

EKI TECHNICAL PRESENTATION #17

WHITE WOLF GSA BOARD OF DIRECTORS
1 MARCH 2022

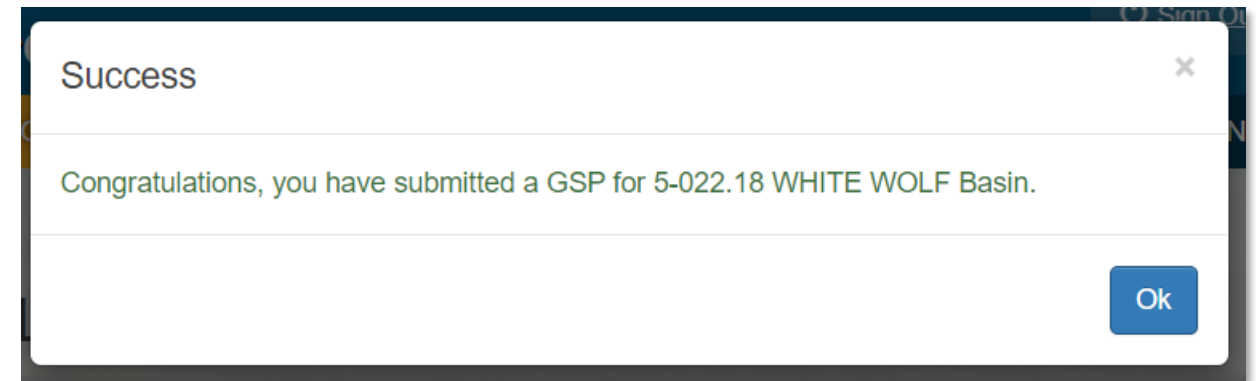


OUTLINE

- Update on Groundwater Sustainability Plan (GSP) Activities
- Water Year (WY) 2021 Annual Report
- Overview of GSP Implementation Tasks

UPDATE ON GSP ACTIVITIES

- GSP was officially submitted to DWR on 1/28/2022!
 - Public comment period open through 4/30/2022
 - No public comments received yet
- Grant funds fully utilized
 - Draft Grant Completion Report submitted to DWR



Grant	Prop 1	Prop 68
Total Grant	\$1,115,996.00	\$684,000.00
Total Billed	\$1,115,802.53	\$683,897.45
Remaining	\$ 193.47	\$ 102.55

6a. WY 2021 ANNUAL REPORT

WY 2021 ANNUAL REPORT

- 1 October 2020 through 30 September 2021
- Certain data and analysis required to extend from 1 January 2015 through 30 September 2021

WY 2021 Annual Report
White Wolf Subbasin



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GROUNDWATER ELEVATION CONTOUR MAPS

Figure 2. Groundwater Elevations, Fall 2020

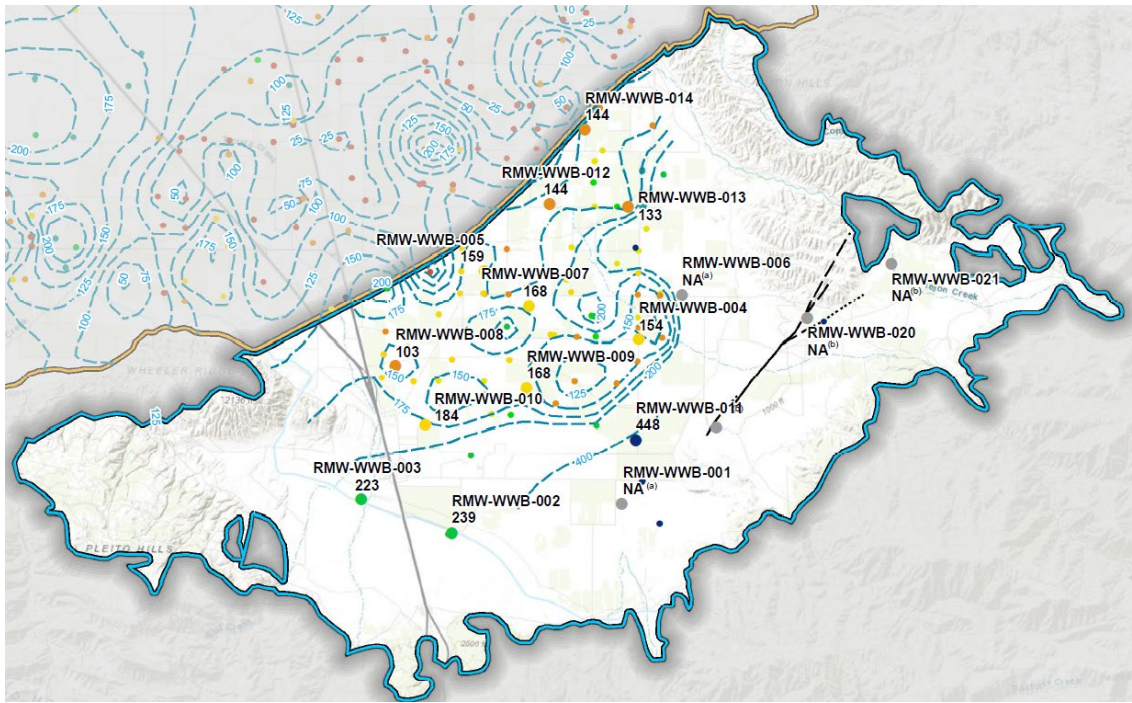
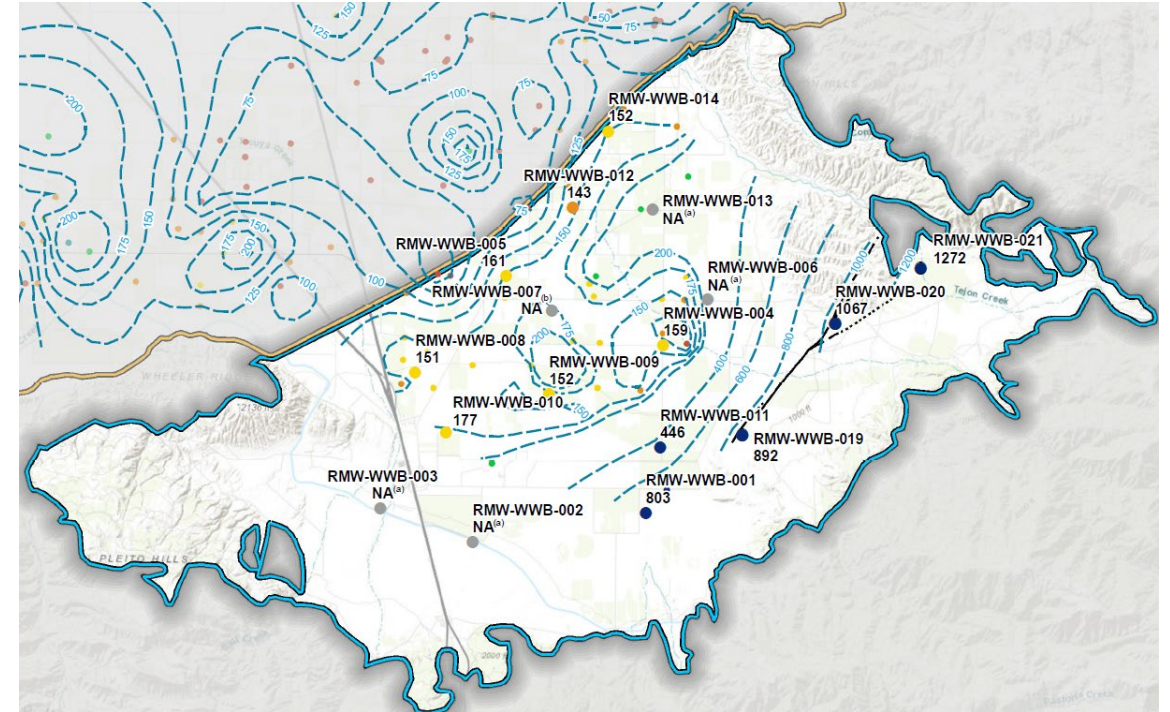
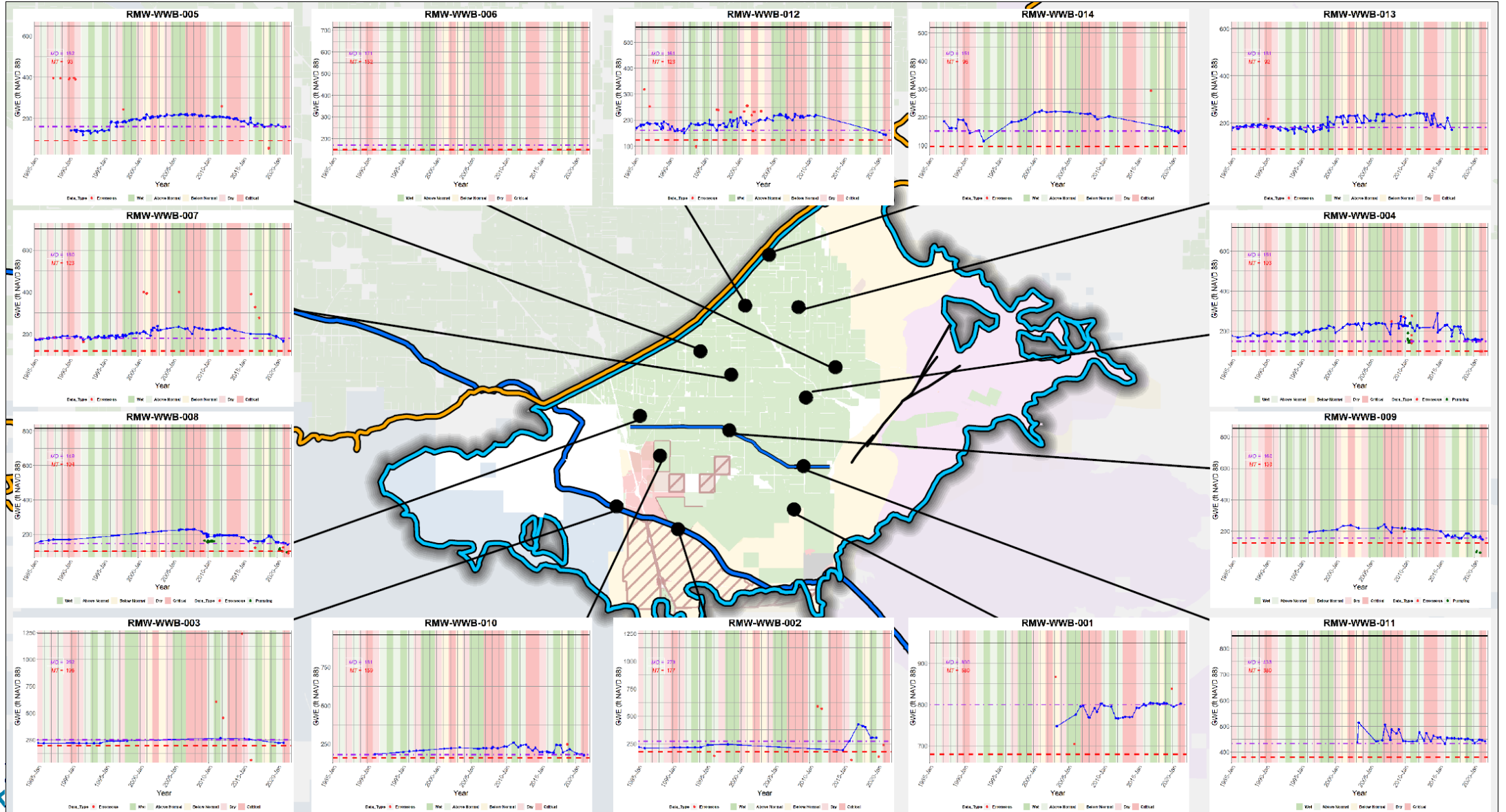


Figure 3. Groundwater Elevations, Spring 2021



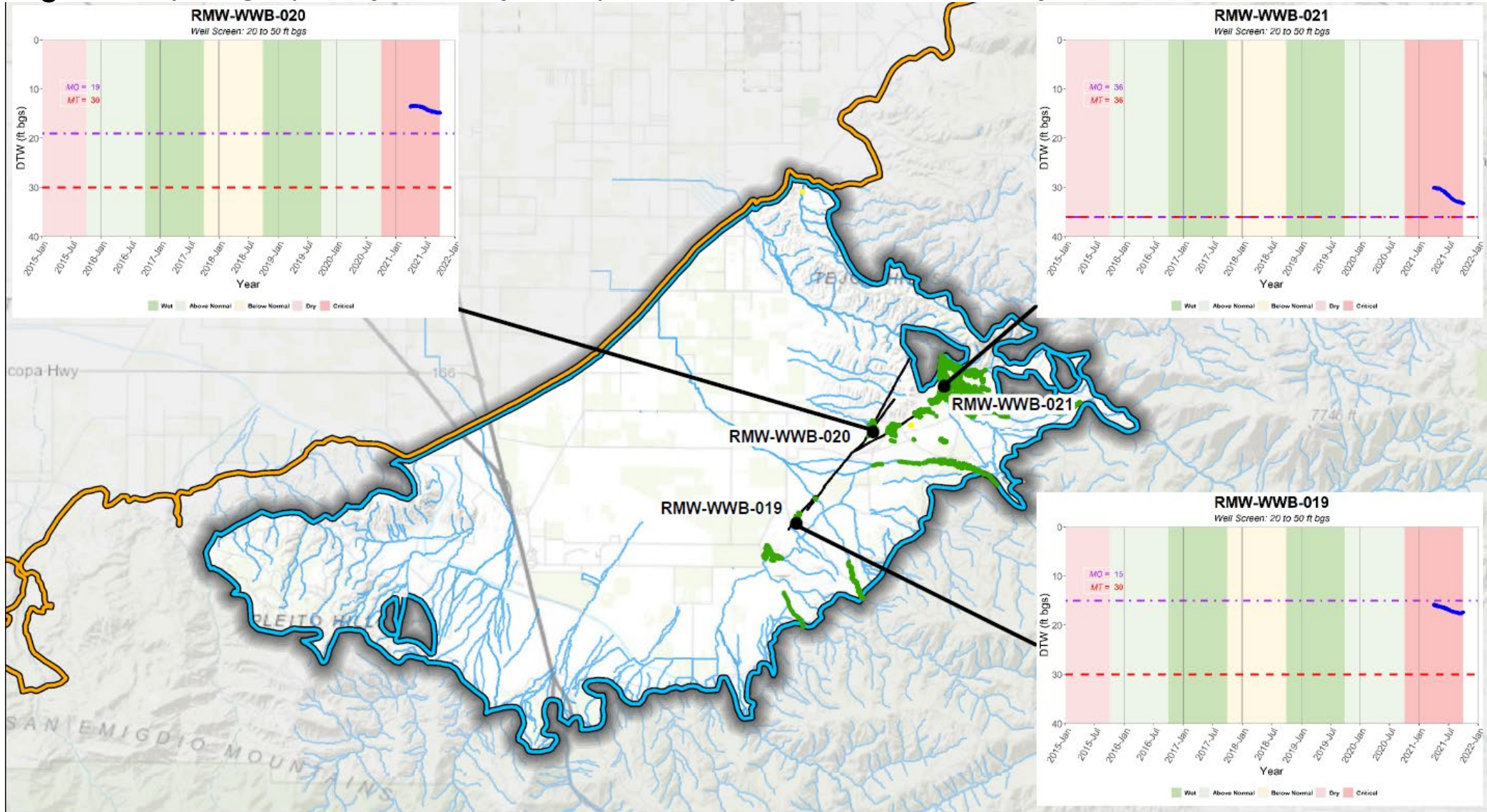
WATER LEVELS SMCS

Figure 4. Hydrographs of RMWs for Chronic Lowering of Groundwater Levels



INTERCONNECTED SURFACE WATER SMCS

Figure 5. Hydrographs of RMWs for Depletion of Interconnected Surface Water



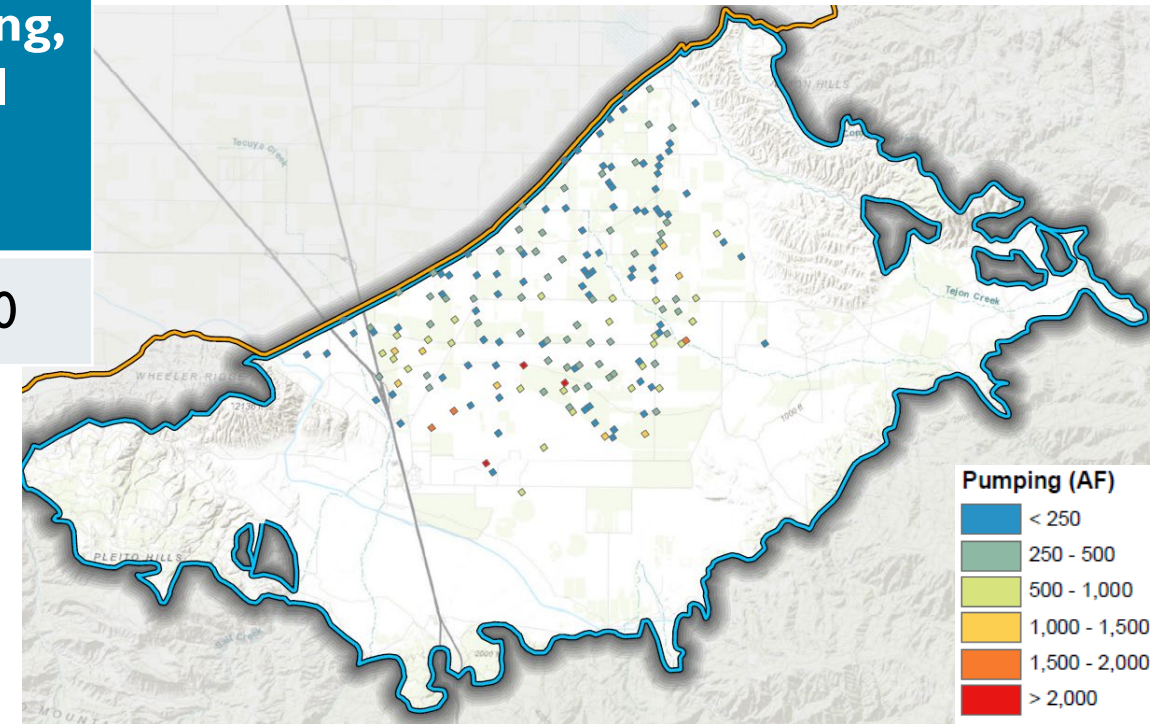
GROUNDWATER USE BY SECTOR AND SOURCE

Table 1. Summary of Groundwater Extraction Data by Sector and Source

Water Year	Pumping, Agricultural (AF)		Pumping, Municipal & Industrial (AF)	Pumping, Total (AF)
	Metered	Estimated		
2021	20,073	47,850	377	68,300

- Agricultural pumping is estimated by the Basins’ Soil Moisture Budget Accounting model (SMB)
- Municipal & Industrial pumping for January – September 2021 is estimated, as reported values are not yet available

Figure 6. General Location of Groundwater Extractions, WY 2021



SURFACE WATER USE BY SECTOR AND SOURCE

Table 2. Summary of Surface Water Supply by Sector and Source

Water Year	WRMWSD Imports (AF)		AEWSD Imports (AF)	TCWD Imports (AF)		Total Imports (AF)		Stream Diversions (AF)
	Agricultural	M&I	Agricultural	M&I	Agricultural	M&I	Agricultural	
2021	15,911	3,251	18,391	526	34,302	3,777	1,128	

- Imports are based on surface water deliveries to customers; actual imports may be greater due to conveyance system losses
- WRMWSD agricultural deliveries are calculated based on the total water delivered by turnout, minus the total volume of groundwater pumped into the WRMWSD distribution system
- Imported surface water delivered by WRMWSD to M&I users are not included in the Soil Moisture Balance Accounting model (SMB). 96% of the M&I water was delivered to Pastoria Energy Facility. It is assumed that these M&I deliveries contributions to the groundwater system are negligible.
- Stream diversions from Grapevine Creek POD10 were unavailable from 15 January 2021 onward

TOTAL WATER USE BY SECTOR AND SOURCE

Table 3. Total Water Use by Sector

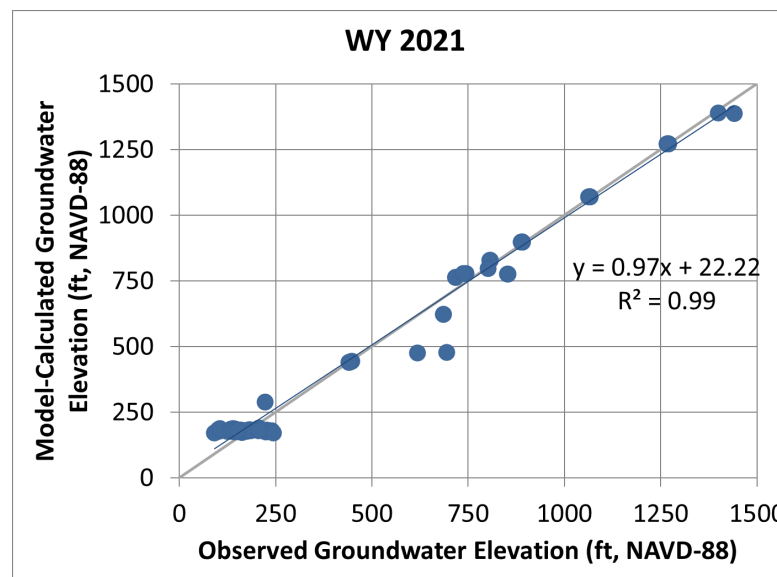
Water Year	Agriculture (AF)				M&I (AF)		
	Metered Pumping	Estimated Pumping	Imported Water	Stream Diversions	Pumping	Imported Water	Recycled Water
2021	20,073	47,850	34,302	1,128	377	3,777	122.7

- Total water use in WY 2021: 107,630 AFY
 - 96% is for agricultural use
 - 63% is from groundwater pumping

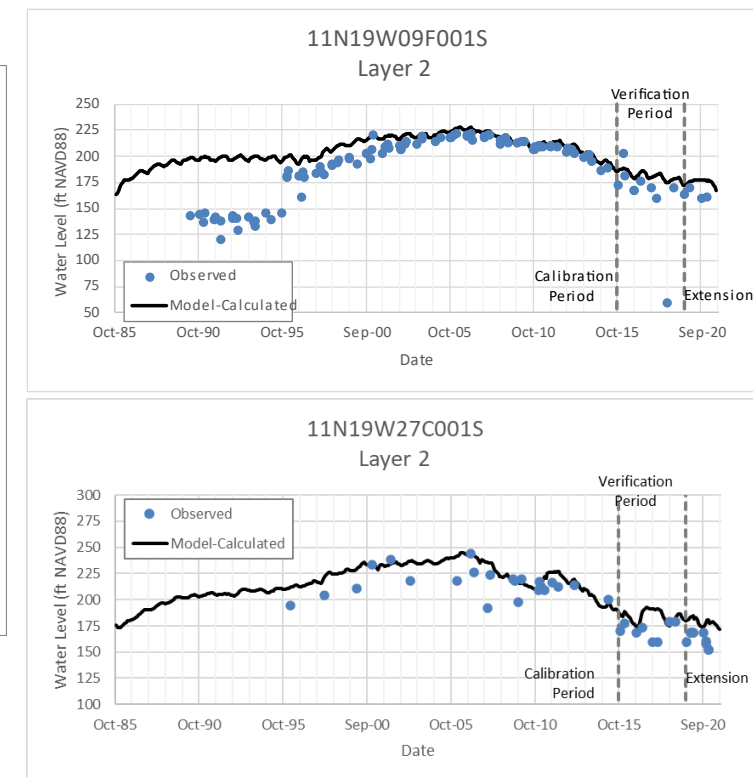
CHANGE IN GROUNDWATER STORAGE

- Extended the White Wolf Groundwater Flow Model through WY 2021
 - Precipitation
 - Water delivery / pumping
 - Metric ET
 - Boundary conditions
 - Assumed land use remained constant from WY 2019
 - Confirmed model performance against measured water levels

Figure 8. Modeled versus Observed Water Level Elevation in Wells



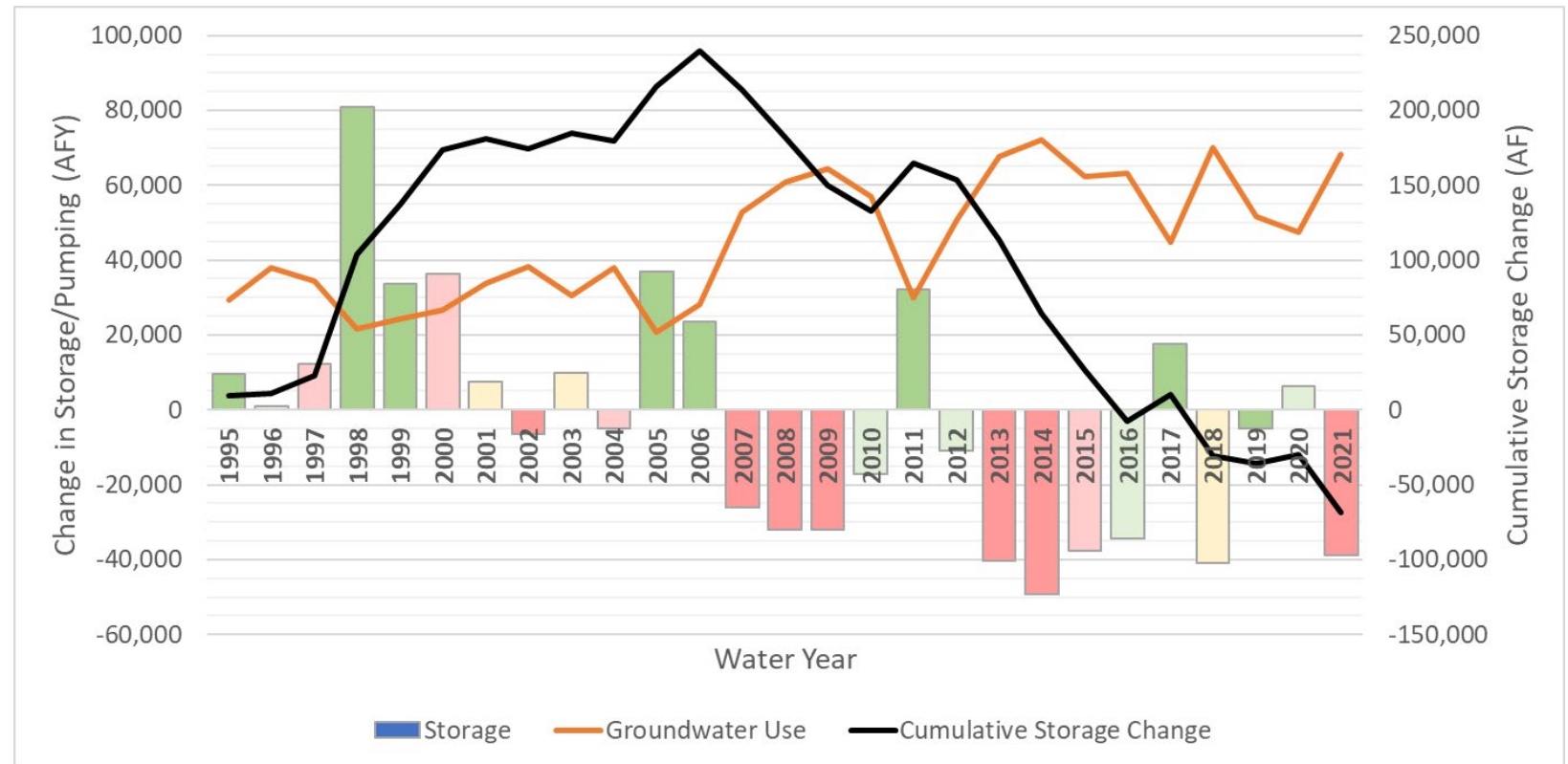
Example hydrographs:



CHANGE IN GROUNDWATER STORAGE

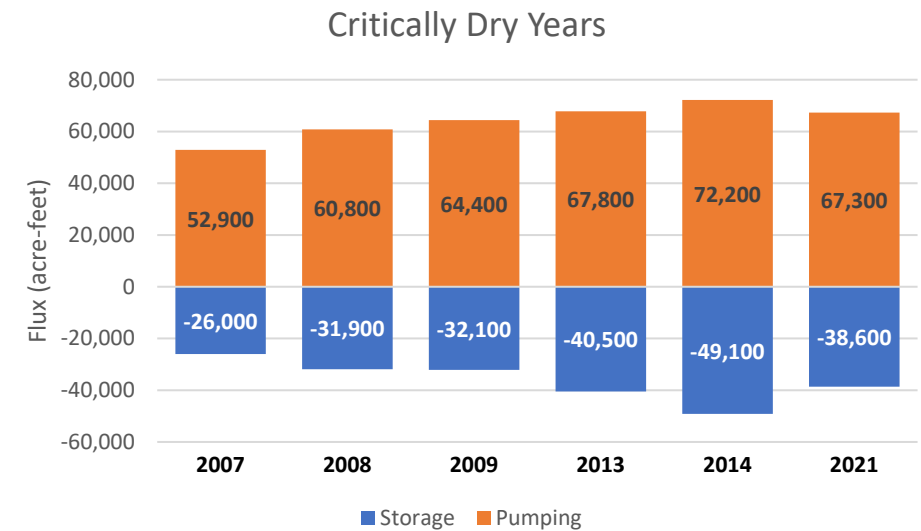
- WY 2021 Basin-wide change in storage: **-38,600 AF**

Figure 9. Annual Change in Groundwater Storage and DWR Water Year Type

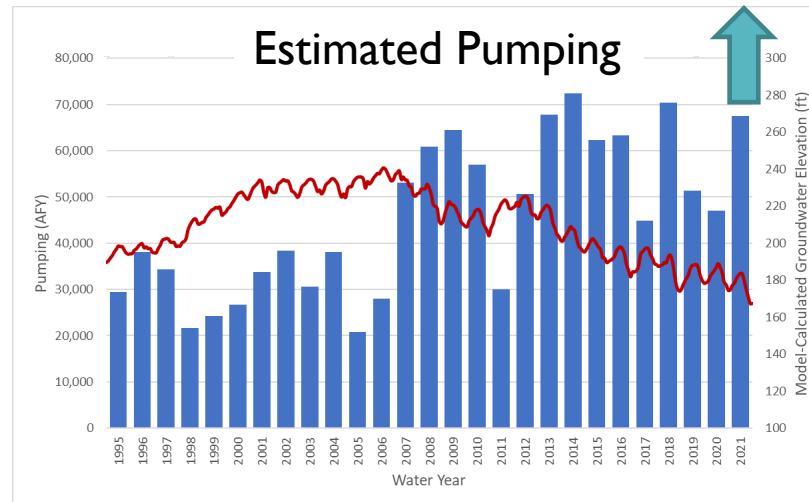
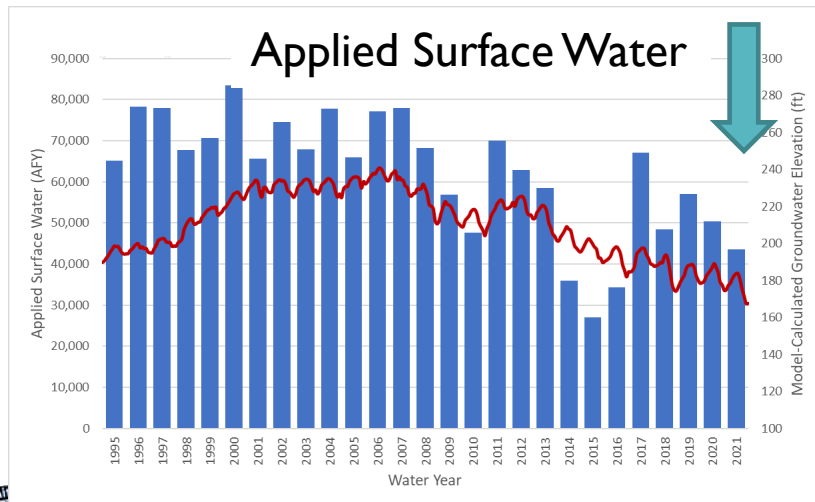
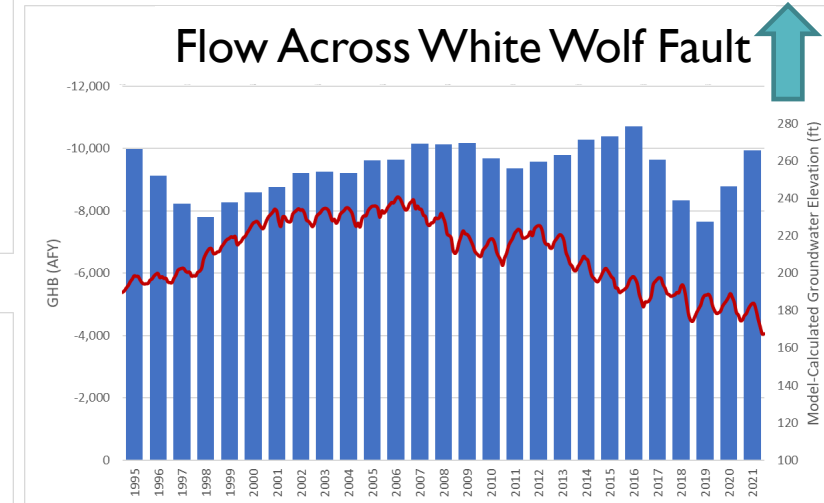
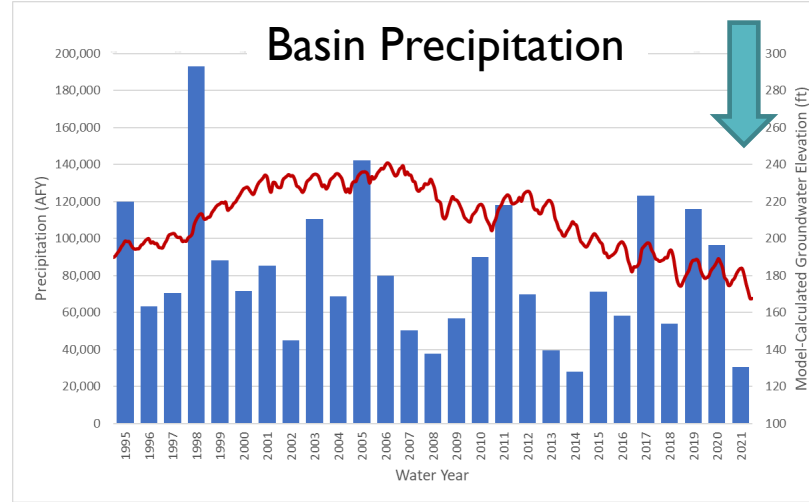
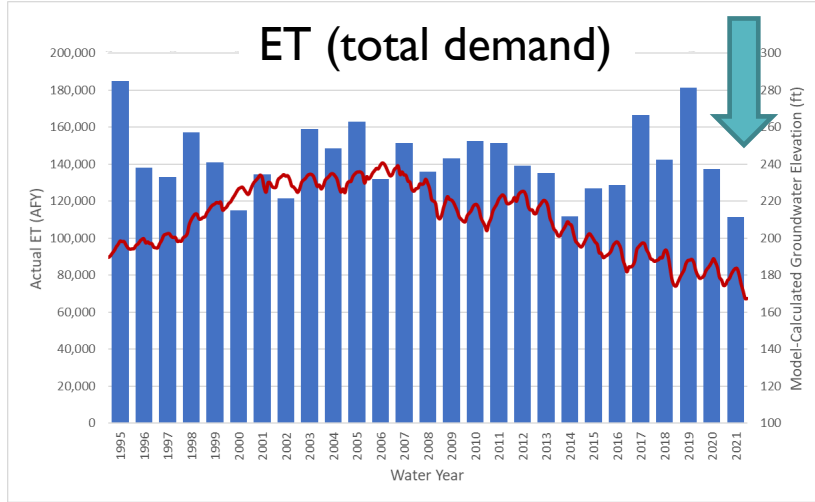


CHANGE IN GROUNDWATER STORAGE

- In the past 15 years, six years are critical dry years (CDY)
- Change in storage in WY 2021, a CDY, is comparable to change in storage in other CDYs (ranged from -26,000 to -49,100)



TIME SERIES OF MODEL INPUTS & FLUXES

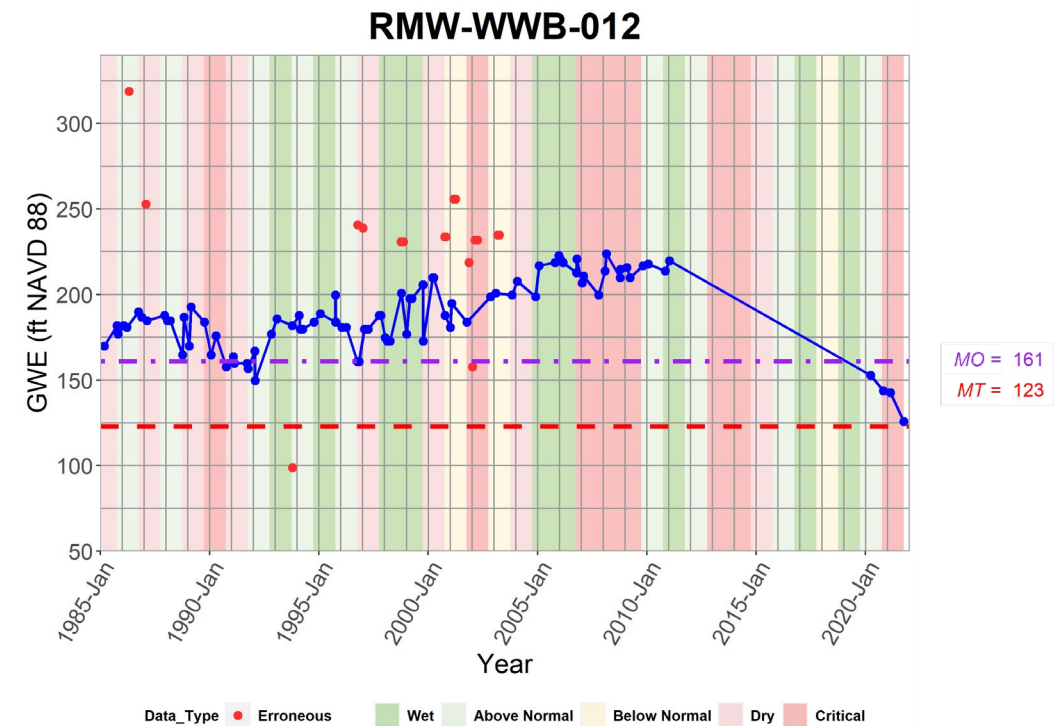


— Representative hydrograph



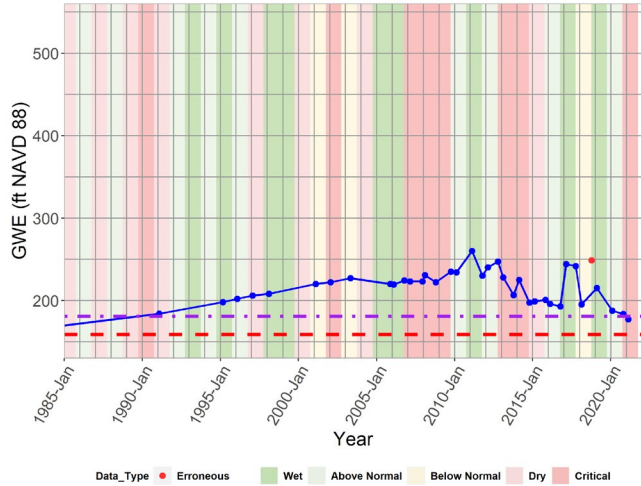
PROGRESS TOWARDS IMPLEMENTATION

- GSP implementation has begun
 - No Project and/or Management Actions (P/MAs) have been initiated
- All wells remain above Minimum Thresholds (MTs) for WY 2021, but limited October 2021 water level data show at least one well is approaching MT
 - Continued water level decline corresponds to further decline in groundwater storage
 - Consider initiation of P/MAs as “business as usual” may soon create issues



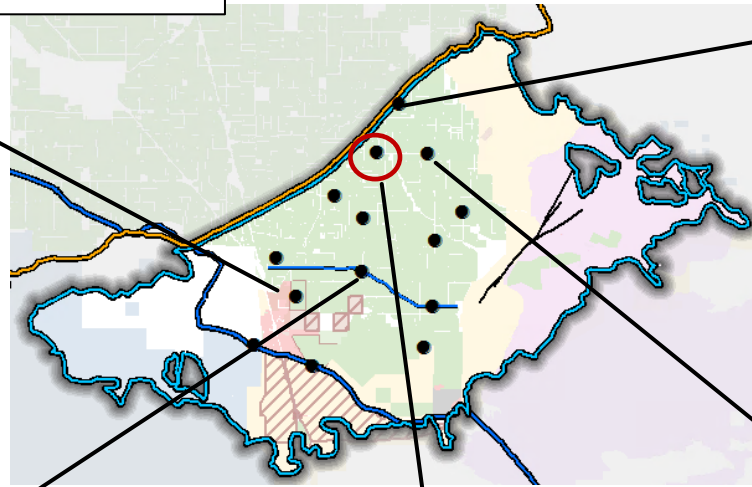
WELLS TRENDING TOWARDS MTs

RMW-WWB-010

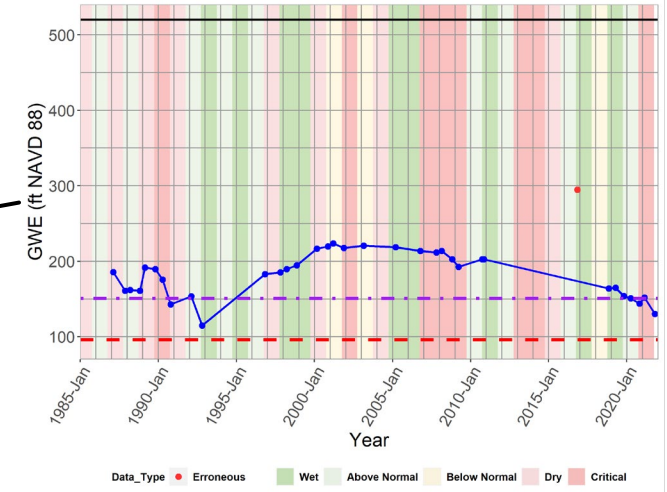


WY 2021
Height above MT

18 ft



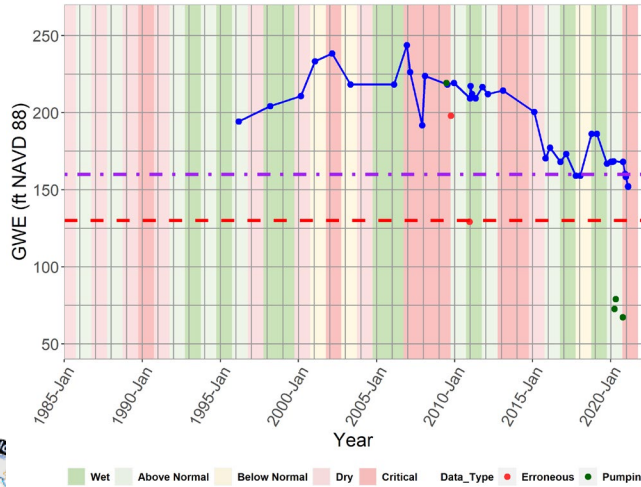
RMW-WWB-014*



56 ft

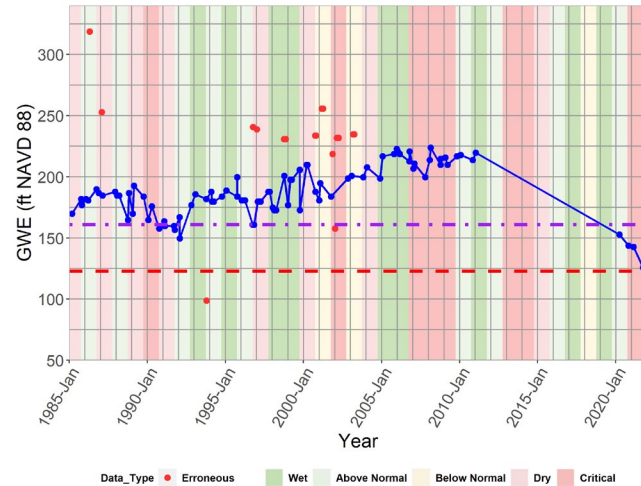
34 ft

RMW-WWB-009



22 ft

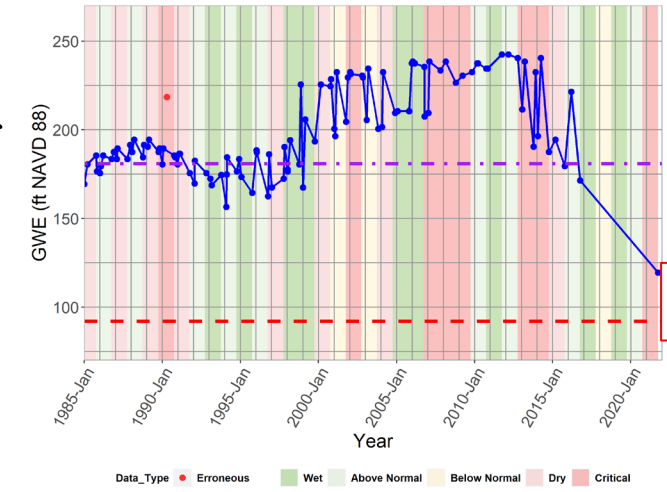
RMW-WWB-012*



20 ft

3 ft

RMW-WWB-013*



41 ft

27.5 ft

WY 2022
Height above MT

*WY 2022 data (Oct 2022) is shown



6b. OVERVIEW OF GSP IMPLEMENTATION TASKS

UPCOMING GSP IMPLEMENTATION STEPS – DISTRICT RESPONSIBILITIES

- Districts to continue to collect Spring (Feb/Mar) and Fall (Oct) water level data from all RMWs
- Districts to collect one groundwater quality sample from all supplemental water quality wells
 - Arsenic, nitrate, selenium, TDS, sulfate, iron, sodium, boron, 1,2,3-TCP, and other major ions (calcium, magnesium, potassium, chloride, and bicarbonate)
- P/MA initiation?

UPCOMING P/MA FUNDING OPPORTUNITIES

- **Multibenefit Land Repurposing Program – Regional Block Grant**
 - 3 to 5 grants available, up to \$10M each
 - Requires partnering, with commitments by other organizations to provide funds or in-kind services
 - Scope must include:
 - Developing a Multibeneficial Agricultural Land Repurposing Plan
 - Project development and permitting
 - Implementation of land repurposing projects
 - Partner capacity needs
 - Outreach
 - Monitoring
 - Solicitation now open, applications due by **1 April 2022**

California Department of Conservation
Solicitation Notice and Application for:

Multibenefit Land Repurposing Program

FINAL
February 22, 2022



UPCOMING P/MA FUNDING OPPORTUNITIES

- Proposition 68 Round 2 Implementation Grant
 - Solicitation opens in September 2022
 - Funds can be used for revisions/updates to a GSP to fill known data gaps or for funding capital improvement projects outlined in the GSP
 - Expected to be very competitive



TABLE 1 – SCHEDULE FOR SGM GRANT PROGRAM SGMA IMPLEMENTATION GRANT SOLICITATION

Milestone or Activity	Tentative Date ¹
SGMA Implementation - Round 1 Schedule	
Final 2021 Guidelines & PSP posted to public	December 17, 2021
COD Basin - Round 1 Grant Solicitation Opens	December 20, 2021
Application Workshop	January 5, 2021
Round 1 Grant Solicitation Closes	February 18, 2022 ²
Final Awards	March/April 2022
Execute Agreements	May 2022
Initial TA Program Ends – Release of Needs, Risks, and/or Vulnerabilities in Underrepresented Communities to public	July/August 2022
SGMA Implementation - Round 2 Schedule	
Medium & High Priority - Round 2 Grant Solicitations Opens	September 2022
Public Review of Draft Funding List	April/May 2023
Final Awards	June 2023
Execute Agreements	July/August 2023

¹ Dates are subject to change and will be determined based on number of comments received for the draft document, number of applications received, amount of funds requested, and number of grant awards given. Dates for the TA Program is dependent upon the ability to have public meetings due to COVID-19 mandates by State and/or County.

² Applicants are encouraged to submit their Round 1 Spending Plan prior to February 18, 2022 deadline, if possible.

UPCOMING GSP IMPLEMENTATION SUPPORT – EKI WY 2022 GSP IMPLEMENTATION TASK ORDER

- **Task 1:** Monitoring, data compilation, data gap filling, and stakeholder engagement:
 - Data compilation, quality assurance/quality control, Data Management System (DMS) updates, and upload to DWR for water level, water quality, subsidence, and streamflow data
 - Process water use information from Districts, public water systems, and ITRC-METRIC or other ET data
 - Field work activities – install stream meter, download transducer data, coordinate & subcontract land surveyor
 - Review and process TNC GDE pulse data and DWR AEM survey results
 - Meeting participation
- **Task 2:** Water Year 2022 Annual Report
 - Groundwater flow model extension
 - Preparation and submittal of Annual Report
- **Task 3:** Prop 68 Implementation Round 2 Grant Application
- **Task 4:** Multibenefit Land Repurposing Grant Application
- **Task 5:** As-Needed P/MA Support to address P/MA planning

TASK	Cost Estimate
Task 1	\$75,000
Task 2	\$35,000
Task 3	\$40,000
Task 4	\$25,000
Task 5	\$50,000
TOTAL:	\$225,000
Per District	\$75,000

QUESTIONS?

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