

## Introduction

This manual should be used as an aid in the use of Chapter 62-340, F.A.C. It will not answer every question that may arise in the use of the rule. It is not a substitute for the rule. Hands-on training will continue to be necessary to achieve and maintain a proficient understanding of wetland delineation.

The sole topic of this manual is the *identification and delineation of wetlands and other surface waters*. The definition of *wetlands* provides a categorization of the areas intended for inclusion in this process. The *regulation* of areas determined to be *wetlands and other surface waters* is **not** the topic of this manual. *Regulation*, including permitting thresholds and criteria, is covered under different rules and statutes and is not part of the wetland delineation methodology.

To aid Floridians in understanding the science and nuances of *wetland delineation*, this manual provides reference site examples of *wetland* identification and delineation as defined and prescribed in Chapter 62-340, F.A.C. Nineteen reference sites, at fifteen locations representing common wetlands in Florida, are described. Each site and the wetland delineation are discussed. The sites are located on public lands and are readily accessible to the public. In some cases prior notice will be necessary and a fee may be required to access some sites. Examples of altered sites are not provided because the community characteristics necessary to establish a firm boundary are generally masked or may be in a state of redevelopment.

This manual is structured to provide the reader with necessary information prior to discussing the actual mechanics of Chapter 62-340, F.A.C. Important preliminary discussions are found in this Introduction, in the section titled Applied Concepts and Interpretations of Chapter 62-340, F.A.C., and under Methodology in the subsection titled Delineation Procedures - Tools.

Several fundamental topics need to be understood prior to the use of this manual, and the rule: the wetland definition, reasonable scientific judgement, ecotones, and hydric soils.

## Wetland Definition

Chapter 62-340, F.A.C., *Delineation of the Landward Extent of Wetlands and Surface Waters*, provides a single methodology that is applicable statewide. While both *wetlands* and *other surface waters* are addressed by this rule, the primary focus is *wetlands*, the more complex of the topics. The intent of this rule is to identify and delineate as *wetlands* those areas found to be in accordance with the definition of *wetlands* provided in subsection 373.019(17), Florida Statutes.

*“Wetlands” means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support,*

*a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.*

This definition provides the concept for the types of areas intended to be included as *wetland*. A list of *wetland* types found in Florida is provided to assist in the interpretation of the terms and concepts of the definition. The list of wetland types is not all-inclusive of the *wetland* communities throughout the state however, and therefore the definition contains the phrase *other similar areas*. This phrase is intended to include the less common varieties of *wetland* communities, altered *wetlands*, and ecotonal areas which are *wetlands*. The definition also provides an example of community types that are generally not intended to be identified as wetlands, *long leaf and slash pine flatwoods with a dominant understory of saw palmetto*. During rule development this definition was used to shape the vegetative, hydrologic, and soil parameters used for wetland delineation.

## Reasonable Scientific Judgement

*Reasonable scientific judgement* is used several times throughout the rule and applies both to specific sections and to the overall application of the rule. *Reasonable scientific judgement* involves the ability to collect and analyze information using technical knowledge, and personal skills and experience to serve as a basis for decision making. Examples of situations where *reasonable scientific judgement* is very important include: ecotonal, seasonally wet or occasionally wet lands which are not the *wetlands* intended by the statutory definition, wetland communities dominated by non-listed plant species such as *Quercus virginiana* (live oak) and *Magnolia grandiflora* (southern magnolia), i.e. hydric hammock, altered areas which still have relict wetland vegetation and /or hydric soils but may have lost the hydrology necessary to maintain a wetland condition, and *wetland* ecotones, especially throughout south Florida. When employing the provisions of section 62-340.300, F.A.C., an area may be identified or delineated as a *wetland* only to the extent that it is a *reasonable scientific judgement* that the area adheres to the wetland definition. The definition should be read often!

## Ecotones

The rule is used both to identify areas as wetlands and to delineate their boundaries. Delineating the boundaries between wetlands and uplands often involves evaluations in areas with a broad transition zone. This type of area is referred to as an *ecotone*. An *ecotone* is an area where two or more communities grade into each other. The *wetland* boundary line is often located within an *ecotone*. Understanding the concept of *ecotone* is necessary to use this rule. It is in the *ecotones*, those areas of shared or gradually changing attributes, that *reasonable scientific judgement* is often put to its greatest use.

## Hydric soils

*Hydric soils* play an integral role in defining *wetland* limits. The terms *hydric soil* and *wetland* are neither equivalent, nor interchangeable under Florida law. *Hydric soils* are present in some flatwoods which are not *wetlands* as statutorily defined. Conversely, there are some site specific exceptions where hydric soil indicators are absent or are very difficult to interpret in *wetlands*. Hydric mapping units delineated in county soil surveys make excellent initial review information, but *in-situ* (in place) confirmation of hydric soil indicators by the regulating agency is required. Hydric mapping units of a county soil survey can not substitute for in-situ observations by experienced soil scientists.

Hydric soils are formed by either inundation or saturation for very long periods of time (USDA - SCS, 1991). The United States Department of Agriculture - Natural Resource Conservation Service (USDA - NRCS), formerly the Soil Conservation Service, has identified four morphologic features which are consistent with a long-term water table at or above the surface (subsection 62-340.550(8), F.A.C.). Using reasonable scientific judgement, the presence of one or more of these four morphologic features, in an *undrained condition*, provides reliable evidence that the site is very wet for an extended period of time and is typically considered a *wetland*. Similarly, in the *undrained condition* (subsection 62340.300(2)(c), F.A.C.), the remaining soil indicators (USDA - NRCS, 1992) provide evidence that the water table rises to within six inches of the soil surface for sandy textured soils and to within twelve inches for loamy and clayey soils for long periods of time. These saturation indicators do not exclude the possibility of inundation for a site. They also do not by themselves define an area as a wetland.

Certain types of hydric soils can be used as the sole basis for a wetland delineation. The very wet mapping units, those designated as frequently flooded or depressional, along with soil *great groups* considered very poorly drained by the USDA - NRCS, are wetlands, provided that careful site verification of the extent and the hydric nature of the soil is conducted. These very poorly drained (very wet) soils, in their *undrained condition* (subsection 62-340.300(2)(c), F.A.C.) are always contained within the definition of wetlands, unlike hydric soils in general which can extend beyond the boundaries of *wetlands* as defined in Chapter 62-340, F.A.C. Because soils can be a very powerful aspect of wetland delineation, identification of hydric soils should be performed by a trained soil scientist. This does not prevent the use of some of the more obvious soil features by other trained professionals; however, there is no substitute for field expertise.

