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WATER POLICY:

Harness markets to make the most of scarce water resources

— *by Reed Watson*

Water scarcity characterizes the West, but it is acute water scarcity—or drought—that reveals how valuable water is to the region’s environment and economy.

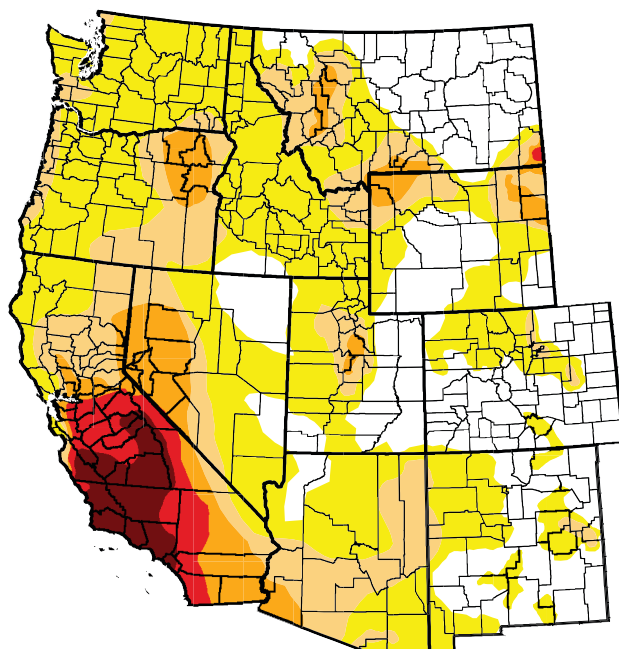
Before an unusually wet winter, more than 30 percent of the region was suffering drought conditions. Hardest hit was the irrigation-dependent agricultural industry, which in 2016 lost an estimated \$603 million and 4,700 jobs in California alone.³⁴ As abysmal as these figures are, they were far worse in 2014 when the drought was most severe and cost the state’s agriculture industry \$2.2 billion and 17,000 jobs.³⁵

Aside from the economic impacts, the recent drought exacted a significant environmental toll. Reduced stream flows, dewatered rivers, and high water temperatures all deteriorated fish habitat.³⁶ In 2014, for example, 95 percent of Chinook salmon eggs and young died because water temperatures in the upper Sacramento River got too warm.³⁷

Water scarcity threatens western economies and ecosystems, as the most recent drought proves, yet many of our nation’s policies and laws actively discourage conservation and exacerbate water conflicts.³⁸ Subsidized rates, burdensome transfer restrictions, and unsettled water claims combine to worsen the environmental and economic impacts of drought.

U.S. DROUGHT MONITOR — WEST

Drought conditions as of September 27, 2016



INTENSITY:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary.

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<http://droughtmonitor.unl.edu/>



As the largest wholesaler of water in the country, the Bureau of Reclamation delivers water to more than 31 million people and provides one in five western farmers with irrigation water. The 10 million acres of farmland served by the bureau produce approximately 60 percent of the nation's vegetables and 25 percent of the country's fruits and nuts.³⁹

Unfortunately, bureau policies often exacerbate water shortages by pricing water far below its opportunity cost and restricting transfers outside a given project service area. Whether by lengthening the payback period for project contractors, allocating disproportionate costs to non-agricultural users, or reducing the cost to irrigators on the basis of "ability to pay," the bureau has for decades made scarce water available to agriculture operations at below-market rates. By some estimates, as little as 15 percent of all Reclamation project costs are repaid when interest costs are included.⁴⁰

During times of drought the bureau reduces deliveries, but by subsidizing water and restricting its transferability outside project service areas, Reclamation has effectively decoupled consumption rates from water availability. Even though irrigation subsidies have long been incorporated into agricultural land prices, and eliminating those subsidies would unsettle expectations about land values, it is unrealistic to expect agricultural water users to align their consumption with the relative scarcity of water until those subsidies are eliminated.

Aside from eliminating subsidies and burdensome transfer restrictions, the Interior Department can further encourage water marketing by working to clarify unsettled water rights and enforce those rights when scarcity-driven disputes inevitably arise. The uncertainty surrounding federally reserved water rights for Indian reservations are a prime example. Pursuant to the *Winters* doctrine of 1908, sufficient quantities of water were set aside to "fulfill the purposes of the reservation," but those rights were not clearly denominated or adjudicated,⁴¹ nor were they made expressly transferable.⁴²

Clarifying tribal water rights through negotiated settlement is preferable over costly litigation because settlements not only clarify rights to water, but they can also establish tribe-specific provisions as to transferability. As of 2014, 29 tribes had resolved rights issues through the settlement process.⁴³ The department, and especially the Bureau of Indian Affairs, could facilitate more of such resolutions.

Regarding enforcement, the Interior Secretary has a unique set of responsibilities in resolving disputes between conflicting water users. Most notably, the Secretary serves as watermaster of the Lower Colorado River, and in the likely event that the Lower Basin faces water reductions from the Colorado River, he would find himself in the unenviable but crucial role of enforcing interstate compacts and international agreements that prioritize water claims.⁴⁴ Departing from the explicit terms of those negotiated agreements in the name of equity, due to changed conditions, or in response to myriad political pressures would invalidate the rights those agreements purport to establish and thus any basis for future water trades.

Remembering the adage that "Nature makes a drought, but Man makes a shortage," the incoming Interior Secretary should explore ways to make the most of the West's scarce water resources. Although water is predominantly a state issue, the Department of the Interior and, in particular, the Bureaus of Reclamation and Indian Affairs can take proactive steps to minimize the environmental and economic impact of future droughts by harnessing water markets.

Policy Reforms:

- Eliminate water subsidies in the form of reduced or delayed payment obligations and harness market prices to encourage conservation.
- Remove unnecessary barriers to water trading such as service area transfer restrictions that mask the opportunity cost of water and slow the responsiveness of markets to changing conditions.
- Clarify and enforce water rights, especially between the tribes and states, to preserve the legal certainty that is essential to future water trades.

Further Reading:

- *Tapping Water Markets*, by Terry L. Anderson, Brandon Scarborough, and Lawrence R. Watson. Routledge (2012).
- “Hearing to Receive Testimony on the Status of Drought Conditions throughout the Western United States.” Testimony of Reed Watson before the Committee on Energy and Natural Resources, United States Senate. June 2, 2015.
- “Tapping Water Markets in California: Six Policy Reforms,” by Reed Watson. PERC (October 2016).