DRAFT SLIDES

Demand Management Working Group Meeting #12

August 6, 2025

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)

Meeting 11 Recap and Updates

Last Meeting's Recap:

- Draft Framework Technical Report overview
  - Outcomes: Updated w/ clarifications and other minor edits; CSAB meeting presentation this PM
- Exploring potential DM actions in example scenario (polygon groupings and trigger-based actions)
  - Outcomes: WG emailed comments; identified several issues of interest (focus of today)

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

DRAFT - For Discussion Purposes Only

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

1. Form Groups & Prepare

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

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

2. Gather Info and Generate Ideas

- Information Collection and Analyses/ Assessments
- Identify Management Strategies

Mtg 2: Info Requests, Assessing SY
Mtg 3 & 4: Revising polygon approach
Mtg 4 & 5: DM examples
Mtg 5 & 6: SY per polygon

3. Explore and Package Ideas

- Build Out Specific Elements and Strategies
- Outreach Coordination

Mtg 6 & 7: DM program concepts
Mtg 8 & 9: Program principles and framework, straw proposal, etc.

4. Refine

- Vet and refine program elements and strategies

Mtg 10 & 11: draft DM actions; program framework
Mtg 12: Refining elements and ideas

5. 'Finalize" and Implement

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

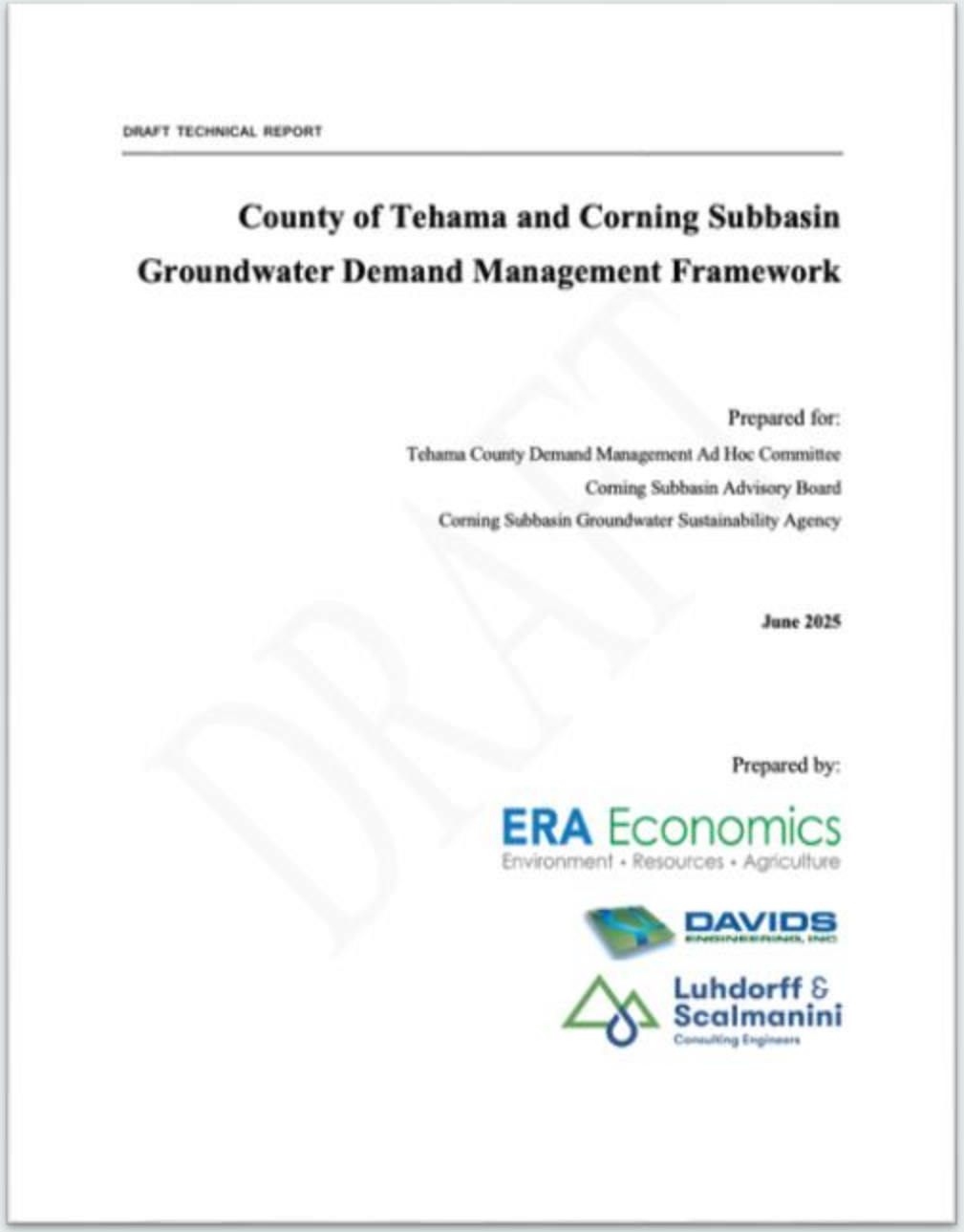
GSA Boards Review/Consider for Approval

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

Agenda

8:30	Welcome, introductions and updates
8:40	Draft Framework Technical Report Update
8:50	Core Program Elements Discussion 1. Polygons 2. Safe Yield and Sustainable Yield calculations 3. Trigger mechanisms 4. Data/information updates 5. Implementation flexibility and adaptive management 6. Timeline and Milestones reminders
10:20	Next Steps
10:30	Adjourn

Draft Technical Report Update



DRAFT TECHNICAL REPORT

County of Tehama and Corning Subbasin Groundwater Demand Management Framework

Prepared for:

Tehama County Demand Management Ad Hoc Committee

Corning Subbasin Advisory Board

Corning Subbasin Groundwater Sustainability Agency

June 2025

Prepared by:

ERA Economics
Environment • Resources • Agriculture

DAVIDS ENGINEERING, INC

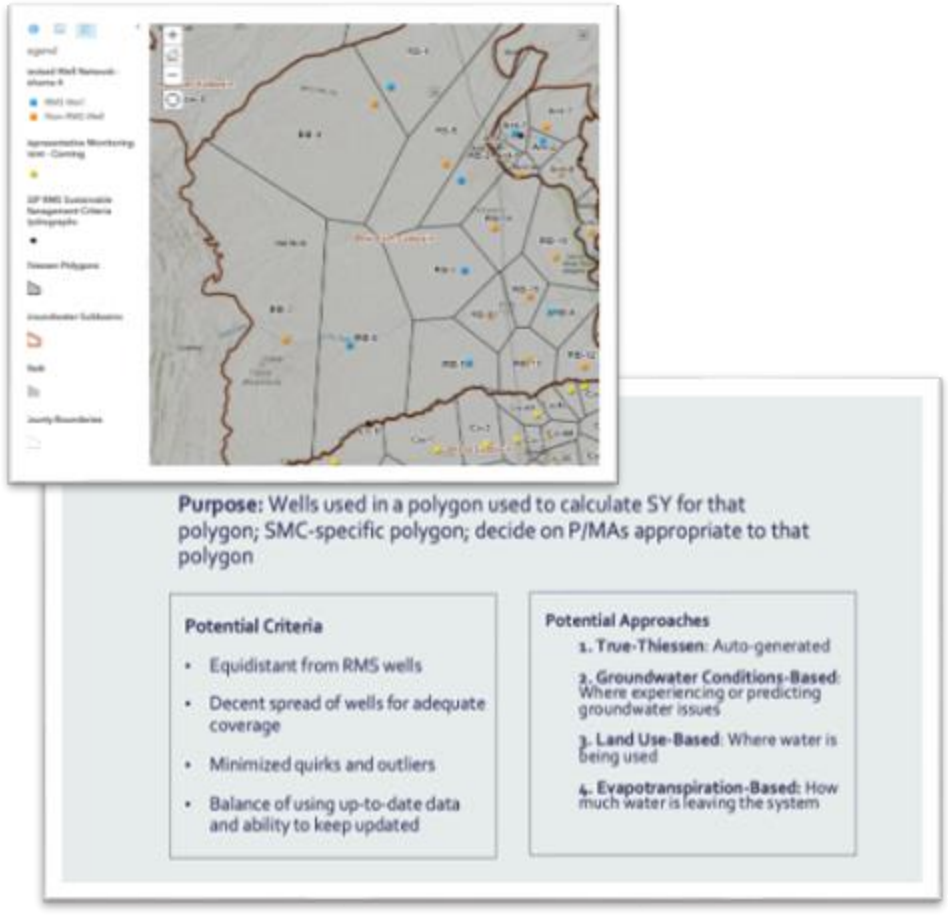
Luhdorff & Scalmanini
Consulting Engineers

1. **Polygons**
2. **Safe Yield and Sustainable Yield calculations**
3. **Trigger mechanisms**
4. **Data/information updates**
5. **Implementation flexibility and adaptive management**
6. **Timeline and Milestones reminders**

Core Demand Management Program Elements

1. Polygon Approach

Multiple Approaches Considered in Fall 2024



Refer to Oct 23 and Dec 2 DM Working Group meetings

Thiessen approach, RMS wells + wells with sufficient data

Benefits

- Objective
- Automatic updates (GWL)
- Quantitative and measurable
- Used elsewhere (e.g., Colusa)
- Admin simplicity (lower costs)

Drawbacks

- Hydrogeologic reality (where problem areas are)
- More targeted management (where GW actually used)

Thiessen is "Good enough for now, but revisit in 5 years."

2. Safe Yields & Sustainable Yields Calculations

1) Volumetric Safe Yield per polygon

Refer to Dec 2 2024 DM Working Group meeting

Historical Pumping *(aka average extraction) (AcreFeet/year)* ± ***Change in Storage*** *(increasing or declining?) (AcreFeet/year)* → ***Total Volume*** *that's safe to pump out of that polygon (AcreFeet)*

2) Usage Rate Safe Yield per polygon

$$\frac{\textbf{Total Volume that's safe to pump out (AcreFeet)}}{\textbf{Irrigated Acres (Acre)}} = \textbf{Safe Yield for that individual Polygon (AcreFeet/Acre)}$$

3) Sustainable Yield per Polygon Grouping

Group *together polygons with* ***similar Volume Safe Yield*** *calculations (AcreFeet)*

Calculate their ***Average Usage Rate Safe Yields*** *(AcreFeet/Acre)* = ***Sustainable Yield*** *for that* ***polygon grouping*** *(AcreFeet/Acre)*

Sustainable Yield = Within that polygon grouping, how much GW can be pumped without causing Undesirable Results?

3. TRIGGER MECHANISMS

Demand Management Action #1: Fee-Based Triggers

Purpose: Reasonably distribute the costs of more intensive administrative actions associated with persistent groundwater overdraft (aka "Pay-to-Fix" approach)

Trigger Structure:

Step 1: 20% below MO → (–10%) on assumed max pump rate

Step 2: 40% below MO → (–20%) on assumed max pump rate

Step 3: 80% below MO → (–40%) on assumed max pump rate

Step 4: 100% below MO → (–80%) on assumed max pump rate

Key Conditions:

- Must occur at 50% or more of the RMPs for two consecutive years
- Fees only apply to pumping greater than the assumed maximum pumping rate
- Using MOs (instead of MTs) as gentler intervention or warning system

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Step 4: 100% below MO → (–80%) on assumed max pump rate

Example:

Assumed max rate is 5af/ac (this is the use rate assigned to unregistered properties and certain very high use crops)

Hit step 1- reduce 10% aka 4.5af/ac - anyone using greater than 4.5af/ac (unregistered will automatically get .5af/ac fee) will get fee on overage.

Hit step 2- reduce 20% aka 4af/ac - anyone using greater than 4af/ac (unregistered will automatically get 1af/ac fee) will get fee on overage.

And so on

DEMAND MANAGEMENT ACTION #2: SUSTAINABLE YIELD PUMPING

Purpose: Prevent extraction above Sustainable Yield from causing Undesirable Results (aka "Safety Net")

Triggers:
1) If, over any two-year period, an RMP's groundwater falls below its MT, all polygons w/in its combined Safe Yield area will be restricted to the average Safe Yield

2) Independent of MT, if Undesirable Results (GSP defined), the area(s) with UR will be restricted

Penalty: $500/AF fine for pumping beyond the Sustainable Yield
(similar to State Board fee structure)

Spatial Framework: Polygon system

Important Notes:

- DM Action #2 is independent of DM Action #1
- Serves as contingency and safety net before UR or potential State Intervention
- Trigger 2 is about long-term overdraft with GWLs below MT for multiple seasons in a row
- Using Fall measurements (per DWR approval of GSPs)

4. Data / Information Updates

Continuous Improvement

- Acknowledge the challenges with data uncertainty and incompleteness
- Waiting for perfect data is not an option
- Navigating that tradeoff with a framework for continually obtaining and integrating new data and model refinements

Annual:

- Water level measurements
- Land use updates
- Pumping estimates

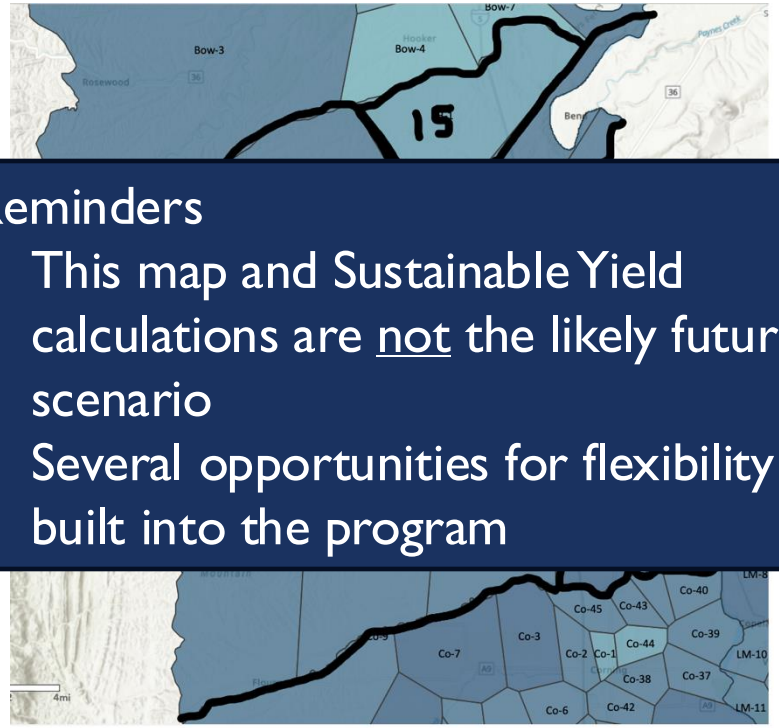
5-Year Cycle:

- Complete recalculation
- Model updates
- Boundary adjustments
- Program review

5. Opportunities for Flexibility

Implementation Flexibility and Adaptive Management

Opportunities for Flexibility



Reminders

- This map and Sustainable Yield calculations are <u>not</u> the likely future scenario
- Several opportunities for flexibility built into the program

Phased Approach

- **2026-2031**: Data gathering and incentive-based actions. Potential restrictions won't take effect until 2031.
- **5-yr review cycles**. Polygon structure evaluated every 5 years

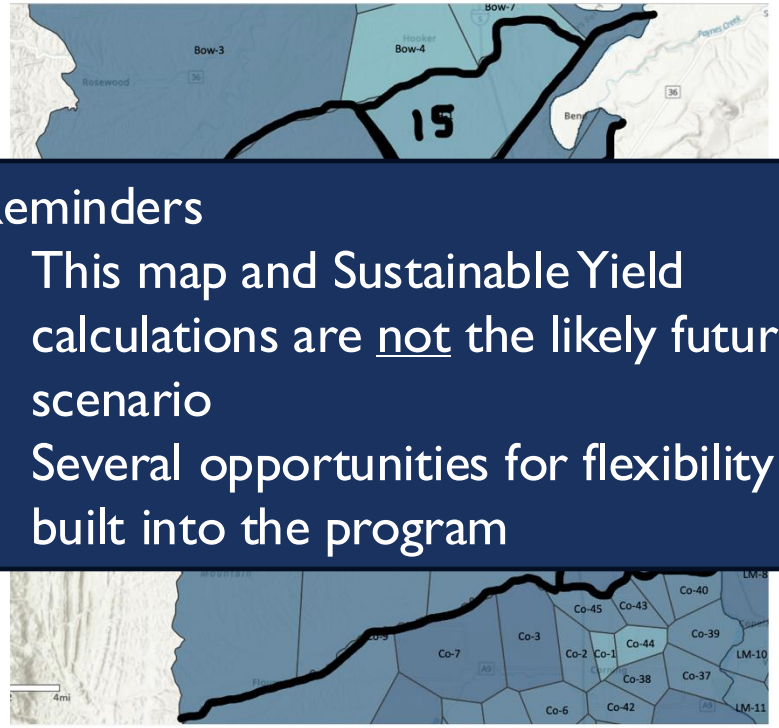
Automatic Response and Updates

- **Automatic data integration** (new RMS wells w/ new MOs and MTs → new calculations and polygon structure)
- **Automatic response to conditions**. If GWL recover, for two years, pumping restrictions stop
- **Model and calculation updates** (e.g., how fast water moves, updated irrigated acreage, etc.)

Landowner Choice

- **Voluntary programs first.** Encourages incentivized reduction first
- **Pumping and land use choice.** Can choose to reduce pumping or pay fees to continue pumping.
- **Fee structure only on excess**. Increased fees only if pumping more than the target Sustainable Yield.

Opportunities for Flexibility (contd.)



Reminders
- This map and Sustainable Yield calculations are not the likely future scenario
- Several opportunities for flexibility built into the program

Fostering Projects

- If recharge/conservation are enough (GWL recover), no restrictions needed.

Future Policies and Adjustments

(Not included currently, but can add later)

- Water trading system
- Non-contiguous parcel management
- Lease provisions for retired orchards
- Allocation trading within Sustainable Yield polygon group

6. TIMELINE AND MILESTONES

PHASED ADOPTION AND IMPLEMENTATION

- **Programs Approved and Launched**
  - **January 1, 2026**: Demand management programs begin for Red Bluff, Antelope, and Los Molinos subbasins.
  - **January 1, 2027**: Demand management program begins for Corning Subbasin
  - District Board will adopt ordinances within 180 days of program adoption.
- **Phased Implementation**
  - 2026-2030: Voluntary incentive programs and data/info gathering
  - 2031+: Potential mandatory measures if needed

These incentive-based and mandatory measures would be evaluated for potential revisions regularly (every 5 years).

- **2042**: State-required target date for achieving groundwater sustainability

DM PROGRAM DEVELOPMENT

Occurring concurrently

- Corning Subbasin coordination (CSAB and Corning GSA Sub-basin Committee)
- Outreach & Engagement
- *Overall groundwater management costs and proposed funding structure*

RECOMMENDATIONS TO THE COMMISSION (END OF AUGUST)

(CBI scoped under DWR FSS program to write high-level memo on DM Working Group discussions):

- WG Charge
- WG activities and milestones
- Issues discussed
- Recommendations with broad agreement
- Other ideas for consideration

Ad Hoc develops recommendations and report out to Commission (Sept 10)

Next Steps and Wrap-Up

Next Working Group meeting

August 27

(subject to change)

Action Items and Next Steps