



Tehama County
Wednesday, March 11, 2026 8:30 AM
Groundwater Commission
Meeting Minutes

Tehama County Board of Supervisors
Chambers
727 Oak Street, Red Bluff, CA 96080
<https://tehamacounty.legistar.com/Calendar.aspx>

8:30 AM

Commissioners: Elijah Stanley, City of Corning; Jeff Godwin, City of Red Bluff; Hal Crain, City of Tehama; Kris Lamkin, El Camino Irrigation District; Todd Hamer, Los Molinos Community Services District; Martha Slack, Rio Alto Water District; Liz Merry District 1; Adam Englehardt, District 2; Seth Lawrence, District 3; Michael Ward, District 4; David Lester, District 5;

Justin Jenson, Flood Control/Water Resources Manager; Lena Sequeira, Administration

Call to Order / Pledge of Allegiance / Introductions

8:31AM

Present Commissioner Kris Lamkin, Commissioner Michael Ward, Commissioner Seth Lawrence, Commissioner Hal Crain, Commissioner David Lester, Commissioner Liz Merry, Commissioner Jeff Godwin, Elijah Stanley, Commissioner Todd Hamer, Commissioner Martha Slack

Absent Commissioner Adam Englehardt

Public Comment

A resident spoke regarding the water credit portion of SGMA implementation and presented a letter related to research tracking SGMA impacts. The resident distributed the letter and stated they have someone available to present findings related to water markets across the state.

A resident called in expressing interest in farmers and recharge projects, and commented on regulations. They also noted concerns about outside investors, including individuals from other countries purchasing orchards.

1. APPROVAL OF MINUTES - Groundwater Commission 11/17/25 26-0312

a) Waive the reading and approve the minutes of the regular meeting held 11/17/2025 approve with change that Martha Slack was here but was late.

RESULT: APPROVE

MOVER: Liz Merry

SECONDER: David Lester

AYES: Commissioner Hamer, Commissioner Slack, Commissioner Lamkin, Commissioner Ward, Commissioner Lawrence, Commissioner Crain, Commissioner Lester, Commissioner Merry Commissioner Stanley, and Commissioner Godwin

ABSENT: Commissioner Englehardt

2. APPROVAL OF MINUTES - Groundwater Commission 12/10/25 26-0313

a) Waive the reading and approve the minutes of the regular meeting held 12/10/2025

RESULT: APPROVE

MOVER: Kris Lamkin

SECONDER: Seth Lawrence

AYES: Commissioner Hamer, Commissioner Slack, Commissioner Lamkin, Commissioner Ward, Commissioner Lawrence, Commissioner Crain, Commissioner Lester, Commissioner Merry Commissioner Stanley, and Commissioner Godwin

ABSENT: Commissioner Englehardt

3. Update on GDEs 26-0314

Kristin stated that she has been working on this project for two years and is a professor at Chico State. She explained that, as part of SGMA, groundwater-dependent ecosystems (GDEs) are considered beneficial users. She presented on her work refining the GDE database for the Corning, Antelope, and Red Bluff Subbasins.

She described the monitoring sites and methods used, including field verification with randomly placed points throughout mapped polygons. Kristin noted that 30 sites were sampled across the Antelope and Corning Subbasins during spring and summer of 2024 and 2025. She explained that research permits are required to collect data on public lands.

She also described her process for verifying and correcting mapping data to ensure accuracy, including removing sites that were not classified as GDEs. She discussed aerial and GIS-based assessments and noted how some sites may not require future monitoring, while others showing stress may need additional attention.

Kristin reviewed preliminary results and maps showing the distribution and condition of GDEs,

noting overall they appear relatively healthy. She emphasized that field sampling is essential for understanding GDE conditions.

She concluded with a recommendation for arundo removal and restoration, explaining that it can significantly deplete shallow groundwater, affect local groundwater conditions, and create fire hazards. She noted approximately 300 acres of arundo in the Corning Subbasin. She stated a technical memo will be completed by the end of the month.

Hamer asked why the Antelope Subbasin had fewer sites.

Kristin responded that it was due to access limitations and noted that they visited 10 sites there.

Ward asked whether the Red Bluff Subbasin was included in this effort.

Kristin stated that they are still working on the Red Bluff Subbasin and no field work has been completed there yet. She noted they are currently using GIS analysis to inform the work and that additional ground verification is still needed.

Ward asked about the monitoring approach, including photography frequency.

Kristin responded that assessments are conducted twice per year, in spring and late summer.

Ward asked about NDVI data.

Kristin replied that all of that data is available online.

Ward then asked how this information would support corrective actions required by DWR and how it could be used to modify the GSP.

Jenson stated that he could not comment on modifying the plan at this stage. He explained that, as part of being a GSA, they are required to monitor GDEs. He noted that the development of these methodologies is what will be incorporated into the plan as part of its evolution. He added that over time they will need to observe how conditions change and determine how to respond, emphasizing that the plan is being developed to guide those future responses.

4. Fees Update

26-0206

Jenson noted that some of the data shown on the slides for this item was missing and stated that additional information will be included.

Jacques DeBra with LSCE presented an overview of the preliminary fee option analysis. He

explained the need for a fee for the Tehama GSA, citing SGMA compliance and project management actions required to address overdraft across the three subbasins. He noted that the combination of these responsibilities creates the need for a locally funded fee structure.

He reviewed how other GSAs in California have implemented fees and emphasized that each GSA develops its own approach based on local conditions. He explained that grant funding has supported work to date, but those funds are winding down, requiring a transition to local funding sources to cover ongoing costs.

DeBra noted that fees have been discussed for several years since development of the GSPs and reviewed the overall budget framework. He explained that GSA operational costs are tied to SGMA compliance and represent a baseline component of the fee structure.

He then described the second major component, PMA (Project Management Actions) costs, which relate to actions needed to help balance water use and address overdraft. He stated that this represents the minimum level of funding needed to move forward effectively.

He outlined two main fee categories: one related to SGMA compliance and GSA operations, and another related to PMA costs. He explained the process used to develop fee options, noting that estimates are required due to data limitations and that figures may be refined over time. He also noted that fees can be adjusted in the future if necessary.

DeBra concluded this portion by reviewing the data basis for the different fee methods and summarizing the various options being considered.

Greg with LSCE reviewed the different fee methods. He first described a district-wide approach based on the number of parcels, noting that some parcels were excluded through zoning-based exceptions developed with county designations. He explained how this method was structured and how the annual fee would be applied.

He then presented a second option based on total water use. For agricultural-only subbasins, he referenced an estimated annual usage rate of 0.69 acre-feet per year, and for residential/commercial use, an estimated 0.67 acre-feet per year. He discussed zoning classifications and typical parcel sizes, including AG2 (small agriculture, averaging about 41 acres per parcel) and large agricultural parcels averaging about 200 acres per parcel. He reviewed average water use per parcel and discussed estimated fee impacts for typical users.

Greg then explained the use of an alternative dataset and described differences between the approaches. He transitioned into PMA fee options, which are based on water use in over drafted agricultural areas, and provided associated estimates. He also distinguished between

small and large agricultural users.

He referenced State Water Resources Control Board (SWRCB) annual report data and explained how it informed the various estimates and assumptions used in developing the fee scenarios.

Ward asked about the data.

Jenson clarified how the data was being used in the analysis and explained its role in the fee methodology.

Lester referenced material from the annual report that was sent out and noted that the estimated acre-foot values appeared higher than expected.

Jenson said zoning doesn't necessarily reflect actual water use, and noted that as more wells are registered and data is collected, the estimates will become more accurate over time.

Greg with LSCE explained that the results are dependent on available data and that a program is needed to collect data and fund fees, noting they have to start somewhere. He reviewed a reduced PMA fee scenario, showing how fees would change based on estimated water consumption using existing data. He referenced DWR annual report data and associated figures, and discussed differences between small and large agricultural users.

Ward asked about the minimum funding level and requested clarification on the data table for PMAs, specifically what criteria were used for the data.

Jenson stated that demand management has not yet been fully decided. He explained that the current funding approach only accounts for voluntary actions at the outset, along with the well mitigation program. He noted that these represent required PMA actions currently in place, as opposed to a larger fee structure that would later include demand management components.

Greg with LSCE explained that the latest fee option divides costs by wells. He noted agricultural parcels were categorized into large and small wells, with approximately 149 large wells and 1,318 small wells based on reported data. He presented two funding levels, estimated at \$951 and \$496 per well annually, depending on the allocation approach.

He explained that because the fee is assigned per well, two primary options were developed, along with a separate approach distinguishing small and large agricultural users. He described the estimation methodology used to develop these scenarios and noted that the figures are based on currently available data. He added that as more data is reported, the estimates will improve and become more reliable.

He concluded by summarizing the options developed in response to prior direction.

Merry stated that, while the figures are based on estimates, she appreciates the proportional breakdown as it helps provide a general sense of what people would be paying.

Jenson provided closing information on the process, stating that finalized data is expected to be available for the next month's meeting, with numbers as accurate as currently possible. He explained that ordinances establishing the fee will be adopted at the Board level based on the

outcome of the voting process.

He also described what the ordinances will include and noted that, once approved by the Board, a mailer will be sent to affected parties explaining the process and providing the necessary information.

DeBra emphasized the importance of timely notification, stating that notices should be sent out as soon as possible so that as many people as possible can provide feedback and information before the fee is implemented.

Greg noted that in programs like this, where data is limited, there can be cases where fees do not accurately reflect actual customer usage. He stated that there is typically a process in place allowing customers to request a review if they believe their fee is incorrect.

Jenson stated that an appeal process is built into the ordinance to address the type of situation Greg described.

Ward asked whether there is a set of recommendations.

Jenson responded that a finalized document will be presented at next month's meeting.

Merry asked if input could still be given and finer details discussed, stating she would prefer pursuing maximum funding and expressing concern that the estimates may not be fully accurate.

Jenson responded that annual reports have already been completed, providing a realistic understanding of costs to produce the programs and data being discussed.

Merry stated that reducing planning for Bowman could lower costs and referenced PMA costs, including well replacement considerations, noting a preference to ensure sufficient funding. Jenson replied that well mitigation currently has a one-million-dollar reserve and explained that in the future such as in five years—the fee structure could be adjusted if additional funding is needed. He added context on how the fees are intended to function over time.

Ward stated he would like the opportunity for further input on budget numbers and emphasized the importance of legal support. He expressed concern about legal costs, particularly related to demand management and near-term needs, and suggested revisiting the budget if needed.

Jenson responded that, in managing the budget, if costs exceed projections, adjustments must be made elsewhere. He encouraged the group to email him with specific cost concerns so they can be reviewed and brought forward if necessary.

Merry asked that if the County loses the Garst appeal and is required to issue refunds, where the funding would come from.

County Counsel Daniel responded that it was a broad question and declined to speculate, noting it would ultimately be a decision for the Board.

Crain asked if a final version would be available ahead of the next meeting for review.

Jenson confirmed it would.

Hamer stated that over the five-year period they would hope to come out even, noting this is the first time implementing the approach and suggesting costs should average out over that timeframe.

Jenson agreed, stating that is essentially correct.

A resident expressed concern that assessments and permitting could incentivize additional agricultural well development, potentially increasing overdraft, and stated that the fees are small compared to potential County revenue from developed land.

Jenson responded that the resident was correct in noting the District does not benefit from that action. He explained that under current rules for well issuance, permits can be obtained as long as requirements are met, and there is no provision that restricts or directs development based on that concern. He emphasized that there is no decision-making structure intended to financially benefit the County in that way.

The same resident spoke about moratoriums and switching to different crops, and expressed the opinion that no additional large agricultural wells should be approved until the groundwater issues are resolved.

A resident stated that fees should be based on actual water pumped rather than zoning or APNs, arguing volumetric measurement is the fairest method and costs should fall on users of the water.

Jenson noted that well registration is important moving forward, explaining that as reporting improves, users may be able to more accurately reflect their use and potentially reduce costs.

Discussion followed on well registration.

Merry asked whether the Commission had previously reached consensus on a volumetric approach.

Jenson confirmed that it had.

A resident commented on monitoring 18 wells in their neighborhood and stated that dry wells are not being reported, as some landowners hope they may recover. They added that groundwater recovery is not occurring.

A resident expressed surprise at seeing a well-based option, stating it was not something the Board or District had previously presented, and requested that upcoming public meetings clearly explain all four options available.

Jenson clarified that there are two administrative fee components and two PMA components, and explained that additional data was included to show how different methodologies compare.

Hamer asked whether the well casing approach came from that comparison data.

Jenson confirmed it was included for informational comparison purposes.

5. Annual Report Update

26-0315

Will Anderson with LSCE provided a presentation and background on the annual reports for the five managed subbasins for the 2025 water year. He noted that April 1st is the approved submission deadline to DWR and reviewed DWR's reporting requirements.

Beginning with the Bowman Subbasin, Anderson reviewed water use by category and changes in groundwater storage. He also presented the status of sustainability indicators, noting there were no minimum threshold exceedances. A chart showing annual groundwater extraction and storage changes was reviewed, indicating that although extraction increased in 2025, groundwater storage also increased. He discussed historic averages, changes in aquifer storage, and the subsidence evaluation, noting that no subsidence was identified.

Merry asked about total water use in the Bowman Subbasin, noting that municipal water use appeared to have increased since the 2023 annual report, and asked what accounted for the increase.

Anderson responded that he would need to review the numbers further. He then reviewed the Red Bluff Subbasin report, noting that groundwater storage changes were positive even though total groundwater use was higher in 2025.

Ward stated that he shared Merry's concern and would like additional support and explanation for the rural residential volume estimates.

Anderson responded that he would review those numbers further.

Ward then asked how wetter water years and rebounding groundwater storage shown in the graphics affect annual overdraft estimates.

Anderson explained that overdraft estimates adjust over time depending on precipitation conditions. He noted that the long-term average is based on data from 1990 to the present, and that the average overdraft figure will continue to evolve as additional years of data are incorporated.

Discussion followed comparing the proposed figures with numbers presented in previous years' reports.

A resident shared observations from monitored wells showing mixed groundwater level changes and referenced local rainfall data.

Anderson returned to the Red Bluff Subbasin, noting that sustainability indicators showed no undesirable results, although one well fell below the minimum threshold.

Discussion followed regarding the overall decline figures.

Merry referenced a slide showing a small area of subsidence in the Red Bluff Subbasin and asked why it was not considered an undesirable result.

Hamer redirected the discussion back to the Annual Report item.

Anderson summarized annual report results across subbasins:

Red Bluff showed increased extraction but overall positive storage changes, with subsidence within measurement error and no significant impacts.

Antelope also saw higher extraction but continued storage gains, no undesirable results, limited water quality concerns, and no meaningful subsidence.

Los Molinos had increased use but stable conditions overall, with no undesirable results, positive storage trends, and no subsidence issues.

Corning showed higher extraction with still-positive storage trends; nine wells fell below thresholds but no dry wells were reported and no exceedances for water quality or subsidence were identified.

Jenson noted they are looking into cumulative totals for the Corning Subbasin.

Anderson returned to Corning, explaining that storage changes vary by area, with negative change in the western portion and positive change in the eastern portion, resulting in an overall positive storage trend that is not evenly distributed across the basin.

Ward asked about the increase in groundwater extraction and questioned why use estimates showed a noticeable jump in the subbasin.

Anderson explained that there is significant variation in groundwater extraction and that 2025 had less precipitation than 2024, which likely accounts for much of the increase.

Hamer added that rainfall timing and the start of irrigation also play a role.

Anderson noted that subsidence in the Corning Subbasin remains within the margin of error.

A resident commented on the explanation for increased pumping and raised concern about orchard age demographics, stating that older orchards will require more water and that this factor may not be fully accounted for in future estimates.

6. Demand Management Update

26-0338

Jenson stated there will be a meeting next week on Demand Management and noted a minor issue involving delays in securing the attorney contract under grant funding. He said a few items still need to be addressed and that the group has been working through topics in a more item-by-item approach. He emphasized the importance of getting the process right, noted the Board wants regular updates and reviews, and expressed hope that the overall timeline will remain flexible.

7. Outreach Ad Hoc Update

26-0208

Jenson stated that a baseline document has been created for communication and outreach

related to the fees, intended for consistent use across all outreach efforts. He explained that the group agreed to use a unified message when engaging the public and noted that members have committed to assisting with implementation. He added that a final version of the document has been completed and will be distributed soon.

Merry asked whether it would be a good idea to send the document to the Commission.

Jenson responded affirmatively and said it would be shared.

8. Standing Agenda Items

26-0209

Groundwater Recharge and Grant Status

Jenson reported receiving grant closure letters for projects where extension requests had not yet been approved. He explained that Corning has two funding sources, one of which expires at the end of the month and currently cannot be extended through July. As a result, reimbursements could pause unless approval is granted, potentially delaying some activities. He added that there is still potential for a grant modification or extension approval, but the situation remains uncertain.

Crain asked whether the funds tied to the expiring grant portion had been exhausted.

Jenson responded that the funds were close to being exhausted.

Crain then asked which projects had been completed.

Jenson replied that he was not certain of the full list at that moment, but noted that monitoring wells and GDE work had been completed.

Jacques DeBra with LSCE reported that extension requests were submitted in March 2025 for Tehama's four DWR agreements, with Los Molinos approved. He stated the CA Olive Ranch project will complete permitting by the end of March, though construction may pause pending funding decisions.

He noted that nine Corning surface water connection projects are expected to be completed by the end of March, while five others may be placed on hold if additional funding is not approved. Red Bluff is expected to fully expend its funds without an extension, and Antelope projects are largely complete.

DeBra added that Los Molinos funding will support periodic evaluation updates, while Corning will need an amended extension approval to complete its evaluation work. He stated all annual reports will be completed by the end of March and offered to provide a more detailed funding and project status update at the next meeting.

Crain asked how much funding in Corning is tied to the extension request.

DeBra responded that approximately \$1.2 million is pending extension approval.

Crain then asked whether any other projects on the list had been completed, and DeBra provided additional explanation on project status.

Crain also asked whether any additional recharge projects would be completed without the extension.

DeBra responded that no further projects beyond those already discussed would move forward without the extension approval.

Ward asked whether the five-year review for the Corning Subbasin would require a GSP amendment.

DeBra provided clarification on the process.

A resident asked why funds had not been expended for landowners in Kirkwood.

DeBra explained that an extension had been requested from DWR, but permitting delays prevented timely progress. He stated that DWR has not approved the extension, and the GSA cannot proceed with construction until approval is received.

Jenson added that several property owners requested revisions to their contracts, while projects using the original contract terms were able to move forward.

The resident discussed their contract modification requests and referenced the CA Olive Ranch project and other projects that did not proceed.

Jenson stated that the requested revisions were reviewed with County Counsel in February and that he believes those revisions would be acceptable.

Demand Management Plan Working Group Update

Covered earlier in meeting.

Annual Report Status

Covered earlier in meeting

Outreach

Covered earlier in meeting

9. Commission Matters

Merry requested an agenda item to discuss the subsidence issue raised earlier. Hamer responded that it could be placed on the agenda for the next month.

Adjourn

10:48AM



CAFF
COMMUNITY ALLIANCE
with **FAMILY FARMERS**

March 6, 2026

Groundwater Commission
727 Oak Street
Red Bluff, CA 96080

Re: Background, Risks, and Recommendations of Groundwater Markets

Dear Groundwater Commission,

We submit this letter summarizing CAFF's perspective on the risks of implementing groundwater credits, a form of groundwater markets, as one of your demand management strategies. Please let us know if we can provide additional details or information as you navigate this decision. In addition, we have staff available who can present this and additional information in an appropriate meeting setting.

Background

Groundwater markets allow water rights holders to buy, sell, or lease groundwater extraction allocations within a basin. Under SGMA, GSAs can assign pumping allocations and, in some cases, permit transfers between users. The intent is to give farmers flexibility, directing water to its "highest value use" while keeping overall pumping within sustainable limits. In practice, oversight of groundwater markets has proven challenging, undesirable results in sensitive areas have been exacerbated and control of market trading has been concentrated among a few large-scale farm operations.

An October 2025 survey from the Agricultural and Resource Economics department of UC Berkeley of groundwater markets across California found that while many GSPs contain water markets, largely none have been implemented successfully so far. The McMullin Area GSA market has stalled at the allocation creation stage. The Madera County GSA market stalled after a 2021 trial. The Fox Canyon Groundwater Management Authority market was halted in 2021 after the discovery of increased pumping in sensitive areas (examined in more detail later).

Moreover, while markets may create opportunities for efficiency, they also present significant risks, especially for small and medium-sized farmers. Smaller producers may face barriers to participation, lack of representation in decision-making, or potential loss of water for those who lease land. Complex trading rules and difficulty in managing accounting of trades further complicate transparency and can lead to unintended consequences. While transfers may sound straightforward enough in theory, in practice, managing the accounting of where traded water is going, who is doing the trading, how much one has to trade, and the resulting impacts of these trades is a huge administrative hurdle. This administrative issue is part of what halted the Fox Canyon Groundwater Market, described at the end of this summary. Any groundwater market requires the prerequisite of comprehensive accounting of allocations, so that it's

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possible to track how those allocations are then being traded. It can be expensive and difficult to implement accounting platforms and to make sure all farmers can actually use these platforms.

Of particular concern is the capacity of large-scale operations farming across multiple noncontiguous parcels to aggregate their wells or parcels. This means that a single entity could pump in various places across a subbasin, and report all pumping together instead of specifically where groundwater extraction occurred. By allowing a single user to combine and obfuscate their pumping in this way, operations can essentially bypass any rules structured within the groundwater market to mitigate negative consequences, including increased pumping in stressed areas. Preventing negative impacts, for example increased pumping in areas of groundwater level decline, requires both structural protections - such as inclusive governance, annual evaluations of the market, and transparent decision-making - alongside practical investments in accurate accounting systems, reliable data, and long-term funding for enforcement.

Risks

- **Resource and Oversight Limitations:** Markets require extensive administrative resources for management, monitoring, enforcement, and stakeholder engagement. GSAs are already tasked with a wide range of SGMA implementation responsibilities and may lack sufficient staff, funding, and technical capacity to manage a market effectively. Limited oversight capacity increases the risk of market abuse, delayed response to adverse impacts, and inequitable outcomes for small farmers. Given the resource-intensive nature of this accounting and tracking, a market system may also be a more expensive management option.
- **Market Power Concerns:** Large landowners can aggregate allocations across multiple wells, including noncontiguous properties (as seen in Fox Canyon Groundwater Market), allowing them to move pumping into sensitive areas. Small farmers may not wield sufficient market power, allowing more powerful entities to dominate the trading program and control how allocations are used.
- **Impacts on sensitive areas:** If the location of trades is obfuscated, potential negative impacts in sensitive areas can occur such as further depletion, subsidence or damage to groundwater dependent ecosystems.
- **Lack of Representation in Market Design:** Small and mid-sized farmers are often underrepresented in committees designing groundwater markets, leading to rules that do not reflect their needs or realities. Without strong representation, trading programs risk favoring large landowners and exacerbating inequities.
- **Barriers to Entry:** Language access, digital literacy, and limited time/capacity can prevent small farmers from participating effectively in decision-making processes and online markets themselves. Lack of technical assistance may leave smaller operations unable to understand trading rules, prices, and compliance requirements. Small farmers may have limited capacity to purchase allocations (credits), putting them at a disadvantage relative to larger operators. The market may prioritize large volume trades, making it difficult for small farmers to secure sufficient water, contravening the intent to provide flexibility.

- **Impacts to Farmers Who Lease Land:** Landowners may find it more profitable to sell or trade water allocations than to lease farm land, threatening tenant farmers' access to land and water. Lease agreements often lack protections for water use, creating uncertainty and risk for those reliant on short-term leases.

Recommendations

1. **Pursue alternatives first:** Prioritize other demand management strategies before groundwater markets. CAFF does not support the creation of groundwater markets given the difficulty in implementing and likelihood of creating negative externalities. While we offer the following recommendations below in the instance of market creation, we want to remind the Board of the ways in which carefully constructed markets have consistently struggled when implemented across the state.
2. **Apply a “Do No Harm” principle:** If pursued, first create a well-understood allocation structure and tightly managed accounting platform. Design markets that do not worsen inequities, push small-scale farmers out of business or create undesirable results. Markets must recognize California’s Human Right to Water and prioritize safe and sufficient drinking water. Ensure that pumpers are not able to combine allocations across non-contiguous parcels. Establish non-tradable allocations for small-scale farmers. Cap trade volumes per entity and require blind trades through third-party administrators, as proposed by the California Water Commission (see link below).
3. **Make engagement with small-scale farmers, small water systems, and drinking water users in the design process of the market mandatory:** Meaningful inclusion requires targeted capacity building and hands-on technical assistance. Many small-scale farmers face barriers related to broadband access, and digital literacy.
4. **Avoid transference of credits into sensitive areas:** This includes areas suffering subsidence, lowered water tables (as in focus areas), near small drinking water systems, near groundwater-dependent ecosystems, and near shallower wells that could be impacted by interference.

Case Study: Fox Canyon Groundwater Market (Ventura County)

The Fox Canyon Groundwater Market in Ventura County was the first developed under SGMA and was widely viewed as a pilot project for the feasibility of groundwater markets in the state. Significant investment went into developing this market through a \$1.8 million NRCS Conservation Innovation Grant secured by The Nature Conservancy, which funded dedicated staff time, consultants, stakeholder outreach, and critical infrastructure. As part of a two-phase pilot program, trading began in 2017 and continued until late 2021 when the market suddenly halted.

In a presentation for the California Water Commission, Matthew Fienup, the economist responsible for helping to develop the market, shared that landowners in Fox Canyon **aggregated allocations across wells**, including noncontiguous properties. The market power exerted by certain landowners, combined

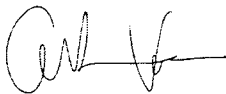
with the complexity of trading across multiple wells, led to accounting challenges for the GSA, confusion about who was selling what, and ultimately an inability to maintain transparent and enforceable trading rules. Even with robust rules in place, the system was vulnerable to abuse, and market activity unintentionally exacerbated overdraft in areas that most needed protection. The basin saw an **8.5% increase in pumping in the most depleted area of the basin**. The Fox Canyon example demonstrates that even with significant financial and institutional support, groundwater markets face persistent challenges around accurate accounting, preventing market power abuse, ensuring transparency, and avoiding unintended increases in pumping.

Two of the subbasins under the authority are now in an “adjudication process triggered by plaintiff concerns about groundwater allocations” (Saunders and Bruno).

References and Further Resources

- [2022 California Water Commission White Paper on Groundwater Markets](#)
- [2020 Community Water Center report Groundwater Markets: Recommendations to Ensure Drinking Water Protections for Communities](#)
- [2019 Initial Report on creation of Fox Canyon Groundwater Market](#)
- [2021 “The First SGMA Groundwater Market Is Trading: The Importance of Good Design and the Risks of Getting It Wrong.” by S. Heard, M. Fienup, and E. Remson in *California Agriculture*](#)
- [2025 “Stuck in the Mud: Groundwater Markets Struggle to Gain Traction Under SGMA” by Liz Saunders and Ellen M. Bruno of UC Berkeley Giannini Foundation of Agricultural Economics](#)

Thank you for your consideration,



Catherine Van Dyke
Director of Water Policy
Community Alliance with Family Farmers