Groundwater Accounting Platform — Real-World Impact from DWR Investment in Open, Scalable SGMA Tools

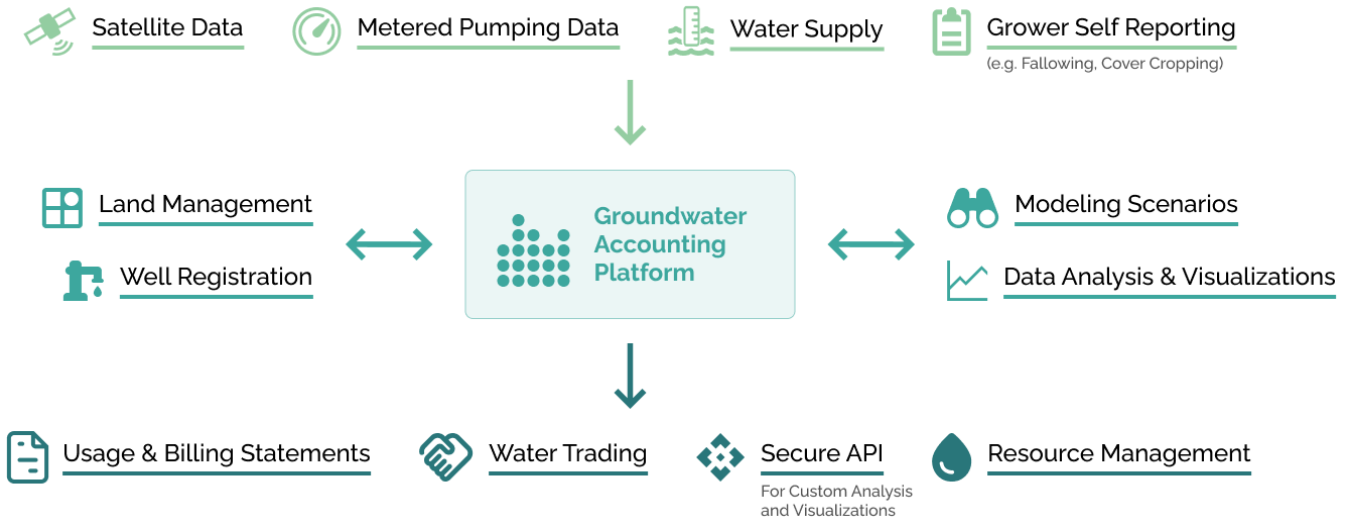
Background

The Groundwater Accounting Platform was first developed in 2018 by the Environmental Defense Fund (EDF) for Rosedale–Rio Bravo Water Storage District. It has since evolved into a scalable, open-source system through a public–private–nonprofit partnership involving the California Department of Water Resources (DWR), the California Water Data Consortium, EDF, Olsson, Environmental Science Associates (ESA), and multiple local water agencies. With support from DWR and the Bureau of Reclamation's WaterSMART program, the Platform expanded to help agencies across California move from planning to implementation under the Sustainable Groundwater Management Act (SGMA).

This statewide scaling effort has aimed to equip local agencies with a practical, adaptable, and scalable water accounting tool that can be readily deployed and configured to fit local needs. The Platform's open-source infrastructure reduces technical and financial barriers for individual agencies, accelerates implementation of SGMA compliance programs, and lays the groundwork for greater alignment across basins. This paper reflects on the outcomes of DWR investment in the Platform, lessons learned from initial deployments, and why this model of shared infrastructure and collaborative development is a foundation worth building upon as SGMA enters its next phase.

A Shared Tool for Real-World Use

The Platform delivers a flexible foundation for agencies to implement water accounting and support operations. The system can be tailored to fit a range of local conditions by integrating multiple data sources and enabling modular workflows. The diagram below illustrates how the Platform connects inputs, tools, and outputs to support groundwater sustainability and adaptive management in practice.



GROUNDWATER ACCOUNTING PLATFORM

Pilots and Rollout

To test scalability across different basin types and governance structures, the Platform was piloted with five diverse agencies: Rosedale-Rio Bravo Water Storage District (RRB WSD), Merced Irrigation-Urban GSA (MIUGSA), Merced Subbasin GSA (MSGSA), Yolo County Flood Control and Water Conservation District (YCFCWCD), and Pajaro Valley Water Management Agency (PVWMA). The East Turlock Subbasin GSA (ETS GSA) later selected the Platform through an RFP process.

These pilots demonstrated the Platform's adaptability and confirmed that a shared, open-source tool could support a wide range of local groundwater management strategies. They laid the foundation for shared learning, cross-agency collaboration, and the lessons outlined in the following sections.

Impact and Lessons from the Field

A. Flexible Tools for Local Priorities

The Platform's modular design proved effective in practice: each GSA was able to configure it to match their local conditions, policy frameworks, and operational needs. Some agencies prioritized ET data, others relied on meter data; some launched demand management early, while others focused first on well registration or scenario planning.

Equally important, the shared infrastructure model created opportunities for co-creation and co-investment. This enabled GSAs to leverage the Platform to address immediate priorities while also collaborating on enhancements that serve broader regional or long-term needs.

Key takeaway: The Platform's design lets GSAs configure local tools quickly while contributing to a consistent, reusable foundation.

The following table shows the varieties of policies, data inputs, and platform features supported across the 6 initial platform deployments.

	TURLOCK GROUNDWATER East Turlock Subbasin GSA	MIUGSA	Merced Subbasin Groundwater Sustainability Agency	ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT	Pajaro Valley Water Management Agency	YOLO COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
POLICY						
Landowner Access	✓	Pilot	✓	✓	Pilot	Pilot
Allocation Management	✓	✓	✓	✓		
DATA INPUTS						
Water Usage Tracking Methodology	**ET** (supported by **Meter**)	**Meter** (supported by **ET**)	**ET** (supported by **Meter**)	**ET**	**Meter**	ET
ET Data Source	LAND IQ	OPENET	OPENET	LAND IQ		OPENET
Surface Water Data Source	Self-reporting	Bulk upload from irrigation district data				Bulk upload from irrigation district data
PLATFORM FEATURES						
Well Registration Module	✓	✓				
Scenario Planning Module		Development in progress	Development in progress	✓	✓	✓
Added Features	Prop 218 Fee Calculator Fallow Land Tracking	Auto-generated usage statements in development	Auto-generated usage statements	Groundwater use fee calculations		SCADA integration with real-time water level monitoring

B. Growing a Community of Practice

A unique feature of this effort was the creation of both a User Group and an Advisory Group.

- The **User Group** began as monthly meetings with pilot GSAs and grew into a quarterly community of local managers and consultants across Platform geographies. It became a venue to troubleshoot policy questions and rollouts, improve user adoption, and share lessons learned.
- The **Advisory Group** brought together participants from state and local agencies, academia, nonprofits, and technical firms to provide input on roadmap priorities and identify collaboration and alignment opportunities across regions.

Key takeaway: The Platform catalyzed a user-driven network that continues to share knowledge, align workflows, and accelerate learning across the state.

These groups provided a rich forum for agencies, technical experts, and system users to share experiences and guide product development. By surfacing lessons learned in real time, agencies avoided duplicating effort, accelerated implementation timelines, and built on one another's work. This collaborative structure also sparked iterative improvements, with user feedback directly shaping workflows and new modules.

C. Enabling Action and Collaboration

Key takeaway: Operational tools made it easier for GSAs to turn plans into practice and engage water users more effectively.

The Platform provided an operational framework that helped GSAs move from policy-making to implementation of Projects and Management Actions identified in their Groundwater Sustainability Plans. In some cases, this meant launching demand management programs; in others, it supported foundational actions like well registration and public engagement.

By making relevant data accessible and digestible, the Platform gave agencies and landowners a clear, shared frame of reference. This transparency supported more constructive conversations between agencies and communities, making complex program rollouts more manageable.

D. Unlocking Unexpected Benefits

While the Platform was designed for water accounting, GSAs discovered unexpected uses that extended the Platform's value. The Platform became a valuable tool for policy testing and communication, allowing GSAs to trial program rules, share them with impacted communities, and refine approaches before implementation. By reducing confusion and improving community engagement, the Platform helped ensure policies were workable in practice. Several GSAs even used the Platform to test-drive proposed policy changes with actual data before adoption, identifying and fixing issues early.

The infrastructure also supported new and creative applications, including:

- Tracking land-fallowing and cover cropping practices through self-reporting by landowners and operators
- Estimating groundwater use amounts and fees
- Streamlining parcel-based tax assessment workflows
- Automating well log data extraction to build well inventories
- Exploring potential scenarios for multi-benefit land repurposing

Key takeaway: Shared infrastructure makes it easier to respond to new needs—and inspires innovation beyond the original vision.

These examples show how shared infrastructure can evolve rapidly to meet local challenges and opportunities, while also inspiring new ideas and conversations about what could be possible. Proposed features for future development include accounting for interconnected surface water, expanding scenario planning functionality, and finding ways to address the unique needs of disadvantaged community members.

Conclusion

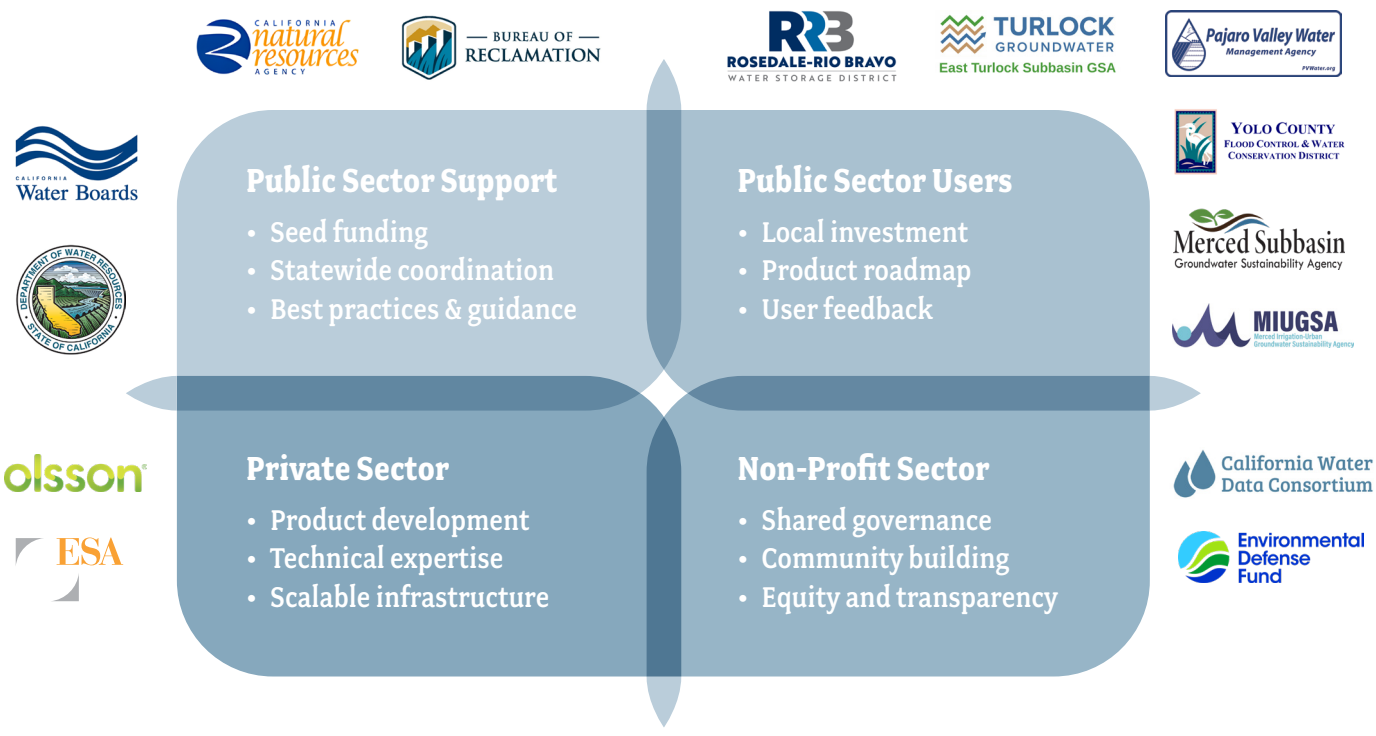
The Groundwater Accounting Platform demonstrates what is possible when the State invests in shared, open infrastructure to support SGMA implementation. Through DWR's pilot program, local agencies were able to configure a single platform to fit very different governance structures, policy priorities, and basin conditions — without starting from scratch.

By translating Groundwater Sustainability Plans into operational systems, the Platform reduces barriers for GSAs, builds trust with impacted communities through transparent accounting, and creates a durable foundation for coordinated groundwater management.

> **"The Platform integrates key elements of the GSA's programs. It's become a practical, day-to-day system that supports decision-making at all levels, transparency, and strong relationships."**
>
> ***— Mike Tietze, General Manager, East Turlock Subbasin GSA***

Most importantly, this pilot demonstrated that public investment can spark scalable, lasting impact. By supporting an open, modular platform, DWR accelerated adoption of sustainable practices, enabled smarter local decision-making, and provided a foundation for helping agencies move from plans to action. The public–private–nonprofit partnership behind the Platform proved to be an effective model to coordinate state investment with local expertise and private sector technical capacity. Replicating this model statewide can help to ensure groundwater management in California is effective, equitable, and sustainable.

Shared Investment ▸ Shared Infrastructure ▸ Shared Outcomes



Find the Groundwater Accounting Platform online: https://groundwateraccounting.org

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