
Streamgaging Network (credit: USGS.gov)

Recently I’ve posted stories about efforts to enforce California’s water laws in the face of efforts by some diverters to evade and ignore limits on their ability to privatize public water resources–especially in times of critical drought. One post focused on the federal government’s successful criminal prosecution of a San Joaquin Valley water district manager who illegally diverted millions of gallons of water from the government’s Central Valley Project for more than two decades. Another commentary discussed long-overdue California legislative efforts to increase financial penalties for violations of state water curtailment orders like those by diverters on the Shasta River who ignore severe drought conditions for their private gain.

Such federal and state enforcement efforts are critically important if California’s scarce water resources are to be allocated fairly and equitably among competing water users and needs. But a chronic deficiency of California’s water rights system is the absence of comprehensive and timely reporting of water diversions throughout the state. Without such data, state and federal water regulators can’t administer and enforce water rights systems effectively and on a timely basis.

Nearly a decade ago, the California Legislature enacted a law (SB 88) requiring any surface water user who diverts at least 10 acre feet of water per year to install and maintain equipment to monitor their diversions, and to report them to the State

Water Resources Control Board on at least an annual basis.

Problem solved, right?

Unfortunately, no. The 2022 Sacramento Bee article that broke the story of the illegal Siskiyou County water diversions from the Shasta River also reported that the 2015 legislation has largely been ignored by the state’s water users. The Sacramento Bee story revealed, shockingly, that only **11%** of California’s urban and agricultural users have actually complied with SB 88’s water monitoring and reporting mandate.

The result? According to the Bee expose’, “a state regulatory system dramatically unprepared to address chronic water shortages and an ecosystem collapse.” The article reports that “California continues to lack a robust system for metering water flowing through its rivers.” The Bee story finds there are only 1,000 functioning stream gauges on a state river system that’s 189,454 miles long. And a relevant report by a consortium of state agencies acknowledges that the shortage of gauges “results in data gaps that hamper effective management of California’s limited water resources.”

This state of affairs also results in an inconsistent and unfair California water rights system: the 89% of water users who ignore the state water monitoring/reporting law have an unfair advantage over the 11% who comply with it.

The ongoing deficiencies of surface water monitoring and reporting of data in California are underscored by an important, new report by U.C. Berkeley researchers Ted Grantham and Lucy Andrews, scholars at the campus’ Department of Environmental Science, Policy and Management. Their research reveals “substantial gaps in [California’s] stream monitoring network.” According to their analysis, only 8% of the state’s complex system of rivers and streams is currently monitored by stream gauges. The authors aptly note, “As climate change progresses and the demands on California’s water resources and water infrastructure grow, it is critical to have reliable, timely, and comprehensive information about water in rivers and streams.” The U.C. Berkeley report provides an excellent set of recommendations for state policymakers and water regulators as to how these monitoring deficiencies can and should be corrected.

Two postscripts: first, California can take justifiable pride in its national and world technological leadership in many other fields. So it’s both ironic and disturbing that

modern computer and satellite technologies have not been comprehensively deployed when it comes to California water monitoring and reporting. The sad fact is that many other Western states are far more advanced than California in doing just that. Utah, Colorado and New Mexico–states from which California could learn a great deal when it comes to comprehensive deployment of water monitoring technology–provide existing models for California to follow.

Second, this post focuses on *surface* water monitoring and reporting. But available technologies similarly make it possible to accurately assess groundwater extractions and aquifer depletions. It’s remarkable that California’s landmark Sustainable Groundwater Management Act (SGMA), enacted in 2014, does not require groundwater monitoring data to be collected and reported for the state’s chronically over-drafted groundwater basins. (SGMA does *allow* locally-formed Groundwater Sustainability Agencies to require groundwater monitoring within their districts, but does not *mandate* that they do so.) In a rational water rights system, water monitoring and reporting systems would be modernized and comprehensively deployed for both surface water diversions *and* groundwater pumping.

What is California waiting for?