

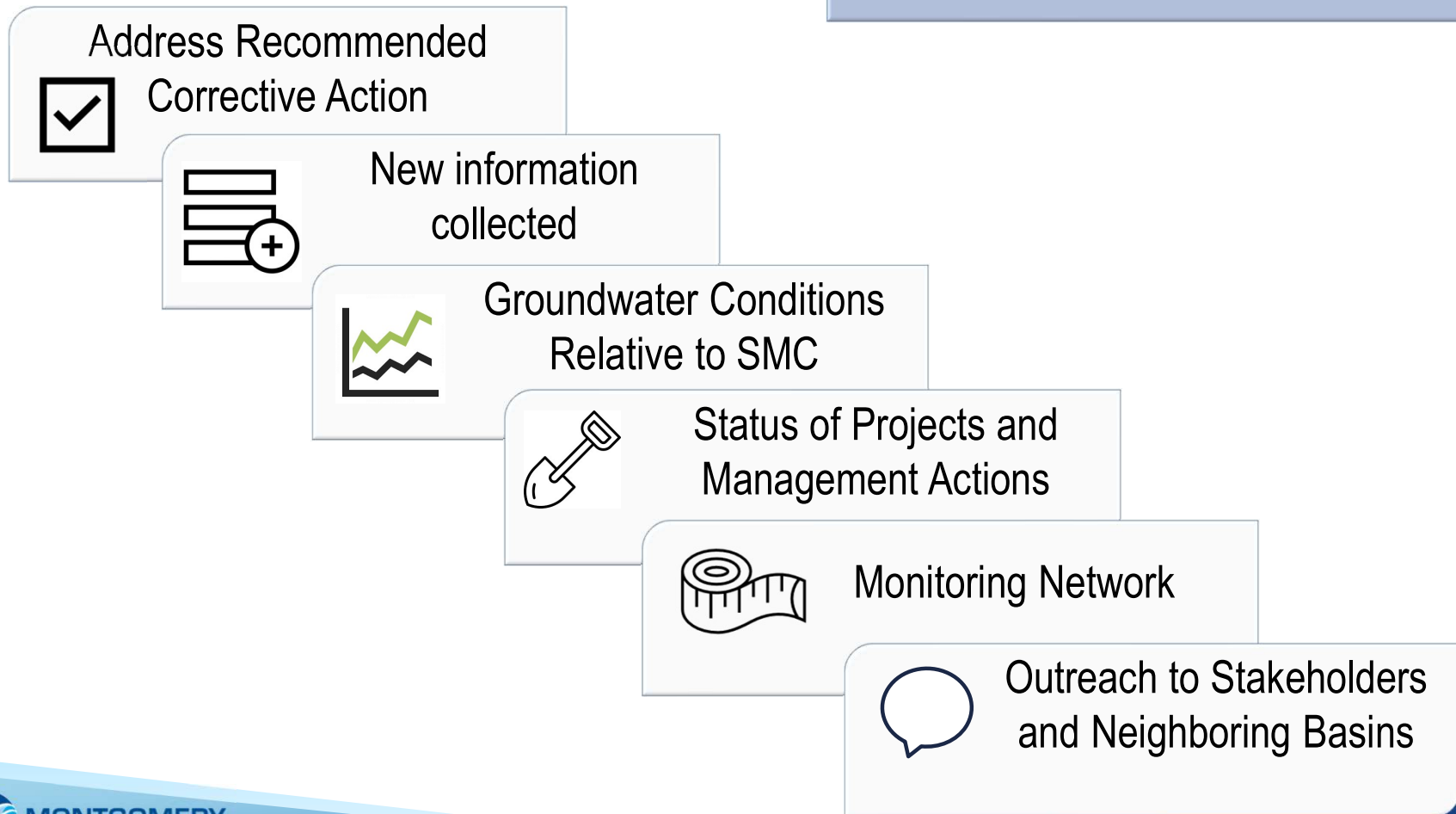
Santa Cruz Mid-County Groundwater Agency 2025 Periodic Evaluation



Board of Directors
September 19, 2024

Periodic Evaluation Content

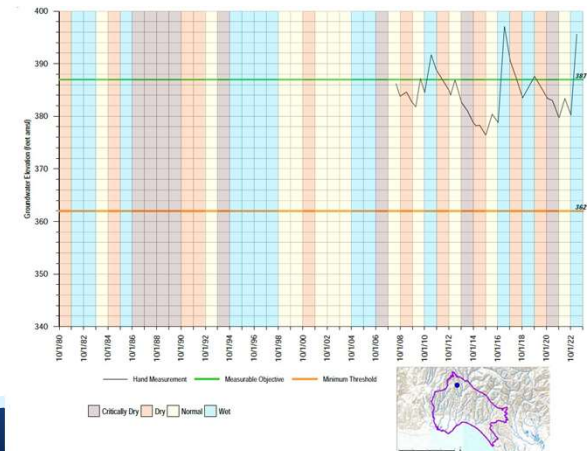
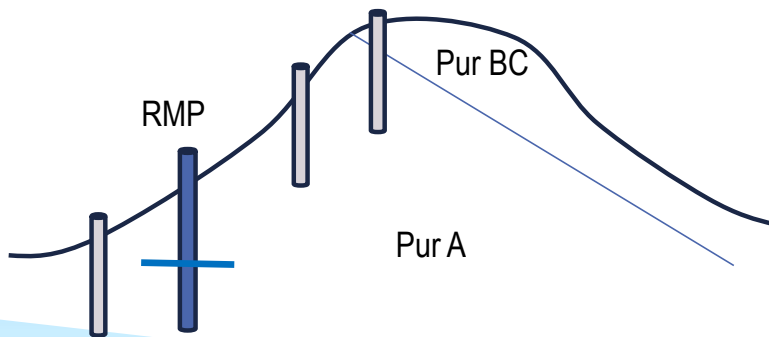
Evaluation Cycle = WY 2019 through WY 2023



**Address DWR
Recommended
Corrective Action**

Identify and quantify potential impacts to domestic wells that the Plan describes as potentially needing to be deepened if groundwater level MTs are reached

- Typical methods of identifying and quantifying water level impacts on domestic wells not work for this basin because most domestic wells are in mountainous areas with dipping stacked aquifers
- Relatively balanced groundwater conditions and stable demand supported by regulated rural land use development, limits long-term groundwater level declines in areas of domestic well groundwater use



Recommended Corrective Action

Drought Preparedness: Small Water Systems

NEW HOME PROGRAMS WATER RESOURCES DROUGHT RESPONSE DROUGHT PREPAREDNESS: SMALL WATER SYSTEMS

Para traducir esta página al español, haga clic en "Select Language" en la parte superior de la página y seleccione "Spanish" en el menú.

Santa Cruz County residents are already experiencing the effects of climate change, which are expected to only increase in the coming decades. These effects include longer, more intense, and more frequent droughts, which are punctuated by more extreme rain events. Additionally, wildfire risk in the County is projected to continue increasing, with the danger being greatest in the mountainous areas of north and central county. Residents that get their water from a small water system are especially vulnerable to these impacts, but the County has resources to help your water system adapt to climate change.

How Can the County Help Your Water System?

Santa Cruz County has secured funding for several programs that can help small water systems that have been impacted by drought.

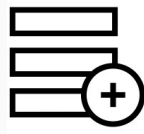
Dry Well Assistance:

Increasing drought conditions can lead to wells going dry. Santa Cruz County has secured funding to provide 3,800 gallons of hauled water per household every 6 weeks, at no cost, to small water system managers whose wells have gone dry due to drought. To receive this assistance, you will need to report the dry well through the State reporting system. County staff will review the report to determine if the well is likely to have gone dry or if there is another issue causing the well to stop producing water. If the well is likely dry, we will coordinate with you and the water hauler to fill your onsite storage tanks while a long-term solution is pursued.

REPORT YOUR DRY WELL

County has developed a Drought Response and Outreach Plan to support domestic or small water system well owners should they experience impacts to their wells, particularly during drought periods, and when State funding is available.

MGA's response to the recommended corrective action documented in Section 3 is explanatory and does not lead to any GSP revisions



New Information Collected

Significant New Information	Aspects of Plan Affected	Warrant Change to Any Aspects of the Plan (Yes/No) If yes, include section of the Plan
DWR AEM	Potentially basin setting / HCM	No
7 new ISW monitoring wells and 6 streamflow gages	Basin setting, monitoring network	No, monitoring network changes do not warrant change to GSP
2 new deep coastal monitoring wells	Monitoring network, SMC, HCM depth of aquifer contacts	No, monitoring network changes do not warrant change to GSP
PWS SWIP recharge and monitoring well installation	Potentially basin setting, HCM, aquifer properties, contact depths	No
PWS demonstration testing	Aquifer properties and basin setting	No
SCWD ASR Pilot and Demonstration testing	Aquifer properties and basin setting	No
Soquel Creek Streamflow Assessment Study	Helps the MGA design and plan PMAs that avoid habitat impairment	No, findings were informational



Groundwater Conditions Relative to SMC

Sustainability Indicators

- Chronic Lowering of Groundwater Levels
- Seawater Intrusion
- Depletion of Interconnected Surface Water
- Degraded Groundwater Quality
- Reduction in Groundwater in Storage
- Land Subsidence (not applicable)

Sustainable Management Criteria (SMC)

- Minimum Threshold (don't want to have levels or quality worse than this)
- Measurable Objective (goal)
- 5-Year Interim Milestones (progress towards Measurable Objective)
- Undesirable Results (combination of Minimum Threshold exceedances)

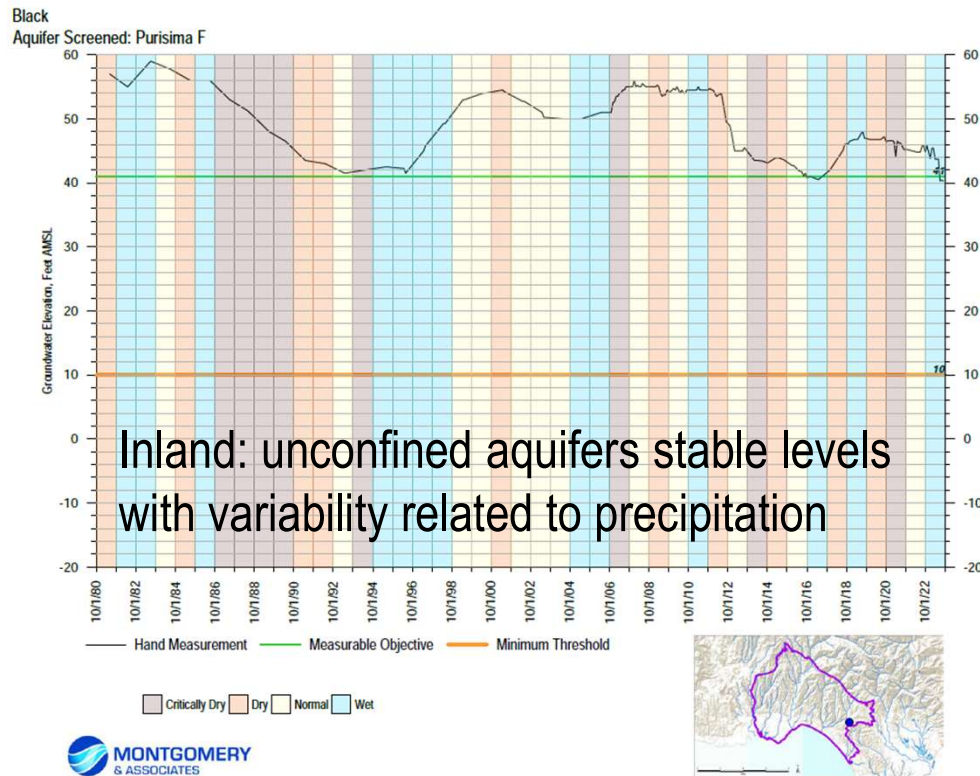
Evaluation of Sustainable Management Criteria

For each Sustainability Indicator:

- Reviewed progress being made relative to SMC (Minimum Threshold, Measurable Objectives, Interim Milestones & Undesirable Results)
- Considered significant new information obtained over the evaluation cycle

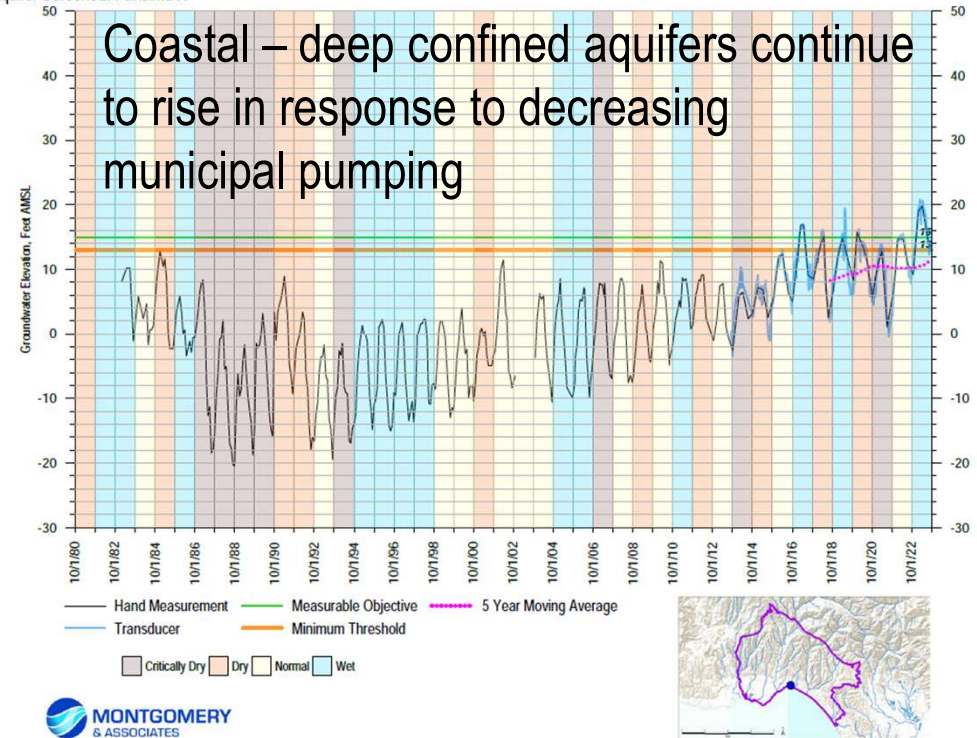
No changes to Sustainable Management Criteria are needed

Groundwater Conditions – Groundwater Levels



Inland: unconfined aquifers stable levels with variability related to precipitation

SC-5A & SC-5RA at New Brighton
Aquifer Screened: Purisima A



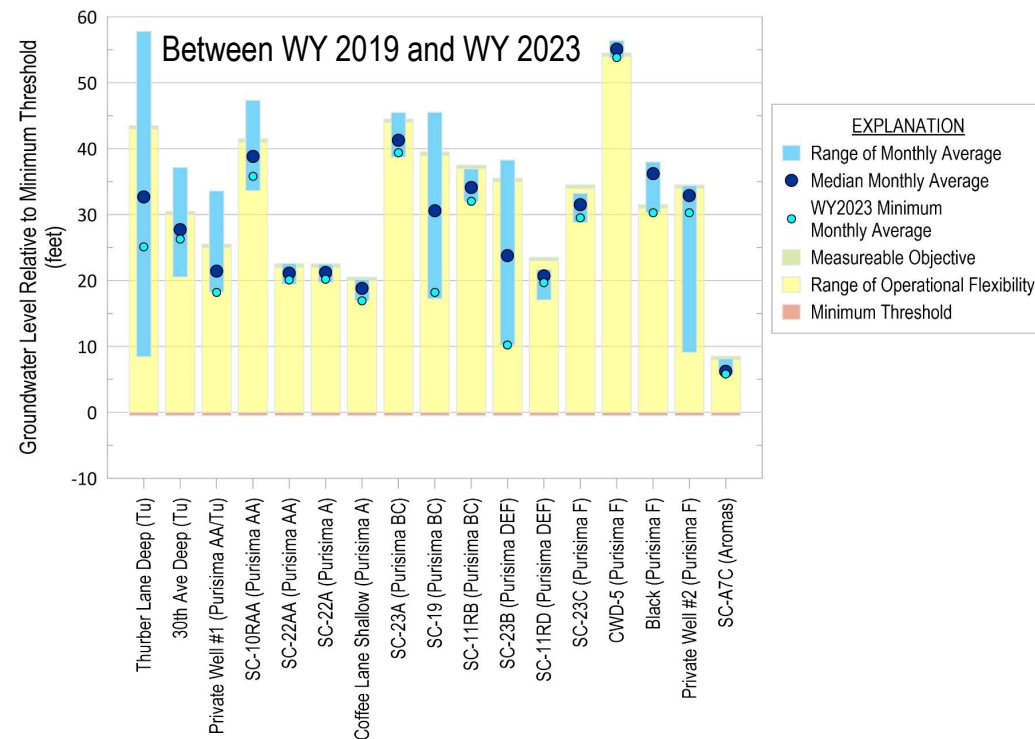
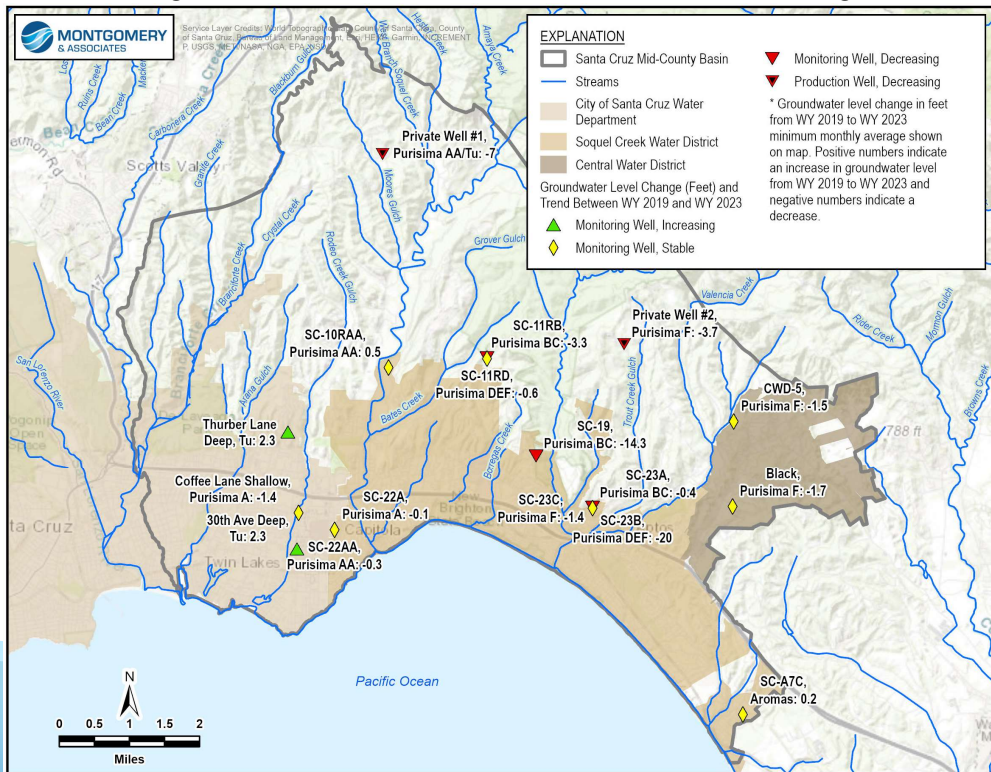
Implementation of Pure Water Soquel (PWS) and City of Santa Cruz Aquifer Storage and Recovery (ASR) projects will facilitate further coastal area groundwater level increases to prevent seawater intrusion

Groundwater Conditions – Groundwater Levels

Sustainable Management Criteria

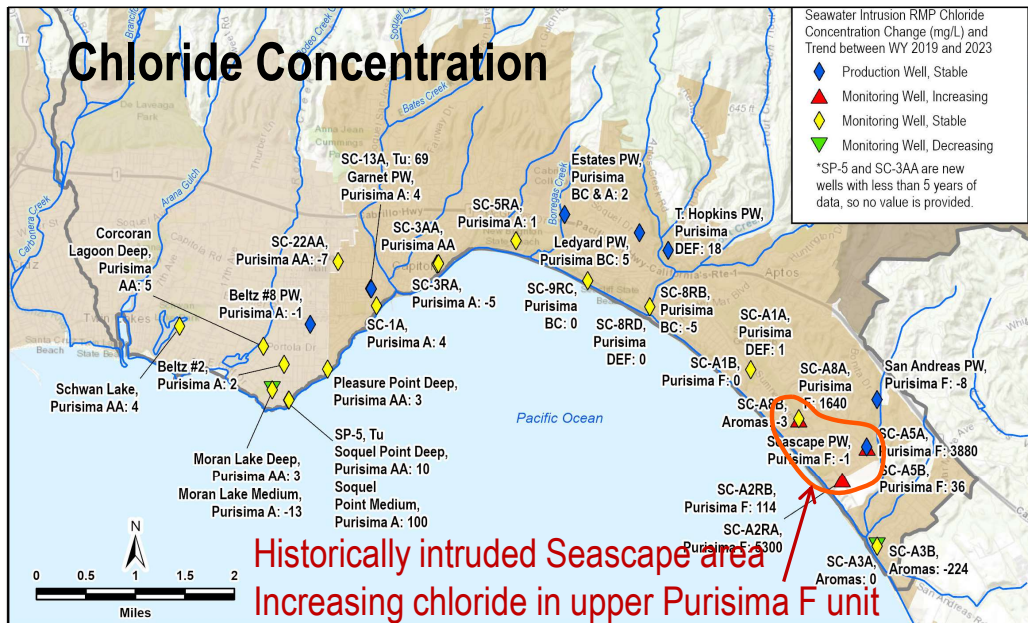
- Representative Monitoring Points (RMP) for this Sustainability Indicator do not include coastal wells – they are included in the RMP for Seawater Intrusion
- Most groundwater levels are stable or increasing

- Groundwater levels have never fallen below Minimum Thresholds
- No Undesirable Results

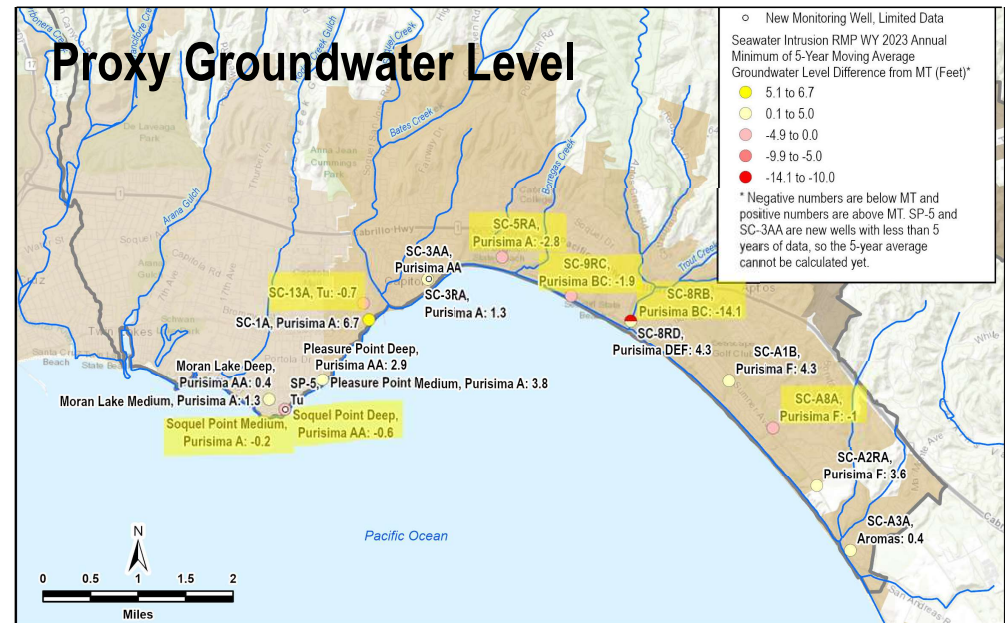


Groundwater Conditions – Seawater Intrusion Sustainable Management Criteria

Chloride Concentration



Proxy Groundwater Level



- Except for the Seascap area, chloride concentrations are stable
- Additional analysis in the Seascap area being conducted to better understand pumping dynamics, geochemistry, and to potentially delineate the onshore extent of intrusion.
- 7 of 17 RMP have 5-Year Moving Average groundwater levels below protective groundwater levels (Minimum Thresholds)
- Undesirable results are occurring in all aquifers except, Aromas Red Sands and Purisima DEF units

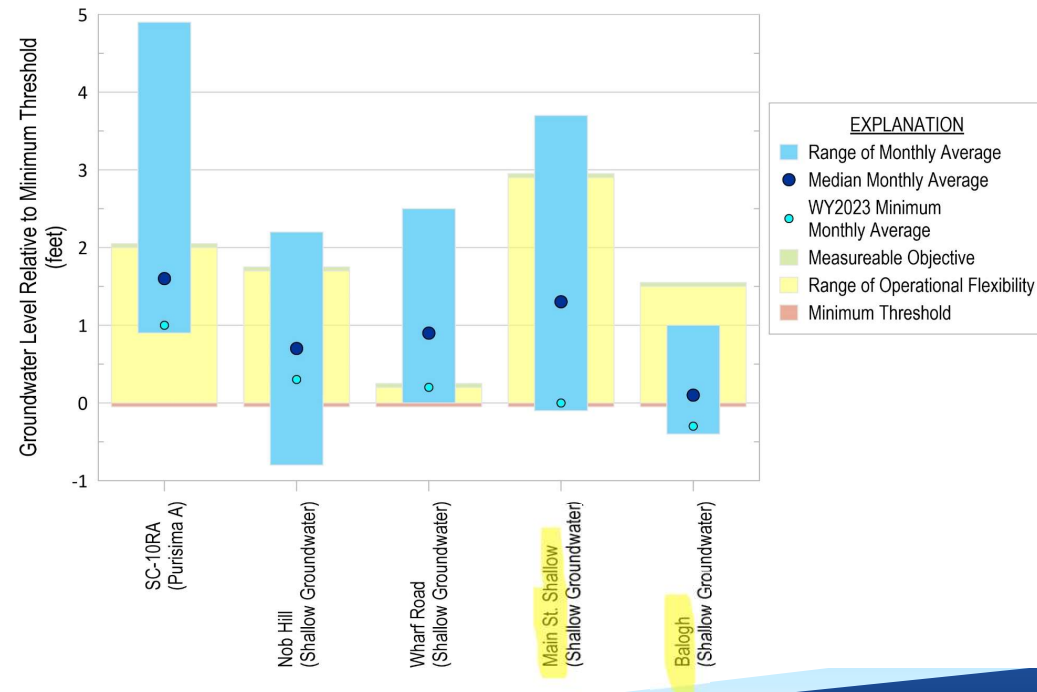
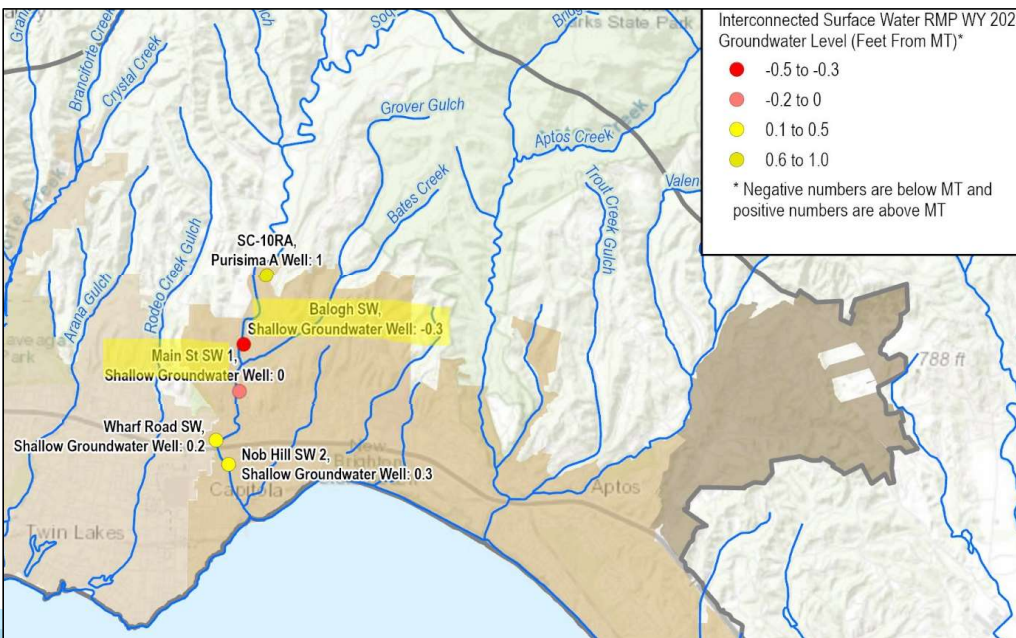
Metrics should be met by implementation of PWS and ASR projects which bring in supplemental water supplies to decrease municipal groundwater demand

Groundwater Conditions – Interconnected Surface Water

Sustainable Management Criteria

- Groundwater levels in shallow monitoring wells adjacent to streams are used as a proxy for monitoring and managing surface water depletion
- Shallow groundwater levels near interconnected streams were stable during the evaluation cycle, fluctuating by no more than 4 feet.

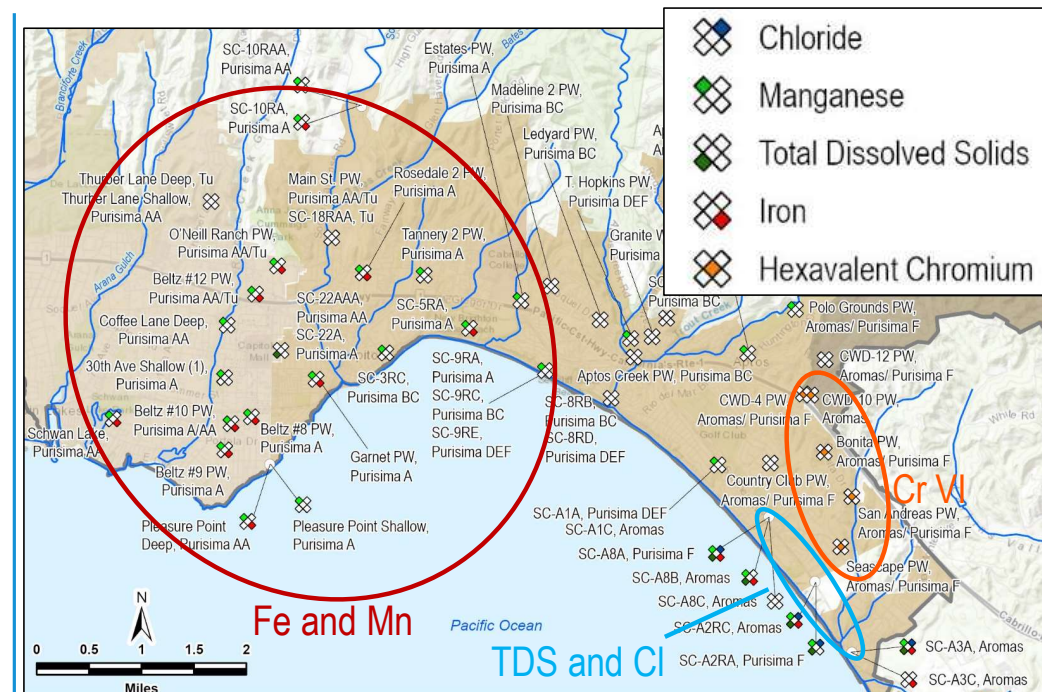
- Interconnected surface water monitoring network was improved with 7 new monitoring wells
- Additional monitoring data and guidance from DWR on managing depletion of interconnected surface water will be incorporated into the next Periodic Evaluation



Groundwater Conditions – Groundwater Quality

- Groundwater quality in supply wells is generally of good quality and meets regularly standards, except for a few naturally occurring constituents:
 - Iron and manganese exceed taste and odor thresholds in numerous aquifers
 - Hexavalent chromium exceeds drinking water standard in areas underlain by Aromas Red Sands
 - Water quality standards are met by blending or treatment
- Chloride and TDS exceed regulatory standards in some coastal monitoring wells

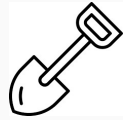
Groundwater Quality MT Exceedances



Groundwater Conditions – Groundwater in Storage

Aquifer Unit Group	Minimum Threshold	Interim Milestone 2025	Measurable Objective	Undesirable Results
Aromas Red Sands and Purisima F	not met	not met	not met	yes
Purisima DEF, BC, A and AA	not met	not met	not met	yes
Tu	met	not met	not met	no

- Minimum Threshold is the Basin Sustainable Yield, or total volume of groundwater that can be withdrawn from the Basin without causing conditions that lead to undesirable results
- Extraction volumes currently exceed Minimum Thresholds in some of the principal aquifers
- Temporary Undesirable Results are expected and will be resolved with implementation of Pure Water Soquel and City of Santa Cruz ASR



Status of Projects and Management Actions

Projects

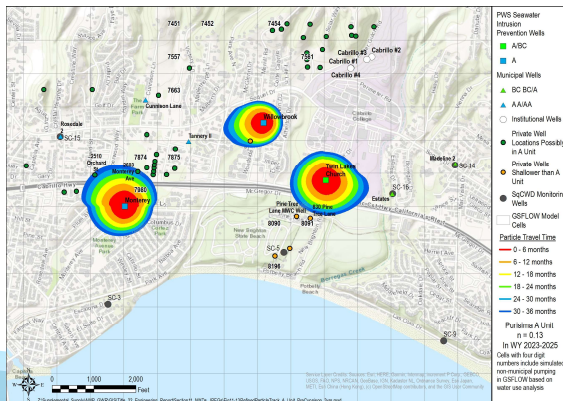
- Pure Water Soquel
- Aquifer Storage and Recovery (ASR) City of Santa Cruz Water Department (SCWD)

Management Actions

- Water Conservation and Demand Management
- Installation and Redistribution of Municipal Groundwater Pumping
- Distributed Storm Water Managed Aquifer Recharge (DSWMAR)
- Well Metering

Pure Water Soquel

- Recharge up to 1,500 acre-feet per year (AFY) in Purisima A and BC aquifer units using purified recycled water
- Goals are to replenish the groundwater system and protect against seawater intrusion by raising groundwater levels above seawater intrusion Minimum Thresholds
- Project start up is expected in 2025



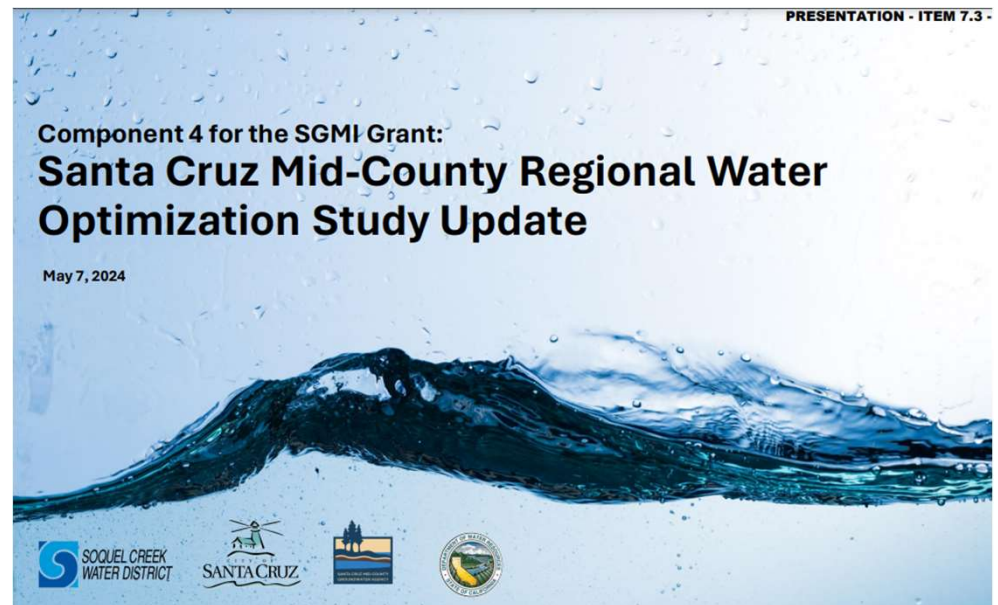
City of Santa Cruz ASR

- SCWD is planning an ASR project as part of its effort to develop additional water supplies for use during extended drought periods while contributing to improved conditions in the Basin
- Goal is to divert available flows from the San Lorenzo River, beyond what is needed to meet system demands, and inject and store the treated water in the aquifer through conversion of existing and installation of new municipal wells
- Permitting of the initial well conversion is expected to be completed in 2026



Regional Optimization Study

- Analyzes how different configurations and combinations of Projects & Management Actions can improve Basin sustainability while better meeting supply needs
- Examined reconfigurations and expansions of PWS, ASR, and inter-agency transfers
- Funded by a grant from the Department of Water Resources Sustainable Groundwater Management Program



Status of Management Actions

Management Action	Status and Benefits
Water Conservation and Demand Management	Groundwater demand has been reduced 41% since WY 1997. Increased groundwater levels in area supplied municipal water, even during the 2012 to 2015 drought
Installation and Redistribution of Municipal Groundwater Pumping	Cunnison Lane Well to be constructed by the end of 2024. Coastal groundwater levels have increased over time as pumping moves inland
Distributed Storm Water Managed Aquifer Recharge (DSWMAR)	2 facilities constructed 2 suitable sites are no longer available and a search for additional facilities is on hold

Authorities/Enforcement Action

- Amended Joint Powers Agreement and By-Laws in 2021
- Groundwater Well Registration and Metering Policy adopted June 20, 2024
 - Well registration, metering and reporting by groundwater users that extract more than 2 AFY in priority zones or users that extract more than 5 AFY anywhere in the basin.
 - Well registration is required by applicable well owners by December 31, 2024. Meter installation is required by September 30, 2025 and the first annual report of extracted volumes is due by October 31, 2025.





Assessment of Monitoring Networks

- Evaluated monitoring networks to confirm they are providing the quantity and quality of data necessary to monitor groundwater conditions in the Basin
- Monitoring networks have been expanded to fill all GSP-identified data gaps:
 - 7 new shallow wells & 5 streamflow gages for evaluating interconnected surface water
 - 2 new deep wells to monitor seawater intrusion
- Additional new monitoring wells associated with the PWS and ASR projects supplement the existing networks and provide a means for monitoring project performance



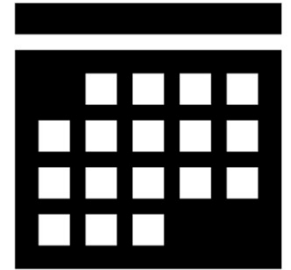


Outreach to Stakeholders and Neighboring Basins

- Stakeholder Engagement
 - Routine Board meetings and workshops provides public forum for GSP implementation
 - GSA updates website, releases newsletters, and hosts public events to promote sustainability
- Outreach to neighboring Santa Margarita Basin and Pajaro Valley Subbasin
 - Facilitate data and information
 - Discuss issues such as observed increases or evidence of seawater intrusion in an area close to the Basin's boundary with Pajaro Valley

The screenshot shows the homepage of the Santa Cruz Mid-County Groundwater Agency. At the top, the agency's name is displayed next to its logo. Below this, a banner reads "GROUNDWATER IS A VITAL RESOURCE" with the tagline "TOGETHER - LET'S PROTECT IT!". A section titled "please join us" features logos for the County of Santa Cruz, the City of Santa Cruz, and the Soquel Creek Water District. A paragraph states that the Department of Water Resources approved the Groundwater Sustainability Plan for the Santa Cruz Mid-County Groundwater Basin on June 3, 2021, and provides a link to the SGMA Portal for more information. To the right, there are two links: "NEXT MGA BOARD OF DIRECTORS MEETING" for Thursday, September 19, 2024, and "MGA GSP Draft Periodic Evaluation Available". A green bar with the text "SIGN UP FOR OUR NEWSLETTER" is positioned below the main content. At the bottom, three columns are visible: "Our Problem" with a diagram of "Seawater Intrusion", "Groundwater Sustainability Plan" with a map of the basin, and "Community Involvement" with a photo of a public meeting.

Periodic Evaluation Schedule



- August 20: Board Draft available for review (30 days)
- September 19: Board meeting for feedback and public comment
- December 12: Board meeting to approve Periodic Evaluation
- January 30: Submit to DWR

Questions
