The California Legislature, in the waning hours of its 2014 session, enacted legislation creating a first-ever statewide system of groundwater management. The three-bill package (SB 1168 [Pavley]; SB 1319 [Pavley]; and AB 1719 [Dickinson]) is expected to be signed into law by California Governor Jerry Brown before the end of this month, and will take effect on January 1, 2015.

California's newly created groundwater management program can be viewed as a glass–or groundwater basin, if you prefer–that's either half full or half empty, depending on one's perspective.

On the one hand, it's welcome (and long overdue) news that California has finally joined all other Western states in recognizing the need for comprehensive statewide groundwater planning, management and regulation. California has never in its 164-year history had such a program, even as other jurisdictions have for decades moved ahead in this important area of natural resources law and policy. It took a combination of an unprecedented, multi-year drought; demonstrated, widespread groundwater over-drafting; and consequential subsidence, collapse and contamination of groundwater basins around the state, to finally convince California political leaders that the state's laissez-faire approach to its groundwater resources had to change. And change it has.

The basic premise and objective of California's new groundwater legislation are unassailable: the state's groundwater resources must be managed in a manner that ensures their long-term sustainability for this and future generations of Californians. Additionally, the new laws explicitly recognize a fact that scientists and engineers have known for years but that California policymakers, law and water users too often ignore: that California's surface and groundwater resources are in many respects part of a single complex, interconnected water system.

A lot of folks deserve credit and can take justifiably pride in getting this legislative package enacted–a heavy political lift even in these water-starved times. At the top of this list is State Senator Fran Pavley, California's legendary environmental legislator who'd been working to pass groundwater reform legislation for many years and can now add the 2014 legislative package to an already-impressive list of legislative accomplishments benefitting the environment. Outgoing California State Senate President Pro Tem Darrell Steinberg and other legislature leaders were also instrumental in pulling together the necessary votes and getting this legislation to the finish line. And Governor Brown signaled early on that groundwater reform was one of his policy priorities; several of the Governor's senior advisors played a key,

behind-the-scenes role in negotiating and drafting the new laws. Finally, many smart people at California think tanks, environmental foundations and universities (including, I'm proud to say, some of my faculty colleagues at U.C. Davis) developed the intellectual, scientific and engineering foundation that made passage of the new groundwater legislation ultimately possible.

That's the good news.

The downside is that the pending groundwater legislation, upon careful study, reveals itself to contain only modest steps toward meaningful groundwater reform, as well as some significant defects in the selected approach for achieving that reform.

For the past century, California's system of managing most of its *surface* water diversions has been focused at the state level, through a permit system administered by the State Water Resources Control Board. By contrast, the new groundwater laws envision a decentralized system of groundwater management that will be implemented at the local government level by a large group of newly created "groundwater sustainability agencies." For the most part, how the each such agency is to be formed–i.e., from existing or new local entities–is unclear and open-ended. There are concerns, especially in rural and agricultural regions of California, that the same water agencies that facilitated the critical groundwater overdraft conditions currently existing in those regions will wind up being the denominated groundwater sustainability agencies for their basins–a bit like the fox guarding the henhouse.

Under the new laws, local groundwater sustainability agencies have the authority to limit the number of new groundwater wells in a particular district, and to limit or suspend extraction from particular wells if they determine the health of the groundwater basin requires it.

By contrast, the state has only a secondary, back-up role regarding groundwater management plans under the new laws, utilizing both a carrot-and-stick approach. The Department of Water Resources prioritizes California's groundwater basins based on the degree to which they are currently imperiled, and is directed to provide technical assistance to local groundwater management districts as they formulate "groundwater sustainability plans" for stressed groundwater basins throughout California. The State Water Resources Control Board, by contrast, reviews completed local groundwater sustainability plans (with DWR) and is

empowered to intervene with its own, “interim” state groundwater sustainability plan for a particular groundwater basin if the local groundwater agency fails to prepare and submit for state review its own plan on a timely basis, or if that local plan is demonstrably defective. It’s questionable, at least to me, if either DWR or the Board currently has the fiscal and personnel resources to complete either of these tasks effectively and on a timely basis.

A second shortcoming of the new laws is the rather languid schedule for implementation, especially given the clear and present danger presented by current, unregulated groundwater over-drafting around the state. State sanctions for non-compliance with the requirement to adopt timely and adequate groundwater sustainability plans don’t kick in until 2020 and, in some cases, not until 2025. And actually *achieving* truly sustainable groundwater basins under even legally adequate local plans is not required until decades from now: the laws’ express stated objective is “to achieve the sustainability goal in [a given groundwater] basin within 20 years of the implementation of the plan.”

But to this observer, the biggest single defect in the new groundwater legislation is that for most areas of the state there is no requirement that local groundwater sustainability agencies require basin pumpers to actually report the amount of water they’re extracting from a particular basin in a given year. (There are some exceptions in the new law, and individual agencies have the *option* to require such reporting as part of their groundwater sustainability plans, but longstanding political opposition from groundwater extractors to such reporting requirements makes it doubtful that the agencies will actually do so.) Nor do state water officials have the ability to require groundwater extraction reporting data on any sort of comprehensive basis.

There’s a venerable Buddhist saying: “If you want to know your future, look into your present actions.” It’s hard for at least this observer to understand how local–or state–groundwater agencies will be able to formulate, implement and enforce truly effective groundwater sustainability plans for California’s critically over-drafted groundwater basins without this most fundamental and critical piece of information: who is pumping groundwater from each basin, in what quantities and over what period of time.

In sum, California’s new groundwater legislation represents an important step to confront a major environmental crisis that’s been largely ignored, for far too long. But anyone who believes the new laws will accomplish a quick fix to the state’s

looming groundwater disaster, or that they assure an effective long-term resolution of that crisis, is probably deceiving themself. Critically important to the legislation's success will be how effectively local, regional and state water officials work to implement the new laws. And for that to happen, continued, close attention to those implementation efforts must be paid by both the media and other interested observers.