

The Sustainable Groundwater Management Act challenges the diversity of California farms

Jessica Rudnick, Ph.D. student, Department of Environmental Science and Policy, UC Davis

Alyssa DeVincentis, Ph.D. student, Department of Land, Air and Water Resources, UC Davis

Linda Estelí Méndez-Barrientos, Ph.D. student, Department of Environmental Science and Policy, UC Davis



Tomato field irrigated with well water.
Russell Ranch, UC Davis.

California's agricultural sector, a major groundwater user, finds itself in the midst of the implementation of the Sustainable Groundwater Management Act (SGMA).

The law mandates the formation of local groundwater sustainability agencies (GSAs) and adoption of groundwater sustainability plans (GSPs) for all overdrafted groundwater basins across the state by 2020. Each GSA will be unique, with its own governance structures and rules, including the size and composition of the governing board, mechanisms for representing different interests, opportunities for stakeholders to participate, and rules concerning the allocation of pumping "rights" and the use of economic instruments, such as pumping permits, pumping taxes or tiered pricing, to incentivize pumping curtailments (DWR 2016).

This new water management landscape may threaten the diversity of the state's farming operations

Farm diversity — in size, as a proxy for resources and capacity — has been shown to foster innovation, increase stability and resilience under changing climate conditions, and facilitate building knowledge and human capital to support future generations of farmers (Brummer 1998; Davidson 2016; Ericksen et al. 2009; Foley 2011).

Farms of all scales will be required to comply with SGMA and the management plans established by their local GSAs; however, farms of different scales have varying human and financial resources. As such, compliance with SGMA requirements is likely to be manageable for some growers but severely burdensome for others. Unless GSAs explicitly address this equity concern and consider all growers' water needs during the planning and implementation phases of SGMA, the law will threaten the future of the state's agricultural diversity.

Farm scale and SGMA

In April, the authors and other graduate students in the National Science Foundation Climate Change, Water and Society Integrated Graduate Education