# Consideration to Adopt the Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan (GSP) 2024 Annual Report

SCV GSA Board Meeting
March 3, 2025
Item No. 3.1

# OVERVIEW

- Annual reports are required by the State's GSP Regulations.
- This year's Annual Report for water year 2024 (Oct 1-Sep 30), will be the fourth submitted to DWR.
- 2023 Annual Report – submitted to DWR
  - DWR Issued its First Comment Letter:
    - the annual report "…largely satisfies the requirements of the GSP Regulations (23 CCR Section 356.2) and no additional information is required at this time."
    - "The Department has determined that for the period of time covered in the annual report, it appears the GSP continues to be implemented in a manner consistent with achieving the Subbasin's sustainability goal as described in the GSP."
- 2021 and 2022 Annual Reports also submitted to DWR



SCV GSA

# KEY FINDINGS OF THE ANNUAL REPORT

Basin was operated in a sustainable manner in 2024

- No Undesirable Results

Some minimum thresholds (known to need revision) were exceeded.

- Annual Report describes each, and why revisions are necessary

Total municipal groundwater use in 2024 (13,613 AF) is lowest level in last five years

- Ranged from 12,613 AF in 2024 to 24,969 AF in 2021

Imported water use in 2024 was higher over 2023,

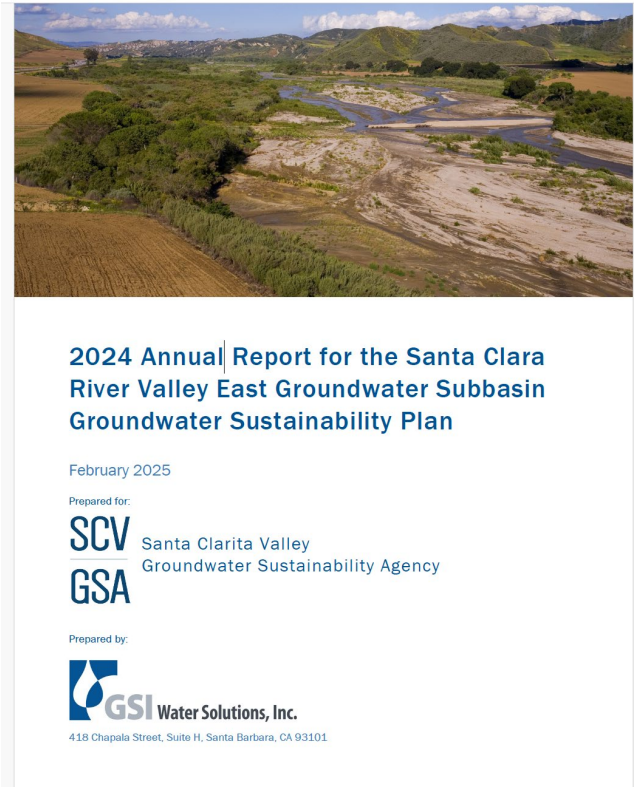
- 44,035 AF, v 36,495 AF respectively

Report describes other ongoing activities

Report briefly considers planned GSP 5 Year Update

SCV GSA

# KEY CHANGES IN REPORT FORMAT COMPARED TO PREVIOUS YEAR




Section 2.4 was revised to focus on the specific monitoring networks

Section 8.2 was revised to make more clear results and interpretations re Sustainable Management Criteria.

SCV GSA

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS

**Chronic Lowering of Groundwater Levels (8.2.1)**

Twenty-Five Representative Monitoring Wells used (seven of these wells are currently used for GDE monitoring)

Except for three GDE Wells, water levels were above the *minimum thresholds* in 2024.

**Chronic Reduction of Groundwater in Storage (8.2.2)**

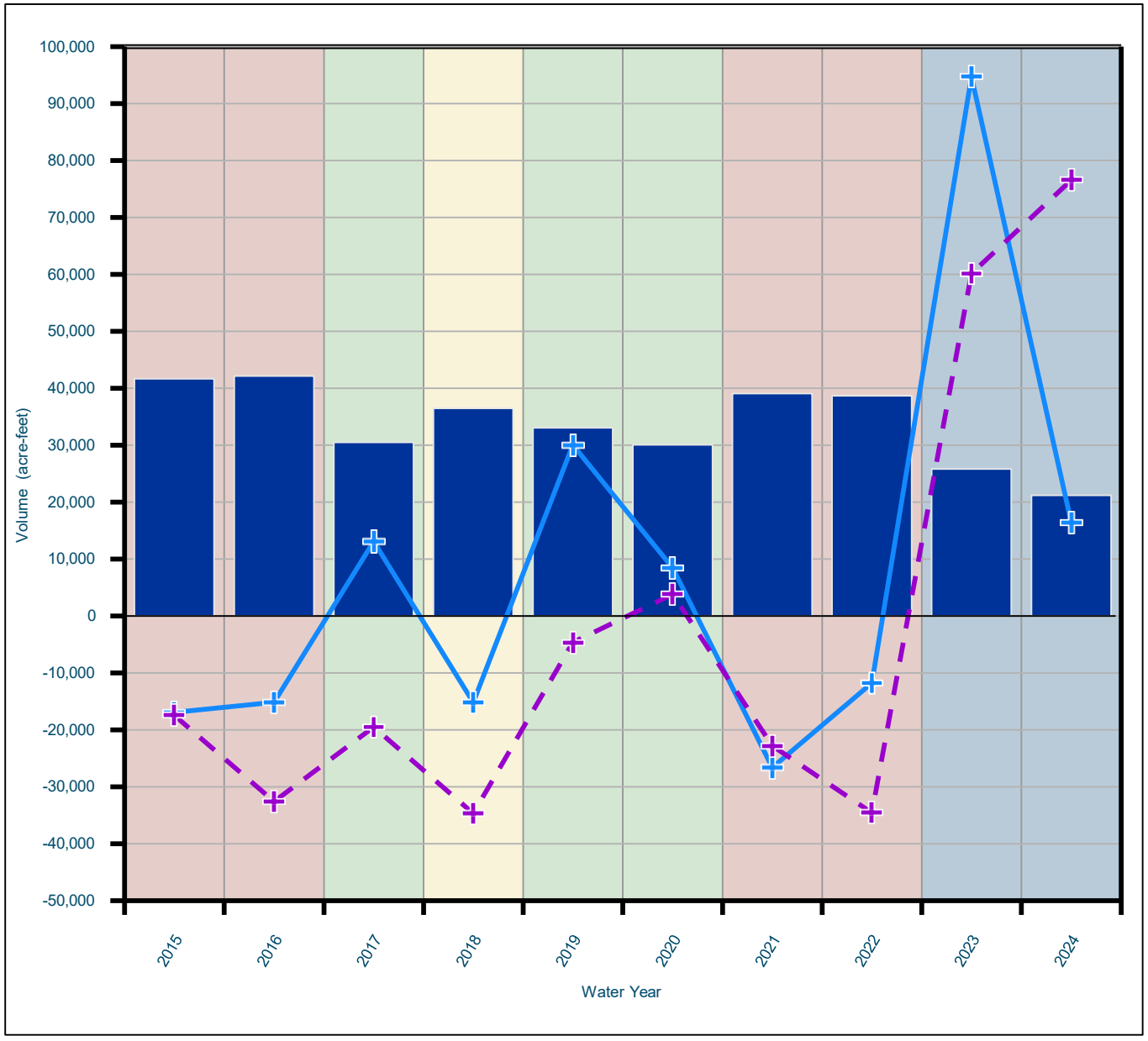
Groundwater storage increased (modestly over last year)

Precipitation was 5.8 inches greater than the 1930-2024 average

Storage changes primarily reflect varying precipitation



SCV GSA




# FIGURE 16

## Annual and Cumulative Changes in Groundwater in Storage, Water Years 2015-2024

2024 Annual Report for the Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan

LEGEND

- Annual Change in Groundwater in Storage
- Cumulative Change in Groundwater in Storage
- Total Annual Groundwater Pumping

Water Year Type

- Wet
- Above Normal
- Below Normal
- Dry
- Critical

GSI Water Solutions, Inc.

\\GSIData\Projects\420-SCV Water\041 - Year 3 GSP Report & Modeling\2-Task2-AnnualReport\Figures-Grapher\Figures19 Figure 16 (ex Fig 19)

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS

## Seawater Intrusion (8.2.3)- not applicable

## Degraded Groundwater Quality in Storage (8.2.4)

*Minimum thresholds* for salts and nutrients are measured in two different tests

**Test 1**

Water quality objectives for TDS, chloride, nitrate, and sulfate

If 20% of the wells in a management zone, exceed WQOs, then the minimum threshold has been exceeded in that management zone

**The minimum threshold for sulfate *was exceeded* in SNMP Management Zone 1 during 2020-2024.**

**Test 2**

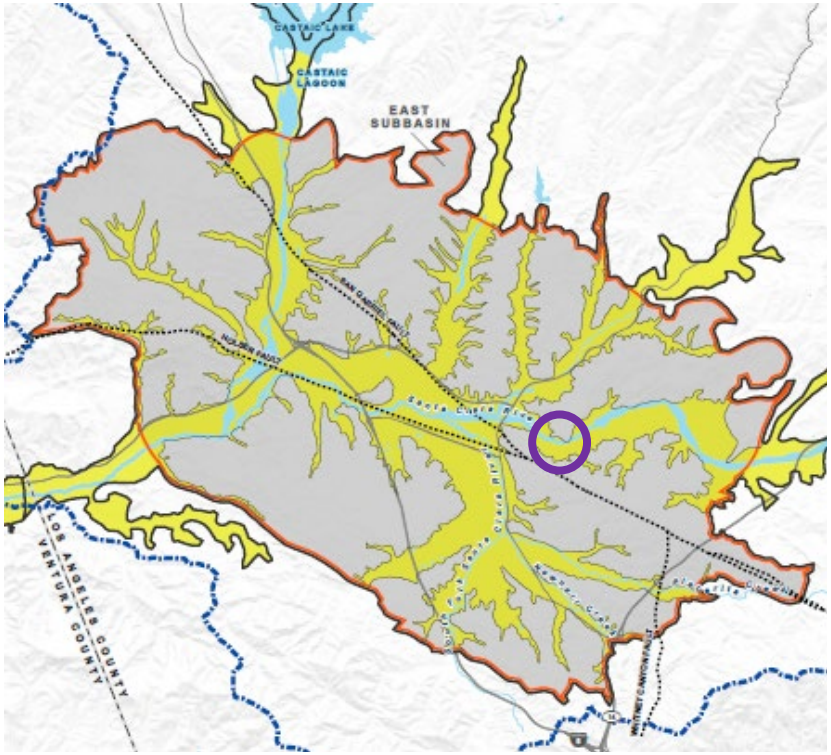
If ambient water quality exceeds the WQO, then the ambient water quality established in the 2016 SNMP is the minimum threshold

**The minimum threshold for sulfate *was not exceeded* in SNMP Management Zone 1 during 2020-2024.**



SCV GSA

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS




Evaluation of the Minimum Threshold Exceedance (Test 1)

Locally high TDS and Sulfate known issue (2016).

Groundwater extraction not likely to cause increase in salts.

No Undesirable Result.

The Sustainable Management Criteria should be clarified/simplified as part of the GSP 5 Year Update.

SCV GSA

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS

## Land Subsidence (8.2.5)

*Minimum thresholds* for land subsidence is no more than an average of 0.1 foot in any single year and a cumulative 0.5 foot in any 5-year period as observed at 10 percent or more monitoring locations.

Land surface elevations measured by different methods

Satellite Monitoring

- InSAR,
- Unavco SKYB

Land Survey

- Topographic Survey of 11 benchmarks



SCV GSA

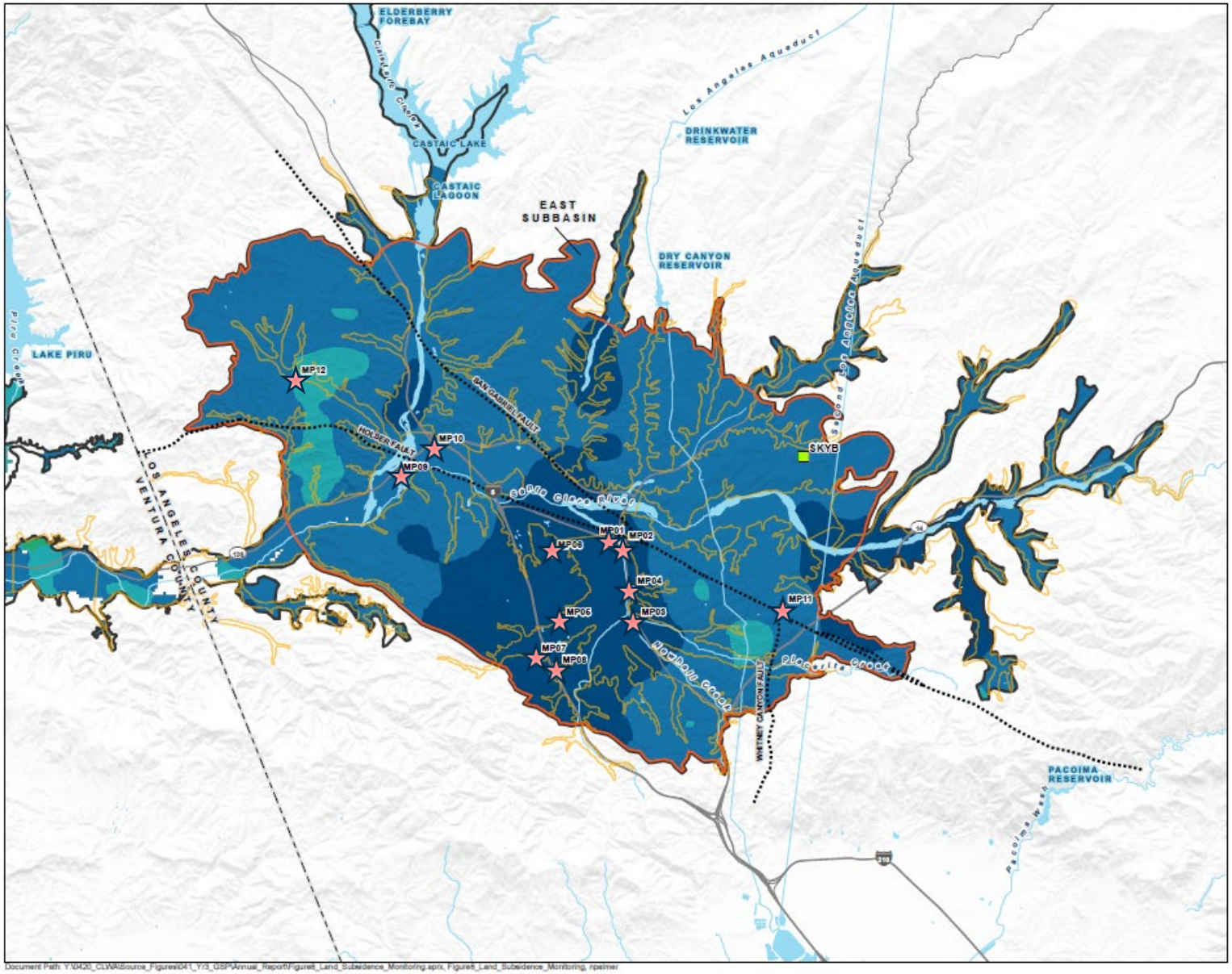



**FIGURE 8**

**Satellite-Observed Vertical Displacement (June 2015 through October 2024) and Benchmark Locations for Ground-Based Land Subsidence Monitoring**

2024 Annual Report for the Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan

**LEGEND**

- LADPW Benchmark
- UNAVCO Plate Boundary Station
- Santa Clara River Valley Groundwater Basin
- Outer Margin of Saugus Formation
- Alluvial Aquifer

**InSAR Total Vertical Displacement (feet) (June 2015 through October 2024)**

- -0.10 to -0.05
- -0.05 to 0
- 0 to 0.05
- 0.05 to 0.1

**All Other Features**

- County Boundary
- Fault
- Major Road
- Watercourse
- Waterbody

**NOTES**

InSAR: Interferometric Synthetic Aperture Radar
LADPW: Los Angeles County Department of Public Works
UNAVCO: University NAVSTAR Consortium

N

0 5,000 10,000 15,000
FEET

Date: February 12, 2025
Data Sources: BLM, ESRI, USGS, Imagery (2022)

GSI Water Solutions, Inc.

Document Path: Y:\0420_CLWA\Source_Figures\041_Y\3_GSP\Annual_Report\Figure8_Land_Subsidence_Monitoring.aprx, Figure8_Land_Subsidence_Monitoring, rpalmer

GSA

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS

**Land Subsidence (8.2.5)**

InSAR: Single Year land surface elevation changes were between -.01 to +.01 foot across the basin.

InSAR: 2015-2024 displacement is quite small- within the measurement error of +/- 0.0591 feet (with some exceptions where land surface increased)

Unavco SKYB is a background point in the basin and, comparing it to InSAR can be used as a check. Both reflect average positive displacement from 2001-2024.

Land Survey two survey events took place in WY 2024. Changes were in the hundredths of feet (+/-) which is less than the 0.1 ft. threshold

No data exceeded 0.1 foot in Water Year 2024



SCV GSA

# SUMMARY OF SUSTAINABLE MANAGEMENT CRITERIA CONDITIONS

## Depletion of Interconnected Surface Water (8.2.6)

- Seven wells are currently used to monitor for exceedances of *Minimum Thresholds and GDE Triggers* (MTs and Triggers are set too high in some GDE wells-known issue)

- **In 2024, the minimum thresholds and GDE triggers were *exceeded* at GDE B, C, and E.**

Evaluation of the Minimum Threshold Exceedance

Known issue- need correction.  GDE Evals confirm absence of undesirable results too.

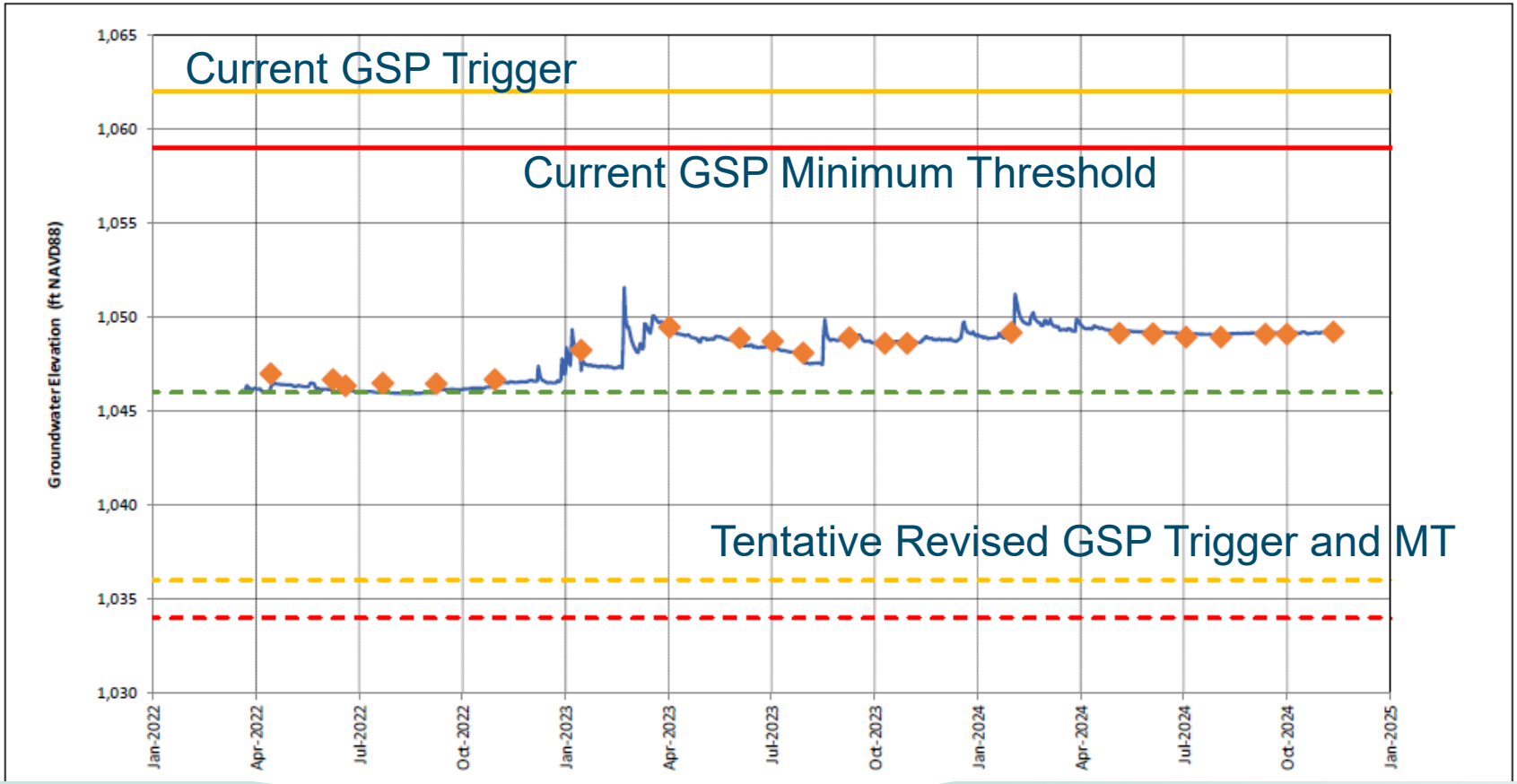
No Undesirable Results.  The Sustainable Management Criteria will be revised as part of the GSP 5 Year Update.

*Graphic next page (adopted v tentative revisions)*



SCV GSA

# EXAMPLE GDE PLOT (GDE B) OLD VS. TENTATIVE REVISED MT AND TRIGGER




SCV GSA

# CONCLUSIONS

- **Existing Monitoring networks are in good order**
- **The Basin was operated sustainably in water year 2024 and no undesirable results for any sustainable management criteria took place**
- **Some exceedances of minimum thresholds took place, which do not reflect undesirable results, but *reflect* the need for clarification**
- **Other GSP implementation steps regarding outreach to private well owners (de-minimis wells, and non de-minimis wells) are under way**
- **With the GSP 5 Year Update, we anticipate public workshops, revision of SMC as necessary, and potentially focused changes to monitoring networks.**



SCV GSA

# RECOMMENDATION:

That the SCV-GSA Board of Directors adopt the Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan (GSP) 2024 Annual Report

SCV
GSA