

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

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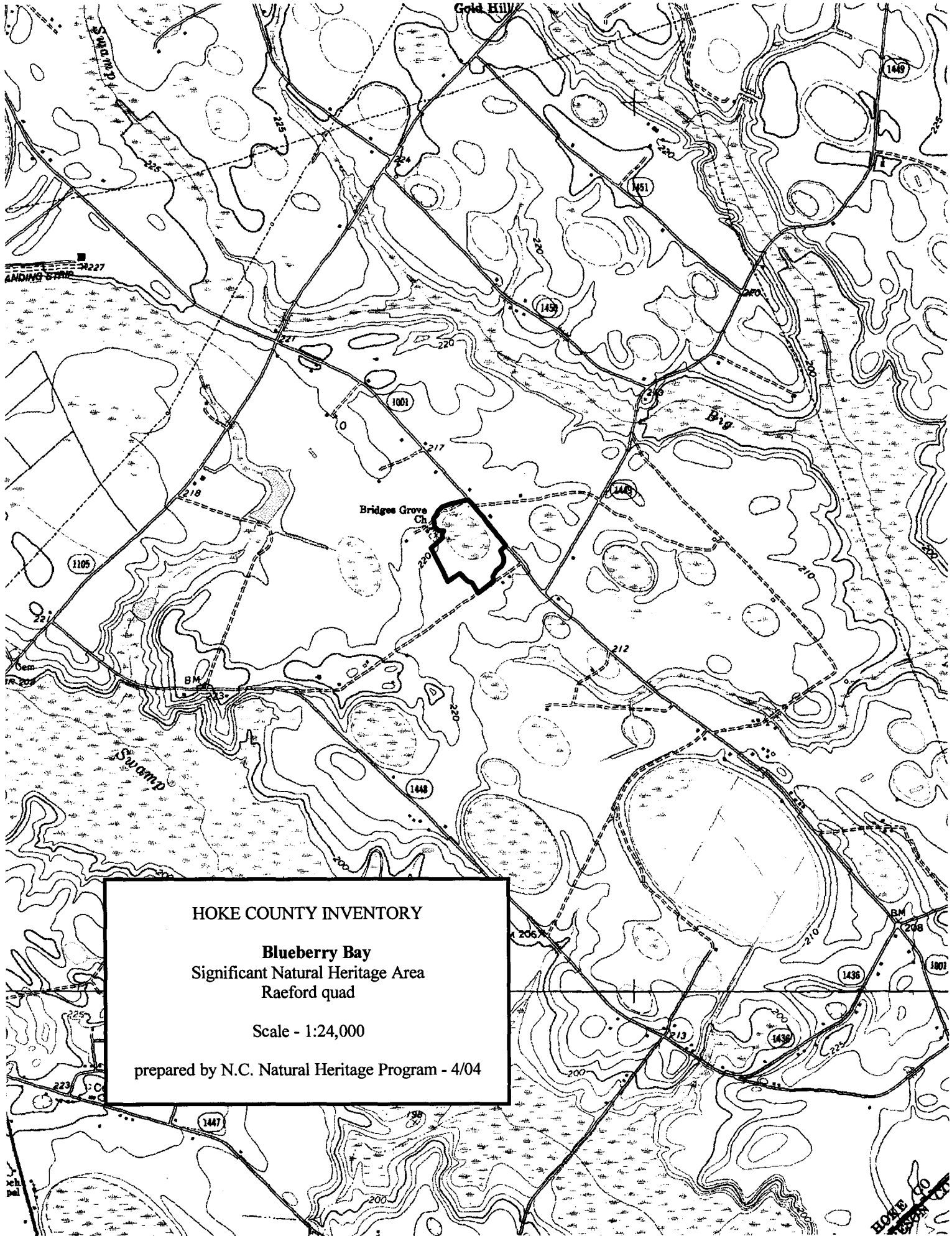
ABSTRACT

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.

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HOKE COUNTY INVENTORY

Blueberry Bay
Significant Natural Heritage Area
Raeford quad

Scale - 1:24,000

prepared by N.C. Natural Heritage Program - 4/04

Hoke County Natural Area Inventory

BLUEBERRY BAY

Site Significance: regional

Size: 29 acres

USGS Quadrangle: Raeford

Ownership: private

SIGNIFICANT FEATURES: Blueberry Bay features one of the few remaining examples of a Cypress Savanna community in the state. It supports populations of three rare plant species, one of which is the sole record of pondspice (*Litsea aestivalis*, a shrub or small tree), in Hoke County. Pondspice is a Federal Species of Concern. The bay also serves as a breeding site for amphibians and a feeding area for songbirds and wood ducks. Several other Carolina bays occur in the vicinity, forming a complex that is critical to long-term viability of flora and fauna.

LANDSCAPE RELATIONSHIPS: The bay lies on the west side of Shannon Road, shortly north of Hall Road. Hamby's Bay Significant Natural Heritage Area is 0.5 mile to the southwest and Hidden Bay SNHA is 0.5 mile east-southeast.

SITE DESCRIPTION: Blueberry Bay is one of only a handful of high quality clay-based Carolina bays remaining in the state. The abundant sphagnum moss and shrubs are reminiscent of Goose Pond Bay in Robeson County and very unlike nearby Antioch and Hamby's Bays in Hoke County. Thus the plant community represents the rare acidic variant of Cypress Savanna. The canopy is now (2003) closed almost throughout the bay and 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*). Tall shrubs are common, especially black highbush blueberry (*Vaccinium fuscatum*) and fetterbush (*Lyonia lucida*). Herbs are sparse except locally at canopy openings. They include glaucescent sedge (*Carex glaucescens*), Virginia chain-fern (*Woodwardia virginica*), redroot (*Lachnanthes caroliniana*), and meadow-beauties (*Rhexia spp.*). Sphagnum moss is the dominant ground cover throughout the bay. The margins of the bay are densely shrubby. The bay is naturally deeper in the eastern half and supports Nonriverine Swamp Forest dominated by pond cypress and swamp black gum. Carpenter frogs (*Rana virgatipes*) are abundant, and no doubt other amphibians and reptiles breed in the bay. The surrounding upland includes a church, a cemetery, disturbed oak-pine forest, and cropland.

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

NATURAL COMMUNITIES: Cypress Savanna, Nonriverine Swamp Forest.

RARE PLANTS: Pondspice (*Litsea aestivalis*, FSC), awned meadow-beauty (*Rhexia aristosa*, FSC), netted nutsedge (*Scleria reticularis*).

RARE ANIMALS: None documented, but likely.

REFERENCES:

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

Sorrie, B.A. 2003. Site Survey Report: Blueberry Bay. NC Natural Heritage Program, Office of Conservation and Community Affairs, DENR, Raleigh, NC.

NORTH CAROLINA NATURAL HERITAGE
SITE INFORMATION SUMMARY

I. GENERAL INFORMATION

- A. Name: Austin Goodman Bay (Blueberry Bay)
- B. Province: Coastal Plain C. County: Hoke
- D. USGS Quad: Raeford (1972) E. Coordinates: 34°54'00"N, 79°10'30"W
- F. Location: Southwest of Co. Rd. 1001 ca. 1.0 mi. east of its jct. with Co. Rd. 1105
- G. Elevation: 67 m (220 ft.) H. Size: 4.9 ha (12 a.)
- I. Land Use Status:
 - 1. Site Usage Category - 1i (ditch, unimproved road)
 - 2. Site Integrity - 3
 - 3. % Use of Surrounding Land - 40-60-0
- 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 basin of a Carolina bay

V. BIOTIC FEATURES

- A. Plant Community Cover Class: Pine - cypress bay
 - 1. Plant Community Type(s) -
 - a. Taxodium ascendens--Pinus taeda/Leucothoe racemosa
 - b. Taxodium ascendens--Pinus taeda/Liquidambar styraciflua--Quercus laurifolia/Mixed ericaceous shrubs
 - c. laurifolia/Mixed ericaceous shrubs
 - d. Taxodium ascendens--Pinus taeda/Mixed transgressives/Woodwardia virginica
 - e. virginica
 - f.
 - g.
 - h.
 - i.
 - j.

2. Special Plant Population(s) -
 - a. *Litsea aestivalis* - 4 (Cooper et al. 1977)
 - b.
 - c.
 - d.
 - e.

B. Significant Animal Breeding Habitat: 2

C. Endangered and Threatened Species:

- 1.
- 2.
- 3.
- 4.
- 5.

VI. HUMANISTIC FEATURES

- A. Aesthetic Value: 3
- B. Scenic Value:
- C. Scientific Value: 5
- D. Historical Value:

VII. ADDITIONAL SITE DESCRIPTION OR COMMENTS

This site represents the only known occurrence of pondspice (*Litsea aestivalis*) within a clay "subsoil" bay and one of a very few records of its occurrence in the Middle Coastal Plain. The predominance of fetter-bush (*Leucothoe racemosa*) in the shrub layer here is unknown in other clay "subsoil" bays, and thus notable.

