National Wetlands Inventory

Map Report For

Tenn-Tom III

1:100,000 Scale Maps

Birmingham NE and SE

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I. Introduction

The United States Fish and Wildlife Service's National Wetlands Inventory (NWI) is producing maps showing the location and classification of wetlands and deepwater habitats of the United States. Classification of Wetlands and Deepwater Habitats of the United States by Cowardin et al. (1979) is the document used by the NWI to define and classify wetlands. Photo interpretation conventions, hydric soil lists and wetland plant lists are used to implement the Cowardin classification system.

The purpose of this map report is to: (1) provide information on the production of NWI maps, including narrative on imagery and interpretation; (2) provide a descriptive crosswalk from NWI wetland codes on the map to common terminology and to representative plant species found on specific wetland sites; (3) describe local geography, climate and wetland communities. This project was started in March 1, 1984 and completed September 30, 1985.

II. Field Reconnaissance

Field reconnaissance is a key function in the photo interpretation process. Photographic signatures are correlated to the wetland habitat in the field. Wetland identification is based on the presence of hydrophytic vegetation, evidence of prolonged anaerobic soil conditions, and wetland hydrology. These conditions are further evaluated with respect to percent coverage of vegetation, duration of soil saturation or flooding, and periods of inundation.

Project Area

The project area lies between longitude -86 and -87 degrees west and between latitude 33 and 34 degrees north. This area covers St Clair, Talladega and parts of Shelby and Jefferson Counties. Gadsden, Alabama is at the NE corner of the block of 64 7.5' maps. Birmingham is to the west side and Alexander City to the South. The project area falls within the Southeastern Mixed Forest Province ecoregion. Field reconnaissance was conducted in each map of the project area.

Field Personnel

John Hefner - U.S. Fish & Wildlife Service
Frank Sargent - Martel

Field Dates

June 6 and 7, 1984

Aerial Photography

Primary Source Data (100%)
Type: NHAP Color-Infra-Red High Altitude
Scale: 1:58,000

Photography Dates:
Birmingham SE - February and March 1982, with fill in photos March, 1982
Birmingham NE - February and March 1982, with fill in photos February, 1982

Percent Coverage: All USGS quadrangles are covered by NHAP photography.

Collateral Data

Bailey, Robert G., (1980). Description of the Ecoregions of the United States, United States Department of Agriculture.

Cowardin, et al. (1979). Classification of Wetlands and Deepwater Habitats of the United States, United States Department of the Interior, Fish & Wildlife Service.

Hydric soil list for the state of Alabama.
Soil Conservation Service surveys of the following Alabama counties: Jefferson

Collateral Data (cont.)

United States Geological Survey 7'5" Topographic Maps, 1:250,000 Topographic Maps, and 1:250,000 Ecoregion and Land-Surface Form Maps.

National List of Plant Species That Occur in Wetlands: Southeast (Region IV), United States Department of the Interior, Fish & Wildlife Service.

III. Physical Description of Project Area

This province comprises the Piedmont and the irregular Gulf Coastal Plains, where 50 to 80 percent of the area slopes gently toward the sea. Local relief is 100 to 600 ft (30 to 180 m) on the Gulf Coastal Plains, and 300 to 1,000 ft (90 to 300 m) on the Piedmont. The flat coastal plains have gentle slopes and local relief of less than 100 ft (30 m). Most of the numerous streams in the region are sluggish; marshes, lakes, and swamps are numerous.

Climate

The climate is roughly uniform throughout the region. Mild winters and hot, humid summers are the rule; the average annual temperature is 60 to 70F (15 to 21C). The growing season is long (200 to 300 days), but frost occurs nearly every winter. Precipitation, which averages from 40 to 60 in (1,020 to 1,530 mm) annually, 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 summer droughts occur. Snow falls rarely and melts almost immediately.

Vegetation

The Southeastern Mixed Forest Province falls mostly within the coastal plain, an area with gentle slopes, little relief and a climax vegetation of deciduous and evergreen forest. Oaks, sweetgum, blackgum, maple and elm intermingle with stands of loblolly, longleaf, shortleaf and other southern pines. Plants in the understory can be dogwood, fetterbush, privet, honeysuckle, wild grapevine and greenbriar. Wetland emergents encountered in this area were similar to those found in the Eastern Deciduous Forest; cattails, rushes, sedges, ferns and grasses. The depressional areas found in the coastal plain; bogs, swamps, sloughs and oxbow lakes are often dominated by water tupelo and bald cypress. There often is an aquatic understory in these depress ional areas containing duckweed, smartweed, water hyacinth or watermilfoil.

Soils

Ultisols dominate throughout the region, with locally conspicuous Vertisols formed from marls or soft limestones. The Vertisols are clayey soils that form wide, deep cracks when dry. Inceptisols on floodplains of the major streams are among the better soils for crops.

The following is a list of some of the hydric soils and the associated wetland communities commonly found in the project area:

HYDRIC SOIL	WETLAND COMMUNITY
Ketona	PFO1A, PFO1C, PEM1A, PEM1C

Fauna

Fauna vary with the age and stocking of timber stands, percent of deciduous trees, proximity to openings, and presence of bottom-land forest types. Whitetail deer and cottontail rabbits are widespread. When deciduous trees are present on uplands, the fox squirrel is common. Gray squirrels live along intersecting drainages. Raccoon and fox inhabit the whole region and are hunted in many areas. Among mammals frequently encountered in the western part of this province is the nine-banded armadillo. Recently beaver have repopulated this area. Their presence is visible in the numerous impoundments on small streams that result in creation of semipermently flooded wetlands.

The eastern wild turkey, bobwhite, and mourning dove are widespread. Of the 20-odd bird species present in mature forest, the most common are the pine warbler, cardinal, summer tanager, Carolina wren, ruby-throated hummingbird, blue jay, hooded warbler, eastern towhee, and tufted titmouse. The red-cockaded woodpecker is an endangered species.

Forest snakes include cottonmouth moccasin, copperhead, rough green snake, rat snake, coachwhip, and speckled kingsnake. Fench and glass lizards are also found, as is the slimy salamander.

IV. Description of Wetland Habitats

Marine

There are no marine environments in this project area.

Estuarine

There are no estuarine environments in this project area.

Riverine

The major drainage basins in the project are the Coosa, Cahaba and the Locust Fork. These are all perennial rivers and are classified R2UBH. Sandbars will be classified as R2USA or R2USC. The smaller intermittent rivers and creeks will be classified R4SBA or R4SBC.

Lacustrine

There are no naturally occurring bodies of water in excess of 20 square acres in this project area. All impounded rivers and streams covering 20 acres or more will be classified L1UBHh. Impoundments such as Logan Martin Lake, Inland Lake and H Neely Henry Lake typify this classification. Shallow, unvegetated littoral areas will fall into the L2USAh or L2USCh classification.

Palustrine

The majority of the wetlands in the project area fall into this classification.

Temporary forested wetlands often occur on natural terraces created in drainage systems by seasonal flooding. These wetlands are usually a mixture of hardwoods such as red maple, sweetgum, and oaks. Occasionally areas of pine, natural or planted, will fall into this classification. Understory vegetation may be comprised of deciduous and/or evergreen shrubs or herbaceous plants.

Saturated forested wetlands generally occur in this project area on seepage slopes. Red bay, red maple, tulip poplar, sweetgum and occasionally loblolly pine may be found in these areas. Understory plants may include titi, hollies, scrub/shrub bays, giant cane or sweet pepperbush.

Seasonal forested wetlands are usually deciduous and composed of bottomland hardwoods such as red maple, sweet and black gums, ash, water oak and box elder. Occasionally loblolly or pond pine will grow in this environment. Trees in this wetland habitat will often have buttressed trunks and surface roots. Cypress "knees", an aerial root system which stands above ground level, are associated with Bald cypress are common in these forests. Evidence of ponding, high water marks on the tree trunks, drift lines of debris and a somewhat sparse understory are associated with this wetland type.

Bald cypress and water tupelo typify the tree species found in the semi-permanently flooded wetland. Often an aquatic bed or an emergent vegetation will be present in the understory. These wetlands usually occur in old meander scars or oxbow lakes.

In permanently flooded wetlands and deepwater habitats, all plants found in this habitat are obligate hydrophytes. Most lakes, ponds, impoundments and perennial rivers will be classified with the permanently flooded water regime.

TABLE I - OBSERVED WETLAND VEGETATION

A. EMERGENT

Arundinaria gigantea	giant cane
Carex spp.	sedges
Erianthus giganteus	sugar plume grass
Saururus cernuus	lizard's tail
Impatiens capensis	jewelweed
Htdrocotyle spp.	pennywort
Juncus ssp.	rush
Polypodium polypodioides	resurrection fern
Woodwardia areolata	netted chain fern
Woodwardia virginica	Virginia chain fern
Polygonum ssp.	smartweed
Scirpus cyperinus	woolrush
Typha latifolia	cattail

B. AQUATIC BED

Lemna spp.	duckweed
Nymphaea ssp.	water lily
Nuphar avena	spatterdock

C. SCRUB-SHRUB

Acer rubrum	red maple
Alnus rugosa	tag alder
Alnus serrulata	common alder
Clethra alnifolia	sweet pepperbush
Cyrilla racemiflora	titi
Ilex opaca	American holly
Ilex vomitoria	yaupon
Leucothoe racemosa	fetterbush
Ligustrum sinense	chinese privet

Lonicera ssp.	honeysuckle
Myrica cerifera	wax myrtle
Persea borboina	red bay
Salix ssp.	willow
Smilax ssp.	greenbriar

D. FORESTED

Acer negundo	box elder
Acer rubrum	red maple
Carpinus caroliniana	blue beech, musclewood
Carya laciniosa	shellbark hickory
Celtis occidentalis	hackberry
Fraxinus pennsylvanica	green ash
Liquidambar styraciflua	sweet gum
Liriodendron tulipifera	tulip poplar
Magnolia virginiana	red bay
Nyssa aquatica	water tupelo
Nyssa sylvatica	black gum
Nyssa sylvatica biflora	swamp tupelo
Persea borbonia	sweet bay
Pinus echinata	short leaf pine
Pinus elliottii	slash pine
Pinus taeda	loblolly pine
Platanus occidentalis	sycamore
Quercus spp.	oaks
Quercus michauxii	swamp chestnut oak
Quercus nigra	water oak
Quercus palustris	pin oak
Taxodium distichum	bald cypress
Ulmus americana	American elm

E. MOSS-LICHEN

Sphagnum spp.	sphagnum moss, peat moss

TABLE II - PALUSTRINE WETLAND VEGETATION

NWI CODE	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PFO1A	Broad-leaved deciduous, temporarily flooded forest	Floodplain and bottomland forests	Quercus nigra, Acer rubrum, Liquidambar styraciflua
PFO1B	Broad-leaved deciduous, saturated forest	Seeps, bogs	Liriodendron tulipifera, Acer rubrum, Liquidambar styraciflua
PFO1C	Broad-leaved deciduous, seasonally flooded forest	Wet, bottomland hardwood forest, floodplains	Acer rubrum, Betula nigra, Carpinus caroliniana, Platanus occidentalis
PFO1F	Broad-leaved deciduous, semi-permanently flooded forest	Tupelo swamp	Nyssa sylvatica biflora, Nyssa sylvatica
PFO2F	Needle-leaved uous, semi-permanently flooded forest	Cypress swamp	Taxodium distichum
PFO3B	Broadleaf evergreen, saturated forest	Seeps, bogs	Magnolia virginiana, Persea borbonia
PFO4A	Needleleaf evergreen, temporarily flooded forest	Pine flatwoods, planted pine	Pinus taeda, Pinus echinata, Pinus palustris
PFO4C	Needleleaf evergreen, seasonally	Floodplains, wet pine flat-	Pinus taeda, Pinus elliottii

	flooded forest	woods	
PSS1A (C,F)	Broadleaf deciduous, temporarily (seasonally, semi-permanently) flooded scrub-shrub	Brush, thicket	Betula nigra, Salix spp., Alnus rugosa
PSS1B	Broadleaf deciduous, saturated scrub-shrub	Seeps,bogs	Salix spp., Betula nigra
PSS3B	Broadleaf ever green, saturated scrub-shrub	Seeps, bogs	Clethra alnifolia, Cyrilla racemiflora, Ilex opaca
PSS4A (C)	Needleleaf evergreen, temporarily (seasonally) flooded scrub-shrub	Brush, thicket, clearcut	Pinus taeda, Pinus palustrus
PSS4B	Needleleaf evergreen, saturated scrub-shrub	Seeps, bogs	Pinus elliottii, Pinus spp.
PEM1A (C,F)	Persistent, temporarily (seasonally, semi-permanently) flooded emergent	Wet prairies, marshes, swamps, backwaters, impoundments	Carex spp., Juncus Typha spp., Scripus spp., Polystichum acrostichoides
PAB3F	Rooted, vascular, semi-permanently (permanently) flooded, aquatic bed	Ponds, swamps, impoundments	Nymphaea spp.
PAB4F (H)	Floating, vascular, semi-permanently (permanently) flooded, aqua-	Ponds, swamps, impoundments	Lemna spp.

tic bed

V. WATER REGIME DESCRIPTIONS

Temporary ("A" water regime) wetlands have surface water present briefly during the growing season and a water table lying well below the soil surface. Wetland and upland plants grow equally well in this environment.

Saturated ("B" water regime) wetlands have a water table that normally extends to the soil surface, but seldom has surface water present.

Seasonal ("C" water regime) wetlands usually have surface water present for an extended period at the beginning of the growing season. While this surface water is usually absent later in the season, the water table is seldom far below the soil surface.

Semi-permanent ("F" water regime) wetlands have surface water presence almost always during the growing season in most years. During periods when surface water is absent the water table is at or just below the surface.

Permanently flooded ("H" water regime) is used in areas where water covers the surface throughout the year.

Artificially flooded ("K" water regime) is used in areas where the water level is manipulated by man and often may include an artificial substrate.

SPECIAL MODIFIERS

(x) Excavated - water lies in or flows through a constructed channel or basin.

(h) Impounded - the natural flow of water is impeded by a dike, dam or other barrier.

(b) Beaver - the natural flow of water is impeded by beaver activity.

VI. IMAGERY

A. Emulsion Quality and Clarity

The imagery was adequate. There were some photos that had a dark emulsion.

B. Season and Climatic Conditions

The aerial photography was acquired in February and March of 1982. This time of the year water levels are higher than normal because of the cooler temperatures and the low evaportranspiration rate. This allows for recognizing all wetlands even the temporarily flooded wetlands, but the draw back is that water regimes may not be as accurate.

C. Imagery Problems

There were no specific problems.

D. Expectations vs Ground Verification

The pre-field review of the 1982 aerial photography and the 1984 field trip were within a time frame where little change had occurred, so the expectations habitat conditions were verified with the field conditions.

VII. MAP PREPARATION

The classification and delineation of wetlands is in accordance with Cowardin, et al. (1979). National Wetlands Inventory photographic and cartographic conventions can provide more information about the mapping process. Delineations are made by stereoscopic interpretation of 1:58,000 scale infrared photography. The dates of photography are February 1982 and March 1982.

USGS topographic maps, Soil Conservation Service soil surveys and county hydric soil lists, climatic, vegetation, ecoregion information and conversations with the Army Corp of Engineers were used as collateral data.

The user of the map is cautioned, due to the limitations of mapping primarily through aerial photography and interpretation, a percentage of wetlands may be

unidentified. Since the photography depicts one specific point in time discrepancies may occur between the maps and current field conditions. Alterations in the landscape, natural or manmade, could result in these discrepancies.

Aerial photointerpretation and drafting were completed by Martel Labs Inc., St. Petersburg, Florida. Map quality assurance was conducted by the United States Department of the Interior, Fish and Wildlife Service.

VIII. MAP ACQUISITION

To discuss any questions concerning these maps, please contact:

Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region 4
1875 Century Blvd.
Room 240
Atlanta, GA 30345
(404) 679-7129

To order maps call: 1-(205) 3498-2852

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Tuscaloosa, AL 35486-6999
(205) 349-2852

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name. Topographic map indicies are available from the USGS.

IX. LITERATURE CITED

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Brady, N.C., 1976. The Nature and Properties of Soils.

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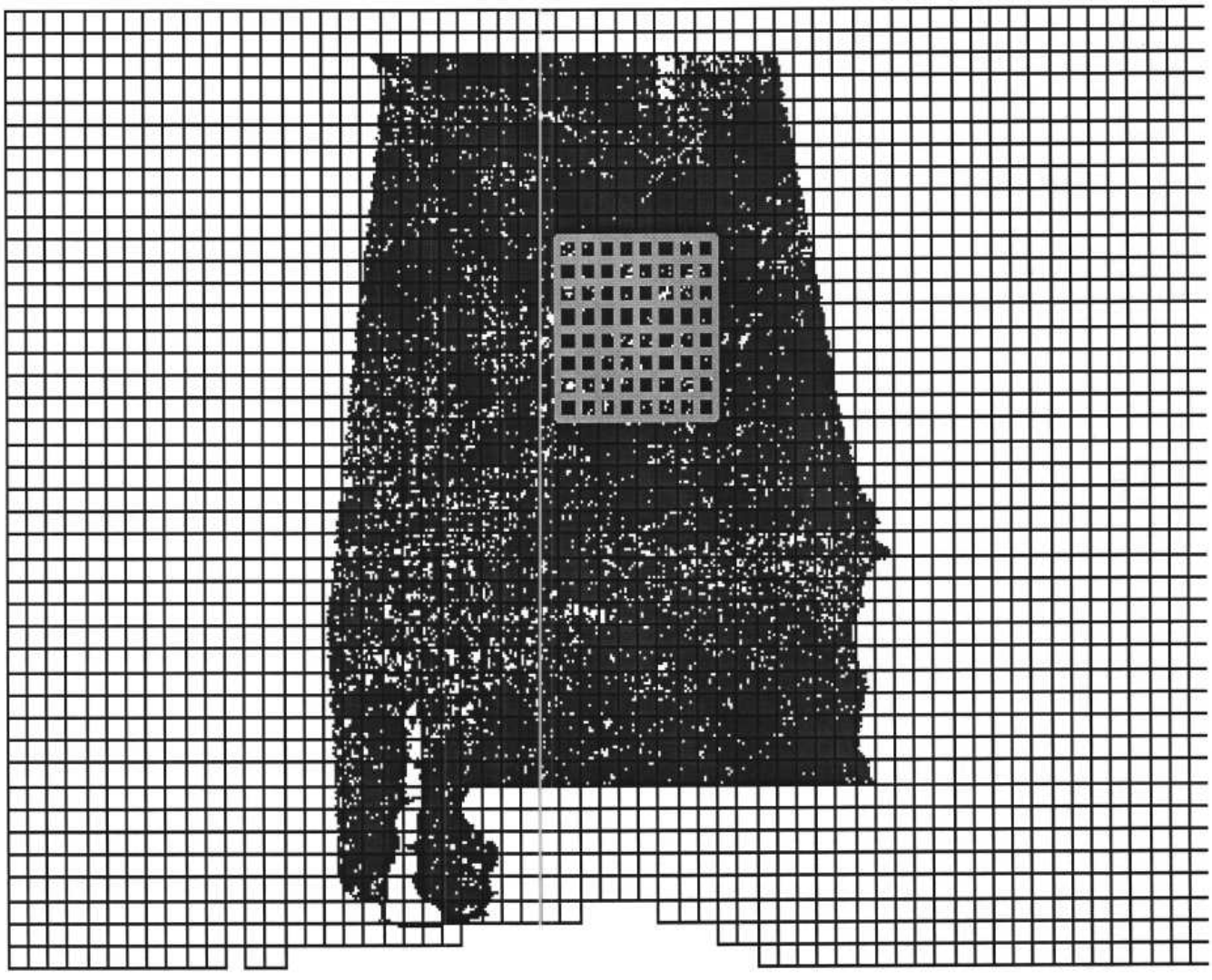
Niering, W.A. 1985. Wetlands. Alfred A. Knopf, Inc.

Soil Survey for Jefferson County, Alabama

7.5 Minute and 1:250,000 scale USGS topographic maps.

APPENDIX A
LOCATOR MAP