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NATIONAL WETLANDS INVENTORY

MAP REPORT

FOR

Coastal Panhandle, Florida

Outer Coastal Plain Forest Province

Field Work Conducted Week of November 3, 1997

The Partial 1:100,000 Map Units of:

Apalachicola NW, Tallahassee SW, Pensacola NW-NE-SW-SE

This copy is the one that has been marked up. Since the conventions are included I felt it would be counterproductive to mark up a separate set of conventions.

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Appendix A – Locator Map

I. INTRODUCTION

The United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) is producing maps illustrating 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 reference material utilized by the NWI to define and classify wetlands. Photographic interpretation conventions, hydric soils lists, and wetland plant lists are applied in concert with the Cowardin classification system.

A. Purpose

The purpose of this map report is to: (1) provide information on the production of NWI maps, including a discussion of photography and interpretation; (2) provide a descriptive crosswalk from NWI wetland codes used on the map to common terminology, and then to representative plant species found at specific wetland sites; and (3) describe local geography, climate, and wetland communities.

II. FIELD RECONNAISSANCE

Field reconnaissance is necessary to accurately interpret aerial photography. In the field, photographic signatures are correlated to the actual wetland habitat. Identification is based on the presence and indicator status of hydrophytic vegetation, evidence of prolonged anaerobic soil conditions, and wetland hydrology conditions. Collateral information including upland and wetland vegetative communities, soil types, and topographic settings are further evaluated to aid in the photographic interpretation process.

A. Project Area

1. The Coastal Panhandle Florida project is located approximately from Apalachicola to the east, Pensacola to the west and from the Gulf of Mexico including barrier islands to the inland 2-3 U.S.G.S. quads. *- Kind of vague but I don't know how you would describe it.*

2. The work area includes portions of 6 1:100,000 scale maps.

Pensacola NW-3 quads, Pensacola NE-7 quads, Pensacola SE-12 quads

Pensacola SW-5 quads, Tallahassee SW-14 quads, Apalachicola NW-12 quads (See Appendix A, Locator Map).

B. Field Personnel

<u>Personnel</u>		<u>Agency</u>	<u>Dates in the field</u>
Charlie Storrs	-	U.S. Fish and Wildlife Service	November 3-7, 1997
Rick Brovey	-	Greenhorne & O'Mara, Inc.	November 3-7, 1997
Karl Schultz	-	Greenhorne & O'Mara, Inc.	November 3-7, 1997

C. Field Dates

November 3-7, 1997

D. Aerial Photography

Primary Source Data

Type: NASA, Color InfraRed, High Altitude

Scale: 1:65,000

Locations: Dates of Photography:

Pensacola SW	3/21/96
Pensacola NE	3/21/96, 3/22/96
Pensacola SE	3/21/96
Pensacola NW	3/21/96, 3/22/96
Tallahassee SW	3/21/96, 3/22/96
Apalachicola NW	3/22/96

Secondary Source Data (Four models)

Type: National Aerial Photography Program (NAPP), Color InfraRed, High Altitude

Scale: 1:40,000

Locations: Dates of Photography:

Pensacola SW	1/31/94
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E. Collateral Data

✓ U.S.G.S. 7.5 min. topographic quadrangles

✓ National Wetland Inventory Maps

Hydric soils lists and Soil Conservation Soil Surveys for:

Franklin, Escambia, Walton, Okaloosa, Bay, Gulf and Santa Rosa Counties

Unit IV National Wetlands Inventory photogrammetry projects for:

Eglin and Tyndall Air Force Bases

Florida Department of Environmental Protection 1996-97 Land Use Land Cover Project (G&O)

IV. DESCRIPTION OF WETLAND HABITATS

The following paragraphs are a description of the classification of various land and wetland features classified in the work area.

A. Marine System

The marine habitat occurs on the outer sides of the offshore islands and consists of beaches (M2USN, M2USP) and open water (M1UBL).

B. Estuarine System

Seagrass meadows (E2ABL) are only visible in the estuarine system on the source photography although they probably exist in the marine system as well. Seagrass provides a source of nutrients at the bottom of the food chain and serve as cover and nursery areas for fish and shellfish. Turtle grass E2AB3L is a common species in these waters. *Is any other collateral data being used, since all of the photography has extreme variability as to how observable the grass beds actually are.*

Low salt marshes (E2EM1N) are areas regularly flooded by the tides. These wetlands may be located at the outer boundary of irregularly flooded (E2EM1P) marshes or may extend up tidal rivers as a narrow fringe. These wetlands protect the shoreline during storms and are a nursery ground for many marine species. A common species is *Spartina alterniflora*.

High salt marshes (E2EM1P) are areas irregularly flooded by the tides. Normally these wetlands will be located more shoreward than the low salt marsh. These wetlands provide detritus, an important nutrient for estuarine species. A common species is black needle rush,

C. Riverine System

Most of the major rivers in this area have a low gradient, slow water velocity, and well-developed floodplains. However, a few rivers in the work area have a slightly steeper gradient with less developed floodplains, but still fall into the R2 subsystem. Permanent rivers in the project area are classified R2UBH. As a R2UBH ^{or even now by} nears the Gulf of Mexico and becomes tidally influenced, it is then classified as R1UBV. This tidal boundary is arbitrary considering that it fluctuates on a daily basis. Two examples of the R2UBH rivers are the Escambia River and the Choctawhatchee River. Riverine bars and flats will be classified R2USC and R2USA. Intermittent streams (larger than pen width on the photo) ^{or if so called for as vegetated linears Em, SS, Fo,} connecting larger wetland areas will be classified R4SBC.

D. Lacustrine System

Lakes and reservoirs larger than 20 acres in size will be classified L1UBH. Reservoirs will carry the impounded (h) modifier. The occasional aquatic bed that is over 20 acres in size, will be classified L2AB3H or L2AB4H. Unvegetated flats adjacent to L1UBH lakes will be classified L2USA or L2USC. Abandoned mining pits will be classified as LIUBHx.

E. Palustrine System

The majority of wetlands within the work area are in the palustrine system and include the UB, AB, US, EM, SS and FO classes.

Wet prairies (PEM1A) are characterized by sites where the soil is usually saturated or covered with only a few inches of water for brief periods of the growing season. Herbaceous plants that occur here are wiregrass, yellow-eyed grass, hatpins, soft rush and others. - These species look to be more common in a saturated area.

Savannahs or bogs or "the Gulf Coast Pitcher Plant Bogs" (PEM1B) are prevalent in many sites of the work area. The Garcon Point Peninsula area bordering Escambia Bay has vast expanses of these wetlands. Saturation results from a seasonally high water table. These wetlands are the exclusive home of many herbaceous flowering plants. The pitcher plant is a carnivorous species that is well known in these areas. Trumpet-leaf, sundew, redroot and yellow-eyed grass are other common species.

Shallow marshes (PEM1C) are also a common wetland community in the project area. They provide important habitat for many wildlife species and act as a filter-retention system for the many rivers and lakes here. They are characterized by herbaceous plant species where surface water is present during most of the growing season but is absent by the end of the growing season in most years. Most marshes are dominated by a single species such as sawgrass, rice-cutgrass or cattail and some marshes are a mixture of a few species.

Deep marshes (PEM1F) are also characterized by herbaceous plant species but surface water is present during the entire growing season in most years. Water levels tend to be deep and often have open areas of water and have a wide range of emergent species such as sawgrass, spikerush, cattail or pickerel weed. Deep marshes and or sloughs act as drainages and are important in improving water quality by natural processes.

Shrub swamps (PSS1C, PSS1F, PSS2F) are usually in areas where the soil is saturated, often with standing water throughout the growing season in most years. These wetlands usually have a round or oval outline but may be elongated in shape usually surrounding a central pond. Some common species found here include cypress, willow, buttonbush and red maple.

Evergreen shrub swamps (PSS3B) have soil that is saturated to the surface throughout most of the growing season in most years. These wetlands are usually found along stream or river systems or in shallow depressions in pine flatwoods. Locally they are known as titi swamps. Common species may be titi, wax myrtle, sweet bay and gallberry.

Bottomland forests (PFO1A) have a water table well below the surface but standing water is present for at least short periods during the growing season. This wetland is normally found between river swamp and upland forests. This classification was not observed during fieldwork but typical species would be sweetgum, laurel oak and water oak.

Shallow swamps (PFO1C, PFO3C) are wetlands that occur in many river floodplains in the work area. These systems are inundated for at least two months or more during the growing season in most years. These wetlands may also be associated with estuarine or lacustrine systems. This community may

THIS ALL?
[Signature]

serve as a reservoir for the dilution of coastal waters. Typical species may include red maple or cabbage palm.

Deep swamps (PFO1F) are found bordering rivers and lake basins. The soil is inundated for most of the growing season for most years. These wetlands act as buffers to absorb and dissipate the energies of the riverine and lacustrine systems, improve water quality and release detritus to downstream estuaries. Common species may be red maple, water tupelo and willow.

Cypress swamps (PFO2C/F) are found along rivers, lake margins, deep marshes, savannahs or depressional areas throughout other wetland habitats. Cypress trees thrive in semi-permanent water conditions, but hardwoods (PFO1) may invade in more seasonal water conditions.

Bay swamps (PFO3B/C) are found in depressions, shallow drainages, stream bottoms, spring heads or cypress swamps. In the work area they are commonly found in saturated and seasonally flooded ravines. They are associated with titi swamps and may share dominance with slash pine or atlantic white cedar (PFO4).

Low pine flatwoods (PFO4A/B) are wetlands that occur in shallow depressions or flats that often border drainages or wet prairies. Standing water is frequently found during the rainy season or the soils may be saturated by seepage from slightly elevated ridges. Slash pine (PFO4) is a common species found in these areas.

Needle-leaved evergreen swamps (PFO4C/F, E2FO4P) are often found in low depressions or ponds in the flatwoods. Standing water several feet deep may be found during the rainy season. Although not observed during field work, pond pine and southern red cedar are common, other associated species include slash pine, titi, gallberry and cabbage palm.

FACX - on list?
han *DAL*

Ponds (PUB, PAB, F/H) are less than 20 acres in size. These systems may have floating or submerged vegetation.

Ridge-depression or "cat scratch" is a unique geographic formation that is most evident on St. Vincents Island located off the coast of Apalachicola. The majority of the island is a series of ridges and depressions that run east-west or parallel to the coast. Field work on the island included walking a transect from the north end to the south end of the island. The majority of wetlands, as expected, were between the ridges. The scale of the photography will make accurate delineations of this area challenging.

Table I

Observed Wetland Vegetation
(grouped according to genus and species)

*regional indicator status referenced from the National List of Plant Species that occur in Wetlands: Florida

A. Aquatic Bed

SCIENTIFIC NAMES	COMMON NAME	REGIONAL INDICATOR STATUS*
Lemna spp.	duck weed	OBL
Nymphaea spp.	waterlily	OBL

B. Emergent

SCIENTIFIC NAMES	COMMON NAME	REGIONAL INDICATOR STATUS*
<u>Andropogon virginicus</u>	broomsedge	FAC-
Aristida stricta	wiregrass	FAC-
Batis maritima	saltwort	OBL
Carex spp.	sedges	FACW+
Distichlis spicata	salt grass	FACW+
Drosera capillaris	sundew	OBL
Eleocharis cellulosa	spike rush	OBL
Eriocaulon decangulare	hat pin	OBL
Juncus roemerianus	black needle rush	OBL
Mariscus jamaicense	sawgrass	OBL
Lachnanthes caroliniana	red root	OBL
Leersia oryzoides	rice cutgrass	OBL
Ludwigia palustris	marsh seedbox	OBL
Osmunda regalis	royal fern	OBL
Phragmites australis	common reed	FACW
Polygonum punctatum	smartweed	FACW+
Sagittaria lancifolia	bull tongue	OBL
Salicornia virginica	glass wort	OBL
Sarracenia spp.	pitcher plant	OBL
Spartina alterniflora	saltmarsh cordgrass	OBL
Toxicodendron radicans	poison ivy	FAC
Typha latifolia	broad-leaf cattail	OBL
Woodwardia areolata	net chain fern	OBL
Xyris spp.	yellow-eyed grass	OBL
Zizania aquatica	wild rice	OBL
Zizanolopsis miliacea	giant cutgrass	OBL

The scientific names should be either underlined or italicized.

See Example page

ALSO, don't underline or italicize sp, spp, subsp., var. etc.

Cladium ✓

↓

C. Scrub-Shrub

SCIENTIFIC NAMES	COMMON NAME	REGIONAL INDICATOR STATUS*
<i>Acer rubrum</i>	red maple	FAC
<i>Baccharis halimifolia</i>	false willow	OBL
<i>Cephalanthus</i>	buttonbush	OBL
<i>Cornus</i> spp.	dogwood	FACW
<i>Cyrilla racemiflora</i>	titi	FACW
<i>Ilex cassine</i>	holly, dahoon	FACW
<i>Ilex glabra</i>	gallberry	FACW
<i>Ilex myrtifolia</i>	holly, myrtle	FACW
<i>Ilex verticillata</i>	winterberry	FACW
<i>Juniperus silicicola</i>	southern red cedar	FAC
<i>Ludwigia peruviana</i>	primrose willow	OBL
<i>Lyonia lucida</i>	fetterbush	FACW
<i>Magnolia virginiana</i>	sweet bay	FACW+
<i>Myrica cerifera</i>	wax myrtle	FAC+
<i>Nyssa sylvatica</i>	black gum	OBL
<i>Persea borboni</i>	red bay	FACW
<i>Pinus palustris</i>	longleaf pine	FACU+
<i>Pinus elliottii</i>	slash pine	FACW
<i>Pinus serotina</i>	pond pine	FACW+
<i>Pinus taeda</i>	loblolly pine	FAC
<i>Quercus phellos</i>	willow oak	FACW-
<i>Quercus laurifolia</i>	laurel oak	FACW
<i>Salix</i> spp.	willow	OBL
<i>Sabal palmetto</i>	cabbage palm	FAC
<i>Smilax laurifolia</i>	greenbriar, laurel-leaf	FACW+
<i>Smilax</i> spp.	greenbriar	FAC
<i>Taxodium distichum</i>	bald cypress	OBL

D. Forested

SCIENTIFIC NAMES	COMMON NAME	REGIONAL INDICATOR STATUS*
<i>Acer rubrum</i>	red maple	FAC
<i>Magnolia virginiana</i>	sweet bay	FACW+
<i>Myrica cerifera</i>	wax myrtle	FAC+
<i>Nyssa aquatica</i>	water tupelo	OBL
<i>Nyssa sylvatica</i>	black gum	FAC

D. Forested (Continued)

SCIENTIFIC NAMES	COMMON NAME	REGIONAL INDICATOR STATUS*
<i>Nyssa sylvatic</i> var. <i>biflora</i>	swamp tupelo	OBL
<i>Persea borbonia</i>	red bay	FACW
<i>Pinus elliottii</i>	slash pine	FACW
<i>Pinus taeda</i>	loblolly pine	FAC
<i>Pinus palustris</i>	longleaf pine	FAC
<i>Quercus laurifolia</i>	laurel oak	FACW
<i>Sabal palmetto</i>	cabbage palm	FAC
<i>Salix</i> spp.	willow	OBL
<i>Taxodium distichum</i>	bald cypress	OBL

**Table II
NWI WETLAND CLASSIFICATION CODES, COWARDIN DESCRIPTION AND COMMON
TERMINOLOGY**

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
A. Marine			
M2US (N,P)	Marine, intertidal unconsolidated shore	beaches	None
M1UBL	Marine, subtidal, unconsolidated bottom	open water	None
B. Estuarine			
E1UBL	Estuarine, subtidal, unconsolidated bottom	bays, ocean inlets, waterways	None
E2US (N,P)	Estuarine, intertidal unconsolidated shore	sandbars, mud flats, dunes	None
E2EM1 (N,P)	Estuarine, intertidal emergent, persistent	salt marshes, ocean inlets, estuarine river tidal floodplains	Batis maritima, saltwort Juncus roemerianus, black needle rush Spartina alterniflora, saltmarsh cordgrass
E2SS3P	Estuarine, intertidal, scrub-shrub, broad-leaved evergreen	salt marshes, ocean inlets, estuarine river tidal floodplains	Myrica cerifera, wax myrtle Ilex glabra, gallberry Sabal palm, cabbage palm
E2SS4P	Estuarine, intertidal, scrub-shrub, needle-leaved evergreen	salt marshes, ocean inlets, estuarine river tidal floodplains	Pinus elliottii, slash pine

*The scientific names
should be underlined
or italicized.
Also be consistent
on how they are listed.
Some have a comma
and others are in
parentheses.*

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
E2FO3P	Estuarine, intertidal forested broad- leaved, evergreen	salt marshes ocean inlets estuarine river tidal floodplain	Sabal palmetto, cabbage palm
E2FO4P	Estuarine, intertidal forested, needle- leaved, evergreen	salt marshes ocean inlets estuarine river tidal floodplain	Pinus elliottii, slash pine
C. Riverine			
R1UBV	Riverine, Tidal, unconsolidated bottom	Meandering rivers, low gradient, tidally influenced	None
R2UBH	Riverine, lower perennial, un- consolidated bottom	Meandering rivers, low gradient	None
R1US (R,T)	Riverine, Tidal, unconsolidated shore	Mud or sand bars, tidally influenced	None
R2US (A,C)	Riverine, lower perennial, un- consolidated shore	Mud or sand bars	None

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
D. Lacustrine			
L1UB (F,G,H)	Lacustrine, limnetic, unconsolidated bottom	Open water-large lakes or reservoirs	None
L2US (A,C)	Lacustrine, littoral, unconsolidated shore	Mud or sand flats	None
L2AB4 (F,H)	Lacustrine, littoral, floating vascular	Permanent or semi- permanent lakes	<u>Lemna spp.</u> (duckweed)
E. Palustrine			
PUB (F,G,H)	Palustrine, unconsolidated bottom	Open water lakes, reservoirs or ponds	None
PUS (A,C)	Palustrine, unconsolidated shore	Mud or sand flats, basins	None
PAB3 (F,G,H)	Palustrine, aquatic bed rooted-vascular	Deep basins, im- poundments, beaver ponds, sewage treatment ponds	Nymphaea spp. (waterlily)
PAB4 (F,G,H)	Palustrine, Floating vascular, aquatic bed	Deep basins, im- poundments, beaver ponds, sewage treatment	Lemna spp. (duckweed)

NW I CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PEM1 (A,B,C,F,R,S,T)	Palustrine emergent, persistent	Basins, depressions, floodplains, small beaver ponds, seeps, oxbows or drainage areas	<p>Andropogon virginicus, broomsedge</p> <p>Aristida stricta, wiregrass</p> <p>Carex spp., sedges</p> <p>Distichlis spicata, salt grass</p> <p>Drosera capillaris, sundew</p> <p>Eleocharis cellulosa, spike rush</p> <p>Eriocaulon decangulare, hat pin</p> <p>Mariscus jamaicense, sawgrass</p> <p>Lachnanthes caroliniana, red root</p> <p>Leersia oryzoides, rice cutgrass</p> <p>Ludwigia palustris, marsh seedbox</p> <p>Osmunda regalis, royal fern</p> <p>Phragmites australis, common reed</p> <p>Polygonum punctatum, smartweed</p> <p>Sagittaria lancifolia, bull tongue</p> <p>Salicornia virginica, glass wort</p> <p>Sarracenia spp., pitcher plant</p> <p>Toxicodendron radicans, poison ivy</p> <p>Typha latifolia, broad-leaf cattail</p> <p>Woodwardia areolata, net chain fern</p> <p>Xyris spp., yellow-eyed grass</p> <p>Zizania aquatica, wild rice</p> <p>Zizanopsis miliacea, giant cutgrass</p>

NWI CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PSS1 (A, B, C, F)	Palustrine scrub-shrub, broad-leaved deciduous	Riverbanks, agricultural drainage, oxbows and sloughs	Acer rubrum, red maple Baccharis halimifolia, false willow Cornus spp., dogwood Nyssa sylvatica, black gum Quercus laurifolia, laurel oak Salix spp., willow ✓
PSS2 (C, F)	Palustrine, scrub- shrub, needle- leaved deciduous	Riverbanks, agricultural or natural drainage, oxbows, sloughs	Taxodium distichum, bald cypress
PSS3 (A, B)	Palustrine, scrub- shrub, broad-leaved evergreen	Riverbanks, agricultural or natural drainage, oxbows, sloughs	Cyrilla racemiflora, titi ✓ Ilex cassine, holly, dahoon ✓ Ilex glabra, gallberry ✓ Ilex myrtifolia, holly, myrtle ✓ Ilex verticillata, winterberry ✓ Lyonia lucida, fetterbush ✓ Magnolia virginiana, sweet bay ✓ Myrica cerifera, wax myrtle ✓ Sabal palmetto, cabbage palm ✓
PSS4 (A, B, C)	Palustrine, scrub- shrub, needle- leaved evergreen	Pine plantations, low pine flatwoods, needle leaved ever- green, swamps	Juniperus silicicola, southern red cedar Pinus elliottii, slash pine Pinus palustris, longleaf pine Pinus taeda, loblolly pine

NW CODE WATER REGIME	COWARDIN DESCRIPTION	COMMON DESCRIPTION	VEGETATION
PFO1 (A, B, C, F)	Palustrine, forested broad-leaved deciduous	Riverbanks, agricultural or natural drainages, bottom land forests, swamps	Acer rubrum, redmaple Nyssa aquatica, water tupelo Nyssa sylvatica, black gum Nyssa sylvatica var. biflora, swamp tupelo Quercus laurifolia, laurel oak Salix spp., willow
PFO2 (C, F)	Palustrine, forested needle-leaved deciduous	Riverbanks, agricultural or natural drainage, cypress swamps	Taxodium distichum, bald cypress
PFO3 (A, B)	Palustrine, forested broad-leaved	Riverbanks, bay heads, bay swamps	Cliftonia monophylla, black titi Magnolia virginiana, sweet bay Myrica cerifera, wax myrtle Persea borbonia, red bay Sabal palmetto, cabbage palm
PFO4 (A, B)	Palustrine, forested needle-leaved evergreen	Pine plantations, low pine flatwoods needle leaved ever- green swamps	Pinus elliottii, slash pine Pinus palustris, longleaf pine) Pinus taeda (loblolly pine)

Table III

Soils as Wetland Indicators*maybe just go
wetland classification?*

<u>Soil</u>	<u>Location Description</u>	<u>Dominant Wetland Type</u>	<u>Capability Subclass</u>
Dorovan Muck	Large hardwood swamps River flood plains	PF01C, PF01F, PSS1C, PSS1F	VIIw

“ This table will be added to as work progresses and soils are identified”

V. National List of Wetland Plant Species

The service has prepared a National List of Plant Species that Occur in Wetland Florida (Reed 1988) which assigns an indicator to each plant species found in wetlands. This wetland indicator describes the frequency of occurrence of an individual species in wetlands versus nonwetlands within the state. (Similar plant lists are available for other states and regions in the United States). Table I lists both the common name and scientific name, as well as the wetland indicator, for common wetland plants that occur in the work area. The following wetland indicators have been assigned to plants that occur in wetlands.

Obligate (OBL): Occur almost always (estimated probability >99%) under natural conditions in wetlands.

Facultative Wetland (FACW): Usually occur in wetlands. (estimated probability 67-99%), but occasionally found in nonwetlands.

Facultative (FAC): Equally likely to occur in wetlands or nonwetlands. (estimated probability 34-66%).

Facultative Upland (FACU): Usually occur in nonwetlands (estimated probability 67-99%), but occasionally found in wetlands. (estimated probability 1-33%).

Non-wetland (UPL): Occur in wetlands in another region, but occur almost always (estimated probability >99%) under natural conditions in nonwetlands in the region specified. If a species does not occur in wetlands in any region, it is not on the national list.

across the entire distribution of the species

✓

- (T) Semipermanent-Tidal – 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. Surface water and water table elevations are affected by tidal fluctuations.

- (V) Permanent-Tidal - Water covers the land surface throughout the year in all years. Vegetation is composed of obligate hydrophytes. Surface water levels are influenced by tidal fluctuations.

*What is this?
Are you missing a page?
Like maybe*

page 10

*Page 10
is: III. Water Regime Description*

VII. Imagery:**A: Photographic Interpretation Conventions*****A. Riverine System*****1) R2UBH:****Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded.**

The R2UBH classification is used for permanent rivers in the work area that are unaffected by tidal influence. Most of the rivers in this area have a low gradient, slow water velocity, and well-developed floodplains. However, a few rivers in the work area have a slightly steeper gradient with less developed floodplains, but still fall into the R2 Subsystem. Portions of perennial and intermittent streams obscured by tree canopy will be classified under the Palustrine System. The photo signature is open water.

2) R1UBV:**Riverine, Tidal, Unconsolidated Bottom, Permanently Flooded.**

As rivers near the Gulf of Mexico, they are influenced by tidal action and are classified as R1UBV. These tidal influences are reflected in the plant communities and the sediment deposition that occurs in these areas. The photo signature is open water.

3) R2USC:**Riverine, Lower Perennial, Unconsolidated Shore, Seasonally Flooded.**

Sand and mud flats along the R2UBH rivers will be classified R2USC. Photo signatures vary from bluish-gray to white.

4) R1USR:**Riverine, Tidal, Unconsolidated Shore, Seasonally Flooded.**

Sand and mud flats along the R1UBV rivers will be classified R1USR. Photo signatures vary from bluish-gray to white.

5) R4SBC:

No
R2USA?
No
R1USS?

Riverine, Intermittent, Streambed, Seasonally Flooded.

Intermittent streams with little or no water visible, will be classified R4SBC. These wetlands must have a clearly discernable streambed, of at least pen-width in size on the aerial photo in order to be delineated. R4SBC will not be utilized often within the work area, and it will be used mainly as a connector from wetland polygon to wetland polygon. Photo signature may be blue, blue-gray, or white.

These are often vegetated thus placing them in the palustrine system.

B. Lacustrine System1) L1UBH:**Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded.**

Photo signature of L1UBH is that of open water which has a smooth appearance and a color range from shades of blue to black

2) L2USC/L2USA:**Lacustrine, Littoral, Unconsolidated Shore, Seasonally/Temporarily Flooded**

Photo signature can range from white to light blue (L2USA) to medium blue-gray (L2USC)

3) L2AB3H:**Lacustrine, Littoral, Aquatic Bed, Rooted Vascular, Permanently Flooded.**

Photo signature is smooth textured whitish-pink to pinkish-red signature.

4) L2AB4H:**Lacustrine, Littoral, Aquatic Bed, Floating Vascular, Permanently Flooded.**

Photo signature is bright pink

C. Palustrine System1) PFO1A:**Palustrine, Forested, Broad-Leaved Deciduous, Temporarily Flooded.**

This classification was not observed in the field. Photo signature is usually light gray with varied crown height.

2) PFO1B:

Palustrine, Forested, Broad-Leaved Deciduous, Saturated.

This classification was not observed in the field. Saturated deciduous trees are commonly found associated with dominant saturated pine. Photo signature should be light gray with varied crown height.

3) PFO1C:

Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded.

Photo signature is medium to dark blue with uneven crowns.

4) PFO1E:

Palustrine, Forested, Broad-Leaved Deciduous, Semipermanently Flooded.

This deciduous vegetation returns a dark gray-blue and standing water is visible. Bald cypress (PFO2) is often associated with these areas.

5) PFO1R:

Palustrine, Forested, Broad-Leaved Deciduous, Seasonal-Tidal.

The photo signature is medium to dark blue with uneven crowns and is similar to that of PFO1C, the difference being tidal influence.

6) PFO1T:

Palustrine, Forested, Broad-Leaved Deciduous, Semipermanent-Tidal

The photo signature is dark gray-blue and standing water is present. Photo signature is similar to that of PFO1F, the difference being tidal influence.

7) PFO2C:

Palustrine, Forested, Needle-Leaved Deciduous, Seasonally Flooded.

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots with a medium to dark blue understory. . Association with water tupelo (*Nyssa Aquatica*) is common. In open stands or mixed stands, this is very difficult to consistently identify.

These areas are often monospecific thus causing a very smooth return since many of the trees are the same age & size

8) PFO2F:**Palustrine, Forested, Needle-Leaved Deciduous, Semipermanently Flooded.**

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots. Unlike the PFO2C, the PFO2F will have standing water and exhibit a very dark signature. Association with water tupelo (Nyssa Aquatica) is common. In open stands or mixed stands, this is very difficult to consistently identify.

*Some what difficult
too extreme to say vary.
If you delineate a
1/2F it immediately becomes
SUSPICIOUS*

9) PFO3B:**Palustrine, Forested, Broad-Leaved Evergreen, Saturated.**

Photo signature is "bubblegum pink" to dark pink to red with large, fluffy crowns.

10) PFO4A:**Palustrine, Forested, Needle-Leaved Evergreen, Temporarily Flooded.**

Photo signature is brick red to a reddish-brown with conical shaped trees which may be stunted and vary in height. Many of these areas are in planted rows. A grayish understory is often present. This classification was not observed in field but will probably be used in some situations. PFO4B will be used more often.

11) PFO4B:**Palustrine, Forested, Needle-Leaved Evergreen, Saturated.**

Photo signature is brick red to a reddish-brown with conical shaped trees which may be stunted and vary in height. The understory may display various saturated emergent returns. Many of these areas are in planted rows.

12) PFO4C:**Palustrine, Forested, Needle-Leaved Evergreen, Seasonally Flooded**

Photo signature is dark brick red to reddish- brown with conical shaped trees which may be stunted and vary in height, understory may be medium to dark blue.

13) PFO4F: - I understand this was a specific check site and shouldn't be a common use classification.

Palustrine, Forested, Needle-Leaved Evergreen, Semipermanently Flooded.

Photo signature is dark brick red to reddish- brown with conical shaped trees, standing water is present and trees may be stunted and vary in height.

14) PFO4R:

Palustrine, Forested, Needle-Leaved Evergreen, Seasonal Tidal.

Photo signature is dark brick red to reddish- brown with conical shaped trees which may be stunted and vary in height, understory may be medium to dark blue.

15) PFO4T:

Palustrine, Forested, Needle-Leaved Evergreen, Semipermanent Tidal.

Photo signature is dark brick red to reddish- brown with conical shaped trees, standing water is present and trees may be stunted and vary in height.

16) PSS1A:

Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Temporarily Flooded.

This classification was not observed in the field. Photo signature is usually light gray with rough texture.

17) PSS1B:

Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Saturated.

This classification was not observed in the field. Saturated deciduous shrubs were mostly commonly found associated with saturated broad-leaved evergreen shrubs (PSS3B). Photo signature would be gray-brown.

18) PSS1C:

really - I would think that broad-leaved evergreens would show as a red return.

Palustrine, Scrub-Shrub, Broad-Leaved, Deciduous, Seasonally Flooded.

Photo signature is mostly blue-gray with a rough texture.

19) PSS1E:

Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded.

Photo signature is dark brown to dark gray to black with standing water present and a rough texture.

20) PSS1R:

Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Seasonal-Tidal.

Photo signature is mostly blue-gray with a rough texture like (*PSS1C*) but tidally influenced.

21) PSS1T:

Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanent-Tidal.

Photo signature is dark brown to dark gray to black with standing water present with a rough texture like (*PSS1F*) but tidally influenced.

22) PSS2C:

Palustrine, Scrub-Shrub , Needle-Leaved Deciduous, Seasonally Flooded.

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots with a medium blue understory. Association with water tupelo (*Nyssa Aquatica*) is common. In open stands or mixed stands, this is very difficult to consistently identify. ✓

23) PSS2F:

Palustrine, Scrub-Shrub , Needle-Leaved Deciduous, Semipermanently Flooded.

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots with standing water present. Association with water tupelo (*Nyssa Aquatica*) is common. In open stands or mixed stands, this is very difficult to consistently identify. ✓

24) PSS2R:

Palustrine, Scrub-Shrub , Needle-Leaved Deciduous, Seasonal Tidal.

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots with a medium blue understory. Association with water tupelo (*Nyssa Aquatica*) is common. In open stands or mixed stands, this is very difficult to consistently identify. ✓

25) PSS2T:**Palustrine, Scrub-Shrub , Needle-Leaved Deciduous, Semipermanent Tidal.**

In the Southeastern United States this classification is bald cypress. Dense stands of bald cypress usually appear white-gray with a fluffy texture, or conical shaped white dots with standing water present. Association with water tupelo (*Nyssa Aquatica*) is common. In open stands or mixed stands, this is very difficult to consistently identify.

26) PSS3A:**Palustrine, Scrub-Shrub, Broad-Leaved Evergreen, Temporarily Flooded.**

This classification was not observed in the field. Photo signature is light pink to light red with a rough texture.

27) PSS3B:**Palustrine, Scrub-Shrub, Broad-Leaved Evergreen, Saturated.**

Photo signature is pinkish-red to deep red with a rough texture. The understory may have various saturated emergent signatures.

28) PSS4A:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Temporarily Flooded.**

Photo signature is brick red to a reddish-brown with conical shaped shrubs which may be stunted and vary in height. Many of these areas are in planted rows. A grayish understory is often present. This classification was not observed in field but will probably be used in some situations. *PSS4B* will be used more often.

29) PSS4B:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Saturated.**

Photo signature is brick red to a reddish-brown with conical shaped shrubs which may be stunted and vary in height. The understory may display various saturated emergent returns. Many of these areas are in planted rows.

30) PSS4C:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Seasonally Flooded.**

Photo signature is dark brick red to reddish brown with conical shaped shrubs and a rough texture, understory may be medium to dark blue.

31) PSS4F:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Semipermanently Flooded.**

Photo signature is dark brick red to reddish brown with conical shaped shrubs and a rough texture, understory may be medium to dark blue and standing water is present.

32) PSS4R:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Seasonal Tidal.**

Photo signature is dark brick red to reddish brown with conical shaped shrubs and a rough texture, understory may be medium to dark blue.

33) PSS4T:**Palustrine, Scrub-Shrub, Needle-Leaved Evergreen, Semipermanent Tidal.**

Photo signature is dark brick red to reddish brown with conical shaped shrubs and a rough texture, understory may be medium to dark blue and standing water is present.

34) PEMIA:**Palustrine, Emergent, Persistent, Temporarily Flooded.**

Photo signature is a smooth textured, brownish-green to grayish-green signature.

35) PEMIB:**Palustrine, Emergent, Persistent, Saturated.**

Photo signature will be smooth textured, and have a dark blue to bluish-green to grayish-green color. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

36) PEMIC:**Palustrine, Emergent, Persistent, Seasonally Flooded.**

Photo signature will be smooth textured, and have a medium to dark brown color. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

37) PEMIF:**Palustrine, Emergent, Persistent, Semipermanently Flooded.**

Photo signature usually produces a rough, dark gray-green signature with patches of open water. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

38) PEMIR:**Palustrine, Emergent, Persistent, Seasonal Tidal.**

Photo signature will be smooth textured, and has a medium to dark brown color. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

39) PEMIT:**Palustrine, Emergent, Persistent, Semipermanent Tidal.**

Photo signature usually produces a rough, dark gray-green signature with patches of open water. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

40) PAB3H:**Palustrine, Aquatic Bed, Rooted Vascular, Permanently Flooded.**

Photo signature is smooth textured whitish-pink to pinkish-red signature.

41) PAB4H:**Palustrine Aquatic Bed, Floating Vascular, Permanently Flooded.**

Photo signature is bright pink.

42) PUSA/PUSC

(3) PUSC Describe

Palustrine, Unconsolidated Shore, Temporarily/ Seasonally Flooded.

This classification refers to flat non-vegetated areas smaller than 20 acres, or non-vegetated areas along the edges of ponds and rivers. The signature can range from white to light blue (PUSA) to medium blue-gray (PUSC).

43) PUBH

tidal

Palustrine, Unconsolidated Bottom, Permanently Flooded.

Photo signature is open water with a smooth light blue to black color.

D. Estuarine System

1) E2FO3P

Estuarine, Intertidal, Forested, Broad-Leaved Evergreen, Irregularly Flooded.

Photo signature is a pink to red star-shaped tree. Cabbage palm is a common example.

2) E2FO4P

Estuarine, Intertidal, Forested, Needle-Leaved Evergreen, Irregularly Flooded.

Photo signature is dark brick red to reddish- brown with conical shaped trees which may be stunted and vary in height, understory may be medium to dark blue.

3) E2EM1P

Estuarine, Intertidal, Emergent, Persistent, Irregularly Flooded.

Photo signature is smooth textured, and have a brownish-green to grayish-green color, similar to PEM1C. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

4) E2EM1N

Estuarine, Intertidal, Emergent, Persistent, Regularly Flooded.

This vegetation usually produces a smooth, light blue signature with occasional patches of open water. Some signatures also have a white appearance, which is indicative of dead vegetation or deteriorating terminal ends.

Add PUSC
PUSC/PUSG
PUSC/PUSG

5) E2USP/E2USN:

Estuarine, Intertidal, Unconsolidated Shore, Irregularly/Regularly Flooded.

Signatures vary from bluish-gray to white. Sandbars, mud flats and portions of dunes adjacent to estuaries will be classified E2USP or E2USN depending upon how they are affected by the tidal range.

6) E1UBL:

Estuarine, Subtidal, Unconsolidated Bottom.

Bays, inlets and the intercoastal waterway will fall under this classification. The signatures are of open water and will range in color from light blue to black.

7) E1AB3L *D. Marine System* *1c1P/seaweed* *AB sig* *Mottled brown* *photo*
coastline < 6' *depth* *shallow* *areas*

1) M2USP/M2USN:

Marine, Intertidal, Unconsolidated Shore, Irregularly/Regularly Flooded.

The photo signatures will vary from bluish-gray to white. Beach sections seaward of the dune, including all areas affected by the high water of spring tides, will be included in these classifications. These sections will be grouped according to how they are affected by tidal fluctuations.

2) M1UBL:

Marine, Subtidal, Unconsolidated Bottom.

Photo signature is open water and will range in color from light blue to black.

B: General Conventions

- 1) Special modifiers for our work area include (b) beaver, (d) partially drained/ditched, (h) diked/impounded, and (x) excavated.
- 2) Sewage treatment facilities, without an aquatic bed present, will be labeled PUBKx. When an aquatic bed is present, sewage treatment plants will be labeled PAB3Kx or PAB4Kx.
- 3) Water drainages, such as drainage ditches and small streams, will be classified as linear wetlands (must be pen-width in size). Unvegetated waterways will be labeled R4SBC. Small waterways concealed in the photography by vegetation will be classified under the appropriate palustrine vegetation type.
- 4) Split classes will be used sparingly.
- 5) Wetland mapping will adhere to existing NWI mapping conventions.

VIII. MAP PREPARATION

Wetland delineation and classification is in accordance with Cowardin et. al. (1979). Further wetland mapping guidance is provided by NWI photographic and cartographic conventions in compliance with national consistency. Delineations are produced through stereoscopic interpretation of 1:65,000 and 1:40,000-scale color infrared photography.

Field check sites found within the described work area were made prior to wetland delineation. Field check sites were selected to clarify obscure signatures found on the photography and also to verify common signatures encountered throughout the work area. These photographic signatures were then identified in the field using vegetation and soil types, as well as additional input from USFWS field personnel.

The user of the map is cautioned that, due to the minimum mapping unit a small percentage of wetlands may be unidentified. Since the photography was taken mainly during March of 1996, there may be discrepancies between the maps and more recent field conditions in November of 1997. Changes in landscape, which occurred after the photography was taken, would result in such discrepancies. One example is scrub-shrub (PSS...) photo signatures which has since grown into forested areas (PFO...).

← Aerial photographic interpretation, and compilation of photographic interpretation overlays, was completed by Greenhorne & O'Mara, Inc. at the Government owned Contractor operated (GOCO) facility in Pinellas Park, Florida. Quality control conducted by the United States Fish and Wildlife Service.

IX. SPECIAL MAPPING PROBLEMS

- The source photography, NASA 1:65000, is a smaller scale than normally used and will not allow the amount of detail that the area was previously mapped at.
- Burned areas are at times hard to interpret. They may resemble open water or seasonal or semi-permanent wetland areas.
- Large portions of Tallahassee SW and Apalachicola NW were inaccessible because of fences and "No Trespassing Signs". This land had recently been acquired by St. Joe Paper Company. This area has extensive wetlands and many unique photographic signatures.
- Areas of young planted pine will be difficult to delineate. Check sites of some of these areas revealed bedding and manipulation that left them in an upland state.
- Field work which was originally scheduled for five days, was reduced to three and one half days. The Regional Wetland Coordinator (RWC) met us at 2PM Monday and because of vehicle logistics, we ended our field work on Thursday, November 6.
- The contractual agreement of five checksites per 1:100k was unable to be met. The RWC agreed this was not possible and felt comfortable with the quantity and quality of the check sites visited and the overall field work

Were you able to see these signatures at other sites

why?

X. Map Acquisition

To discuss any questions concerning these maps or to place a map order, please contact:

Charles Storrs
Regional Wetland Coordinator
U.S. Fish and Wildlife Service-Region IV
1875 Century Blvd.
Room 200
Atlanta, GA 30345

To order maps only, contact:

Earth Science Information Office
Blaisdell House
University of Massachusetts
Amherst, MA 01003
Attn: Dennis Swartwout email ESIC@TELUMASS.EDU
(413)545-0359 fax (413)545-2304

or

National Cartographic Information Center
U.S. Geological Survey
National Center
Reston, VA 22092 1-800-USAMAPS

Maps are identified by the name of the corresponding USGS 1:24,000 scale topographic quadrangle name.

XI. Literature Cited

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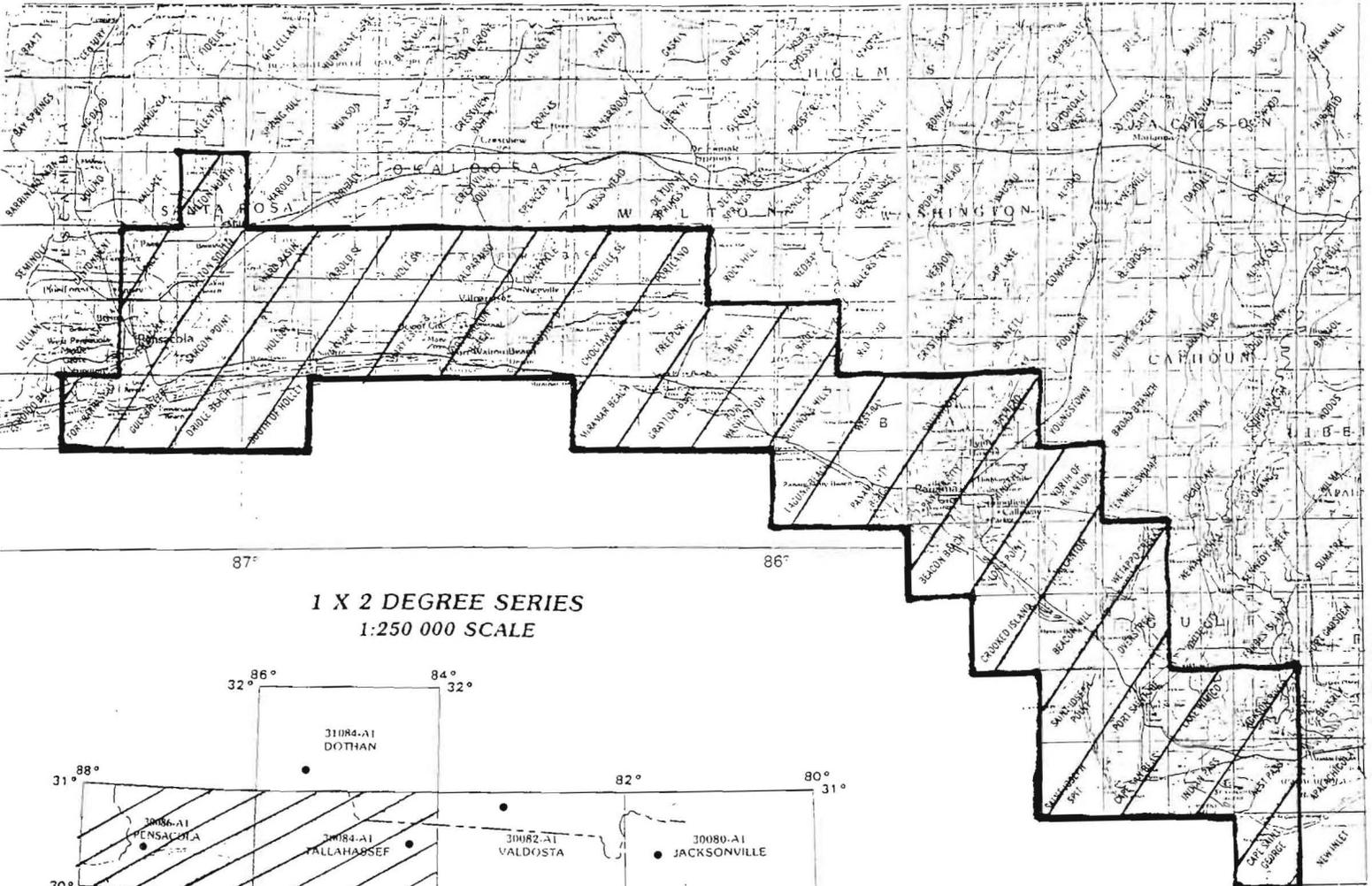
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APPENDIX A LOCATOR MAP



**1 X 2 DEGREE SERIES
1:250 000 SCALE**

