

# Can we start thinking of water as a crop?

*Organization promotes water conservation incentives*

Water is not traditionally thought of as a crop, but Water As A Crop® and its partners are hoping to change that. This organization promotes the idea that water falling on private, rural land can be effectively conserved and marketed in a manner similar to crops. In exchange for implementing conservation practices, rural landowners receive financial incentives to reimburse their costs. These conservation practices benefit investors and landowners and preserve water for rural and urban communities alike.

Water As A Crop was founded in 2009 by the Sand County Foundation, a private, nonprofit organization based in Madison, Wisconsin. The organization works nationwide to promote land and water stewardship.

Following the foundation's mission "to advance the use of ethical and scientifically sound land management practices and partnerships for the benefit of people and the environment," Water As A Crop bridges gaps between rural and urban, private and federal, and corporate and individual. The program brings together landowners, local partners and stakeholders interested in funding water conservation in water-stressed areas, said Craig Ficenec, Water As A Crop program director.

Water As A Crop connects watershed stakeholders, including corporations and various conservation groups, interested in providing financial incentives to landowners who implement best management practices (BMPs). These incentives are then used to mitigate the costs of implementing conservation practices.

"The concept is to just get urban investors to reinvest in their water supply by targeting land management practices that will enhance that water supply," said Blake Alldredge, former Texas A&M AgriLife Extension Service associate.

"The premise of Water As A Crop is that much of the land is privately owned, especially in the state of Texas, meaning that the majority of the rainfall falling on the land is on private land," Ficenec said. Therefore, its quality and quantity is, in part, subject to the management practices of that land.

However, there are barriers to proper water stewardship. For instance, urban water users often recognize the importance of clean water but may not fully understand private, rural landowners' critical role in helping produce a clean, plentiful water supply. Some landowners may not be aware of BMPs that help maintain high water quality, or they may not have the financial resources to implement them. ➡

The Trinity River, which supplies water to a significant portion of Texas, is the site of Water As A Crop's efforts in Texas. Photo by Blake Alldredge.



Water As A Crop emphasizes the responsibility and potential impact both urban and rural residents have in water conservation. By implementing strategies that reduce runoff and conserve water, rural landowners provide clean water for urban residents, Ficenec said. In turn, urban residents and corporations should recognize the contributions of private landowners by investing in these conservation strategies.

“The overall idea with Water As A Crop is that if I [a landowner] save the folks in Houston — downstream from the Trinity — money by not having to clean up the water so much, then how can those dollars and those savings find their way back to the landowners in the watershed to do more conservation work and do it faster? That’s the whole concept,” said Gary Price, owner of the 77 Ranch in Navarro County.

### Using partnerships to protect Texas water

Although the Sand County Foundation and Water As A Crop have nationwide interests, the struggle for water in Texas drew the program here.

“Texas is facing a lot of water issues and is going to need to depend on private lands and how landowners manage their private lands as a major component of how Texas delivers its water needs sustainably into the future,” Ficenec said.

Currently, the state water plan does not include recommendations on land management strategies to improve water conservation. Therefore, Texas

is a prime candidate for a program wanting to test conservation and management strategies.

The amount of private land ownership, commercial interest and cooperative landowners are the three elements that led to Water As A Crop’s work in Texas, Ficenec said.

Because commercial water users’ profit margins can be greatly affected by water quality and quantity, there is potential for investments in water stewardship by corporations and other organizations, sources said. Seeing this potential, Water As A Crop partners with companies, such as MillerCoors, which uses water from the Richland-Chambers Reservoir to manufacture and brew beer.

“We started working in Texas and in partnership with MillerCoors, a water user in Fort Worth, who had interest in the watershed, how land is managed in the watershed and how that affects the water quality and quantity in the Richland-Chambers Reservoir, which in turn affects the water supply for its operations,” Ficenec said.

Besides MillerCoors, Water As A Crop has also helped coordinate funding from organizations such as the Dixon Water Foundation, Meadows Foundation and Knobloch Family Foundation to support conservation efforts in the Trinity River basin. A significant amount of funding was also provided by the U.S. Department of Agriculture–Natural Resources Conservation Service (USDA–NRCS)’s National Water Quality Initiative and Tarrant Regional Water District.

Workers install a fence on the 77 Ranch as part of Water As A Crop’s cost-share program to promote sustainable land management. Photo by Craig Ficenec, Water As A Crop.



Using this funding from collaborators, Sand County Foundation facilitated reimbursement to landowners for the costs of conservation practices such as building fences for rotational grazing and planting riparian buffers, sources said.

### The 77 Ranch leads the way

One of the most significant factors in the implementation of Water As A Crop is the cooperation and involvement of local landowners, such as Gary and Sue Price of the 77 Ranch. Water As A Crop officials got to know Gary Price when he was awarded the Leopold Conservation Award from the Sand County Foundation and Texas Parks and Wildlife Department in 2007.

As a rancher in the Trinity's Chambers Creek Watershed, Price has implemented conservation strategies that have the potential to conserve water. He plants and manages native grasses to reduce water loss, while simultaneously managing forage for wildlife and livestock. The Prices also provide educational opportunities for rural and urban residents to learn about the importance of private lands in water conservation.

"We must work together to try to bridge some of those rural-urban gaps," Price said. "One of the things that intrigued us about Water As A Crop is that we both see opportunity when we say that everybody's drinking water comes across somebody's ranch somewhere. So, that means that I play a vital role in a pretty big product."

Because of his interest in private land stewardship and conservation, Price became the "anchor" for Water As A Crop's work in the Chambers Creek Watershed, according to Ficenec. "He's very cooperative and very interested in the concept of how private landowners can deliver water conservation and off-farm water benefits while they are also doing well for themselves by good land management."

The Prices' collaboration with Water As A Crop has led to continual monitoring and data collection efforts on their land to identify the most effective land stewardship practices for conserving water. This information will be used to help landowners make management decisions and will allow investors to see the success of their investments.

### Trinity Waters partnership proves fruitful

Water As A Crop's collaboration with Gary Price also opened the door to a partnership with Trinity Waters, a Texas-based organization dedicated to the conservation of the Trinity River, which supplies water to more than 40 percent of the Texas population, according to the group.

From 2010 to 2012 the two organizations conducted a pilot project in which Trinity Waters

served as the local implementing partner within the Trinity River Watershed. The project took place in Mill Creek, a tributary of Chambers Creek that supplies urban residents in Fort Worth and surrounding communities via the Richland-Chambers Reservoir and then joins the Trinity River downstream. There, the organizations collected data and educated local landowners through workshops.

"I think [Water As A Crop's] role was to be the Johnny Appleseed, to help come and seed conservation practices in different areas," said Kenneth Cook, Trinity Waters president and board chair.

The work that was initiated in Mill Creek by Water As A Crop and Trinity Waters led to the watershed being selected to participate in the Chambers Creek Water Quality Initiative, the only program in Texas that was part of the USDA-NRCS National Water Quality Initiative, sources said. This allowed federal funds into the area to assist with improving the water quality in Chambers Creek. Around \$5 million was contributed to cost-share programs within the Chambers Creek Watershed in 2012 and 2013, Ficenec said.

"The true benefit of the pilot was to show the success and the conservation potential in that market that drew the federal funding attention to it, which was a large portion of the funds for the program," Cook said.

### Current efforts, near and far

In Texas, Water As A Crop is currently focused on monitoring and collecting data to compare the effectiveness of different management strategies in conserving water, Ficenec said. This data will allow the organization to better communicate to landowners and address questions regarding which management practices to implement. "It's a matter of outreach and cooperation with landowners and trying to demonstrate the potential benefits to them, both in terms of production and profit," Ficenec said.

"We try to partner with researchers at Texas A&M University and others to look at monitoring and modeling techniques that can come closer to answering those questions," he said. "Because, obviously, if anyone wants to invest in promoting land conservation, which could be through direct financial incentives or outreach and education or whatnot, anyone investing in that wants to know there will be a return."

Much of the monitoring is currently being done on the 77 Ranch. In particular, the amount of precipitation and discharge is being monitored to estimate how much water infiltrates the soil, said Dr. Bill Fox, Texas A&M AgriLife Research scientist. ➔



“Currently, we are monitoring three small watersheds on Mr. Price’s ranch; they’re of different vegetation communities,” Fox said. Those areas are a tall grass prairie, a mid-grass prairie and a mesquite savannah, and each one reacts differently to water. The data being collected will calibrate the response of these three systems to rainfall and allow future comparisons to be made, he said.

Price has been actively involved in the continued monitoring and allows visitors to the ranch to gain a better understanding of how the monitoring is being done. He stresses the importance of the research, saying that there is nothing like having a landowner look at the monitoring devices and see the data produced, rather than simply reading about it on paper. Providing this information to landowners is key to empowering them in making important management decisions, he said.


“Our monitoring efforts and our research are not focused on trying to develop something to tell somebody to do what they need to do,” he said. “What we try to do is develop information so that people can make informed decisions based on their goals, their land needs, their families, whatever it may be.”

In addition to working along the Trinity River, Water As A Crop has been involved in various efforts around the nation, including a project in the central Big Sioux River of South Dakota, upstream of the iconic Sioux Falls. Reducing bacteria and sediments in the river are a primary concern for citizens and for Water As A Crop, Ficenec said.

In this region, Water As A Crop is focusing on local soil conditions, which affect the amount of sediment runoff into these streams. The organization is encouraging landowners in the area to adopt practices such as adding cover crops or practicing no-till farming, Ficenec said.

Water As A Crop is also working in the Midwest, particularly in Iowa and Nebraska, areas also affected by water quality issues. In Nebraska the program is focusing on groundwater recharge and irrigation efficiency, Ficenec said, whereas in Iowa it is focused on cropping practices associated with nutrient runoff.

The Sand County Foundation plans to continue expanding Water As A Crop, helping landowners throughout the country and collecting data to inform management practices.

“Water As A Crop still envisions, as a long-term objective, that those end users of water, be they industrial or residential, though a water district or so forth, would actually see enough value in the contributions that private lands could make, providing an ecological service of clean and quality water that leaves their lands and to see that as something worth investing in,” Ficenec said. 

For more information and resources, visit *txH2O* online at [twri.tamu.edu/txH2O](http://twri.tamu.edu/txH2O).

Left Photo: Ranchers Gary and Sue Price, owners of the 77 Ranch, were part of the Water As A Crop program. Photo by Blake Alldredge.

Right Photo: Through workshops given on the 77 Ranch, rancher Gary Price educates landowners and others on the importance of land stewardship and its impacts on both land and water. Photo by Blake Alldredge.