

# Total Maximum Daily Loads and Agricultural BMPs in Florida<sup>1</sup>

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## Introduction

In 1972, Congress passed the Clean Water Act which set forth federal requirements for identification of polluted or impaired water bodies. These rules were passed down to the states by the U.S. Environmental Protection Agency (EPA) which required states to establish a prioritized list of impaired water bodies and to develop estimated loads that the water bodies could receive of each pollutant while meeting water quality standards (DeBusk, 2001).

These estimated loads determined for each water body are called Total Maximum Daily Loads (or TMDLs). TMDLs are defined as **the maximum amount of a pollutant that a waterbody can receive and still meet the water quality standards as established by the 1972 Clean Water Act. Section 303(d) of the Clean Water Act requires states to submit lists of surface waters that do not meet applicable water quality standards and to establish TMDLs for these waters on a prioritized schedule.**

In response to state TMDL requirements, the Florida Watershed Restoration Act (FWRA) (s. 403.067 F.S.) was passed in 1999. This act identified the methods that the Florida Department of Environmental Protection (FDEP) would use to develop and implement TMDLs. Specifically, the FWRA requires that TMDLs include all pollutant sources (agriculture and urban), and:

In addition, FWRA

- Directs Florida Department of Agriculture and Consumer Services (FDACS) to Develop Interim Measures and Best Management Practices (BMPs) to address agricultural nonpoint pollution sources,
- Provides growers implementing BMPs that are adopted by Rule (by FDACS) and verified by FDEP as effective with a "Presumption of Compliance" with applicable state water quality standards,
- Directs FDEP to allocate pollutant loads between point, nonpoint, and background sources, and

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- Allows cost-share of BMPs, with funds to support the program for agriculture originating from the Florida Forever Act Amendments.

In addition, the legislature through the Florida Right to Farm Act (*s. 823.14 F.S.*) provides that a local government may not adopt any ordinance, regulation, rule, or policy to prohibit, restrict, regulate, or otherwise limit an activity of a bona fide farm operation where growers are utilizing best-management practices or interim measures developed by FDACS.

## Florida TMDL Development

Evaluation and development of TMDLs for Florida is a daunting task, with 52,000 miles of rivers and streams, 800 lakes, 700 springs, and 4500 square miles of estuaries. FDEP has developed a five-year rotating plan to assess each water body within the state. The water basins in each of FDEP's six districts have been divided into five groups (Table 1), and the timeline for assessments within each district will be based on the group number (FDEP, 2006).

FDEP has developed a five-year schedule to assess each water body within each group as follows:

Year 1: Preliminary evaluation of water quality.

Year 2: Monitoring and assessment to verify water quality impacts.

Year 3: Development and adoption of TMDLs for waters verified as impaired.

Year 4: Development of a Basin Management Action Plan (BMAP) to achieve TMDL.

Year 5: Implementation of the BMAP and monitoring of results.

Once the five-year cycle is completed, progress will be evaluated and the cycle will begin again. Preliminary assessments (Year 1) of Group 1 basins began in 2000.

The current status of the TMDLs for these basins and groups is available on the FDEP Web site (TMDL: <http://www.dep.state.fl.us/water/tmdl/cycle.htm>).

While FDEP is responsible for Florida TMDLs, the agricultural nonpoint source pollution portion of the TMDL process is being guided by the Florida Department of Agriculture and Consumer Services (FDACS) (IFAS, 2006).

## TMDLs and Agricultural Best Management Practices

When a water body is identified as impaired and a TMDL is established, pollutant loads are divided among the different stakeholders (agriculture, urban).

Normally, each stakeholder would implement a set of management practices that are expected to reduce its contribution to meet its designated load. These practices are commonly referred to as Best Management Practices (BMPs) and can be defined as **a practice or combination of practices determined by the coordinating agencies, based on research, field-testing, and expert review, to be the most effective and practicable on-location means, including economic and technological considerations, for improving water quality in agricultural and urban discharges.**

Although some water bodies do not have designated TMDLs as of yet, and therefore do not legally require Best Management Practices, many agricultural BMP manuals are being developed. Development and selection of BMPs for agriculture is no easy task due to Florida's agriculture diversity and dramatic geographical differences. Hence, BMP manuals are often commodity and regionally specific.

FDEP, FDACS, and the Institute of Food and Agricultural Sciences at the University of Florida (IFAS) have partnered with local agencies and stakeholders to develop BMP manuals. Some of the areas where BMPs have been developed or are under development include:

- Silviculture

**Table 1.** Florida basins divided into their TMDL groups

Group 1	Group 2	Group 3	Group 4	Group 5
Ochlockonee- St. Mark	Apalachicola- Chipola	Choctawhatchee - St. Andrews	Pensacola	Perdido
Suwannee	Lower St. Johns	Upper St. Johns	Nassau - St. Marys	Upper East Coast
Ocklawaha	Middle St. Johns	Sarasota Bay - Peace - Myakka	Withlacoochee	Springs Coast
Tampa Bay	Tampa Bay Tributaries	Caloosahatchee	Kissimmee River	Indian River Lagoon Everglades
Lake Okeechobee	Charlotte Harbor	Lake Worth Lagoon - Palm Beach Coast	Fisheating Creek	
Everglades West Coast	St. Lucie - Loxahatchee		Southeast Coast - Biscayne Bay	Florida Keys

- Ridge Citrus
- Leatherleaf Ferns
- Cow/Calf
- Indian River Citrus
- Peace River and Manasota Basin Citrus
- Gulf Citrus
- Container Nursery
- Forage Grasses
- Aquaculture
- Vegetable and Agronomic Crops
- Equine
- Sod
- Tropical Fruit
- Green Industry

- Golf Courses

For a more complete list and additional information on specific BMP manuals, visit the FDACS Office of Agricultural Water Policy Web site:  
<http://www.floridaagwaterpolicy.com/BestManagementPractices.html>.

The primary benefit for growers implementing agricultural BMPs (even without a designated TMDL) is that if a BMP program is in place, an agricultural producer is considered to be operating under a Presumption of Compliance with water quality standards. This protects the farmer from liabilities to the state when water quality standards are not met (UF-IFAS, 2006).

BMP implementation is different if a TMDL has already been established for a particular basin. Pursuant to Section 403.067(7)(b)2(g) of Florida law, A nonpoint source discharger included in a basin management action plan shall demonstrate compliance with the pollutant reductions established pursuant to subsection (6) by either implementing the appropriate best management practices established

pursuant to paragraph (c) or conducting water quality monitoring prescribed by the department or a water management district. This means that if a TMDL has been established for a basin, agricultural producers are required to either implement a BMP plan or they must conduct water quality monitoring to prove discharges meet state water quality standards.

## Adopting a BMP Program

Agricultural producers that are interested in formally adopting a BMP program should follow several important steps. For assistance with these steps, contact your local UF-IFAS Extension office.

1. Identify the BMP manual that is applicable to the commodity and location in question.
2. Conduct an environmental assessment of the property. Local agricultural extension agents (and in some areas of the state, BMP Implementation Teams) are available to perform on-farm assessments (contact the local UF/IFAS Extension office for information). The goal of the environmental assessment is to identify BMPs that would be most beneficial considering both economic and environmental benefits.
3. Once the assessment is complete, the selected practices are specified in a Notice of Intent to Implement (NOI). This NOI is sent to FDACS. Each BMP manual has its own specific format, but all include information on the property location, tax ID number, and landowner or lease holder contact information.
4. Once a producer is accepted into the program, he or she is eligible for cost share funds that are available to assist growers in implementation of specific practices. For information on cost share opportunities, contact your local UF/IFAS Extension office.
5. As part of the BMP program, growers must agree to keep records on BMPs that have been implemented. In most cases, these records are already being kept as part of good farming practices. These records are subject to inspection by FDACS as part of the BMP implementation verification process.

## For More Information

Web sites are available that provide detailed information on TMDL development and BMP manuals.

### TMDL:

<http://www.dep.state.fl.us/water/tmdl/cycle.htm>

<http://www.dep.state.fl.us/water/tmdl/index.htm>

### BMPs:

<http://www.floridaagwaterpolicy.com/BestManagementPractices.html>

<http://citrusbmp.ifas.ufl.edu/>

## References

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