

## NATIONAL WETLANDS INVENTORY

### NOTES TO USERS

for the

Currituck Sound 1:100,000 Scale Map Area

#### INTRODUCTION

In 1974, the U.S. Fish and Wildlife Service directed its Office of Biological Services to conduct an inventory of the nation's wetlands. This National Wetlands Inventory (NWI) became operational in 1977.

Wetland delineations depicted on these maps were produced by stereoscopically interpreting high altitude aerial photography and then transferring this information with a zoom transfer scope to an overlay using the U.S. Geological Survey 7.5' or 15' map series as base information.

Wetlands were identified on the photography by vegetation, visible hydrology, and geography, and subsequently classified in general accordance with Cowardin et al. Classification of Wetlands and Deep Water Habitats of the United States. Where, for pragmatic reasons, strict adherence to this classification system was not possible, mapping conventions developed by NWI were used.

## MAP PREPARATION

The wetland maps of the Currituck Sound 1:100,000 scale map area were produced using 1:80,000 scale quad-centered U.S. Geological Survey black and white photography captured during March of 1977 and April of 1978. Photo interpretation was done by the University of Massachusetts located at Amherst, Massachusetts. Additional information was obtained from available soil surveys produced by the Soil Conservation Service. Limited ground-truthing was performed during August and October of 1979 and April of 1981.

## SPECIAL MAPPING PROBLEMS

A problem concerning wetland identification was encountered with the black and white emulsion. This was most apparent in identifying interdunal wetlands where there was high reflectivity from beach sands and in forested areas where dense canopies limited interpretation ability. Intertidal bars/flats and aquatic beds were also not generally identifiable on this photography.

Additional complications were encountered due to droughty conditions at the time of ground-truthing, inaccessability of field check sites and locally intensive development with associated drainage efforts.

## STUDY AREA

The Currituck Sound 1:100,000 scale map area is located in the extreme northeast area of North Carolina and includes portions of the Outer Banks, the Currituck Sound estuary, and the mainland of North Carolina.

Bailey in Description of the Ecoregions of the United States describes this area as part of the Southeastern Mixed Forest Province (2320). This area generally occurs on the irregular Gulf Coast Plains and Piedmont, where 50 to 80 percent of the area slopes gently. Local relief of these flat Coastal Plains is generally less than 100 feet.

The climate is approximately uniform throughout this area. Mild winters and hot humid summers are the rule with the average annual temperature being 60° to 70°F. Precipitation averages 40 to 60 inches annually. It is rather evenly distributed throughout the year, but peaks slightly in midsummer or early spring when it falls mostly during thunderstorms. Precipitation exceeds evaporation, but droughts do occur. The growing season is long (200 to 300 days), but frost occurs nearly every winter. Snow falls rarely but melts almost immediately.

Ustisols are the dominant soils of the area with vertisols, formed from marls of soft limestones, being locally conspicuous. The vertisols are clayey soils that have wide, deep cracks when dry. Inceptisols on flood plains of the major streams are among the better soils for crops.

## WETLAND COMMUNITIES

### Marine System

M10WL - Open high-energy, high halinity, ocean typically devoid of vegetation.

## Estuarine System

E1OWL - Open low-energy waters with reduced halinities of bays, sounds, and stream channels typically devoid of vegetation.

E2FLM - Irregularly exposed intertidal flats typically devoid of vegetation.

E2EM1P - Irregularly tidally flooded persistent emergents. Dominant marsh plants include Black Needle Rush (Juncus roemerianus), Cordgrasses (Spartina spp.), Cattails (Typha spp.), Bullrush (Scirpus olneyi), and Sawgrass (Cladium jamaicense).

E2SS1/EM1P - Irregularly flooded intertidal wetland with 30% or more of the canopy consisting of broad-leaved deciduous shrubs, usually Marsh Elders (Iva spp.) and/or Groundsel trees (Baccharis spp.). The remaining canopy consists of marsh plants as described above.

E2SS3/EM1P - As above, but with broad-leaved deciduous shrubs being replaced by broad-leaved evergreen shrubs, usually Waxmyrtles (Myrica spp.). Emergents are similar to those described under E2EM1P.

## Riverine System

R1OWL - Tidally influenced open fresh-water streams.

## Palustrine System

POWH - Small permanently flooded fresh water ponds typically devoid of vegetation.

PEM1C, PEM1F - Fresh water marshes seasonally to semipermanently flooded. Dominant persistent emergents include Bullrushes (Scirpus spp.), Spikerushes (Eleocharis spp.), Rushes (Juncus spp.), Beakrushes (Rhynchospora spp.), Sedges (Cyperus spp; Carex spp.), Panic Grasses (Panicum spp.), Salt Meadow Cordgrass (Spartina patens), Cattails (Typha spp.), and Arrowheads (Sagittaria spp.).

PSS1C, PSS1R - Seasonally flooded broad-leaved deciduous shrub swamps with the latter indicating tidally influenced fresh water. Dominant shrubs include Willows (Salix spp.), Coastal Pepperbush (Clethra alnifolia), Blueberries (Vaccinium spp.), Groundsel Trees (Baccharis spp.), and Buttonbush (Cephalanthus occidentalis).

PSS3C, PSS3R - Seasonally flooded broad-leaved evergreen shrub swamps with the latter indicating tidally influenced fresh water. Dominant shrubs include Waxmyrtles (Myrica spp.), Sweet Bay (Magnolia virginiana), Red Bay (Persea borbonia), and Greenbriars (Smilax spp.).

A special alpha-numeric of PSS3/~~r~~ indicates interdunal areas that could not be individually mapped and were therefore lumped with interspersed upland.

PF01A, PF01C - Temporarily to seasonally flooded bottomlands and swamps. Typically, Red Maple (Acer rubrum) and Sweetgum (Liquidambar styraciflua) dominate the upper canopy with Tulip Tree (Liriodendron tulipifera), Laurel Oak (Quercus laurifolia), Water Oak (Quercus nigra), Swamp Chestnut Oak (Quercus michauxii), Black Gum (Nyssa sylvatica), and Cypress (Taxodium distichum) also being prevalent. The latter two are particularly associated with wetter areas. Typical understory vegetation includes cane (Arundinaria gigantea), Blueberries (Vaccinium spp), Greenbriars (Smilax spp.), Hollies (Ilex spp.), Waxmyrtles (Myrica spp.), Grapes (Vitis spp.), Sweet Bay (Magnolia virginiana) and Coastal Pepperbush (Clethra alnifolia). In wetter areas, Fetterbush (Lyonia lucida), Red Bay (Persea borbonia), and Sphagnum spp. moss become prevalent.

PF01F - Semipermanently flooded swamps dominated by broad-leaved deciduous trees, usually Black Tupelo (Nyssa sylvatica).

PF04A - Temporarily flooded needle-leaved evergreen flats usually dominated by Loblolly Pine (Pinus taeda). This dominance type typically occurs as a mixture with hardwoods (PF01/4A; PF04/1A).

PF04F - Semipermanently flooded needle-leaved forested swamp dominated by Pond Pine (Pinus serotina).

PF01B, PF01/4B, PF04/1B, PF04B - The saturated water regime (B) was used to indicate Carolina Bays. Dominate vegetation is similar to that described under PF01 and PF04.

#### SPECIAL MODIFIERS EMPLOYED

"x" - The excavated modifier was usually used to indicate small dugouts/ponds (POWHx) or ditches (E10WLx; R10WLx).