

NATIONAL WETLANDS INVENTORY MAPS

DRAFT
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 the Brunswick NW, Savannah SW and NW base maps is located in eastern Georgia along the Atlantic coastline (Appendix A). The study area, according to Bailey (1980), lies within the Outer Coastal Plain Forest Province (Beech-Sweetgum-Magnolia-Pine-Oak Forest Section.) Topographically, the study area is generally flat, except for the westernmost portion where elevations range between 100 and 200 feet. Climax communities include medium tall to tall broadleaf deciduous and needleleaf evergreen forest, evergreen shrub communities (pocosins) and bay forest (bayheads).

Major rivers draining the project area include the Savannah, Ogeechee and Altamaha.

Climate:

The precipitation averages 50 inches per year. The average annual temperature ranges between 60° and 70°F. The summers are hot and humid, while the winters are usually mild. Summer precipitation results from thunderstorm frequency, and the rest of the year may be influenced by frontal precipitation.

Vegetation:

According to Bailey, the study area is characterized as the Temperate Rainforest. Common forest communities include broadleaf deciduous trees such as red maple, sweetgum, laurel oak, water oak, elm and blackgum. Broadleaf evergreen forest occurs throughout the southern and eastern portion of the study area. These communities, commonly known as bayheads, contain a mix of bay and magnolia trees interspersed with pines and evergreen shrub understories. Bald cypress habitat also occurs in the low-lying areas throughout the study area. Extensive areas of upland and wetland communities have been replanted with stands of pine.

Soils:

Temperate rainforest grows on a wide variety of upland and wetland soils. Generally speaking, these soils are characteristically wet, acidic and low in major plant nutrients. The soils are derived mainly from Coastal Plain sediments, ranging from heavy clay to gravel, but sandy materials predominate. Silty soils occur on expansive level areas.

Soil groups representative of wetland habitats may include the Angelina-Bibb, Capers, Chastain-Tawcaw, Ellabelle, Grady, Meggett, Pelham, Swamp and Tidal Marsh associations. These are level to nearly level soils that are poorly drained and have a high water table. They are composed of sandy to clayey or loamy subsoil and are subject to seasonal flooding. Soils occurring along the well-developed floodplains, such as the Savannah River, are commonly comprised of recent alluvial deposits.

D WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

TABLE - Cowardin Classification Codes And Descriptors

(WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
M1UB (L)	Marine, sub-tidal unconsolidated bottom	Atlantic Ocean	Unconsolidated bottoms
M2US (M,N,P)	Marine, intertidal unconsolidated shore	Beaches or exposed tidal flats	Sand and shell fragments
E1UB (L)	Estuarine, sub-tidal unconsolidated bottom	Intracoastal waterways including: bays, inlets, and adjacent salt marshes	Unconsolidated bottoms
E2US (M,N,P)	Estuarine, intertidal unconsolidated shore	Beaches, bars, or flats	Sand or mud
E2EM1 (N,P)	Estuarine, intertidal emergent, persistent	Salt marsh	<u>Spartina</u> (cordgrass) <u>Juncus roemerianus</u> (black needlerush)
E2SS3 (P)	Estuarine, intertidal scrubshrub, broad-leaved evergreen	High marsh shrub	<u>Iva frutescens</u> (marsh elder) <u>Myrica cerifera</u> (wax myrtle) <u>Baccharis halimifolia</u> (saltbush)
E2SS7 (P)	Estuarine, intertidal scrubshrub evergreen	High marsh shrub	<u>Myrica cerifera</u> (wax myrtle) <u>Juniperus silicicola</u> (southern red cedar) <u>Magnolia virginiana</u> (sweet bay) <u>Iva frutescens</u> (marsh elder) <u>Baccharis halimifolia</u> (saltbush)
E2FO7 (P)	Estuarine, intertidal forested evergreen	Coastal hammock	<u>Juniperus silicicola</u> (southern red cedar) <u>Pinus</u> spp. (pines)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
E2FO7 (P)	(cont'd.)		<u>Magnolia virginiana</u> (sweet bay)
R1UB (V)	Riverine, tidal unconsolidated bottom	Rivers	Unconsolidated bottoms
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Rivers or drainage ditches	Unconsolidated bottoms
L1UB (H)	Lacustrine, limnetic, unconsolidated bottom	Lakes	Unconsolidated bottoms
L2AB3 (G,H)	Lacustrine, littoral, aquatic bed rooted vascular	Lake marshes	<u>Nuphar luteum</u> (yellow pond lily) <u>Nymphaea odorata</u> (white water lily) <u>Nelumbo lutea</u> (American lotus)
L1AB4 (H)	Lacustrine, aquatic bed, floating vascular	Lakes	<u>Lemna</u> spp. (duckweed)
PUB (F,G,H)	Palustrine, unconsolidated bottom	Ponds	Unconsolidated bottoms
PAB3 (G,H)	Palustrine, aquatic bed rooted vascular	Ponds or deep marshes	<u>Nuphar luteum</u> (yellow pond lily) <u>Nymphaea odorata</u> (white water lily) <u>Nelumbo lutea</u> (American lotus)
PAB4 (G,H)	Palustrine, aquatic bed, floating vascular		<u>Lemna</u> spp. (duckweed)
PEM1 (A,B,C,F)	Palustrine, emergent, persistent	Ponded prairies, marshes, depres- sions or drainage areas	<u>Scirpus cyperinus</u> (wool grass) <u>Juncus effusus</u> (soft rush)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PEM1 (A, B, C, F)	(cont'd.)		<u>Typha latifolia</u> (common cattail) <u>Carex</u> sp. (sedges) <u>Polygonum</u> sp. (smartweed) <u>Juncus</u> spp. (rushes) <u>Peltandra virginica</u> (arrow arum) <u>Rhexia</u> spp. (meadow beauties) <u>Xyris</u> spp. (grasses)
PSS1 (A, C, F, G)	Palustrine scrub-shrub, broad leaved deciduous	Willow thicket	<u>Salix nigra</u> (black willow) <u>Cephalanthus occidentalis</u> (buttonbush) <u>Acer rubrum</u> (red maple) <u>Liquidambar styraciflua</u> (sweetgum) <u>Alnus serrulata</u> (common elder) <u>Nyssa sylvatica</u> (black gum)
PSS3 (B, C, F)	Palustrine scrub-shrub, broad-leaved evergreen	Thicket	<u>Persea borbonia</u> (red bay) <u>Myrica cerifera</u> (wax myrtle) <u>Magnolia virginiana</u> (sweet bay) <u>Cyrilla racemiflora</u> (titi) <u>Lyonia lucida</u> (fetterbush) <u>Hypericum virginicum</u> (marsh St. johnswort.)
PSS7 (A, B, C)	Palustrine, scrub-shrub, mixed evergreen	Shrub forest	<u>Persea borbonia</u> (red bay) <u>Myrica cerifera</u> (wax myrtle) <u>Cyrilla racemiflora</u> (titi)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PSS7 (A, B, C)	(cont'd.)		<u>Pinus taeda</u> (loblolly pine) <u>Pinus elliotii</u> (slash pine) <u>Pinus serotina</u> (pond pine)
PFO1 (A, C, F)	Palustrine, forested, broad-leaved deciduous	Floodplains, swamps or depressions	<u>Acer rubrum</u> (red maple) <u>Quercus laurifolia</u> (laurel oak) <u>Liquidambar styraciflua</u> (sweetgum) <u>Nyssa sylvatica</u> (black gum) <u>Nyssa aquatica</u> (water tupelo) <u>Nyssa sylvatica</u> var <u>biflora</u> (swamp tupelo)
PFO2 (C, F, G)	Palustrine, forested, needle-leaved deciduous	Cypress domes, sloughs or swamps	<u>Taxodium distichum</u> (bald cypress)
PFO3 (B, C)	Palustrine, forested, broad-leaved evergreen	Bayheads or bay swamps	<u>Magnolia virginiana</u> (sweet bay) <u>Persea borbonia</u> (red bay) <u>Gordonia lasianthus</u> (loblolly bay)
PFO4 (A, B, C)	Palustrine, forested, needle-leaved evergreen	Pine flatwoods	<u>Pinus elliotii</u> (slash pine) <u>Pinus serotina</u> (pond pine) <u>Pinus taeda</u> (loblolly pine)
PFO6 (C, F, G)	Palustrine, forested, deciduous	Sloughs, swamps	<u>Taxodium distichum</u> (bald cypress) <u>Nyssa sylvatica</u> (blackgum) <u>Nyssa sylvatica</u> var <u>biflora</u> (swamp tupelo) <u>Acer rubrum</u> (red maple)

NWI CODE (WATER REGIME)	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PFO6 (C,F,G)	(cont'd.)		<u>Liquidambar</u> <u>styraciflua</u> (sweet gum) <u>Betula nigra</u> (river birch) <u>Salix sp.</u> (willow)
PFO7 (A,B,C)	Palustrine, forested, mixed evergreen	Bay swamp/Pine flatwoods	<u>Gordonia lasianthus</u> (loblolly bay) <u>Magnolia virginiana</u> (sweet bay) <u>Persea borbonia</u> (red bay) <u>Pinus taeda</u> (loblolly pine) <u>Pinus elliottii</u> (slash pine) <u>Pinus serotina</u> (pond pine)

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 Brunswick NW, Savannah NW and SW National Wetlands Inventory (NWI) Base Map (Table 1) 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 taken during March 1980, February and March 1981 and 1982.

Field checks of areas found within Brunswick NW, Savannah SW & NW 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:

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:

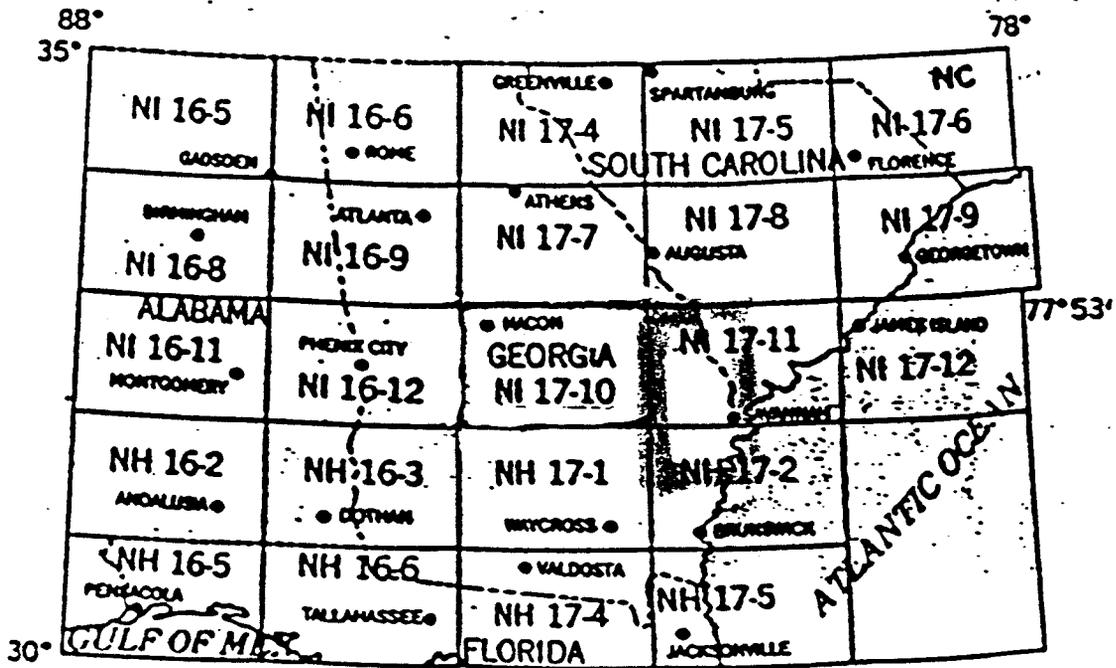
National Cartographic Information Center
U.S. Geological Survey
National Center
Reston, VA 22092

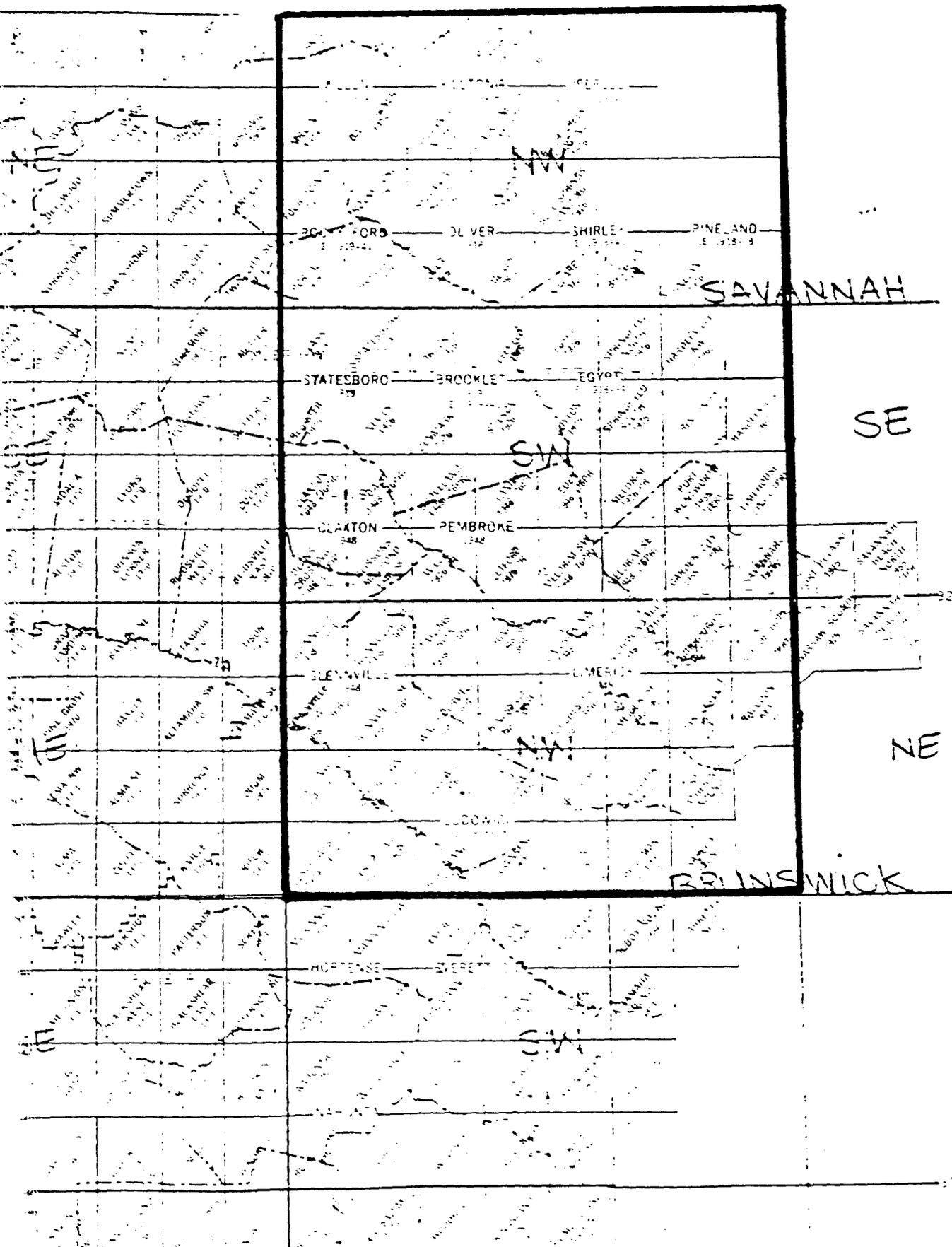
Maps are identified by the name of the corresponding USGS
1:24,000 scale topographic quadrangle name. Topographic map
indices are available from the U.S. Geological Survey.

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Appendix A. 1:250,000-scale Index Map





SAVANNAH

SE

SW

NE

BRUNSWICK