

A

NATIONAL WETLANDS INVENTORY

MAP REPORT FOR

COMPLETE ALABAMA P.I.

FOR THE 1:100,000 MAP UNITS OF

Andalusia NE, Andalusia SE-

Montgomery NE, Montgomery 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 soils lists and wetland plant lists are also 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; and (3) describe local geography, climate, and wetland communities.

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 - Andalusia SE, Andalusia NE, Montgomery SE, and Montgomery NE is located in the south central portion of Alabama.

Field reconnaissance was conducted in each of the maps in the task order.

Field Personnel

Charlie Storrs	-	U.S. Fish and Wildlife Service
Toni Alese	-	Geonex, Inc.
Bill Brammell	-	Geonex, Inc.
Don DePra	-	Geonex, Inc.

Field Dates

November 16-19, 1992

Aerial Photography

Primary Source Data (100%)

Type: NHAP Color Infra-Red High Altitude

Scale: 1:58,000

Andalusia SE; 1/24/81, 2/24/81, 3/6/81, 3/9/81, 3/8/82

Andalusia NE; 2/24/81, 3/6/81, 3/9/81, 3/8/82

Montgomery SE; 2/24/81, 3/6/81, 3/9/81

Montgomery NE; 2/24/81, 3/6/81, 3/9/81, 3/8/82

Percentage Coverage: All 124 USGS quadrangles were covered with the NHAP photography.

Collateral Data

United States Geological Survey (USGS) Quadrangles

Soil Conservation Service Soil Surveys for the counties of Autauga, Chilton, Coffee, Conecuh, Covington, Dallas, Elmore, Escambia, Geneva, Monroe and Montgomery

Wetland Plants of the State of Alabama, 1986

Hydric Soils of the State of Alabama, 1986

Bailey's Description of the Ecoregions of the United States

Cowardin's Classification of Wetlands and Deepwater Habitats of the United States

III. PHYSICAL DESCRIPTION OF PROJECT AREA

According to Bailey, Description of the Ecoregions of the United States (1980), the study area is composed of two provinces. Both of the provinces are in the Subtropical Division of the Humid Temperate Domain.

The Southeastern Mixed Forest Province is one of the two and it contains Andalusia NE, Montgomery NE and Montgomery SE.

The Outer Coastal Plain Forest Province is the other and it contains Andalusia SE.

Geography

Southeastern Mixed Forest Province - This region occurs mainly on the irregular Gulf Coastal Plains and the Piedmont. 50% to 80% of the area slopes gently with local relief of 100 to 600 feet on the Gulf Coastal Plains and 300 to 1,000 feet on the Piedmont. The flat Coastal Plains have slopes with relief of less than 100 feet. Most of the numerous streams are sluggish; marshes, lakes, and swamps are numerous.

Outer Coastal Plain Forest - This region is restricted to flat and irregular Gulf Coastal Plains, with over 50% of its area sloping gently. Local relief is less than 300 feet plus some gently rolling areas. Most of the numerous streams are sluggish; and marshes, lakes, and swamps are numerous.

Climate

Southeastern Mixed Forest Province - This region has a nearly uniform climate. Winters are mild and summers are hot and humid. The average annual temperature is 60° to 70°F and precipitation averages 40 to 60 inches annually. The rain falls throughout the year with more falling in the spring and summer during thunderstorms. The growing season is long, but frost occurs nearly every winter.

Outer Coastal Plain Forest Province - This region has a fairly uniform climate with average annual temperatures of 60° to 70°F. Rainfall is abundant and falls throughout the year with levels of 40 to 60 inches.

Vegetation

Southeastern Mixed Forest Province - The climax vegetation in this region is forests of broadleaf deciduous and needleleaf evergreen trees. At least half of the stands are loblolly pine, shortleaf pine, or other southern yellow pines, individually or in combination. Common associates include oak, hickory, sweetgum, blackgum, red maple, and winged elm. The main grasses are bluestem, panicums, and longleaf uniola. Dogwood, viburnum, haw, blueberry, American beautyberry, youpon, and numerous woody vines are common.

Outer Coastal Plain Forest Province - Temperate rainforest, also called temperate evergreen forest and laurel forest is characteristic of this region. The trees commonly found in this area are evergreen oaks and members of the laurel and magnolia families. The forests usually have a well developed understory that may include tree ferns, small palms, shrubs, and herbaceous plants. Lianas and epiphytes are abundant. Spanish "moss" is the most conspicuous epiphyte at low elevations, where it festoons the Evangeline oak, bald cypress, and other trees of the eastern Gulf Coast (Bailey's 1978).

Soils

Southeastern Mixed Forest Province - Ultisols dominate throughout this region. Vertisols formed from marls or soft limestones are conspicuous locally in this province but are absent from the portion within our study area. Inceptisols on floodplains of the major streams are among the better soils for crops. Entisols are found infrequently.

The Osier-Bibb complex is an important wetland soil in this region. It is poorly drained, has a high water table and floods frequently. It is suited to water-tolerant timber and wetland wildlife.

Lakeland soil is also a very important wetland soil in this region. This soil is frequently flooded usually during short periods after heavy rains. It is found sustaining mostly low quality hardwoods, pine and gum. This soil type is suited to woodland, wildlife, and recreation.

Outer Coastal Plain Forest Province - Temperate rainforest grows on a wide variety of upland soils, but most tend to be wet, acidic, and low in the major plant nutrients. The soils are derived mainly from Coastal Plain sediments, ranging from heavy clay to gravel, but sandy materials predominate. The soils are mainly Ultisols, Spodosols, and Entisols.

The Rains-Bethera complex is an important wetland soil in this region. It is deep and poorly drained. This complex is found on broad floodplains and low stream terraces. This complex is used mostly as woodland and it has good potential as habitat for wetland wildlife.

Another important soil complex in this area is the Muckalee-Bibb-Osier complex. It consists of deep, poorly drained, moderately permeable soils on floodplains of streams. Most areas of this complex are subject to scouring and uneven deposition of overwash. This complex formed in stratified loamy and sandy fluvial sediments.

IV. DESCRIPTION OF WETLAND HABITATS

Riverine

The major drainage basins within the study area are the Alabama, Coosa, Tallapoosa, Conecuh, and the Sepulga Rivers. These rivers are classified as R2UBH except when bedrock is exposed in or adjacent to the channel. These areas will be classified as R2RBH. The Coosa River is an example of R2RBH.

Riverine bars will be classified R2USA, R2USC or R2RSA, R2RSC to correlate with river classification and photo signature.

Lacustrine

Any natural water body larger than twenty acres will be classified L1UBH.

The major reservoirs in this study area are Lay Lake, Martin Lake, Jordan Lake, Mitchell Lake, Gantt Reservoir, Speigner Lake, and Point "A" Lake. they are classified L1UBHh.

Any unvegetated shallow areas located adjacent to these reservoirs will be classified L2USAh, L2USCh. Aquatic bed areas will be classified L2AB3Hh, L2AB4Hh. Shallow flats associated with any natural lakes will be classified in the same manner without the "h" modifier. Emergent, scrub-shrub and forested areas adjacent to these lakes will be classified with the appropriate Palustrine classification.

Palustrine

This classification is used on the majority of wetlands in the study area. Forested (PFOA,C,F and B) are the dominant cover types. Emergents (PEMA,C,F) and aquatic bed (PABF) are located in pockets associated with the riverine, lacustrine and forested palustrine systems.

TABLE I.

The following are species encountered while field checksiting prior to delineation:

Palustrine Temporary Emergents: PEMA

Juncus spp. rush
Scirpus cyperinus woolrush

Palustrine Seasonal/Semi-Permanent Emergents: PEMC,PEMF

Carex spp. sedge
Cyperus spp. sedge
Eleocharis spikerush
Iris spp. blue flag
Panicum hemitomom maidencane
Scirpus spp. bulrush
Scirpus cyperinus woolrush
Typha spp. cattail

Palustrine Permanent and Semi-Permanent Aquatic Bed: PABF,H

Lemna spp. duckweed
Nymphaea spp. water lily

Palustrine Temporary Scrub-shrub: PSSA

Acer rubrum maple
Ligustrum sinense Chinese privet
Magnolia spp. bay
Pinus spp. pine
Populus deltoides cottonwood
Sabal minor dwarf palmetto
Sambucus canadensis elderberry
Smilax spp. catbrier

Palustrine Seasonal/Semi-Permanent Scrub-shrub: PSSA,C,F

Alnus serrulata alder
Cyrilla racemiflora titi
Ilex spp. holly
Itea virginica willow
Lyonia lucida fetterbush
Magnolia spp. bay
Persea borbonia redbay
Salix spp. willow

Palustrine Temporary Forested: PFOA

<u>Diospyros virginiana</u>	persimmon
<u>Liquidambar styraciflua</u>	sweetgum
<u>Liriodendron tulipifera</u>	yellow poplar
<u>Magnolia</u> spp.	bay
<u>Populus deltoides</u>	cottonwood
<u>Quercus</u> spp.	oak
<u>Quercus nigra</u>	water oak

Palustrine Seasonal/Semi-Permanent Forested: PFOC,F

<u>Acer rubrum</u>	maple
<u>Magnolia</u> spp.	bay
<u>Nyssa sylvatica</u>	blackgum
<u>Pinus</u> spp.	pine
<u>Platanus occidentalis</u>	sycamore
<u>Quercus</u> spp.	oak
<u>Quercus phellos</u>	willow oak
<u>Salix nigra</u>	black willow
<u>Taxodium distichum</u>	cypress

TABLE II. OBSERVED WETLAND VEGETATION TABLE

A. EMERGENT

<u>Carex</u> spp.	sedge
<u>Cyperus</u> spp.	sedge
<u>Eleocharis</u>	spikerush
<u>Iris</u> spp.	blue flag
<u>Juncus</u> spp.	rush
<u>Panicum hemitomon</u>	maidencane
<u>Scirpus</u> spp.	bulrush
<u>Scirpus cyperinus</u>	woolrush
<u>Typha</u> spp.	cattail

B. AQUATIC BED

<u>Lemna</u> spp.	duckweed
<u>Nymphaea</u> spp.	water lily

C. SCRUB-SHRUB

<u>Acer rubrum</u>	maple
<u>Alnus serrulata</u>	alder
<u>Cyrilla racemiflora</u>	titi
<u>Ilex</u> spp.	holly
<u>Itea virginica</u>	willow
<u>Ligustrum sinense</u>	Chinese privet
<u>Lyonia lucida</u>	fetterbush
<u>Magnolia</u> spp.	bay
<u>Persea borbonia</u>	redbay
<u>Pinus</u> spp.	pine
<u>Populus deltoides</u>	cottonwood
<u>Sabal minor</u>	dwarf palmetto
<u>Sambucus canadensis</u>	elderberry
<u>Salix</u> spp.	willow
<u>Smilax</u> spp.	catbrier

D. FORESTED

<u>Acer rubrum</u>	maple
<u>Liquidambar styraciflua</u>	sweetgum
<u>Liriodendron tulipifera</u>	yellow poplar
<u>Magnolia grandiflora</u>	southern magnolia
<u>Magnolia virginiana</u>	sweetbay
<u>Nyssa sylvatica</u>	blackgum
<u>Pinus spp.</u>	pine
<u>Pinus taeda</u>	loblollypine
<u>Platanus occidentalis</u>	sycamore
<u>Populus deltoides</u>	cottonwood
<u>Quercus spp.</u>	oak
<u>Quercus nigra</u>	water oak
<u>Quercus phellos</u>	willow oak
<u>Salix nigra</u>	black willow
<u>Taxodium distichum</u>	cypress

Table III. NWI WETLAND CLASSIFICATION CODES, COWARDIN DESCRIPTION AND COMMON TERMINOLOGY

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
R2UB (H)	Riverine, lower perennial, unconsolidated bottom	Meandering rivers, low gradient	Unconsolidated bottom
R2US (A,C)	Riverine, lower perennial, unconsolidated shore	Mud, sand, or gravel bars	Unconsolidated shore
R2RB (H)	Riverine, lower perennial, rock bottom	Meandering rivers, low gradient	Rock bottom
R3RS (A,C)	Riverine, lower perennial, rocky shore	River rock	Rocky shore
R4SB (A,C,F)	Riverine, intermittent, streambed	Small streams, creeks, or irrigation ditches	Streambed
L1UB (H)	Lacustrine, limnetic,	Deep lakes	Unconsolidated bottom
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Exposed shore around lakes	Unconsolidated shore

Table III. NWI WETLAND CLASSIFICATION CODES, COWARDIN DESCRIPTION AND COMMON TERMINOLOGY

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PUB (F,H)	Palustrine, unconsolidated bottom	Open water, settling ponds	Unconsolidated bottom
PAB (F,H)	Palustrine, aquatic bed	Deep basins, impoundments, sewage treatment	Aquatic bed
PEM (A,C,F)	Palustrine, emergent	Basins, depressions, marshes, meadows, springs, seeps, oxbows, or drainage areas	<u>Scirpus cyperinus</u> (woolrush) <u>Juncus</u> spp. (rush) <u>Panicum hemitomon</u> (maidencane)
PSS (A,C,F)	Palustrine, scrub-shrub	Willow thicket, river banks, oxbows, drainage areas, or wet shrubby areas	<u>Salix</u> spp. (willow) <u>Populus deltoides</u> (Eastern cottonwood)
PFO (A,B,C,F)	Palustrine, forested	Cottonwood, river banks, oxbows, floodplains, drainage areas, swamps, wet forests	<u>Populus deltoides</u> (eastern cottonwood) <u>Quercus</u> spp. (oak)

V. WATER REGIME DESCRIPTION

- (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 the surface for extended periods during the growing season, but surface water is seldom present.
- (C) Seasonally 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 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.
- (H) Permanently Flooded - Water covers the land surface throughout the year in all years.
- (K) Artificially Flooded - Substrate manipulated by man using natural or synthetic materials. Water level is not constant. Depending on needs, the water is pumped in or out of the reservoir.

VI. IMAGERY

A. Emulsion Quality

The NHAP Color Infra-Red photography is good quality for the most part. Some of the photography has a very blue emulsion which made wetland/upland breaks difficult as well as making degree of wetness (water regime) difficult to determine. The photography has very little glare.

B. Resolution Clarity

The photography is very clear with no noticeable blurry areas.

C. Season and Climatic Conditions at Time of Photography

All of the photography was taken in the winter, in January, February, and March of 1981 and 1982. This was a good time to take the photo's due to the deciduous trees being in their leaf off or new bud stage. That makes it much easier to distinguish between deciduous and evergreen trees.

D. Expectations vs. Ground Verification

One of the problems we encountered while field checking wetlands was the saturated vs. temporary photo signature. The photo signatures are identical but the field conditions were not. We decided that our best means of making a determination would be to look at the photos under the scope and check the relief. Wetlands on slopes would have the saturated water regime.

Another problem was differentiating gum ponds from cypress domes. We identified them in the field and noticed that the signatures seemed to be identical. Our decision on this was to look at the photos under the scope and look for the tight "cottonball" crowns for cypress trees. If there were no tight crowns we should assume that the wetland is a gum pond.

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 produced through stereoscopic interpretation of 1:58,000 scale color infrared photography. The dates of photography ranged from 1981 to 1982. The months the mission was flown were January through March.

Field checks were conducted in each of the four 1:100,000 maps in the study area prior to the delineation of wetlands. The check sites were selected to clarify wetland/upland breaks and correlate signatures to the various vegetative covers.

USGS topographic maps, SCS soil surveys, vegetation, climate, and ecoregional information are all used as collateral data for wetland delineation.

The user of the map is cautioned that, due to the limitation of mapping primarily through aerial photointerpretation, a small percentage of wetlands may be unidentified. Since the photography depicts only one specific moment in time there may be discrepancies between the maps and current field conditions. Changes in landscape which occurred after the date of photography would result in such discrepancies.

Aerial photointerpretation and drafting were completed by Geonex, Inc., St. Petersburg, Florida with quality assurance conducted by the United States Fish and Wildlife Service.

VIII. SPECIAL MAPPING PROBLEMS

Field checking proved that photo signatures generally coincided with true field conditions.

Care had to be taken to use all collateral data (soil surveys). Some areas will be checked at draft map to ensure accuracy.

IX. MAP ACQUISITION

To discuss any questions concerning these maps, please contact:

Regional Wetland Coordinator
U.S. Fish and Wildlife Service - Region 4
R.B. Russell Federal Building
75 Spring Street SW
Mail Stop 1276
Atlanta, GA 30303

To order maps call 1-800-USA-MAPS.

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

al-cmplt.rpt
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X. LITERATURE CITED

Bailey, R.G., 1978. Description of The Ecoregions of The United States. United States Department of Agriculture, Forest Service.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRue, 1979. Classification of Wetlands and Deepwater Habitats of The United States. United States Department of Interior, Fish and Wildlife Service, FWS/PBS - 79/81.

LOCATOR MAP A

