

Research Brief

NOVEMBER 2016

Comparing Local Groundwater Withdrawal Permitting Laws in the Southwest and California

Background

For the first time in California's history, the Sustainable Groundwater Management Act of 2014 (SGMA) aims to empower local agencies to sustainably manage the pumping of groundwater. A notable, but often unremarked, aspect of SGMA is that it provides Groundwater Sustainability Agencies (GSAs) with the power to adopt rules and regulations to establish "groundwater extraction allocations" (i.e., a permitting regime). California is the last of the seven southwest states — Arizona, California, Colorado, Nevada, New Mexico, Texas, and Utah — to introduce a permitting power, suggesting that the other southwestern states can inform GSAs looking to promote sustainability through the use of their new power to establish extraction allocations.

Although the SGMA implementation process is still in an early phase, it is not too soon for GSAs to consider permitting models. GSAs have a number of models they can look to in the southwest. In many states, permitting authority can be exercised across the state (i.e., "default" state permitting regime), as well as in more locally focused areas much like GSAs. We use the term Special Permitting Areas (SPAs) to represent geographically delineated areas within a state aimed at regulating groundwater extraction in a way that

differs from the "default" state permitting regime (or lack thereof). SPAs are usually created because the areas are recognized to be in need of more intensive groundwater management than elsewhere in the state.

Key Findings

We identify and characterize one type of SPA in each of the southwestern states (Figure 1)¹ in an effort to inform GSAs about how they might use their permitting power. Overall, we find that:

1. permitting regimes in the selected southwestern SPAs share several almost universal elements: criteria that must be met to enable a pumping permit to be granted, metering requirements, penalties for violating a permit and exemptions from permit requirements;
2. the policy settings that apply to these elements vary widely across our sample of southwestern SPAs; and
3. by not detailing many of these elements, SGMA grants GSAs a degree of discretion in how to carry out permitting that is unprecedented in the southwest.

GSAs should consider the wide variation of permitting policies in the southwest in exercising their significant discretion to tailor permitting policies to local needs.

¹ Many states have more than one type of SPA, and we select the type that corresponds most closely to California's GSAs under SGMA.

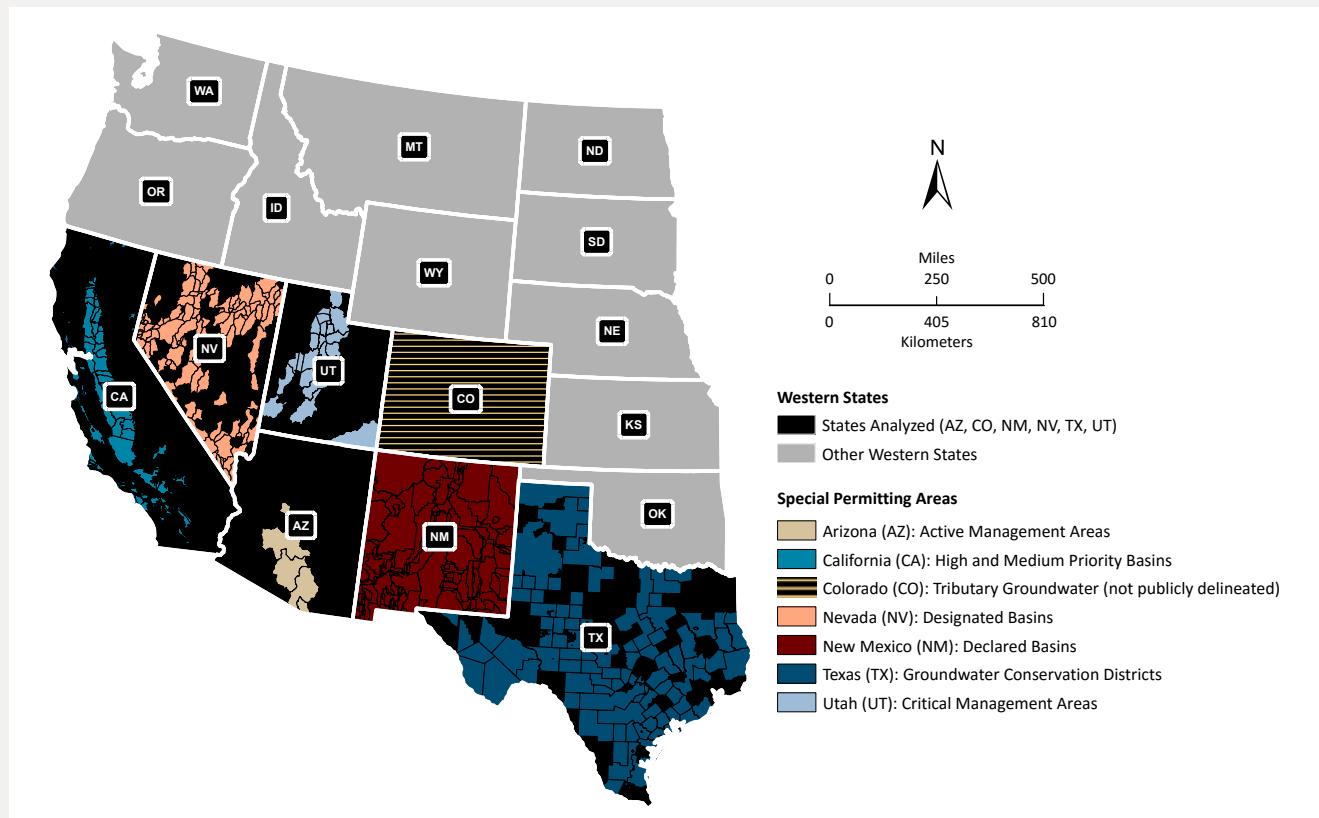
About the Researchers

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FIGURE 1

Map of selected special permitting areas used in comparative legal analysis. Figure adapted from Nelson, R. and D. Perrone (2016). "Local Groundwater Withdrawal Permitting Laws in the South-West US: California in Comparative Context." *Groundwater*. doi: 10.1111/gwat.12469.



California in a Comparative Context

The established permitting regimes in Arizona, California, Colorado, Nevada, New Mexico, Texas, and Utah (Figure 1) may provide guidance to Californian agencies interested in using their new permitting power. GSAs have a significant degree of discretion in how to carry out a permitting regime, and the goal of our work is to identify key elements of permitting that GSAs should consider.

We reach several specific conclusions based on our research that are relevant to SGMA implementation and to GSAs.

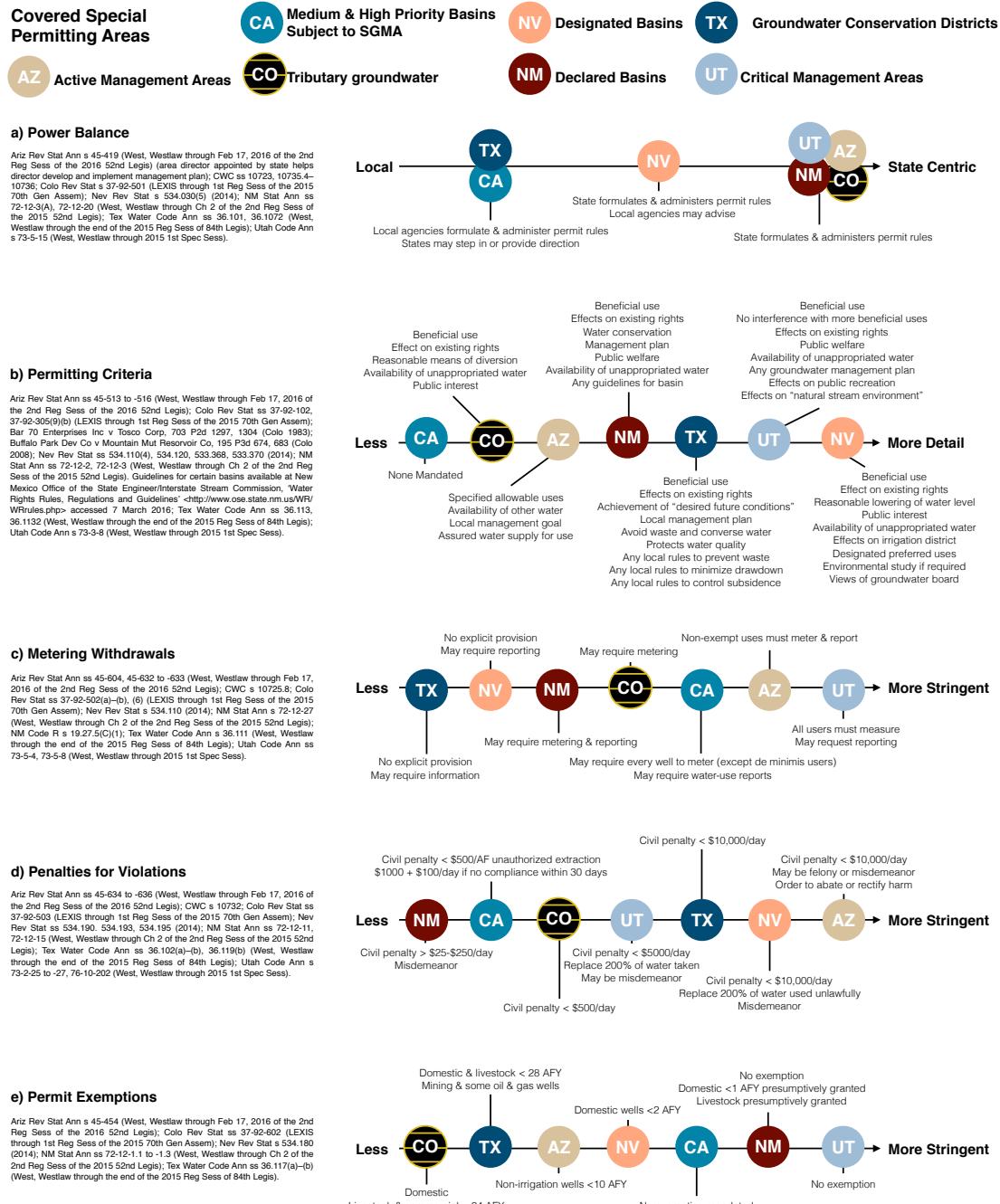
Special permitting areas in California and Texas appear at the more locally-focused end of the

spectrum, and this lies in contrast to the other southwestern SPAs (Figure 2a). Texas law is most parallel to SGMA with respect to the latitude the state law gives to localities as to whether to use permitting and the parameters of any permitting program. Locally centric regimes can formulate and administer permitting rules that meet local needs socially, politically, economically, and physically. Some local GSAs may opt not to use permitting, or design permitting systems that are not up to bringing the basin to sustainable management. The state oversight agencies (Department of Water Resources and the State Water Resources Control Board) will need to pay attention to this issue as GSAs craft and implement their groundwater sustainability plans.

Research Brief

FIGURE 2

Regulatory spectra demonstrated by permitting regimes for groundwater extraction in special permitting areas in south-western US states (colors match the corresponding SPA map, Figure 1). Figure adapted from Nelson, R. and D. Perrone (2016). "Local Groundwater Withdrawal Permitting Laws in the South-West US: California in Comparative Context." *Groundwater*. doi: 10.1111/gwat.12469.



Research Brief

In southwest SPAs there is a spectrum of criteria used to evaluate an application for a permit (Figure 2b). Permitting criteria allow agencies to scrutinize extractions to ensure they meet sustainability requirements by broadening the concept of sustainability beyond the relatively narrow focus of what is defined through legal challenges and judicial precedent. Most SPAs consider “beneficial use” and “reasonable use” concepts, many permitting regimes in SPAs consider impacts on other water users and public interest, and relatively few consider impacts on ecosystems.

Although metering and penalties for noncompliance have been controversial in California, our analysis indicates that powers to require metering and enforce noncompliance are universal across the southwest (Figures 2c-d). Metering is the most obvious way to ensure that pumpers comply with their permit and to track whether levels of pumping are within the overall goals of the SPA. Although there is still resistance to metering in California, it is an important tool for GSAs to consider.

Permitting exemptions are common across the southwest SPAs, but the volume of withdrawals allowed to proceed without a permit under these exemptions varies by more than ten times

(Figure 2e). Exemptions from permitting requirements represent uncontrolled “leaks” from the pool of carefully managed groundwater. As land-use continues to evolve, exemptions for housing developments, mining, or commercial uses could add up to cumulatively significant, uncontrolled extractions that jeopardize sustainability goals. Each GSA that uses permitting should carefully evaluate exemptions to ensure they do not make up a significant portion of pumping now or in the foreseeable future.

Compared to the other southwest SPAs, SGMA allows for enormous discretion about the requirement for permitting. Although California’s new permitting power does not change or undermine underlying groundwater rights, the power could be used to restrict the way these rights are exercised. SGMA offers GSAs no guidance and imposes few constraints on permitting regimes, allowing GSAs to design a regime that best fits local conditions. In most other southwestern SPAs, groundwater permitting regimes are either established and administered by the state, or at least heavily influenced by state requirements. The ability to introduce localized controls on groundwater withdrawals gives GSAs opportunity to ensure that their local vision for sustainability translates into results.

This brief is based on the paper “Local Groundwater Withdrawal Permitting Laws in the South-West US: California in Comparative Context” by Rebecca L. Nelson and Debra Perrone, published in the journal *Groundwater*, October 2016.

About Water in the West

Water in the West, a joint program of the Stanford Woods Institute for the Environment and the Bill Lane Center for the American West, marshals the resources of one of the world’s preeminent research universities to answer one of the most urgent questions about the American West’s future—how can the region continue to thrive despite growing water scarcity? Through Water in the West, Stanford University’s world-class faculty, researchers and students are working to address the West’s growing water crisis and to create new solutions that move the region toward a more sustainable water future. Learn more: waterinthewest.stanford.edu

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