Ranchers Pursue Water Quality Goals

Michela Meucci and John Capece

Florida's precious water bodies are in trouble. The water quality in many areas is being degraded as a consequence of human actions, and this realization has led to widespread efforts to restore our state's water quality. Danny and Marcia Candler are good examples of the environmental awareness found among today's farmers and ranchers. The Candlers own and operate a cattle ranch north of Okeechobee, where water from their pastures flows into the beautiful Chandler Hammock Slough and splits their 1300-acre ranch. But the natural elegance of this oak and palm hammock not only shelters wildlife; it also hides water quality problems that date back to when the land was a dairy farm.

"I bought this land in 1993. The first time I saw the slough I knew I wanted this place as my new home," said Mr. Candler, a Florida native who grew up in a farming family, as did his wife Marcia. Danny explained further, "It was too expensive to meet the water quality rules," and so the dairy went out of business. "Actually the Water Management District offered them a buy out. They said we would like to buy you out and have you move somewhere else," clarified Marcia, describing the government program in the 1980s and `90s, that removed over a dozen Okeechobee dairy farms and thousands of cows from the Okeechobee region to north Florida and Georgia.

These and other water quality improvement projects are becoming linked together into the Total Maximum Daily Load (TMDL) program that spans the entire United States. A TMDL is the maximum amount of a given pollutant that a water body can absorb and still maintain its designated uses such as drinking water or recreation. Loads refer to the actual quantity or pounds of chemical (phosphorus, nitrogen, etc.) coming off the land into the rivers, lakes, and estuaries.

The Clean Water Act of 1972 passed by the U.S. Congress established a goal of cleaning up all water bodies in the United States so that they would be suitable for fishing and swimming, and led to the development of the TMDL program. However, implementation of this national law was slow. In 1999, the Florida Legislature approved the Florida Water Restoration Act, which provides clear legal authority for the TMDL program. This legislation will affect many people, but those who may feel its effects the most are farmers and ranchers. Danny and Marcia are concerned about what the rules might mean for them. "You just don't know how stringent they are going to get," commented Marcia. Danny added, " I think it's a good thing as long as it stays reasonable, you know, that people can still meet and maintain a living."

Upon starting their ranch they implemented Best Management Practices (BMPs) intended to reduce the amount of phosphorus running off their land. One practice is to rotate cattle through several smaller pastures so they don't stay in the same areas for more than about two weeks at a time. This avoids overloading the land with too much cattle waste. Another BMP is watering cows using troughs set away from natural

streams and fencing off the streams to prevent the cattle from depositing manure into the water. The Candlers have also fenced off wetland areas and planted special grasses to act as a buffer to trap phosphorus before it reaches the wetlands and streams.

In a more innovative approach, Danny and Marcia are working with private agricultural engineers and the South Florida Water Management District to test an experimental method of cleaning their runoff water. The technique involves forcing the waters of the slough to flow through baskets of a special material that chemically captures phosphorus from the water. The flow rates and phosphorus levels before and after the basket filters are measured and used to calculate the their effectiveness.

While the agricultural community strives to meet the new water quality goals, their best efforts may not be good enough. One reason farmers have trouble meeting the goals is the slow response of the land since tons of chemicals can be stored for many years in the soil. Prior to becoming the Candler Ranch, the land was used for dairy farming (a more intense consumer of phosphorus for feed and fertilizer). The left-over phosphorus from the dairy era will continue to leach out of the soil for many years, thus making it more difficult for the Candlers to reach their targets. However Danny did point out, "I know our numbers from the phosphorus runoff have been lower every year since we've been here and since we started implementing the BMPs." So while things may not be improving as quickly as other groups would wish, progress is being made in a positive direction. Marcia provided a reality check by explaining, "The environmentalists and the government agencies need to realize that it's never going to be like it used to be. Maybe if you got rid of about three quarters of the people…but there's no way to do that."

That doesn't mean the Candlers are giving up, emphasized Danny, "I would tell anybody to look at our place and see if they don't think that we take a lot of pride in it. We work to keep it clean. We work very hard to and we're proud of it."

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Note: Readers are invited to engage in an exchange of comments and perspectives on this subject through the public discussion board at www.SWFWC.org.