

SANTA CRUZ MID-COUNTY BASIN 3RD ANNUAL REPORT WATER YEAR 2021

GROUNDWATER SUSTAINABILITY PLAN



**Presented by
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March 17, 2022**

WY 2021 ANNUAL REPORT PURPOSE

- Fulfill requirements of Water Code §10728 and GSP Regulations §356.2
- Summarize groundwater conditions data collected during the last water year (Oct 2020 to Sept 2021)
- Demonstrate to the CA Department of Water Resources that progress is being made towards achieving groundwater sustainability

REQUIRED ANNUAL REPORT CONTENT

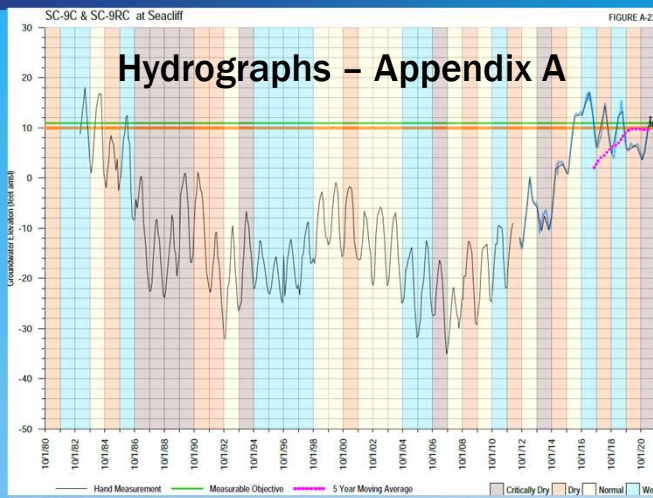
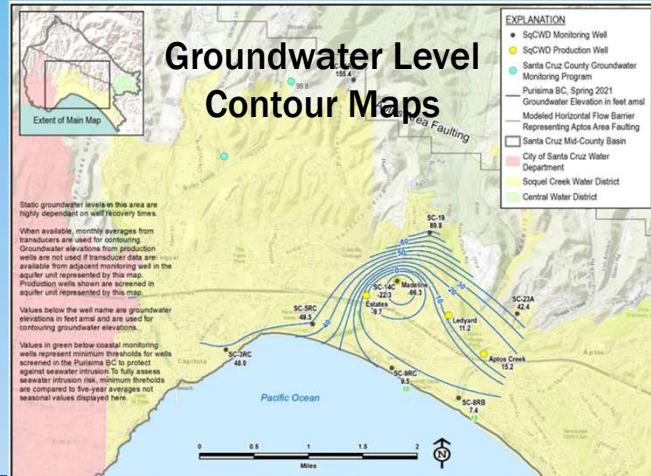
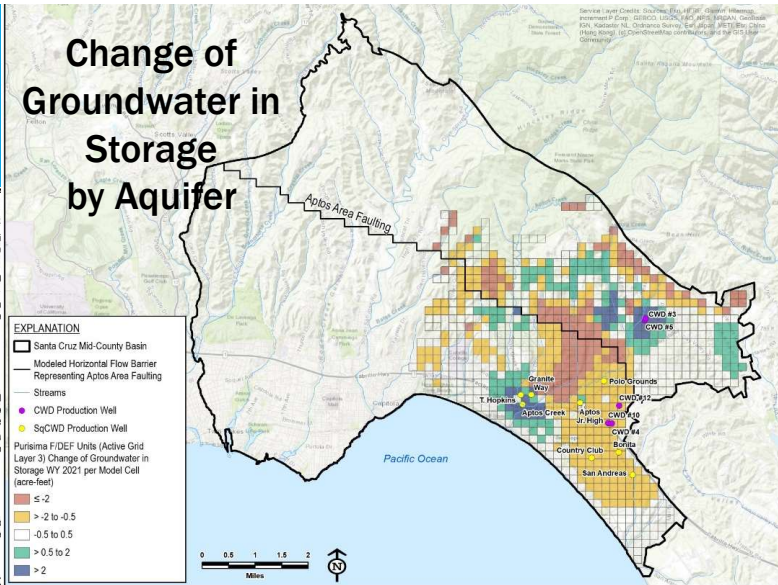
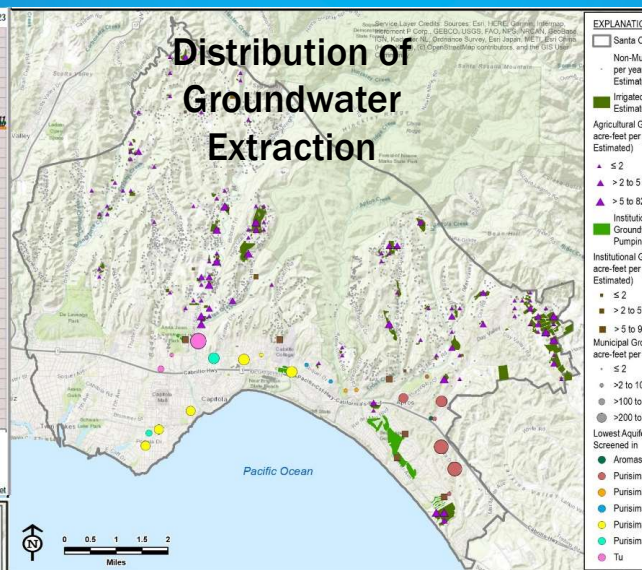
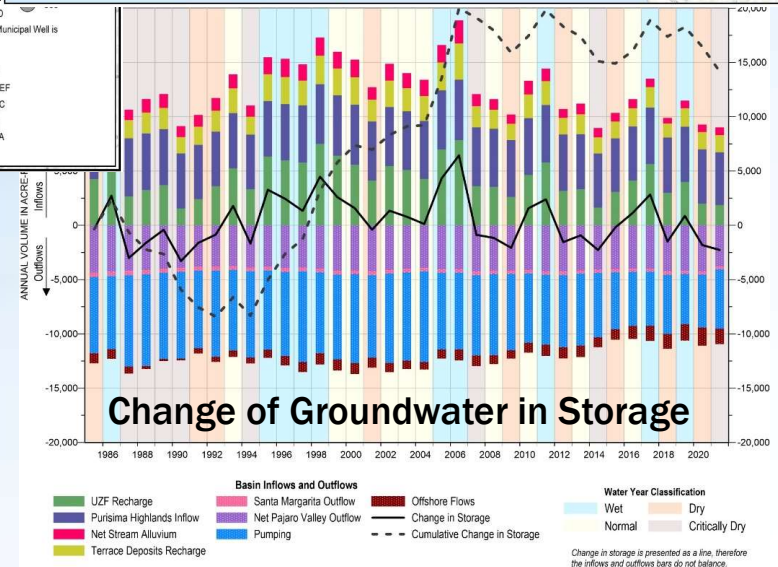


FIGURE A-23



- Surface Water Supply Used for Groundwater Recharge or In-Lieu Use
- Total Water Use



ADAPTIVE MANAGEMENT

GSP Regulations allow for adaptive management

Evaluate and learn

Periodically review overall management program
Report findings and recommendations of evaluation
Evaluate management effectiveness

- Annual Reports
- Five-Year GSP Updates
first one due Jan 31, 2025

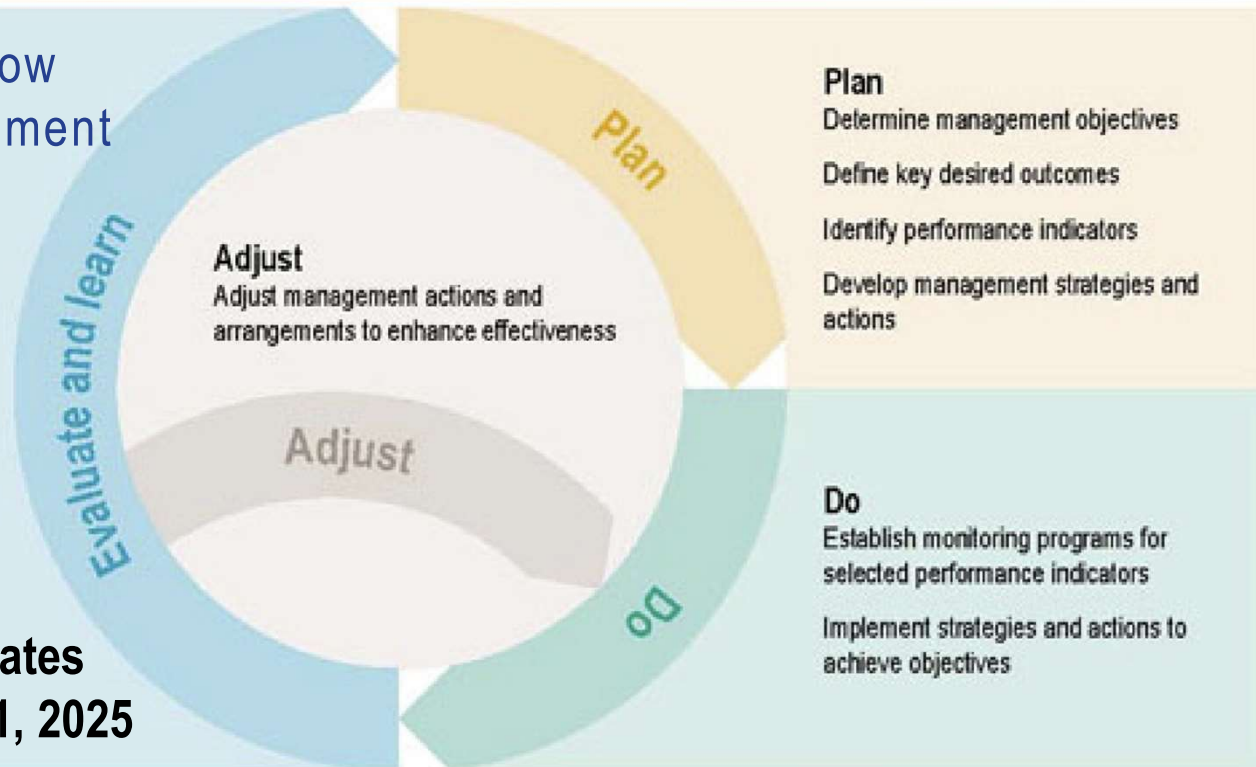


Figure 1 Source: Murray-Darling Basin Authority website:

http://www.mdba.gov.au/media-pubs/publications/environmental-watering-plan/ewp/ewp_ch2

SUSTAINABILITY INDICATORS & METRICS



Lowering
GW Levels



Seawater
Intrusion

Proxy



Reduction
of Storage



Degraded
Quality



Land
Subsidence



Surface Water
Depletion

Proxy

Groundwater
Levels



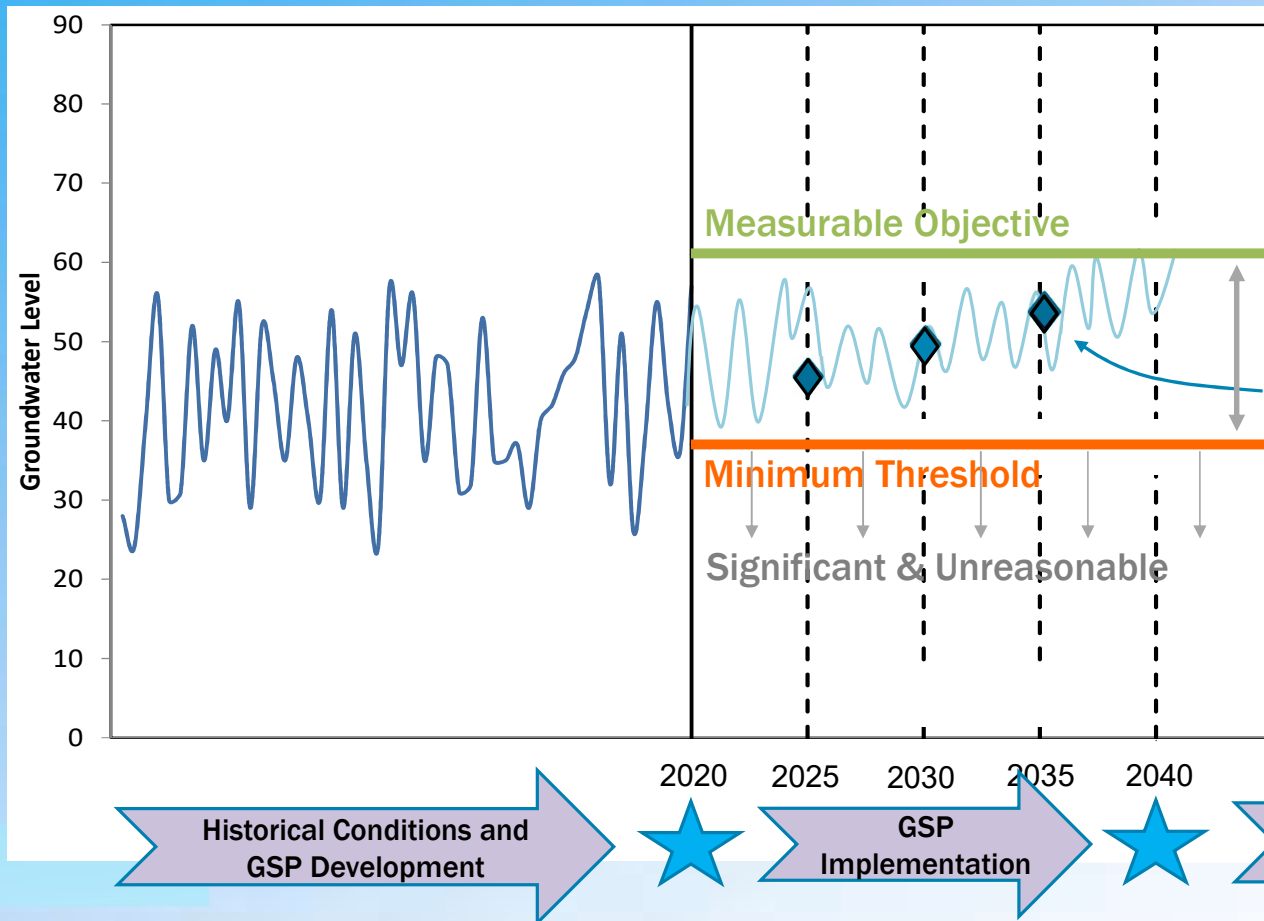
Volume of
Groundwater
Extracted

Concentration

Chloride



MANAGING GROUNDWATER WITH SUSTAINABLE MANAGEMENT CRITERIA



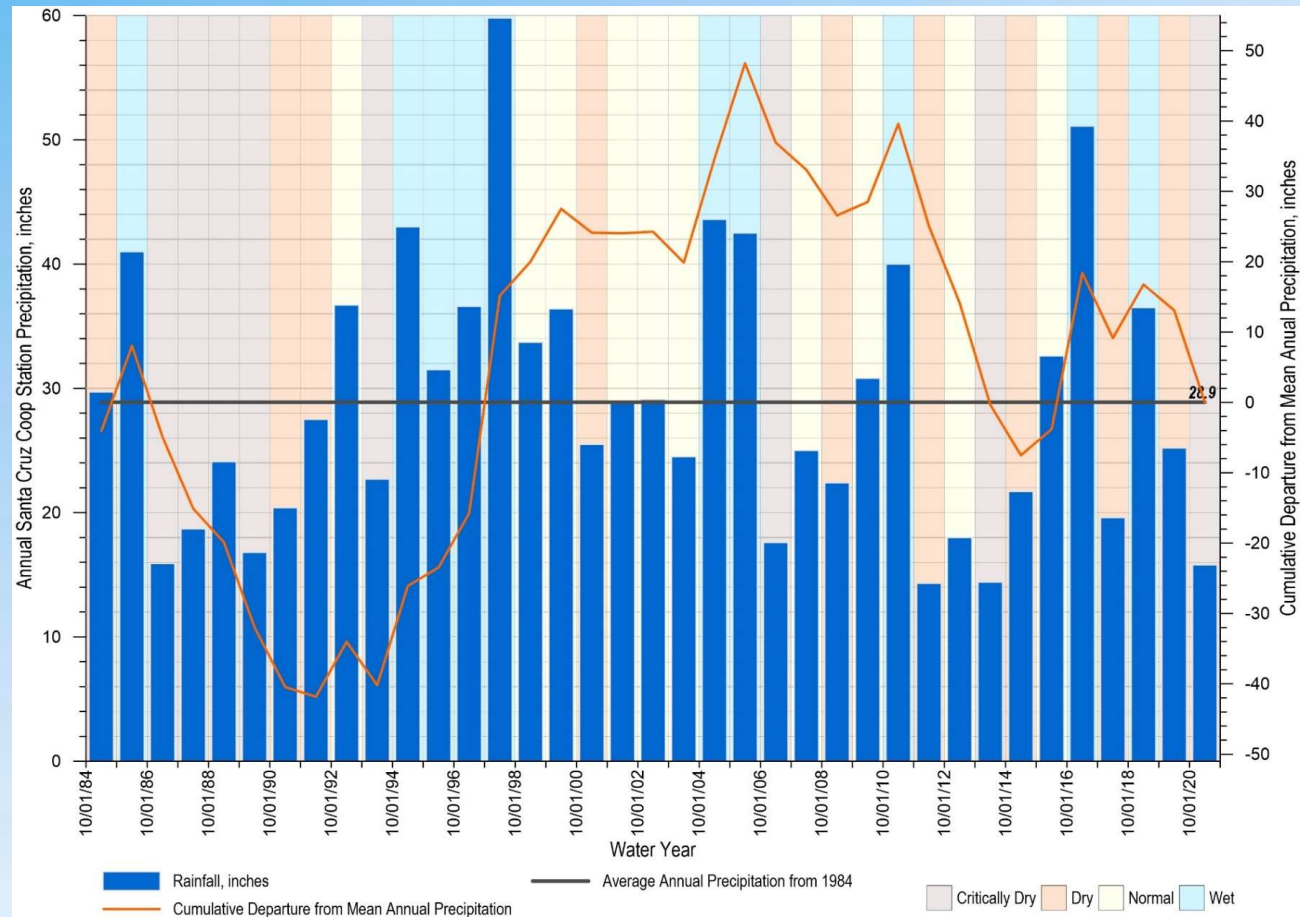
Operational Flexibility
Interim Milestones (5 Years)

Annual Reports
(Due Apr 1, 2020-2040)

5-Year GSP Updates
(1st is due Jan 31, 2025)

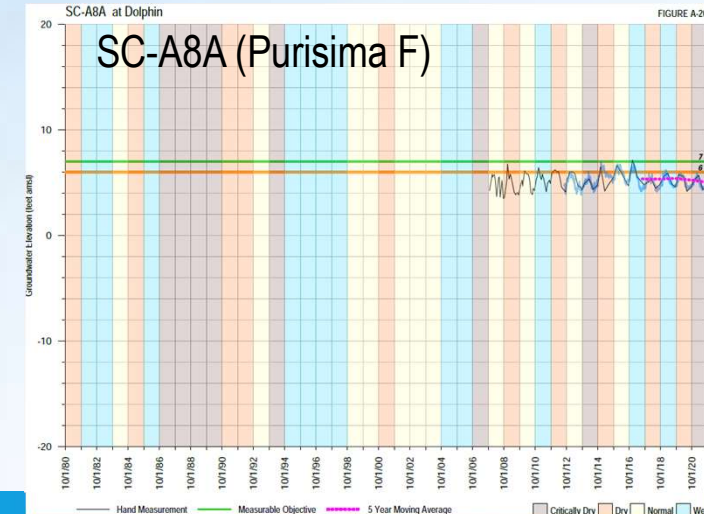
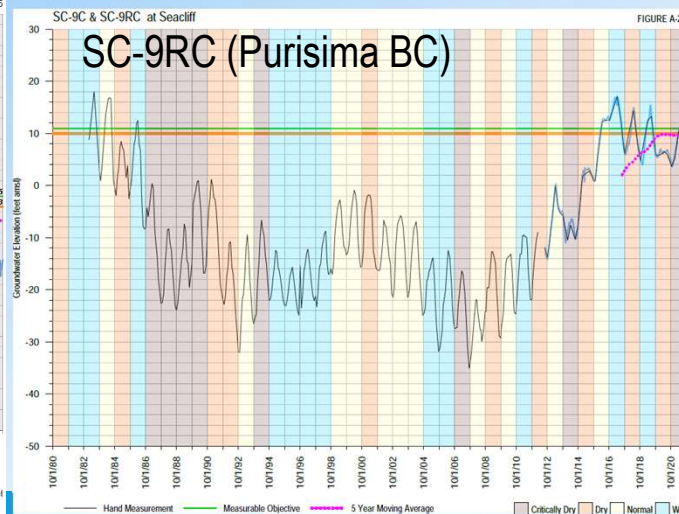
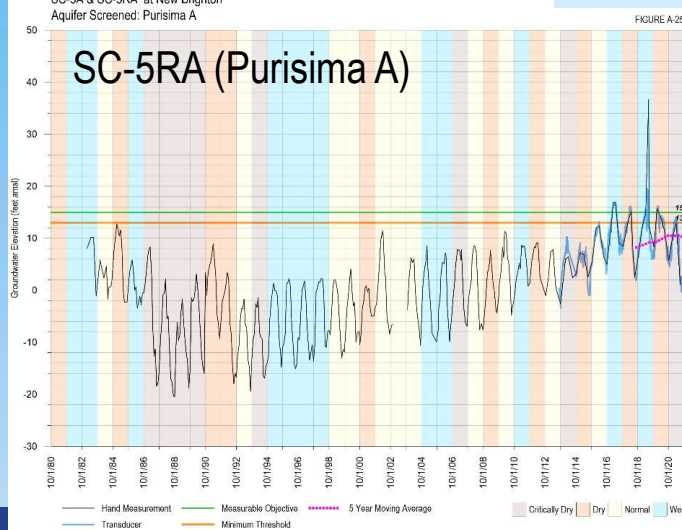
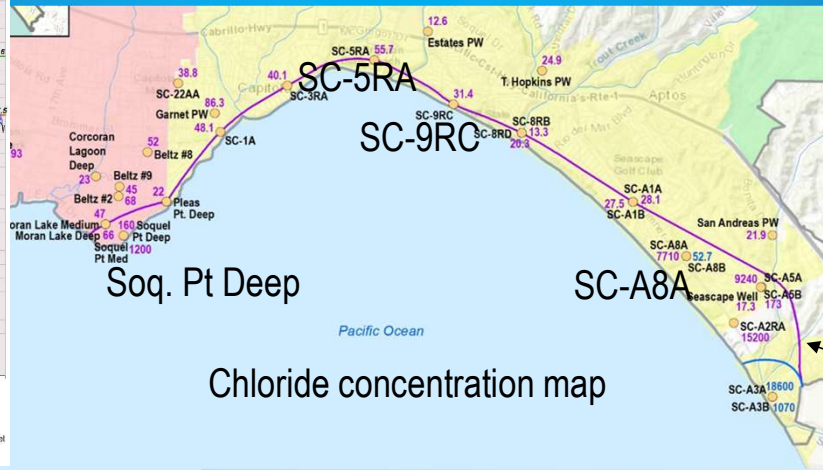
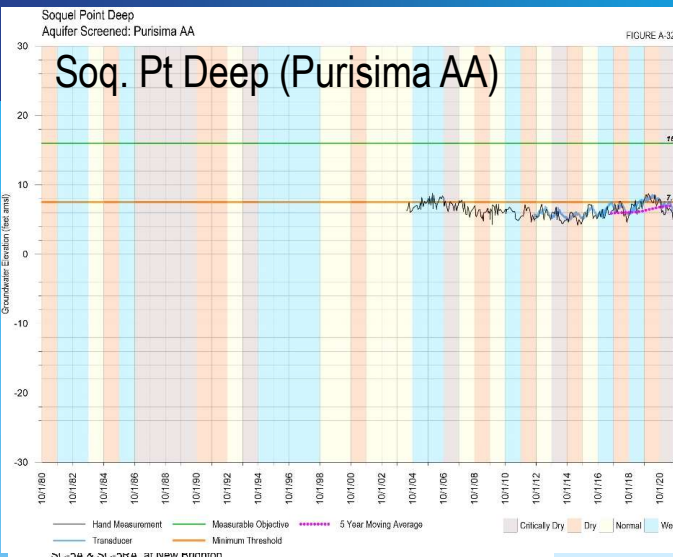
WY 2021 CLIMATE AND GROUNDWATER LEVELS

- WY2021 was classified as a critically dry year: 53% of long-term average precipitation (1942–2021)
- After a few years of increasing levels, WY2021 had slightly decreasing coastal groundwater levels
 - Groundwater extraction was 443 acre-feet more than WY2020, and the 2nd highest over the past 7 years



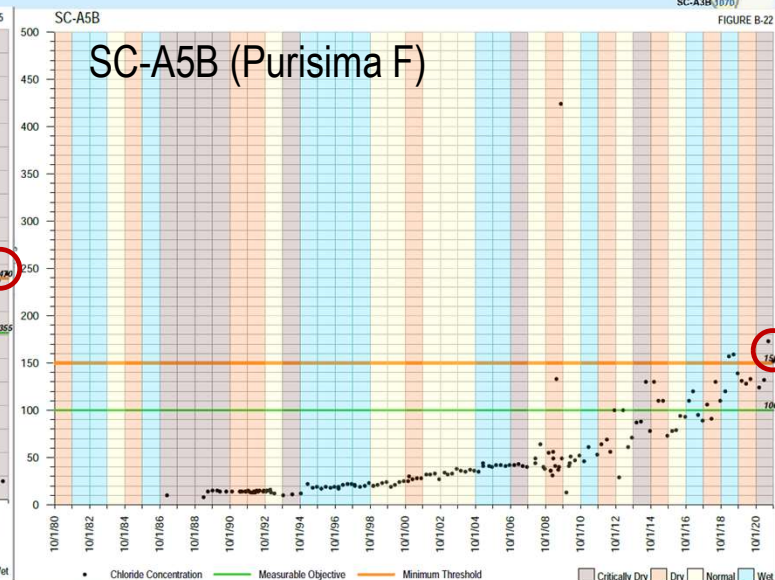
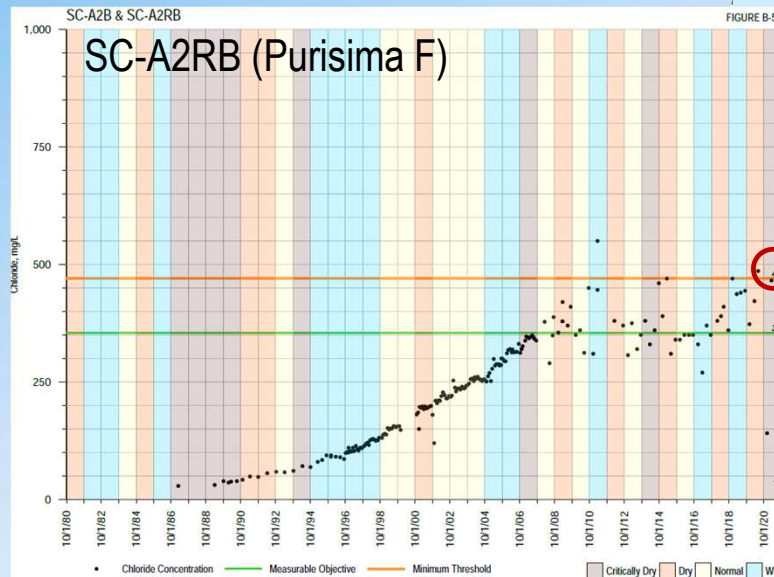
SEAWATER INTRUSION SUSTAINABILITY INDICATOR

- Groundwater elevations as a Proxy
- Undesirable Results are based on 5-Year Moving Average
- 250 mg/L Chloride isocontour



SEAWATER INTRUSION SUSTAINABILITY INDICATOR

- Chloride concentrations in Seascapes area Purisima F unit wells SC-A2RB and SC-A5B are greater than minimum threshold over past 2 years (i.e., undesirable results)
- Pumping at Seascapes well (closest production well) has already been reduced to < 50 AF
- Recommend MGA evaluate local non-municipal pumping in the area



WY 2021 GSP IMPLEMENTATION

- Update on projects included in the GSP
 - Pure Water Soquel – in construction phase; on track to be fully implemented by end of 2023
 - City of Santa Cruz Aquifer Storage and Recovery – pilot program completed in WY 2021; phased full-scale implementation to start in 2023
 - Water Transfers / In-Lieu Groundwater Recharge – pilot project agreement extended 2021-2026
- Monitoring network improvements - features sited in WY 2021, construction completed by the end of 2022
 - 1 deep monitoring well
 - Up to 7 shallow streamflow interaction monitoring wells
 - 5 stream gages

QUESTIONS