# Tehama Groundwater Demand Management Working Group

Issues Overview | August 2025

*Drafted by the Consensus Building Institute for the Demand Management Ad Hoc and Working Group*

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## SECTION I

## Context and Overview

CBI is tasked with developing two overview memos related to the Working Group/Ad Hoc. The first one (this document's content) aims to capture key issues at a mid-point in the process.

### Potential Outputs (subject to change)

**Step 1) Working notes**

1. Summary of WG activities (refer to internal meeting outcomes tracker)
2. Key issues/topics, areas of support, other key discussions (This document)
3. Proposed responses by staff/consultants (including impacts of the proposed DM program), Ad Hoc, WG feedback

**Step 2) Overview summary to present to the Commission and BOD**

1. Key issues and topics
2. Areas of emerging broad support, some support, and still needs discussion
3. Proposed Responses
    a. Recommend approach (if applicable)
    b. Next Steps (priority level, timeline for addressing)

### Ad Hoc / Working Group Discussion

- Are the categories of issues and topics below accurately capturing the WG's perspectives?
- Are the emerging areas of support, some support, and needs further discussion accurate?

- Among the "needs further discussion" and "some support," what are the priorities?
    - How does the group(s) want to address these?
    - Do the scenarios reflect the top priorities?

## Categories of issues and topics

1. **Technical Design**
    a. Polygon approach (boundaries and groupings)
        i. Thiessen v. hydrogeologic representation
    b. Trigger mechanisms (MOs vs. MTs)
2. **Other Data and Technical Issues**
    a. Safe Yield and Sustainability Yield Calculations
    b. 10-year rolling average application
    c. Model assumptions accuracy (irrigated acreage, surface v. groundwater,
3. **Implementation Timeline**
    a. 2031 to soon to see projects' effectiveness (e.g., recharge)
    b. 5-yr review cycles too long before modifications may be necessary
    c. Jan 2026 deadline
        i. Feels rushed for adequate informed decision-making on DM specifics.
4. **Credits and Incentives**
    a. Recharge credit mechanism
    b. Potential for recharge and in-lieu surface water (beyond the SGMP Round 2 grant)
5. **Flexibility mechanisms**
    a. Defining an appeals process
    b. Non-contiguous polygons management
    c. Non-contiguous parcels management
    d. Allocation trading with polygon groupings
    e. Lease provisions for retiring farmers
6. **Economic impacts**
    a. Lack of robust economic analysis, including secondary economic impacts
    b. Unclear funding mechanisms and fees
7. **Legal / Regulatory**
    a. Legal review not yet complete
    b. Some ambiguity about what the State will find satisfactory

## Acknowledging the Underlying Tradeoff Challenges

Why is this hard? **Fairness** and **success** mean different things for different people

- **Perfection vs. progress**
- **Careful development vs. urgent problems**
- **Calculations vs experience**

- **Simplicity vs tailored**
- **Keeping costs low vs. ensuring acceptable management**
- **Precautionary buffers vs. operational flexibility**

*(compiled below, as the opinion may change depending on the topic):*

- "We'll never have perfect data; we know enough to move forward"
- "Uncertainties are too high; we may get locked into a flawed system"
- "Moving too fast risks making poor decisions"
- "We're already having groundwater problems or they're in the near future"
- "Objective calculations/models reduce bias"
- "The calculations don't match what we've experienced"
- "The same rules should apply to everyone"
- "Match the management to the situation"
- "We can't afford to pay"
- "To do this right, we all need to pay our fair share"
- "Build in a safety net to avoid the worst case scenario"
- "Too many restraints will bankrupt farmers (and small farms affected first)"

# SECTION II

# Areas of Emerging Support

## A. Core Principles

a. Flexibility to adapt to conditions
b. Local control vs. state intervention
c. Support individual choice in meeting water usage goals
d. Protect what makes Tehama home (protecting small farms, rural residents, etc.)
e. Completely unchecked development will likely lead to Undesirable Results
f. Aim for fairness across all groundwater uses
g. Minimize costs (and fees)
h. Leverage existing programs and partnerships (e.g., outreach)
i. Regulatory compliance (SGMA) and legally defensible

## B. Program Elements

j. Incentive-based approaches before restrictions
k. Regular reviews
l. Flexibility to modify (e.g., potential water trading program)
m. No one-size-fits-all, broad management actions (manage where the problem is)
n. Reward efforts for recharge, conservation/water efficiency, in-lieu surface water
o. Formal appeal mechanism

## C. Technological Improvements

p. There are important information gaps to address (a more detailed workplan is needed)

q. Incorporating better data is a top priority
    i. Expand the monitoring network and RMS wells
r. More information to understand impacts
s. Comprehensive review and updating Measurable Objectives (MOs)
t. Clear documentation on methodologies and readily accessible

## Some Support or Acknowledgment, but Still Have Concerns

(e.g., questions for clarification to better understand)

### A. Hybrid model balance b/w incentives and allocations

a. Support
    i. In addition to incentives, an allocation framework is needed (per Board direction and GSP commitments).
b. Concerns
    i. The balance between carrot and stick approach isn't clear

### B. Polygon framework

a. Some support
    i. Thiessen is a good starting point due to its objective methodology and in the absence of more accurate data
    ii. Managing by polygons and combining polygons has value (details on approach still needs discussion)
b. Concerns
    i. It doesn't reflect hydrogeologic reality well
        1. Range of opinions on this too – perhaps AEM can provide information up to a certain depth [maybe 300-600ft]. AEM will be included in the model update (new model expected by the end of 2026)
    ii. Hard to fully support when we don't have the specifics on triggering thresholds and polygon boundaries

### C. Implementation timeline

a. Some support
    i. 2031 aims to balance urgency to address the groundwater problems and being flexible to fine-tune and address key unknowns and give farmers time to prepare
    ii. Acknowledge that a program needs to have enough detail for the BOD and State review (GSP commitments)
b. Concerns
    i. The data might not be updated before restrictions (fees) are triggered
    ii. 2031 is still too soon to know if projects are successful and partners' timelines (e.g., irrigation districts may need 3-4 years to implement plans for underutilized surface water); program needs to be designed to acknowledge

these different timelines

iii. Unclear what's "enough detail"

iv. Risk of making regretful decisions if pushed too quickly

v. Does that keep us on track to meet 2042 sustainability goals?

### D. Fee-based triggers

a. Some support

i. Conceptually, support utilizing fees before restrictions

b. Concerns

i. Problematic MOs

ii. Alternatively, use the MTs (also problematic)

iii. Hard to make recommendations without cost estimates

### E. If developed a Water trading program

a. Benefits

i. Supports individual decision-making

b. Concerns

i. Too complex to get it right by Jan 2026; therefore, wanting a placeholder in the workplan

ii. Are there risks of "robbing Peter to pay Paul?"

### F. Economic considerations

a. Some support

i. Agree that an economic analysis is important

b. Concerns

i. Level of detail, who pays, and when will it be completed?

## Needs More Discussion

*(Who will discuss, when, and how is TBD)*

*(e.g., Identifying some topics will not be fully fleshed out by Jan 2026, but flagging next steps)*

### A. Polygon Methodology

a. Benefits

i. Creating management options that match the groundwater problems

ii. Set up to automatically update with new data rather than flawed review (uninformed, biased)

b. Concerns

i. Geographic logic to the groupings (the like attributes)

ii. Noncontiguous polygon management

### B. Water portfolio management flexibility

a. Benefits

i. As long as within an appropriate area (e.g., polygon group), individual can

choose to pump less or more

b. Concerns
    i. Hard to track and risk of accidentally creating new problem areas

### C. Managing development.

a. Unclear what mechanisms are available to the GSA to prevent new pumping in stressed areas (e.g., General Plan update/amendment, zoning, etc.)

### D. Legal review

a. Needing some legal review of the potential management actions and alternative options (e.g., SGMA management areas or conceptually similar)
*b. Staff hoping to receive initial legal review by Sept 10 Commission meeting*

### E. Other topics

a. Consideration of less discussed topics mentioned in SGMA (e.g., potential impacts to GDEs)
b. Monitoring, tracking, and evaluating progress. How do you "know" if you can't directly measure.
c. Enforcement logistics (lag b/w detecting an issue, confirming, and addressing)
d. Building in "what if" scenarios and contingency approaches (e.g., dry well mitigation program)
e. Tracking State priorities and evaluation *(Observing that DWR and State Board have been increasingly stringent)*

## SECTION III
## Specific Scenarios

Scenarios intended to explore likely (or existing) situations that cover multiple issues of concern; help "stress test" the proposed approaches and alternatives.

### A. Upstream-downstream influence

a. Capay area has steady GWL decline, but no new development in years
b. Significant orchards upstream insinuate upstream pumping is the cause of Capay's GWLs
    i. (vice versa situation is also a concern: "downstream" pumping pulls the GWLs impacting the "upstream" area)
c. These two might end up being in different polygon groupings
d. (also related to interbasin boundary)
**e. Concerns/Questions**
    i. Unfair that existing farms (particularly small farms) are penalized by unchecked new development/land-use changes
    ii. Unfair for Capay to have pumping restrictions due to another polygon group's overpumping

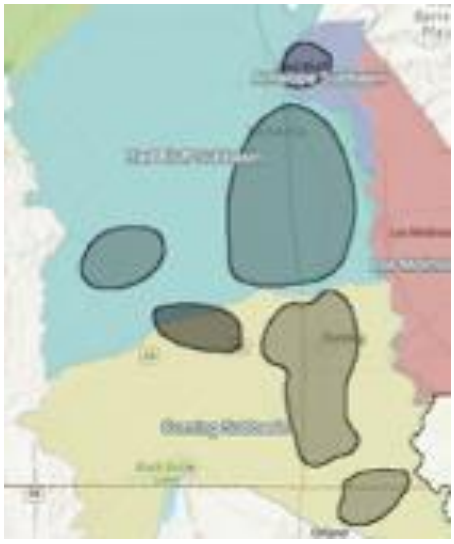
iii. Under what conditions, might new development or land-use conversion move forward that would exceed the Sustainability Yield thresholds and trigger DM actions?
iv. Are there data sources that can help us understand what's occurring underground (e.g., maybe AEM?)

## B. River-Adjacent

a. Landowner's inland well (a couple miles from Sac River) is showing declining water levels; whereas his production wells near the river (<1 mile) have stable levels.
b. Both sets of wells are in the same polygon grouping (per the current SY calculations)
c. Specific nuance: This specific individual inland well is an anomaly that has an inaccurate MO that needs correcting in the near future
**d. Concerns/Questions**
   i. If the inland well dropped below the MO, would that trigger DM actions?
   ii. Would the landowner have to pay fees based on the inland well (even though his wells by the river are stable)?
   iii. Would the inaccurate MOs and new polygon designations be adjusted in time such that the landowner wouldn't experience the above scenario?
**e. Potential response:**
   i. If outlier: appeal process, compare to hydrographs, possible exemption, and potential add to monitoring network.

## C. Non-contiguous polygons

a. Polygon Group A and Polygon Group X have the same Sustainability Yield threshold (e.g, 2.5 AFY).
   i. Group A is not geographically near Group X,
   ii. Group X is embedded within Grouping Y
   iii. Group Y has a different Sustainability Yield threshold (e.g., 3 AFY) than Group X or A
b. The image below is only meant to help envision potential scenarios; it does not reflect any proposed management designation

c. 

d. **Concerns/Questions**
    i. If groundwater levels decline in Group X and trigger DM actions. Would Polygon A also be triggered and face the same restrictions?
    ii. Shouldn't management also focus on the surrounding Group Y (supply augmentation and/or demand management) that may affect conditions in Group X?
    iii. Is it possible for two non-contiguous groupings to have the same Sustainability Yield threshold calculation but be hydrogeologically different (GWLs fall in one, but not in the other)

e. **Potential response:**
    i. The likely scenario is that GW levels would be falling in both groups, even though they are not geographically connected

## D. Non-contiguous parcels

a. Split operations within the same polygon, but non-contiguous parcels
b. Retiring farmer has an orchard that's still productive and wants to lease it to another farmer.

c. **Concerns/Questions**
    i. Can't reduce pumping on one parcel to allow increase pumping on another, noncontiguous parcel.
    ii. Landowners want the flexibility to manage their overall water portfolio based on the overall benefit and sustainability of the subbasin.
    iii. Farmers don't have economic and management flexibility that still stays within the Sustainability Yield thresholds.

## E. Boundary spanning edges (intra-/inter-basin management)

a. Property spans Thomes Creek in both Red Bluff and Corning Subbasins.
b. Different Sustainability Yields in different basins and DM Programs operating on

different timelines

**c. Concerns/Questions**

i. What's the risk that Red Bluff side of Thomes Creek would face restrictions but the Corning side doesn't?

ii. Hard to manage water portfolio holistically (watershed approach)

## F. Credits for recharge, conservation/efficiencies (per Hal)

a. Recharge effects may take longer than 5 years

b. Farmer who has greatly reduced their water use or invested in recharge projects should get credit

**c. Concerns/Questions**

i. Concern if there isn't credit for reduced use while someone else in the same polygon grouping got to pump as they pleased.

ii. Concerned that areas might trigger DM restrictions unnecessarily when the local recharge project(s) needed 7-10 yrs to demonstrate success.

iii. Challenging to demonstrate (quantify) the benefit to the aquifer (technical and legal considerations at play)

**d. Potential response**

i. Appeals process, prove adding a certain amt of water back to the aquifer (e.g., ASR)

ii. Refer to Options for Incentived DM document

iii. This issue is being played out at state level too