

THE "CLAY SUBSOIL" CAROLINA BAYS OF NORTH CAROLINA

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Proposed Natural Heritage of North Carolina Project
Department of Botany, The University of North Carolina
and the
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NORTH CAROLINA NATURAL HERITAGE
SITE INFORMATION SUMMARY

I. GENERAL INFORMATION

- A. Name: Arabia Bay
- B. Province: Coastal Plain
- C. County: Hoke
- D. USGS Quad: Parkton (1972)
- E. Coordinates: 34°57'00"N, 79°07'30"W
- F. Location: South of Co. Rd. 1003 ca. 0.1 mi. east of Arabia

- G. Elevation: 67 m (220 ft.)
- H. Size: 5.7 ha (14 a.)
- I. Land Use Status:
 - 1. Site Usage Category - 2
 - 2. Site Integrity - 4
 - 3. % Use of Surrounding Land - 30-60-10
- J. Ownership:
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.

II. SIGNIFICANCE STATUS

- A. National
- B. Regional
- C. State
- D. Provincial
- E. Local

III. PRESERVE TYPE

- A. Natural Heritage
- B. Multiple Use
- C. Rare Population Habitat
- D. Geologic
- E. Educational

IV. ABIOTIC FEATURES

- A. Geologic Stratigraphy: Coharie/Black Creek (Stephenson 1912/Stuckey 1958)
- B. Rock - Sediment Type: interbedded sandy clays, sands, & gravels (Stephenson 1912)
- C. Soil Type: Typic Fragiaquult
- D. Hydrologic Site Type: wet-mesic to wet-hydric
- E. Topographic Site Type: open, variously exposed, nearly level to gently sloping basin of a Carolina bay

V. BIOTIC FEATURES

- A. Plant Community Cover Class: Cypress - gum savannah
 - 1. Plant Community Type(s) -
 - a. Andropogon virginicus--Mixed graminoids
 - b. Taxodium ascendens
 - c. Taxodium ascendens/Andropogon virginicus
 - d. (Taxodium ascendens)/Andropogon virginicus--Mixed graminoids
 - e. Taxodium ascendens/Liquidambar styraciflua/Dichanthelium sp.
 - f. Taxodium ascendens/ Pluchea rosea/Dichanthelium sp.
 - g. Taxodium ascendens--Nyssa sylvatica var. biflora/Liquidambar styraciflua
 - h.
 - i.
 - j.

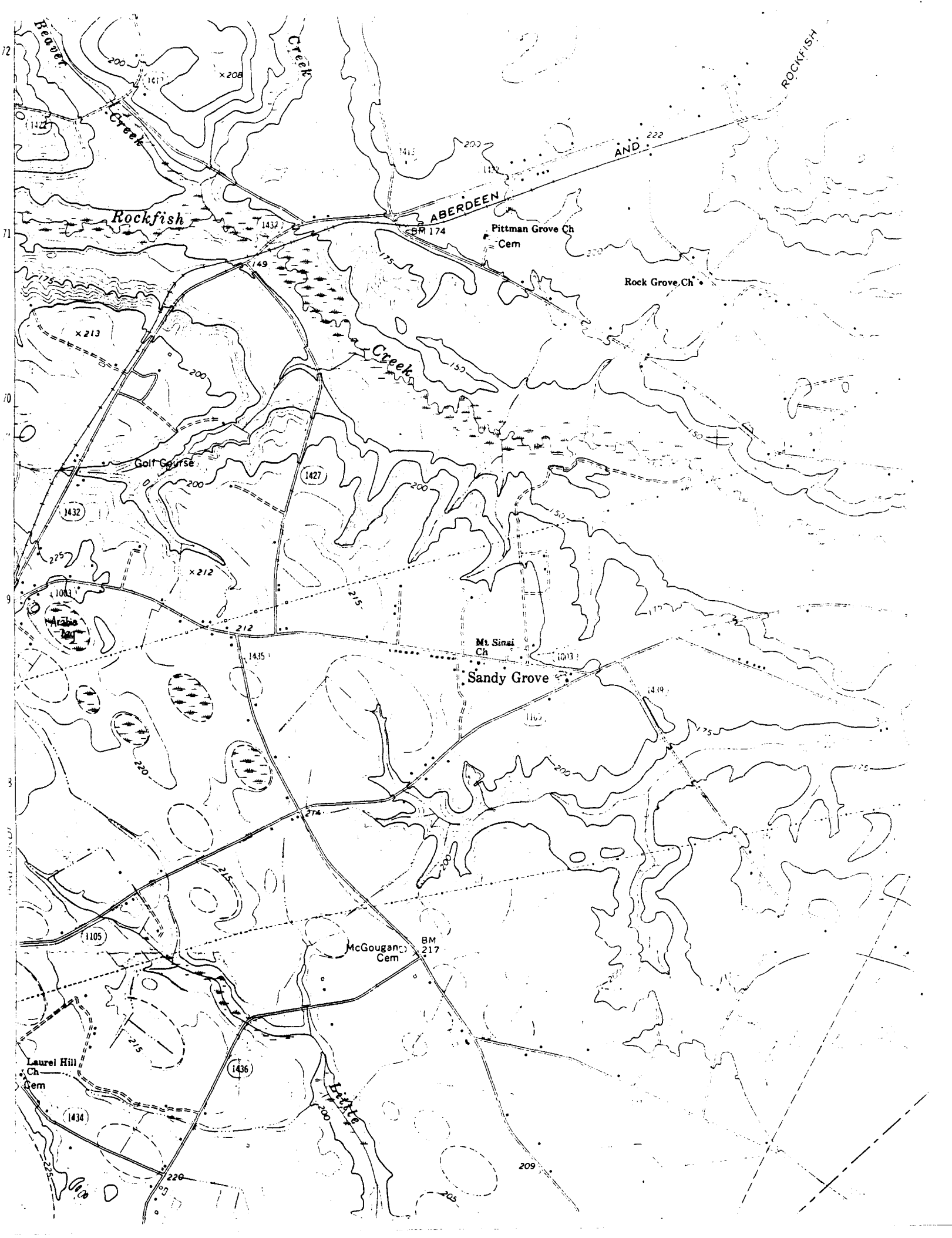
2. Special Plant Population(s) -
 - a. *Pluchea rosea*
 - b.
 - c.
 - d.
 - e.
- B. Significant Animal Breeding Habitat: 2
- C. Endangered and Threatened Species:
 1. *Ilex amelanchier* - P9 (N.C. Plant Conservation Board)
 - 2.
 - 3.
 - 4.
 - 5.

VI. HUMANISTIC FEATURES

- A. Aesthetic Value: 4
- B. Scenic Value:
- C. Scientific Value: 4
- D. Historical Value:

VII. ADDITIONAL SITE DESCRIPTION OR COMMENTS

This bay represents a relatively high quality savannah site as a result of frequent fires and other natural or artificial controls of invading successional woody species. A number of old growth pond cypresses (*Taxodium ascendens*) and swamp black gums (*Nyssa sylvatica* var. *biflora*) occur here.



72
71
70
9
3

Rockfish

ABERDEEN

ROCKFISH

AND 222

Pittman Grove Ch
Cem

Rock Grove Ch

Golf Course

Creek

Mt. Sinai
Ch

Sandy Grove

McGougan
Cem

Laurel Hill
Ch
Cem

Little

1:25,000

**AN INVENTORY OF THE SIGNIFICANT NATURAL AREAS
OF HOKE COUNTY, NORTH CAROLINA**

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Office of Conservation and Community Affairs
Department of Environment and Natural Resources
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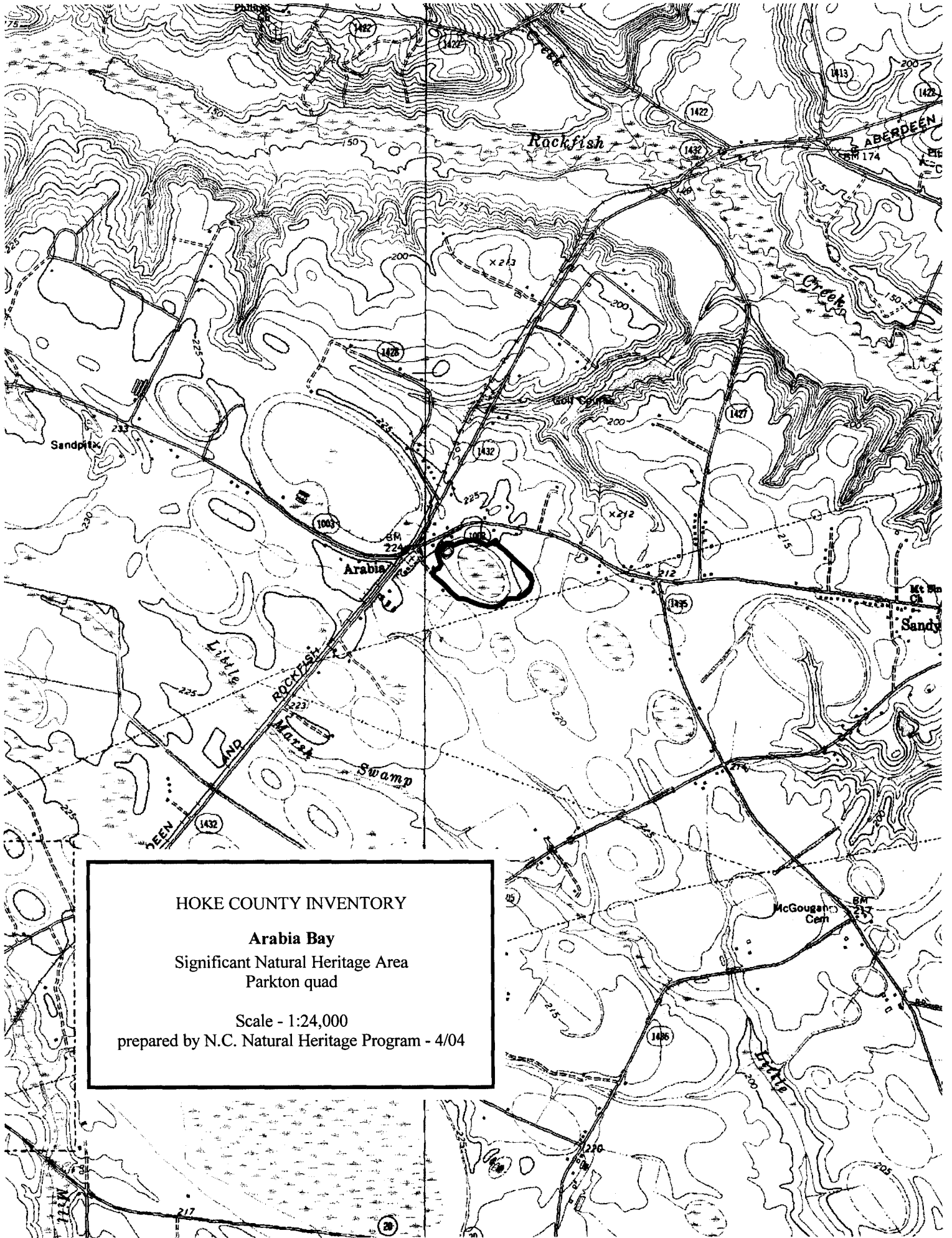
ABSTRACT

This inventory of the natural areas, biological communities, and rare species of Hoke County was funded by the North Carolina Natural Heritage Trust Fund and the US Fish and Wildlife Service. The inventory was co-sponsored by The Sandhills Area Land Trust. This inventory identifies the most significant natural areas in the county, describes their features, and documents all natural communities and rare species of plants and animals associated with them. Habitat conditions, natural processes, and threats are also described. The inventory is intended to provide guidance for land use decisions by the county government, conservation and land management organizations, and interested citizens. Field work was carried out by Bruce A. Sorrie of the North Carolina Natural Heritage Program during 2002 and 2003. The inventory identifies 48 areas of significance at the national, state, regional, and county level, as determined by criteria established by the North Carolina Natural Heritage Program.

ACKNOWLEDGMENTS

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HOKE COUNTY INVENTORY

Arabia Bay
Significant Natural Heritage Area
Parkton quad

Scale - 1:24,000
prepared by N.C. Natural Heritage Program - 4/04

Hoke County Natural Area Inventory

ARABIA BAY

Site Significance: state

Size: 30 acres

USGS Quadrangle: Parkton

Ownership: private

SIGNIFICANT FEATURES: Arabia Bay has a good quality example of a rare community type, Cypress Savanna, with an excellent herbaceous component. It supports populations of three rare plant species, one of which is awned meadow-beauty (*Rhexia aristosa*), a Federal Species of Concern. The bay also serves as a breeding site for amphibians and a feeding area for songbirds and wood ducks.

LANDSCAPE RELATIONSHIPS: The bay lies on the south side of Arabia Road, 1/4 mile east of Golf Course Road. It lies 1.1 mile southwest of Rockfish Ravines Natural Area.

SITE DESCRIPTION: Arabia Bay is one of only a handful of clay-based Carolina bays remaining in the state. Most of it supports a Cypress Savanna community, but the naturally deeper southeastern portion is a Nonriverine Swamp Forest. The canopy is composed of a mix of pond cypress (*Taxodium ascendens*), loblolly pine (*Pinus taeda*), swamp black gum (*Nyssa biflora*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*). Logging over the years has removed most adult pines, maples, and sweetgums, and has opened the canopy considerably, but abundant sprouts and saplings are crowding the herb layer. Shrubs are common only around the bay margin; they include smooth highbush blueberry (*Vaccinium formosum*) and titi (*Cyrilla racemiflora*). Herbs are abundant, especially in canopy openings. They include glaucescent sedge (*Carex glaucescens*), Virginia chain-fern (*Woodwardia virginica*), redroot (*Lachnanthes caroliniana*), meadow-beauties (*Rhexia spp.*), wrinkled jointgrass (*Coelorachis rugosa*), beaksedges (*Rhynchospora spp.*) and panic-grasses (*Panicum* and *Dichantheium*). Frogs are abundant, and no doubt other amphibians and reptiles occur. The Nonriverine Swamp Forest is dominated by swamp black gum and pond cypress with titi below.

Adjacent to the bay's east side is an elevated sand rim which supports a forest of loblolly pine, water oak (*Quercus nigra*) and mockernut hickory (*Carya alba*). Surrounding the natural area are residences, a plant nursery, disturbed oak-pine forest, a power transmission line, and cropland.

MANAGEMENT AND PROTECTION: The bay needs active management to reduce the density of sweetgums. Opening the canopy will maintain herbaceous growth and promote reproduction of the rare species. An occasional prescribed burn will also promote herbaceous plants and suppress sweetgums and pines. Currently the bay is not under conservation protection.

NATURAL COMMUNITIES: Cypress Savanna, Nonriverine Swamp Forest.

RARE PLANTS: Sarvis holly (*Ilex amelanchier*), awned meadow-beauty (*Rhexia aristosa*, FSC), netted nutsedge (*Scleria reticularis*).

RARE ANIMALS: None documented, but likely occur.

REFERENCES:

Nifong, T. 1982. The "Clay Subsoil" Carolina Bays of North Carolina. Dept. of Botany, UNC Chapel Hill and The Nature Conservancy, NC Chapter.