



Issue: One Water In the Texas Hill Country

Photo by AgriLife Today



HCA is a passionate community caring for the unique features, spring-fed streams, heritage ranch lands, spectacular beauty and vibrant culture of the Texas Hill Country for the benefit of future generations.

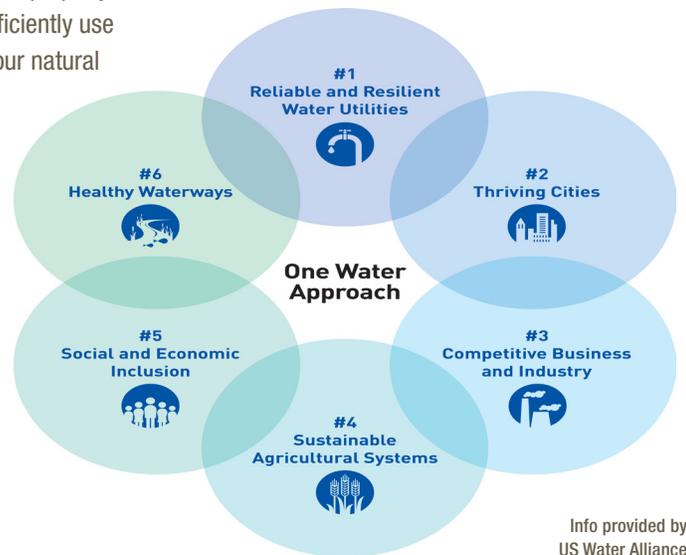
“In order to keep pace with our commitment to provide reliable water to our rapidly growing population, we will have to change the way we manage and source our future water supplies.”

– Ian Taylor
CEO, New Braunfels Utility

As the Hill Country continues to grow at unprecedented rates, we need to plan ahead for how we will conserve our limited and precious water supplies. Our current rate of consumption and management practices are creating a growing water deficit. This deficit will have negative impacts on the springs and streams that fish and wildlife depend on; the water that we use for domestic, irrigation, and recreational purposes; and negatively affect our vibrant economy and property values. What tools are available to more efficiently use the water that we already have to protect our natural water systems?

“One Water” is defined by the Water Research Foundation as an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem

needs. Simply put, One Water is the consideration of all water resources – including rainwater, drinking water, wastewater, and non-traditional water resources like air-conditioning condensate – as part of the same water system. These resources are used conjunctively – as efficiently and effectively as possible for the benefit of the economy, society, and the environment as possible.



Info provided by
US Water Alliance



THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT
TEXAS STATE UNIVERSITY



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In practice, One Water is a growing set of tested engineering and management tools that can help create independence from traditional pipeline based management methods. Most ranchers have practiced some form of these principles for generations in order to slow water down and keep it on the ranch as long as possible. Rainwater cisterns, contour plowing, and vegetation management are just a few of the traditional ranching tools that can be adapted to new development in order to reduce waste and optimize efficiency. New commercial and residential development in our communities can also be designed and built with One Water efficiency measures that can offset future water demand.

The 19th Century model of running miles and miles of expensive fresh-water pipelines through our rocky Hill Country ground, and then doing the same in reverse to remove the “waste” water is expensive from both an infrastructure and a raw water cost perspective. Engineers are rethinking the status quo of water management practices, and are working to advance management techniques that integrate more resilient strategies -- managing water closer to the site where it is generated and used.

Communities across America are beginning to incorporate One Water techniques for a variety of reasons, ranging from an interest in strengthening their water independence, water systems resiliency and reliability, or decreasing reliance on overburdened wastewater facilities. In communities with limited technical expertise or financial resources One Water techniques can seem cost prohibitive; however, in the long run One Water approaches often represent a cost savings over traditional water infrastructure (See Sidebar).

Utilization of the One Water approach is best executed when implemented at the design phase and can be carried out at optimal scales. When designing new homes, commercial buildings, schools, subdivisions, or designing an ordinance; engineers, builders, city planners, and utility managers should consider how water can be conserved, reused, stored, and processed on site to maximize efficiency and water independence. Tools such as water efficient fixtures, grey water plumbing, rainwater harvesting, stormwater management, and even on-site wastewater reuse can be designed into the project as a whole system.

The One Water approach looks for opportunities to use new buildings as additional sources of water, not simply new demands on traditional water sources. It seeks the triple bottom line -- providing benefits for humans, the environment, and the economy.

What is HCA?

The Hill Country Alliance is a nonprofit organization whose purpose is to raise public awareness and build community support around the need to preserve the natural resources and heritage of the Texas Hill Country. We create resources, conversations and forums for landowners, neighbors, elected officials and all concerned citizens.

Interested in staying connected

to this and other land, water and scenic beauty issues in the Hill Country? Please visit www.hillcountryalliance.org and click “subscribe” to receive our weekly newsletter with news, events and updates.

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Where Can it Work?

The Meadows Center for Water and the Environment and Wimberley Valley Watershed Association have executed an MOU with Wimberley ISD to build the first One Water School in Texas! The design includes rainwater and HVAC collection to service toilets and landscape irrigation, green stormwater infrastructure to mitigate nonpoint source pollution and onsite treatment and reuse of gray/black water to irrigate athletic fields.

The One Water experience will be enhanced with exposed, clear pipes and educational features for students, faculty and visitors. The new primary school is expected to reduce potable water demand by 90% over standard construction, helping to protect the iconic Jacob’s Well Spring and Wimberley’s Blue Hole. Operation, maintenance and infrastructure cost savings from the One Water design are estimated to top \$1M over the next 25 years! The first One Water School in Texas will open its doors to students in August 2020.

Did You Know?

Onsite wastewater treatment becomes cost-effective when wastewater volumes exceed 25,000 gallons per day and combined water and sewage treatment costs will exceed \$15/1,000 gallons.

— D. Farr, 2018

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