



GROUNDWATER TRANSFER READINESS CHECKLIST

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State of Industry

ABOUT THIS WHITE PAPER

This white paper is a joint effort between **MLJ Environmental** and **Waterfind USA**, representing a collaboration between two organizations deeply engaged in advancing sustainable groundwater management in California. With decades of combined experience in water resource consulting, regulatory compliance, and the implementation of groundwater trading systems, MLJ and Waterfind bring complementary technical, regulatory, and market expertise to the development of this guide.

This document is the first in a series of white papers authored by MLJ Environmental in partnership with leading subject matter experts from across the Sustainable Groundwater Management Act (SGMA) landscape. Each white paper in this series will explore a critical aspect of SGMA implementation, offering practical tools, frameworks, and guidance for Groundwater Sustainability Agencies (GSAs) working to meet California's groundwater sustainability goals.

At the heart of this guide is the Groundwater Transfer Readiness Checklist, which highlights essential considerations such as pumping limits and allocations, rules and procedures for approving transfers, stakeholder onboarding, ledger and platform selection, administrative capacity, technical expertise, and financial planning. GSAs that can confidently address each element of the checklist are well-positioned to manage groundwater transfers responsibly.

This approach relies on a well-defined operational and regulatory framework, including clear pumping limits, equitable allocation strategies, and transfer rules to avoid over-extraction or harm to third parties.

Building a robust groundwater transfer system requires stakeholder engagement and a clear onboarding plan. Identifying and involving landowners, municipal water users, tribes, and disadvantaged communities from the outset helps foster trust and collaboration. In parallel, ledger and tracking systems serve as the backbone for managing entitlements, allocations, and transfers in real time.

By integrating compliance checks and automated rule enforcement, GSAs can ensure transactions stay aligned with basin sustainability goals.

Additionally, administrative capacity and technical expertise - including hydrological modeling, data analysis, and IT support - must be in place to maintain ongoing program integrity.

A water transfer program also needs thorough environmental and social safeguards to address potential impacts on groundwater levels, sensitive ecosystems, and disadvantaged communities. Monitoring and reporting mechanisms, often built upon the basin's existing Groundwater Sustainability Plan (GSP), should detect and mitigate any undesirable results promptly. Third-party audits can add credibility to these efforts by independently verifying compliance and highlighting areas for improvement.

Finally, financial planning ensures that the system remains viable over time. GSAs should carefully assess technology costs, staffing needs, and outreach expenses, and then explore multiple funding sources -ranging from grants and public-private partnerships to user fees and philanthropic contributions.

Together, these elements form a comprehensive framework that balances economic, environmental, and community interests. By adapting the recommendations in this document to local conditions, GSAs can create groundwater transfer systems that not only support near-term water needs but also secure the long-term sustainability of California's critical groundwater resources.

THE 6 KEY FOCUS AREAS FOR SGMA-READINESS



Operational and Regulatory Framework

For a successful and sustainable water transfer system, GSAs must establish a clear and well-structured operational and regulatory framework. This includes groundwater pumping limits, allocations, transfer approvals, and governance, to ensure that transfer activities contribute positively to the overall water management strategy.



Ledger and Tracking Systems

An effective ledger and reliable transaction platform are critical components of a groundwater transfer system. These systems ensure accurate tracking of water entitlements, allocations, balances, and transfers while providing real-time data to support transparency and informed decision-making. This includes the essential considerations for establishing and managing these systems.



Onboarding and Strategic Planning

A well-thought-out approach to onboarding, legislative, regulatory and GSP compliance, and stakeholder engagement is essential for the successful implementation of a groundwater transfer system. This includes working through how to prepare for water transfers by developing comprehensive onboarding plans, ensuring legal compliance, and fostering meaningful stakeholder engagement.



Environmental and Social Safeguards

A well-designed water transfer system must incorporate environmental and social safeguards to prevent unintended negative impacts and promote equitable resource distribution. This includes strategies for impact mitigation and the importance of a comprehensive monitoring and reporting plan.



Resource and Capacity Assessment

Establishing and maintaining a successful water transfer system requires a robust administrative infrastructure and access to technical expertise. GSAs must evaluate their current resources and identify any gaps in administrative capacity or technical expertise to ensure efficient and effective management of the system. This includes considerations for assessing administrative and technical capacity.



Financial Planning and Funding

A comprehensive financial plan is essential for the successful implementation and ongoing operation of a water transfer system. GSAs must assess the costs involved and identify sustainable funding sources to support both the initial setup and long-term maintenance of the system. This includes strategies for cost analysis and securing funding.

Water Accounting Management Platform

A SINGLE, REGULATORY-READY (INCLUDING SGMA-READY) ACCOUNTING BACKBONE FOR YOUR BASIN

WAMP is a secure, cloud-based platform that brings all groundwater operations into one system. It supports agencies across the full compliance lifecycle.

AT A GLANCE:

- One source of truth for allocations, usage, credits and compliance status
- Purpose-built for SGMA operations
- Configurable to your GSA basin rules and policies
- Designed for auditability, public reporting and regulatory scrutiny

KEY CAPABILITIES

END-TO-END AUDITABILITY	REAL-TIME VISIBILITY OF POSITIONS AND ACTIVITY	CONFIGURABLE TO LOCAL RULES	COMPLIANCE AND EXCEPTION MONITORING
Every allocation, deduction, trade and adjustment is recorded, time-stamped and traceable - supporting audits, challenges and regulatory reviews.	Dashboards and reports provide up-to-date information on allocations issued, usage and remaining credits across your basin and for individual accounts.	Supports multiple management zones, variable allocation regimes, carryover rules and caps, and can be adapted as your GSP evolves.	Flag breaches, near-breaches and unusual activity early so you can intervene before issues escalate.

BENEFITS FOR GSAs

Reduce reliance on spreadsheets and manual reconciliations.	Simplify board and regulator reporting with standardised outputs.	Improve transparency and trust through consistent rules and clear records.	Free up internal staff time to focus on strategy and stakeholder engagement, not chasing data.

Water Market Trading Platform

RULE-BASED, FAIR, COMPLIANT AND TRANSPARENT GROUNDWATER TRADING

The Water Market Trading Platform enables GSAs and other water authorities to operate groundwater markets that are rule-based, fair, auditable, and publicly defensible, while protecting participant privacy.

AT A GLANCE:

- Is quick, easy and uncomplicated
- Protects price confidentiality and participant privacy
- Ensures trades comply with your local rules and hydrogeologic constraints
- Allows water to move to its highest-value use while supporting long-term sustainability

KEY CAPABILITIES

CONFIDENTIAL, RULE-COMPLIANT TRADING	AUTOMATIC RULE ENFORCEMENT	CONFIGURABLE MARKET SETTINGS	INTEGRATED WITH WAMP (OPTIONAL)
Buyers and sellers don't see each other's identities or detailed bids, reducing the risk of side-deals and market power concerns.	Trades are checked against your local trading rules, caps, zones and hydrogeologic constraints before settlement.	Define who can trade, what can be traded, minimum and maximum parcel sizes, and other design parameters to fit your local objectives.	When deployed together, completed trades can automatically flow into WAMP, updating account balances and simplifying reconciliations.

BENEFITS FOR GSAs

Provide irrigators and landholders with a safe, transparent way to manage water risk.	Encourage water to move to its highest-value use while respecting environmental limits.	Reduce the administrative burden of manual credit transfers and checks.	Demonstrate to regulators and communities that your market is fair, well-governed and aligned with SGMA sustainability goals.

Groundwater Transfer Readiness Checklist

As California faces increasing water scarcity and regulatory scrutiny, water transferring offers Groundwater Sustainability Agencies (GSAs) a flexible and efficient way to allocate water resources sustainably. This white paper serves as a guide for GSAs considering the development of a groundwater management and transfer system, particularly under the framework provided by the Sustainable Groundwater Management Act (SGMA). To determine how ready a GSA is for a groundwater transfer system, a checklist has been provided at the beginning of this white paper outlining the key decisions that must be made in order to implement a groundwater market. The remainder of the white paper goes into more depth about each of these decisions and factors that should be considered when answering these questions.

The following readiness checklist is designed to help GSAs determine if they have the foundational elements, operational plans, and resources required to implement a water transfer system effectively. If your GSA can address each of these questions confidently, the GSA may be well-prepared to implement a local groundwater transfer and management system. This readiness checklist is meant to guide GSAs through critical considerations, ensuring that operational and regulatory structures support sustainable resource management. For GSAs needing further support, this white paper provides additional recommendations and case studies to refine and strengthen transfer-readiness efforts.

Operational and Regulatory Framework

- Pumping Limits and Allocations - Have you established clear pumping limits and individual groundwater allocations for participants?
- Transfer Rules - Have you established groundwater allocation credit transfer rules within the GSA and, if allowed, outside the GSA boundaries?
- Transfer Approval Process - Is there a defined process for approving groundwater allocation/credit transfers, including conditions under which transfers can be denied or restricted?

Ledger and Tracking Systems

- Landowner Accounts/Ledger Control - Who will establish, maintain, and control the central ledger to record water entitlements, allocations, balances, and transfers?
- Transaction Platform - What platform will you use to track water transfers and monitor transfer activities in real time?

Onboarding and Stakeholder Engagement

- Stakeholder Engagement - Have you identified and engaged local stakeholders, including landowners, municipal well owners and water users, public water systems, local land use planning agencies, environmental users, surface water users, tribes, and disadvantaged communities?
- Transfer Onboarding Plan - Do you have a clear plan for onboarding stakeholders and educating participants on the transfer system's purpose, benefits, and requirements?
- Legislative Compliance - Are you fully informed about and compliant with SGMA's requirements and the existing surface water rights framework?

Environmental and Social Safeguards

- Impact Mitigation - Have you identified potential environmental and social impacts of transfers? Do you have safeguards in place, such as transfer ratios or designated zones, to mitigate these impacts?
- Monitoring and Reporting - Is a monitoring network established to track the impact of transfers on groundwater levels, groundwater quality, and ecosystem health? How frequently will you review and report these metrics?

Resource and Capacity Assessment

- Administrative Capacity - Do you have the administrative infrastructure, personnel, or staff augmentation in place to oversee water transfer transactions, address compliance issues, and resolve disputes?
- Technical Expertise - Are technical experts or consultants available to manage data, conduct hydrological assessments, and ensure that transfer activities align with the GSA's sustainability goals?

Financial Planning and Funding

- Cost Analysis - Have you calculated the expected costs for establishing and maintaining the transfer accounting and management system, including technology, staffing, accounting, and compliance monitoring?
- Funding Sources - Are funding sources identified, such as grants or partnerships with agencies like the Bureau of Reclamation, to support the initial setup and operational phases?