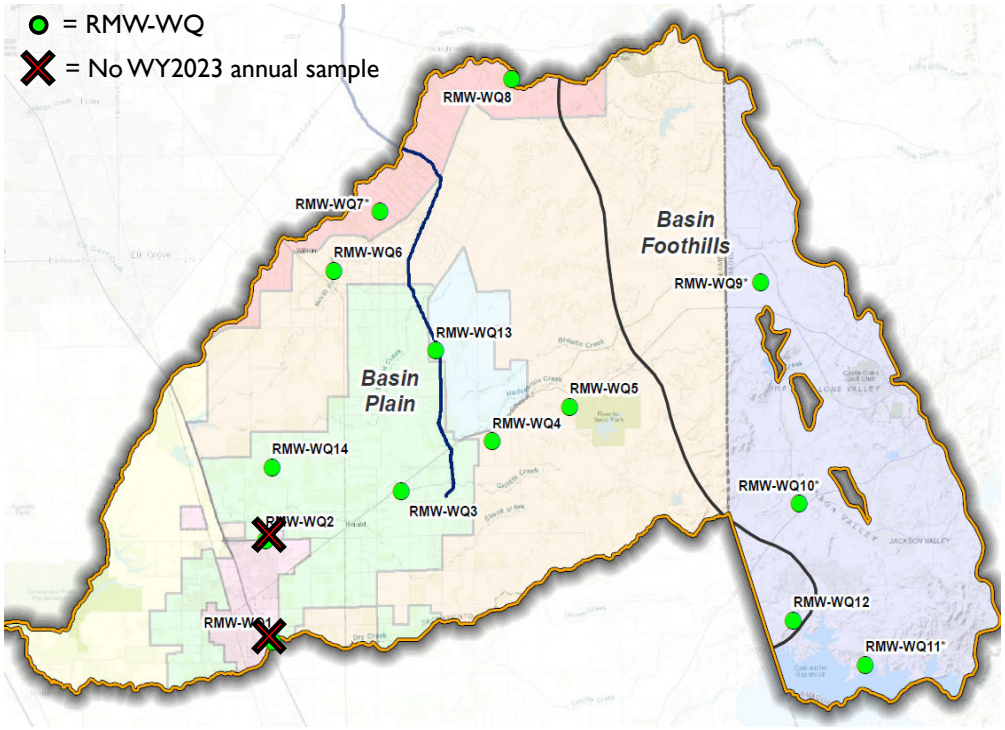
RMW-WQ WY 2024 MONITORING DATA

Network ID	Arsenic (ug/L) MO = 8 MT = 10				Nitrate (mg/L) MO = 8 MT = 10				TDS (mg/L) MO = 500 MT = 1,000			
	WY21	WY22	WY23	**WY24**	WY21	WY22	WY23	**WY24**	WY21	WY22	WY23	**WY24**
RMW-WQ1	--	--	--	**--**	--	--	--	**--**	--	--	--	**--**
RMW-WQ2	8.4	**11**	9.3	**11**	ND	ND	ND	**--**	170	--	--	**--**
RMW-WQ3 & RMW-WL5	--	--	--	**ND**	--	--	--	**2.7**	--	--	--	**200**
RMW-WQ4 & Sup-WL7	--	2	2.2	**3.2**	--	2.2	2.1	**2.2**	--	150	166	**180**
RMW-WQ5 & Sup-WL6	6.5	4.6	4.8	**7.3**	0.4	0.4	0.1	**ND**	155	140	177	**170**
RMW-WQ6	1.5	1.4	1.6	**ND**	1.2	1.2	1.2	**1.4**	195	190	200	**210**
RMW-WQ7 & RMW-WL10	3.5	2	2	**2.2**	1	1.6	1.6	**1.9**	145	110	215	**190**
RMW-WQ8 & RMW-ISW5	3.7	--	3.7	**2.5**	0.2	--	0.24	**ND**	170	--	181	**190**
RMW-WQ9 & RMW-WL18	--	--	**20**	**9.4**	--	--	ND	**1.1**	--	--	**1,600**	**1,500**
RMW-WQ10 & RMW-WL19	--	--	ND	**ND**	--	--	ND	**ND**	--	--	250	**470**
RMW-WQ11 & RMW-WL17	--	--	**11**	**9.1**	ND	ND	ND	**ND**	--	--	170	**190**
RMW-WQ12	--	--	2	**3.2**	3.7	3.7	3.3	**ND**	--	--	200	**150**
RMW-WQ13 & RMW-WL9	3.5	3.5	--	**4.1**	1.4	1.4	--	**1.6**	150	150	--	**190**
RMW-WQ14	9.8	9.8	--	**11**	0.1	ND	--	**ND**	150	150	--	**190**

Red text denotes measurements exceeding the MT

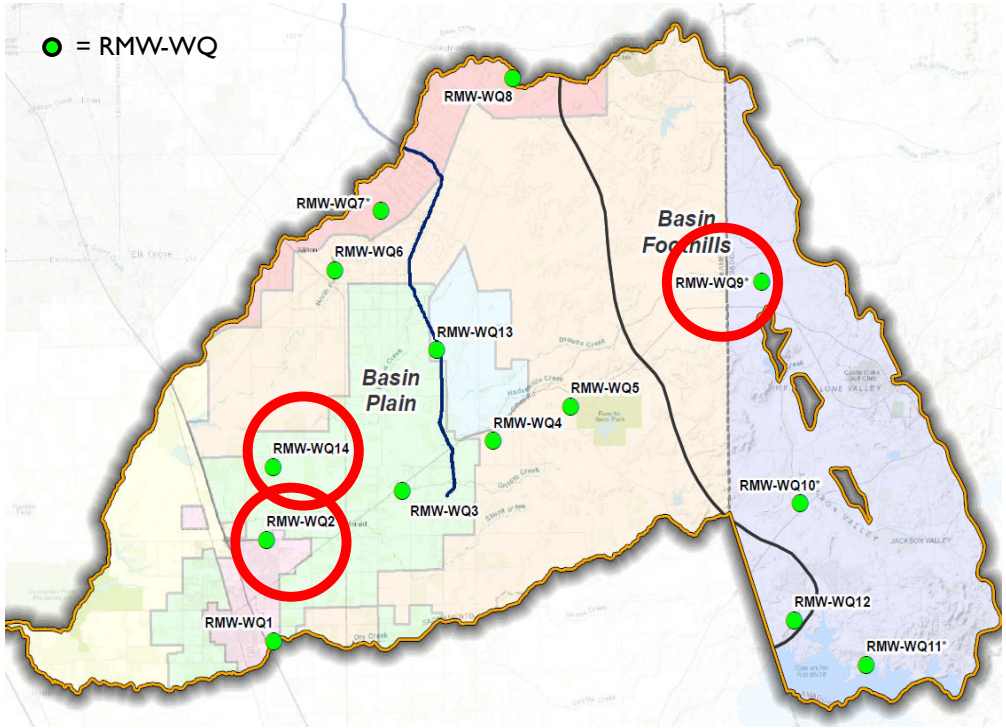
TWO RMW-WQ MISSING WY2024 MONITORING DATA

- Annual sampling required for RMW-WQs and still time to collect the WY2024 monitoring data.
- RMW-WQ1: Data not available for Nitrate & TDS
  - *CGA to work with City of Galt to ensure well gets sampled for Nitrate and TDS before 10/2024.*
- RMW-WQ2: Well no longer in service.
  - *CGA to work with City of Galt to find alternative well and revise monitoring network.*



ANNUAL MEASUREMENTS IN THREE (3) RMW-WQ WELLS EXCEEDED MINIMUM THRESHOLD

- Undesirable Results occur when MTs for a constituent of concern are exceeded in 25% or more of the RMW-WQ (4 or more wells) for two (2) consecutive years.
  - RMW-WQ9: Exceeded TDS MT for two consecutive years.
  - RMW-WQ2 & RMW-WQ14: Exceeded Arsenic MT in Fall 2023



SUP-WL FALL 2023 MONITORING DATA

Network ID	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023
	(ft NAVD 88)						
Sup-WL1	--	-46	-47	-48	-49	--	**-42**
Sup-WL2	--	-33	34	34	30	--	**53**
Sup-WL3	--	-35	-36	-37	--	--	**--**
Sup-WL4	--	DRY	73	--	88	--	**71**
Sup-WL5	--	85	85	84	59	--	**84**
RMW-WQ5 & Sup-WL6	--	--	--	--	-54	--	**-54**
RMW-WQ4 & Sup-WL7	--	--	-78	-76	-81	--	**-83**
Sup-WL8	--	-27	-32	-29	-35	--	**-31**
RMW-WQ14 & Sup-WL9	--	--	-88	-91	-92	--	**-87**
RMW-WQ12 & Sup-WL10	--	--	277	276	275	208	**240**
GS-S	--	--	--	--	--	--	**0**
GS-M	--	--	--	--	--	--	**0**

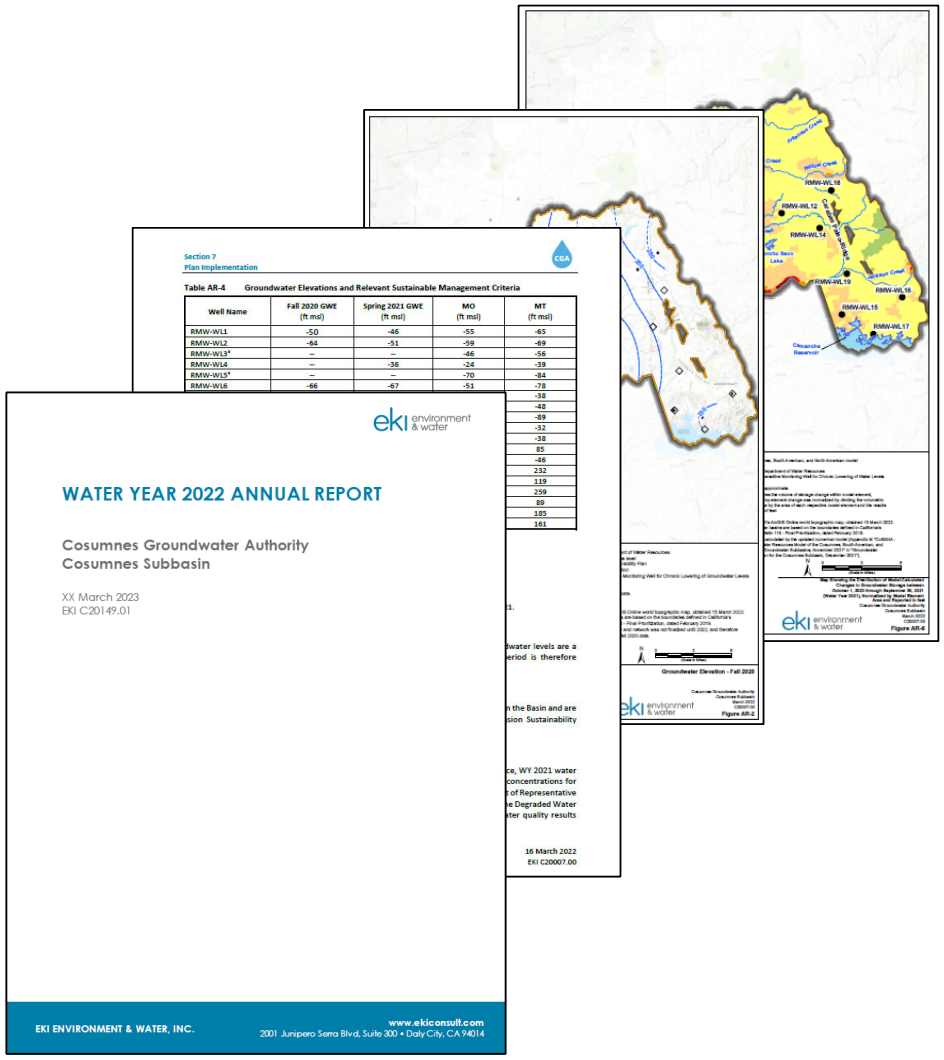
- Supplemental Monitoring Network Modifications
  - Remove Sup-WL3 due to obstruction in well
  - Remove Sup-WL4 & Sup-WL6 due to duplicative location

NEXT STEPS

- EKI will complete QA/QC and evaluation of data received.
- CGA collect meter readings & develop monitoring plan with well owners per Section 19.1.6 Annual Reporting of the GSP.
- CGA address well issues (coordinate with TNC to collect and disseminate data previously available to the public).
- CGA continue to standardize and update access agreements.
- Continue to fill monitoring data gaps.

WY 2023 ANNUAL REPORT

- "Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan" § 356.2.
- Water Year 2023 Annual Report provides information on groundwater conditions and implementation of its GSP over the time period of 1 October 2022 through 30 September 2023
- DWR will only respond to the agency if additional information is needed or if there are concerns over progress reaching sustainability
- Per DWR, no formal requirement for public comment on Annual Reports.[1] CGA will provide updates on the Annual Report at the forthcoming public meetings to provide opportunity for stakeholder feedback.
- Include additional information for consistency with DWR's October 2023 Implementation Guide (for Annual Reports, Periodic Updates, and Plan Amendments):
  - New section required to discuss progress made on addressing corrective actions in DWR's determination letter.

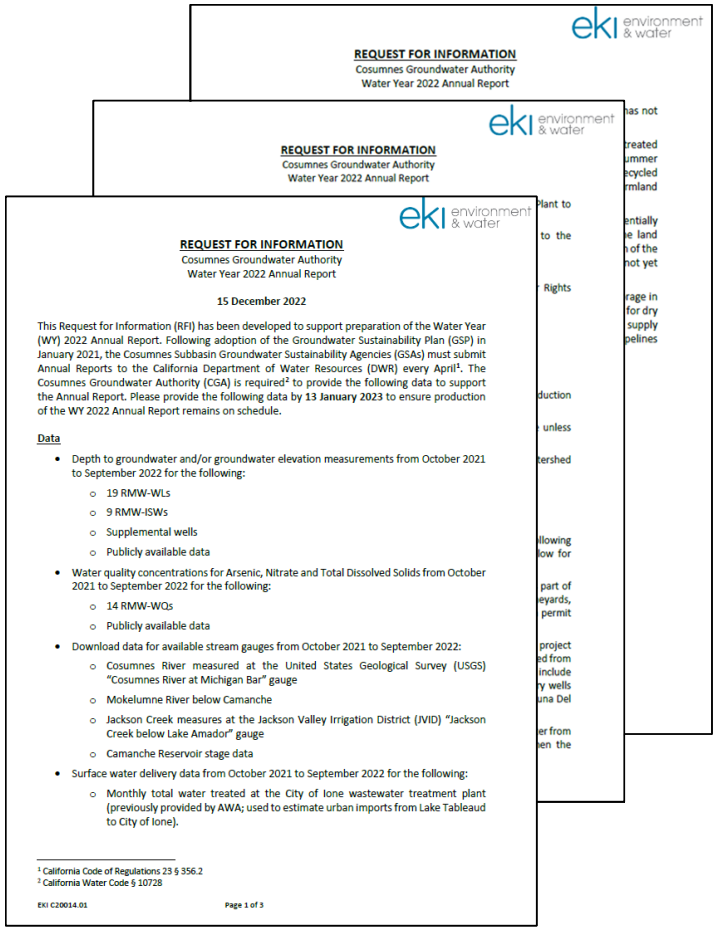


1. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Groundwater-Sustainability-Plans/Files/GSP/GSP-Annual-Report-FAQ.pdf

ANNUAL REPORT – REQUEST FOR INFORMATION

In November, EKI requested data from CGA to support the 2023 Annual Report (1 October 2022 through 30 September 2023)

- Groundwater elevation
- Water quality
- Stream gauge
- Surface water delivery
- Stream diversions
- Pumping data



REQUEST FOR INFORMATION
Cosumnes Groundwater Authority
Water Year 2022 Annual Report

15 December 2022

This Request for Information (RFI) has been developed to support preparation of the Water Year (WY) 2022 Annual Report. Following adoption of the Groundwater Sustainability Plan (GSP) in January 2021, the Cosumnes Subbasin Groundwater Sustainability Agencies (GSAs) must submit Annual Reports to the California Department of Water Resources (DWR) every April[1]. The Cosumnes Groundwater Authority (CGA) is required[2] to provide the following data to support the Annual Report. Please provide the following data by **13 January 2023** to ensure production of the WY 2022 Annual Report remains on schedule.

Data

- Depth to groundwater and/or groundwater elevation measurements from October 2021 to September 2022 for the following:
  - 19 RMW-WLs
  - 9 RMW-ISWs
  - Supplemental wells
  - Publicly available data
- Water quality concentrations for Arsenic, Nitrate and Total Dissolved Solids from October 2021 to September 2022 for the following:
  - 14 RMW-WQs
  - Publicly available data
- Download data for available stream gauges from October 2021 to September 2022:
  - Cosumnes River measured at the United States Geological Survey (USGS) "Cosumnes River at Michigan Bar" gauge
  - Mokelumne River below Camanche
  - Jackson Creek measures at the Jackson Valley Irrigation District (JVID) "Jackson Creek below Lake Amador" gauge
  - Camanche Reservoir stage data
- Surface water delivery data from October 2021 to September 2022 for the following:
  - Monthly total water treated at the City of Ione wastewater treatment plant (previously provided by AWA; used to estimate urban imports from Lake Tableaud to City of Ione).

[1] California Code of Regulations 23 § 356.2
[2] California Water Code § 10728

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DATA RECEIVED TO DATE

✓ = data received

◯ = data not received

Requested Data	
Groundwater Elevation Data	
✓	RMW-WL*
✓	RMW-ISW*
✓	Supplemental Wells
✓	Publicly available data
Water Quality Data	
✓	RMW-WQ*
✓	Publicly available data
Stream Gauge Data	
✓	Cosumnes River
✓	Mokelumne River below Camanche
✓	Jackson Creek
✓	Camanche Reservoir Stage

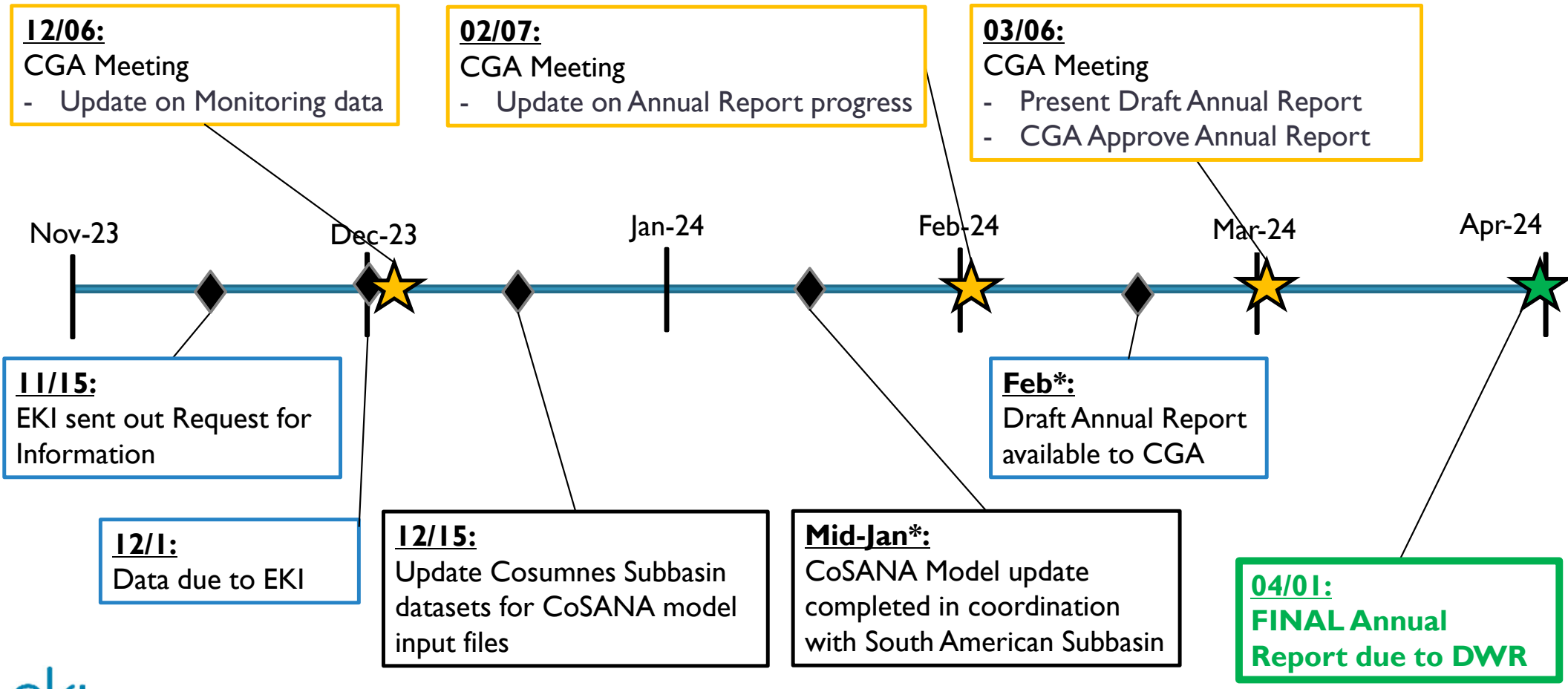
Requested Data	
Surface Water Delivery Data	
✓	City of Ione wastewater treatment plant
◯	Water deliveries from Castle Oaks Water Reclamation Plant to the Castle Oaks Golf Course
◯	Agricultural diversions from the Folsom South Canal (FSC)
Stream Diversions	
✓	Reported stream diversions downloaded from the Electronic Water Rights Information Management System (eWRIMs)
✓	Monthly Cosumnes River diversion by Rancho Murieta

Requested Data	
Pumping Data	
✓	Public Water Systems
✓	City of Galt
✓	AWA – Camanche Village
✓	AWA – Camanche North Shore
GSP Implementation Text	
◯	Updates on Projects and Management Actions

*Note: * denotes only partial data received*

- Received data is being processed and QA/QC'd

ANNUAL REPORT 2023 SCHEDULE



*Note: * contingent on coordination with South American Subbasin*

NEXT STEPS

- Complete QA/QC and evaluation of data received.
- Extract and summarize water budget and groundwater level information to extend model input data sets.
- Draft Annual Report text, tables and figures.
- Submit Draft Report to GSAs for review.
- Present Draft Report results to CGA and public at the March CGA Board Meeting (3/6/24).
- Finalize Report and Submit to DWR on or before (3/31/24).