

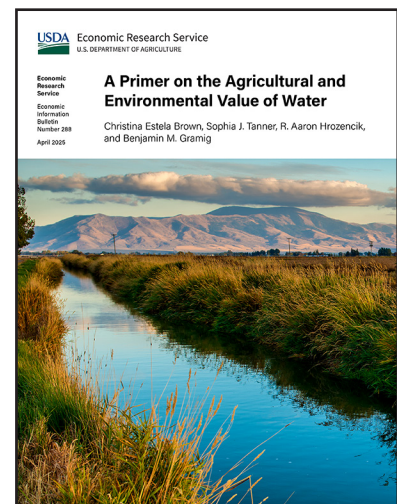


# The Agricultural and Environmental Value of Water

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## What Is the Issue?

Water is vital to communities. It is an input to agriculture, a source of municipal drinking water, and provides a variety of ecosystem services. Severe and long-term droughts demonstrate the importance of considering the value of water resources across these alternate uses. Water markets provide an opportunity to transfer water to buyers who derive the most value from its use. Yet prices in water markets often fail to fully reflect value across sectors, especially water for environmental flows. Policy, regulatory barriers, and physical infrastructure may prevent the unrestricted transfer of water across users and may distort prices. Understanding the value of water for differing end uses, along with rights and ownership, informs water allocation decision making among local, regional, and Federal entities.



## What Did the Study Find?

- Active markets for temporary leasing or the permanent transfer of water offer a means to directly assess how the agricultural and environmental sectors value water resources. High transaction costs may complicate these values in some situations.
- Water markets exist in only a few regions of the United States. The absence of markets for water necessitates the use of other methods to value water resources. The economics literature has primarily relied on land transaction data to value access to surface or groundwater in agriculture.
- The value of water for recreation purposes in lakes and rivers is at times comparable with benefits from diverting water to alternate uses; however, this depends on current conditions and the alternate use.
- Much of the nonconsumptive value of water is attributable to water's role in supporting aquatic and riparian habitats and providing services such as recreation and cooling.

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## **How Was the Study Conducted?**

A selective literature review of 60 water studies published from 1962 to 2021 was conducted to compare the methods used for valuation. The most relevant findings were synthesized from studies valuing water access for agriculture and the ecosystem service value of water to the public. Two appendices to the report contain additional detail from the literature reviewed and a novel case study of leases and permanent sales of water rights in California from 2010 to 2019.