

**NORTH CAROLINA
NATURAL HERITAGE PROGRAM
BIENNIAL PROTECTION PLAN**

List of Significant Natural Heritage Areas

2008

**Natural Resources Planning and Conservation
Department of Environment
and Natural Resources**

SIGNIFICANT NATURAL HERITAGE AREAS

October 2008

Introduction

The North Carolina Natural Heritage Program compiles the N.C. Department of Environment and Natural Resources' list of significant "Natural Heritage Areas" as required by the Nature Preserves Act (NCGS Chapter 113A-164 of Article 9A). The list is based on the program's inventory of the natural diversity in the state. Natural areas (sites) are evaluated on the basis of the occurrences of rare plant and animal species, rare or high quality natural communities and special animal habitats. The global and statewide rarity of these elements and the quality of their occurrence at a site relative to other occurrences determine a site's significance rating. The sites included on this list are the best representatives known of the natural diversity of the state and therefore deserve priority for protection. Inclusion on this list does not confer protection to a site, nor does it give sites regulatory status or indicate that they have regulatory status with any agency. The list includes both protected and unprotected areas. Inclusion on this list does not mean that public access exists or is appropriate. Permission of the land owner is needed for all lands not open to the public. This list of sites and their significance ratings is based on the best available information as derived from the Natural Heritage Program databases. This list updates the set of known significant areas and their significance ratings, reflecting changes since the last list was published in 2005. Not all sites have been visited in this time period, and some of the ratings are based on older data. It is possible that some sites have been damaged or destroyed since they were last visited. More information on these natural areas may be obtained from the Natural Heritage Program.

Natural Area Significance

Natural areas are rated for their significance to protection of biodiversity. Because biodiversity depends on the conservation of a large number of different species and community types, with distinctive habitats, simple measures based on number of rare elements in a site are not sufficient. The most significant sites are those that make up a balanced set containing the best sites for all elements. Large sites with many rare species and communities are very significant, but some sites with only a single rare species may also be highly significant to biodiversity. Some species and community types do not occur in any large or rich sites, and can only be conserved in sites without other species or communities. North Carolina's natural areas are rated based on the value of the element occurrences – rare species and high quality natural communities – that they contain. Their significance is rated based on comparison with other sites for those same elements.

Natural Area Significance (Signif.)

- A = Nationally significant natural areas contain examples of natural communities, rare plant or animal populations, or geologic features that are among the highest quality, most viable, or best of their kind in the nation, or clusters of such elements that are among the best in the nation.
- B = Statewide significant natural areas contain similar ecological resources that are among the best occurrences in North Carolina. There are a few better quality representatives or larger populations on nationally significant sites elsewhere in the nation or possibly within the state.
- C = Regionally significant natural areas contain natural elements that may be represented elsewhere in the state by better quality examples, but which are among the outstanding examples in their geographic region of the state. A few better examples may occur in nationally or state significant natural areas. Regions consist of an area the size of about five counties.

Site Scale and Nesting

Frequently, related natural areas occur in clusters. The occurrence of a natural areas in association with other natural areas increases its long-term viability and ecological significance. Where multiple natural areas occur in a cluster that shares ecological function, the complex and the associated lands are designated as a macrosite. When one or more macrosites and other smaller natural areas occur in association, it may be designated a megasite. Macrosites and megasites contain significant natural areas, and may also contain lands which normally would not be included in a natural area, but which are important for consolidating and connecting the cluster.

In other cases, natural areas do not occur in clusters with other natural areas. These natural areas are referred to as "stand-alone" sites.

Sizes of natural areas differ greatly. A site may encompass thousands of acres that support many exceptional natural resources and special-interest species, and be logically considered a single large composite natural area. In a few cases, a site may be restricted to a few acres containing a remnant population of an endangered species or other unique feature that does not occur in any larger sites. Megasites and macrosites are always large, but some stand-alone sites are also very large contiguous natural areas.

The same significance categories are applied to sites of all sizes, and also to macrosites and megasites.

Organization of the List

Natural Areas

The following list of North Carolina's most significant natural areas is organized by county, and the natural areas within each county are ordered by ratings of national, statewide, or regional (greater than local) significance. This list includes all known areas of National, Statewide, and Regional significance. It does not include natural areas considered to be of only county or local importance, though such areas are inventoried and tracked by the Natural Heritage Program.

Natural areas which occur within megasites or macrosites are grouped in this list under the name and significance rating of the larger natural areas. The nesting of a natural area is indicated by vertical gray bars to the left of the names. Double bars indicate sites that are nested within both a macrosite and a megasite.

USGS Quads

The name(s) of the USGS 7.5-minute quadrangle on which a natural area lies is given in the second column. (Quads are not given for megasites and macrosites.)

Owner

The fourth column indicates ownership of the natural area. See the following Owner Abbreviations.

Owner Code	Owner
AFT	AMERICAN FARMLAND TRUST
ASU	APPALACHIAN STATE UNIVERSITY
AUD	NATIONAL AUDUBON SOCIETY
BGF	NC BOTANICAL GARDEN FOUNDATION
CATW	CATAWBA COLLEGE
CFED	NC COASTAL FEDERATION
CHC	CHOWAN COLLEGE
CHER	CHEROKEE INDIAN RESERVATION
CLC	CATAWBA LANDS CONSERVANCY
CLL	CAROLINA LAND AND LAKES RC&D
CLT	NC COASTAL LAND TRUST
CMLC	CAROLINA MOUNTAINS LAND CONSERVANCY
CTNC	CONSERVATION TRUST FOR NORTH CAROLINA
DUKE	DUKE UNIVERSITY
ECSU	ELIZABETH CITY STATE UNIVERSITY
ECU	EAST CAROLINA UNIVERSITY
ERA	ENO RIVER ASSOCIATION
FCNC	FOOTHILLS CONSERVANCY OF NORTH CAROLINA
FF	NC FORESTRY FOUNDATION
HBF	HIGHLANDS BIOLOGICAL FOUNDATION
HCLT	HIGHLANDS COMMUNITY LAND TRUST
HERP	NC HERPETOLOGICAL SOCIETY

New Hope Creek Corridor
A.7. Little Creek Bottomlands

New Hope, Third Fork, Morgan and Northeast Creeks no large wastewater plants empty into Little Creek (it does, however, receive stormwater runoff from large tracts of impervious surfaces in Chapel Hill).

The winter flooding of the wood duck subimpoundments, along with backup of water from Jordan Lake, may mitigate any benefits due to water quality. Although the voracious "grinnel" may prosper in these flooded areas, smaller species such as the mudminnow (*Umbra pygmaea*), blue-spotted sunfish (*Enneacanthus gloriosus*) and swamp darter (*Etheostoma fusiforme*)—all recorded from the lower New Hope watershed—may be at increased risk due to predation as their shallow water or isolated pool habitat becomes more deeply inundated, and thus more accessible to bass, crappie, channel catfish, as well as the "grinnel" itself. On the other hand, at least some refuges can still be found in the non-impounded areas, as indicated by the presence of larval marbled salamanders (*Ambystoma opacum*) in at least a few pools: small larvae of this species cannot survive in the presence of fish even as seemingly insignificant as the mosquitofish.

DESCRIPTION OF THE FLORA:

Little Creek has no extensive botanical survey. Short excursions into the floodplain have not produced many special plants. The higher areas and floodplain edges have yielded the usual spring ephemerals, although not in great numbers. One unusual occurrence is the presence of swamp white oak (*Quercus bicolor*) downstream from the crossing at CR 1108. The site is potentially as good as Stagecoach Bottomlands, but heavy use of surrounding lands for tobacco cultivation in the past 100 years may have been detrimental to the vegetation. Above NC 54, the floodplain is adjacent to several areas of Iredell loam—the area should be checked for basophilic plants.

PROTECTION STATUS AND THREATS:

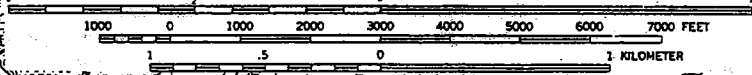
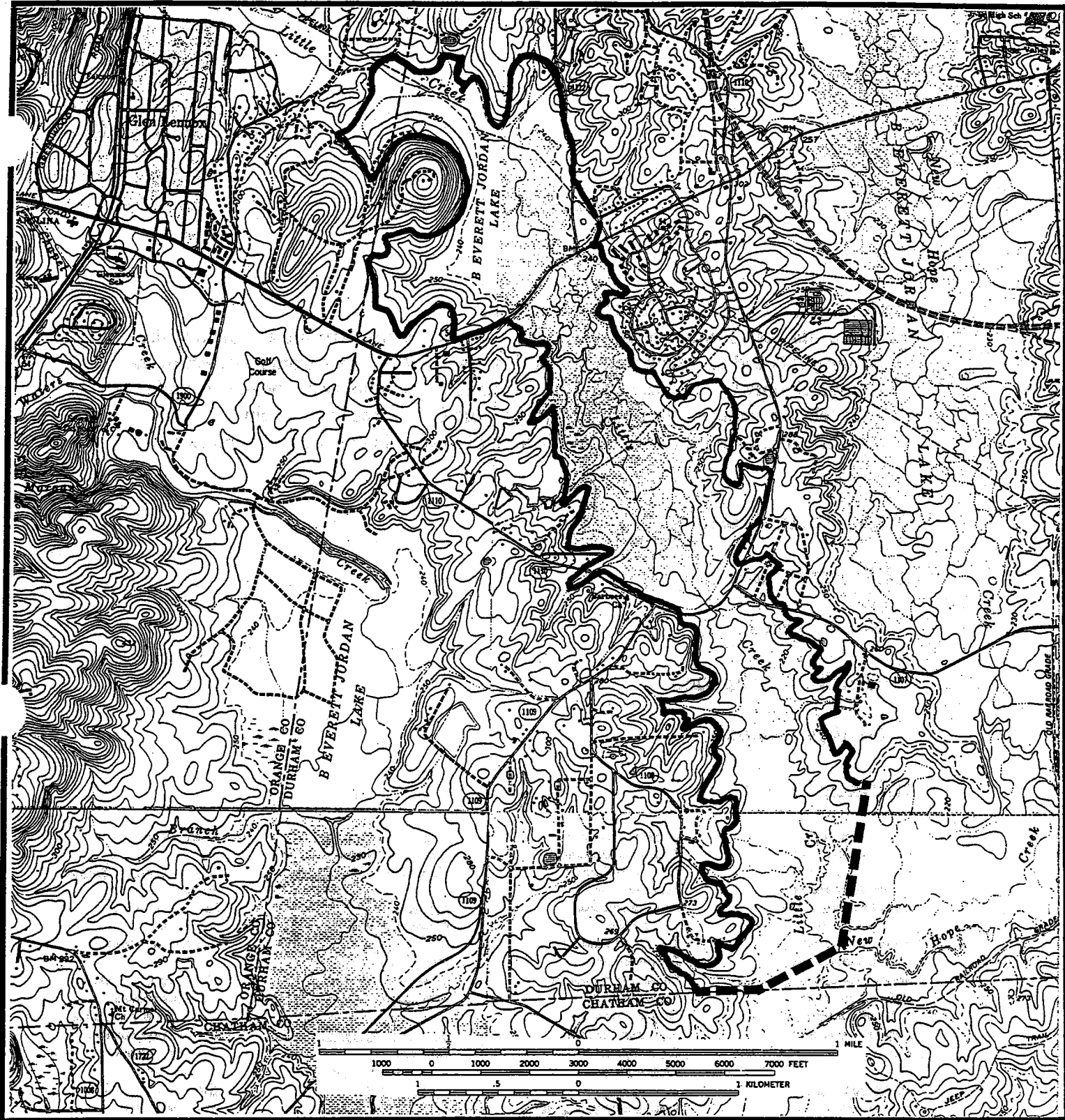
The Little Creek Bottomlands are part of the Corps lands extending north of Jordan Lake and are leased to the NC Wildlife Resources Commission as gamelands. Although protected from development, they are still subject to timbering and other management activities directed towards just a few species of game animals, primarily wood duck and white-tailed deer.

Privately owned lands adjoin the bottomland along both slopes, parts of which are becoming developed right down to the boundary of the Corps lands, particularly along Farrington Road. The large Meadowmont mixed-use development in eastern Chapel Hill will contain some 50 acres of Town parkland in the Durham County portion of the Little Creek floodplain, much of which is wetlands. In the Durham portion of this park, the only use permitted by the Town will be nature trails, short boardwalks, and a wildlife observation platform, with no wetland fill allowed.

CONSERVATION RECOMMENDATIONS:

Conservation recommendations for this tract are the same as for other tracts of the New Hope Gamelands. Management of the subimpounded areas should give more weight to the needs of non-game species and perhaps less to that of the wood duck, which is thriving throughout the region. Some regulation of rabbit hunting or fur-bearer trapping should also be considered if the population of marsh rabbits is to survive within this area.

As is true for the other sites in the New Hope Creek Basin, preservation of upland buffers along the edges of the bottomlands should be given a high priority. These slopes provide denning areas for terrestrial species, as well as refuges during periods of high water. Conservation easements, Natural Heritage Program Registry and Forest Management Plans would all be appropriate means to conserve these strips of uplands.



DURHAM COUNTY MERGED INVENTORY

Little Creek Bottomlands

- SITE BOUNDARY
- - - - -** ADJACENT TO OTHER SITE(S)

USGS QUAD: SOUTHWEST DURHAM, CHAPEL HILL, GREEN LEVEL, FARRINGTON

