

USER REPORT: GEORGETOWN NW, FLORENCE SW

A. INTRODUCTION

The U.S. Fish and Wildlife Service's National Wetland Inventory is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. The Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. is the classification system used to define and classify wetlands. Photo interpretation conventions, hydric soils lists, and wetland plant lists are also available to enhance the use and application of the classifications system.

B. PURPOSE

The purpose of the notes to users is threefold: (1) to provide localized information regarding the production of NWI maps, including specific imagery and interpretation discussion; (2) to provide a descriptive crosswalk from wetland codes on the map to common names and representative plant species; and (3) to explain local geography, climate, and wetland communities.

C. STUDY AREA

Geography:

The study area covered by Georgetown NW and Florence SW is located in the south central portion of South Carolina. Bailey (1980) identifies the study area as the Southeastern Mixed Forest Province. The area is generally located on the irregular Gulf Coastal Plains and the Piedmont. In this region fifty to eighty percent of the land surface is gently sloping. The relief on the Coastal Plains is generally 100 feet to 600 feet. The Piedmont relief increase to generally 300 feet to 1,000 feet. Rivers and streams are numerous and usually sluggish. Marshes, lakes, and swamps are numerous.

Climate:

The climate is generally uniform throughout the Province. Hot humid summers and mild winters are the rule. The average annual temperatures range from sixty degrees to seventy degrees Fahrenheit. Average annual precipitation ranges from forty inches to sixty inches. Generally the precipitation is distributed fairly evenly throughout the year, with slightly higher amounts during the growing season. In most years precipitation exceeds evaporation. The growing season ranges from 200 days to 300 days. Frost occurs nearly every winter and snow rarely accumulates.

Vegetation:

The climax vegetation is medium tall to tall forests of broadleaf deciduous, broad leaf evergreen, and needleleaf evergreen trees. A minimum of fifty percent of these forests consist stands of loblolly pine, slash pine, or other southern yellow pine, singly or in combinations. Other common wetland trees include oaks, gums, red maple, bays, and tupelo.

Soils:

Vitisols dominate throughout the region. These are soils that are, unless drained, saturated with water at some time of the year and have the characteristic mottling associated with an anaerobic state. Vertisols, exhibiting wide, deep cracks when dry are also common. Major floodplains are generally Inceptisols. The soils have a characteristic aquic, or wet regime. Inceptisols are good wetland soils and are productive if drained for farming.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE - COWARDIN CLASSIFICATION CODES AND DESCRIPTIONS

NWI CODE (Water Regime)	NWI DESCRIPTION	COMMON DESCRIPTION	VEGETATION/SUBSTRATE
E1UB (L)	Estuarine, subtidal unconsolidated bottom	Intracoastal waterways including: bays, inlets and adjacent salt marshes	Unconsolidated bottom
E2EM1 (P)	Estuarine, intertidal, emergent persistent	Salt Marsh	<u>Phragmites</u> sp. <u>Cladium</u> sp. (sawgrass)
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	River or drainage ditches	Unconsolidated bottom
L1UB (H)	Lacustrine, limnetic unconsolidated bottom	Lake	Unconsolidated bottom
L2AB3 (G,H)	Lacustrine, littoral, aquatic bed rooted vascular	Lake marshes	<u>Nymphaea</u> sp. (waterlily) <u>Nelumbo lutea</u> (American lotus)
L1AB4 (H)	Lacustrine, limnetic, aquatic bed, floating vascular	Lake	<u>Lemna</u> spp. (duckweed)
PUB (F,G,H)	Palustrine, unconsolidated bottom	Pond	Unconsolidated bottom
PAB3 (G,H)	Palustrine, aquatic bed, rooted vascular	Ponds or deep marshes	<u>Nymphaea</u> sp. (waterlily) <u>Nelumbo lutea</u> (American lotus)
PAB4 (G,H)	Palustrine, aquatic bed, floating vascular	Pond	<u>Lemna</u> spp. (duckweed)

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PEM1 (A,C,F,G)	Palustrine, emergent persistent	Ponded prairies, marshes, depressions or drainage areas	<u>Typha latifolia</u> (cattail) <u>Polygonum</u> sp. (smartweed) <u>Panicum</u> sp. (maidencane) <u>Juncus</u> sp. (rush) <u>Andropogon virginicus</u> (broomsedge) <u>Xyris</u> spp. (grasses)
PSSI (A,C,F,G)	Palustrine, scrub shrub, broad-leaved deciduous	Willow thicket	<u>Salix</u> sp. (willow) <u>Populus heterophylla</u> (swamp cottonwood) <u>Acer rubrum</u> (red maple) <u>Liquidambar styraciflua</u> (sweetgum) <u>Nyssa sylvatica</u> (blackgum)
PSS7 (A,B,C)	Palustrine, scrub shrub, mixed evergreen	Shrub forest	<u>Persea borbonia</u> (red bay) <u>Myrica cerifera</u> (wax myrtle) <u>Magnolia virginiana</u> (sweetbay) <u>Pinus taeda</u> (loblolly pine) <u>Pinus serotina</u> (pond pine) <u>Cyrilla racemiflora</u> (titi)

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PFO1 (A,C,F)	Palustrine,forested broad-leaved deciduous	Floodplains, swamps or depressions	<u>Acer rubrum</u> (red maple) <u>Liquidambar styraciflua</u> (sweetgum) <u>Liriodendron</u> <u>tulipifera</u> (tulip poplar) <u>Quercus nigra</u> (water oak) <u>Ulmus americana</u> (American elm) <u>Betula nigra</u> (River birch) <u>Salix</u> sp. (willow) <u>Nyssa sylvatica</u> (blackgum) <u>Nyssa aquatica</u> (water tupelo) <u>Quercus laurifolia</u> (laurel oak)
PFO4 (A,B,C)	Palustrine, forested, needle- leaved evergreen	Pine flatwoods	<u>Pinus taeda</u> (loblolly pine) <u>Pinus serotina</u> (pond pine) <u>Chamaecyparis thyoides</u> (Atlantic White Cedar)
PFO7 (A,B,C)	Palustrine forested, mixed evergreen	Bay Swamp/Pine Flatwoods	<u>Magnolia virginiana</u> (Sweetbay) <u>Persea borbonia</u> (red bay) <u>Pinus taeda</u> (loblolly pine) <u>Pinus serotina</u> (pond pine)

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PFO6 (C,F)	Palustrine, forested, mixed deciduous	Sloughs,swamps	<u>Taxodium distichum</u> (bald cypress) <u>Nyssa aquatica</u> (water tupelo) <u>Nyssa sylvatica</u> (blackgum) <u>Liquidambar</u> <u>styraciflua</u> (sweetgum) <u>Acer rubrum</u> (red maple) <u>Salix sp.</u> (willow)
PFO3 (A,B,C)	Palustrine, forested, broadleaf evergreen	Bays, pocosins	<u>Magnolia virginiana</u> (sweet bay) <u>Persea borbonia</u> (red bay) <u>Gordonia lasianthus</u> (loblolly bay)

E. Water Regime Description

Tidal

Salt and Brackish Areas - Marine and Estuarine Systems

- (L) Subtidal- The substrate is permanently flooded with tidal water.
- (M) Irregularly Exposed - Land surface is exposed by tides less often than daily. This corresponds to the area on NOS charts from seaward edge of light green tone (mean low water) to depth contour approximating extreme low water.
- (N) Regularly Flooded - Tidal water alternately floods and exposes the land surface at least once daily.
- (P) Irregularly Flooded - Tidal water floods land surface less often than daily. The area must flood by tide at least once yearly as a result of extreme high spring tide.

Freshwater Tidal Areas - Lacustrine, Palustrine and Riverine Systems.

- (N) Regularly Flooded - Fresh tidal water alternately floods and exposes the land surface at least once daily.
- (R) Seasonally Flooded - Tidal
- (S) Temporarily Flooded - Tidal
- (T) Semipermanently Flooded - Tidal
- (V) Permanently Flooded - Tidal

Non-Tidal

- (A) Temporarily Flooded - Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Plants that grow both in uplands and wetlands are characteristic of this water regime.
- (B) Saturated - The substrate is saturated to surface for extended periods during the growing season, but surface water is seldom present.

- (C) Seasonably Flooded - Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is extremely variable, extending from saturated to a water table well below the ground surface.
- (F) Semipermanently Flooded - Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.
- (G) Intermittently Exposed - Surface water is present throughout the year except in years of extreme drought.
- (H) Permanently Flooded - Water covers land surface throughout the year in all years.
- (K) Artificially Flooded - The amount and duration of flooding is controlled by means of pumps or siphons in combination with dikes or dams.

General Note: Table 1

In the Palustrine Forested NWI codes, the split subclasses will be meant to also include the inverse subclasses. However, the vegetation characteristics will be the same only in different percentages.

Also, any split classes will generally contain those vegetation characteristics found in the singular class.

F. MAP PREPARATION

The wetland classification that appears on the Augusta NW, Augusta SW, Augusta NE and Augusta SE National Wetlands Inventory (NWI) Base Map is in accordance with Cowardin et. al. (1977). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was flown in 1983 and 1984.

Field checks of specific signatures were made prior to the actual delineation of wetlands. These photographic signatures were identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic quadrangles, SCS soil surveys, climate information, hydric soils lists, hydric plant lists, and ecoregional information.

The user of the map is cautioned that, due to limitations of mapping primarily through aerial photointerpretation, a percentage of wetlands may have gone unidentified. Since the photography was taken during a particular time and season, there may be discrepancies between the map and current field conditions. Changes in landscape which occurred after the photography was taken would result in such discrepancies.

Aerial photointerpretation and drafting were completed by Geonex Inc., St. Petersburg, Florida.

G. SPECIAL MAPPING PROBLEMS

None.

H. MAP ACQUISITION

To discuss any questions concerning these maps or to place a map order, please contact:

John Hefner
Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region IV
R.B. Russell Federal Building
75 Spring Street S.W.
Atlanta, GA 30303

To order maps only, contact:

National Cartographic Information Center
U.S. Geological Survey
National Center
Reston, VA 22092

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indices are available from the U.S. Geological Survey.

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LITERATURE CITED

Bailey, Robert G. 1980. Description of the Ecoregions of the United States; United States Department of Agriculture Forest Service. Miscellaneous Publications No. 1391.

Cowardin, L.M.; V. Carter; F.C. Golet and E.T. LaRoe; 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service. Biological Services Program, Washington, D.C., 103 p.

Harrar, Ellwood S. and J. George Harrar. 1962. Guide to Southern Trees. Dover Publishing Co.

Keys to Soil Taxonomy, 1985, United States Department of Agriculture, Soil Management Support Services. Agronomy Department, Cornell University, Ithaca, New York.

Soil Survey of Aiken County, South Carolina, 1981. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Bamberg County, South Carolina, 1966. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Barnwell County, South Carolina, 1977. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Berkley County, South Carolina, 1980. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Calhoun County, South Carolina, 1963. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Edgefield County, South Carolina, 1981. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Lee County, South Carolina, 1963. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Orangeburg County, South Carolina, 1988. United States Department of Agriculture, Soil Conservation Service.

Soil Survey of Saluda County, South Carolina, 1962. United States Department of Agriculture, Soil Conservation Service.