

# Florida Ranchlands: An Experiment in Paying for Environmental Services

An Interview with Leonard Shabman



More than eight years ago, RFF Resident Scholar Leonard Shabman, working cooperatively with Sarah Lynch at the World Wildlife Fund, helped launch the Florida Ranchlands Environmental Services

Project (FRESP), a pilot program to address difficult environmental challenges as a result of urban and agricultural develop-

**LEONARD SHABMAN:** The idea is that a buyer—some entity who has money and is willing to spend it to receive an environmental service, such as improved water quality—contracts with some other entity who is able to provide that service. In the Florida case, an agency of the state was willing to pay cattle ranchers who retained stormwater on their ranches and slowed the rush of water and nutrients toward Lake Okeechobee, beyond what was required of ranchers under their regulatory obligations.

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ment in Southern Florida. The measure of its success is that in January 2011, the South Florida Water Management District adopted it as the Northern Everglades–Payment for Environmental Services (NE–PES) program. Shabman recently sat down with *Resources* to discuss the program’s design, implementation, and lessons learned.

**RESOURCES:** What exactly do you mean when you say “payment for environmental services”?

**RESOURCES:** FRESP was focused on the Northern Everglades. Can you tell us about some of the water challenges in that area?

**SHABMAN:** If you think about a map of Florida, there’s a big blue spot in the middle of it. That’s Lake Okeechobee. The area called the Northern Everglades is the area that drains from Orlando south into the lake.

The water that reaches the lake is from the rain that falls in that whole area. It used to take a long time to get to the lake.

The lake would slowly rise and fall, and the water from the north would slowly seep into what is now the Everglades Park and then on to Florida Bay.

As a result of development, two things happened. The first was that the system was heavily drained, and a dike was built around the lake. Now rainwater rushes to the lake, making it rise and fall quickly, with adverse effects on habitats and the

**RESOURCES:** How did the district begin to consider paying ranchers to hold water, and were ranchers initially interested in the pay-for-services concept?

**SHABMAN:** The district has the responsibility of working with the federal government to bring about the restoration of the whole Everglades system. The federal-state strategy is built around big public

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shoreline. When the lake gets really high, the water is released to the estuaries on the east and west coasts. These sudden rushes of fresh water negatively affect the marine environment. Equally important, nutrients—phosphorus and nitrogen—started moving into the lake and on to the estuaries, creating oxygen-depleting algae blooms.

**RESOURCES:** How was the drained land north of Lake Okeechobee developed?

**SHABMAN:** The ditched and drained land allowed certain land uses that would not have been possible otherwise. One response was that vast areas of that land became cattle ranches. The reality is that the extent of land drainage has proved to be more than what is necessary for cattle production. So ranchers might, under certain conditions, be able to hold back water on their land and still have a productive cattle operation. If they would do that, the South Florida Water Management District—the agency responsible for keeping lake level fluctuations in check and improving water quality—could pay them for that service.

works projects—reservoirs and large stormwater treatment areas that could be hundreds or even thousands of acres. But these projects became very expensive and implementation was delayed, so the World Wildlife Fund and RFF began a dialogue with all the stakeholders to see if there might be interest in exploring whether holding back the water on open ranchlands could be a complement to these large public works projects.

The ranchers were skeptical: What would the water do to their cattle production business? The South Florida Water Management District was also skeptical: Would the ranchers be willing to hold the water? We had to develop ways to answer these and other questions. How would ranchers hold water? How could the ranchers show the district the services they would provide? How could the district be sure that it was getting the services that it paid for? How much would the ranchers be paid? The formal collaboration that came to be called FRESA was formed to answer these and other questions.

**RESOURCES:** What were the water management practices identified by FRESP?

**SHABMAN:** There are two main things ranchers can do. First, they can put boards in existing ditches to block water from leaving the ranch and perhaps build berms or dikes to hold the water beyond the ditches. The second is to divert water from rivers and canals onto their land and let wetland processes remove the nutrients. Then they discharge the cleaned water back into the rivers and canals and on down into Lake Okeechobee.

**RESOURCES:** How could the ranchers estimate the services they could provide?

**SHABMAN:** This was a major challenge that FRESP had to face. In the end, the FRESP partners agreed that all applicants to the program would use the same service estimation models, developed through the FRESP process. These were simple models that had limited data requirements. Each estimate was based on the average rainfall year over the 10-year contract period. In some years the service would be less and in other years more, depending on rainfall.

**RESOURCES:** Where did the FRESP discussion of payments lead?

**SHABMAN:** The collaborators agreed that ranchers would submit a proposal with an estimate of how much water they would hold or how many pounds of nutrients they would remove, along with a request for an up-front payment for initial investment costs and then an annual payment for services rendered over the life of a 10-year contract. Based on that submission, the district negotiated with each rancher to find a payment that would be acceptable to both parties.

**RESOURCES:** How did the district and ranchers monitor contract compliance?

**SHABMAN:** One very important feature of the FRESP-designed contract was that the rancher was paid as if every year were an average rainfall year. So contract compliance, not the level of the service in any year, was what needed to be monitored. Let's imagine as one example that a rancher agreed to put a board in the ditch. There are two things that the district wants to know. The first thing is that the board is there—that it hasn't been moved. The second is that even if the board is there, the water hasn't been diverted around the board in some other way. The collaborators agreed to check monthly to be sure that the boards were in place. Also, stage recorders and rain gauges were installed at the site. The stage recorder data is collected electronically along with rainfall each day. As long as the water level fluctuates in some logical way, the site is said to be holding water.

**RESOURCES:** How has the new NE-PES program worked out?

**SHABMAN:** FRESP ended in January 2011 when the district took the basic design principle and issued a solicitation asking interested ranchers to apply for contracts under the NE-PES program. In May 2011 the district accepted eight contract proposals from among those submitted. A second solicitation period has ended, and new projects will soon be selected. ●

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