San Benito County Water District

Groundwater Sustainability Agency

Technical Advisory Committee

July 22, 2020 2:00-4:00

Join Zoom Meeting

https://zoom.us/j/92475052712?pwd=TE5YdE5ZNDBJUStTT2pFeGNSWm1Xdz09

Meeting ID: **924 7505 2712**

Password: **854534**

Or, dial by your location:	+1 669 900 9128 US (San Jose) Meeting ID: 924 7505 2712 Password: 854534

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Agenda

1. Update on GSP Schedule and Progress
2. Setting Sustainability Criteria for:
   - Chronic Decline of Groundwater Levels
   - Depletion of Groundwater Storage
3. Next steps for GSP Section 6, “Sustainability Criteria”
4. Upcoming meetings


GSP Overview
2021
2020
2019
2018
TAC Meetings
Plan Development
Round 3
Monitoring Wells
MAR
Management Actions /
Monitoring
Sustainability Criteria
Management Areas /
Water Budgets
Hydrogeologic
Conceptual Model /
Groundwater
Data Compilation /
Data
Management System
Plan Area /
Institutional Setting
Adoption hearing
Draft GSP workshop
Evaluate actions workshop
Management options workshop
Sustainability criteria workshop
Water Budget workshop Date TBA 2020
GW Conditions workshop June 18 2019
Kickoff workshop Nov 14 2018

Sustainability goal and two objectives

To sustain groundwater resources for the current and future beneficial uses of the North San Benito Basin in a manner that is adaptive and responsive

- to provide a long-term, reliable and efficient groundwater supply for agricultural, domestic, and municipal and industrial uses
- to provide reliable storage for water supply resilience during droughts and shortages

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Setting sustainability criteria involves balancing multiple objectives and issues

- Protect most wells
- Support basin management flexibility
- Avoid setting off false alarms or triggering costly, ineffective, or harmful management actions
- Recognize data gaps and uncertainties

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Recap of method for setting sustainability criteria for water levels

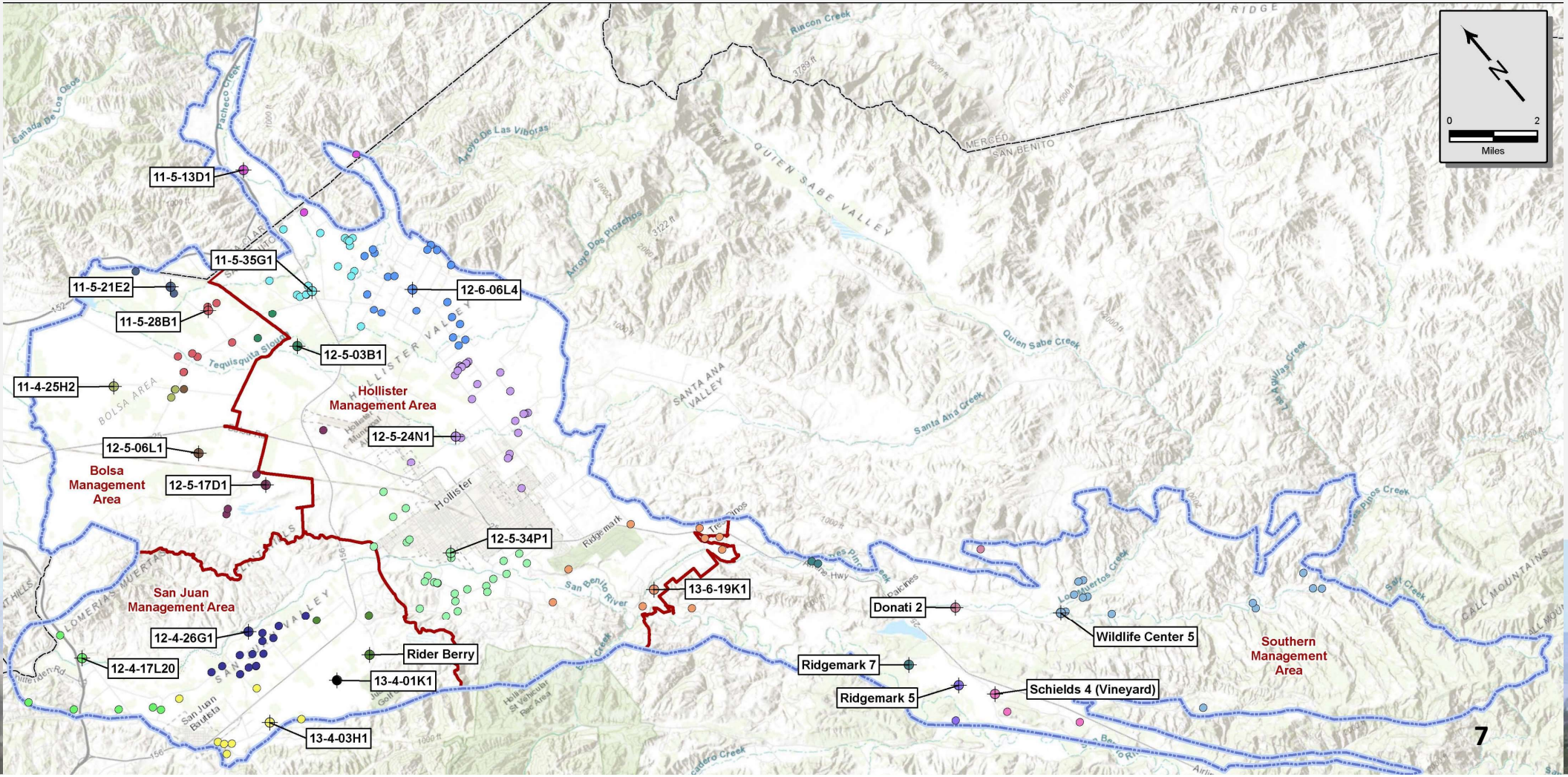
To start, undesirable results are defined as a well going dry.

Why so low?

- Information on location / construction of most wells is not available for analysis
- Analysis starts with a simple concept of exposing the entire screen, “going dry”
- North San Benito has not had reports of water level decline impacts
- Responsibility for undesirable results is shared between a GSA and a well owner

➢ MTs were set low and then adjusted upward to be protective.

22 Key Wells as representative monitoring sites



Update on setting MTs

Key Well values documented in Table 6-1

- Key Well ID and Management Area
- Historical maximum depth to water in Key Well
- Depth to bottom of deepest screen of nearby wells
- Proposed MT, depth to water
- Reason for adjustment upward from historical low, to reduce impacts in
  - Bolsa area with few nearby wells and uncertain impacts
  - Hollister area of historical pumping depression
  - San Juan Economically Disadvantaged Area
- Number and percent of potentially impacted wells
- **Only five of 169 wells potentially affected or 3%**

Key Well ID	Management Area	Historical Maximum Depth to Water (feet bgs)	Bottom of Shallowest Well Screen in Nearby Wells with Construction Information (feet bgs)	Proposed Threshold, Depth to Water in Key Well (feet bgs)	Reason for Adjustment	Nearby Wells with Construction Information	
						Number of Impacted Wells / Total Nearby Wells	Percent of Wells Impacted
11-4-25H2	Bolsa	153.22	148	145	To reduce potential impacts in area with few nearby wells and uncertain impacts	0 / 3	0%
11-5-21E2	Bolsa	63	180	63	No change	0 / 2	0%
11-5-28B1	Bolsa	102	150	102	No change	0 / 8	0%
12-5-06L1	Bolsa	176.5	580	176	Rounded	0 / 1	0%
12-5-17D1	Bolsa	185	300	185	No change	0 / 4	0%
11-5-13D1	Hollister	97	160	97	No change	0 / 2	0%
11-5-35G1	Hollister	104	100	104	No change	1 / 18	6%
12-5-03B1	Hollister	96	440	96	No change	0 / 2	0%
12-5-24N1	Hollister	280	140	160	To reduce potential impacts in area of historical pumping depression	2 / 24	8%
12-5-34P1	Hollister	153	120	150	To reduce potential impacts in area of historical pumping depression	2 / 26	8%
12-6-06L4	Hollister	64	120	64	No change	0 / 20	0%
13-6-19K1	Hollister	109	140	109	No change	0 / 9	0%
12-4-17L20	San Juan	47.5	200	47	Rounded	0 / 6	0%
12-4-26G1	San Juan	152.5	180	152	Rounded	0 / 14	0%
13-4-01K1	San Juan	75	NA	75	No change	0 / 0	0%
13-4-03H1	San Juan	185	157	155	To reduce potential impacts in Economically Disadvantaged Area	0 / 7	0%
Rider Berry	San Juan	111.4	180	110	Rounded	0 / 2	0%
Donati 2	Southern	59.74	400	59	Rounded	0 / 1	0%
Ridgemark 5	Southern	45.15	335	45	Rounded	0 / 1	0%
Ridgemark 7	Southern	136.45	200	136	Rounded	0 / 2	0%
Schields 4	Southern	73.74	215	73	Rounded	0 / 2	0%
Wildlife Center 5	Southern	79.74	97	79	Rounded	0 / 15	0%
bgs: below ground surface					Impacted Wells / Total Wells :	5 / 169	3%

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Minimum Threshold

The **Minimum Threshold** for defining undesirable results relative to chronic lowering of groundwater levels is defined at each Key Well by historical groundwater low levels adjusted to provide reasonable protection to nearby existing wells.

Undesirable results are indicated:

- When two consecutive exceedances occur in each of two consecutive years
- in two-thirds or more of the Key Wells in each Management Area.

Measurable Objective

The **Measurable Objective:**
is to maintain groundwater levels above the groundwater level MTs
(or the interconnected surface water MTs,
whichever is higher at the relevant measurement event)

and to maintain groundwater levels within the operating range
as defined in this section (below the soil zone).

Groundwater Levels Summary

- Potential exists for undesirable results and thus MTs are presented
- No undesirable results of chronic level declines have been detected
- North San Benito is being managed sustainably for groundwater levels

Reduction of Groundwater Storage

The minimum threshold for reduction of groundwater storage is the volume of groundwater that can be withdrawn from a basin or management area without leading to undesirable results.

--or--

GSP Regs allow use of groundwater level MTs and MOs as a proxy, provided that the GSP demonstrate a correlation between groundwater levels and storage

The numerical model demonstrates that relationship.

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Reduction of Groundwater Storage

Change in groundwater storage has been computed as part of the water budget using the numerical model

- Historical and current period: 1975-2017
- Future conditions out 50 years

The water budget analyses indicate:

- ➢ groundwater storage in the basin has not been reduced
- ➢ the basin is sustainably managed relative to storage.

The storage issue here is drought

Given no long-term storage reduction,

the undesirable result associated with inadequate storage

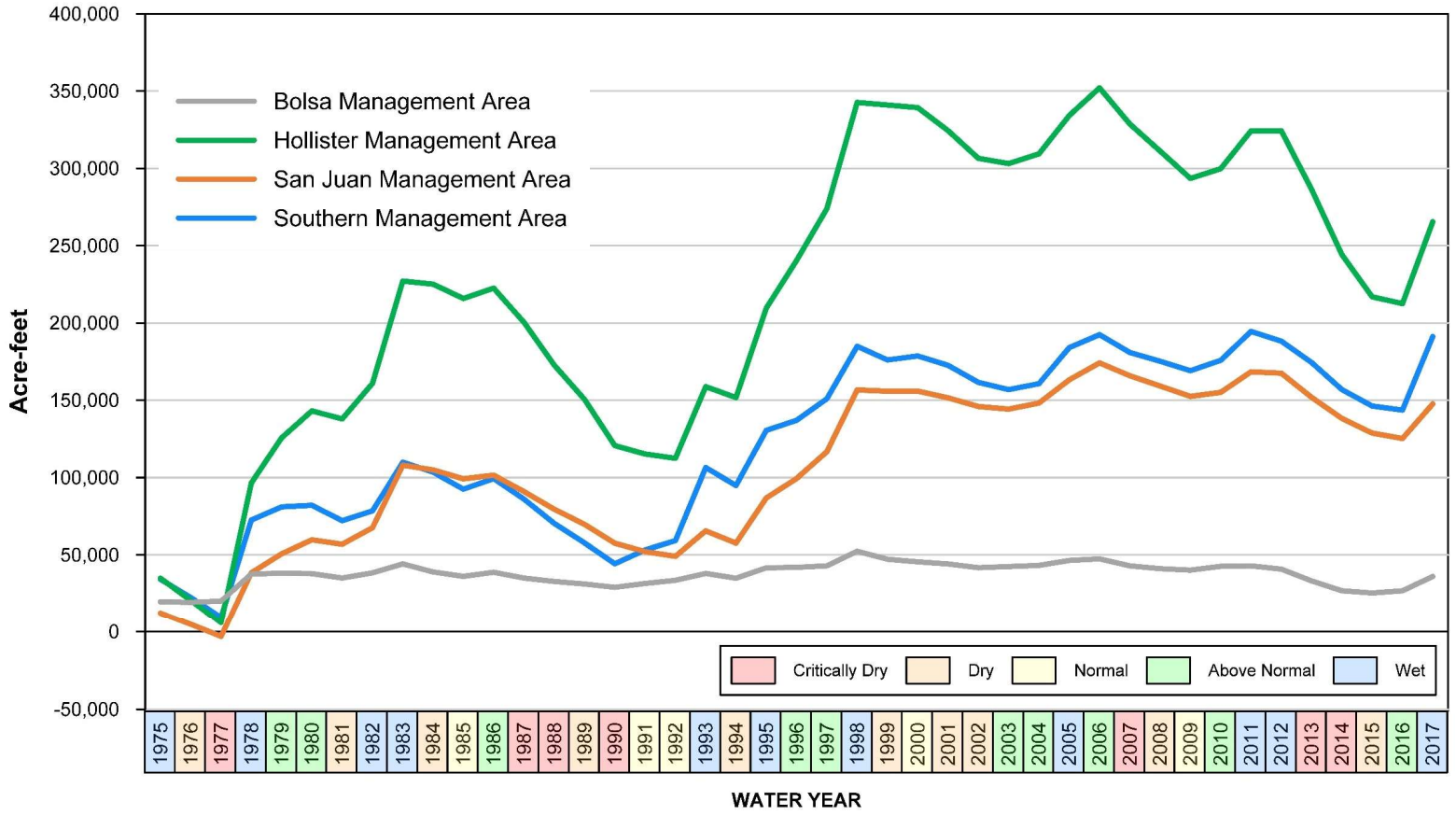
would be an insufficient supply to support beneficial uses during droughts.

Our approach uses the numerical model for:

Review of *historical* change in storage that reveals:
operating storage or how much storage has been used in each MA

Analysis of *future* simulated change in storage that defines:
groundwater reserves needed to withstand future droughts

Cumulative change in storage: historical-current

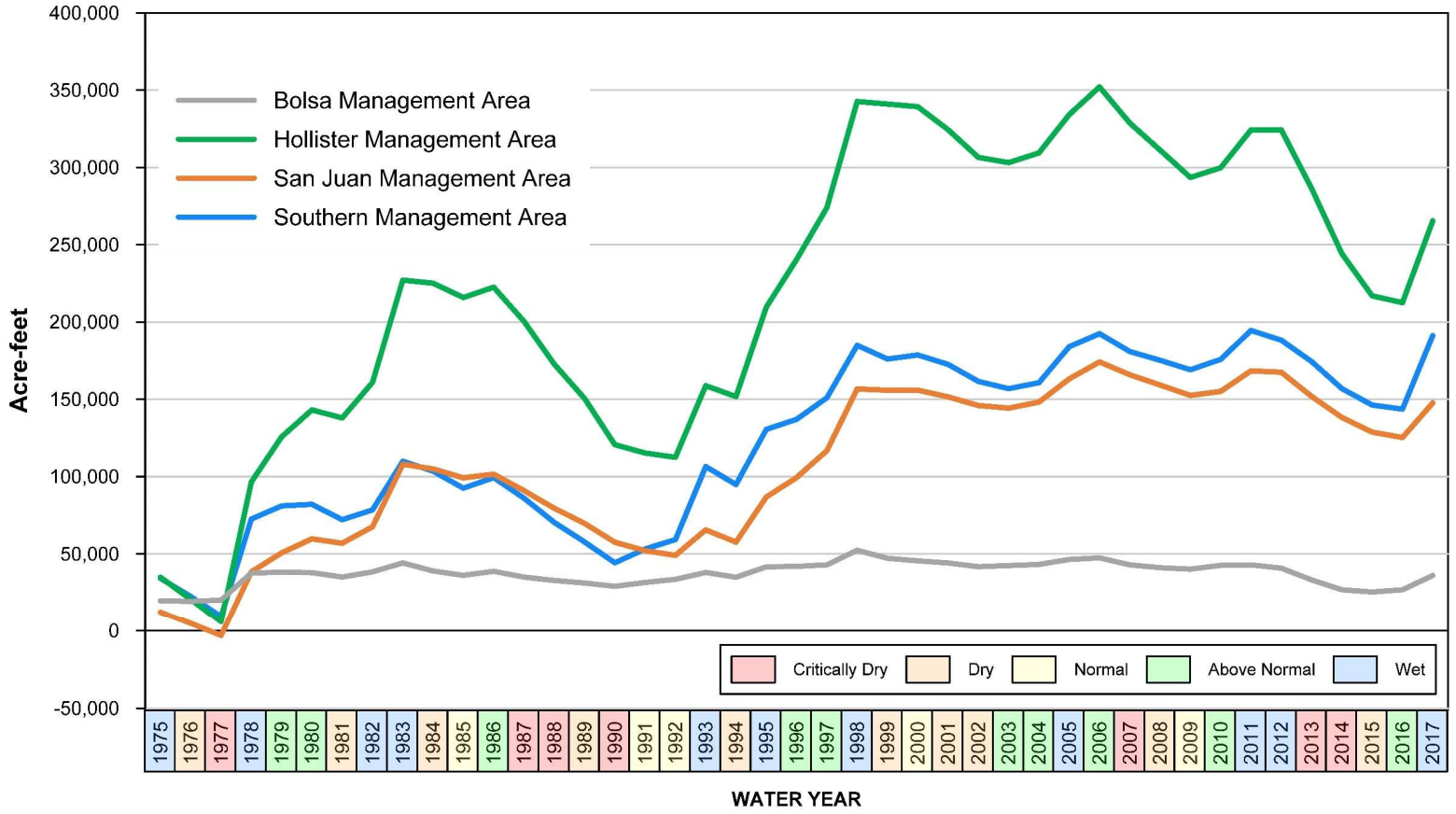


A running total

Rising line = increasing storage

Falling line = decreasing storage

Accumulated storage since 1975: historical operating storage



Maximum accumulated storage since 1975 by MA

352,000 AF

174,000 AF

150,000 AF

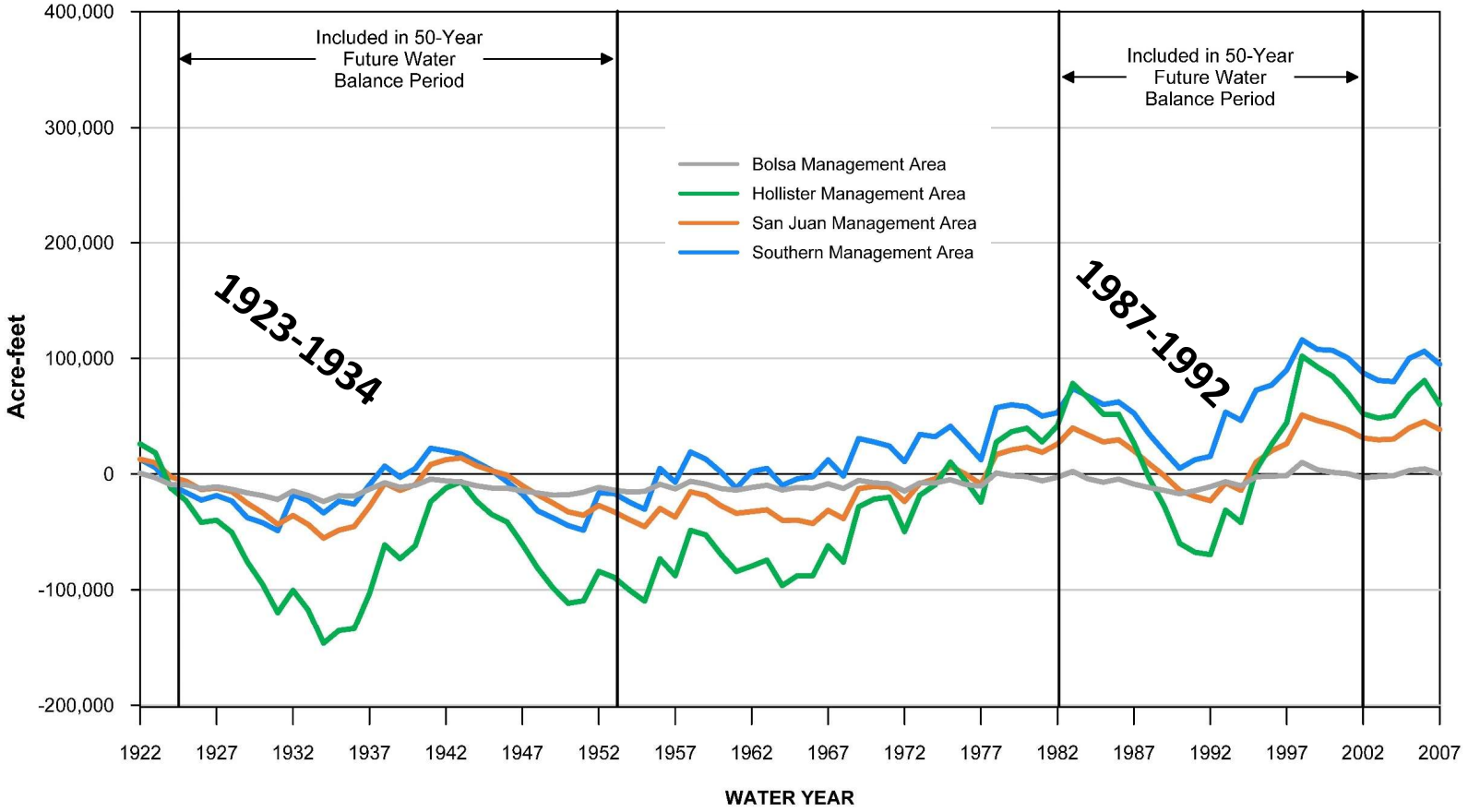
52,000 AF

Cumulative change in storage: future baseline

Future baseline scenario (from Water Budget Section 5.9)

- Existing land use and urban water demand
- Existing water and wastewater treatment
- Continued CVP availability

Cumulative change in storage: future baseline



Includes two major "design droughts" to assess needed storage reserve

Groundwater storage during future droughts

Management Area	Largest Simulated Future Drought		Maximum Cumulative Storage Increase from 1975, AF*	Ratio of Maximum Storage to Future Drought Decline
	Hydrologic Period	Cumulative Storage Decline, AF		
Hollister	1922 – 1934	165,000	352,000	2.1
San Juan	1922 – 1934	65,000	174,000	2.7
Southern	1987 - 1990	57,000	150,000	2.6
Bolsa	1922 – 1934	21,000	52,000	2.5

*Except Southern MA, which was from 1990 to reduce uncertainty from lack of historical data

The groundwater level MTs protect storage

- The Key Wells are representative of basin wells over a broad area
- The MTs are based on 1977 low groundwater levels
- The MTs are set to avoid drying up existing (recent) wells
- The MTs are shallow, less than 200 feet deep while production wells are generally 150 to 500 feet deep
- Groundwater level MTs exceedances provide early warning
- MT use of two-thirds or more Key Wells in each MA involves a broad area, consistent with storage change.

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Definition of Minimum Threshold

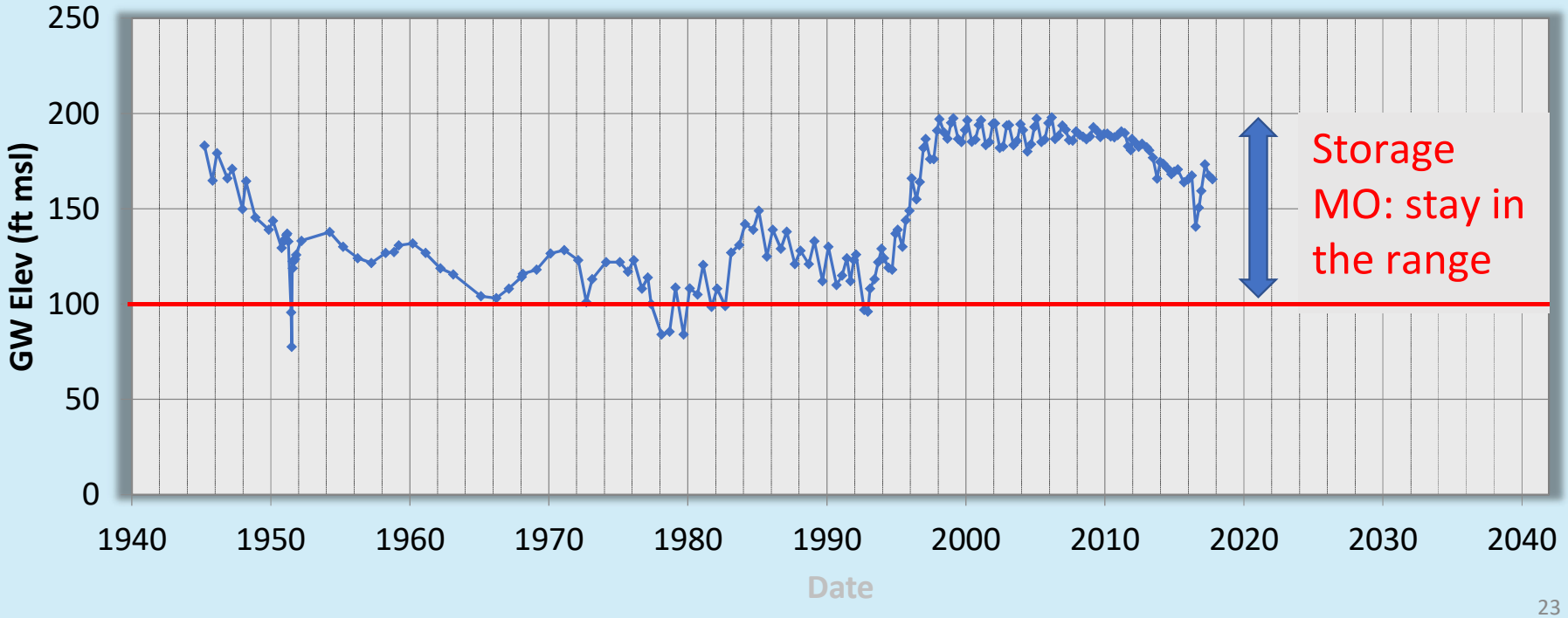
The **Minimum Threshold** for storage for all Management Areas is fulfilled by the minimum threshold for groundwater levels:

The **Minimum Threshold** for defining undesirable results relative to chronic lowering of groundwater levels is defined at each Key Well by historical groundwater low levels adjusted to provide reasonable protection to nearby existing wells.

Undesirable results are indicated when two consecutive exceedances occur in each of two consecutive years, in two-thirds or more of the Key Wells in each Management Area.

Definition of Measurable Objective

The **Measurable Objective** for storage is fulfilled by the MT for levels, which maintain groundwater levels within the historical operating range.



Next Steps

1. Next TAC Meeting: discuss sustainability criteria for:
    - subsidence
    - interconnected surface water / groundwater dependent ecosystems
2. Preliminary Section 6 may be adjusted based on our discussions
3. Administrative Draft Section 6 will be sent to you for review and formal commentary
4. We respond to comments, edit Admin Draft, prepare public Draft

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Stay tuned

SBCWD Board of Director's Meeting	July 29, 2020 5:00 pm
Next TAC Meeting: Sustainability Criteria for subsidence and connected surface water/GDEs	August 26? 2020
Public Workshop No. 3 Water Budget	To be determined