Demand Management Working Group Meeting #4

December 2, 2024

Demand Management Programs | **Ad Hoc and Working Group Meeting Framework / Timeline**

1. Form Groups & Prepare

- Formation & Planning
- Defining Goals, Objectives, and Priorities

2. Gather Info and Generate Ideas

- Information Collection and Analyses/ Assessments
- Identify Management Strategies

3. Explore and Package Ideas

- Build Out Specific Elements and Strategies
- Outreach Coordination

4. Refine

- Vet and refine program elements and strategies

5. 'Finalize" and Implement

- Finalize elements for Ad Hoc recommendations
- Identify considerations and opportunities to improve implementation feasibility

GSA Boards Review/Consider for Approval

Jan 2026: RB, Ant, LM
Jan 2027: Corning

Mtg 1: Above items plus criteria and info requests
Mtg 2: Program Outline and WG Input
Mtg 3: WG Outputs

Mtg 2: Info Requests Follow-Up, Assessing Sustainable Yield
Mtg 3 & 4: Revising polygon approach
Mtg 4: DM examples

Agenda

8:30 Welcome and round-robin introductions

8:35 Agenda review and participation

8:40 Updates

8:45 Revising the polygon approach for assessing sustainable yield

9:50 *Optional break*

10:00 Other Demand Management Program Examples

10:25 Future Working Group Activities and Next Steps

10:30 Adjourn

Participation Procedures

- Contribute
- Make room for others
- All thoughts have value
- Ask questions of one another
- Not consensus-seeking
- Consider those listening in (state name, one voice at a time)

- Previous Meeting Follow-Up and Updates
- Today's Meeting Objectives

Working Group Updates

Meeting 3 Recap and Updates

- Mtg 3 Topics Covered:
  - Revised polygon approaches for estimating sustainable yield
  - Data viewer map tool walk through; additional layers requested
  - Anticipated specific activities and outputs of the Ad Hoc and Working Group
  - Process requests (meeting design, tracking topics and

Reminder: meeting materials on website
tehamacountywater.org/demand-management-ad-hoc-working-group/

Revising Polygon Approach for Assessing Sustainable Yield

- Overview reminder
  - Purpose, Criteria, and Options
  - Today's goal: Decide on recommended approach
- Intro presentation and discussion on calculating sustainable yield
- Review and discuss approaches; affirm recommendation

Revising Polygons | Recap

Purpose: Wells used in a polygon used to calculate SY for that polygon; SMC-specific polygon; decide on P/MAs appropriate to that polygon

Potential Criteria

- Equidistant from RMS wells
- Decent spread of wells for adequate coverage
- Minimized quirks and outliers
- Balance of using up-to-date data and ability to keep updated

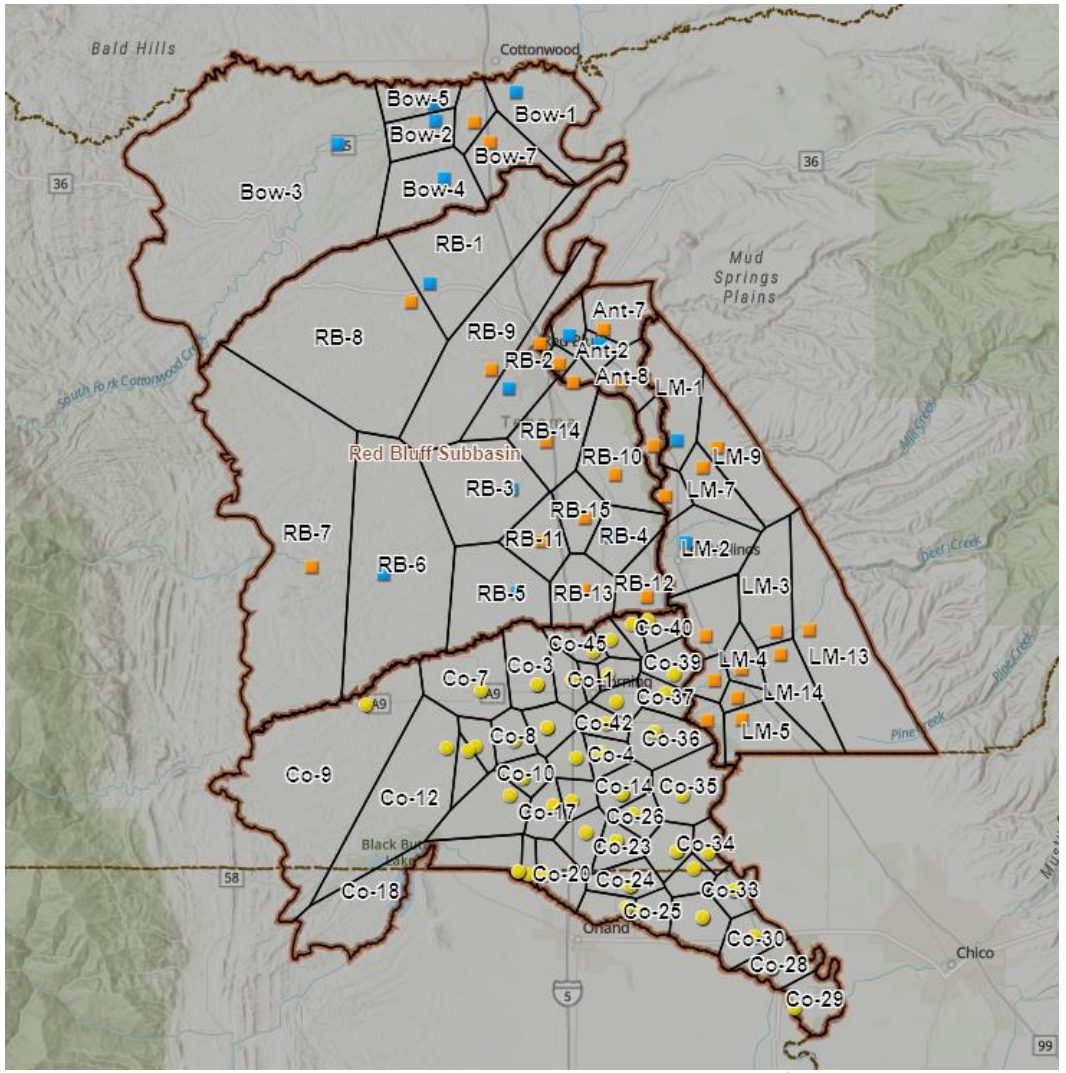
Potential Approaches

1. **True-Thiessen**: Auto-generated
2. **Groundwater Conditions-Based**: Where experiencing or predicting groundwater issues
3. **Land Use-Based**: Where water is being used
4. **Evapotranspiration-Based:** How much water is leaving the system

Slide from a previous meeting

Question 2 – Potential Tools To Utilize

- Groundwater Level Changes (RMS Wells)
- Estimate Groundwater Pumping (Annual Reports/Open ET/Cropscape)
- Change in Groundwater Storage (*ΔS)*
  - $\Delta S = Q_{in} - Q_{out}$
  - $\Delta S = A \times Sy \times \Delta WL$
- Estimate Safe Yield
  - *Safe Yield = Average Pumping +/- Average ΔS*



LSCE to Screen Share

Revising Polygons | Discussion

Potential Criteria

- Equidistant from RMS wells
- Decent spread of wells for adequate coverage
- Minimized quirks and outliers
- Balance of using up-to-date data and ability to keep updated

Potential Approaches

1. **True-Thiessen**: Auto-generated
2. **Groundwater Conditions-Based**: Where experiencing or predicting groundwater issues
3. **Land Use-Based**: Where water is being used
4. **Evapotranspiration-Based:** How much water is leaving the system
5. **Hybrid** as warranted?

Discussion Questions:

- Yes/No to recommend using staff/consultant recommendation?
- If no, discuss pros/cons for the different polygon designation approaches; affirm recommendation to Ad Hoc/Commission

- DWR and sgma-dmad.com
- Select examples

Other Demand Management Program Examples

Demand Management Actions (from GSPs)

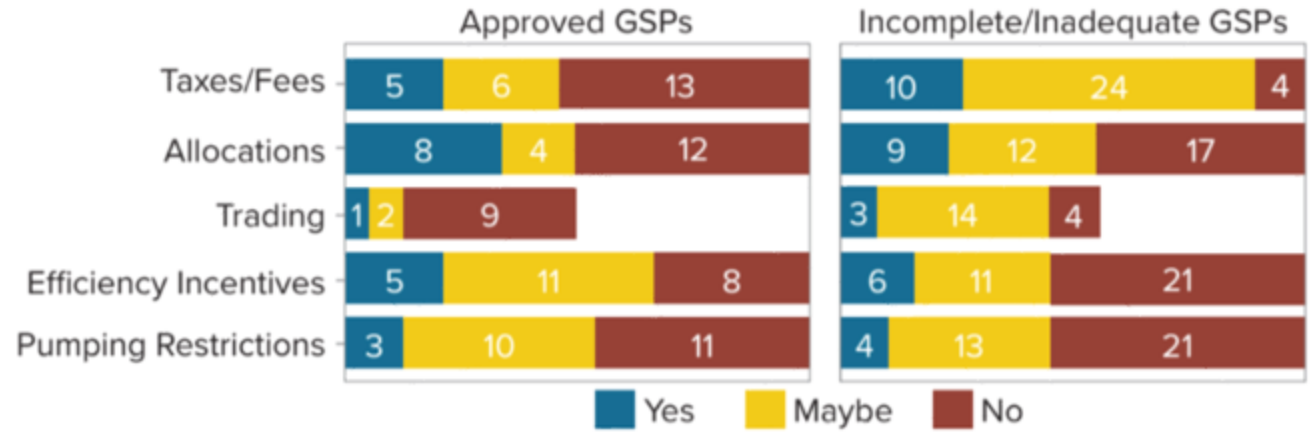
SGMA Basins and GSPs Demand Management Strategies (2023)

File Edit View Insert Format Data Tools Extensions Help

	Basin Name	Basin ID	Priority Level	Status (20	GSP	Allocations	Allocation Basis	Allocation Description
					unts =>	GMA 19		
25	Tulelake, Klamath River Valley	1-002.01	02. Medium	Incomplete		N	NA	NA
26	Butte Valley	1-003	02. Medium	Incomplete		N	NA	NA
27	Shasta Valley	1-004	02. Medium	Approved		N	NA	NA
28	Scott River Valley	1-005	02. Medium	Approved		N	NA	NA
29	Eel River Valley	1-010	02. Medium	Approved		N	NA	NA
30	Ukiah Valley	1-052	02. Medium	Approved		N	NA	NA
31	Santa Rosa Valley/Plain	1-055.01	02. Medium	Approved		N	NA	NA
33	Petaluma Valley	2-001	02. Medium	Approved		N	NA	NA
34	Napa Valley	2-002.01	01. High	Approved		N	NA	NA
35	Sonoma Valley	2-002.02	01. High	Approved		N	NA	NA
43	East Bay Plain, Santa Clara Valle	2-009.04	02. Medium	Approved		N	NA	NA
44	North San Benito, Gilroy-Hollister	3-003.05	02. Medium	Approved		N	NA	NA
47	Forebay Aquifer	3-004.04	02. Medium	Approved		N	NA	NA
48	Upper Valley Aquifer, Salinas Val	3-004.05	02. Medium	Approved		N	NA	NA
49	Langley Area	3-004.09	01. High	Approved		Y	Multiple	"A hybrid allocation struct
50	Monterey, Salinas Valley Corral C	3-004.10	02. Medium	Approved		Y	Acreage	Applies to the Corral de T

Combined DWR data with sgma-dmad.com

Figure 1. Demand Management Actions



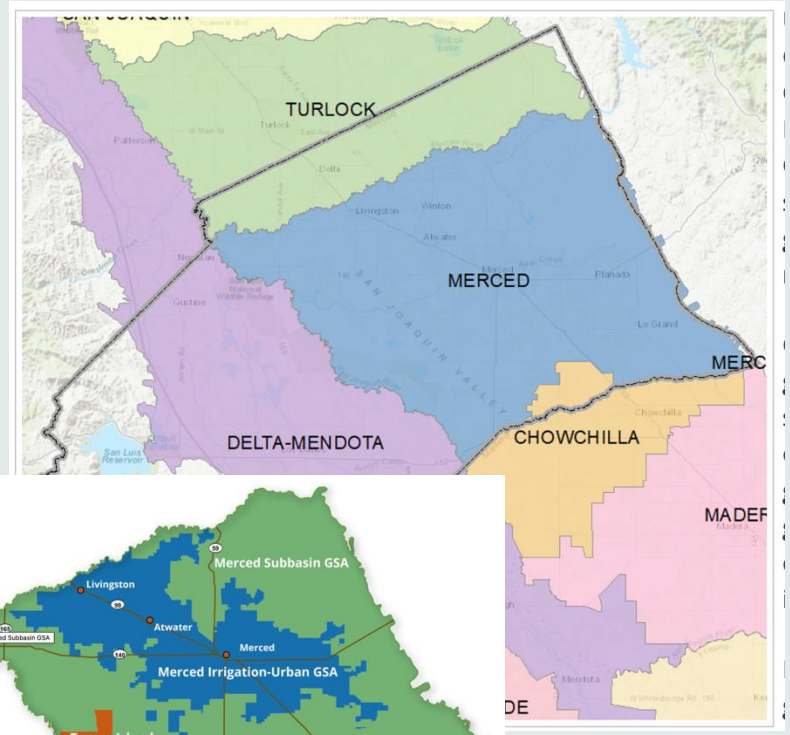
Source: The SGMA Demand Management Action Database (DMAD). Available at: https://sgma-dmad.com.

Note: The figure shows the number of different types of demand management actions included in the GSPs that are approved (left) and either incomplete or inadequate (right). The 'trading' bar is shorter than the others to show that only GSPs with allocation plans can include trading as a demand management action.

Figure Source: Friberg, Astrid Borup, Arthur R. Wardle, and Ellen M. Bruno. 2023. "How Is Demand Management Developing in SGMA Groundwater Sustainability Plans?" ARE Update 26(5): 5–8. University of California Giannini Foundation of Agricultural Economics.

Example: Merced – allocations and pumping limits

Merced Subbasin (High Priority, COD) | DM includes conservation, land repurposing, pumping limits, water markets, surface water use incentives



Merced Irrigation Urban GSA (MIUGSA) | Allocations and pumping limits

Groundwater Allocation: Limit of 3.3 acre-feet per acre over three years (2023–2025).
Monitoring & Compliance: Mandatory well registration and extraction tracking.
Flexibility Options:

- Combine allocations across parcels.
- Carry over unused/recharged water.
- Account for supplemental water sources.

Overuse Penalties:

- Up to 1.1 acre-feet excess: $200/acre-foot.
- Over 1.1 acre-feet excess: $500/acre-foot.

https://www.miugsa.org/groundwater-allocation-monitoring
https://www.mercedsgma.org/index

Strategies and Examples

Groundwater Allocations:

Madera Subbasin: Limit of 3.3 acre-feet per acre over three years (2023–2025).

Usage-Based Fees:

Madera Subbasin: $246/acre annual fee for recharge projects (facing legal challenges).

Wyandotte Creek Subbasin: Fees range from $0.71 to $10.12/acre for monitoring and compliance.

Pumping Restrictions:

- 180/400-Foot Aquifer, Salinas Valley**:** Pumping restrictions to combat seawater intrusion, with limits on extraction volumes and mandatory reporting.

Other examples:

- **Land Repurposing:** Merced Subbasin GSA, Salinas Valley, and Tule: Encourages retiring high-water-use crops to reduce demand. (state-funded via MLRP)
- **Incentive Programs:** Westlands Water District: Supports on-farm recharge and flood irrigation for aquifer recovery. (state and fed-grant funded and WD investments)

Discussion Questions:

- Initial reactions to how other subbasins are approaching demand management?
- Are there specific subbasins or strategies you'd like to explore?

Timeline for developing the Demand Management Program

Item	Milestone Date
Set management polygons	Nov'24
Generate sustainable yield per polygon	Dec 24-Jan 25
Determine expansion protocols	Feb '25
Set yield per acre for each polygon	Mar '25
Determine which (if any) voluntary measures will be requested in each polygon	Apr '25
Set triggers for adaptive measures (same basin wide)	May '25
Set adaptive measures	Jun-Jul '25
Set timeline for implementation of adaptive measures	Aug-Sep '25
Final deliberations buffer and legal review	Oct '25
Take to Commission	Nov '25
Take to BOD	Dec '25
Demand Management Program launch	Jan '26

Next Steps and Wrap-Up

Upcoming meetings

CSAB | Dec 4

Groundwater Commission | Dec 11

FCWCD Board | Dec 16

Next WG Meeting | Dec 18, 8:30-11:00a
(duration subject to change)

Action Items and Next Steps