

## **Using Water Multiple Times in California Explaining the California Water Rights Over-Appropriation Myth**

Over the past several years, a few commentators have suggested that California's water system is over-appropriated by five times and is therefore somehow broken. This statement mischaracterizes the California water rights system and ignores the fundamental and sophisticated way water is managed in the state.

In the Sacramento Valley, which is a flow through system that functions like a funnel, one of the hallmarks of water management is that water is used over and over for multiple beneficial purposes (perhaps more than five times in some cases) as it flows through the system, including power generation, fish, farms, cities and rural communities, recreation, and birds. Importantly, this management for multiple uses makes sense in a semi-arid state and it advances water management as envisioned under the California Constitution.

### **I. Claims of overappropriation**

To step back, the overappropriation commentators have taken all of the water rights maintained by the State Water Resources Control Board (SWRCB), added them up, and declared that the state's water rights total more than the available water and thus the state is overappropriated. This statement is then used to suggest that the state's water rights system is broken or needs to either be fixed or recreated.

This is unfortunate, as the water rights priority system (albeit not perfect) is working as intended and provides an orderly process for water rights in California. Water rights are issued to authorize diversions during times of greater abundance of supply and are used to curtail more junior water rights during times of drought. Even in the third year of a severe drought like we experienced in 2014, the water rights priority system provided an orderly process where many water rights were curtailed, while the available water supplies were managed in a very efficient and effective manner for various beneficial purposes.

### **II. How does the water rights system work?**

To better understand the water rights system in this context, it is helpful to consider several components of the water rights system and the way water is managed.

**Consumptive and Non-Consumptive Uses.** Water rights are required for all water uses – both consumptive and non-consumptive. Consumptive uses are those where the water use results in water not being available for other beneficial use. Examples of this include water consumed by a crop or household lawn. Non-consumptive uses are those where a beneficial use is achieved without the water being consumed, and thereby available to meet another beneficial use. Examples of non-consumptive water uses that require a water right include: filling a reservoir, running water through a hydroelectric or once-through cooling facility and water dedicated to meet instream flow objectives.

For context, the non-consumptive water rights to fill reservoirs, run hydroelectric facilities, address instream flow needs total tens of millions of acre-feet every year. No water is consumed

to meet these water rights and all of it is available to meet other water rights (both consumptive and non-consumptive) downstream as the water moves down through the funnel.

**Return flows.** Additionally, water that is diverted and not used for crop production, lost to evapotranspiration or percolates to recharge groundwater will return to a river or stream where it is available to be diverted again, pursuant to other water rights. An example of this is water applied to farmland that is not consumed by the crop and flows into a drain where it is available to meet additional water rights. This reuse of the same water supplies can occur multiple times.

**Water rights restrictions.** Many water rights contain restrictions and conditions that limit diversions when water supplies are not available. The water right holder and the SWRCB recognize and understand these limitations and the role they play in allocating limited water resources. This includes the curtailments of water, which were significant and widespread in 2014.

In sum, if the considerable non-consumptive water rights, the substantial water reuse and recoverable losses in the state's water system and the restrictions on water rights are not recognized and understood, it would be easy to add up all of the water rights in the state and determine that the rights are over-appropriated. As this discussion shows, this is an elementary and meaningless exercise that does not reflect the complexity of our water rights system, highly variable hydrology and the way water is managed in California. For perspective, if the claims about over-appropriation were based on fact, there would simply be no water flowing in the rivers and streams in California, which is obviously not the case, even in a very dry year like 2014.

### **III. The Constitution calls for multiple uses of water**

The principle tenet guiding water management in the California Constitution is very direct on how water should be used in the state, declaring in Article 10, Section 2 that “because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable [emphasis added], and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.” Water management for these various multiple beneficial uses thus serves the Constitution's multiple use requirements.

### **IV. Conclusion**

The state's water rights system is always being improved with better technology and the desire for better water management. In this light, the system provides an orderly process that allows the SWRCB and water right holders to work through years when there is not enough water in the system to satisfy all uses. Interestingly, the claims of water rights overappropriation do not reflect a problem with the water rights system, but instead, upon further thought, show how effectively water is used in California to serve the Constitution and to serve various multiple beneficial purposes in a diverse state.