

FIELD SUMMARY REPORT
SOUTH MOBILE BAY, ALABAMA
(18 QUADRANGLES)

I. INTRODUCTION

Field reconnaissance was conducted during the period of December 4, 1989 through December 7, 1989. The purpose was to ground truth aerial photography for the Mobile SE 1:100,000 and Pensacola SW 1:100,000.

A. 1:100,000's:

Mobile SE Pensacola SW

B. Quadrangles:

Bellefontaine	Kreole
Coden	Little Dauphin Island
Magnolia Springs	Bon Secour Bay
Gulf Shores	Point Clear

C. Personnel:

G. Pipkin -	Geonex Martel, Inc.
D. Manz -	Geonex Martel, Inc.

D. Date of Field Trip:

December 4 - 7, 1989

E. Photography:

Type:	NASA
Scale:	1:65,000
Dates:	November 17, 1988 and March 30, 1989

F. Collateral Data:

1. 7.5 minute and 1:250,000 scale U.S.G.S. topographic maps.
2. Bailey, Robert G., Description of the Ecoregions of the United States, U.S. Department of Agriculture, 1980.
3. Soil surveys of Mobile and Baldwin Counties, Alabama, and Jackson County, Mississippi, 1985. U.S. Department of Agriculture, Soil Conservation Service.
4. Hydric Soils of the States of Mississippi and Alabama, 1985. U.S. Department of Agriculture, Soil Conservation Service.
5. A Guide To Selected Florida Wetland Plants and Communities, U.S. Army Corps of Engineer, Jacksonville District, 1988.
6. Wetland Plants of the State of Alabama, 1986. U.S. Department of the Interior, Fish and Wildlife Service.

II. OVERVIEW

The project area consist of eleven quadrangles in Mobile SE and seven quadrangles in Pensacola SW (See Appendix I). Bailey's Ecoregions lists the entire study area in the Outer Coastal Plain Forest Province of the Humid Subtropical Division. More specifically broken down into the Beech-Sweetgum-Magnolia-Pine-Oak Forest Section (2311L).

The climate of the study area consists of hot, humid summers and temperate winters. Average annual temperature is 68°F. The average annual precipitation is sixty-four inches.

There are numerous hydric soils in the study area. Dominant soil associations are the Axis-Laffite, Bayou-Escambia, and Dorovan-Johnston-Levy soils in Mobile County. Bibb, Grady, Leon, Rains, Swamp, and Tidal marsh soils are dominant in Baldwin County. Rains, Grady, and Plummer are dominant soils in Jackson County.

Bailey's states the vegetation consists of coniferous and mixed coniferous-deciduous forest. Evergreen oaks and members of the laurel and magnolia families are commonly found. These forests have a well developed lower stratum of vegetation.

III. BIOLOGICAL CHARACTERISTICS OF WETLANDS

A. Marine:

The work area contained barrier islands which bordered on the Gulf of Mexico. Dauphin Islands and peninsular areas of the eastern region work area were the major areas of concern. Marine-Subtidal (M1UBL) is the classification designated to all areas seaward of these barrier islands.

B. Estuarine:

The estuarine areas were located along the coast of Mobile Bay and had minimal penetration landward in the form of excavations, drainages, floodplains, creeks, and the mouths of rivers. Class designations include E1UBL, E2EM1N and P, E2SS1P, E2SS3P, E2USM, N, and P.

Emergents found in regularly flooded estuarine areas include smooth cordgrass (Spartina alterniflora), soft stem bulrush (Scirpus validus), and black needle rush (Juncus roemerianus). The following species occur in irregularly flooded areas: black needle rush, soft stem bullrush, salt grass (Distichlis spicata), salt meadow cordgrass (Spartina patens), sawgrass (Cladium jamaicense) and common reed (Phragmites australis).

Scrub-shrub species (E2SS1P) include: Cedar (Juniperus sp.) and Baccharis (Baccharis sp.) were found in irregularly flooded areas. Very few forested estuarine areas were found. Unconsolidated shore (E2US) areas include beaches, salt flats, and mud flats. These range from irregularly flooded to irregularly exposed.

C. Lacustrine:

Few freshwater lakes are found in the work area. Bodies of fresh water greater than twenty acres will be labeled L1UBH.

D. Riverine:

Major drainages in the work area include the Fowl River, Escatawpa River, Fish River, Magnolia River, and Carls Creek. These are all permanently flooded rivers that receive tidal inundation. These will be classified as R2UBH upstream, R1UBV in fresh water tidal areas and E1UBL in saline tidal areas downstream.

E. Palustrine:

Emergents found in semipermanently flooded and seasonally flooded areas include cattail (Typha latifolia), switch cane (Arundinaria tecta), sedges (Cyperus sp.), penny wort (Hydrocotyle umbellata). Black needle rush and sawgrass were also found in fresh water conditions.

Emergents found in temporary flooded to saturated areas include wiregrass (Aristida stricta), pitcher plants (Sarracenia flava and minor), hat pins (Eriocaulon septanquolare), and mosses (Sphagnum sp.).

Scrub-shrub communities found ranged from temporary to semipermanently flooded and include swamp cyrilla (Cyrilla racemiflora), sweet bay (Magnolia virginiana), wax myrtle (Myrica cerifera), red maple (Acer rubrum), pines (Pinus sp.), willow (Salix nigra), inkberry (Ilex gabra), gallberry (Ilex coriacea), and baccharis (Baccharis angustifolia).

Palustrine forested species are commonly found in floodplains, bottomlands and depressional areas. Water regimes vary from temporary to semi-permanently. Broad leaf deciduous (PF01) species include red maple, sweet gum (Liquidamber styraciflua), willow (Salix sp.), chinese tallow (Sapium sebiferum), sycamore (Platanus occidentalis), and tupelo (Nyssa sp.). Common broad leaf evergreen (PF03) species include sweetbay and swamp cyrilla. Cypress (Taxodium distichum) is the only needle leaf deciduous species found (PF02) and pines (Pinus sp.) are classified as (PF04) needle leaf evergreen.

Aquatic beds consisted of water hyacinth (Eichhornia crassipes), and duckweed (Lemna sp.) and will be classified as AB4. These had semipermanently to permanently flooded water regimes (F,H).

F. Uplands:

Upland classifications will be used for this project. Both level I and II will be used along with the omega symbol.

IV. CONDITION OF IMAGERY, PRIMARY DELINEATIONS, FIELD CHECKING

A. Considerations of imagery

1. Overall quality of imagery was moderate.
 - a. Emulsion
 1. Emulsion tone is mostly consistent throughout except for a few photos which were very dark, making water regime breaks difficult.
 2. Some spectral reflectance is present.
 - b. Resolution quality was good.
2. Photography was taken in fall (November 1988), and spring (March 1989). The November photography is leaf-out while the March photography is not as leafed out making it a little easier to use.
3. Problems
 - a. Problems encountered were extreme cloud cover of five quadrangles located on the five southernmost portions of work area. These were considered "Holiday".
 - b. A major concern was that the photography was in a "leafed out" condition, making difficult photo-interpretation. The ability to differentiate communities will also be difficult.

B. Expectations versus Ground Verification

1. Upland versus wetland - there were no problems.
2.
 - a. Wetland signatures - there was some concern in reference to over-delineation of pine flatwood/bog situations. This was due to slight variations in the photo signatures and consolidation of soil types by S.C.S.
 - b. Forested communities will be difficult to differentiate by subclass and will require fine-tuning at draft map review.

V. SOLUTIONS TO PROBLEMS ENCOUNTERED

- A. The decision was made by Larry Handley to supply different photography for the Holiday areas. Filler photography should be received in March 1990.
- B. The ability to differentiate the pine flatwood/bog communities was to follow the U.S.G.S. topographic map and the Department of Agriculture Soil Surveys for specific areas along with photo signature.

VI. SUMMARY

Overall, the study area consisted largely of estuarine emergent coastal plains, riverine floodplains, and pine flatwood/bogs.

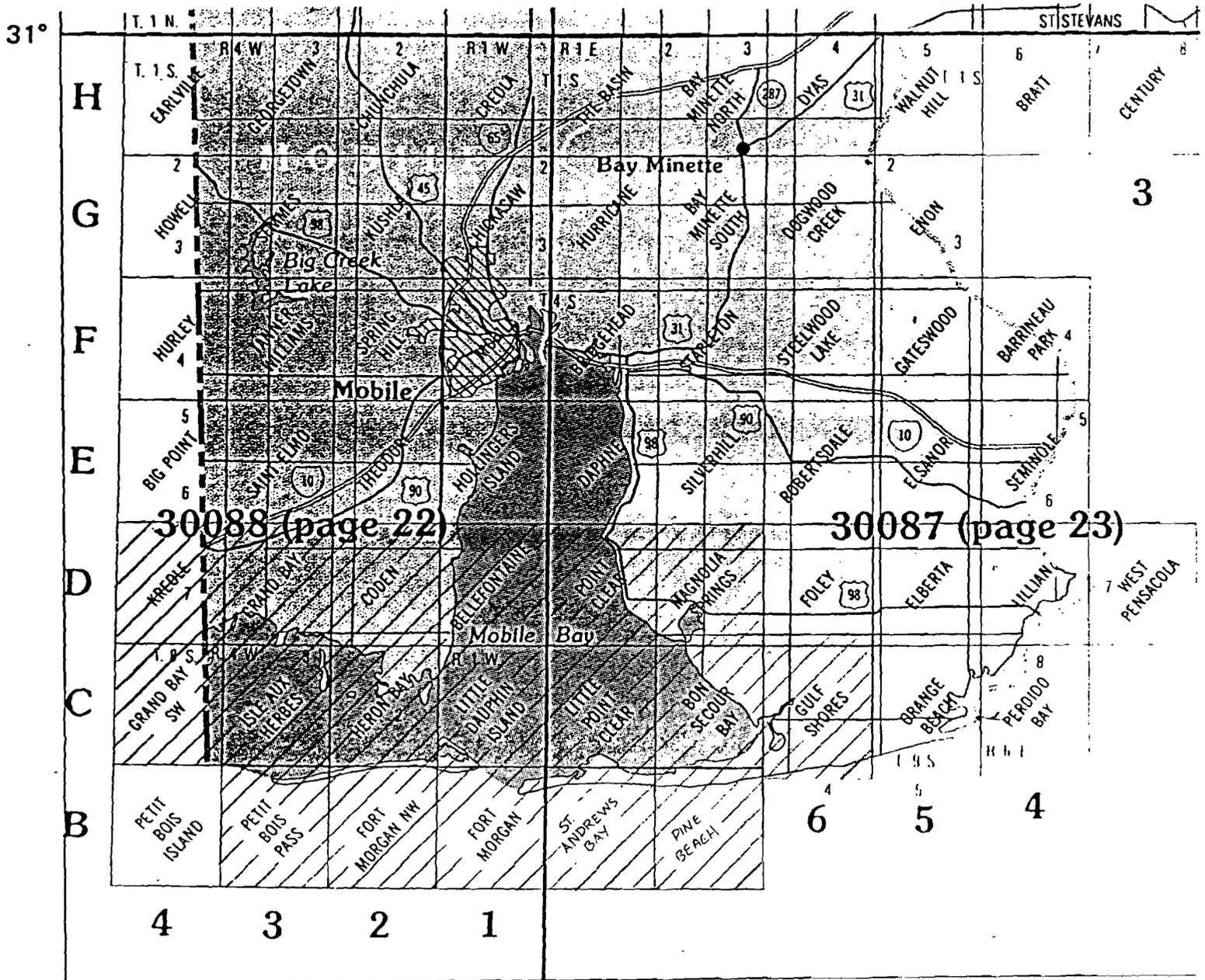
Estuarine emergent marshes appeared on most coastal areas and at the entrance to many rivers. these areas were irregularly flooded with occasional regularly flooded areas. Change in photo signature will signal tidal marsh from palustrine.

Riverine floodplains were predominant in the southern coastal plains. These areas were mostly heavily forested, although some areas were scrub-shrub. The rivers were all lower perennial and slow moving.

Pine flats in the study area were temporarily flooded or saturated with an understory of wax myrtle, wiregrass, saltbush, gallberry, and trumpets. These areas were quite expansive and did occupy a large percentage of the Coastal Plain area.

APPENDIX I

Southern Mobile Bay Work Area



88°

Anderson Upland Classification System

Level I

U Urban or Built-up Land

(i.e., U_o - oil and/or gas use)
All other Urban uses will be designated U.

A Agricultural Land

(i.e., A_r - rice fields)
All other agricultural uses will be designated A.

R Rangeland

F Forested Land

(i.e., F₆ - deciduous forest land, Anderson et al., category 41;
F₇ - evergreen forest land, Anderson et al., category 42;
F₈ - mixed forest land, Anderson et al., category 43)

B Barren Land

(i.e., B_s - spoil in which less than one-third of the area has vegetation)

See Anderson et al., category 76 (Transitional Areas): "Land being altered by filling, such as occurs in spoil dumps or sanitary landfills."

(i.e., B_d - dunes, in which less than one-third of the area has vegetation)

See Anderson et al., category 73 (Sandy Areas other than beaches): "Sandy Areas other than beaches are composed primarily of dunes..."

All other types of barren land will be designated by B.

Level II

o - oil and/or gas

r - rice fields

6 - deciduous
7 - evergreen
8 - mixed

s - spoil

d - dunes