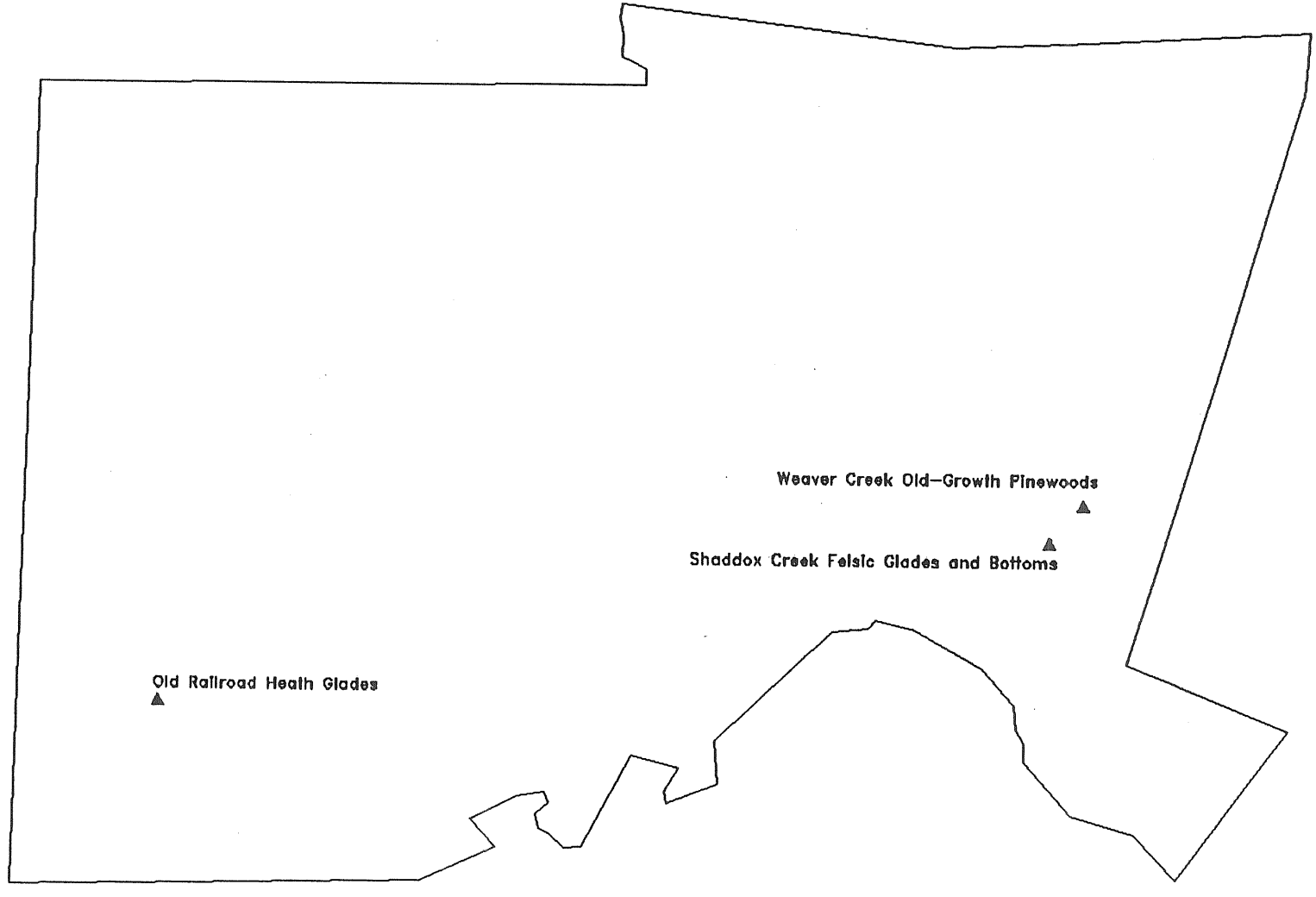
SITES WITH STRONGLY ACIDIC (FELSIC) SOILS

At the opposite extreme from the rich mafic sites are those characterized by soils lower in pH and poorer in nutrients than is typical for the Piedmont. Three sites in the inventory fall into this category. All occur on soils high in silica content, which is typically produced from felsic rock formations, either plutonic granites or diorites or volcanic rhyolites and tuffs.

Such sites are characterized by thickets of heaths, including blueberries, huckleberries, doghobbles and staggerbushes. Rare species are fewer in number than on the rich mafic sites; creeping blueberry and Lewis' heartleaf are the best examples. The canopy is typically sparse and dominated by xeric species such as post oak, blackjack oak, black oak, and various species of pines.

Figure 39. Felsic Habitats



SITE NAME: Old Railroad Heath Glades

SIGNIFICANCE: Regional
INTEGRITY: Good
THREATS: Medium
PROTECTION STATUS: Area is partially included within gamelands managed cooperatively with the NCWRC; otherwise not protected

JURISDICTION: Bear Creek Township
OWNERSHIP: Private

SUMMARY OF SIGNIFICANT FEATURES:

1. The plant community is regionally unusual in its high diversity of heaths and other acidophilic species.
2. The animal community contains a number of coastal plain species also unusual for the region.
3. Trailing blueberry (Vaccinium crassifolium), a regionally rare plant, is particularly abundant at this site.
4. The cobweb skipper (Hesperia metea), a regionally rare butterfly (tracked by the North Carolina Natural Heritage Program), occurs here.

GENERAL SITE DESCRIPTION:

This site, as well as the better-known Devil's Tramping Ground located nearby, is located within a large region of uplands characterized by flat topography, poor drainage and acidic soils. These features are unusual for the Piedmont and can be largely attributed to past vulcanism. The soil (Alamance Fine Silt Loam) is quite pale and is probably derived from an ash flow originating from a nearby volcanic source, probably the low hill named Beck Mountain located just west of the site. Rhyolite boulders are present in some area, particularly near the Devil's Tramping Ground, and the entire slope of Beck's Mountain is covered with rhyolite, volcanic glass, and other pyroclastic rocks.
The vegetation of the area strongly reflects these underlying edaphic and topographic influences. Most of the plants present are adapted both to the strongly acidic soil conditions produced by the felsic rock, and to shifts in moisture ranging from extremely hot and dry in the summer to flooded in the winter. Although the vast majority of this region has been recently timbered or is covered by pine plantations, hardwood forest is still present in the identified natural area. Stunted post oaks (Quercus stellata) and blackjack oaks (Q. marilandica) are the dominant species in the sparse canopy. Beneath these oaks, large areas covered with heaths and bracken (Pteridium aquilinum) are interspersed between more barren tracts upon which grow grasses and sparse herbs, including dwarf iris (Iris verna), wild indigo (Baptisia tinctoria), and wild quinine (Parthenium integrifolium). Wetter areas

typically support thick mats of sphagnum, tangles of smilax, cinnamon fern (Osmunda cinnamomea) and other mesic species.

The high structural and taxonomic diversity of the heaths is probably the most striking feature of this site. A total of eight species was observed, ranging from the ground-hugging trailing blueberry to the tall highbush blueberry (Vaccinium corymbosum). Around wetter areas we observed both staggerbush (Lyonia mariana) and swamp doghobble (Leucothoe racemosa). The dominant species on drier sites were huckleberry (Gaylussacia dumosa and G. frondosa), and lowbush blueberries (Vaccinium tenellum and V. vacillans).

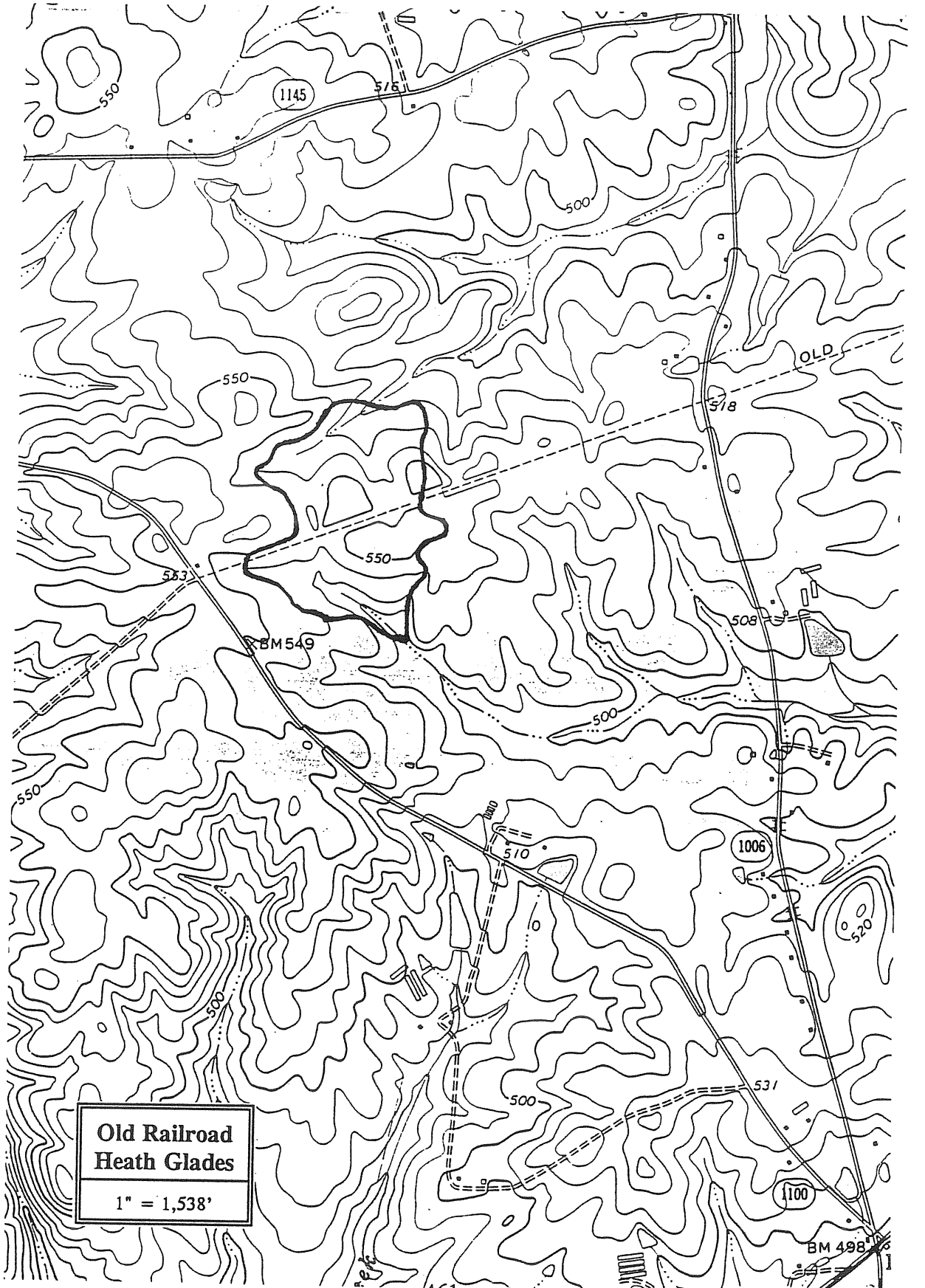
Equally noteworthy is the animal community, which includes several species that are uncommon in the piedmont and more typical of the sandhills and coastal plain. In addition to the one large pond located in the center of the site, smaller temporary pools and wet depressions abound throughout the area, creating habitat similar to that seen in the Carolina bays. Dragonflies such as the comet darner (Anax longipes), golden-winged skimmer (Libellula auripennis), and violet-fronted dancing skimmer (Tramea carolina) were abundant, reflecting the absence of fish from most of these pools. The southern cricket frog (Acris gryllus) and Georgia satyr (Neonympha areolata) are two other species typical of the Carolina bay region that are rarely found in the piedmont. Species typical of the coastal plain uplands include the six-lined racerunner (Cnemidophorus sexlineatus) and the rare cobweb skipper (Hesperia metea), both of which prefer the dry, open woodlands that prevail at this site.

Although much of the surrounding area has been converted to pine plantation, there is still an extensive area of hardwood forest extending to the north, south and east of the identified natural area. Much of this area appears to be in similar condition to what we have described above. The extensive nature of this tract further enhances this site's value to wildlife.

CONSERVATION RECOMMENDATIONS:

Much of the area in this corner of the county has been converted to loblolly pine plantation, and the immediate threat to this site comes from this source. The landowner should be notified as to the unusual nature of the hardwood community and a conservation easement or some other agreement should be sought to restrict further timbering within the area of the site.

The site shows evidence of having been burned in the past, and indeed fire may be necessary to maintain the open, shrubby condition of the natural community. If a large enough block of this habitat could be obtained in fee simple, then prescribed burning should be considered as a management tool.


1145
516
550
500
OLD
518
550
563
BM549
508
500
550
510
1006
520
500
531
500
100
BM 498
Old Railroad
Heath Glades
1" = 1,538'

SITE SURVEY REPORT

Site name: Old Railroad Heath Glades
County: Chatham

Date(s): 30/III/89, 22/III/89, 8/VI/89

Surveyors:

Stephen P. Hall, Ph.D
NC Natural Heritage Program
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-7701

Marjorie Boyer
NC Plant Conservation Program
P.O. Box 27647
Raleigh, NC 27611
(919) 733-3610

Size: 83 acres
Quad: Bear Creek
Province: Piedmont
Watershed: Bear Creek --> Rocky River --> Deep River --> Cape Fear River
Location and directions: 1.7 miles NNW of Harper's Crossroads, east of SR 1100, west of SR 1006 and south of SR 1145; located along old railroad grade near Devil's Tramping Ground

Landowners and addresses:
Owners contacted and attitude:

General landscape description: See Site Description

Physical description

Aspect: Flat
Slope: Flat
Topographic position: Upland flat
Hydrology: Terrestrial
Moisture: Seasonally wet to dry
Elevation: 530 - 550'
Geology: Felsic igneous; flow-banded rhyolite or ash-flow tuff observed
Soils: Alamance Very Fine Sandy Loam

Comments on physical description: Very poorly drained due to fine silty nature of soil; sphagnum-filled vernal pools and other boggy areas are scattered throughout.

Biological description

Community # 1: Dry Oak-Hickory Forest

Vegetation structure: Forest
Position in landscape and relation to other communities: Broad ridgetop
Quality and condition: Good, but probably successional
Size:

Dominants (*) and important species:

Canopy:

Acer rubrum
Diospyros virginiana
Liquidamabar styraciflua
Nyssa sylvatica *
Pinus echinata
Pinus taeda
Quercus alba
Quercus falcata
Quercus marilandica *
Quercus phellos
Quercus stellata *

Subcanopy:

Carya tomentosa
Ilex opaca
Juniperus virginiana
Sassafras albidum

Shrubs and Vines:

Gaylussacia dumosa
Gaylussacia frondosa
Gelsemium sempervirens
Hypericum hypericoides
Hypericum lloydii
Leucothoe racemosa
Lyonia mariana
Rhus copallina
Rhus radicans
Salix sp.

Shrubs (cont.):

Smilax bona-nox
Smilax glauca
Smilax rotundifolia
Vaccinium corymbosum
rr Vaccinium crassifolium
Vaccinium tenellum
Vaccinium vacillans
Viburnum prunifolium
Vitis rotundifolia

Herbs:

Arnica acaulis
Aster solidagineus
Baptisia tinctoria
Carex gigantea
Iris verna
Lobelia nuttallii
Osmunda cinnamomea
Parthenium integrifolium
Pteridium aquilinum
Rhexia mariana
Scirpus cyperinus
Solidago odora
Sphagnum sp.
Tephrosia virginiana
Vernonia acaulis

Special status species

State-listed species:

Animals:

u Hesperia metea

Potential for other special status species: This site was searched unsuccessfully for Hemidactylium during its nesting period; nonetheless, the similarity of this site to the Donnely Hardpan Bog suggests that further search is warranted. This site also has good potential for several more rare species of butterflies and should be revisited in April. One plant species that should be looked for is Hexastylis lewisii, which is often found on felsic sites.

Other noteworthy species or features:

Plants:

rr Vaccinium crassifolium

Animals:

rr Acris gryllus
rr Neonympha aerolatus

Geology:

Felsic ash flat

Site condition

Site integrity: Good

Average DBH of canopy trees: 30 cm
Maximum DBH of canopy trees:

Fire regime: Natural; some evidence of past burns
Logged: Within last 30-40 years
Eveness of canopy: Mixed-age
Ditched/drained: No evidence
Stream channelized: No
Dredged/filled: Yes; railroad grade
Understory cleared: No
Grazed: No

ORV damaged: Yes; railroad grade receives fairly regular recreational use
Other disturbances: No

Adjacent Land Uses: Pine plantation; cattle grazing

Significance of site: Regional
Discussion: See Site Description

Protection considerations and management needs: Property owners should be alerted to the signficance of the site and registry should be proposed.

Determination of survey boundaries: Encloses the site's best tracts of heath communities, vernal pools, an old pond, and open-canopy dry-oak forest. Bounded by areas of pine forest or clear-cuts.

Priority for further study: Medium

Specimens collected: Hesperia metea (Jeff Nekola)
Photographs: Heath community

Others knowledgeable about the site: Benson Kirkman

References: None

Topo map: Attached
Sketch map:

Plant Species List: See Community # 1
List is: Nearly Complete

ANIMAL SPECIES LIST

List is: Medium-thorough

Vertebrates:

	Buteo jamaicensis
i	Scolopax minor
	Zenaida macroura
i	Coccyzus erythropthalmus
	Picoides pubescens
	Colaptes auratus
	Contopus virens
	Myiarchus crinitus
	Tyrannis tyrannis
	Cyanocitta cristata
	Corvus brachyrhynchos
	Parus carolinensis
	Parus bicolor
i	Sitta carolinensis
	Thryothurus ludovicianus
	Sialia sialis
	Hylocichla mustelina
	Dumatella carolinensis
	Toxostoma rufum
	Vireo griseus
	Vireo olivaceus
	Dendroica pinus
i	Seiurus aurocapillus
	Icteria virens
	Piranga olivacea
	Cardinalis cardinalis
	Pipilo erythropthalamus
	Sturnella magna
	Didelphis marsupialis
	Procyon lotor

Vertebrates (cont.):

i	Terrapene carolina
	Sceloporus undulatus
	Scincella lateralis
	Cnemidophorus sexlineatus
	Lampropeltis getulus
	Bufo woodhousei fowleri
rr	Acris gryllus
	Hyla crucifer
	Pseudacris triseriata
	Rana clamitans
	Rana sphenocephala

Invertebrates:

	Papilio glaucus
	Anthocharis midea
	Eurema nicippe
	Incisalia henrici
	Everes comyntas
	Celastrina ladon
	Vanessa atalanta rubria
rr	Neonympha aerolatus
	Megisto cymela
	Erynnis juvenalis
	Ancyloxpha numitor
u	Hesperia metea
	Polites sp.
	Dromogomphus spinosus
	Anax junius
	Anax longipes
	Somatochlora linearis
	Celithemis elisa
	Celithemis eponina
	Libellula auripennis
	Libellula incesta
	Libellula vibrans
	Plathemis lydia
	Erythrodiplax connata minuscula
	Erythemis simplicicollis
	Pachydiplax longipennis
	Tramea carolina
	Tramea lacerata

SITE NAME: Shaddox Creek Felsic Glades and Bottoms

SIGNIFICANCE: County
INTEGRITY: Good to fair
THREATS: High -- timbering
PROTECTION STATUS: None

JURISDICTION: Cape Fear Township
OWNERSHIP: Private

SUMMARY OF SIGNIFICANT FEATURES:

1. Growing in the bottomlands and adjoining slopes along Shaddox Creek is one of the county's largest populations of Lewis' Heartleaf (Hexastylis lewisii), a candidate species for state-listing as threatened or endangered.
2. The swamp forest present in this section of the Shaddox Creek basin is one of the most mature in the county. Due to the acidic nature and extremely poor drainage of the soils, it also has a number of unusual features not seen in typical bottomland communities.
3. The oak-heath community growing on the slopes adjacent to the Shaddox Creek bottomlands also represent a restricted community type in Chatham County.

GENERAL SITE DESCRIPTION:

This section of the Shaddox Creek basin contains one the best examples of piedmont swamp forest remaining in Chatham County. Although "piedmont swamp" appears to be an oxymoron, there were once large tracts of these communities within the triassic basins. They have become quite rare only within recent years as the construction of reservoirs has inundated the major floodplains. The forest at Shaddox Creek is significant not only as a survivor of this type of community, but also because of its comparative maturity; individual oaks and pines grow up to 60 cm diameter.

Shaddox Creek is further distinguished by the extreme acidity of its soils. Apart from scattered dikes and sills of diabase, with their circumneutral to basic soils, most of the triassic basin is underlain by sedimentary formations that are acidic to some extent. The soils in the vicinity of Shaddox and Weaver Creeks, however, are particularly acidic, judging from the nature of the plants growing there, many of which are indicators of sterile soil conditions. The acidity of the soil and the poor drainage of the bottomlands combine to produce one of the more unusual woodlands in the county.

Within the bottomland itself, species that are tolerant of fairly long periods of flooding form the canopy. Overcup oaks (Quercus lyrata), uncommon in the county, and some old growth

loblolly pines (Pinus taeda) appear here along with the dominant willow oaks (Q. phellos) and red maples (Acer rubrum). Shrubs, particularly arrowwoods (Viburnum spp.), are plentiful and are intertwined by a diversity of vines, such as yellow jessamine (Gelsemium sempervirens), wild grapes (Vitus spp.), and the pernicious Japanese honeysuckle (Lonicera japonica). Greenbriers (Smilax rotundifolia and other species) also form thick tangles, particularly around the many small to large sphagnaceous pools that occur throughout the bottomland. Apart from sphagnum, herbs are generally sparse due to the frequent flooding, but one interesting mesic species is Indian cucumber-root (Medeola virginiana), an uncommon herb in the county.

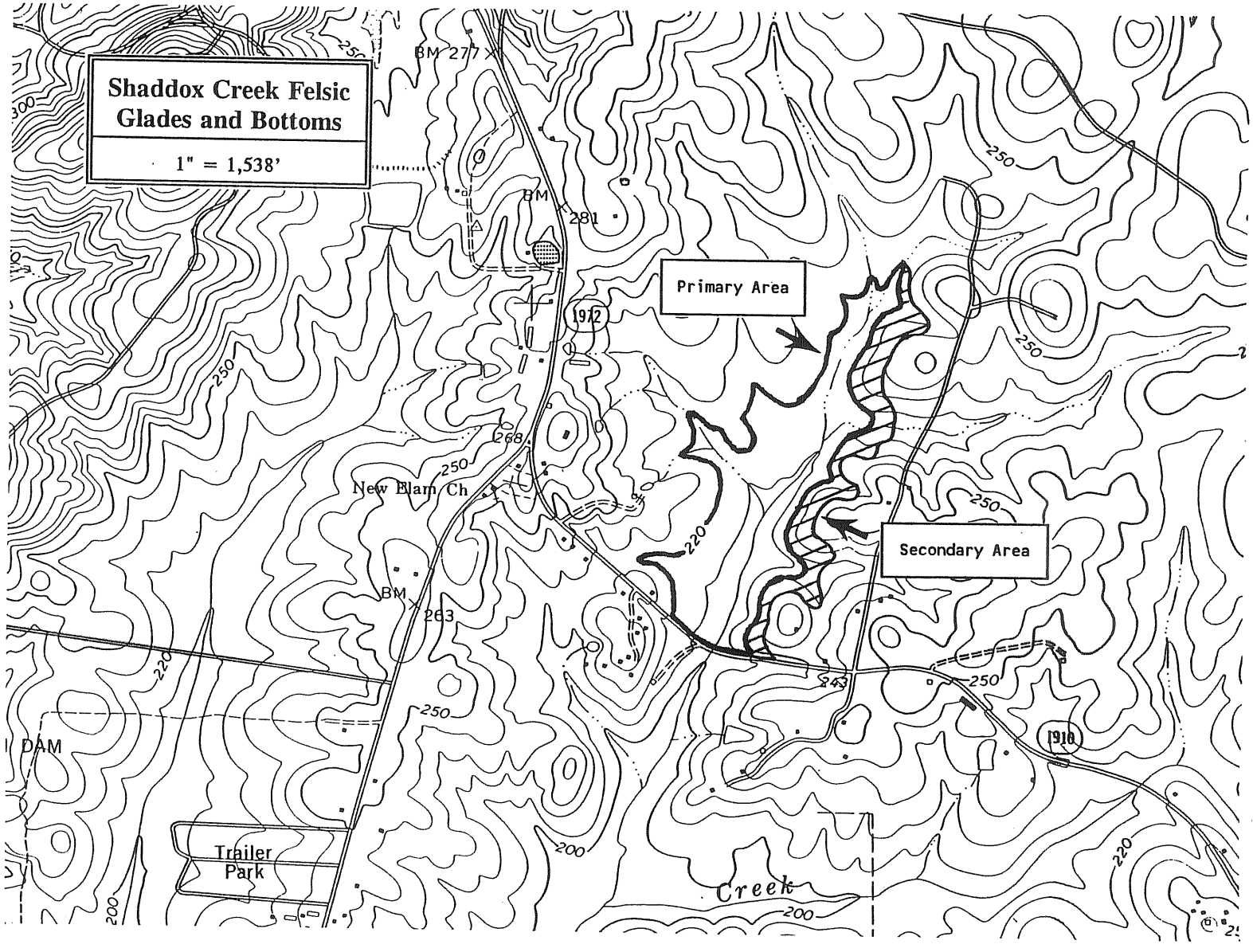
Along the toe of the slope on the west side of the bottomland forest, grows an extensive patch of Lewis's heartleaf (Hexastylis lewisii), one of the rarer plants of the state. This species is usually found in this topographic setting, particularly where felsic soils occur. Other acidophilic species trailing down into the bottomlands from the slopes include sourwood (Oxydendrum arboreum) and blueberries (Vaccinium spp.), but their main stronghold is in the dry oak forest that occurs on the adjacent rises. Another conspicuous shrub on these slopes is huckleberry (Gaylussacia frondosa), which along with bracken fern (Pteridium aquilinum), forms extensive patches beneath the canopy of dry oaks and pines. This community is similar in many respects to the one found on the nearby slopes above Weaver Creek.

The animal community, like the plants, has representatives of both dry forests and bottomlands. Among the birds, this is particularly well-illustrated by the presence at this site of broad-winged hawks (Buteo platypterus) and great crested flycatchers (Myiarchus crinitus) typical of uplands and red-shouldered hawks (B. lineatus) and Acadian flycatchers (Empidonax virescens) characteristic of lowland forests.

Among the invertebrates, bottomland species were the most prominent, particularly swamp-forest dragonflies. These include the swamp darner (Epiaeschna heros), great blue skimmer (Libellula vibrans), bar-winged skimmer (L. axillena), and the harlequin darner (probably Gomphaeshna furcillata), a special indicator of sphagnaceous habitats. One other notable invertebrate, found here and only one other site in Chatham County, is the primitive purseweb spider (Sphodros sp.), which in the piedmont appears to be restricted to bottomland forests along small streams.

CONSERVATION RECOMMENDATIONS:

This site is in private ownership and probably will remain so. The best means of conserving its interesting features is thus through registry of the site as a state or local natural area or through acquisition of a conservation easement. Other options include encouraging the landowner to employ single-tree or group selection forestry practices, or including the area as part of a county-wide program to protect floodplains.


Shaddox Creek Felsic
Glades and Bottoms
1" = 1,538'
Primary Area
Secondary Area
New Elam Ch
Trailer
Park
DAM
Creek
BM 277
BM 281
BM 263
1912
1918
268
243
250
220
200

SITE SURVEY REPORT

Site name: Shaddox Creek Felsic Glades and Bottoms
County: Chatham

Date(s): 4/V/89, 30/VI/89

Surveyors:

Stephen P. Hall, Ph.D
NC Natural Heritage Program
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-7701

Marjorie Boyer
NC Plant Conservation Program
P.O. Box 27647
Raleigh, NC 27611
(919) 733-3610

Size: 70 primary acres + 24 secondary acres = 94 total acres
Quad: Merry Oaks
Province: Piedmont
Watershed: Shaddox Creek --> Cape Fear River
Location and directions: Bottomlands north of NC 1910 and west of NC 1908

Landowners and addresses:
Owners contacted and attitude:

General landscape description: See Site Description

Physical description

Aspect: Primarily east and west
Slope: Flat in the bottomland to 0-5 on adjoining slopes
Topographic position: Lower slope to alluvial flat
Hydrology: Terrestrial
Moisture: Seasonally wet to dry
Elevation: 220 - 200'
Geology: Felsic igneous complex
Soils: White Store Fine Sandy Loam, White Store Very Fine Sandy Loam

Comments on physical description: Poorly drained bottomland with many vernal pools and meandering channels

Biological description

Community # 1: Piedmont Swamp Forest

Vegetation structure: Forest
Position in landscape and relation to other communities: Bottomland along creek
Quality and condition: Good
Size:

Dominants (*) and important species:

Canopy:

Acer rubrum *
Liquidamabar styraciflua
Pinus taeda
Quercus alba
Quercus lyrata
Quercus nigra
Quercus phellos *
Ulmus alata

Subcanopy:

Cornus florida
Fraxinus pennsylvanica
var. subintegerrima
Ilex decidua
Ilex opaca
Nyssa sylvatica
Oxydendrum arboreum
Prunus serotina
Sassafras albidum

Shrubs and vines:

Amelanchier canadensis
Anisostichus capreolata
Chionanthus virginicus
Euonymus americanus
Gelsemium sempervirens
Hypericum sp.
Ilex verticillata
Leucothoe racemosa
Lonicera japonica
Parthenocissus quinquefolia
Rhynchosia tomentosa
Rubus flagellaris
Sambucus canadensis
Smilax rotundifolia
Vaccinium arboreum
Vaccinium stamineum
Vaccinium tenellum
Viburnum dentatum
var. lucidum
Viburnum nudum
Viburnum prunifolium
Vitis rotundifolia

Herbs:

Athyrium asplenioides
Chimaphila maculata
Dioscorea villosa
Galium obtusum
var. filifolium
Goodyera pubescens
c Hexastylis lewisii
Houstonia caerulea
Juncus coriaceus
Juncus effusus
Lobelia nuttallii
Luzula acuminata
Lycopodium flabelliforme
Osmunda cinnamomea
Osmunda regalis
var. spectablis
Oxalis violacea
Panicum dichotomum
Panicum polyanthes
Pedicularis canadensis
Saururus cernuus
Scutellaria integrifolia
Woodwardia areolata

Community # 2: Dry Oak-hickory Forest

Vegetation structure: Forest
Position in landscape and relation to other communities: Lower slopes
Quality and condition: Fair
Size:

Dominants (*) and important species:

Canopy:

Pinus taeda *
Quercus alba
Quercus falcata

Subcanopy:

Acer rubrum
Ilex opaca
Nyssa sylvatica
Sassafras albidum

Shrubs and vines:

Chionanthus virginicus
Euonymus americanus
Gaylussacia frondosa
Smilax glauca
Vitis aestivalis

Herbs:

Coreopsis major var. stellata
Hexastylis arifolia
c Hexastylis lewisii
Malaxis unifolia
Medeola virginiana
Mitchella repens
Polygonatum biflorum
Prenanthes altissima
Pteridium aquilinum
Thaspium barbinode
Tipularia discolor

Special status species

State-listed species:

Plants:

c Hexastylis lewisii

Potential for other special status species: Possible site for Tachopteryx and Hemidactylium

Other noteworthy species or features:

Animals:

rr Corvus ossifragus

Communites:

Piedmont Swamp Forest

Site condition

Site integrity: Good to fair

Average DBH of canopy trees: 35-40 cm
Maximum DBH of canopy trees: 53 cm

Fire regime: Natural
Logged: Within last 30-40 years
Eveness of canopy: Natural
Ditched/drained: No
Stream channelized: No
Dredged/filled: No
Understory cleared: No
Grazed: No
ORV damaged: No
Other disturbances: No

Adjacent Land Uses: Residential, agriculture, and forest

Significance of site: County
Discussion: See Site Description

Protection considerations and management needs: Landowners should be alerted to the significance of the swamp forest; a conservation easement should be sought in order to

protect the large population of Hexastylis lewisii. Buffer-strips should also be considered along both slopes above the bottomland.

Determination of survey boundaries: Encloses broad area of bottomland and lower slopes located upstream from SR 1910

Priority for further study: Low

Specimens collected:
Photographs: Hexastylis lewisii

Others knowledgeable about the site: Harry LeGrand, Julie Moore

References:

Topo map: Attached
Sketch map: None

PLANT SPECIES LIST

List is: Medium Thorough

Lycopodium flabelliforme (3)
Osmunda cinnamomea (7)
Osmunda regalis
var. spectablis (7)
Pteridium aquilinum (10)
Athyrium asplenioides (11)
Woodwardia areolata (12)
Pinus taeda (16)
Panicum dichotomum (29)
Panicum polyanthes (29)
Juncus coriaceus (40)
Juncus effusus (40)
Luzula acuminata (40)
Medeola virginiana (41)
Polygonatum biflorum (41)
Smilax glauca (41)
Smilax rotundifolia (41)
Dioscorea villosa (43)
Goodyera pubescens (49)
Malaxis unifolia (49)
Tipularia discolor (49)
Saururus cernuus (50)
Quercus alba (55)
Quercus falcata (55)
Quercus lyrata (55)
Quercus nigra (55)
Quercus phellos (55)
Ulmus alata (56)
Hexastylis arifolia (62)
c Hexastylis lewisii (62)
Sassafras albidum (84)
Liquidamabar styraciflua (95)
Amelanchier canadensis (97)
Prunus serotina (97)
Rubus flagellaris (97)
Rhynchosia tomentosa (98)
Oxalis violacea (100)
Ilex decidua (112)
Ilex opaca (112)
Ilex verticillata (112)
Euonymus americanus (113)
Acer rubrum (115)
Parthenocissus
quinquefolia (120)
Vitis aestivalis (120)
Vitis rotundifolia (120)
Hypericum sp. (126)
Thaspium barbinode (140)
Nyssa sylvatica (141)
Cornus florida (142)
Chimaphila maculata (145)
Gaylussacia frondosa (145)
Leucothoe racemosa (145)
Oxydendrum arboreum (145)
Vaccinium arboreum (145)
Vaccinium stamineum (145)
Vaccinium tenellum (145)
Chionanthus virginicus (153)
Fraxinus pennsylvanica
var. subintegerrima
(153)
Gelsemium sempervirens (154)
Scutellaria integrifolia (164)
Pedicularis canadensis (166)
Anisostichus capreolata (167)
Galium obtusum
var. filifolium (173)
Houstonia caerulea (173)
Mitchella repens (173)
Lonicera japonica (174)
Sambucus canadensis (174)
Viburnum dentatum
var. lucidum (174)
Viburnum nudum (174)
Viburnum prunifolium (174)
Lobelia nuttallii (178)
Coreopsis major
var. stellata (179)
Prenanthes altissima (179)

ANIMAL SPECIES LIST

List is: Medium-thorough

Vertebrates:

i	Buteo lineatus
i	Buteo platypterus
i	Coccyzus erythropthalmus
	Colaptes auratus
	Empidonax virescens
	Myiarchus crinitus
	Cyanocitta cristata
	Corvus brachyrhynchos
rr	Corvus ossifragus
	Parus carolinensis
	Parus bicolor
	Thryothurus ludovicianus
	Polioptila caerulea
	Hylocichla mustelina
	Turdus migratorius
	Vireo olivaceus
	Parula americana
	Dendroica pinus
i	Seiurus aurocapillus
i	Wilsonia citrina
	Piranga rubra
	Cardinalis cardinalis
	Molothrus ater
	Sciurus carolinensis
i	Terrapene carolina
	Elaphe obsoleta
	Ambystoma opacum
	Acris crepitans
	Hyla chrysoscelis

Invertebrates:

	Papilio glaucus
	Papilio troilus
	Celastrina ladon
	Megisto cymela
i	Gomphaeschna sp.
i	Epiaeschna heros
	Libellula axilena
	Libellula semifasciata
	Libellula vibrans
	Plathemis lydia
	Erythemis simplicicollis
	Pachydiplax longipennis
i	Sphodros atlanticus

SITE NAME: Weaver Creek Old-growth Pinewoods

SIGNIFICANCE: County
INTEGRITY: Good to fair
THREATS: Low
PROTECTION STATUS: Registered as a Jordan Lake Natural Area and managed by the NC Division of Parks and Recreation

JURISDICTION: Cape Fear Township
OWNERSHIP: US Army Corps of Engineers

SUMMARY OF SIGNIFICANT FEATURES:

1. The oldest growth stand of pines known to exist in Chatham County occurs at this site.
2. Two rare plants that occur in the Weaver Creek natural area are Lewis heartleaf (Hexastylis lewisii), a species that is a candidate for state-listing as threatened or endangered, and creeping blueberry (Vaccinium crassifolium), which is considered rare within the piedmont.
3. The community of large pines, dry oaks, and abundant heaths is unique within the county.

GENERAL SITE DESCRIPTION:

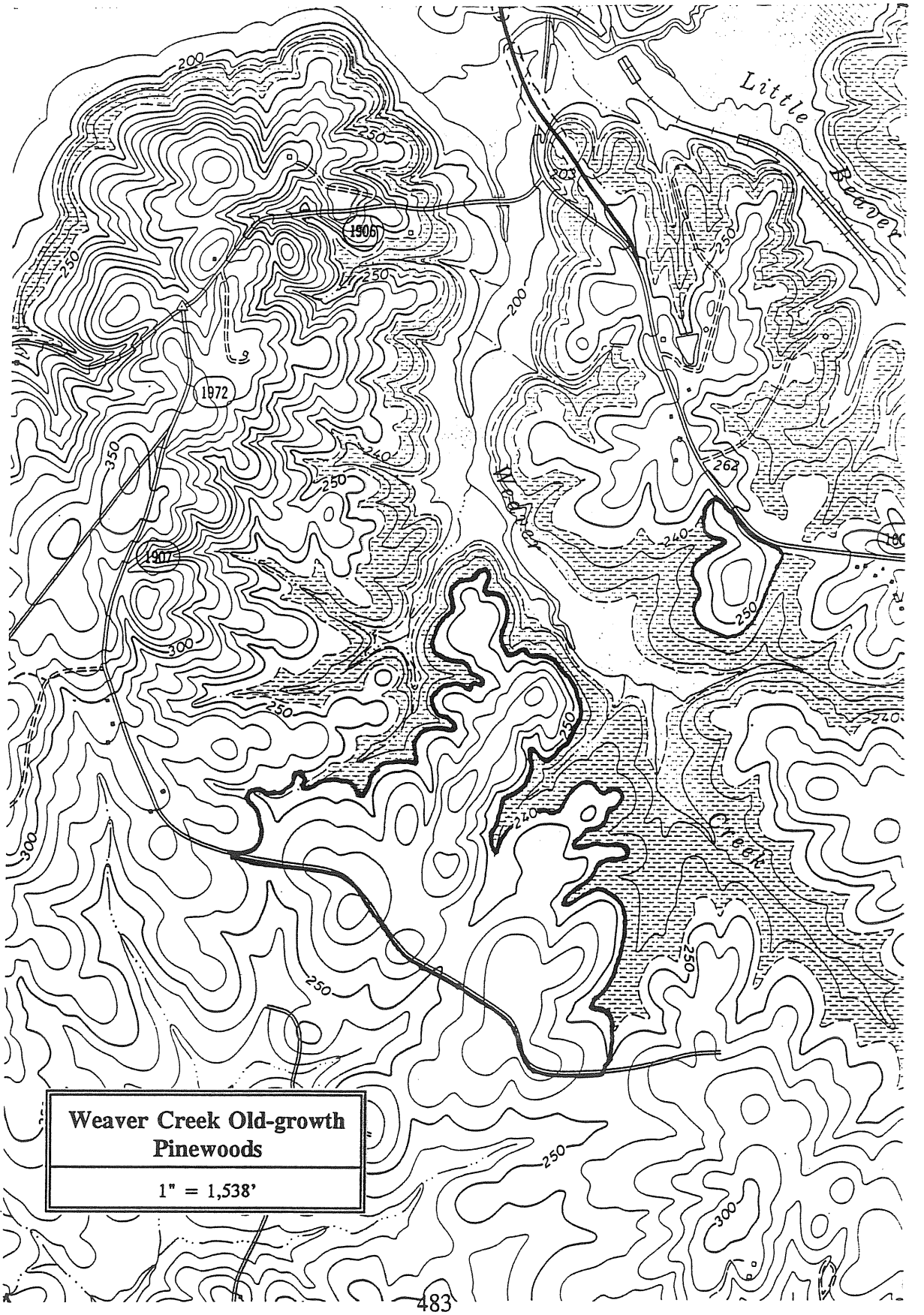
This site is located within the Triassic Basin but possess a stronger relief than is usual for the lowlands of this area. This is partly explained by its location close to the edge of the slate-belt and the presence of a ridge of felsic igneous rock on the southwest side of the natural area. This felsic rock also explains the acidic soil chemistry of this site (shared with nearby Shaddox Creek).

The combination of gentle slopes and acidic soils has produced a community resembling a pine-oak-heath. A pure stand of mature loblolly pines (Pinus taeda), with a mean diameter 40 cm, forms the canopy. Some areas of the pine forest have an open aspect, with only colonies of huckleberries underneath, but elsewhere a substantial understory of young hardwoods demonstrates that a succession to dry oak forest is taking place. The abundance and diversity of acidophilic heaths, ranging from the recumbent creeping blueberry (Vaccinium crassifolium) to the tall sparkleberry (V. arboreum), is similar to the Old Railroad Heath Glade (BECR1), which also has a low soil pH. One rare but characteristic member of this community is Lewis's heartleaf (Hexastylis lewisii), which grows at scattered locations on both sides of Weaver Creek.

As is not unusual for dry upland pine forests, the animal community is not very diverse. The most typical inhabitants are pine-woods species, such as the brown-headed nuthatches (Sitta pusilla), pine warblers (Dendroica pinus) and yellow-throated warblers (D. dominica), the latter species particularly preferring large pines for nesting. Great crested flycatchers (Myiarchus crinitus), summer tanagers (Piranga rubra), and fence lizards (Sceloporus undulatus) are other typical inhabitants of dry open forests, and the presence of pileated woodpeckers (Dryocopus pileatus) and red-tailed hawks (Buteo jamaicensus) is a sign of the large acreage of this woodland. Gray fox (Urocyon cinereoargenteus) and deer (Odocoileus virginianus) are also present, and this site is a potentially important reservoir for both game species and wide-ranging animals in general.

CONSERVATION RECOMMENDATIONS:

This area has been designated as a natural area by the Army Corps of Engineers, which should probably protect this area from further timbering. More active management, using prescribed burns, would be also be appropriate to maintain the unusual composition of this forest; fire was most likely an important natural factor shaping this community, as it was in dry forests throughout the Southeast. The presence of an open, mature stand of mixed pines and oaks could also conceivably support recolonization of this area by red-cockaded woodpeckers (Picoides borealis), which have been observed at this site in the past (Barbara Roth, pers. comm.), as well as southeastern fox squirrels (Sciurus niger) and Bachman's sparrows (Aimophila aestivalis), both of which are still reported to occur in the county.



Weaver Creek Old-growth Pinewoods

1" = 1,538'

SITE SURVEY REPORT

Site name: Weaver Creek Old-growth Pinewoods
County: Chatham

Date(s): 4/V/89

Surveyors:

Stephen P. Hall, Ph.D
NC Natural Heritage Program
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-7701

Marjorie Boyer
NC Plant Conservation Program
P.O. Box 27647
Raleigh, NC 27611
(919) 733-3610

Size: 211 acres
Quad: Merry Oaks
Province: Piedmont
Watershed: Jordan Lake --> Haw River --> Cape Fear River
Location and directions: Corps lands adjoining both sides of the Weaver Creek arm of Jordan Lake; south of NC 1972, east of NC 1907, and west of NC 1008

Landowners and addresses:
Owners contacted and attitude:

General landscape description: See Site Description

Physical description

Aspect: Primarily east and west
Slope: 0-5
Topographic position: Crest to lower slope
Hydrology: Terrestrial
Moisture: Dry
Elevation: 300 - 240'
Geology: Felsic igneous complex along the ridge grading into Sanford Formation on the slopes; quartzitic pebbles are common
Soils: White Store Very Fine Sandy Loam, White Store Fine Sandy Loam (eroded phase)

Comments on physical description:

Biological description

Community # 1: Dry Oak-hickory Forest (Successional)

Vegetation structure: Forest
Position in landscape and relation to other communities: ridge to lower slopes
Quality and condition: Good to fair
Size:

Dominants (*) and important species:

Canopy:

Pinus echinata
Pinus taeda *

Subcanopy:

Acer rubrum
Crataegus flabellata
Ilex opaca
Liquidamabar styraciflua
Malus angustifolia
Nyssa sylvatica
Oxydendrum arboreum
Quercus alba
Quercus coccinea
Quercus falcata
Quercus marilandica
Quercus nigra
Quercus phellos
Quercus rubra
Quercus stellata
Quercus velutina

Shrubs and vines:

Amelanchier canadensis
Gaylussacia frondosa
Gelsemium sempervirens
Ilex decidua
Smilax rotundifolia
Vaccinium arboreum
Vaccinium corymbosum
Vaccinium stamineum

Shrubs (cont.):

Vaccinium tenellum
Vitis rotundifolia

Herbs:

c Hexastylis lewisii
Osmunda cinnamomea
Osmunda regalis
var. spectablis
Woodwardia areolata

Special status species

State-listed species:

Plants:

c Hexastylis lewisii

Potential for other special status species: Low

Other noteworthy species or features: Oldest stand of pinewoods in the county; a former site for the Federally Endangered Red-cockaded Woodpecker

Site condition

Site integrity: Good to fair

Average DBH of canopy trees: 40 cm
Maximum DBH of canopy trees:

Fire regime: Natural (management practices unknown, but presence of large, pure stand of pines suggests the use of fires to keep out hardwoods)
Logged: Within last 50-100 years
Eveness of canopy: Successional
Ditched/drained: No
Stream channelized: No
Dredged/filled: No
Understory cleared: No
Grazed: No
ORV damaged: No
Other disturbances: No

Adjacent Land Uses: Agriculture, forest, and lake

Significance of site: County
Discussion: See Site Description

Protection considerations and management needs: This area of Corps lands should be managed as a natural area rather than for forestry; it is the only known mature stand of pines remaining in the county.

Determination of survey boundaries: Encloses Corps lands on the slopes above both sides of the Weaver Creek arm of Jordan Lake.

Priority for further study: Low