

Golf Course-Basin Management Action Plan Requirements

The fertilizers used to maintain golf courses can be significant sources of nutrients in springsheds and watersheds that are impaired for nitrogen and/or phosphorous. To achieve the Total Maximum Daily Load (TMDL) target(s), all nutrient sources need to reduce their nutrient loading.

Similar to other sources, golf courses located within a Florida Basin Management Action Plan (BMAP) area are required to implement strategies to mitigate nutrient loading in compliance with the BMAP. BMAPs are adopted by Secretarial Order and are legally enforceable by the Florida Department of Environmental Protection (DEP).

Golf Course BMP Certification, Implementation, and Reporting.

1. In areas with an adopted BMAP, all golf courses must implement the BMPs described in DEP's golf course BMP manual, *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (DEP, 2021).
2. At minimum, the superintendent for each golf course must obtain and maintain certification through the UF-IFAS Florida Golf Courses Best Management Practices Program. It is highly recommended that course managers and landscape maintenance staff also participate in the certification program to ensure proper BMP implementation and understanding of nutrient-related water quality issues and the role of golf courses in water quality restoration and protection. This certification must be renewed every four years.
3. All golf courses located within a BMAP are required to submit a nutrient management plan (NMP) that is designed to, while maintaining even plant growth, prevent nutrient losses to the Floridan aquifer and surrounding surface waters. A draft NMP must be submitted to DEP within one year of BMAP adoption and a final document is due two years after adoption.
4. Beginning in 2028, nutrient application records and management action updates (fertilizer, reuse, BMPs, etc.) must be submitted each year during the BMAP statewide annual reporting process.
5. Fertilizer rates should be no greater than the UF/IFAS recommendations to help prevent leaching (for more information refer to the *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (2021)). This includes nutrients from reuse or any other source applied (ex. manure, compost). If a facility uses fertilizer rates greater than those in the BMP manual, they are required to conduct water quality monitoring prescribed by DEP or Water Management District that demonstrates compliance with water quality standards. For more information refer to the *Best Management Practices for the Enhancement of Environmental Quality on Florida Golf Courses* (2021).
6. Example golf course BMPs applicable to protecting water quality are listed below. (Please see DEPs [Tools and Guidance page](#) for a comprehensive list)
 - Use of lined media in stormwater features.
 - Use of denitrification walls.
 - Use slow-release fertilizer to prevent volatilization.
 - Use of rain gardens.
 - Use of tree boxes.
 - Use of bioswales.

Please Read: Instructions for Completing and Submitting the Nutrient Management Plan

This Nutrient Management Plan (NMP) form has been developed to help golf courses located within Florida's BMAP areas comply with requirements for nutrient reduction and water quality protection. The goal of this NMP is to protect water quality while maintaining golf course conditions.

What to submit with your Nutrient Management Plan package:

- ☐ Completed Nutrient Management Plan Template.
- ☐ GIS shapefile detailing golf course areas.
- ☐ Completed Nutrient Application Table spreadsheet.
- ☐ Best management practices (BMP) validation documentation.
- ☐ Monitoring/sampling results for nitrogen and phosphorous in:
 - ☐ Soil.
 - ☐ Plant Tissue.
 - ☐ Water Quality.
- ☐ Pre- and Post-course development modeling and/or sampling reports.

Submitting your completed NMP package

1. Gather required information

- Link to DEP file transfer portal: <https://dep-file-portal.dep.state.fl.us/public/folder/fuhgxsrnuuoq6goycfb5qg/Golf%20Course%20NMPs>
- Log-in: **Username:** email **Password:** provided by DEP

2. Upload your files to DEPs Secure FTP Server

- Navigate to the designated folder provided by DEP.
- Upload the required files (e.g., PDF form, GIS shapefile, Excel spreadsheet, lab reports).
- Verify that each file has successfully transferred.

3. Confirm submission - Once your files have been uploaded:

- Notify your DEP contact via email.
- Include the **file names, upload date/time, and your golf course name** in your confirmation email.

Course Identification and Contact Information

Course Name(s)

Course Address

When was this course built? _____

Best Point(s) of Contact _____

E-mail(s) _____

Phone number(s) _____

Address _____

☐ Same as above

Superintendent _____

☐ Same as point of contact

Has the superintendent obtained certification through the UF-IFAS Florida Golf Courses Best Management Practices Program? ☐ Yes ☐ No

Certification Date: _____

Is your course Audubon certified?

☐ Yes ☐ No

What BMAP(s) is this course located in? Select a BMAP

In multiple BMAPs? Select an additional BMAP

In multiple BMAPs? Select an additional BMAP

Nutrient Management Plan

- a. *Identification of areas where nutrient applications will be made including greens, tee boxes, fairways and roughs.*

Discuss the areas of the course where you do or plan to use fertilizer in the box below.

Address items such as: Where are fertilizers or other nutrient sources applied and how do you determine where they are applied? How is the amount of nitrogen and phosphorous determined? What form of fertilizers or other nutrient sources are used (e.g. granular, liquid, slow-release, organic, fertigation, etc.)? Describe your fertilizer application methods (e.g. broadcast, foliar, spoon-feeding).

This description should help DEP understand nutrient management and application across the property.

Include the completed [Nutrient Application Tables Spreadsheet](#) detailing your nutrient application practices with your submission.

Includes:

1. Turf detail table.
2. Fertilizer application table.
3. Irrigation water table.
4. Are any other sources of nutrients (i.e. manure, compost, etc.) applied to the grounds? If so, please detail in a table similar to the fertilizer and irrigation tables. Provide information such as: source, measured nutrient composition, application rate...

Include a Geographic Information System (GIS) shapefile(s) identifying the areas where nutrients are applied with your submission.

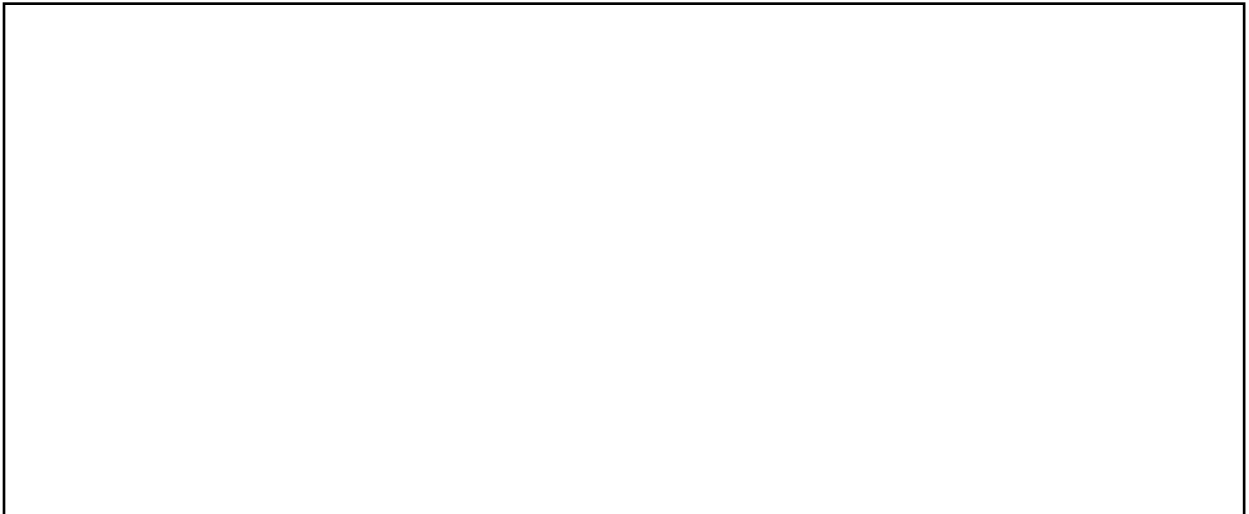
(This must be a zipped file in order to be able to submit it.)

Provide a description of the pathway of your irrigation water from the source of the water to the application sites in the box below.

Address items such as: What is the source of your irrigation water (e.g. well, stormwater pond, wastewater treatment facility)? Do you store your irrigation water before use? If so, where/how is it stored? If stored in a pond, is the pond lined? What type of liner? Do you sample your irrigation water for nutrient content? If so, where are the sampling point(s) and using what analytical methods and laboratory perform the analysis?

If possible, provide a diagram to show the irrigation water source(s) to the course, through the course, and then stormwater runoff path if any leaves the course. Label ponds, irrigation wells, irrigation pumps, fertigation systems, reuse inflow point, pond connectivity to ponds and overflow ditches, and connections to surface waters/ditches/canals. And mark sampling points on the watercourse path to help us understand what the sampling results represent.

This description should help DEP understand how water moves around the property.



b. Current Best Management Practice (BMP) implementation.

Describe existing BMPs in the areas below.

BMP Project Helper

DEP has prepared a BMP Validation Helper Microsoft Excel file to assist stakeholders in providing BMP information. In the “Project Types” tab, project types are organized by category in an easy-to-navigate table (most BMPs are found under Stormwater). The “Interactive List” tab can be used to reference the earliest acceptable date for projects, by BMAP, and determine what kind of supporting documentation is required for validation of nutrient reductions based on project type.

Do you have any nutrient reducing BMPs?

☐ Yes

☐ No

Project Type

Completion Date

Description

Validation Documentation Provided

☐ Yes

☐ No

Project Type

Completion Date

Description

Validation Documentation Provided

☐ Yes

☐ No

Project Type

Completion Date

Description

Validation Documentation Provided

☐ Yes

☐ No

Include required documentation for BMP Validation with your submission. No nutrient reduction can be accounted for if the appropriate required documentation is not provided.

- c. *Soil sampling methods and results for each area receiving fertilizer applications. Soil samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice. Soil samples shall be analyzed, at minimum, for:*

1. Nitrogen
2. Phosphorus

In the box below, describe existing soil sampling and list any associated documents you are providing.

Address items such as: What is the sampling schedule? How long has this sampling been ongoing? Where is sampling done and why/how was that determined? What collection methods are used to conduct the sampling? What lab and analysis methods are used? How do you use the results/how do the sampling results influence course management?

If soil samples from areas of similar soil, fertilizer use and management are combined, describe the process and justify combining for a “representative” sample.

Include soil sampling results with your submission.

- d. *Water quality sampling methods and results. Water quality sampling and analysis should be conducted in accordance with DEP’s Standard Operating Procedures. Water quality samples shall be analyzed, at minimum, for:*

1. Nitrogen
2. Phosphorus

In the box below, describe existing water quality sampling and list any associated documents you are providing.

Address items such as: What is the purpose of your sampling? What is the sampling schedule? How long has this sampling been ongoing? Where is sampling done and why/how was that determined? What collection methods are used to conduct the sampling? What lab

and analysis methods are used? How do you use the results/how do the sampling results influence course management?

Include water quality lab results with your submission.

- e. *Tissue sampling methods and results. Tissue samples shall be collected and analyzed according to UF-IFAS/DEP recommendations or standard industry practice.* Remember, we are looking for nitrogen and phosphorous.

In the box below, describe existing tissue sampling and list any associated documents you are providing.

Address items such as: What is the sampling schedule? How long has this sampling been ongoing? Where is sampling done and why/how was that determined? What collection methods are used to conduct the sampling? What lab and analysis methods are used? How do you use the results/how do the sampling results influence course management?

Include tissue sampling results with your submission.

DEP standard operating procedures (SOPs): <https://floridadep.gov/dear/quality-assurance/content/dep-sops>

f. Soil, tissue and water quality sample results shall be maintained for a minimum of 5 years. Keep all sampling results (or copies of them) in this file as part of your nutrient management plan. Please do not send them in to DEP individually. If you've been sampling for years, remember to add copies of all those past results to your NMP file. New results will be submitted during annual reporting.

g. When developing new (or expanding) golf courses, pre and post monitoring should be implemented in accordance with UF-IFAS/DEP recommendations.

Do you do have pre and post course development sampling or modeling? ☐ Yes ☐ No

If so, describe your pre-course development modeling and/or sampling methods.

Include report(s) with your submission.

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