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Minimizing the economic costs from California's drought

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California continues to endure the state's most severe drought since at least 1895. And, the economic costs have been high. Estimates for 2015 alone show a cost of 21,000 jobs and \$2.7 billion in economic losses.

The drought has also encouraged an excessive, and unhelpful, flurry of water litigation. The Goleta Water District (GWD) exemplifies the water litigation problem. The district is spending over \$1 million of its FY2015–16 budget on legal costs, an increase of \$722,000 or 249 percent over FY2014-15.

As a consequence of ill-defined property rights, GWD has filed suit against Slippery Rock Ranch, which is held by private land owners outside of the GWD district. The Goleta Water District claims irreparable harm will be done to its water basin should Slippery Rock Ranch execute a planned water sale to neighboring Montecito.

Two separate lawsuits were also filed against the water district claiming that GWD violated the state constitution by providing insufficient justification for its proposed rate increases.

These lawsuits, and their unnecessary and wasteful costs, are the inevitable outcome when property rights are ill-defined, efficient water markets do not exist, and state leaders rely on central controls to allocate scarce resources.

Unfortunately, Governor Jerry Brown has turned to old and tired solutions that rely on mandatory water restrictions to manage the drought. Cities and towns are now required to reduce their water usage by 25 percent, cease watering ornamental grass on public street medians, and significantly cut water use on campuses and golf

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courses. Many localities, such as San Jose, are piling on additional restrictions, such as banning washing your car at your house with potable water.

Mandates from state and local leaders cannot efficiently allocate water to its most valued uses, curb the litigation problem, or reduce the economic costs from the drought. The solution to California's water shortages is to establish secure property rights and empower markets to more efficiently allocate California's scarce water resources.

Australia and Israel – countries facing larger drought problems than California – illustrate the potential benefits to California from such an approach.

Australia suffered a 10-year drought beginning in 2000. In 2004, the Australian government approved the National Water initiative that established the country's water use and water pricing systems. Australia's water pricing system established a flexible national water market where water rights could be traded efficiently and at low cost. The result was water prices in Australia that more accurately reflected current supply constraints and demand needs.

At a 2016 Sacramento event that was dedicated toward applying the water management lessons from other drought-prone countries to California, Gavin Hanlon, New South Wales' Deputy Director General for Water, emphasized how flexible water pricing was able to allocate Australia's scarce water resources to their most valued uses and incent greater water conservation.

The importance of prices reflecting the actual scarcity of water is also illustrated in Israel, which faces an even more dire water problem. In 2010, for example, Israel's water supply equaled 0.10 acre-feet per person per year. The United Nations defines an absolute water scarcity if the water

levels are 0.40 acre-feet per person per year.

Yet, Israelis do not face the shortages in the same manner as Californians – and the difference is policy. Water prices in Israel reflect scarcity which has incited the widespread adoption of water-saving technologies in both urban and agricultural areas of Israel.

Today, Israel is widely seen as a leader in water conservation technologies including: desalination plants that turn seawater into tap water; new types of irrigation techniques such as drip irrigation that targets water to a plant's roots and, therefore, uses much less water; and, reusing wastewater at the highest rate of any country in the world.

Australia and Israel illustrate that when property rights over water are secure and efficient water markets exist, the economic costs from droughts can be minimized and efficient conservation practices and technologies can be encouraged. California's large economic burdens and growing litigation problems illustrate the costs when scarce water resources are managed through arbitrary bans.

The excessive economic costs from California's historic drought are due to the state's ill-defined property rights and the lack of an effective pricing mechanism for water. Without an efficient market for water, California risks continued water litigation and arbitrary water usage bans. California should learn from Australia and Israel and enable a fully functioning water market that empowers consumers and suppliers to allocate water to its most valued uses.

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