

Impact of the water bill on BMP implementation

By Kelly Morgan



Photo courtesy of Southwest Florida Water Management District

Nitrogen and phosphorus are essential nutrients for plants and animals and are the limiting nutrients in aquatic environments. The correct balance of both nutrients is necessary for a healthy ecosystem; however, excessive nitrogen and/or phosphorus can cause significant water-quality problems.

Typically, nitrogen is the limiting nutrient in spring and surface water systems. Therefore, even modest increases in nitrogen concentrations above optimum levels can lead to algae blooms, and deplete oxygen levels causing fish kills, which happened in 2016 in South Florida.

EXPLANATION OF TERMS

In 2016, the Florida legislature created the **Florida Springs and Aquifer Protection Act**, known as the **water bill**, to provide for the protection and restoration of outstanding Florida waters and springs. The bill ensures that the appropriate governmental entities continue to develop and implement uniform water-supply planning, consumptive-use permitting and water-quality protection programs. The Florida Department of Environmental Protection (FDEP) is required to complete **basin management action plans** (BMAPs), and the Florida Department of Agriculture and Consumer Services (FDACS) implements **best management practices** (BMPs).

Waterbodies (springs, lakes or streams) that do not meet the established **water quality standards** (WQs) are deemed

impaired, and FDEP must establish a **total maximum daily load** (TMDL) for the waterbodies. A TMDL is a scientific determination of the maximum amount of a given pollutant that can be absorbed by a waterbody and still meet WQs. Nonpoint sources are unconfined sources that include leaching or runoff from agricultural lands or residential areas. BMAPs are one of the primary mechanisms the FDEP uses to achieve TMDLs. BMAPs are plans for non-regulatory and incentive-based programs, including BMPs and cost-sharing programs.

Currently, FDACS will cost-share with growers enrolled in the BMP program at 75 percent up to \$50,000 per year for installation of fertigation equipment, variable-rate fertilizer applicators, conversion from high-volume (sprinkler) irrigation to low-volume (microsprinkler or drip) irrigation, and other fertilizer and/or water-savings programs. Some water management districts have additional cost-share programs available to agricultural producers (See page 6 for more information on cost-share programs). FDACS also funds Mobile Irrigation Labs in Florida to assist growers in improving irrigation efficiency.

BENEFITS OF BMPs

The Florida BMP program was established in the Florida Watershed Restoration Act. It authorizes the FDACS Office of Agricultural Water Policy (OAWP) to develop agricultural BMPs and to assist agricultural producers with BMP

implementation. The participation of agricultural producers in BMP programs is important for the following reasons, among others:

- BMP implementation helps demonstrate the agricultural industry's commitment to water-resource protection, and thereby helps maintain legislative, agency and public support for this incentive-based approach to reducing agricultural impacts to water resources.
- Implementation of FDACS-adopted BMPs that the FDEP has verified effective in reducing agricultural water-quality impacts provides growers with legal protection by providing a presumption of compliance with WQSS.
- BMPs provide benefits to producers as well as the environment. Many producers have reduced costs and increased yields.

WHAT'S IN THE WORKS

Improved water quality is very important to Florida's economic and environmental future. The water bill requires enhanced implementation assurance of BMPs by FDACS/OAWP and further development of agricultural water-quality monitoring by FDEP. In response to the water bill, FDEP and FDACS/OAWP is in the rule-making process with the goal of an estimated 30 percent reduction in agricultural TMDL within the first five years of establishing a BMAP from implementation of BMPs by agricultural producers. At the end of this first 5-year period, 100 percent of agricultural producers within a BMAP must be implementing BMPs or they will be required by FDEP to monitor on-farm water quality at their expense.

A second goal of this rule would be the reduction of TMDL by 80 percent within 10 years through adoption of advanced (also called second-phase) BMPs. Research is required to validate current BMPs statewide as well as development of second-phase BMPs to further reduce grower impact on the environment.

The University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) will increase assistance to

agricultural producers to implement BMP requirements of FDACS/OAWP and FDEP. Assistance will focus on improved technology and innovative practices to help preserve and protect Florida's water resources.

Nutrient stewardship is a central component of the UF/IFAS research and Extension agricultural BMP program. The goal of UF/IFAS research and Extension is to improve water availability (quantity) and quality while increasing our current knowledge of nutrient management on sustainable production, economic profitability and environmental management. Field research will be required to conduct the needed research on improved agricultural production practices to determine reduced impacts on water quality. Examples of these second-phase BMPs are:

- 1) **Crop rotation practices** (including cover crops) to improve nutrient-use efficiency
- 2) **Bioreactors** to capture nutrients currently in the environment
- 3) **Improved animal-waste management** practices to reduce off-site nutrient movement
- 4) **Prescription application of nutrients and irrigation** to avoid application of excess nutrients to sensitive areas
- 5) **Modeling of nutrient movement** in the environment to access current production practices and lead to improved management practices

FOR MORE

For additional information on agricultural BMPs, contact your local Extension agent or search the UF/IFAS BMP program web site (<http://bmp.ifas.ufl.edu>). A list of FDACS staff ready to answer questions about enrollment in the BMP program or cost-share opportunities can be found at www.freshfromflorida.com/Divisions-Offices/Agricultural-Water-Policy/Staff#FieldStaff or at the UF/IFAS BMP program site above. 🍊

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