MICHELLE DIFFENDERFER AND
KATHRYN B. ROSSMELL


Diffenderfer


Rossmell

Florida's New Crop: Is Water Farming For You?

One of the biggest challenges of water management is getting water in the right place at the right time in the right amount. Government agencies and water users are constantly seeking alternative ways to expand the "water pie" during dry times and avoiding flooding during the wet season.

As with any commodity, there are supply-side and demand-side approaches—in this case ranging from water conservation to desalination to aquifer storage and recovery, and myriad creative solutions in between. One supply-side alternative being explored in South Florida attempts to control the flow and storage of water through contracts with private landowners in a water farming program known as dispersed water management (DWM). DWM is defined as "shallow water distributed across parcel landscapes using relatively simple structures."

HOW DWM WORKS

Under the DWM model, the government is using privately owned land to store water for public benefit through the use of cost-sharing agreements and easements with landowners. The landowners and government sign fixed-term contracts, agreeing to the cooperative project to retain or detain water on the land in exchange for payment. The land becomes a highly sophisticated rain barrel that gathers water when it is plentiful and releases water when it is needed.

To obtain these services, the government "buyer" announces a solicitation inviting landowners to apply and negotiate over the terms of the agreement. In all cases, payment for DWM services is contingent on documentation throughout the term of the contract, and the services provided must be above and beyond any regulatory requirements the landowner already has.

DWM'S HISTORY

The DWM project's origins extend back to 2005 when the South Florida Water Management District (SFWMD), the World Wildlife Fund, the Florida Department of Agriculture and Consumer Services, and a group of Florida ranchers signed a memorandum of understanding to work together to create a payment-for-environmental-services (PES) program.

The agreement led to a six-year pilot project called the Florida Ranchlands Environmental Services Project. Eight "environmental pioneer" ranchers field-tested design elements and concepts. These projects were largely focused on water farming in low-intensity agricultural areas such as pastures.

The pilot project was considered successful, and in 2010 the Northern Everglades Payment for Environmental Services (NE-PES) program was launched. Today the project partners comprise an assortment of government, agricultural, and research groups, and the project is supported by environmental organizations.

BENEFITS AND OPPORTUNITIES

DWM's supporters tout numerous environmental, economic, and practical benefits. In addition to keeping these lands on the tax rolls, DWM projects are generally less expensive than major government storage projects and can be implemented relatively quickly, sometimes in less than a year. This is in large part because of the simplicity of the structures. Ordinary berms and canals are often all that is needed to effectively store water on the land.

In the case of the NE-PES, water storage reduces the water delivered to Lake Okeechobee during the wet season, which has the added benefits of reducing the flow of nutrients into Lake Okeechobee and reducing the volume of freshwater released into the connected estuaries. While the water is stored, it can enrich habitats on the farmland for plants and animals by rehydrating wetlands. Stored water also helps recharge Florida's groundwater supply in the area. Other benefits include keeping the land in less intense land uses and supporting the agricultural community.

As of August 2013, the NE-PES program had acquired 131,500 acre-ft of water and enrolled more than 100 users and regional public facilities. Pending funding, additional planned projects could add as much as 230,000 acre-ft of water in the future. The SFWMD added eight projects in fiscal-year 2012, securing an additional 4,778 acre-ft of water at a projected cost of $7 million during the next 10 years. As recently as August 2013 the SFWMD governing board approved a three-year DWM contract with a citrus company, with the aim of meeting water quality and storage goals for the associated watershed.

Although the Florida DWM program focuses on environmental water quality benefits, such a program presents other opportunities. Utility providers might also find value in similar water storage to extend water supplies through dry times. That system could also be used as a flood-prevention mechanism.

Mining companies have also used available water storage as an opportunity to supply water to utilities. For example, in Florida a mining company collaborated with the SFWMD and various local governments to develop a plan known as the C-51 Reservoir Project. The rock pits owned by the mining company were used to store stormwater runoff, which would then move through existing canals and—at a cost to the utilities—become a source of freshwater for local governments.

Other projects around the country use public–private partnership programs to meet a variety of water needs. For example, Colorado has a winter water storage program to help store irrigation water during the freezing winter months. In the Midwest, the Natural Resources Conservation Service has a drainage water management program under its broader Environmental Quality Incentives Program (EQIP). Although the EQIP drainage program focuses primarily on improving water control and quality on the landowner's property, the overarching purpose is to improve water quality on a multistate scale. It also is an example of a method by which governments are using public funds for projects on private land to meet public water needs.

ENSURING SUCCESS

For private-contract water storage programs to have long-term viability for utilities and landowners, the parties will need to ensure that the utilities can get water when needed and, for the landowner, that the use does not unduly restrict other potential uses. For example, water storage may enhance wetlands and species benefits on the storage lands, which could lead to more restricted uses of the land or more intense regulatory approvals in the future.

It is also possible that a government's long-term dependency on the private land may lead to the need for future takings if that source of supply becomes so important that it is irreplaceable. It is unclear how property values might be affected by such projects and whether these projects could be environmentally successful on lands that have been farmed more intensively.

However, if there is a need for additional water in a community, it is likely that prospective water farmers and water supply entities can work together to address these concerns to provide the benefits. For example, farmers could document the baseline conditions on their land so that both entities agree on the condition to which the land may return at the end of the contract. In some cases, it may be possible for a water farmer to use part of the water farm as mitigation for other activities on the land and still receive payment for any water storage that remains above and beyond what is required.

CONCLUSION

Additional water storage has a wide spectrum of uses, and government entities are finding new ways to take advantage of private contracts to meet their needs. Meanwhile, private landowners have embraced these projects as new and additional sources of revenue and in some cases as a way to meet increasing regulatory requirements for water quality and restoration.

In light of the flexibility, wide acceptance, and mutual benefits of Florida's DWM approach, these projects provide an excellent tool for innovative solutions for alternative water supply and restoration.

—Michelle Diffenderfer, a shareholder at Lewis, Longman & Walker in West Palm Beach, Fla., holds an AV Preeminent Peer-Review Rating from Martindale-Hubbell. Her practice focuses on environmental, water, natural resources, and land use law, specifically permitting and enforcement. She can be contacted at mdiffenderfer@llw-law.com. Kathryn B. Rossmell, also an attorney at Lewis, Longman & Walker, focuses on land use, environmental, and natural resources law. She represents public and private clients on natural resources permitting issues, National Environmental Policy Act compliance issues, and she practices civil litigation for public and private clients. She can be contacted at krossmell@llw-law.com. The Lewis, Longman & Walker team focuses on environmental, land use, and governmental law—www.llw-law.com.

http://dx.doi.org/10.5942/jawwa.2013.105.0171

JOURNAL AWWA welcomes comments and feedback at journal@awwa.org.