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Designing Effective Groundwater Sustainability Agencies: CRITERIA FOR EVALUATION OF LOCAL GOVERNANCE OPTIONS

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Cover image by Leigh Bernacchi. Drilling new groundwater well. Planada, California, October 2015.

Executive Summary

With the passage of the Sustainable Groundwater Management Act (SGMA)¹ in 2014, California took a historic step towards managing the state's groundwater resources. SGMA adopts a state policy of managing groundwater resources “sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses.”² Although these ambitious goals are critical to California's future water security and sustainability, major questions remain about how to achieve them.

Designing institutions for sustainable groundwater management is one of the most pressing challenges for SGMA implementation. Local entities in medium- and high-priority basins must establish Groundwater Sustainability Agencies (GSAs) by June 2017. GSA design and structure will play a critical role in meeting the sustainability goals required by SGMA. Because designing new institutions for good governance is not easy, the need for information and guidance is acute.

SUSTAINABILITY

Sustainability is a key goal of SGMA, but the statute describes sustainability only in general terms.³ *Sustainable groundwater management*, according to the statute, is that which can be maintained without causing *undesirable results*. These include *significant* and *unreasonable* depletion of groundwater supply, reduction of groundwater storage, seawater intrusion, degraded water quality, land subsidence, and impacts on beneficial uses of surface water.

SGMA leaves great latitude for local decision making. Primary responsibility for groundwater governance lies with GSAs, to be established by local entities in groundwater basins or sub-basins. SGMA does not specify the details for institutional design of GSAs, nor what specific governance actions must be taken to achieve sustainable groundwater management. Instead, the legislation provides an array of regulatory and non-regulatory tools—mostly optional—from which

GSAs can choose. Those tools, in addition to existing authorities already available to local agencies, will provide the basis for groundwater governance in each basin. The relatively short timeline for GSA formation requires local governments and other stakeholders to analyze available options and decide, quickly, how to form novel agencies. These agencies should be armed with the tools necessary to meet current and future groundwater challenges.

While no governance solution is ever perfect, GSAs will have a greater chance of governing fairly and effectively if their design anticipates some common challenges of shared resource governance.

The primary purpose of this document is to assist stakeholders and decision makers in evaluating the design of GSAs. It aims to empower them to think critically about whether proposed GSAs will meet their needs now and in the future, and—if not—which tools may help to achieve these goals. The framework presented here draws on experience in other natural resource management contexts and on research on governance and institutional design to provide lessons learned and illustrative examples.

We propose that local agencies and participating stakeholders use nine criteria to evaluate newly forming GSAs (Table 1). These are: *scale, human capacity, funding, authority, independence, participation, representation, accountability, and transparency*. We group these criteria into two general categories: criteria most closely tied to the efficacy of a GSA, and criteria that primarily bear on the **fairness** of its decisions.

The criteria we define are inter-related, overlapping, and mutually supportive (see Section VI). They should help those involved in GSA formation and development to think proactively and design more effective organizations.

Efficacy is the ability of a GSA to achieve its goals in the face of inevitable challenges. In order to achieve efficacy, GSAs will need to address the following five criteria.

INSTITUTIONAL DESIGN, GOVERNANCE AND MANAGEMENT

Institutional design is the process of choosing structures and rules which will in turn influence management—it is the design of governance structures.⁴

Governance refers to the full set of processes, mechanisms and organizations that enable public policy decisions to be made and implemented.⁵ Governance includes laws and regulations; administrative and organizational structures; as well as formal and informal norms and practices.⁶

Management refers to the specific actions that determine how resources are used and protected.⁷ GSAs will define their governance frameworks, which will in turn give them the structure to manage groundwater.

Organizations, including GSAs, are important elements of governance. Carefully designed organizations can enable effective management of natural resources.

- **Scale** is the geographic extent of a GSA's jurisdiction relative to the resource being managed. Ideally, the scale of governance would reflect the natural resource itself. Where jurisdictional and resource boundaries do not align, GSAs will need to think carefully about coordination among multiple entities.
- **Human capacity** is the ability to successfully carry out tasks that enable a GSA to achieve its mission. Human capacity is a product of the people who work for or with a GSA, their expertise in groundwater management, and the resources they bring to bear. Managing groundwater requires a wide variety of skills and capabilities, ranging from monitoring and modeling to legal analysis to community outreach and enforcement. GSAs should carefully consider the capabilities they will need to perform necessary functions and ensure they

are able to draw upon sufficient resources. Human capacity can come either directly from staff or by accessing reliable external resources.

- **Funding** is financial resources for capital expenditures such as acquisition of land, facilities, or water rights, as well as ongoing expenditures such as salaries, facility operations and maintenance, and other costs. A GSA should consider whether it will have adequate funding to carry out all aspects of its mandate throughout its life cycle. GSAs should ensure they will have sufficient authority to raise additional funds in a fair manner as they become necessary.
- **Authority** is power delegated by the state and accepted by a GSA that enables the GSA to execute the tasks necessary to carry out its mission. Authorities will include those already in place in addition to new ones granted by SGMA. GSAs will need to exercise authority consistent with the challenge of implementing and enforcing an effective groundwater sustainability program.
- **Independence** is the ability of a GSA to operate freely within its defined purview, protected from external pressures that could divert the GSA from achieving its fundamental goals. Independence includes the ability of a GSA to make decisions that support sustainable groundwater management, even when those decisions are costly or unpopular.

Fairness is the GSA's ability to perform its actions in a manner that is both distributionally and procedurally equitable. Distributional equity refers to the benefits and costs of groundwater management. Procedural equity refers to fair mechanisms for decision making. SGMA does not clearly define how costs and benefits should be distributed, either within a basin or between basins, nor does it specify components for procedural fairness. Fairness matters not only for its own sake, but also because a GSA that operates unfairly is unlikely to retain the stakeholder support necessary to carry out its mission.⁸ Therefore, GSAs should address the

following four criteria to design institutions that can achieve sustainability with fairness.

It is crucial to understand that while we discuss these criteria as primarily focusing on fairness, they all impact the durability of decisions, reduce conflict, and ease implementation, and as such contribute strongly to efficacy as well as fairness.

- *Participation* is direct, meaningful stakeholder engagement in the decision making process. Local governments should develop effective mechanisms for substantive participation by a broad stakeholder base during GSA formation, as well as during subsequent planning and implementation phases (Table 2). Specific mechanisms and support may be needed to ensure that residents from disadvantaged communities can meaningfully engage.
- *Representation* is when elected or appointed leaders bring the interests of stakeholders into a GSA's decision making process. Representation is complementary to participation, offering an additional indirect pathway of engagement. Fair representation gives voice to people with a diversity of interests likely to be affected by a GSA's decisions. Procedures for election or appointment of representatives should be carefully scrutinized, as should decision making processes, conflict of interest rules and other elements of governance.
- *Accountability* is when GSAs are held responsible for their decisions and actions, and are answerable for their results, including whether or not groundwater sustainability plans (GSPs) are effectively implemented. GSAs will be accountable to both communities they represent and to the state. GSAs will be formed from local public agencies whose governing boards are subject to local public elections. State oversight will play an important role in achieving accountability, but monitoring and enforcement activities by GSAs themselves will also be critical.

WHO HAS A STAKE IN CALIFORNIA GROUNDWATER?

Arguably, all Californians have a stake in the management and sustainability of California's groundwater. In this report, we use the term "stakeholders" to include all those who may want to have a say in a GSA's decisions. These will include groundwater and surface water users as well as those affected by water use, such as environmental and environmental justice interests, and representatives of cities, agencies, or mutual water companies.

- *Transparency* is operating openly and accessibly, such that stakeholders and agencies with responsibility for oversight can effectively observe, understand, and weigh in on the actions a GSA is taking, its process for decision making, and its progress toward meeting sustainability goals.

SGMA is more than a novel experience for California. It is a grand experiment in the design of institutions for groundwater governance. Arguably, implementation of SGMA has the potential to transform the state from having a system of groundwater management that is among the most deficient in the country to having a set of locally inclusive governance systems that will achieve long-term groundwater sustainability. The consequences of poor design choices for GSAs—choices that aren't optimal for a particular jurisdiction, or result in undesirable outcomes—could be severe. Some problems may not become apparent before substantial and irreversible harm is done, or before it is exceedingly difficult to course correct. Therefore, for the long-term success of SGMA, stakeholders and decision makers need to think carefully now about what factors contribute to good governance, and how to incorporate those factors into new institutions (Table 1).