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### Authors

Parker, Doug  
Kearns, Faith

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## **California's Water Paradox: Why Enough Will Never Be Enough<sup>1</sup>**

Doug Parker

*University of California, California Institute for Water Resources*

Faith Kearns

*University of California, California Institute for Water Resources*

These days it seems everyone is looking for a silver bullet solution to California's drought. Some advocate increasing supply through more storage, desalination, or reuse. Others recommend controlling demand through conservation or restriction of water use by urban and agricultural users. Rarely do proponents of these single solutions seem to fully appreciate the complexity of California's water situation.

The fact is that in this large, semi-arid state water is intimately tied to every aspect of life. Over time, we have consistently increased supply and reduced demand to support a growing population and higher levels of agricultural production. A good rule of thumb when it comes to California drought solutions is "If it were simple, it would already have been done."

To understand California's water situation, one must recognize a fundamental paradox: enough will never be enough. We are a land-rich, water-limited state. Increased supply leads to more demand, which makes answers to California's water challenges complex, involving a combination of policy, technology, and conservation.

### **The Consumption Paradox**

California is blessed with an abundance of productive agricultural land and a climate that allows us to grow crops that thrive in only a few places in the world. The state's agricultural sector is also its largest consumer of water, and abundant water supplies have helped create an incredible agricultural industry that leads the world in production. At the same time, given the size of the state, we will always have more land available to bring into production than we will have water to put on it.

This paradox—that enough water will never be enough—means that efforts to increase the supply of water or reduce the demand for water will ultimately lead to more agricultural lands being brought into production, more water for cities to grow, and more water to remain in streams to ensure a healthy environment. But eventually we will face a new drought, and water supplies will again be inadequate to meet the new, higher levels of demand.

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<sup>1</sup> This article originally appeared at "The Conversation" <<https://theconversation.com/californias-water-paradox-why-enough-will-never-be-enough-40889>>.

There are other arenas where this phenomenon is well understood. For example, when it comes to freeways, congestion leads to demands to build more lanes. More lanes temporarily reduce congestion and encourage increased housing construction. Increased housing construction leads to more congestion, and that leads to demand for more lanes. The same thing is true with flood control. Better levees lead to safer communities, which cause communities to expand and demand better levees.

Accepting this fundamental paradox doesn't mean we should throw our hands in the air and do nothing—and, in fact, we aren't. We should be, and are, looking at augmenting supply and increasing conservation efforts. We need to pursue all of these options in order to have healthy communities, healthy agriculture, and a healthy environment.

We need to recognize, however, that these options will never fully eliminate future scarcity. So, in the face of its worst drought in centuries, what should California do? Cities are striving for water independence. With conservation and supply augmentation through desalination and water reuse, the urban sector will continue to become more efficient and independent. This means future droughts will impact cities less, but cities will have fewer options to meet reduction mandates.

Agricultural users will continue to look at conservation and supply augmentation to increase resilience and expand production. But, because there is a nearly endless supply of land to bring into production, agriculture will face years of plenty and years of scarcity. For many farmers, this is already a way of life. For others, the lesson is now being learned.

Meanwhile, environmental flows—water that stays in rivers and streams to benefit fisheries and ecosystems—will continue to vary as they always have. But environmental protections must remain. Ecosystem restoration and other environmental enhancement projects may increase the effectiveness of these environmental flows, but eliminating variation in flows is neither desirable nor possible.

Californians have always accepted, and even embraced, the uncertain nature of life in this beautiful, diverse state. From the boom and bust of the Gold Rush to a new population living on fault lines, California's uncertainty is built into our lives. Drought is no different. We will always face times when water is scarce, so we must optimize water use while accepting uncertainty as an integral part of the California lifestyle. There is no solution to drought, only a change in our way of thinking about water and drought.