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Purpose

Understanding Federal and State wetland regulations can be complicated. Often, an individual may be uncertain of what a wetland is, what activities are permissible in wetlands, what permits or certifications may be required, which State and Federal agencies need be involved, and what the procedures are for acquiring necessary permits or certifications. This guide is designed to answer many of these questions as well as provide other pertinent wetland-related information in a simple manner.

Wetlands Defined

Examples of Wetlands

- ❑ Salt Marsh
- ❑ Freshwater Marsh
- ❑ Forested Wetlands
- ❑ Lakes or Ponds
- ❑ Swamps & Bogs
- ❑ Carolina Bays

A great deal of legislation has been enacted to regulate and manage wetlands. As a result, it has become necessary to define what a wetland is. This definition has evolved over the last 20 years, reflecting political, economic, and scientific interests. Wetlands are often located between upland and aquatic habitats and share the characteristics of these habitats, but often have unique characteristics not found in either. This often results in wetlands having increased plant and animal diversity. We most often recognize wetlands where the water table is at or near the surface or where the land is covered by shallow waters. However, while some wetlands such as marshes, swamps and bogs are easy to recognize, being periodically or permanently covered with standing or flowing water, others are more difficult to identify because they are infrequently saturated. You can often walk in these wetlands without getting your feet wet. Coastal wetlands, influenced by the tides, may be either wet or dry depending on the stage of the tide. Wetlands can be as small as a fraction of an acre or as large as several thousand square miles. No two wetlands are exactly alike, but all wetlands include three common features:

- Hydrology
- Hydrophytic Vegetation
- Hydric Soils

WETLAND HYDROLOGY is the driving force in any wetland system and results from permanent or periodic inundation, or soil saturation to the surface, at least seasonally. The presence of water for one week or more during the growing season causes anaerobic conditions which results in certain plants and soil types. Hydrology is affected by precipitation, topography, stratigraphy, soil permeability, and plants. Water may come from direct precipitation, overbank flooding, snow melt, groundwater discharge, or tidal flooding. Indicators of wetland hydrology include water stained leaves, and oxidized channels along living roots.

HYDROPHYTIC VEGETATION is defined as macrophytic plant life growing in water, soil, or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. These plants may exhibit structural or morphological adaptations to cope with living conditions in the wetland environment. Indicators of hydrophytic vegetation include shallow roots, floating leaves, and buttressed tree trunks.

HYDRIC SOILS are defined as those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper soil horizon. In general, this is a time period longer than one week when the temperatures are greater than 41° F. Due to wetness during the growing season, hydric soils usually develop morphological properties which can be observed in the field. Prolonged anaerobic conditions typically lower soil redox potential which increases chemical reduction of some soil components, mainly iron oxides and manganese oxides. This reduction affects solubility, movement, and aggregation of these oxides which is reflected in soil color. Indications of hydric soils include an 8-16" layer of rich organic soil on top of a layer of mineral soil.

Wetland Functions and Values

Wetland Functions
- ❑ Primary Production
- ❑ Nutrient Export
- ❑ Water Purification
- ❑ Erosion Control
- ❑ Recreation & Aesthetics
- ❑ Education & Research
- ❑ Floodwater Storage

The function of a wetland is what the wetland ecosystem does within terms of community maintenance. Not all wetlands have all the functions listed below. Value is a human concept, usually related to cultural values. Functions never change; however, wetland values change with human perception. Wetlands are valued for timber, agriculture, mining, wildlife, recreation, food, and for science. Commonly accepted functions of wetlands include:

❑ Primary productivity and nutrient export - Wetlands are very efficient primary producers and have abundant food and water supply needed for photosynthesis.

❑ Water purification - Wetlands are efficient at removal of materials from water. Sediments are removed physically while nutrients and metals are removed biologically.

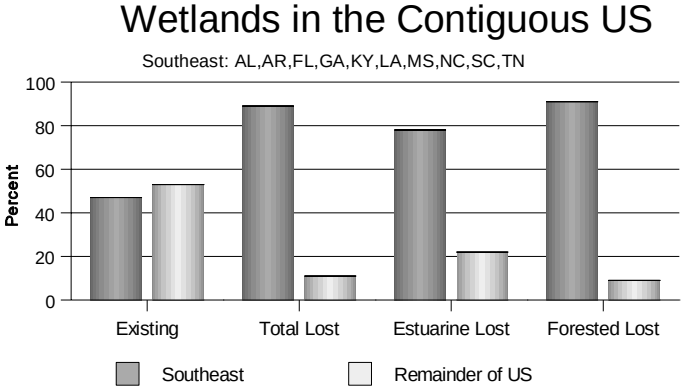
❑ Habitat - Wetlands are excellent fish and wildlife habitats due to high productivity. They also serve as a refuge for animals from adjacent uplands during periods of stress.

❑ Shoreline protection and erosion control - Wetland vegetation reduces water velocity. Roots bind soil particles and the above-ground vegetation may dampen flow rates.

❑ Floodwater storage and slowing - Riverine wetlands may store water during floods and slowly release it to downstream areas.

❑ Recreation and aesthetics - Wetlands serve as sites for hunting, fishing, and observing birds and other wildlife. They provide open space for recreational and visual enjoyment.

❑ Education and research - Wetlands provide opportunity for nature observation and scientific study.



Wetlands occur in all 50 states with more than half of all wetlands in the 48 contiguous states lost since the early 1700's (221 million acres to 104 million acres). Many states (CA, MI, MN, LA, ND) have lost most of their original wetlands. Almost half of all wetlands in the contiguous United States (48.9 million acres) occur in the south-east. Of all wetland losses, 89% (2.3 million acres) have occurred in the southeast. Losses in South Carolina are not well documented but do not appear to be as extensive as in other states. South Carolina is a wetland rich state. About 4.5 million acres, or about 23% of the state, are wetlands with approximately 90% of these freshwater and 10% coastal wetlands.

Wetland Regulation

Resource Agencies
- ❑ US Army Corps of Engineers
- ❑ SCDHEC - EQC
- ❑ SCDHEC - OCRM
- ❑ US Fish & Wildlife Service
- ❑ US EPA
- ❑ National Marine Fisheries Service
- ❑ SC Dept. of Natural Resources
- ❑ SC Dept. of Archives & History

In South Carolina, there is no comprehensive program or single agency responsible for wetlands protection and regulation. The EPA and the U.S. Army Corps of Engineers are responsible for administering the federal program for regulating development in wetlands. The Corps implements the program with guidelines established by EPA. The Corps delineates wetlands and determines which wetlands fall under regulatory jurisdiction and require a federal permit for development. The Charleston District Corps of Engineers has jurisdiction for the entire state of South Carolina except for the lower Savannah River which is regulated by the Savannah District Corps. A listing of the agencies that are or may become involved with wetland related projects is listed in the adjacent box and their addresses are listed at the back of this guide.

The US Army Corps of Engineers

Activities Affecting Wetlands
- ❑ Dredging & Channelization
- ❑ Water control structures
- ❑ Mining & Drainage
- ❑ Wastewater discharges
- ❑ Filling for roads & development
- ❑ Construction

The permit process for wetland alterations most often involves Sections 404 (for Dredge and Fill activities) and 401 (Water Quality Certification) of the federal Clean Water Act. Several steps in the permitting process are set in motion once an application for wetland alteration is submitted. These pertain to the federal-level review of the proposed project and a corresponding state review of the federal permit action. Except in cases of exempt activities, those with minimal adverse effects, or no discharge, the Corps must find that there are no practicable alternatives that are less environmentally damaging and that the permit would not be contrary to the public interest. No permit will be granted which involves the alteration of wetlands considered to perform functions important to the public interest or where the cumulative effect of numerous piecemeal changes can result in a major impairment of wetland resources. Thus, the particular wetland site for which an application is made is evaluated in light of its role in a complete and interrelated wetland area unless the Corps concludes on the basis of the public interest review that the benefits of the proposed alteration outweighs the damage to the wetlands resource. In evaluating whether a particular discharge activity should be permitted, the Corps applies the Section 404(b)(1) guidelines requiring, in sequence, the avoidance of the wetland impact where feasible, minimization of impacts where practicable, and compensation for any unavoidable impacts through mitigation measures.

The general criteria provide guidance for regulators in determining whether a proposed project is in the public interest. These are:

- the relative extent of public and private need for the proposed project
- the availability and practicability of alternative sites and methods for the project;
- the extent and permanence of public and private beneficial and detrimental effects;
- whether or not the project is "water dependent." Water dependent activities are activities which must be located in or close to the aquatic environment and include bridge crossings of streams and rivers as well as marinas on lakes and reservoirs.

EPA's Section 404(b)(1) guidelines require that five general conditions be satisfied in order to issue a permit. No permit should be issued if:

- there is a practicable alternative which would have less impact;
- the discharge would violate any applicable legal standards;
- it would result in significant degradation of the waters of the U.S.;
- the project is not water dependent
- unless appropriate and practicable steps have been taken to minimize potential adverse effects.

Activities Exempt from Regulation under Section 404

- ❑ Normal farming, silviculture, and ranching practices
- ❑ Maintenance of existing serviceable structures (dikes, dams, riprap, bridge abutments)
- ❑ Construction or maintenance of farm or stock ponds and irrigation ditches and maintenance of drainage ditches
- ❑ Temporary sedimentation basins on construction sites if fill is not in a navigable waterway
- ❑ Construction or maintenance of farm or forest or temporary mining roads where Best Management Practices (BMPs) are used

The South Carolina Department of Health and Environmental Control
Environmental Quality Control

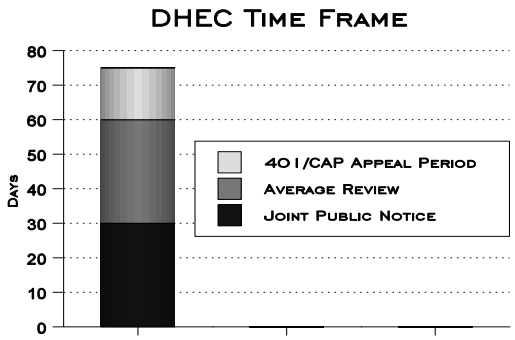
The primary focus of the 401 Water Quality Certification for impacts in wetlands is on the role wetlands play in the protection of water quality of surface waters and the uses of those waters. The state addresses physical and hydrological impacts on wetlands and water quality to protect existing uses and prevent degradation. The Department may waive, issue with conditions, or deny a 401 Water Quality Certification. Certification is denied if the activity will have permanent adverse effects on existing or designated uses. The federal 404 Permit from the Corps will not be issued without the associated state action of a Section 401 Water Quality Certification and/or a Coastal Zone Consistency determination. Section 401 Certification considers:

- whether the activity is water dependent
- the intended purpose of the activity
- whether there are feasible alternatives to the activity
- all potential water quality impacts associated with to the project, both direct and indirect, over the life of the project, including impacts on existing and classified uses; physical, chemical, and biological impacts, including cumulative impacts; the effect on circulation patterns and water movement; and the cumulative impacts of the proposed activity and reasonably foreseen similar activities of the applicant and others.

Permit requirements vary according to the type of activity proposed and the specific wetland situation. Contact the appropriate regulatory agency listed on Page 8 of this guide for clarification if you are not sure about permit requirements.

South Carolina Department of Health and Environmental Control

The Office of Ocean and Coastal Resource Management (OCRM)



OCRM involvement in the wetland permitting process is triggered if the proposed wetland alteration takes place in the costal zone or the critical area. The **Coastal Zone** is the area represented by South Carolina's eight coastal counties, Horry, Georgetown, Charleston, Berkeley, Dorchester, Colleton, Beaufort, and Jasper. The **Critical Area** is the area seaward of the line marking the limit of salt tolerant vegetation (ie. coastal waters, tidelands, beaches, and primary ocean front sand dunes). Projects within the critical area are reviewed by OCRM, and if consistent with the Coastal Zone Management Program, are issued a Critical Area Permit (CAP). If a project is outside of the critical area, but within the Coastal Zone, OCRM will review the project for consistency with the Coastal Zone Management Program. In general, OCRM will not approve a project proposal unless:

- no feasible alternatives exist or an overriding public interest can be demonstrated
- any substantial environmental impacts can be minimized

Applicants need only apply with the Corps of Engineers, not with each of the respective agencies. The Corps will coordinate with the appropriate State agencies.

Nationwide Permits

The Corps of Engineers has developed 39 nationwide or general permits for several categories of activities whose wetland impacts are considered minimal. To apply, a Pre-Construction Notification must be submitted to the Corps using the Joint Federal and State Application Form. Activities are then reviewed by DHEC and the Corps, generally a more expedited review than the individual permit process. Certifications are issued with regional conditions as prescribed by DHEC on February 11, 1997. If certification is not issued, the proposed work may need to undergo a more thorough evaluation through the individual 404/401 permit process. Activities covered by the Nationwide Permit include bank stabilization, road crossings, temporary construction, access and dewatering, and boat ramps.

Mitigation

Mitigation
- ❑ Avoidance
- ❑ Minimization
- ❑ Compensation
  - restoration
  - enhancement
  - creation
  - preservation

Mitigation is a process designed to minimize or compensate for unavoidable wetland impacts when a permit is issued. The steps in the mitigation process should be observed by the applicant prior to any alteration of a wetland site is begun. The process consists of avoidance first, followed by minimization, and then compensation. **Avoidance** involves an evaluation of the project goals for necessity, water dependancy, public benefit, and upland alternatives. **Minimization** involves the investigation of alternatives that will result in the least amount of wetland impact possible, while still achieving the project goal. **Compensation** involves an action to offset for wetland impacts and can take on various forms; wetland restoration, wetland enhancement, wetland creation, upland buffering, or wetland preservation. On-site compensation is preferred to off-site compensation, and the acreage of wetland impact must be compensated for on at least a one-to-one basis. In some instances, the applicant may have neither an on-site nor off-site compensation alternative. Depending on the circumstances, credits may be purchased from a mitigation bank. Mitigation is required by both the Corps of Engineers and the SCDHEC. Instructions for computing required mitigation is detailed in the Standard Operating Procedures document available from the Corps. Compensation alternatives are often required to be protected forever by placing those wetlands in a deed restriction or conservation easement.

12 Step DHEC Certification Process

1. Applicant obtains and completes application form.
2. Submits original to the US Army Corps of Engineers (Corps), Charleston District.
3. Corps reviews application for completeness.
4. Corps mails completed Joint Public Notice to appropriate individuals and agencies.
5. DHEC receives Joint Public Notice from Corps.
6. DHEC sends applicant copy of fee ($50 or $500) and public notice requirements.
7. DHEC evaluates the information provided and determines if additional information needed. If so, applicant is contacted.
8. DHEC waits for: 30 day comment period to end, receipt of fee, affidavit of public notice and any requested information.
9. DHEC prepares staff assessment of water quality and wetland impacts.
10. DHEC-EQC mails Notice of Proposed Decision (NOPD) to applicant, adjacent property owners, agencies, and commentors; DHEC-OCRM receives recommendation from DHEC-EQC, makes permit decision, mails draft to applicant.
11. DHEC-EQC waits 15 day appeal period; DHEC-OCRM waits 10 day appeal period.
12. If no appeals received, DHEC mails appropriate final State Certification or permit to the applicant and the Corps.

Navigable Waters Permit Process

A permit for a wetland-altering activity in an area outside of the Coastal Zone which is notsubject to federal jurisdiction may require a State Navigable Waters Permit if the impact is belowthe mean high water or ordinary high water mark. Prospective applicants should contact DHEC-EQC for an application, not the Corps of Engineers. The process is similar to that above,involving a fee, a public notice, and a public appeal period.