



North Carolina Department of Administration

Beverly Eaves Perdue, Governor

Moses Carey, Jr., Secretary

February 20, 2012

Secretary Dee Freeman
Department of Environment and Natural Resources
512 N. Salisbury Street
Raleigh, North Carolina 27603-8003

Mr. Gordon S. Myers, Executive Director
N.C. Wildlife Resources Commission
512 N. Salisbury Street
Raleigh, North Carolina 27603-8003

Re: Dedication of Portions of the **Embro Game Land**, Warren and Halifax Counties

Dear Secretary Freeman and Mr. Myers:

Pursuant to Article 9A, Chapter 113A of the North Carolina General Statutes, this letter of allocation is executed for the purpose of dedicating the State-owned lands hereinafter described as a North Carolina Nature Preserve.

This real property is currently administered by the North Carolina Wildlife Resources Commission as a portion of the Embro Game Land and consists of approximately 8,844 acres located in Warren and Halifax Counties, composed of:

- | | | |
|----|--------------------------------|-------------|
| 1. | Embro Game Land (Primary Area) | 2,646 acres |
| 2. | Embro Game Land (Buffer Area) | 6,198 acres |

all of which are specifically described in Exhibit A, attached hereto and by reference made a part hereof. The dedicated land shall be known collectively as the Embro Game Land Dedicated Nature Preserve.

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1301 Mail Service Center
Raleigh, N.C. 27699-1301

Telephone (919) 807-2425
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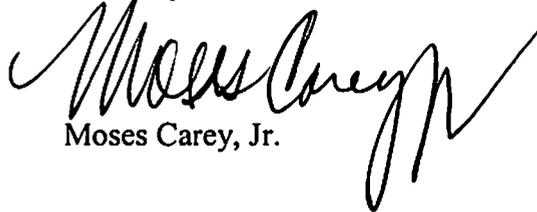
Location:
116 West Jones Street
Raleigh, North Carolina

An Equal Opportunity/Affirmative Action Employer

Dedication of the qualified portions of the tract fulfills the terms of any prior grant agreements, including those of the Natural Heritage Trust Fund and the Clean Water Management Trust Fund.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the Embro Game Land Dedicated Nature Preserve to be held in trust by the Custodian for the uses and purposes expressed in the Nature Preserves Act at a meeting held in the City of Raleigh, North Carolina, on the 13th of September, 2011.

Sincerely,



Moses Carey, Jr.

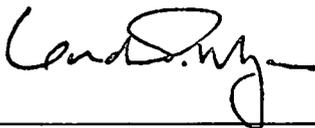
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Attachment

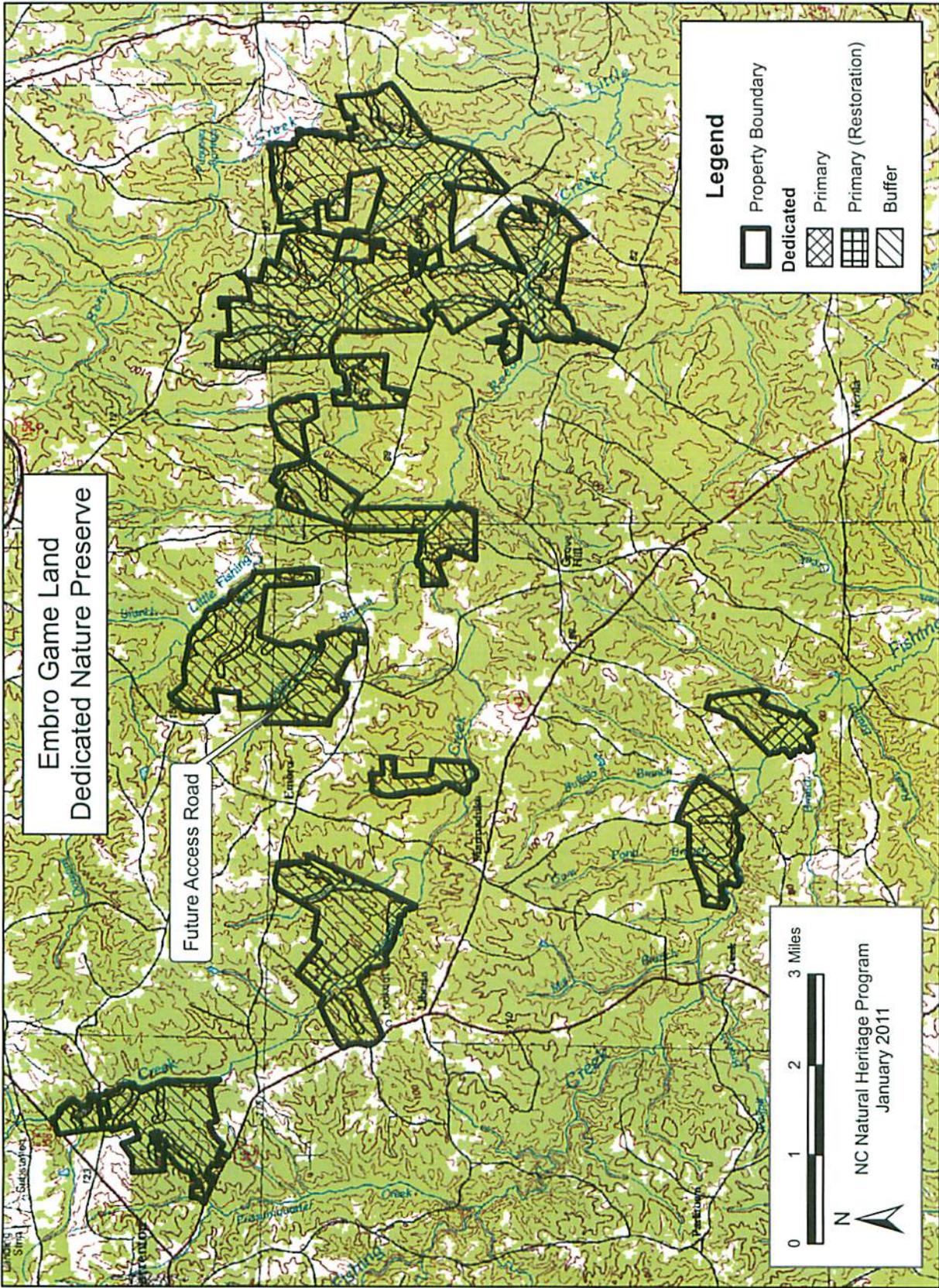
CONSENTED AND AGREED TO:



Secretary Dee Freeman
Department of Environment and Natural Resources



Gordon S. Myers, Executive Director
Wildlife Resources Commission



Embro Game Land
Dedicated Nature Preserve

Future Access Road

Legend

- Property Boundary
- Dedicated
- Primary
- Primary (Restoration)
- Buffer

0 1 2 3 Miles

NC Natural Heritage Program
January 2011

**EMBRO GAME LAND
DEDICATED NATURE PRESERVE**

DESCRIPTION

COUNTIES: Warren, Halifax PHYSIOGRAPHIC PROVINCE: Piedmont

TOPOGRAPHIC MAPS: Hollister, Inez, Littleton, Macon

SIZE OF AREA: ca. 8,844 acres (primary area 2,646 acres, including several restoration areas totaling 23 acres; buffer area 6,198 acres)

OWNER/ADMINISTRATION: State of North Carolina, Wildlife Resources Commission

LOCATION: The eastern and southeastern portions of Warren County, and the extreme western portion of Halifax County; the site lies south of US 158, southeast of US 158 Business, and mostly north of NC 43. The site consists of roughly ten separate tracts, with two being located south of NC 43. Little Fishing Creek passes through or alongside many of the northeastern tracts, Reedy Creek passes along the western tracts, and Fishing Creek passes along the two southern tracts.

DESCRIPTION: State-listed aquatic animals found in creeks – Little Fishing, Reedy, and Fishing – within Embro Game Land are the Neuse River waterdog (*Necturus lewisi*), Atlantic pigtoe (*Fusconaia masoni*), creeper (*Strophitus undulatus*), notched rainbow (*Villosa constricta*), and North Carolina spiny crayfish (*Orconectes carolinensis*). The broader aquatic habitat also contains federally listed aquatic species. Protection of floodplains within the game land will also protect the water quality of these creeks and thus greatly benefit the populations of these and other animals in the waters.

Most of the area surveyed consists of loblolly pine plantations and recently clearcut pine plantations, essentially all of which lie in uplands. A few upland areas contain hardwood forests, but these are found on moderate to steep slopes. The remainder of the area surveyed consist of floodplains, most of which are in good to excellent condition and contain a variety of natural communities.

The most widespread of the intact natural communities is Piedmont Alluvial Forest. Where not thinned (to harvest oaks) in past decades, the canopy is dominated by a mix of swamp chestnut oak (*Quercus michauxii*), cherrybark oak (*Q. pagoda*), willow oak (*Q. phellos*), American elm (*Ulmus americana*), sweetgum (*Liquidambar styraciflua*), and many others. Areas slightly younger in age often show more sycamore (*Platanus occidentalis*) and river birch (*Betula nigra*). American hornbeam (*Carpinus caroliniana*) is the most common understory tree, but box-elder (*Acer negundo*) can be common on richer floodplains. Tall pawpaw (*Asimina triloba*), spicebush (*Lindera benzoin*), and cane (*Arundinaria gigantea*) are among the numerous shrub species. The herb layer in relatively pristine areas is lush, with species such as spring beauty (*Claytonia virginica*), trout lily (*Erythronium umbilicatum*), and a variety of grasses and sedges.

A small percentage of the floodplains support the Piedmont Swamp Forest natural community type. This is a rather scarce community, almost always being less than ten acres in size. These wet areas are dominated by green ash (*Fraxinus pensylvanica*) and red maple (*Acer rubrum*). The often muddy ground contains shrubs such as swamp dogwood (*Cornus amomum*) and elderberry (*Sambucus canadensis*), and herbs such as false-nettle (*Boehmeria cylindrica*), lizard's-tail (*Saururus cernuus*), and netted chain-fern (*Woodwardia areolata*). Somewhat more numerous than swamps are Floodplain Pools, which seldom are larger than one to two acres in size. These areas usually contain standing water in winter and early spring but are dry for most of the year. Willow oak is normally present, as well as sweetgum; a few overcup oaks (*Q. lyrata*) are present at some pools. Highbush blueberry (*Vaccinium corymbosum*), common greenbrier (*Smilax rotundifolia*), and common winterberry (*Ilex verticillata*) are usual woody species, and herbs are dominated by various sedges (*Carex* spp.). These pools are important breeding sites for frogs and salamanders. A few Low Elevation Seep communities are also present on several of the tracts.

Beaver ponds are frequently found in the floodplains. These Piedmont Semipermanent Impoundments come in an array of types, mostly depending on the age of the ponds; they range from those with some standing water, to extensive marshes, to wet shrub thickets, to large areas of standing dead trees. This is a very important wildlife habitat, home to various turtles, frogs, and birds, among others; the dead trees are important foraging habitat for woodpeckers.

Few of the areas surveyed contain significant hardwood slopes, as most slopes were timbered and planted in pines several decades ago. However, some slopes on the southwest side of Little Fishing Creek (east of Odell-Arcola Road) and on the south side of this creek (east of Briston Brown Road) contain extensive mature hardwood stands, essentially Mesic Mixed Hardwood Forest, with small areas of Basic Mesic Forest, Intermediate Subtype also present. Common canopy trees are northern red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), and tuliptree (*Liriodendron tulipifera*). The understory and shrub layers are somewhat sparse; species include viburnums (*Viburnum rafinesquianum*, *V. dentatum*), spicebush, and American hazelnut (*Corylus americana*). The very diverse herb layer contains wildflowers such as mayapple (*Podophyllum peltatum*), perfoliate bellwort (*Uvularia perfoliata*), black cohosh (*Cimicifuga racemosa*), bloodroot (*Sanguinaria canadensis*), wild geranium (*Geranium maculatum*), devil's-bit (*Chamaelirium luteum*), and dwarf crested iris (*Iris cristata*). Christmas fern (*Polystichum acrostichoides*) is common, and some maidenhair fern (*Adiantum pedatum*) is present.

The tract that lies along Reedy Creek above Hugh Davis Road contains a remarkable, isolated 25' high knoll in that creek's floodplain. Though the community is a Mesic Mixed Hardwood Forest, it is quite diverse and contains locally unusual plants such as Indian cucumber-root (*Medeola virginiana*) and mountain holly (*Ilex montana*).

The hardwood forests provide good to excellent wildlife habitat for many species, especially for Neotropical migrant bird species that breed in the region, as well as for wild turkeys. Though the pine plantations are poor wildlife habitats, the recent clearcuts of the pine stands are important habitats for birds and mammals using early succession habitats, even if such habitats are available at a particular site for just a few years.

BOUNDARY JUSTIFICATIONS: Many of the primary areas defined are those with fairly

BOUNDARY JUSTIFICATIONS: Many of the primary areas defined are those with fairly mature to mature stands of hardwood forest – both upland and wetland, plus open water, marsh, and wet thickets associated with beaver ponds. A minimum 300-foot primary area is defined along each side of any riparian areas defined as part of the Significant Aquatic Habitat, supporting the numerous federally listed and rare aquatic species. A minimum 200-foot primary area is defined on each side of any tributaries draining into the Significant Aquatic Habitat. Several areas within the 100-year floodplain have been designated specifically as restoration areas, with the goal of restoring natural floodplain communities. Mixed pine-hardwood stands, pine stands (whether pine plantations or not), and clearcuts/early succession fields are included within buffer areas.

MANAGEMENT AND USE: The preserve is managed to provide habitat for a wide array of wildlife species, to be used by hunters as a game land. Other activities, such as trapping, nature study, and bird-watching, are expected to take place.

Little management is needed within the primary areas. It is important to avoid, or highly limit, vehicular traffic in such areas, such as hunters driving trucks into the primary areas to be closer to deer stands, because mechanical disturbance can easily allow exotic plants to invade such areas. Japanese stiltgrass (*Microstegium vimineum*) is particularly aggressive along jeep roads and other disturbed areas, moving into undisturbed floodplains quite readily. Japanese honeysuckle (*Lonicera japonica*) and Chinese privet (*Ligustrum sinense*) are other aggressive exotic species that readily colonize disturbed areas. Fortunately, the latter species is relatively scarce in the game land, though honeysuckle is present and generally common on all tracts.

Within the buffer areas, burning of pine stands or early succession stands may be beneficial to many species of wildlife, especially those preferring thick herbaceous cover, as burning promotes a denser stand of grasses and forbs for a few years after the burn than would be present with simply cutting of woody growth but no fire. However, burns should not be allowed to move into hardwood forest stands, as burns often kill or knock back shrubs and saplings that are used for foraging, for cover, and for nesting by songbirds. Burns do yield a thicker herb layer in hardwood floodplains and slopes, for a few years, but the trade-off of less cover of shrubs and saplings might be an overall detriment to animal species in such a burned forested area.

MAP: attached

(October 2009, NC NHP)

THIS DEDICATION OF THE EMBRO GAME LAND NATURE PRESERVE IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. As used in this Letter, the terms "natural area" and "nature preserve" shall have the same meaning as contained in North Carolina General Statutes, section 113A-164.3.
2. Pursuant to North Carolina General Statutes 113-164.8, all State-owned lands lying within the above designated area(s) are hereby dedicated as a nature preserve to be known collectively as the Embro Game Land Nature Preserve (hereinafter "preserve") for the purposes provided in the North Carolina Nature Preserves Act, as amended, and other applicable law, and said State-owned land, shall be held, maintained, and used exclusively for said purposes.
3. **Primary Custodian:** The primary custodian of the preserve will be the North Carolina Wildlife Resources Commission, which will be responsible for managing the preserve in accordance with State Administrative Code 15A NCAC 12H.0300 and .0400.
4. **Primary Classification:** The primary classifications and purposes of the preserve will be conservation, nature education, wildlife management, hunting, fishing, trapping, and other recreational uses authorized by the Primary Custodian. The ecological significance of the preserve is described in Exhibit A.
5. **Management Areas:** For the purposes of management, the preserve shall be considered to consist of a Primary Area (approximately 2,646 acres) and a Buffer Area (approximately 6,198 acres), as more particularly described in Exhibit A, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of significant aquatic habitat supporting numerous rare mussels, amphibians, and crayfish in the vicinity, and federally listed species in the broader habitat. It also includes the adjoining high-quality Piedmont Alluvial Forest and Piedmont Swamp Forest, with scattered Floodplain Pools and Piedmont Semipermanent Impoundments. Uplands support examples of Mesic Mixed Hardwood Forest and Basic Mesic Forest.

The Primary Area is deemed by the Secretary of the North Carolina Department of Environment and Natural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 113A-164.6) and further serves all of the public purposes for a dedicated preserve as stated in Administrative Rules 15A NCAC 12H.0301(b).

The Buffer Area, which contributes to the management and protection of the Primary Area, consists of mixed pine-hardwood stands, pine forests and plantations, and fields.

6. **Rules for Management of the Primary Area(s):**
 - A. **Character of Visitor Activity:** The principal visitor activities in the preserve shall be hunting, fishing, trapping, walking, research, and observation. These activities shall be regulated by the Custodian to prevent significant disturbance of the pre-

serve. These activities may specifically be regulated by the Custodian to protect and conserve the natural values of the preserve.

Activities and uses unrelated to those listed above are prohibited except as otherwise provided in these Articles or unless necessary to carry out the purposes of the preserve. Prohibited activities include, but are not limited to: construction; commercial activities and development; commercial silviculture; agriculture and grazing; gathering of native species of plants or plant products; the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources, except for research purposes as approved by the Custodian; and those activities specifically restricted in these Articles.

There shall be no fires, except as necessary for ecological management of the preserve or in conjunction with supervised educational activities of the Custodian, or further excepted as herein provided or otherwise expressly permitted.

- B. Consumptive Wildlife Uses: Hunting, fishing, and trapping shall be permitted on the preserve subject to regulations and management by the North Carolina Wildlife Resources Commission.
- C. Orientation and Guidance of Visitors: The Custodian reserves the right to orient and guide visitors for educational programs, hunting and fishing uses, scientific research, and for preserve management. Exhibits, programs, and printed materials may be provided by the Custodian in service areas. The Custodian may restrict access to visitors in those instances or in such areas that restrictions may be determined necessary to safeguard sensitive environmental resources in the preserve.
- D. Disturbance of Natural Resources: The cutting or removal of trees, dead or alive, or the disturbance of other natural resources is prohibited except as necessary for removal of hazards to visitors, control of disease or insect infestations that would damage or reduce the significance of the preserve, restoration after severe storm damage, trail clearance and maintenance, or for purposes of maintenance or restoration of natural communities or rare species populations as stipulated in the preserve management plan and that which is consistent with the purposes of these Articles. Salvage timber cuts which may be necessary due to natural catastrophe will be allowed in both Primary and Buffer Areas, but in a manner that will contribute to the recovery of the prevailing natural conditions of the forest and in consultation with the North Carolina Natural Heritage Program.

Specifically, a component of the management plan will address the restoration areas located as mapped in Exhibit A within the 100-year floodplain. The goal within these areas will be to restore natural community structure, composition, and function, in consultation with the North Carolina Natural Heritage Program.

- E. Wild Fire Control/Prescribed Burning: Wild fires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a

wild fire does not threaten human life or structures, it may be allowed to burn with minimal control. If wild fire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wild fire control. When new firebreaks need to be established, environmentally sensitive areas will be avoided when possible. Old firebreaks which affect the natural hydrology of wetlands will be filled and allowed to revegetate. Planning of firebreak restoration should occur in consultation with the North Carolina Natural Heritage Program.

- F. Water Control: The purpose of water control shall be to maintain the preserve's natural water regime. Water levels that have been altered by man may be changed if necessary to restore the preserve to its natural condition. In a preserve with a long history of managed hydrology, water levels may be managed to perpetuate the ecosystems that have evolved around the hydrology or may be restored to natural condition. This decision should be made in consultation with the Natural Heritage Program. Millponds are an example of situations in which water levels have been historically managed.
- G. Pollution and Dumping: There will be no storage or dumping of ashes, trash, garbage, hazardous substances, toxic waste, other unsightly or offensive material, or fill material, including dredge spoil in, on, or under the preserve. No underground storage tanks may be placed within the preserve. No surface or ground waters of the preserve may have pollutants added within the preserve.
- H. Control of Vegetational Succession: Control of vegetational succession may be undertaken if necessary to maintain or restore a particular natural ecosystem type or to preserve endangered, threatened, rare, or other unusual species. Controls will be done in the manner that best imitates the natural forces believed responsible for maintaining the natural ecosystem type, or that minimizes unnatural effects on non-target portions of the ecosystem. Prescribed burning is particularly essential to ecosystems where natural wild fire historically suppressed woody vegetation and promoted herbaceous diversity.
- I. Control of Populations: Any control of animal or plant populations on the preserve shall be for the purpose of correcting those situations where those populations are significantly affecting natural conditions on the preserve, and in accordance with the Custodian's established regulations for hunting, trapping, or fishing of designated game animals. The Custodian may, in consultation with the North Carolina Natural Heritage Program, apply biological controls, herbicides and pesticides, and other means deemed necessary or appropriate to control or eradicate exotic or native species of plant or animal that are degrading the natural character of the preserve. Because of potential impacts on native species, no exotic flora or fauna shall be introduced into the preserve.

- J. **Research and Collecting Permits:** Any person wishing to engage in scientific research requiring collecting or otherwise affecting anything within the preserve shall first secure written permission from the Custodian.
- K. **Roads and Trails:** New roads shall generally not be constructed in the Primary Area. Due to limited access, several new roads for public access shall be constructed in the Buffer Area, but only one of these will cross the designated Primary Area (as shown on the map in Exhibit A). Fragmentation of the Primary Area and impacts during construction of this road will be minimized. When necessary, the Custodian may construct and maintain access limited to staff use for management purposes, such as service paths (single lane vegetated paths) for patrol, right-of-way maintenance, and other management activities, within the Primary Area. Number and width of new paths will be minimized, and sensitive areas avoided when possible. Existing roads that occur within or form a boundary of the Primary Area may be maintained by grading of the roadbed, replacing culverts, or adding stone as needed in order to maintain the integrity of the road for vehicular use. Daylighting of roads within the Primary Area should be minimized, but may be used if necessary to maintain the condition of the road. Access management and construction will be part of the overall management planning process and will include consultation with the North Carolina Natural Heritage Program.
- L. **Other Structures and Improvements:** Structures or facilities shall not be erected by the Custodian within a preserve, except as may be consistent with the purposes of the preserve as stated in this dedication. Site selection shall be consistent with this dedication.
- M. **Management Plan:** The Wildlife Resources Commission, as Primary Custodian of the preserve, shall be required to prepare and submit for approval to the Secretary of the Department of Environment and Natural Resources a management plan for the preserve. The management plan will be part of the larger management plan developed for the gamelands. This plan shall be subject to all the provisions of this dedication and shall additionally be consistent with the management principles set forth in the North Carolina Administrative Code 15A NCAC 12H.0300 and .0400, and such other regulations as may be established from time to time by the Secretary of the Department of Environment and Natural Resources. In any case where contradictions may arise between this instrument of dedication and other management regulations, the terms of this dedication shall take precedence.
7. **Rules for Management of the Buffer Area(s):** Primary area rules also apply except that additional forestry and wildlife management activities may be planned and carried out as needed. Construction and maintenance of roads, trails, and other access structures within buffer area(s) of the preserve will be limited to the level necessary to appropriately manage the preserve. These activities will be conducted in accordance with policy of the N.C. Wildlife Resources Commission and general management philosophy as outlined in Commission planning documents, in addition to providing for the buffer functions in relation to the primary area(s). WRC rules and guidelines require the protection and en-

hancement of wildlife populations and habitat so that hunting, fishing, trapping and other wildlife recreational opportunities are available to citizens of this State. Forest management is primarily conducted to enhance wildlife habitat.

Buffer functions within the dedicated area may include protecting the primary area(s) from indirect detrimental ecological effects, providing additional area for species and ecological processes that require larger areas, and providing important successional stages and disturbance regimes and other habitat diversity for wildlife. Based on these general objectives, the following buffer functions will be addressed in the management plan.

- 1) Landscape level function of community type and structure. (Buffer area management may involve timber harvest and other forms of stand manipulation, but will not involve forest canopy type conversion over more than limited areas, other than to restore stands to types suited for the site. Introduction of exotic species known to be invasive in natural communities will be avoided.)
 - 2) Maintenance of habitat connectivity and continuity among primary areas.
 - 3) Providing for habitat diversity.
 - 4) Management needs of rare animal and plant species populations occurring within the buffer area; and
 - 5) Protection of soil and hydrologic resources and processes within the primary area and extending into the buffer. (Buffers will be retained along streams, and watersheds of primary areas will be protected from hydrologic alteration.)
8. **Amendment and Modification:** The terms and conditions of this dedication may be amended or modified upon agreement of the Wildlife Resources Commission and Secretary of the Department of Environment and Natural Resources, and approved by the Council of State. Any portion of the tract dedicated pursuant to this instrument may be removed from dedication in accordance with the provisions of North Carolina General Statutes 113A-164.8.
9. **Permanent Plaque:** The Custodian should erect and maintain a permanent plaque or other appropriate marker at a prominent location within the preserve bearing the following statement: "This Area is Dedicated as a State Nature Preserve."