

USER REPORT: WEST PALM BEACH NW, E;
MIAMI, NW, NE, SE; TAMPA, 4

NATIONAL WETLANDS INVENTORY MAPS

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 classifications 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:

This study area covers a significant portion of south Florida's Gulf and Atlantic coasts. Bailey describes the ecoregion as the Everglades Province and the Outer Coastal Plain Forest Province of the Subtropical Domain.

The mapping area contains the Everglades, Big Cypress Swamp, Ten Thousand Islands, Corkscrew Swamp, Fakahatchee Strand, J.N. "Ding" Darling Refuge, and the Caloosahatchee River. Relief in the Everglades is flat, with a strata of limestone underlying a mantle of organic peat. The low coastal plain contains large areas of swamp and marsh with streams, canals, and ditches draining to the ocean. Interior hammocks and pine flatwoods rise a few feet above the normal low level. Along the coastline low beach ridges and dunes rise a few feet above the adjoining mangrove swamps and salt marsh.

Climate:

The tropical climate is characterized by generally high temperatures and humidity, dramatic seasonal variation in rainfall, and prevailing southeasterly winds. The average precipitation is 50 to 65 inches annually. The average annual temperature is 70° F to 75° F, with practically frost-free conditions throughout the year.

Vegetation:

The Everglades and Coastal Plain Forest province is characterized by tropical moist hardwood forests and wet prairies. The dominant plant communities of the coastal plain are the expansive mangrove swamps and coastal prairies. Inland, the dominant communities consist of cypress swamps, wet prairies, sawgrass marsh, and tree islands of the Everglades.

On slightly higher ground where the water level changes, dramatic changes in plant communities occur. A transition occurs from dwarf cypress and wet prairies to cypress and broad-leaved deciduous and evergreen sloughs. On higher ground, hard wood hammocks and pine flatwoods will dominate.

Soils:

Soils of the Everglades and Outer Coastal Plain Province are mixtures in varying proportions of sand, mud, rock, and decomposed organic matter. The Everglades soils are primarily made up of decomposed vegetation matter.

Coastal plain soils are derived from coastal sediments, ranging from clay to gravel, but sandy materials predominate. Bailey classifies the soils as Histosals and Inceptisals.

D. WETLAND CLASSIFICATION CODES AND WATER REGIME DESCRIPTIONS

Table 1 - Cowardin Classification Codes and Descriptions (1 of 3)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
M1UB (L)	Marine, subtidal unconsolidated bottom	Atlantic Ocean, Gulf of Mexico	Unconsolidated Bottoms
M2US (M,N,P)	Marine, intertidal unconsolidated bottom	Beaches or exposed tidal flats	Sand and shell fragments
E1UB (L)	Estuarine, subtidal 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 needle-rush)
E2SS3 (P)	Estuarine, intertidal scrubshrub, broadleaved evergreen	High marsh shrub	<u>Iva frutescens</u> (marsh elder) <u>Myrica cerifera</u> (wax myrtle) <u>Baccharis halimifolia</u> (saltbush)
E2SS3 (U)	Estuarine, intertidal scrubshrub, broadleaved evergreen	Mangrove	<u>Rhizophora mangle</u> (red mangrove) <u>Avicennia germinans</u> (black mangrove) <u>Laguncularia racemosa</u> (white mangrove) <u>Conocarpus erectus</u> (buttonwood)
E2F03 (U)	Estuarine, intertidal scrubshrub, broadleaved evergreen	Mangrove	<u>Rhizophora mangle</u> (red mangrove) <u>Avicennia germinans</u> (black mangrove) <u>Laguncularia racemosa</u> (white mangrove) <u>Conocarpus erectus</u> (buttonwood)
E2F07 (P)	Estuarine, intertidal forested, evergreen	Coastal palm hammocks	<u>Sabal palmetto</u> (cabbage palm) <u>Juniperus silicicola</u> (southern red cedar)

Table - 1 Cowardin Classification Codes and Descriptions (2 of 3)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
R1UB (V)	Riverine, tidal unconsolidated bottom	Tidal 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 (G,H)	Lacustrine, aquatic bed, floating vascular	Lakes	<u>Lemna</u> spp. (duckweed) <u>Pistia stratiotes</u> (water lettuce)
PUB (F,G,H)	Palustrine, unconsolidated bottom	Ponds	Unconsolidated bottoms
PAB3 (F,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 (F,G,H)	Palustrine, aquatic bed, floating vascular		<u>Lemna</u> spp. (duckweed) <u>Pistia stratiotes</u> (water lettuce) <u>Eichhornia crassipes</u> (water hyacinth)
PEM1 (A,B,C F,G)	Palustrine, emergent, persistent	Ponded prairies, marshes, depressions, or drainage areas	<u>Cladium jamaicense</u> (sawgrass) <u>Thalia geniculata</u> (alligator weed) <u>Typha latifolia</u> (common cattail) <u>Carex</u> spp. (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 caroliniana</u> (coastal plain willow) <u>Cephalanthus occidentalis</u> (buttonbush) <u>Acer rubrum</u> (red maple)

Table - 1 Cowardin Classification Codes and Descriptions (3 of 3)

NWI CODE WATER REGIME	NWI DESCRIPTION	COMMON DESCRIPTION	CHARACTERISTIC VEGETATION
PSS3 (B)	Palustrine, scrub-shrub, broad leaved evergreen	Everglades shrub island	<u>Persea borbonia</u> (red bay) <u>Myrica cerifera</u> (wax myrtle) <u>Magnolia virginiana</u> (sweet bay) <u>Melaleuca guinguenvia</u> (cajeput tree) <u>Ilex Cassine</u> (dahoon holly)
PSS3 (A,C)	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>Melaleuca guinguenvia</u> (cajeput tree) <u>Ilex Cassine</u> (dahoon holly)
PF03 (B)	Palustrine, forested mixed ever- green	Everglades Forested Tree Islands	<u>Persea borbonia</u> (red bay) <u>Melaleuca guinguenvia</u> (cajeput tree)
PF01 (A,C,F)	Palustrine, forested, broad leaved deciduous	Floodplains, swamps or de- pressions	<u>Acer rubrum</u> (red maple) <u>Quercus laurifolia</u> (laurel oak) <u>Fraxinus caroliniana</u> (pop ash) <u>Salix caroliniana</u> (coastal plain willow)
PF02 (A,C,F)	Palustrine, forested, needle-	Cypress domes, sloughs or swamps	<u>Taxodium distichum</u> (bald cypress)
PF03 (A,C)	Palustrine, forested, broad leaved evergreen	Bay swamps	<u>Magnolia virginiana</u> (sweet bay) <u>Persea borbonia</u> (red bay) <u>Quercus laurifolia</u> (laurel oak) <u>Melaleuca guinguenvia</u> (cajeput tree)
PF04 (A,C)	Palustrine, forested, needle- leaved evergreen	Pine flatwoods	<u>Pinus elliottii</u> (slash 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 and the inverse of split subclasses will be used. However, the vegetation characteristics will be the same only in different percentages.

F. MAP PREPARATION

The wetland classification that appears on the West Palm Beach NW, SW, SE and Miami SE, NE, NW and Tampa IV 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 January 1984, February and March 1984 and 1985, and November 1985.

Field checks of areas found within West Palm Beach NW, SW, SE and Miami SE, NE, NW and Tampa IV 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.

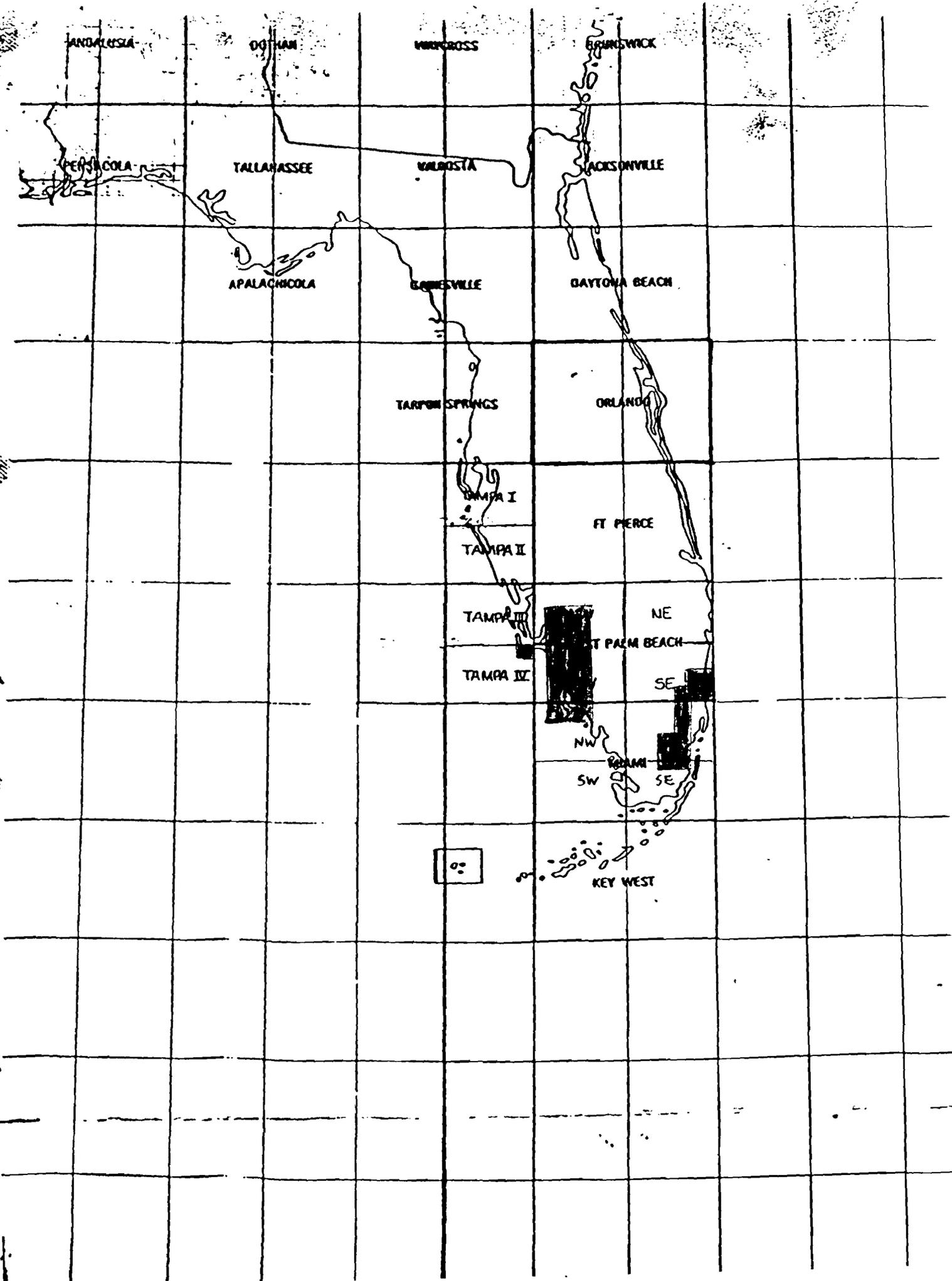
Collateral data included USGS topographic maps, SCS soil surveys, old NWI maps, and ecoregional information.

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:

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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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