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Handbook of Florida Water Regulation: Groundwater Discharge Regulations at the State Level[1]

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Preface

This handbook is designed to provide an accurate, current, and authoritative summary of the principal federal and state (Florida) laws that directly or indirectly relate to agriculture. This handbook provides a basic overview of the many rights and responsibilities that farmers and farmland owners have under both federal and state laws as well as the appropriate contact information to obtain more detailed information. However, the reader should be aware that because the laws, administrative rulings, and court decisions on which this handbook is based are subject to constant revision, portions of this publication could become outdated at any time. Several details of cited laws are also left out due to space limitations.

This handbook is distributed with the understanding that the authors are not engaged in rendering legal or other professional advice, and the information contained herein should not be regarded as a substitute for professional advice. This handbook is not all inclusive in providing information to achieve compliance with the federal and state laws and regulations governing water protection. For these reasons, the use of these materials by any person constitutes an agreement to hold harmless the authors, the Florida Cooperative Extension Service, the Institute of Food and Agricultural Sciences, and the University of Florida for any liability claims, damages, or expenses that may be incurred by any person as a result of reference to or reliance on the information contained in this handbook.

How Does Florida Regulate Groundwater Discharge?

Florida regulates groundwater discharge by two methods as follows:

1. *Discharge of waste* into state waters is prohibited unless permitted by a state agency. Because underground water is included in the definition of water, this also applies to groundwater. A discharge activity will not be permitted if contaminants reduce ground or surface water quality below the required Florida Department of Environmental Protection (FDEP) classification standard. A contaminant is any substance that is harmful to plant or animal life.

2. *Application of chemicals* to control insects and aquatic weeds for agricultural purposes is exempt. However, the chemicals must be approved for the particular use by the United States Department of Environmental Protection Agency (EPA) or the Florida Department of Agriculture and Consumer Services (FDACS). Application must be made according to the label and state standards, and Part One of the Florida Pesticide Law (Chapter 487, Florida Statutes) must be followed.

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What Are Groundwater Classifications?

Florida has several prolific aquifers, which are geographical formations that supply groundwater to wells, springs, or surface waters. Aquifers can be confined (shielded by a layer of lower permeability, such as clay) or unconfined. Unconfined groundwater aquifers always require more protection because they are more susceptible to contamination than confined aquifers. For more information about Florida water resources, see FE757, Florida's Water Resources, and the guide to Florida plant management by the UF Center for Aquatic and Invasive Plants at http://plants.ifas.ufl.edu/guide/aquifers.html.

By law, groundwater is classified into five categories (Classes G-1, F-1, G-II, G-III, G-IV) based first on whether the water is potable (drinkable) or non-potable, then on the total of dissolved solids the water contains, and finally on whether the water is located in a confined or unconfined aquifer as defined by Florida Administrative Code 62-520.410(1). Under the classification scheme,

1. Class G-I water is potable groundwater in a single source aquifer (where *single source* means that the aquifer is the only reasonably available source of potable water to a significant segment of the population). Class G-I water has a total dissolved solids content of less than 3,000 mg/l and is specifically reclassified as Class G-I by the Environmental Regulation Commission (ERC).

2. Class F-I water designation is the same as G-I, but only includes the surficial aquifers (i.e., shallow aquifers that are close to the surface) in northeast Flagler County as described by Florida Administrative Code 62-520.460 (1).

3. Class G-II waters are still potable, but have a total dissolved solids content up to 10,000 mg/L.

4. Class G-III waters are non-potable, are located in unconfined aquifers, and either have a total dissolved solids content of 10,000 mg/L or greater or have been declared non-potable by ERC.

5. Class G-IV waters are non-potable, are located in confined aquifers only, and have a total dissolved solids content of 10,000 mg/L or greater. Class G-IV waters receive the least amount of protection.

Primary groundwater quality standards depend on the class of the groundwater, and they generally include the following:

1. *Minimum criteria*. This requires that all groundwater, except G-IV, must not be contaminated by carcinogenic or toxic substance discharges. However, G-IV waters are subject to the minimum criteria if there is a danger to the environment or public health, safety, or welfare.

2. *Maximum contaminant*. This standard represents the maximum amount of particular contaminants that will be tolerated in a particular class of water. For Classes F-I, G-I, and G-II, maximum contaminant levels (Primary Drinking Water Standards) are generally in accord with standards developed by the Florida Safe Drinking Water Act. Permits for the discharge of wastes will not be issued under Chapter 403, Florida Statutes, Section 403.088, when maximum contaminant levels in groundwater are exceeded by a discharge activity unless there is a granted exception.

While primary water quality standards relate to health issues, secondary standards regulate the "aesthetics" of water quality and are not always required. Examples of secondary standards include regulations of water taste and color. Secondary standards are monitored in new facilities for compliance, but existing facilities are exempted from monitoring and compliance with the secondary standards.

Under Chapter 403, Florida Statutues, Section 403.087, discharge permits for stationary installations (i.e., structures that may emit water contaminants in quantities prohibited by the rules) are required. Agricultural water management systems are exempt from this requirement under Chapter 403, Florida Statutes, Section 403.927(2), but are regulated pursuant to Chapter 373, Florida Statutues, Section 373.019. However, the ultimate point of discharge is still regulated by FDEP. Essentially, so long as the water in an agricultural management system remains within that particular system (e.g., an irrigation operation), no permit is required, but once the water leaves that particular system (the ultimate point of discharge), that discharge is then regulated. Therefore, when a farming activity pollutes water bodies outside the agricultural water management system, or the groundwater is polluted due to leaching, which causes distant points in the aquifer to be polluted, the farmer may be liable.

The Florida water management districts (FWMDs) have the power to control consumptive uses of groundwater, such as agricultural irrigation, in areas of known groundwater contamination. In other words, through Chapter 373, Florida Statutes, Sections 373.036–373.0698, FWMDs can restrict consumptive use through permitting when contamination is found.

Does Groundwater Discharge Include Stormwater Runoff?

Stormwater runoff is water flowing off the land into streams and the ground after a rainstorm. This stormwater is often contaminated with the chemicals and products used on the land off which the stormwater runs.

EPA regulates stormwater discharges associated with agriculture. At the time of publication, EPA exempts from permitting agricultural stormwater discharges and agricultural return flows composed entirely of return flow from irrigated areas. However, EPA does not exempt agricultural return flows that are not composed entirely of return flows from irrigated agriculture. For instance, a ditch containing fertilizers or pesticides entering navigable waterways is subject to the permitting requirements of the Clean Water Act. EPA has stricter stormwater runoff requirements for industrial and municipal runoff.

It is also important to note that the building of a structure (barn, stables, etc.) that disturbs more than one acre of ground (digging a foundation, setting pilings, etc.) needs a stormwater permit but only for the phase of active construction. Once construction is finished the stormwater permit is terminated.

What Are the Stormwater Permit Requirements?

Generally, permits will be issued only when an applicant can establish that the activity or installation in question will not degrade receiving waters below applicable standards. Test results and the installation of pollution control equipment are often required to guarantee such claims. The burden of proving entitlement to a permit is on the applicant.

In its rules, FDEP expressly provides that groundwater discharge considerations are to be incorporated into existing permit requirements. The main purpose of this rule is to prohibit discharging into groundwater where the discharge causes a violation of the water quality standards and groundwater minimum criteria. However, a *zone of discharge* (also known as a "mixing zone") may be established by permit or rule. A zone of discharge is a predefined three-dimensional area in the ground around an installation where more primary and secondary groundwater quality standards do not apply and effluents have an opportunity to diffuse or degrade somewhat before leaving the boundaries of the zone of discharge.

Three activities are currently not required to obtain a permit to maintain a zone of discharge unless the discharge threatens to violate groundwater standards at the boundary of the zone of discharge, violates minimum criteria, or otherwise threatens to impair the designated use of contiguous waters:

- Agricultural fields, ditches, and canals
- Livestock waste lagoons exempted under Florida Administrative Code Rule 62-670
- Stormwater facilities (special limitations apply)

It is important to note that these exemptions relate solely to Florida's zone of discharge permitting, not discharges directly into groundwater. Concerning nonpoint source pollution of water from the above agricultural activities, FDEP regulations state that when discharges from these bodies (e.g., canals and lagoons) reach common waters (e.g., rivers, lakes, and groundwater), the standards increase for pesticide residues and other contaminants. This rule requires the revocation of the exemption and requires a permit when an activity causes pollution. Essentially, an agricultural activity is exempt from zone of discharge permitting unless the discharge violates groundwater quality standards, in which case the discharge is treated like any other groundwater contamination and therefore subject to permitting. Also, contaminating common waters can result in both criminal and civil penalties. Farmers may gain the best results by following Best Management Practices (BMPs) in order to alleviate these problems. To access the agricultural BMP manuals approved by FDACS, see http://www.floridaagwaterpolicy.com/BestManagementPractices.html.

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