



AGENDA

GROUNDWATER SUSTAINABILITY PLANNING ADVISORY COMMITTEE (GSPAC) at the

CARPINTERIA VALLEY WATER DISTRICT
1301 SANTA YNEZ AVE
CARPINTERIA, CA, 93013
CONFERENCE ROOM

Tuesday, March 28, 2023, at 5:30 p.m.

1. CALL TO ORDER
2. ROLL CALL (Bob McDonald)
3. BUSINESS
 - a. Meeting Minutes for GSPAC Meeting, Feb 28, 2023 (Bob McDonald – 5 Mins)
 - b. Review of Meeting Rules (Susan Harden 5 Mins)
 - c. Parking Lot Item Discussion. (David O' Rourke & Bob McDonald - 20 Mins)
 - Groundwater Model History
 - RWQCB Irrigated Lands Program
 - Housing impacts on Groundwater Sustainability
 - Joint Powers Agreement
 - Flooding and groundwater
 - d. Agricultural Stakeholder interviews regarding undesirable results. (David O' Rourke- 10 -Mins)
 - e. Discuss SMC for Sea Water Intrusion, Water Levels & Depletion of Water Storage (David O Rourke 55- Mins)
 - f. Items for future Meetings (Susan Harden 5-Mins)
4. Public Comment (Public comment may be limited to 3 minutes per speaker if necessary 15 Mins).
5. Attendance and Topics at next meeting on April 25th (5-Mins)
6. ADJOURNMENT.

The above matters are the only items scheduled to be considered at this meeting.

Note: The above Agenda was posted at Carpinteria Valley Water District Administrative Office in view of the public no later than 5:00 p.m., March 24, 2023. The Americans with Disabilities Act provides that no qualified individual with a disability shall be excluded from participation in, or denied benefits of, the District's programs, services, or activities because of any disability. If you need special assistance to participate in this meeting, please contact the District Office at (805) 684-2816. Notification at least twenty-four (24) hours prior to the meeting will enable the District to make appropriate arrangements. Materials related to an item on this Agenda submitted to the Board of Directors after distribution of the agenda packet are available for public inspection in the Carpinteria Valley Water district offices located at 1301 Santa Ynez Avenue, Carpinteria during normal business hours, from 8 am to 5 pm.

	MINUTES OF THE REGULAR MEETING OF THE CARPINTERIA GROUNDWATER SUSTAINABILITY PLANNING ADVISORY COMMITTEE (GSPAC)		
	February 8, 2023		
1.CALL TO ORDER	Chair Person Polly Holcombe called the GSPAC meeting to order at 5:30 p.m., Tuesday, Feb 28, 2023.		
Present	Michael Turner James Bailard Robert Abbott Alan Soicher	Ivan Van Wingerden Polly Holcombe Erin Maker	Bob McDonald David O'Rourke Susan Harden Case Van Wingerden
2. BUSINESS			
a. Welcome & Introductions.	The committee members and staff introduced themselves. Susan Harden introduced the parking lot for topics. Topics will be addressed as time permits.		
b. Establish guidelines for committee participation, review bylaws.	Bob McDonald & Susan Harden Presented a review of the GSPAC Bylaws to the Committee.		
c. Overview of SGMA.	David O Rourke gave an overview of the Sustainable Groundwater Management Act to the Committee		
d. Discuss advisory committee involvement in GSP process.	David O Rourke described to the Committee the process of Groundwater Sustainability Plan Development and how the stakeholder could be involved		
e.Schedule and topics for future meetings.	Dave O Rourke described the Schedule and topics for the GSP Development Process		
f. Review Basin conditions; introduction to SMCs	Dave O Rourke presented a review of the Basin Conditions and an introduction to Sustainable Management Criteria.		
ADJOURNMENT	Chairperson Polly Holcombe adjourned the meeting at 7:55 PM.		
	Robert McDonald, Secretary		

Housing Impact on Groundwater

Table 2: Projected District Total Water Demands 2025-2045 (AFY)

Customer Classification ^{1,2}	2025	2030	2035	2040	2045	
Single Family Residential	793	788	857	855	856	+8%
Multiple-Family Residential	415	412	448	448	448	+8%
Commercial	261	260	282	281	282	+8%
Industrial	61	61	61	61	61	0%
Institutional/Governmental	121	121	121	121	121	0%
Landscape Irrigation	59	57	62	63	64	
Agricultural	2,156	2,220	2,287	2,356	2,426	+12.5%
Water Losses ³	245	251	263	267	272	
Total	4,111	4,170	4,381	4,452	4,530	

Notes:

(1) CVWD, 2020. All values rounded. Some differences may occur due to rounding.

(2) Projected total water use includes existing water use and projected water use from potential new development. New development based on Santa Barbara County Association of Governments forecast for 2025 to 2045 including 0.36 percent per year for 2021-2025, 0.2 percent per year for 2026-2040, and 0.08 percent per year for 2041-2045, and adjusted for RHNA housing projections. Source: SBCAG, 2019 and 2021.

(3) Assumes water losses are 6 percent of total water use, based on average water losses for the last five years.

Housing Impact on Groundwater

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Housing Impact on Groundwater

Table 4: Projected Long Term Available Water Supplies 2020-2040 (AFY)

Water Supplies (AFY)	2020	2025	2030	2035	2040
Groundwater ¹	1,200	1,200	1,200	1,200	1,200
Cachuma Project ²	2,110	2,110	2,110	2,110	2,110
State Water Project ³	876	876	876	876	876
Recycled Water ⁴	0	1,000	1,000	1,000	1,000
Desalination	0	0	0	0	0
Transfers or Exchanges In/Out ⁵	400	400	400	400	400
Other ⁶	0	0	0	0	0
Total	4,586	5,586	5,586	5,586	5,586

Notes:

Source: CVWD, 2020. All values rounded.

(1) Conservative estimate of long-term average for District pumping is approximately 1,200 AFY which is consistent with the Basin sustainable-yield; current annual average District groundwater pumping is approximately 1,500 AFY (1984-2020); pumping can be increased up to the District's operational yield (3,000 AFY) to offset demands. (McDonald, 2020)

(2) The District's current maximum allocation is 2,813 AFY. However, the District anticipates annual delivery may be reduced due to more competition for this supply, drought and other factors. For planning purposes, the District is using of a maximum of 2,110 AFY (75 percent of the allocation; via anticipated reduction of 25 percent) from 2025 to 2045. (McDonald, 2020).

(3) District's conservative long-term planning estimate assumes delivery of 1,276 AFY (58 percent delivery of 2,200 AFY allocation) of SWP Table A water with 400 AFY exchanged with the ID #1. (McDonald, 2020; DWR, 2020)

(4) District is currently evaluating potential long-term use of recycled water. Conservative estimate assumes recycled water available starting in 2026.

(5) District approved up to 400 AF of SWP water for exchange with ID #1.

(6) District has banked and utilized 1,000 AFY of State Water Project water. District anticipates utilizing banking programs again between 2021 and 2045.

Housing Impact on Groundwater (drought)

Table 7: Projected Single Dry Water Year Supply and Demand 2025-2045

	2025	2030	2035	2040	2045
Groundwater ¹	2,017	1,200	1,307	1,385	1,455
Cachuma Project ²	2,110	2,110	2,110	2,110	2,110
State Water Project ³	154	154	154	154	154
Recycled Water ⁴	0	1,000	1,000	1,000	1,000
Other ⁵	0	0	0	0	0
Supply Total	4,281	4,464	4,571	4,649	4,719
Demand Total ⁶	4,281	4,345	4,571	4,649	4,719
Difference ⁷	0	119	0	0	0

Source: CVWD, 2021a. All values in AFY and rounded. Assumes normal water-year precedes single dry year.

Housing Impact on Groundwater (drought)

Table 8: Projected Multiple Dry Water Years Supply and Demand 2025-2045

	AFY	2025	2030	2035	2040	2045
Year 1	Supply Total ^{1,2,3,4,5}	4,280	4,345	4,571	4,648	4,719
	Demand Total ⁶	4,280	4,345	4,571	4,648	4,719
	Difference ⁷	0	0	0	0	0
Year 2	Supply Total ^{1,2,3,4,5}	4,578	4,647	4,888	4,972	5,047
	Demand Total ⁶	4,578	4,647	4,888	4,972	5,047
	Difference ⁷	0	0	0	0	0
Year 3	Supply Total ^{1,2,3,4,5}	4,274	4,338	4,563	4,641	4,712
	Demand Total ⁶	4,274	4,338	4,563	4,641	4,712
	Difference ⁷	0	0	0	0	0
Year 4	Supply Total ^{1,2,3,4,5}	3,905	3,964	4,170	4,241	4,306
	Demand Total ⁶	3,905	3,964	4,170	4,241	4,306
	Difference ⁷	0	0	0	0	0
Year 5	Supply Total ^{1,2,3,4,5}	3,637	3,691	3,883	3,949	4,010
	Demand Total ⁶	3,637	3,691	3,883	3,949	4,010
	Difference ⁷	0	0	0	0	0

Source: CVWD, 2021a. All values in AFY and rounded. See Appendix J for derivation of each value.

GSPAC Meeting - Sustainable Groundwater Management Act Sustainable Management Criteria

March 28, 2023



GSP Project Approach

BUILD TRUST THROUGH CLARITY, CONSISTENCY, AND INVOLVEMENT

Complete

PHASE 1

FACT REPORTING
AND EDUCATION

- GSP Kickoff
- C& E Plan
- Plan Area and Basin Setting: Hydrogeologic Conceptual Model, Current Historical GW Conditions, and Water Budget
- Groundwater Model Update

March 2022 to
December 2022

In Progress

PHASE 2

SUSTAINABLE GOAL
SETTING

- Sustainable Management Criteria: Management Areas
- Sustainability Goal, Measurable Objectives, Minimum Threshold, and Undesired Results

January 2023 to
May 2023

Summer 2023

PHASE 3

PLAN TO
SUSTAINABILITY

- Projects and Management Actions to Achieve Sustainability: Projects and Management Actions
- Plan Implementation: Estimate Costs and Schedule

May 2023 to
September 2023

Fall 2023

PHASE 4

GSP
DOCUMENTATION

- Administrative Draft GSP
- Public Comment Period
- Final GSP
- GSP Adoption
- GSP submittal to DWR

September 2023 to
November 2023

DEFENSIBLE
PLAN

GSP Development Schedule

March 2023

- Water Level Decline and Reduction of Storage SMCs
- Subsidence SMCs
- WQ SMCs
- GW/SW Interaction SMCs

April 2023

- Wrap up SMCs
- Goal is to reach consensus on SMC's to be included in Chapter 7
- Introduction to Projects and Management Actions

May- July 2023

- Purpose is to release Draft Chapter 7 – SMC for public comment
- Projects and Management Actions
- Plan Implementation



An Overview of SGMA and Sustainable Management Criteria (SMCs)

SIX SUSTAINABILITY INDICATORS

Pathway to Sustainability



Seawater Intrusion



**Water Quality
Degradation**



**Chronic Lowering of
Groundwater Levels**



**Interconnected Surface
Water Depletions**



**Reduction of
Groundwater Storage**



Land Subsidence

SMC Definitions

Pathway to Sustainability

Representative Monitoring Sites (RMS)

A subset of a basin's complete monitoring network, where minimum thresholds, measurable objectives, and interim milestones are set.

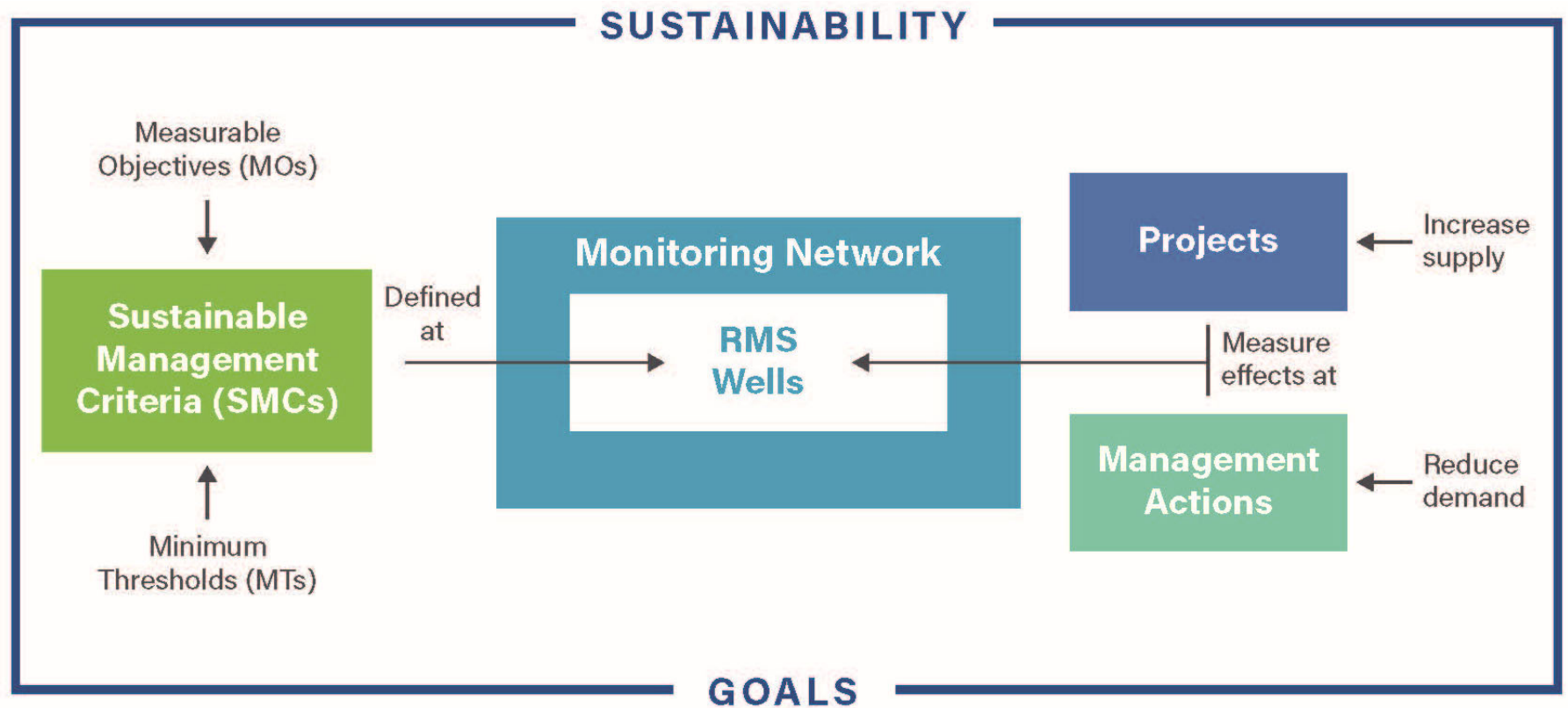
SMCs

Minimum Threshold (MT) -The value that represents groundwater conditions at an RMS that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause an *undesirable result(s)* in the basin.

Interim Milestone (IM) -A target value representing measurable groundwater conditions, in increments of five years, set by an Agency as part of a Plan

Measurable Objective (MO) - Measurable objectives are goals that reflect the basin's desired groundwater conditions and allow the GSA to achieve the sustainability goal within 20 years.

Getting to Sustainability – RMS Wells





SEAWATER INTRUSION

EXAMPLES OF SEAWATER INTRUSION UNDESIRABLE RESULTS: IMPACTS ON BENEFICIAL USES

- **Saline groundwater migrating inland from ocean and reaching agricultural production wells, impacting crops and agricultural economy.**
- **Saline water reaching municipal (or domestic) production wells, impacting water quality for potable supply source, requiring increased level of treatment to serve customer base.**

SGMA Regulation: Seawater Intrusion SMCs – Chloride Concentration Isocontour Line

§ 354.28. Minimum Thresholds

(3) Seawater Intrusion.

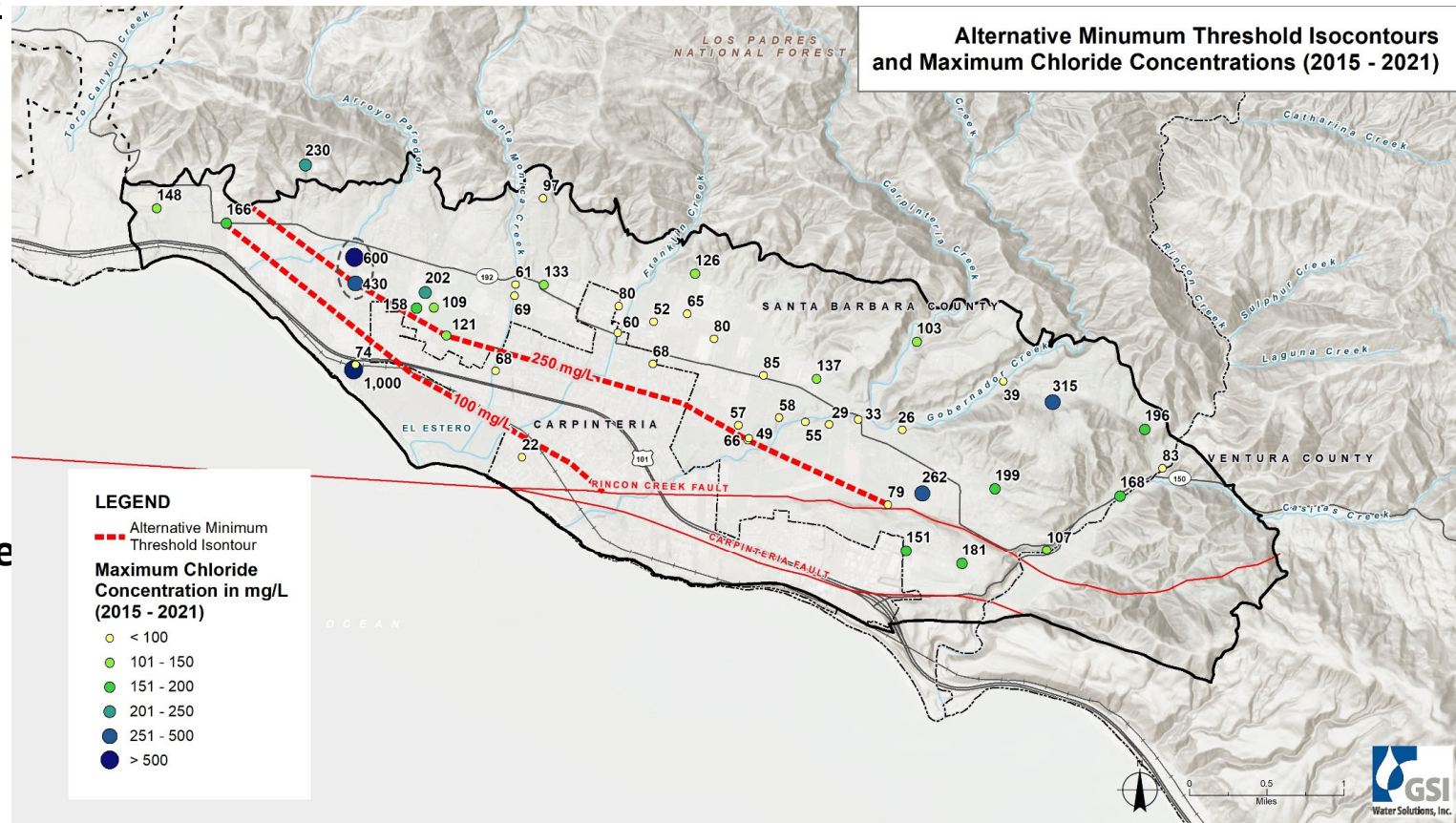
The minimum threshold for seawater intrusion shall be defined by a chloride concentration isocontour for each principal aquifer where seawater intrusion may lead to undesirable results.

Seawater Intrusion SMCs – Initially Proposed Minimum Threshold and Measurable Objective Isocontours

Separate Isocontour lines for MTs and MOs.

Considerations for Analysis:

- MO = 100 mg/L isocontour ~ halfway between coast and active well locations. Future monitoring will focus on this line.
- MT = 250 mg/L on a line connecting active wells
- Specifically excludes area near Arroyo Paredon with documented high chlorides





CHRONIC LOWERING OF
GROUNDWATER LEVELS &



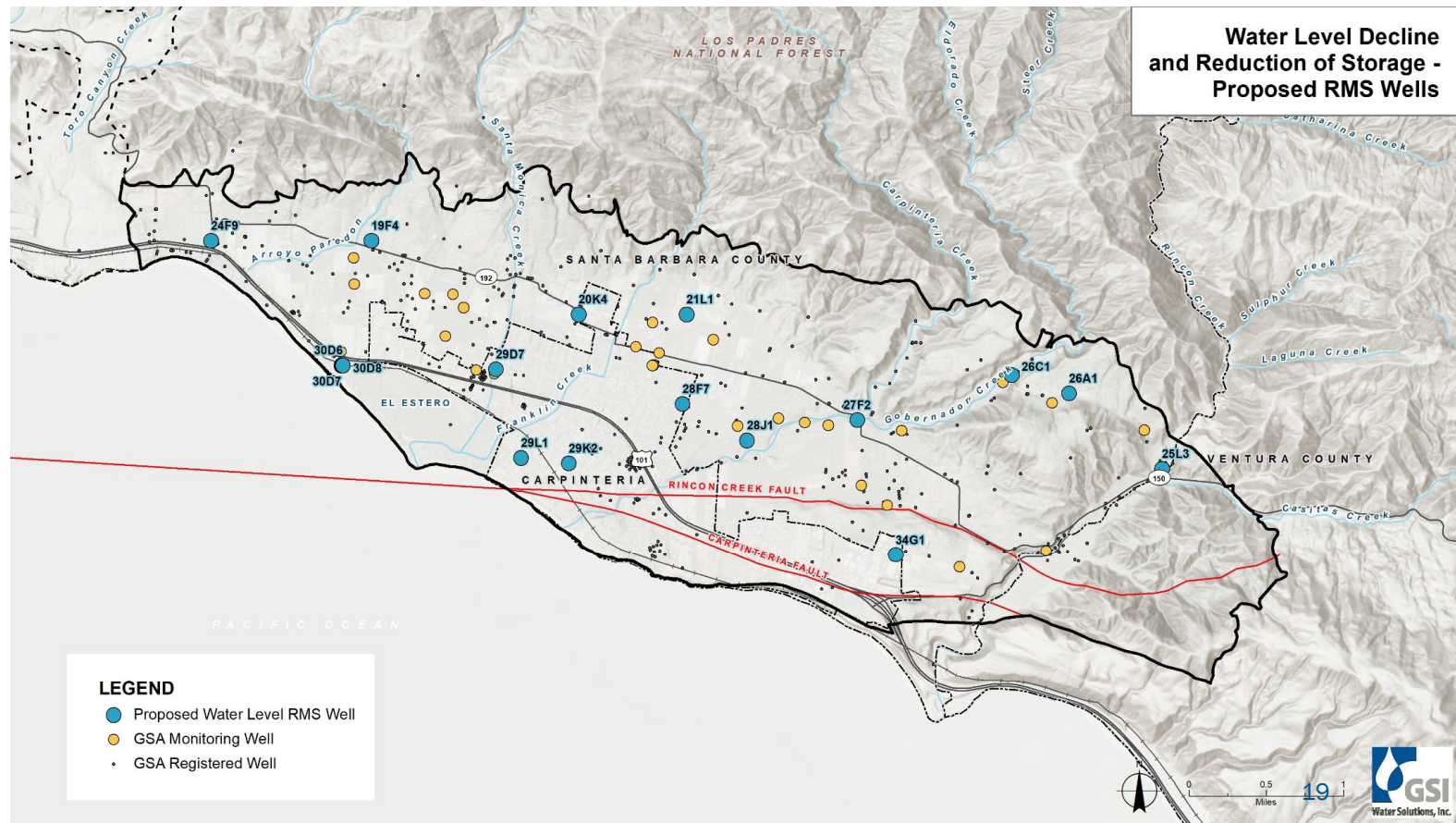
REDUCTION OF
GROUNDWATER STORAGE

Water Level Decline and Reduction of GW in Storage Proposed RMS Wells

Metric- Defined GW Elevation

Considerations :

- Period of Record
- Known construction details
- Dedicated monitoring well preferred
- Data Gaps/spatial distribution
- Accessibility for ongoing monitoring



GW Level Declines & Reduction in Storage



Conditions causing undesirable results must be significant and unreasonable

Considerations for MTs.

Review recent low water levels at RMS wells:

- Were undesirable effects observed?
- Consider depth to well screen as potentially undesirable
- In inland areas it may be reasonable to set MTs lower than recently observed low water levels
- In areas at risk of seawater intrusion, probably no lower.
- How to evaluate; other basins use multiple years of exceedance before triggering action.
- May be written as representing normal conditions (excluding significant drought, undesirable results)

GW Level Declines & Reduction in Storage



Conditions causing undesirable results must be significant and unreasonable

Additional Considerations for MTs.

- Review recent low water level conditions as water level contours from Fall 2018
- Perform well impact analysis to provide more data to DWR that lowered water levels are defensible.
 - Reduce 2018 water level surface by 10 ft, 20 ft
 - Compare lowered surfaces to known well screen data (~90 wells). See if lowered surfaces result in water levels below top of well screen

**GW Level
Declines
&
Reduction
in Storage**



**Considerations for MOs.
Review water levels at RMS wells.**

- Recent “average” operational water levels.
- SGMA Baseline: Consider 2015 conditions

Water Level Decline and Reduction of GW in Storage Section 19

- RMS Representative? Yes.
Undesirable Effects?
 - Not reported. Will check with GSPAC.
 - Water levels could go lower than historically observed if water levels stay above screen

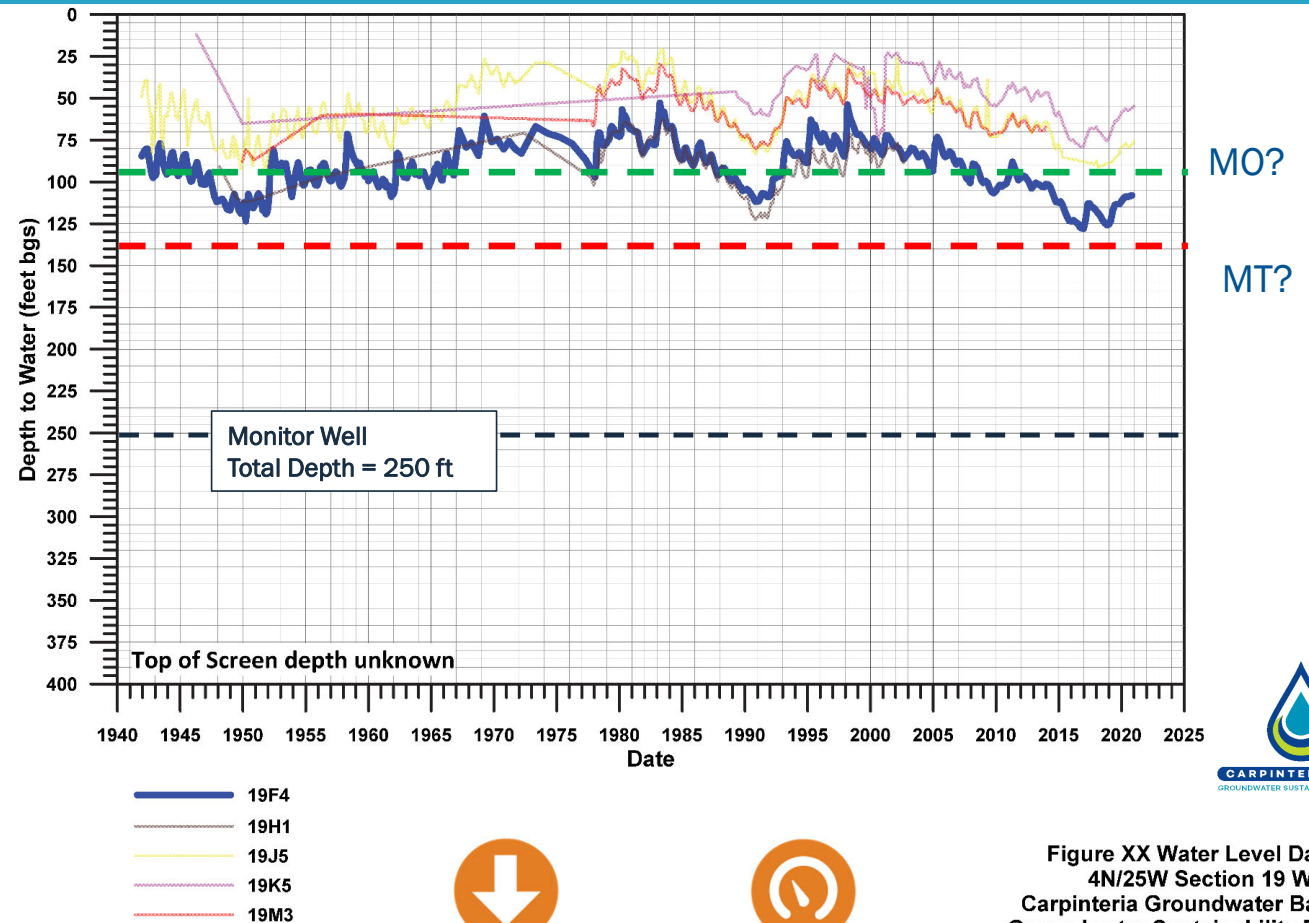
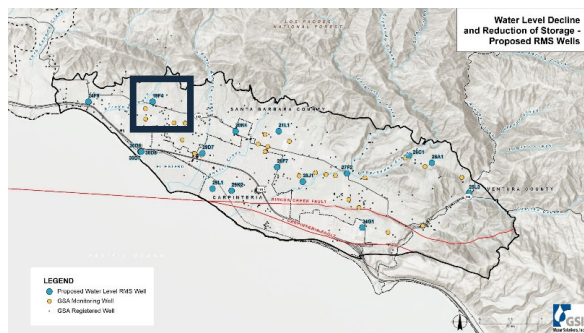


Figure XX Water Level Data -
4N/25W Section 19 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan



Water Level Decline and Reduction of GW in Storage Section 20

- Representative? Yes.
- Top of Screen 230 feet below recent low WLs.
- Undesirable Effects?
 - Not reported

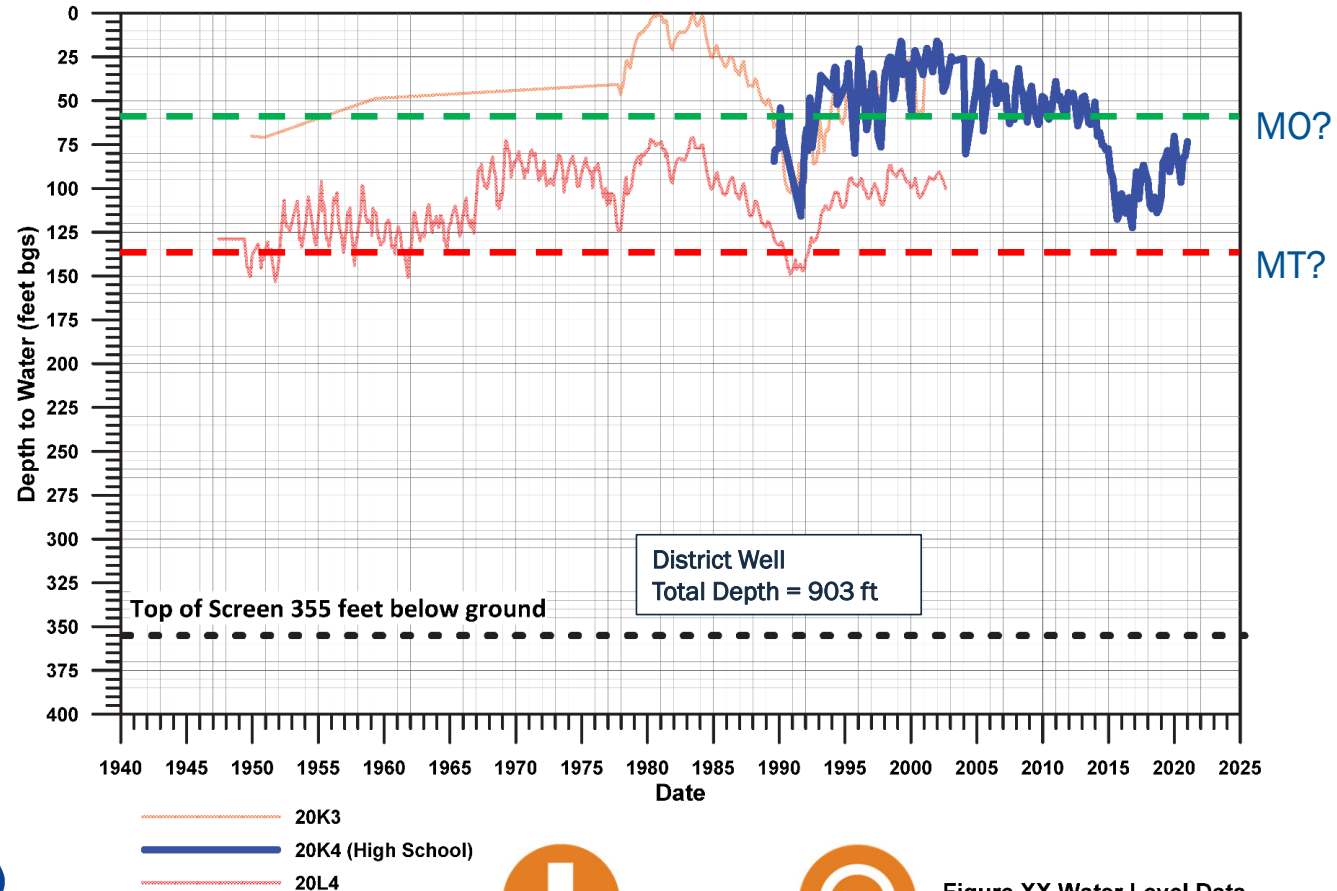
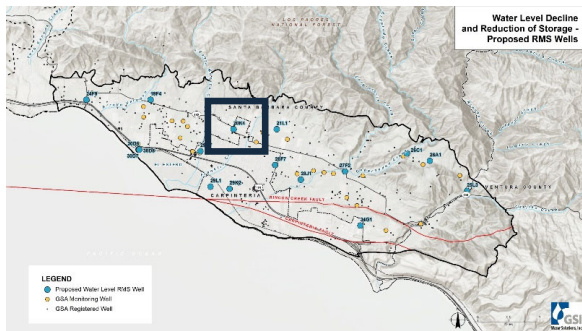


Figure XX Water Level Data -
4N/25W Section 20 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

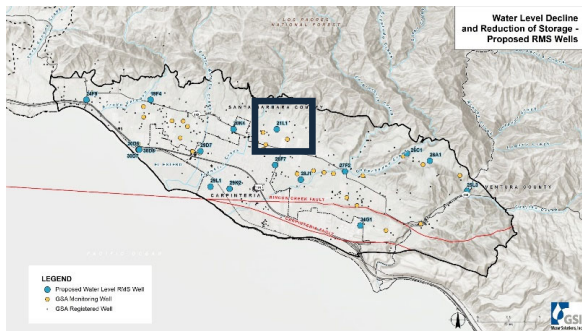


Water Level Decline and Reduction of GW in Storage Section 21

- Representative? Yes.
- Top of Screen 235 feet below recent low WLs.
- Undesirable Effects?
 - Not reported



Figure XX Water Level Data -
4N/25W Section 21 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan



Water Level Decline and Reduction of GW in Storage

Section 26

- Representative? Yes.
- Recent low WLs were below top of screen.
- 1950s WLs nearly dropped below well (dry well)
- Undesirable Effects?
 - Not reported
 - Can check with GSPAC members.

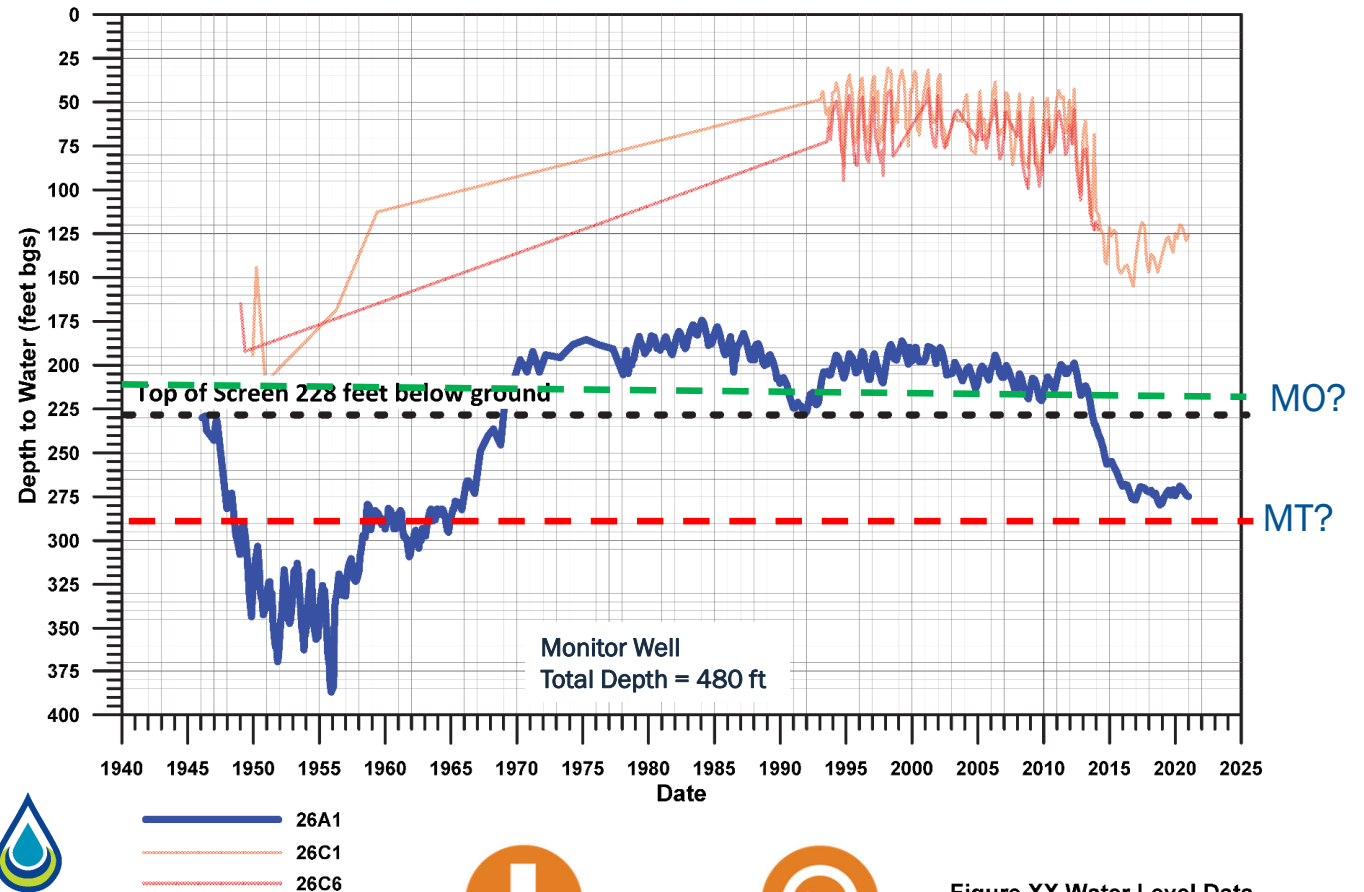
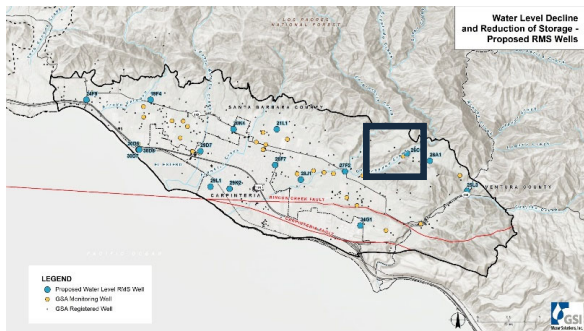


Figure XX Water Level Data -
4N/25W Section 26 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

Water Level Decline and Reduction of GW in Storage Section 25

- Hydrograph appears to indicate spring-fed flow in nearby creek. SGMA can't manage that.
- Could consider to set MTs lower than wet weather flow levels, but only to be considered during wet weather period, if pumping affects WLs.

MT/
MO?

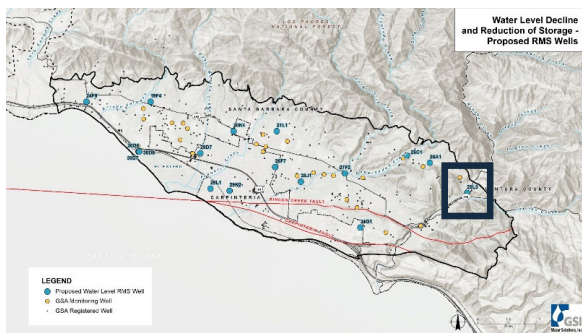
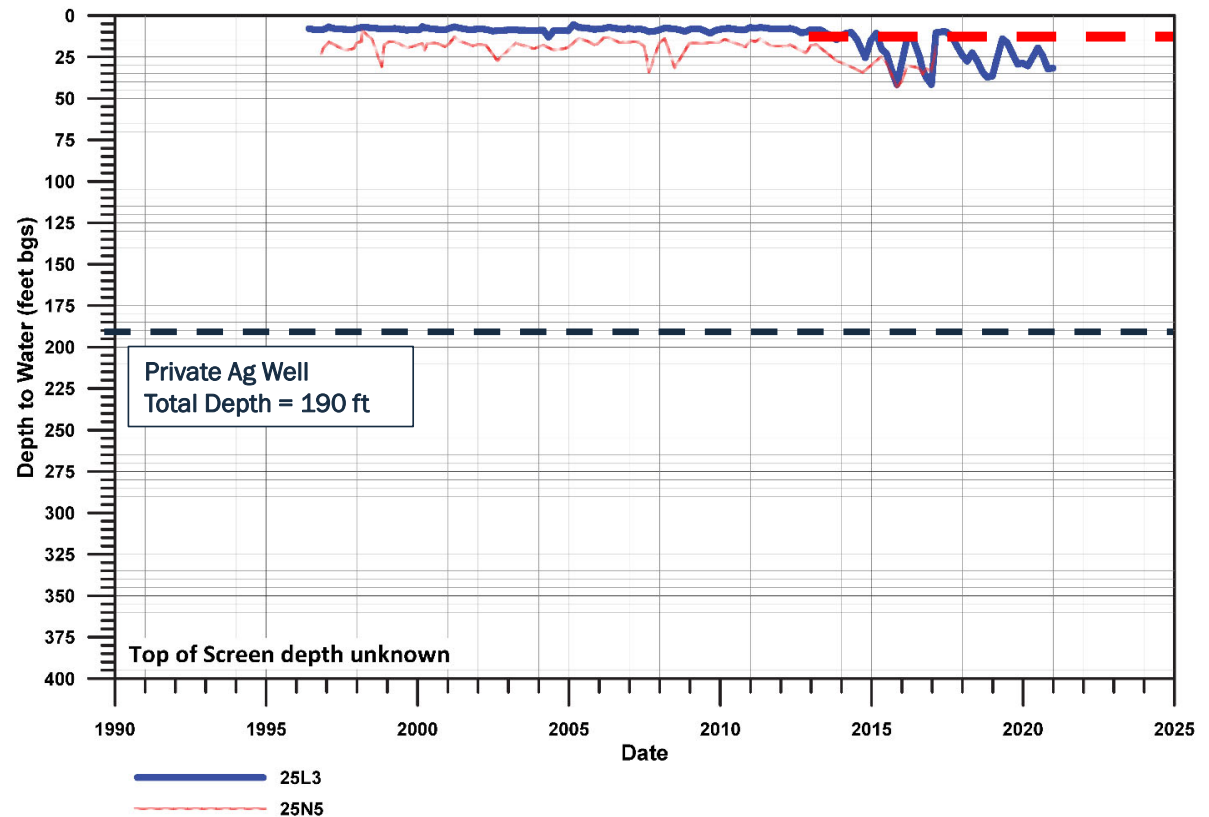


Figure XX Water Level Data -
4N/25W Section 25 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

Water Level Decline and Reduction of GW in Storage Section 27

- Representative? Yes.
- Screen top 245 feet below recent low WL.
- Undesirable Effects?
 - Not reported

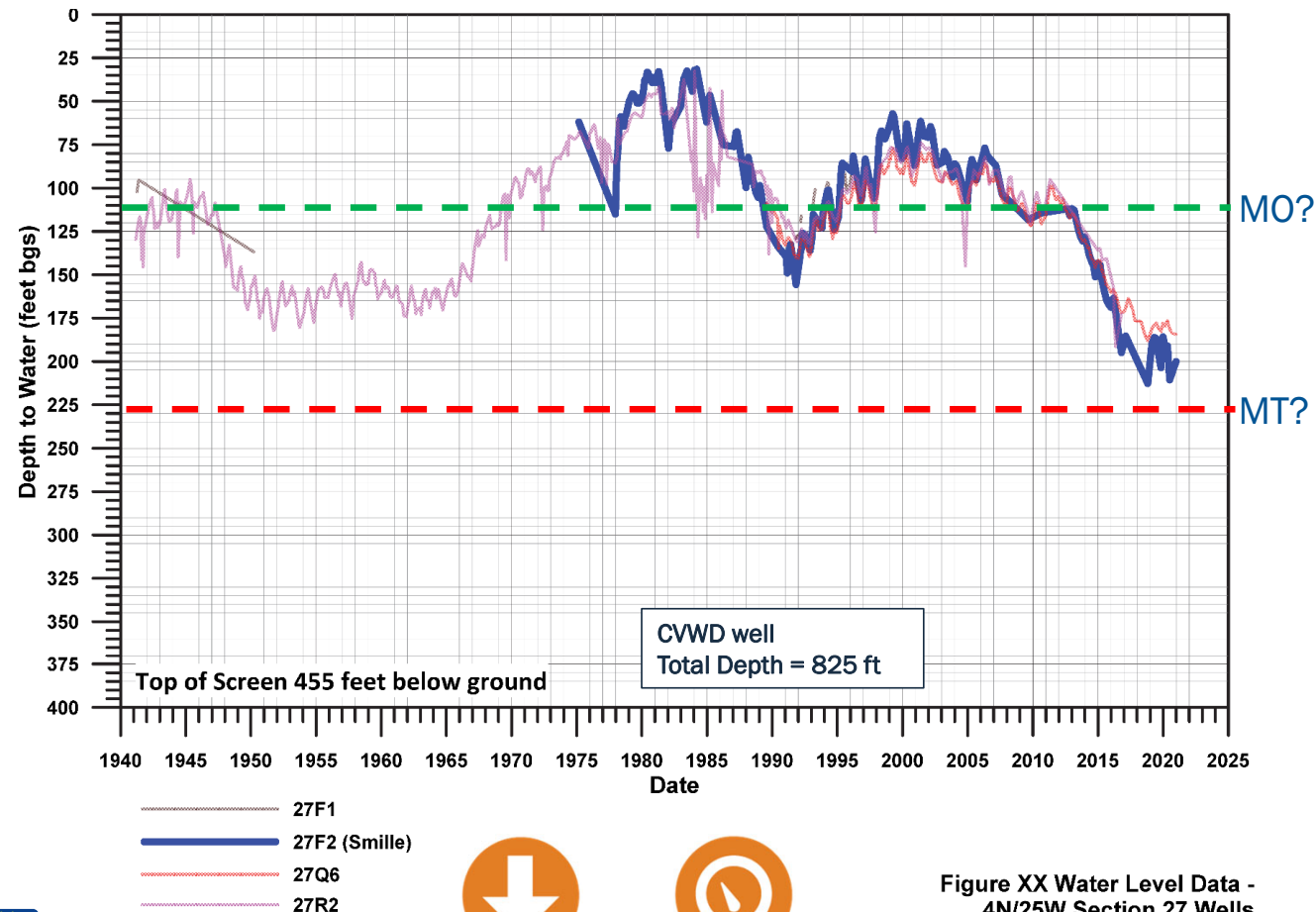
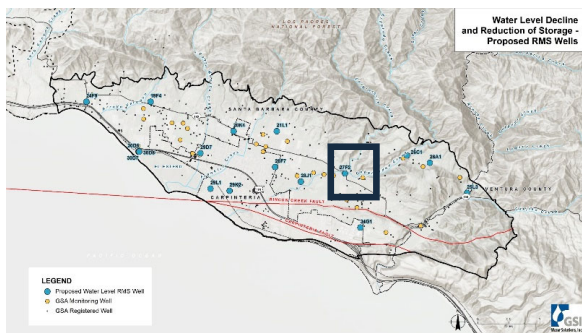
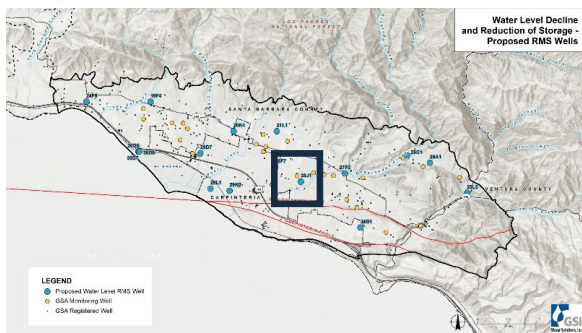
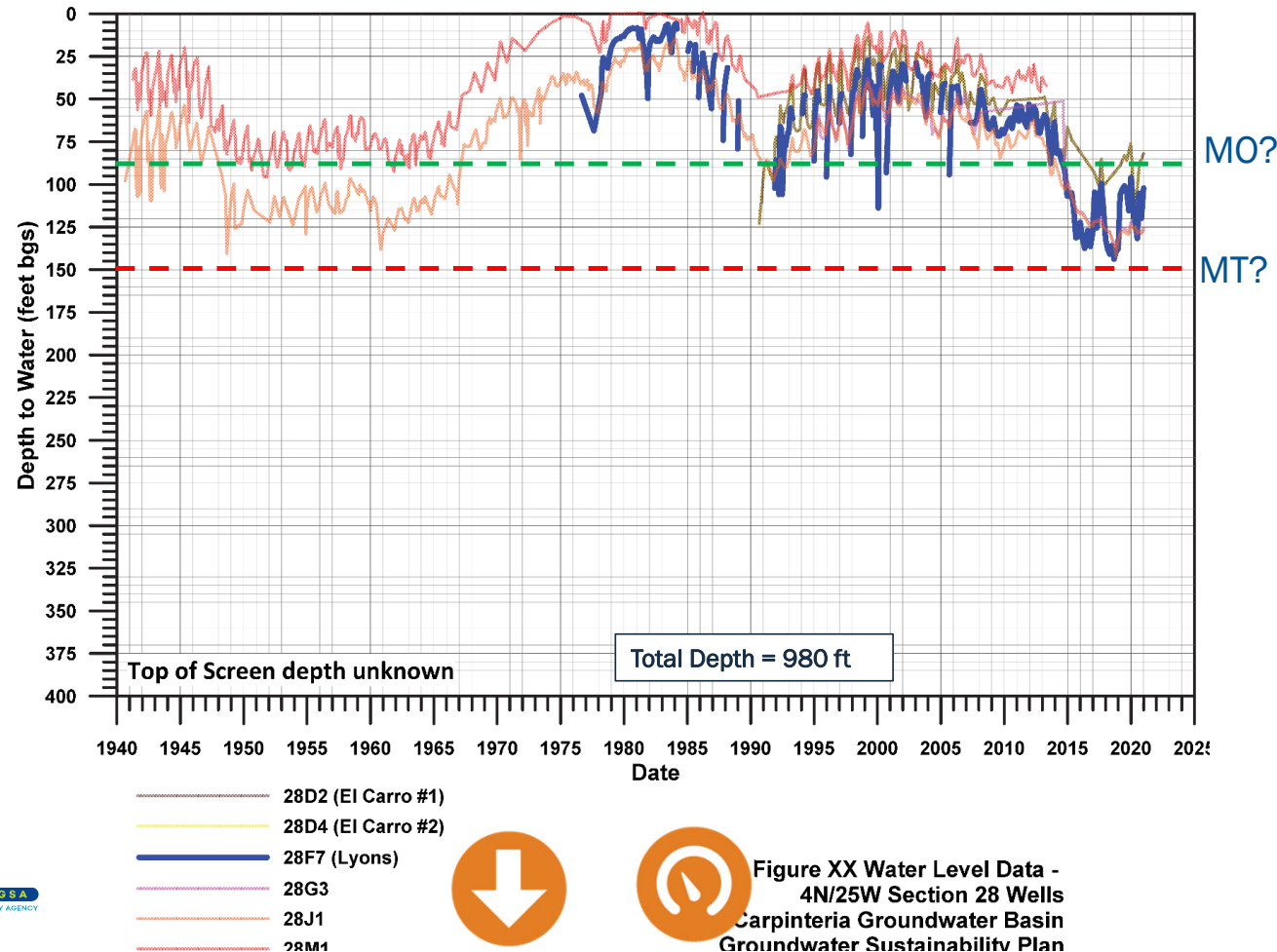


Figure XX Water Level Data -
4N/25W Section 27 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan



Water Level Decline and Reduction of GW in Storage Section 28

- Representative? Yes.
- Screen top unknown.
- Undesirable Effects?
 - Not reported



Water Level Decline and Reduction of GW in Storage Section 29

- Representative? Yes.
- Apparent pumping effects on WLs 29D7 need to be screened out.
- Top of Screen ~150 feet below recent low WLs.
- Undesirable Effects?
 - Not reported

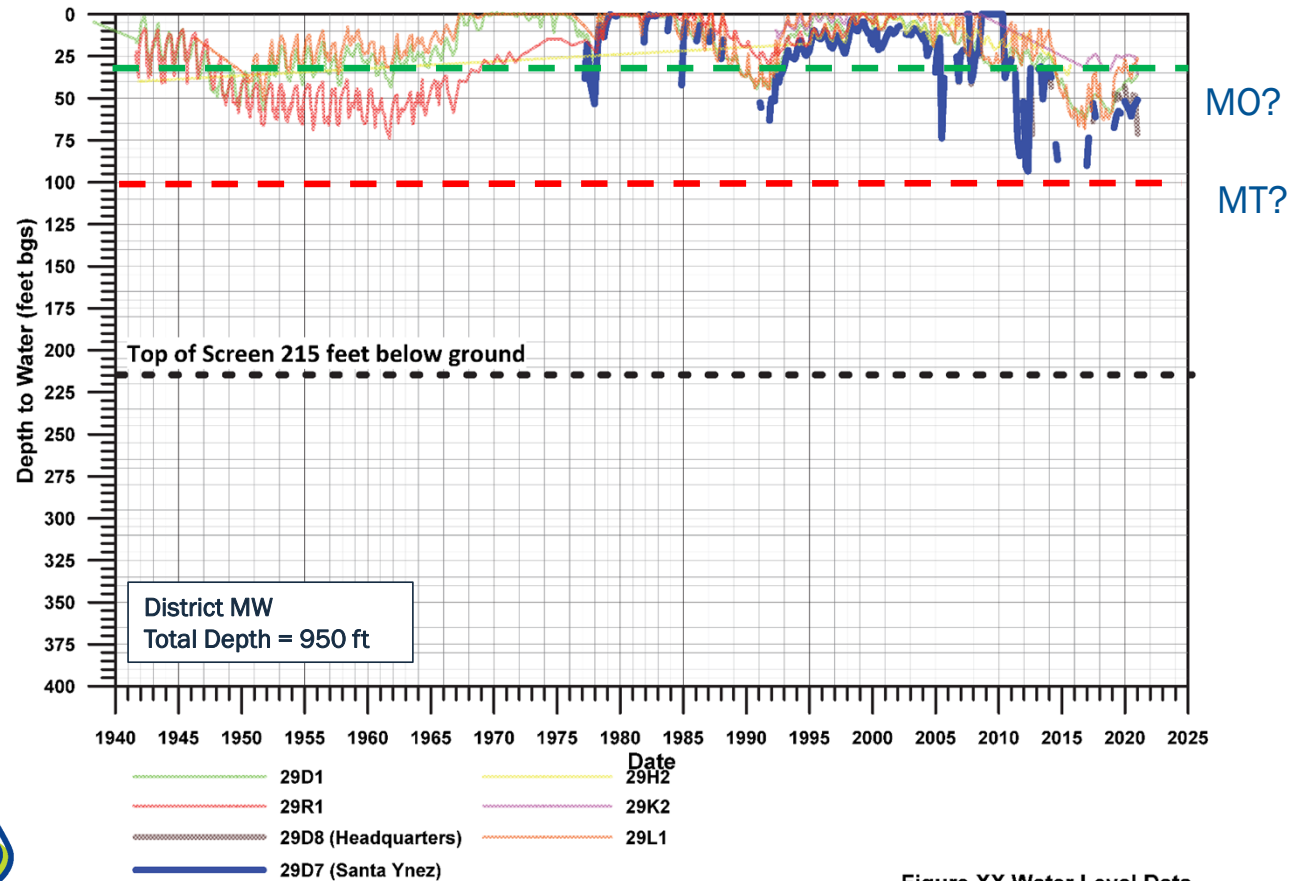
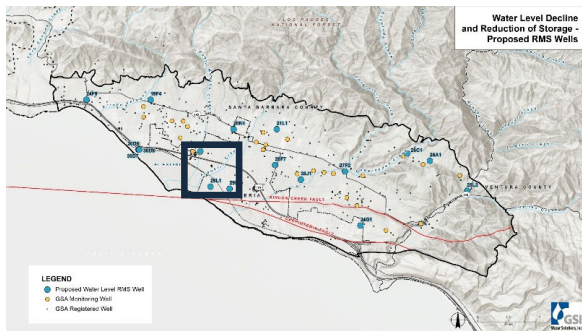


Figure XX Water Level Data -
4N/25W Section 29 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

Water Level Decline and Reduction of GW in Storage Section 30

- Artesian flow till 2005, during wet periods.
- Sentinel Wells may be RMS wells in this section.

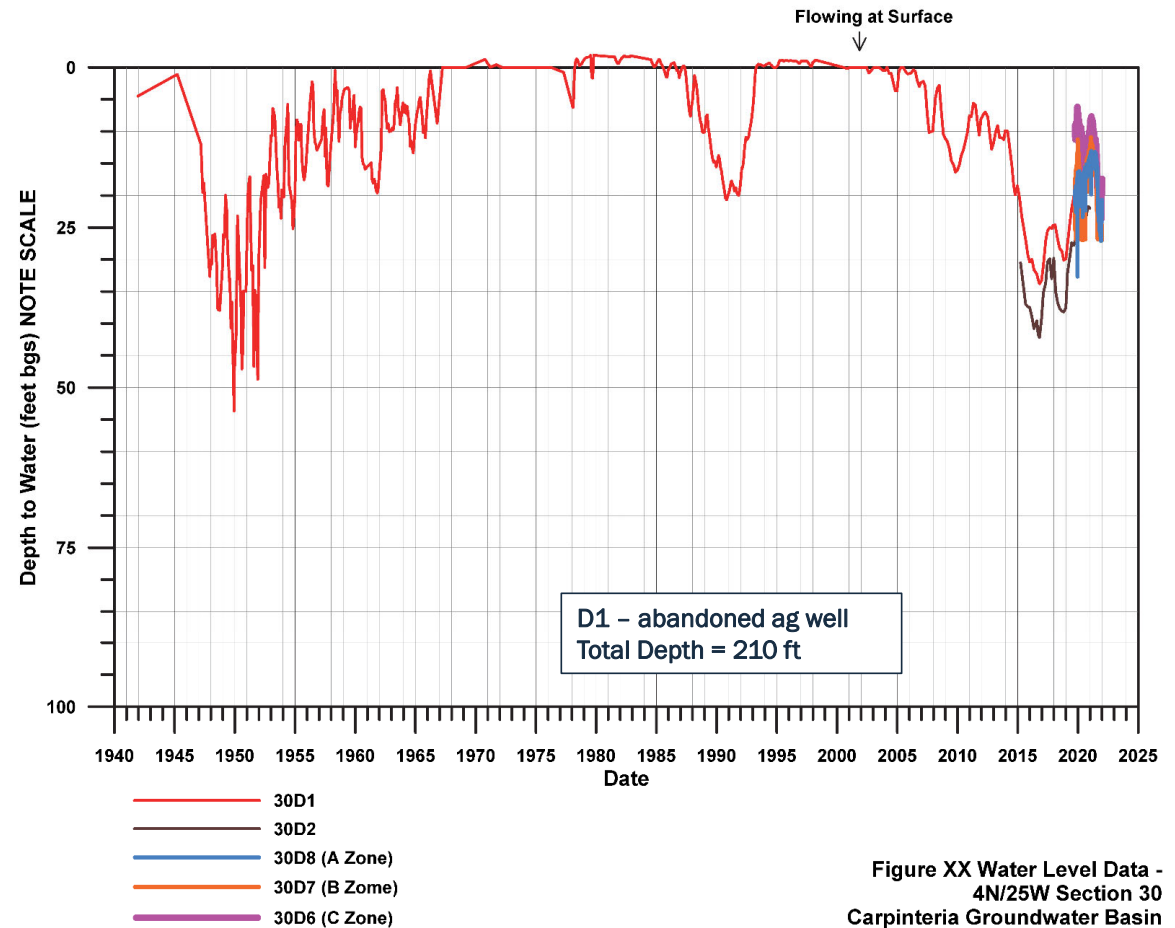
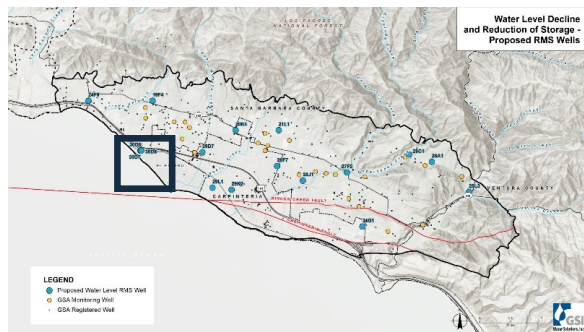


Figure XX Water Level Data -
4N/25W Section 30
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

Water Level Decline and Reduction of GW in Storage Section 30

- Artesian flow till 2005.
- Sentinel Wells will be RMS wells in this section.

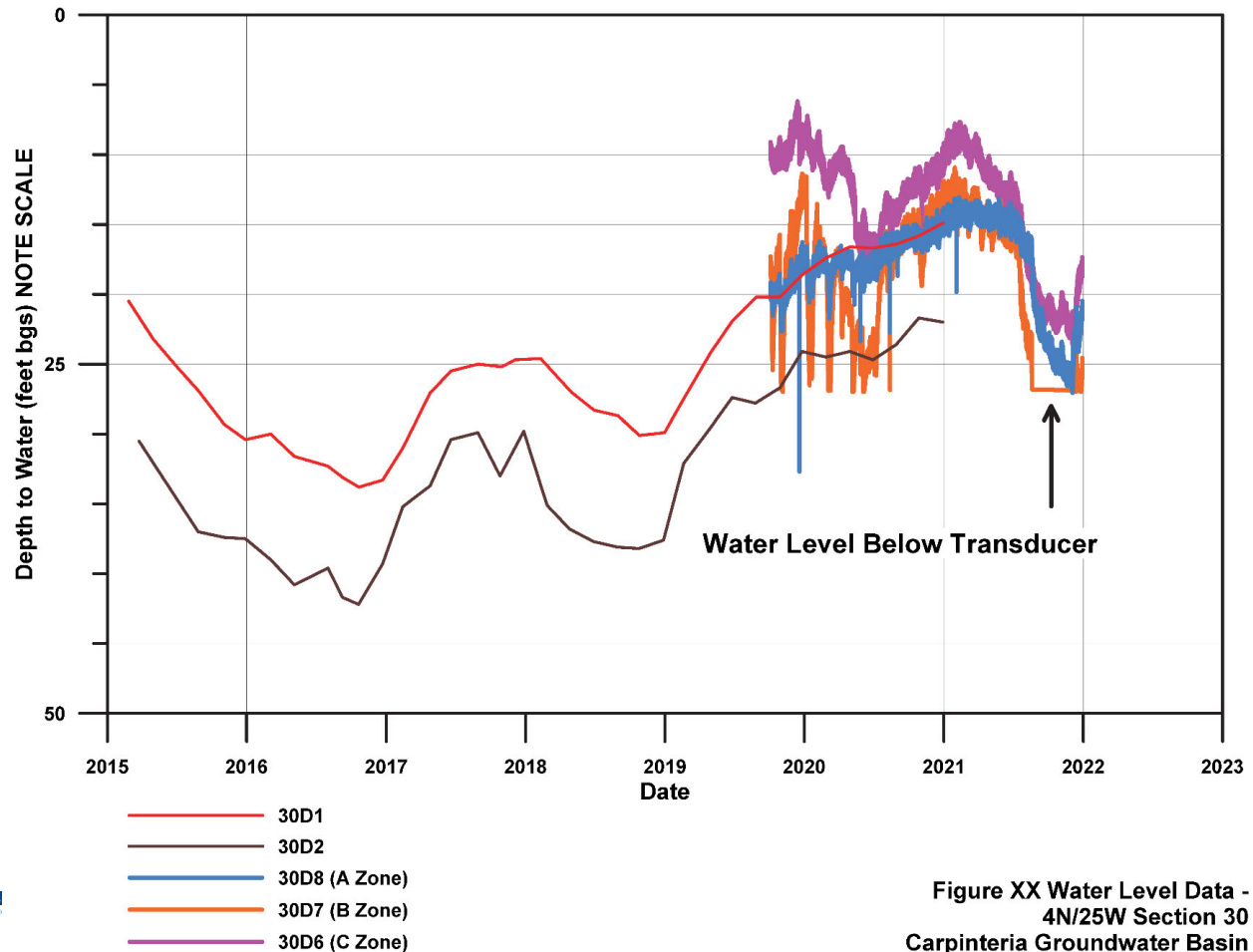
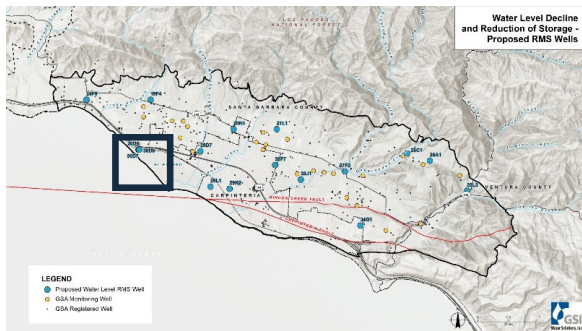


Figure XX Water Level Data -
4N/25W Section 30
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

Water Level Decline and Reduction of GW in Storage Section 34-35

- South of Rincon Creek Fault.
- Screen top unknown.
- Limited GW use in this area.
- Undesirable Effects?
 - Not reported

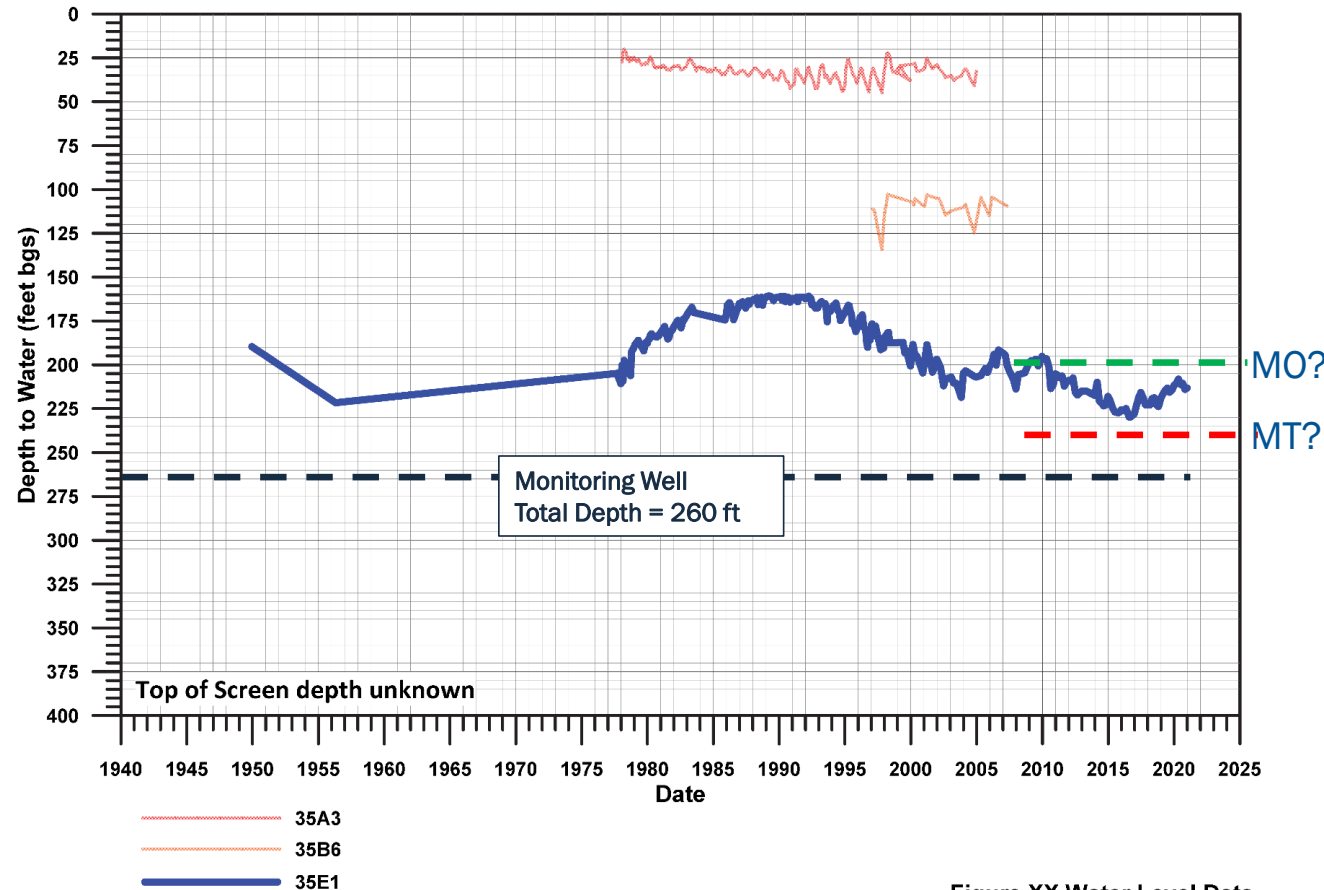
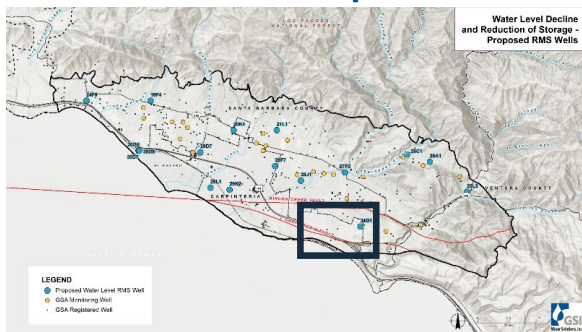


Figure XX Water Level Data -
4N/25W Section 35 Wells
Carpinteria Groundwater Basin
Groundwater Sustainability Plan

REVIEW OF SENTINEL WELL DATA

Section 30

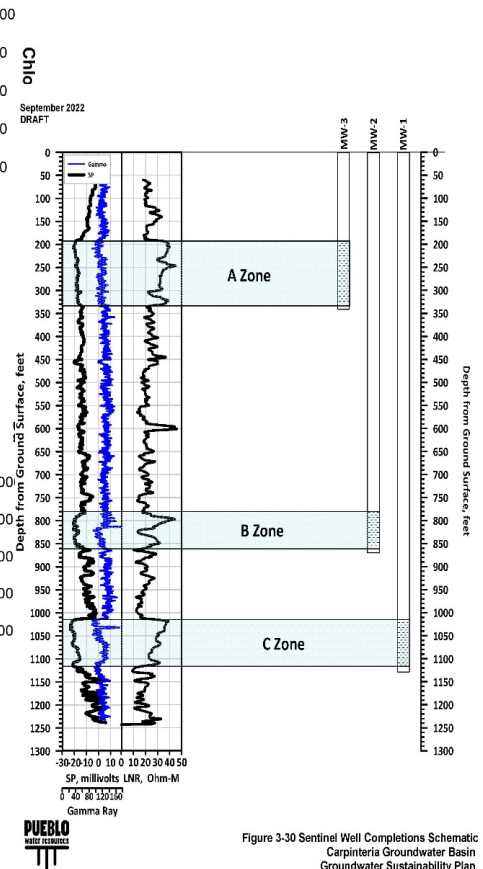
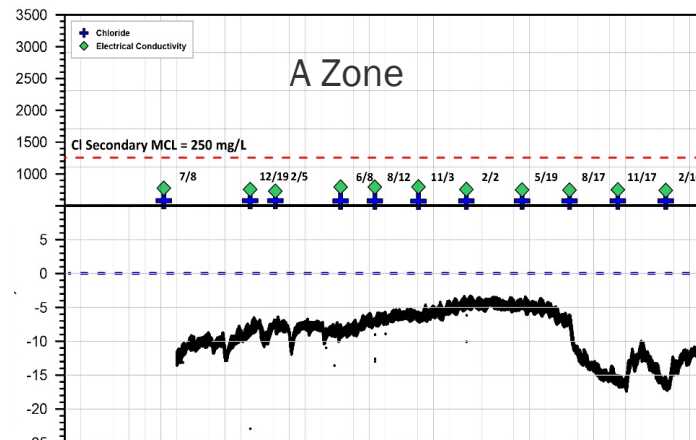
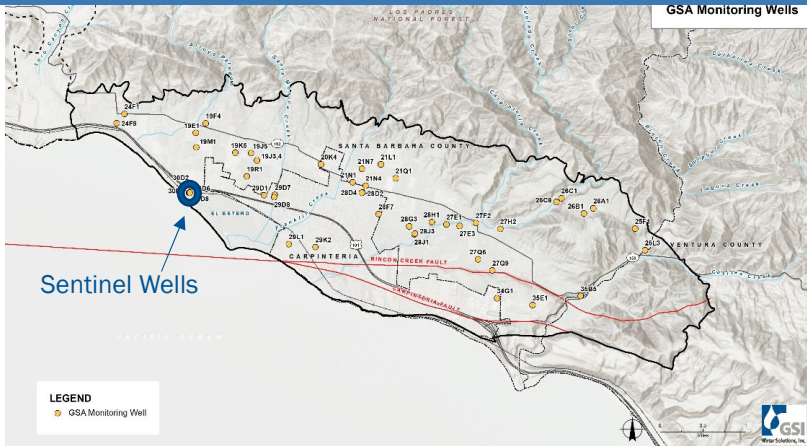
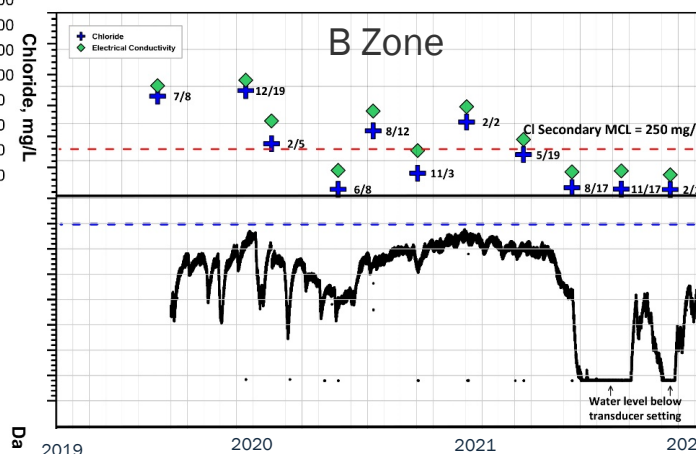
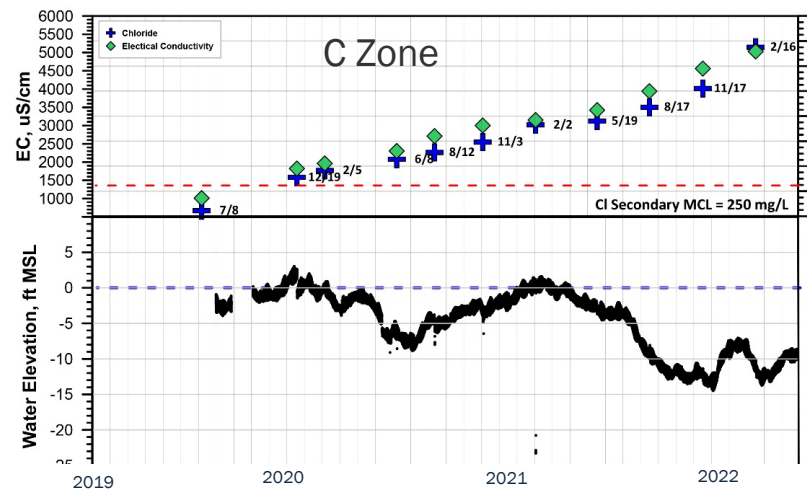


Figure 3-30 Sentinel Well Completions Schematic
 Carpinteria Groundwater Basin
 Groundwater Sustainability Plan





WHAT'S NEXT

WHAT'S NEXT: Upcoming Public Workshops



Learn more or take action at
CarpGSA.org

GSPAC Schedule and Topics

February 2023

GSPAC Meeting #1

1. Welcome, Introductions/Icebreaker.
2. Overview of SGMA.
3. Discuss purpose and plan for advisory committee involvement in GSP process.
4. Establish guidelines for committee participation; review bylaws.
5. Schedule and topics for future meetings.
6. Review topics from previous workshops: basin conditions; introduction to SMCs.

March 2023

GSPAC Meeting #2

1. Review draft sustainable management criteria and comment on which are most appropriate for the basin.

April 2023

GSPAC Meeting #3

1. What projects and management actions are preferred and are the priority?
2. How should climate change be considered in developing sustainable management criteria.
3. Is a pumping fee vs an acreage-based fee the most appropriate in Carpinteria?
4. Should the GSA require meters on wells?
5. Would stakeholders be interested in importing water at a cost to replace groundwater when needed?

May 2023

GSPAC Meeting #4

1. Should individual well pumping rates be limited such that they do not affect neighboring wells?
2. Should new wells or expanded wells be limited? For good or just during drought?
3. If allocation for groundwater pumping is needed should crop type or water use type be considered in determining the allocation.
4. Should different management areas be created to address different priorities?



QUESTIONS?