

USER REPORT: BEAUFORT NW;
FLORENCE NE & SE; GEORGETOWN NE
NATIONAL WETLANDS INVENTORY MAPS

CONFIDENTIAL

A. INTRODUCTION

The U.S. Fish & Wildlife Service's National Wetlands 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 classification 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 Beaufort NW, Florence NE and SE, and Georgetown NE is located in southeastern North Carolina (Appendix A). Bailey (1980) identifies the study area as the Southeastern Mixed Forest Province. Forest communities consist of a variety of broadleaf deciduous and needleleaf evergreen trees. Relief is flat to gently sloping and contains a multitude of swamps, lakes and slow-moving streams and rivers. Major perennial rivers in the study area include the Cape Fear, White Oak, and South River.

Climate:

The climate for this region is fairly uniform with hot, humid summers and mild winters (60-70 degrees Fahrenheit average annual temperature). High rainfall amounts, ranging from 40-60 inches, is evenly distributed over the year (Bailey, 1980).

Vegetation:

According to Bailey, the climax community of the Southeastern Mixed Forest Province consists of medium tall to tall broadleaf deciduous and needleleaf evergreen trees. At least half of forest stands consist of pines (shortleaf, loblolly, and southern yellow) and are found primarily in upland areas. Common deciduous trees are sweetgum, red maple, oaks and blackgum. Cypress and gums predominate in swamps. Bogs or pocosins, found in shallow depressions, support thick stands of evergreen shrubs.

Soils:

A wide variety of upland and wetland soils are present in the study area, ranging from sand to heavy clays. Floodplain soils are generally very poorly drained, supporting such soil groups as the Chowan, Dorovan, Muckalee, Bibb and Johnston.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table - Cowardin Classification Codes and Descriptions (1 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
E1UB (L)	Estuarine, subtidal unconsolidated bottom	Intra-coastal waterways, including: bays, inlets, and adjacent salt marshes	Unconsolidated bottom
E2US (N,P)	Estuarine, intertidal unconsolidated shore	Beach, flats	Sand
E2EM1 (N,P)	Estuarine, intertidal, emergent persistent	Salt Marsh	<u>Spartina alterniflora</u> (smooth cordgrass) <u>Spartina cynosuroides</u> (big cordgrass) <u>Distichlis spicata</u> (saltgrass) <u>Juncus roemerianus</u> (black needlerush)
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)
PEM1 (A,C,F, G,T)	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>Cladium</u> sp. (sawgrass) <u>Juncus</u> sp. (rush) <u>Andropogon virginicus</u> (broomsedge) <u>Xyris</u> sp. (grasses)

Table - Cowardin Classification Codes and Descriptions (2 of 2)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PSSI (A,B,C,F)	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)
PSS3 (A,B)	Palustrine, scrub shrub, broad-leaved evergreen	Shrub bog	<u>Persea borbonia</u> (red bay) <u>Myrica cerifera</u> (wax myrtle) <u>Magnolia virginiana</u> (sweetbay) <u>Gordonia lasianthus</u> (loblolly bay)
PSS7 (A,B,C,R)	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) <u>Juniperus</u> sp. (juniper)
PF01 (A,B,C, F,T)	Palustrine, forested, broad-leaved deciduous	Floodplains, swamps or depressions	<u>Acer rubrum</u> (red maple) <u>Liquidambar styraciflua</u> (sweetgum) <u>Liriodendron 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)
PF04 (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)
PF07 (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)
PF06 (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 styraciflua</u> (sweetgum) <u>Acer rubrum</u> (red maple) <u>Salix</u> sp. (willow)

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 highspring 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 substance 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.

F. MAP PREPARATION

The wetland classification that appears on the Beaufort NW, Florence NE and SE, and Georgetown NE National Wetlands Inventory (NWI) Base Map (Table 1) is in accordance with Cowardin et al. (1979). The delineations were produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The photography was taken during March and April in 1981, 1982, and 1983.

Field checks of areas found within Beaufort NW, Florence NE and SE, and Georgetown NE photography were made prior to the actual delineation of wetlands. Field check sites were selected to clarify varying signatures found on the photography. These photographic signatures were then identified in the field using vegetation types and soil types, as well as additional input from field personnel.

Collateral data included USGS topographic maps, SCS soil surveys, climate, vegetation, and ecoregional information.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photointerpretation, a small 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 Martel Laboratories, 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:

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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.

gc:d

INFORMATION SOURCES

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APPENDIX A
1:250,000 - Scale Index Map

