SANTA MARGARITA Groundwater Agency

GSP Periodic Evaluation and Amendment Update

Santa Margarita Groundwater Agency

Board of Directors Meeting

May 28, 2026

Agenda Item 4.2

REGIONAL WATER MANAGEMENT FOUNDATION

a subsidiary of Community Foundation Santa Cruz County

MONTGOMERY & ASSOCIATES

Water Resource Consultants

Evaluation/GSP Amendment Process

Recommended Corrective Actions (RCA) – mostly around revising SMC

Projects and Management Actions – currently have 20 in 3 “groups”

Review of Monitoring Network – groundwater, stream, GDEs

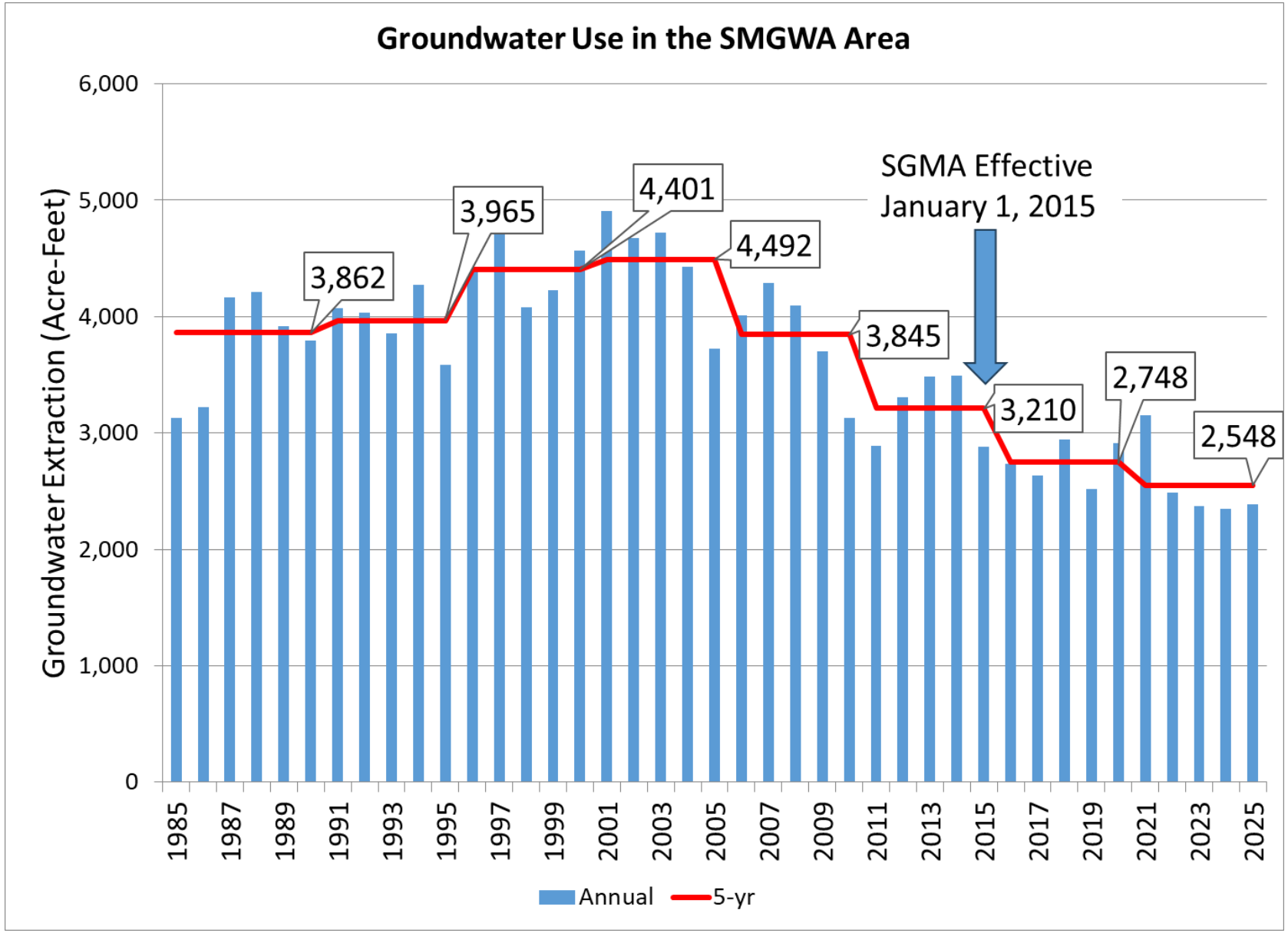
GSP Implementation (meters, fees)

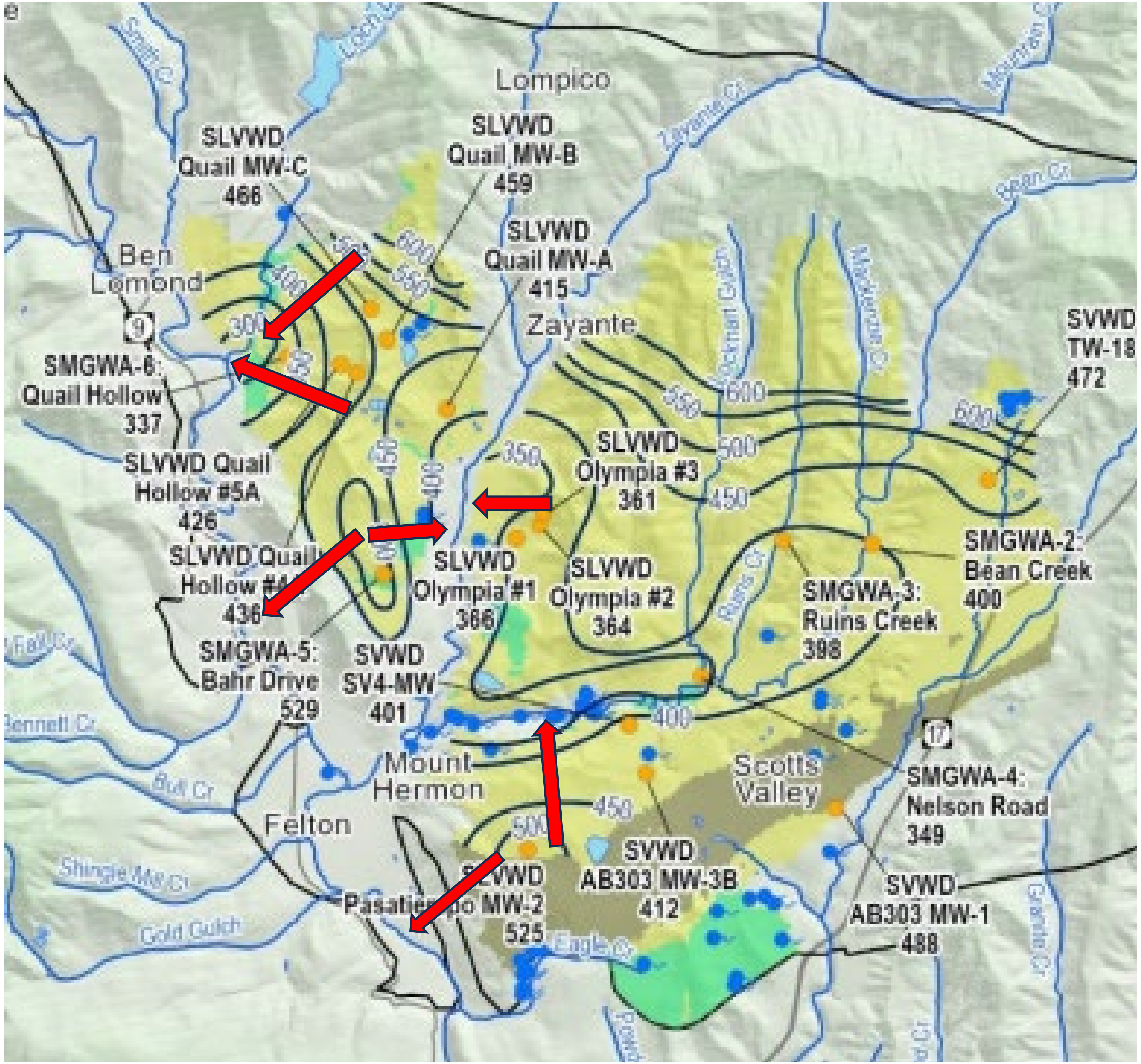
- Using ad hoc March to August to recommend GSP amendments to Board
- Relying on Board meetings to make decisions on relevant GSP amendment areas

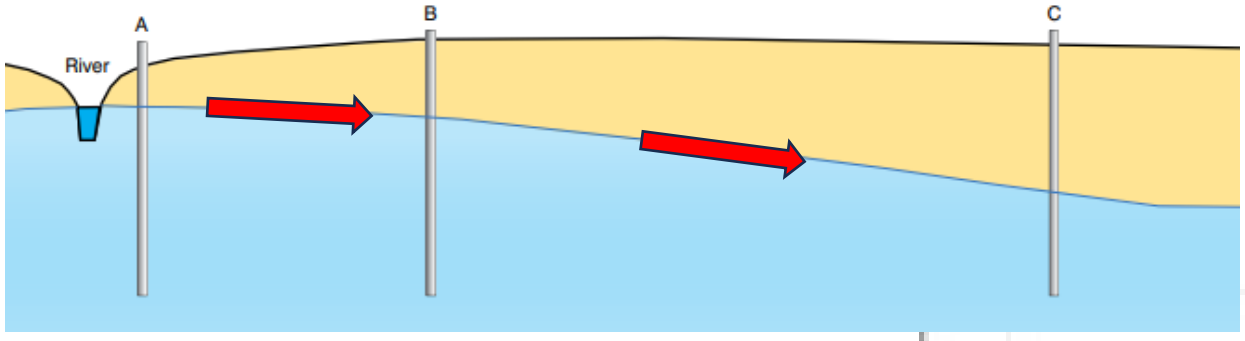
RCA #4

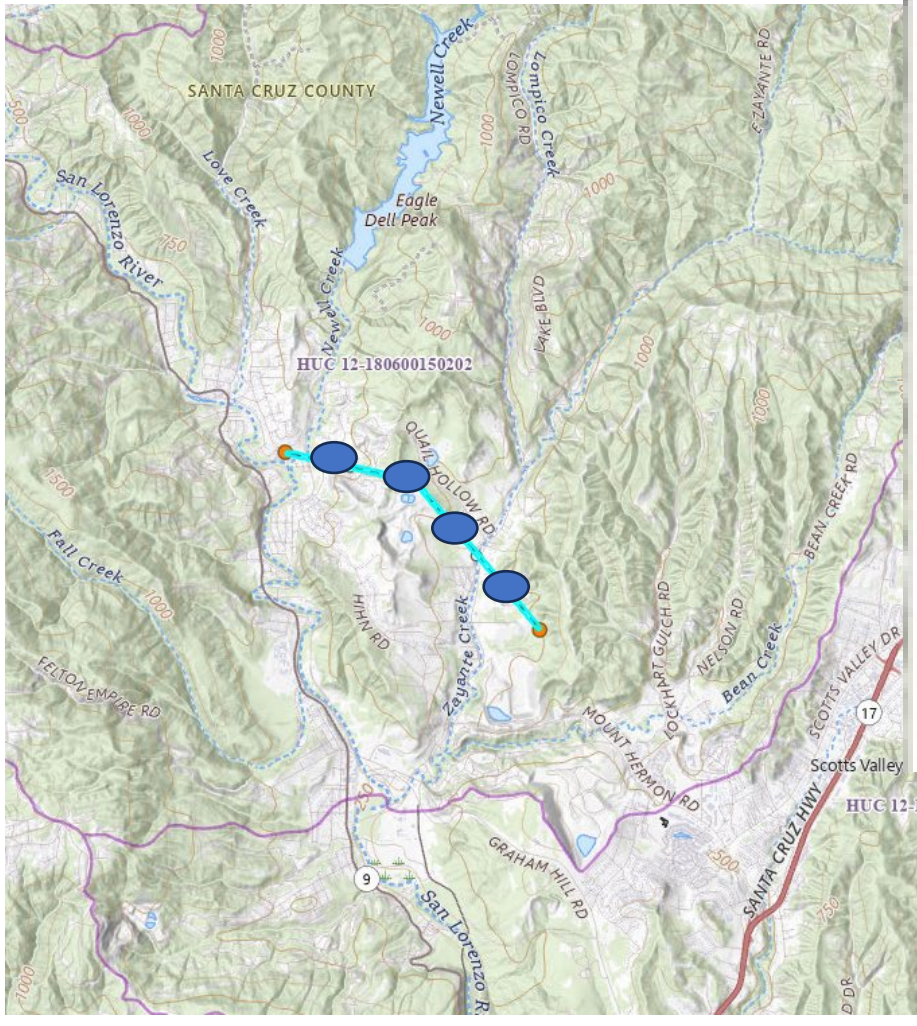
Evaluate Interconnected Surface Water SMC

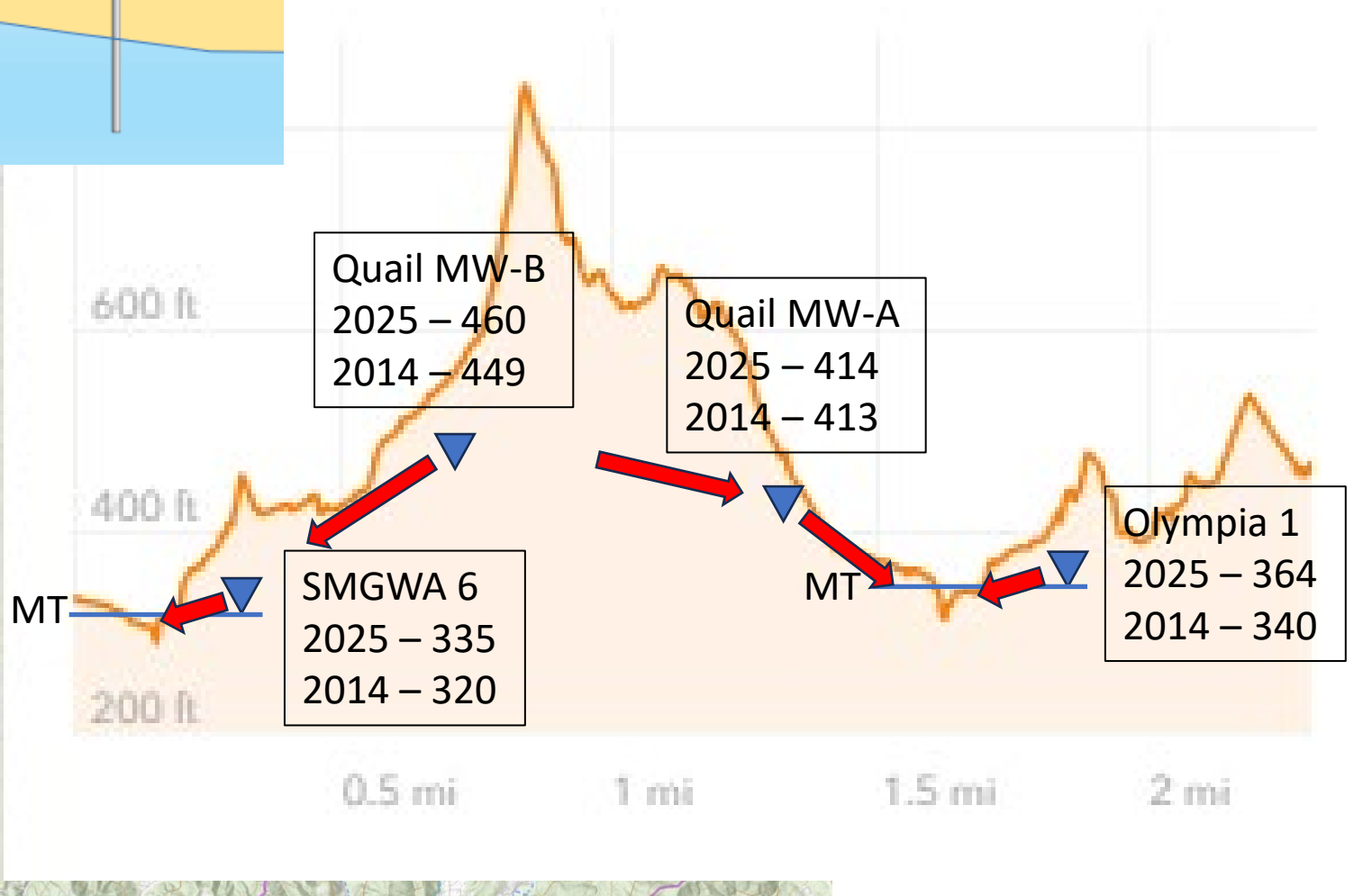
- Address the following items by the first periodic evaluation:
  - Revise sustainable management criteria with the removal of the exemption for undesirable results in drought years.
  - **Consider using the interconnected surface water guidance as appropriate when issued by DWR to establish quantifiable minimum thresholds, measurable objectives, and management actions.**


Groundwater Use in the SMGWA Area
Groundwater Extraction (Acre-Feet)
6,000
5,000
4,000
3,000
2,000
1,000
0
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021
2023
2025
3,862
3,965
4,401
4,492
3,845
3,210
2,748
2,548
SGMA Effective
January 1, 2015
Annual
5-yr

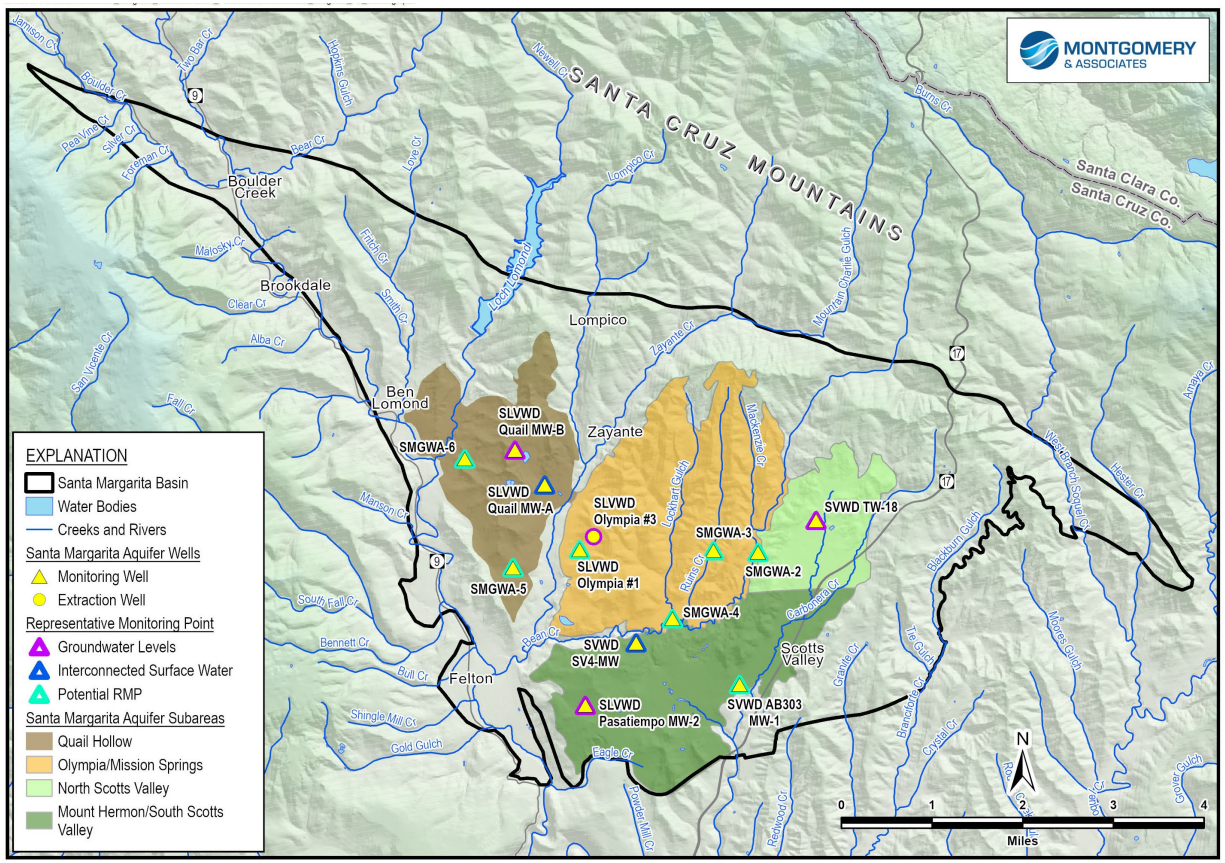

Lompico
SLVWD Quail MW-C 466
SLVWD Quail MW-B 459
SLVWD Quail MW-A 415
Ben Lomond
Zayante
Zayante Cr
Bean Cr
SMGWA-6: Quail Hollow 337
SLVWD Quail Hollow #5A 426
SLVWD Quail Hollow #4A 436
SLVWD Olympia #3 361
SLVWD Olympia #1 366
SLVWD Olympia #2 364
SVWD TW-18 472
SMGWA-2: Bean Creek 400
SMGWA-3: Ruins Creek 398
SMGWA-5: Bahr Drive 529
SVWD SV4-MW 401
Mount Hermon
Felton
Scotts Valley
SMGWA-4: Nelson Road 349
SVWD AB303 MW-3B 412
SVWD AB303 MW-1 488
SLVWD Pasatiempo MW-2 525
Bennett Cr
Bull Cr
Shingle Mill Cr
Gold Gulch
Eagle Cr
600
550
500
450
400
350
300

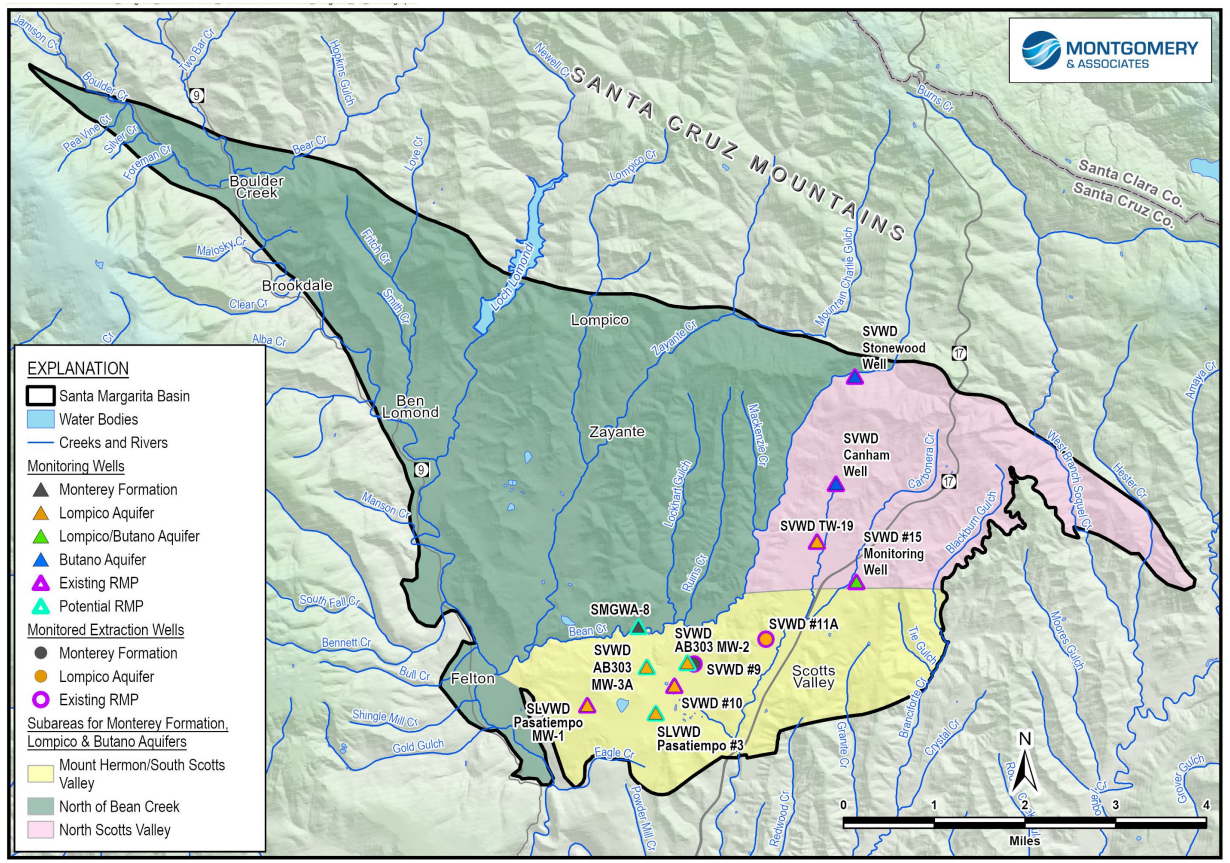

A
B
C
River


SANTA CRUZ COUNTY
Newell Creek
Zompico Creek
Love Creek
San Lorenzo River
Eagle Dell Peak
HUC 12-180600150202
QUAIL HOLLOW RD
Fall Creek
HIHN RD
Zayante Creek
FELTON EMPIRE RD
LOCKHART GULCH RD
NELSON RD
Bean Creek
BEAN CREEK RD
SCOTTS VALLEY DR
Scotts Valley
MOUNT HERMON RD
GRAHAM HILL RD
SANTA CRUZ HWY
HUC 12-180600150203
LAUREL GLEN RD
HUC 12-180600150305
HUC 12-180600150302
Scale: 1:72,224
Zoom Level: 13
2 km
5,000 ft


600 ft
400 ft
200 ft
0.5 mi
1 mi
1.5 mi
2 mi
Quail MW-B
2025 – 460
2014 – 449
Quail MW-A
2025 – 414
2014 – 413
MT
SMGWA 6
2025 – 335
2014 – 320
MT
Olympia 1
2025 – 364
2014 – 340

Groundwater level datapoints in shallow (unconfined) and deeper (confined) aquifer systems





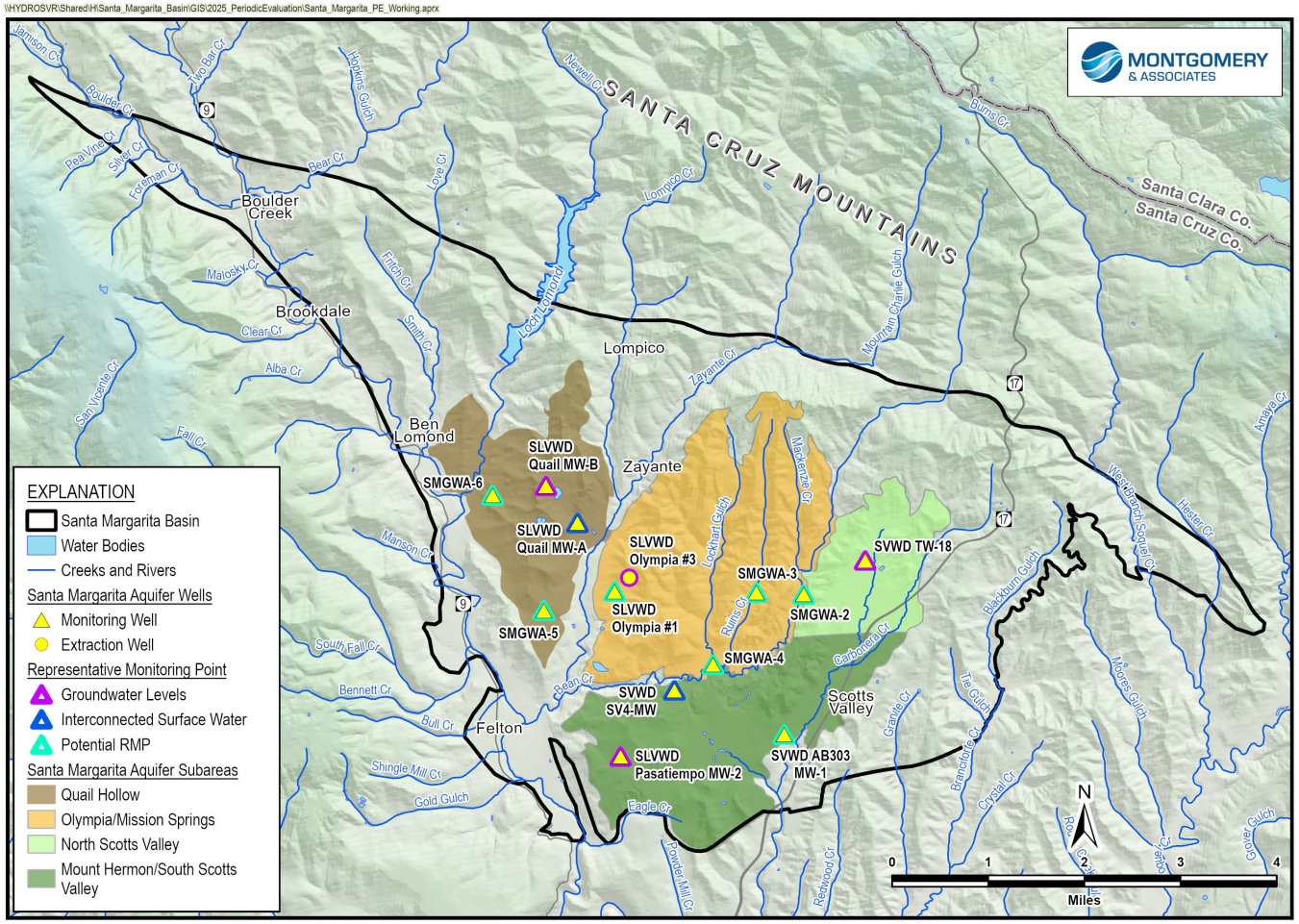
Well Name	Aquifer	Current MT	Adjust MT to ~2014	Current MO	Revised MO
SLVWD Quail MW-A	Santa Margarita	413	413	416	416
SLVWD Quail MW-B	Santa Margarita	449	**453**	472	472
SMGWA-6	Santa Margarita	N/A	**320**	N/A	349
SLVWD Olympia 1	Santa Margarita	N/A	340	N/A	345
SLVWD Olympia #3	Santa Margarita	302		307	
SMGWA-3	Santa Margarita	N/A	387	N/A	393
SMGWA-4	Santa Margarita	N/A	342	N/A	344
SMGWA-5	Santa Margarita	N/A	515	N/A	528
SVWD TW-18	Santa Margarita	462	**469**	471	471
SMGWA-2	Santa Margarita	N/A	389	N/A	396
SLVWD Pasatiempo MW-2	Santa Margarita	498	**512**	514	**517**
SVWD AB303 MW-1	Santa Margarita	N/A	477	N/A	488
SVWD SV4-MW	Santa Margarita	381	**396**	387	**403**
SMGWA-8	Monterey	N/A	313	N/A	319
SVWD #9	Monterey	301	**333**	358	**346**
SLVWD Pasatiempo #3 (Estrella)	Santa Margarita/Lompico	N/A	337	N/A	359
SLVWD Pasatiempo MW-1	Lompico	334	**337**	372	372
SVWD #10	Lompico	286	**289**	322	**335**
SVWD #11A	Lompico	288	**294**	317	317
SVWD AB303 MW-2	Lompico	N/A	**387**	N/A	**400**
SVWD AB303 MW-3A	Lompico	N/A	**354**	N/A	**361**
SVWD TW-19	Lompico	314	**327**	376	**348**
SVWD #15 Monitoring Well	Lompico/Butano	291		333	
SVWD Canham Well	Butano	427	**427**	467	**451**
SVWD Stonewood Well	Butano	836	**840**	844	**845**

Indicates RMP
Indicates likely to become RMP
Indicates likely to remove as RMP

Interconnected Surface Water SMC Proposed Undesirable Result (UR) Definition

Sustainability Indicator	Current UR Definition (Based on 2 RMPs basin-wide)	Draft UR Definition (Based on 12 RMPs in shallow/unconfined aquifer and 11 RMPs in deeper/confined aquifers)
Chronic lowering of groundwater levels	Groundwater elevation in <u>any</u> Representative Monitoring Point (RMP) falls below the minimum threshold in 2 or more consecutive <u>non-drought years</u>. If an RMP groundwater elevation below its minimum threshold is caused by emergency operational issues or extended droughts, it is not considered an undesirable result.	A. Groundwater extraction from 1 or more aquifers exceeds its MT for 2 consecutive years. ***or*** B. Groundwater elevations in 3 or more RMPs fall below the minimum threshold in 2 consecutive years in the shallow/unconfined aquifer system. ***or*** C. Groundwater elevations in 3 or more RMPs fall below the minimum threshold in 2 consecutive years in the deeper/confined aquifer system.

Surface Water Monitoring



1. Discontinue dry season stream monitoring
2. If Fall measurement in monitoring wells near Newell Creek, Zayante Creek, or lower Bean Creek, indicate approaching an MT exceedance: a) increase monitoring to monthly at the well; and
   b) prepare to begin monthly flow monitoring the following season near the specific well (if conditions do not improve over winter)
3. Coordinate with City of Santa Cruz on monitoring related to City Habitat Conservation Plan

GDE Monitoring

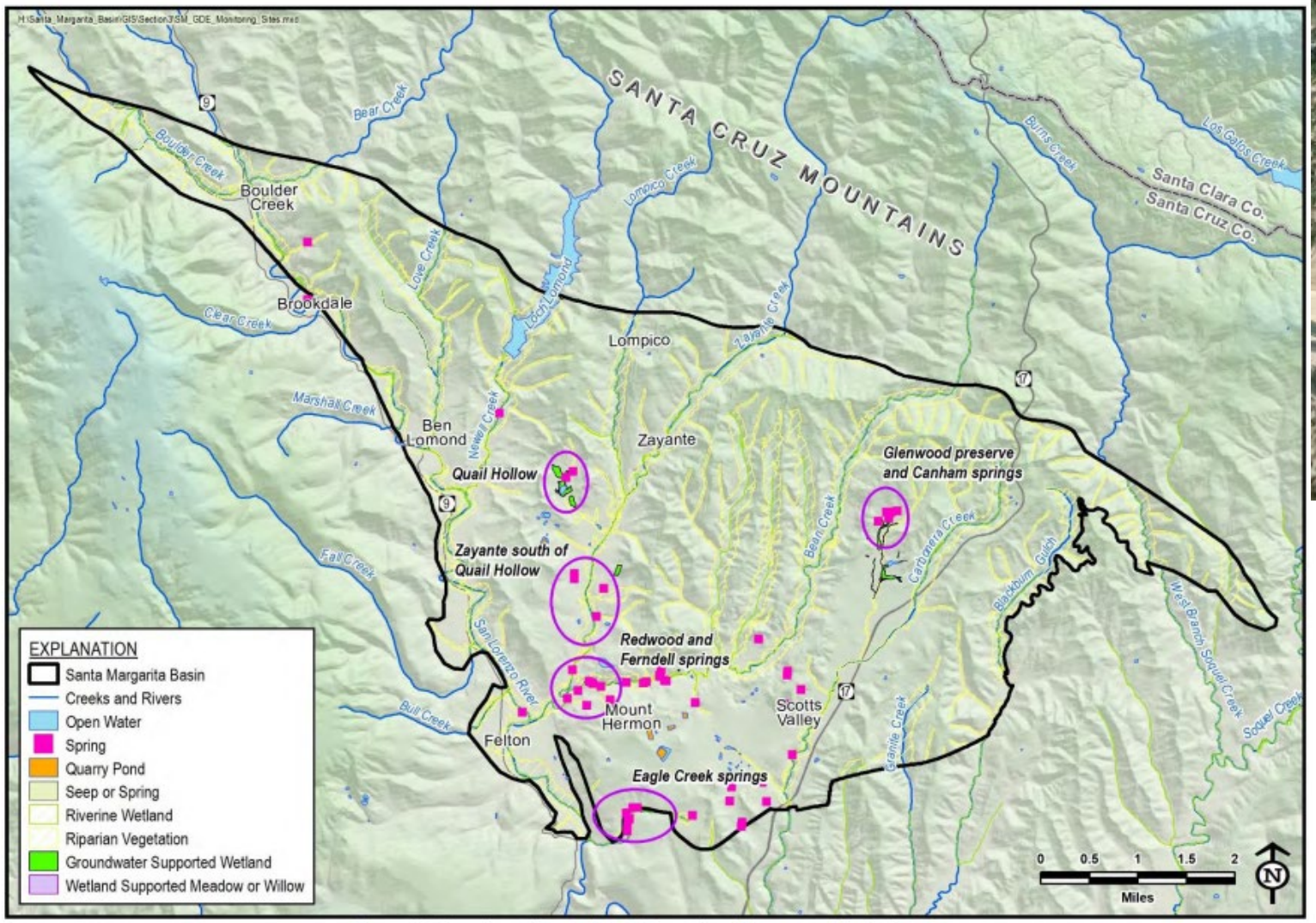
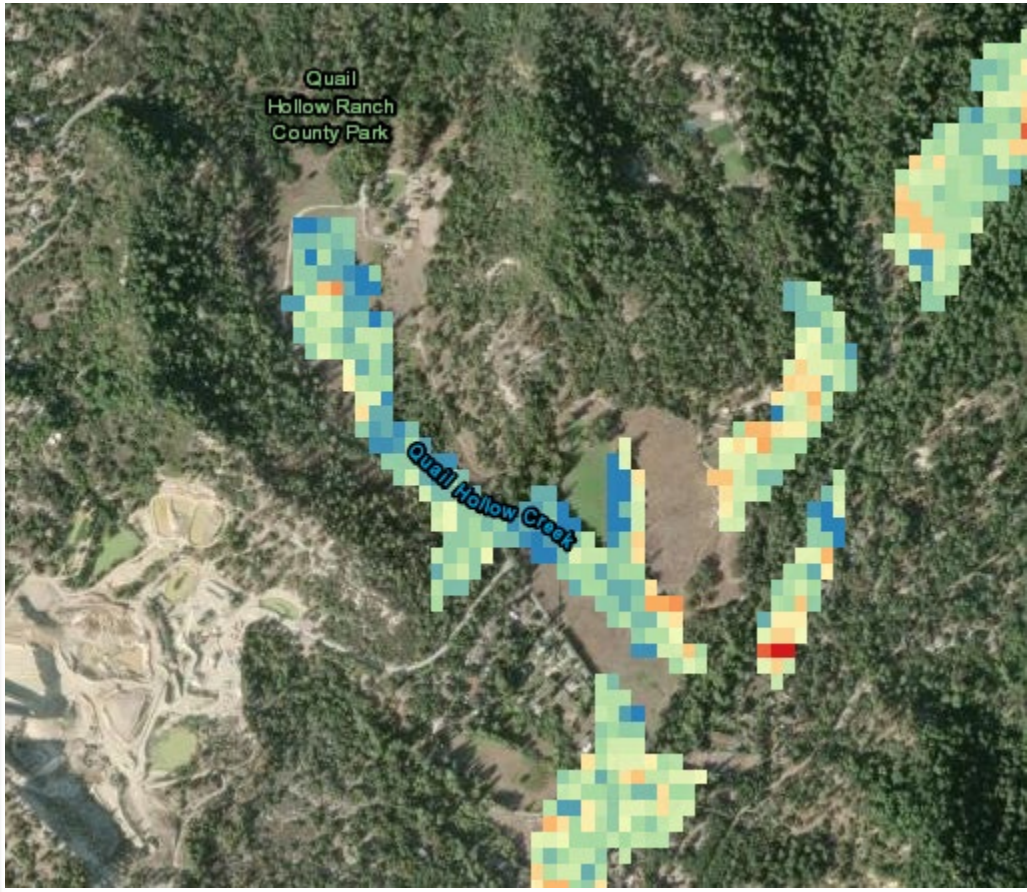


Figure 3-5. Location of Groundwater Dependent Ecosystem Monitoring Sites



1. Discontinue County field monitoring
2. Replace with TNC GDE Pulse – Normalized Difference Vegetation Index (NDVI) trend or equivalent

RCA #2

Revise the definition of undesirable results to remove the drought year condition or discuss how extractions and recharge will be managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods within the SMC for chronic lowering of groundwater levels.

Groundwater Level SMC Proposed UR Definition

Sustainability Indicator	Current UR Definition (Based on 12 RMPs basin-wide)	Draft UR Definition (Based on 12 RMPs in shallow/unconfined aquifer and 11 RMPs in deeper/confined aquifers)
Chronic lowering of groundwater levels	Groundwater elevation in any Representative Monitoring Point (RMP) falls below the minimum threshold in 2 or more consecutive non-drought years. If an RMP groundwater elevation below its minimum threshold is caused by emergency operational issues or extended droughts, it is not considered an undesirable result.	A. Groundwater elevations in 3 or more RMPs fall below the minimum threshold in 2 consecutive years in the shallow/unconfined aquifer system. ***or*** B. Groundwater elevations in 3 or more RMPs fall below the minimum threshold in 2 consecutive years in the deeper/confined aquifer system.

RCA #3

Revise SMC for degraded groundwater quality:

A. *Revise the definition of undesirable results for degraded groundwater quality so that exceedances of minimum thresholds caused by groundwater extraction, whether the GSA has implemented pumping regulations or not, are considered in the assessment of undesirable results in the Basin.*

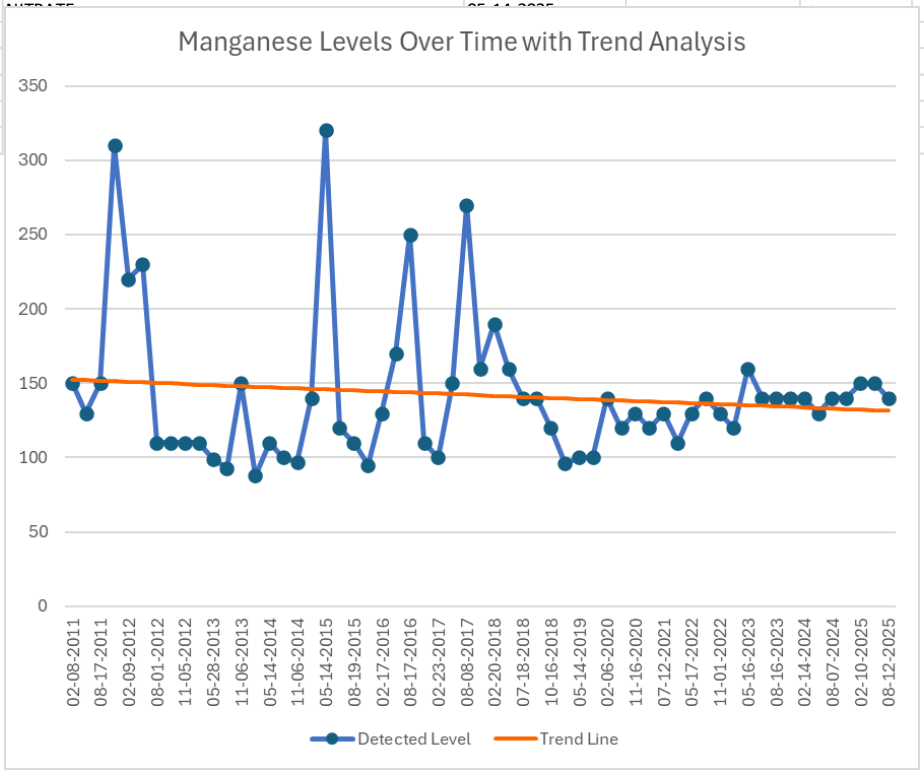
B. *Revise the sustainable management criteria for degraded water quality to include undesirable results for constituents of concern in the basin identified in the GSP.*

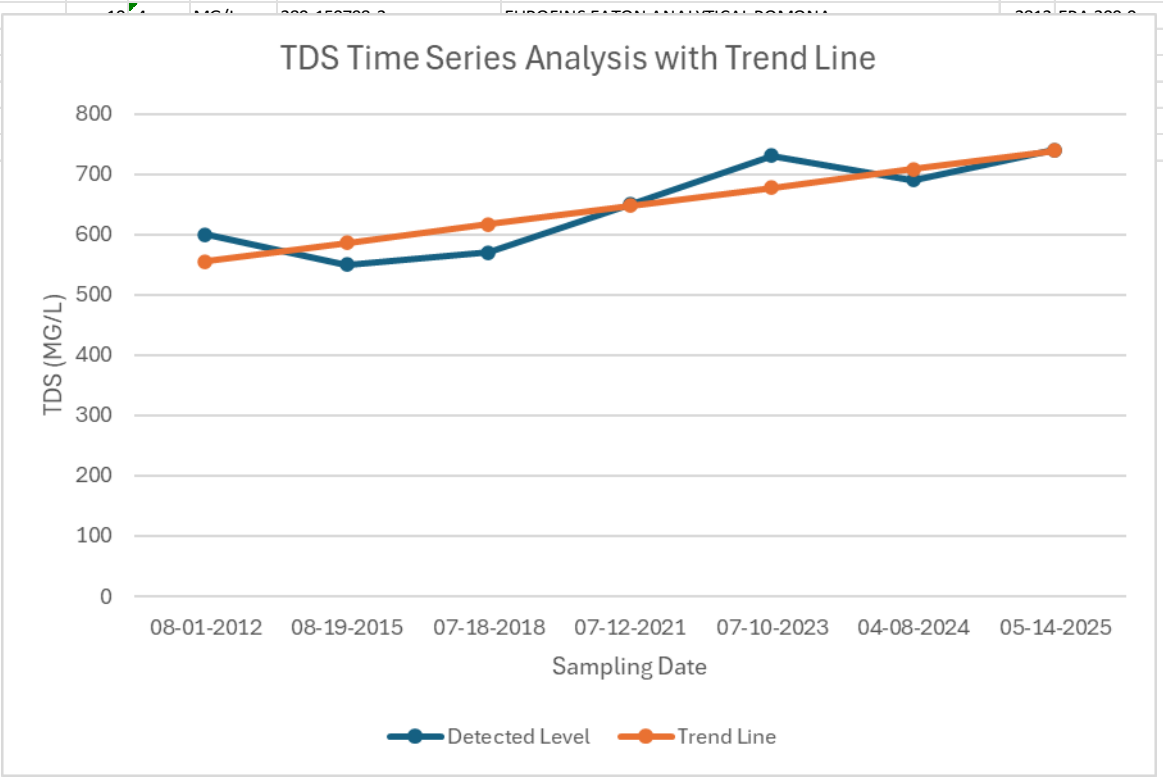
Proposed Alternative Approach for Water Quality

- TDS, Arsenic, Nitrate as Basin Constituents of Concern
- Redefine SMC values based on the concept of degradation from a baseline value (e.g., % increase from conditions)
- Additional process:
  - Review all water quality results each year for VOC detections or any constituent Maximum Contaminant Level (MCL) exceedance
  - Annual meeting with County Site Mitigation Program to share information on public supply results and active site investigations/remediation

Water Quality Sampling Results

Analyte Number	Analyte Name	Sampling Date	Detected Level	Less Than	RL	Counting Error (+/-)	MCL	DLR	Unit	Lab Sample ID	Lab	ELAP	Method
1002	ALUMINUM	08-12-2025		<	20		1000	50	UG/L	380-165818-2	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1005	ARSENIC	08-12-2025		<	1		10	2	UG/L	380-165818-2	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1028	IRON	08-12-2025	160		10		300		UG/L	380-165818-2	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.7
1032	MANGANESE	08-12-2025	140		2		50		UG/L	380-165818-2	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
4006	COMBINED URANIUM	07-29-2025		<	0.67		20	1	PCI/L	380-163379-2	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
0100	TURBIDITY	05-14-2025	2		0.1		5	.1	NTU	250514_059-02	MONTEREY BAY ANALYTICAL SERVICES	2385	EPA 180.1
1002	ALUMINUM	05-14-2025		<	20		1000	50	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1005	ARSENIC	05-14-2025		<	1		10	2	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1010	BARIUM	05-14-2025	14		2		1000	100	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1015	CADMIUM	05-14-2025		<	0.5		5	1	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1017	CHLORIDE	05-14-2025	8.9		1		500		MG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 300.0
1020	CHROMIUM	05-14-2025		<	0.9		50	10	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1021	HYDROXIDE AS CALCIUM CARBONATE	05-14-2025		<	4				MG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	SM 2320 B
1022	COPPER, FREE	05-14-2025		<	1		1000	50	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1024	CYANIDE	05-14-2025		<	5		150	100	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 335.4
1025	FLUORIDE	05-14-2025	0.25		0.05		2	.1	MG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	SM 4500-F-C-97
1028	IRON	05-14-2025	300		10		300		UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.7
1031	MAGNESIUM	05-14-2025	11		0.1				MG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.7
1032	MANGANESE	05-14-2025	150		2		50		UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1035	MERCURY	05-14-2025		<	0.2		2	1	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1036	NICKEL	05-14-2025	2		1		100	10	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 200.8
1039	PERCHLORATE	05-14-2025		<	0.5		6	1	UG/L	380-150798-3	EUROFINS EATON ANALYTICAL POMONA	2813	EPA 331.0
1040	NITRATE				0.1								
1041					0.1								
1042					0.1								
1045					2								
1050					0.5								
1052					0.1								





Total Dissolved Solids

	Highest Value (HV)	HV2	HV3	Current MO	Proposed MO	Current MT	Proposed MT
Quail 4a	150	130	130	NA	250	NA	500
Quail 5a	130	130	120	123	250	1000	500
Olympia 2	480	460	430	NA	600	NA	800
Olympia 3	740	730	690	573	900	1000	1000
Pasatiempo 5a	180	180	160	NA	250	NA	500
Pasatiempo 7	190	180	150	143	250	1000	500
Pasatiempo 8	170	160	140	NA	250	NA	500
SVWD 10A	340	330	320	290	400	1000	600
SVWD 11A	580	580	570	525	700	1000	800
SVWD 11B	410	400	390	367	500	1000	700
Orchard	660	520	510	450	800	1000	1000

Arsenic							
	Highest Value (HV)	HV2	HV3	Current MO	Proposed MO	Current MT	Proposed MT
Quail 4a	3.2	2.9	2.8	NA	5	NA	8
Quail 5a	2.7	2.2	1.5	2	5	10	8
Olympia 2	ND	ND	ND	NA	2	NA	5
Olympia 3	ND	ND	ND	2	2	10	5
Pasatiempo 5a	3.5	3.5	3.4	NA	5	NA	8
Pasatiempo 7	2.8	2.5	2	2	5	10	8
Pasatiempo 8	11	11	11	NA	13	NA	15
SVWD 10A	ND	ND	ND	2	2	10	5
SVWD 11A	5.2	4.6	4.6	3	6	10	8
SVWD 11B	12	12	11	9	14	10	16
Orchard	ND	ND	ND	2	2	10	5

Nitrate							
	Highest Value (HV)	HV2	HV3	Current MO	Proposed MO	Current MT	Proposed MT
Quail 4a	0.77	0.69	0.68	NA	2	NA	5
Quail 5a	3.4	2.7	2.6	2.13	4	5	5
Olympia 2	ND	ND	ND	NA	2	NA	5
Olympia 3	ND	ND	ND	0.4	2	5	5
Pasatiempo 5a	0.15	0.07	ND	NA	2	NA	5
Pasatiempo 7	0.7	0.6	0.57	0.33	2	5	5
Pasatiempo 8	ND	ND	ND	NA	2	NA	5
SVWD 10A	ND	ND	ND	0.39	2	5	5
SVWD 11A	ND	ND	ND	0.4	2	5	5
SVWD 11B	ND	ND	ND	0.4	2	5	5
Orchard	ND	ND	ND	0.4	2	5	5

Groundwater Quality SMC Proposed UR Definition

Sustainability Indicator	Current UR Definition (Based on 8 RMPs basin-wide)	Draft UR Definition (Based on 11 RMPs basin-wide)
Degradation of Groundwater Quality	Minimum thresholds are exceeded at RMPs when: • Minimum thresholds have not been exceeded prior to SMGWA approved projects or management actions • An immediate resampling confirms the exceedance • The exceedance is caused by SMGWA approved projects or management actions	3 or more RMPs experience an MT Exceedance for the same constituent for 2 consecutive years

Draft Revised Sustainability Goal

The Basin sustainability goal is to achieve and maintain groundwater conditions that support beneficial uses and users and sustain the long-term health of the Basin's community, economy, and environment.

This goal will be achieved by:

- Monitoring and managing groundwater conditions to meet established sustainable management criteria.
- Maintaining groundwater levels sufficient to protect domestic and municipal supply wells.
- Supporting continued groundwater contributions to streamflow and groundwater dependent ecosystems, where applicable.
- Maintaining groundwater quality for current and future beneficial uses.
- Implementing adaptive management strategies, including expanding conjunctive use and drought response measures, to enhance drought resilience and long-term supply reliability.

Projects and Management Actions (PMAs)

- Currently have 20 PMAs
- Recharacterize Group 1 projects as “in place” to reduce reporting requirements
- Eliminate Group 2 “Tiers”
- Eliminate Group 2, Tier 3 at request of project proponents
- Update/streamline Group 3 projects at request of project proponents

PMA ID	PMA Name	GSP Grouping
3-027_PMA_1	Existing Water Use Efficiency	Group 1
3-027_PMA_2	SVWD Low Impact Development	Group 1
3-027_PMA_3	SLVWD Conjunctive Use	Group 1
3-027_PMA_4	SVWD Recycled Water Program	Group 1
3-027_PMA_5	SLVWD, SVWD, and Santa Cruz County Additional Water Use Efficiency	Group 2, Tier 1
3-027_PMA_6	SLVWD Existing Infrastructure Expanded Conjunctive Use (Phase 1)	Group 2, Tier 1
3-027_PMA_7	SLVWD and SVWD Inter-District Conjunctive Use with Loch Lomond (Phase 2)	Group 2, Tier 1
3-027_PMA_8	Transfer for Inter-District Conjunctive Use	Group 2, Tier 2
3-027_PMA_9	Aquifer Storage & Recovery Project in Scotts Valley Area of the Basin	Group 2, Tier 2
3-027_PMA_10	Purified Wastewater Recharge in Scotts Valley Area of the Basin (710 – 1,500 AFY Treated at Existing Facility Outside of the Basin)	Group 2, Tier 3
3-027_PMA_11	Purified Wastewater Recharge in Scotts Valley Area of the Basin (3,500 AFY Treated at New Facility inside the Basin)	Group 2, Tier 3
3-027_PMA_12	Purified Wastewater Augmentation at Loch Lomond	Group 2, Tier 3

Other GSP Implementation Recommendations

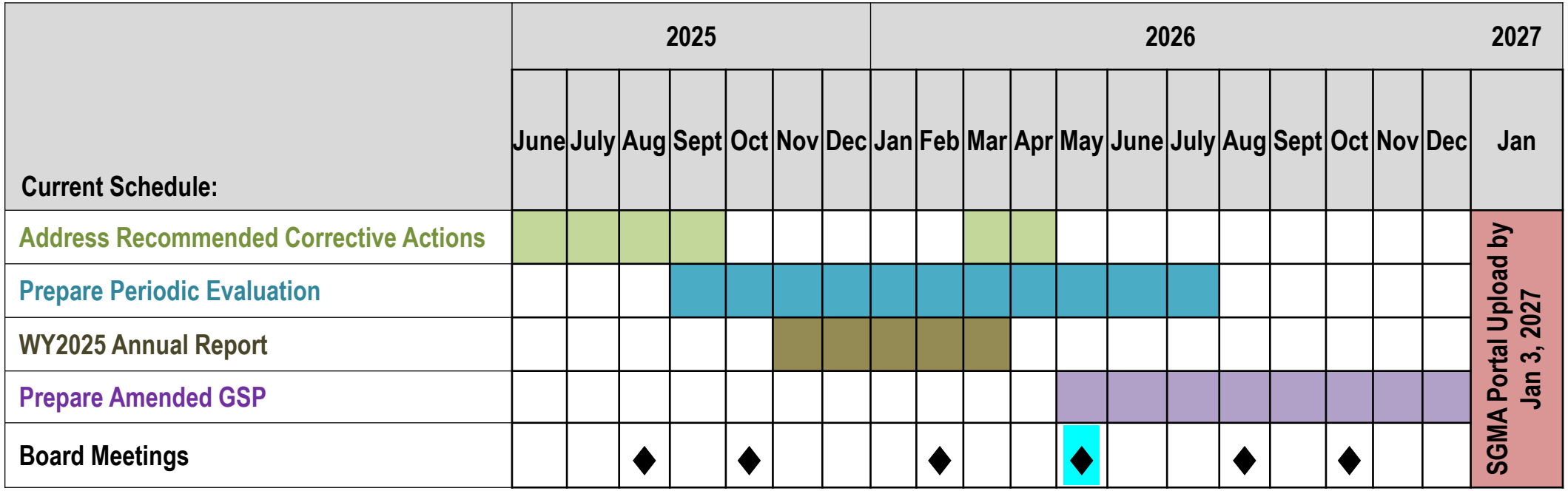
1. Delete language to evaluate “the potential application of fees and the fee criteria for non-de minimis and de minimis users alike” after 2027 as indicated in GSP Section 1.3.4.
2. Delete requirement that Agency to implement a groundwater extraction metering program for non-de minimis extractors as described in GSP Section 5.5.
   - There are very few users in this class and effort by Agency to implement may not be worth the value of the additional information
   - County has July 2025 well ordinance in place that would require meters on non-de minimis users seeking a well permit going forward

Model Update Still in Progress

- Needed to reflect expected changes to pumping distribution from newer SVWD wells in Lompico/Butano
- Will result in modifying SMC for Reduction of Groundwater in Storage
- Updating water budgets

GSP Version	Historical	Current	Projected
2021	1985-2018	2010-2018	2020-2072
2026	1985-2014	2015-2025	2026-2072

- Current water budget reduces groundwater pumping from 3,000 acre-feet (AF) down to 2,600 AF and indicates average annual change in storage of +300 AF
- Projected conditions model run is in progress



Board Meetings / Milestones

Revised Schedule

May 28, 2026:	Update on Draft PE & Board Direction on GSP Amendment
Jul 24, 2026:	Notice to City/County (90-days required by SGMA) of Proposed Adoption of GSP Amendment
Aug 13, 2026	Release Board/Public Draft PE and GSP Amendment
Aug 27, 2026:	Board/Public Comment on Draft PE and GSP Amendment
Sep 15, 2026:	End Comment Period
Oct 22, 2026:	Draft Final PE and GSP Amendment
Jan 3, 2027:	PE and GSP Amendment Due

Questions/Discussion