RESEARCH BRIEF

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Stanford | Water in the West

New Laws Reduce Barriers to Water Markets

Proposed laws could reduce conflict and costs to transfer water rights to new uses, enabling more adaptive and efficient water markets.

Background

Water access in the western United States is controlled by property rights to use water. In most of the region's watersheds, all of the water supply is legally claimed or is projected to be by 2030. In such locations, new water demands can frequently only be met through reallocation of existing water rights. For decades, water markets have helped the western U.S. voluntarily adapt water rights to new demands and changing supplies, providing water for growing cities, freshwater ecosystems and new farms and industries. However, many have questioned whether western U.S. water law provides sufficient flexibility to adapt to unprecedented water demand and a changing climate.

One critique is that water law makes trading water difficult. Water law's trading rules, which have been around since the 1800s, are designed to protect other water users from negative impacts, but they also create an expensive, uncertain legal process, taking months or years and requiring lawyers and hydrologic experts to resolve disputes. Water rights transfers often get bogged down in legal conflict because they must satisfy these strict rules and can be challenged by other water users. These legal conflicts often center around two issues: (1) the "no-injury rule," which prevents water

POINTS FOR POLICY MAKERS

▶ **Transaction costs often exceed the price of water for smaller water transfers, discouraging smaller water users from participating and driving water markets towards larger transfers.** Over time, increasing water scarcity has raised transaction cost barriers to water marketing, with the greatest barriers in regions with greater water scarcity. In the most rapidly urbanizing and water-scarce region of Colorado, transaction costs barriers were about 2.5 – 3 times greater than in rural regions. Additionally, while transaction costs often exceed the price of water for smaller water transfers, for large transfers, transaction costs are generally much less than the total water price.

▶ **Legal changes that better define water rights may be more politically palatable and economically beneficial than those that directly modify legal protections for third parties.** When compared to laws that directly modify the no-injury rule, laws that clarify the definition of water rights have some of the largest reductions in transaction costs and also less negative externalities for third-party water users. However, even with well-defined water rights, transfers still face many legal and technical challenges, like avoiding injury by developing complex operations that maintain pre-transfer return flows.

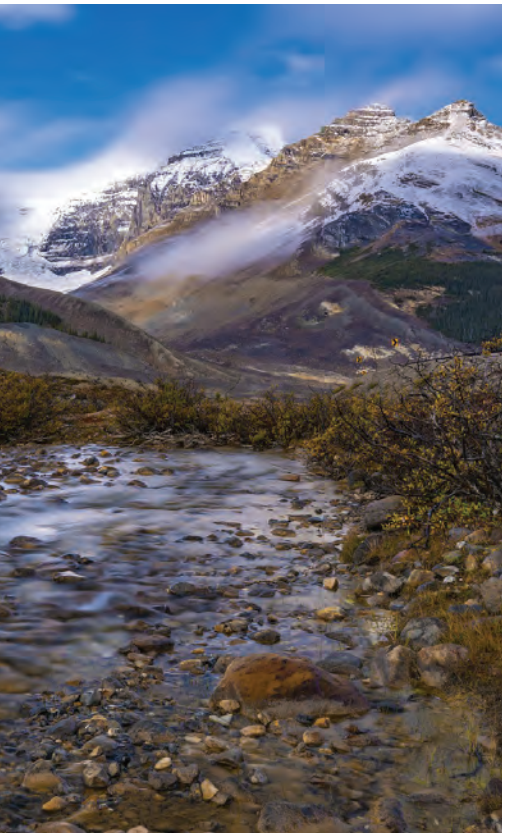
▶ **The greatest reductions in transaction costs occurred where previous quantifications of transferable water are kept instead of requantifying it every time a water right is transferred.** This legal change reduced transaction costs by around 30%. Standardizing the definition of transferable water also afforded significant reductions in some circumstances.

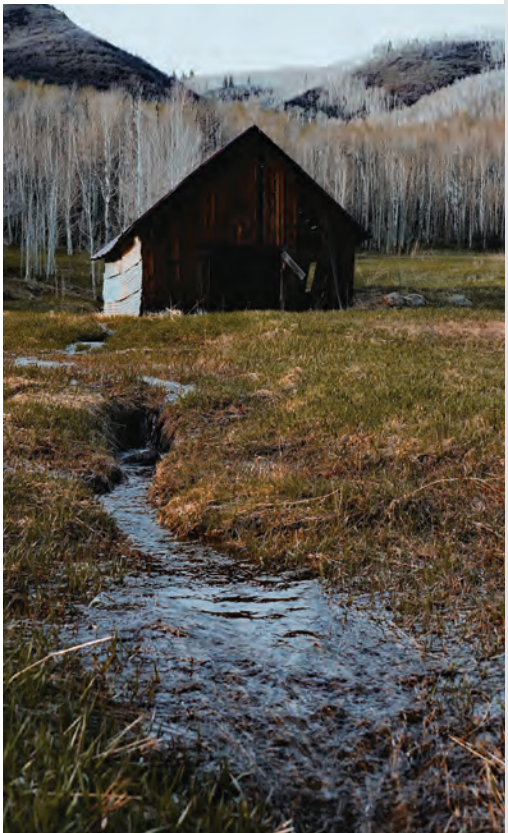
▶ **Addressing transaction cost impediments by modifying water laws opens the possibility of more efficient and adaptive water markets in the western U.S.** Using the state of Colorado's water markets as a model, the proposed changes to water law could be applied in any western U.S. state because they work within the prior appropriation water rights system instead of attempting to upend it.

transfers from causing any change in water available to other water rights, no matter how small or distant in the future; and (2) defining the amount of water that may be transferred with actual historical water usage, which can be disputed or unknown.

To reduce these impediments, experts have proposed several changes to water law that work within the existing water rights system and could be implemented in any western state. They aim to reduce legal conflict and transaction costs to secure legal approval for water transfers by either (1) limiting the no-injury rule's protections for other water users or (2) clarifying the definition of water rights. However, whether these legal changes can actually deliver has been unclear. Also, the magnitude and drivers of today's legal conflicts and transaction costs are generally not recorded. To fill these gaps, a Stanford-led research team surveyed 100 lawyers and hydrologic experts who work on water transfers in Colorado, which has some of the most developed water markets and water law in the western U.S.

Their analyses suggest that, of the two types of legal changes studied, those that clarify the definition of water rights combine the largest reductions in transaction costs with lower potential for injury to other water users. For these reasons, clarifying water rights may be more politically palatable and economically beneficial than directly modifying legal protections for third parties. Addressing transaction costs impediments by changing water laws opens the possibility to create more efficient and adaptive water markets in the western U.S.





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This brief is based on **Water Markets, Water Courts, and Transaction Costs in Colorado** and **Legal Change and Water Market Transaction Costs in Colorado**, both published in *Water Resources Research.*

FOR MORE INFORMATION

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