

**SUMMARY OF PRESENTATION**  
**AGRIBUSINESS PARTNERS CASE STUDY**  
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After the Southwest Florida Water Management District (District) acquired the Flatford Swamp property, it became apparent that there was a problem. Trees were stressed and dying. However, opinions from various outside experts and observers initially varied greatly on the causes of the problem. Some said too much water was the culprit, others said too little, others claimed water quality as the villain, and at least one forestry expert claimed there wasn't a problem at all. The District conducted a study (June 1998) that determined there was excess water in the swamp. Swamps have hydro periods -- an annual cycle of wet periods and dry periods. The problem in Flatford is too much water remaining during the normal dry periods. The investigation showed the main cause of the excessive water levels in the swamp was irrigation runoff. Due to the topography of this region, irrigation water gradually seeps underground to the water table and then moves laterally until it eventually enters tributaries and the swamp.

Some observers claim that all the District had to do was use its regulatory hammer to cut pumping from the agricultural operations in the area. This single approach to the problem would have been very difficult to implement, with litigation the probable result. To make its case in court, the District would have had to clearly define which agricultural operations were contributing to the problem and by what percentage.

In reality, in 1998 insufficient data existed that would enable the District to undertake a clear and unequivocal regulatory approach. What would likely have occurred had the District taken this single approach would have been years of litigation, significant taxpayer dollars expended, with no guarantee of a successful conclusion. Recognizing this, the District developed a remedial action plan consisting of three steps.

First, data collection activities were initiated to provide a better understanding of the contributing basin sources and timing of the excess water associated with the tree die-off. In the article, the Myakka State Park manager allegedly expressed concerns that the District was not studying the water chemistry. In fact, the District has been collecting water quality information each month from 17 sites since December 1997. The water quality data was used to determine the origin of the excess water -- runoff from ground water used for irrigation.

Second, through its regulatory functions, the District continues to inspect agricultural operations in the area to ensure that the farmers are in compliance with their permits. The news article was in error when it indicated that a "modest fee" was all that was needed to secure a water use permit. One of the conditions for issuance is that permits are only renewed or issued upon the applicant providing reasonable assurance and demonstrating that offsite discharge will be

eliminated or significantly reduced to the greatest extent practicable to prevent environmental harm.

The lateral movement of irrigation water through the water table is somewhat unique to the Upper Myakka watershed, and was not known until the results came in from data gathered in the last four years. The District has implemented more stringent water use permitting review criteria to eliminate or significantly reduce offsite discharge in the Flatford Swamp area.

Third, the District explored non-regulatory opportunities to reduce the water levels in the swamp. The non-regulatory approach has resulted in a cooperative effort with two large agricultural users in the area to develop innovative approaches to irrigation that would reduce the amount of excess flow to the swamp. These users were chosen because their strategic geographic location offers the best opportunity to intercept flow from the entire watershed before it reaches the swamp and to withdraw water from the swamp. It has been estimated that the excess dry season flow from the Upper Myakka watershed to the swamp is between eight and 12 million gallons per day (mgd).

The first phase of one project was completed in December 2001. This phase involved construction of two surface water reservoirs, a mile-long trench recovery system, and an 11-mile pipeline. The farm intercepts excess dry season subsurface seepage and captures surplus stream flow prior to it entering Flatford Swamp. Roughly 2.8 million gallons a day (mgd) of excess dry season flow is prevented from entering the swamp during the first phase. Additional phases have targeted capturing approximately 4.8 mgd of excess flow prior to it entering Flatford Swamp.

A project at a second farm has been implemented. Once the first phase of this project is completed, the farm will pump a dry season peak average of 1.13 mgd from Flatford Swamp to irrigate row crops. Subsequent phases are targeted to remove up to 9.5 mgd and potentially offset the farm's entire groundwater withdrawals.

Benefits from these projects include reducing seepage into the swamp, helping to restore the swamp's natural hydroperiod, and reducing groundwater withdrawals.

Over the next couple of years, the additional phases to both projects will be brought online. These subsequent phases are anticipated to remove and capture the remaining excess flow entering Flatford Swamp during the dry season. Initiation of these unprecedented private/public partnerships was implemented in a conscientious and deliberate manner to attain the maximum possible environmental benefit as quickly as possible. Over the last two years, monitoring has shown a stabilization of the trees in and around the swamp.