



Natural Heritage Advisory Committee Meeting Agenda

May 2020: 10:00 a.m. to 4:00 p.m.

Due to the COVID19 pandemic, this meeting will be held via teleconference. Any member of the public who wishes to participate in this meeting is strongly encouraged to do so remotely.

Please contact Rodney Butler at rodney.butler@ncdcr.gov or 919-707-8603 to request a teleconference meeting invitation/call-in or instructions to attend the meeting in person.

NHAC Members: Jeff Marcus (chair), Alan Weakley, Marvel Welch, Lee Leidy, Ron Myers, Jay Leutze, Tony Doster, Jason Walser, Bob Cherry

NHP Staff: Misty Buchanan, Scott Pohlman, Nathan Shepard, Brenda Wichmann (recording minutes)

DNCR Staff: Division of Land and Water Stewardship Director Walter Clark, Deputy General Counsel Henry Fordham, Chief Deputy Secretary Reid Wilson

Call to Order and Reading of Ethics Reminder – Jeff Marcus, Chair

In accordance with the State Government Ethics Act, it is the duty of every Natural Heritage Advisory Committee member to avoid both conflicts of interest and appearances of conflict. Does any Natural Heritage Advisory Committee member have any known conflict of interest or appearance of conflict with respect to any matters coming before the Natural Heritage Advisory Committee today? If so, please identify the conflict or appearance of conflict and refrain from any undue participation¹ in the particular matter involved.

Welcome, Introductions, and Logistics: NHAC, DNCR, NHP,

- Logistics: Dedication Recommendation letters, and upcoming terms.

01 Review Agenda for Additions and Deletions – All

02 Review Previous Meeting Minutes – All

- Division updates (Walter) – Legislative updates, CWMTF
- NHP updates (Misty)

Registry/Dedication Overview (Scott)

Dedication Proposals (Scott)

NCDA&CS Plant Conservation Program

03 McIntosh Bays Plant Conservation Preserve

NC Division of Parks and Recreation

04 South Mountain State Park amendment

05 Grandfather Mountain State Park amendment

06 Carvers Creek State Park amendment

07 Elk Knob State Park amendment update (not an action item)

NC Department of Natural and Cultural Resources

08 Bentonville Battlefield State Historic Site amendment

NC Wildlife Resources Commission

09 Green River Game Land DNP (review of NHAC-suggested update)

10 Stones Creek Game Land amendment

11 Neuse River Game Land amendment

12 White Oak River Game Land

NC Division of Coastal Management

13 Bird Island Coastal Reserve amendment

Registry Proposals (Scott)

14 Crabtree Creek - City of Oaks RHA

15 Bennett Hardpan and longleaf restoration RHA (130 of Chatham)

16 Box Creek Wilderness amendment (130 of Chatham)

17 Hickorynut Mountain amendment (130 of Chatham)

18 Landrum Creek Forests (130 of Chatham)

19 Lower Bear Creek Slopes (130 of Chatham)

20 Rocky River Aquatic Habitat Riparian (130 of Chatham)

21 Rocky River Basalt Bluffs (130 of Chatham)

22 Meadow Flats RHA amendment (Duke Forest)

23 Stancil Chapel Pine Flatwoods RHA (Stancil)

Discussion:

Staff Updates

24 Duke Energy Transmission Line Right-of-Way MOU update

25 Volunteer Program (Scott)

Set next meeting date

Wrap Up



Natural Heritage Advisory Committee Meeting Minutes

Jordan Lake Educational State Forest, 2832 Big Woods Road, Chapel Hill, NC 27517

October 8, 2019, 10:00 a.m. to 2:00 p.m.

NHAC Members present: Mr. Jeff Marcus (chair), Dr. Alan Weakley, Mr. Bob Cherry, Mr. Ron Myers, Mr. Bob Cherry, Ms. Marvel Welch, Mr. Tony Doster, Mr. Jay Leutze, Mr. Jason Walser

DNCR Staff: Land and Water Stewardship Division Director Walter Clark, Nancy Guthrie (CWMTF), Steve Bevington (CWMTF), and Deputy General Counsel Hank Fordham.

NHP Staff: Misty Buchanan, Scott Pohlman, Nathan Shepard, Meredith Wojcik (recording minutes)

Call to Order and Reading of Ethics Reminder – Jeff Marcus, Chair

Welcome, Introductions, and Logistics: NHAC, DNCR, NHP staff (Misty et al.)

01 Review Agenda for Additions and Deletions – All
No additions were deletions were recommended.

02 Review Previous Meeting Minutes – All

Marvel Welch moved to approve the minutes from the previous meeting. Alan Weakley seconded the motion, all voted to approve the meeting minutes.

Division Updates: (Walter)

Walter discussed a few legislative updates including the state budget impasse, which has no impact on staffing, but puts money on hold for a survey of Three Top Game Land included in the proposed budget. Clean Water Management Trust Fund (CWMTF) awarded their \$14.3 million base budget, but cannot yet award additional legislative increase of \$1.7 million. Walter then gave an overview of a few House and Senate Bills that impact the Division of Land and Water Stewardship.

SB381 – reconstitutes CWMTF board of trustees with the governor appointing the majority of trustees; The CWMTF name was also changed to North Carolina Land and Water Fund, and there will be a slow rollout and rebranding effort.

HB1008 – reintroduce the conservation tax credit, limited to military buffer lands; 25% of land value; passed house, in Senate today or soon.

SB356 – allows CWMTF and Parks and Recreation Trust Fund (PARTF) to receive money from sale of state surplus lands – each would receive 12.5% of the total value of the sale. Currently there is no estimate of how much money that would be.

Walter also noted that CWMTF did have an earmark for purchase of Lea-Hutaff Island but it was moved to PARTF; now CWMTF has no earmarks. They have tried to discourage the use of earmarks as it bypasses the established board process.

NHP Updates: (Misty)

Total NHP budget 19-20 \$1,133,163 (estimated):

1. Appropriations \$805, 531 (approximate, pending budget approval)
2. Large Contracts \$272,797 (3 data entry staff positions – 2 DOT, 1 WRC)
3. Fees \$54,535

Registry/Dedication Overview: Scott reviewed the Dedication process and definitions.

Scott notes some dedications might need separate motions.

Dedication Proposals: (Presented by Scott)

- 03 Suther Prairie – Cabarrus County.
Suther Prairie is a small part of overall site, maintained mainly through mowing – proposed as special management area. The remainder of property is mixed hardwood-pine stand, proposed dedicated as buffer. Alan Weakley notes the site is important because it challenges paradigm of what the Piedmont looked like historically. Dedicating the site would be conserving a very interesting historical relic of rare plant populations in a habitat created or maintained by a long-term haying regime by the private landowners. There was a discussion over management of the site, and concluded that Plant Conservation Preserve, together with the NC Forest Service, has sufficient resources and technical expertise to maintain the site, possibly in collaboration with private landowners.

New plant preserve, funded in part by CWMTF 2015-006. The parcels will add 69 acres total.

Jay Leutze moved to approve the Suther Prairie PCP Dedication. Alan Weakley seconded motion, all approved.

- 04 Eastwood Plant Conservation Preserve – Moore County.
Jeff Marcus recused himself and passed lead to former chair Alan Weakley. This project was funded by the CWMTF. The amendment adds 15 acres, almost all primary with exception of 2 acres along powerline, which will be part of special management area. Brings total to 370 acres.

Discussion: The special management area along powerline will need partnership with Duke Energy, probably mowing or fire regime; no herbicide. There was a former agreement with Progress Energy, and NHP is trying to update agreement with Duke Energy.

Ron Myers moved to approve. Marvel Welch seconded the motion, all approved, Jeff Marcus abstained.

- 05 Mount Jefferson State Natural Area amendment – Ashe County
State Parks has been developing a plan for access for this site and NHAC previously tabled discussion on dedication. NHP proposes dedicating portions of those streams visible in the field as primary, rather than streams shown on USGS topo maps. There has been a substantial amount of stream restoration work done that can account for difference in stream mapping. There was native vegetation restoration; most will be forested, but some will be more open. The amendment adds 38 acres (all primary) to the dedication, bringing the total to 729 acres.

Discussion: Project received CWMTF grant, so qualifying portions must be dedicated. There are concerns about lack of natural conditions at site. Jeff Marcus is pleased that uncertainties were addressed and balances water quality with parks infrastructure.

Jeff Marcus recommends that unless there are specific concerns or comments, state parks will all be voted on collectively.

- 06 Eno River State Park Amendment
Amendment adds 23 acres, all primary, brings total to 2,251 acres. No current plans to develop amenities.
- 07 Bullhead Mountain State Natural Area – Alleghany County
The site includes some riparian areas, forest bog near road. The amendment adds 21 acres, all primary, bringing the total area of the dedication to 182 acres.

Jeff Marcus asks if anyone wants to vote on individual State Parks dedications separately. There are no requests. Tony Doster moved to accept the Division of Parks and Recreation Dedication proposals, Bob Cherry seconded the motion, all approved dedication.

Discussion: Tony Doster pondered whether the advisory committee is nothing more than a rubber stamp as projects receiving funding from CWMTF are required to be dedicated. Hank Fordham explains the requirement is not that all funded sites be dedicated, but that all qualifying portions are required to be dedicated. Alan Weakley states that the NHAC is not a rubber stamp because it is a judgement call determining what qualifies, especially areas not currently in great condition, but could be restored over time. Misty Buchanan and Scott Pohlman emphasize that a lot of negotiation is done with land manager up-front, prior to NHAC discussion. Jeff Marcus explains that the discretion of the NHAC is in where and how much of the land should be in dedicated areas.

Tony Doster then expressed concern about dedicating Mount Jefferson State Natural Area as the proposed dedicated areas did not seem to be in natural area/condition. Misty Buchanan stated that the streams are tributaries to an aquatic natural habitat with rare aquatic animal species. Alan Weakley stated the importance of creating buffers along streams for water quality. Tony Doster asked about necessity of dedication if land is already protected. Nancy Guthrie explained that the state will not hold a conservation easement, so the dedication process is used to protect natural resources and prevent future impacts in areas with natural resources. Tony Doster expressed understanding that dedications are similar to easements and therefore valuable for protecting streams. He was satisfied that State Parks approved these suggestions.

08 Bentonville Battlefield State Historic Site amendment – Johnston County

Two separate CWMTF grants funded separate properties. This amendment proposes to add 107 acres. The total acreage of the Dedication is 216 acres, all primary area, including primary restoration (9 acres). Site manager is interested in leaving the possibility of road pull-offs with interpretative signs, in locations that have not yet been identified. They are unlikely to be in dedicated areas as dedicated areas are only 20% of overall property and mostly along streams.

Jeff Marcus expressed concern about voting on dedication as the interpretative areas and pull-off locations are not yet known. Misty Buchanan and Scott Pohlman suggested adding language that

if no particular resource values would be impacted, NHP can give consent to DOT for right-of-way along existing road up to 50 feet wide without de-dedication. Jeff Marcus asks if that accounts for parking areas or pull-offs? Scott Pohlman says no. Tony Doster asks if an agreement can be created about where to put the pull-offs. Scott Pohlman agrees, but states it will need more time.

Jeff Marcus asked if everyone agreed to table discussion, all agreed to table consideration until next meeting.

- 09 Green River Game Land – Polk County
Property is mostly forested, with riparian areas; large number of element occurrences. The new addition was funded by CWMTF. The dedication adds 594 acres, 390 primary and 204 buffer. That brings the total dedication to 4,621 acres.

Discussion: Jeff Marcus expressed concern about the difficulty of enforcing in the thin slivers between dedicated areas and recognizing them in the field, and wondered if they could be consolidated? Tony Doster agreed that he would like to see the small areas in between consolidated, if no cost to NHP. Scott Pohlman asked if there is a distance or acreage rule of thumb for consolidation? Jeff Marcus suggested no specific rule of thumb or standard, but to use logic in developing a preserve design that consolidates small patches into larger areas. Tony Doster recommended consolidating any areas that are isolated and could not be accessed by equipment, Jay Leutze and Alan Weakley agreed.

Jeff Marcus asked if there is any opposition to tabling discussion of dedication pending consolidation of small excluded areas into dedicated areas; all agreed to table it until next meeting.

- 10 Buckridge Coastal Reserve amendment – Tyrell County
There was no CWMTF grant for this project, but there is legislation that qualifying portions of coastal reserves must be dedicated. The site was first acquired by TNC with military funding and contains DoD easement. The amendment adds 1,663 net acres, all primary, including two acres of special management area. It brings the total size of the dedication to 28,776 acres.

Hank Fordham advised that Jeff Marcus should recuse himself as he works for The Nature Conservancy, the former landowners. Ron Myers made the motion to accept. Tony Doster seconded the motion, all approved, Jeff Marcus abstained.

- 11 Cane Creek Natural Area Phase 2 Modification
The dedication was reviewed and approved back in May but NHP received a September 2019 request for modification to Articles of Dedication to build well(s) for drinking water and parking area in buffer area along road. NHP staff request to continue negotiation and amend language in approved articles of dedication.

No formal vote, all approve NHP continuing to work on modification of Articles of Dedication.

- 12 Cane Creek Natural Area Phase 3

The phase consists of 135 acres of primary area and 17 acres of buffer, a total of 152 acres. Like phase 2, property managers are still determining where to put parking area, wells, and trailhead. The property has minimal structures and an abandoned well.

Discussion: Is Phase 3 ready to be voted on? Yes, only some language modification is still in the works. The intended purpose for this property is to be a county park with hiking trails.

Jay Leutze moved to accept Dedication of Phase 3. Jason Walser seconded the motion, all approved.

- 13 Maggie Valley Sanitary District
NHAC has already reviewed this dedication, but recent information request prompted consideration of language for road projects. NHP proposes to add language about road right-of-ways (permission for DOT to use up to 50-foot beside existing ROW if there are no impacts to natural heritage resources). The main road that borders the property crosses several riparian areas. DOT is in early stages of planning a road widening. There are no aquatic natural areas, just 100-foot buffers streams, based on CWMTF recommendations. Adding this language adds NHP to the table as primary custodian and allows NHP to negotiate with NC DOT to avoid and minimize impacts.

Discussion: NHP states that adding this language does not automatically grant approval to NC DOT. There is a question of whether CWMTF Board needs to grant approval to add this language. Nancy Guthrie states that initial thinking is it would not need to go before CWMTF Board, Hank Fordham in agreement. Jay Leutze is concerned about defending the 50-foot number, which is based on Will Summer's review of previous impacts from DOT projects. He also recommends specifying in language what amounts to significant impact of streams.

The committee voted on inserting language into articles dedication. **Alan Weakley moved to add the language to the previously approved articles of dedication. Ron Myers seconded the motion, all approved.**

Discussion

Determinable conservation easement (Nancy)

With the state unable to hold an easement on fee-owned state property, it was unclear how to create an instrument of protection that would terminate cleanly when articles of dedication are created. With assistance of Hank Fordham, CWMTF and NHP decided to use determinable easements. A determinable easement may be placed on a property intended to be conferred to the state from a private organization so CWMTF can proceed with releasing funding. The determinable easement terminates when and only when the articles of dedication are created. After 10 years with no action towards dedication, a determinable easement becomes a standard (permanent) easement.

These would be used on non-state applicants, such as local land trusts or government units that plan to transfer to state in future. The terms of the determinable easement will be the same or more restrictive than the articles of dedication. NHAC committee members including Jason Walser and Jay Leutze indicated they are all in favor of determinable conservation easements, which will streamline gap between funding and transfer to the state.

Staff Updates

15 Status of Dedicated Nature Preserves previously approved by NHAC (Scott)

Scott gave updates on the timeline for dedications depending on landowner. State-owned lands take about 12 months and county and private dedications take longer (over 2 years).

16 & 17 Volunteer Program & Dedicated Nature Preserves and Registered Heritage Areas monitoring (Scott)

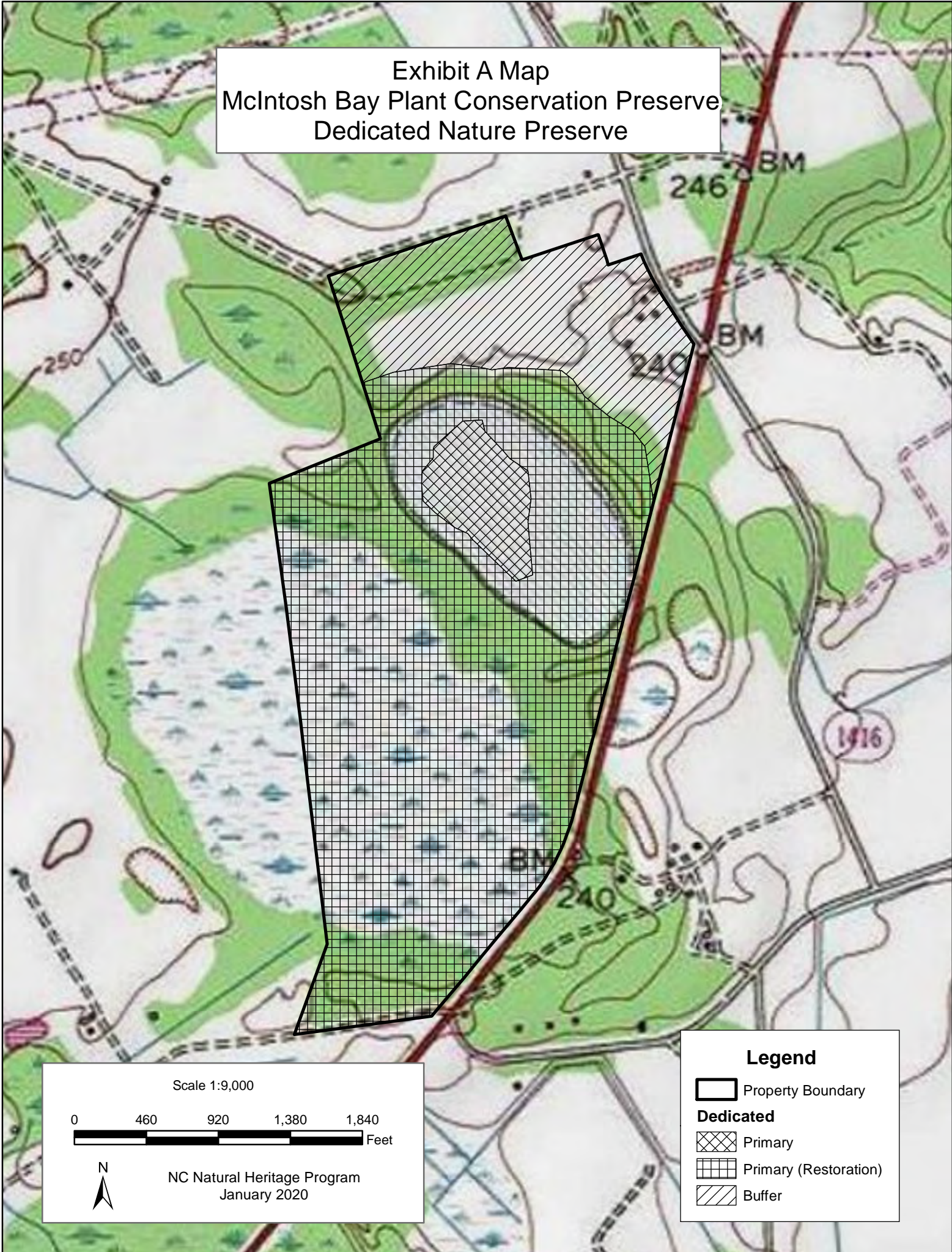
Volunteers and/or staff have monitored 23 RHAs and DNPs since January 1, 2019. An estimated 10 more should be completed by end of year.

Staff Updates from Misty: The Botanist position is open and has been posted; we look forward to hiring a new person soon. She requests that NHAC members share the posting. NHP will have a booth at Land Trust Rally. Last year, NHP completed part of our Venus Flytrap surveys on public lands. Next, NHP will be doing surveys on private lands, and also surveys for Venus Flytrap Cutworm Moth in the upcoming spring. NHP is also working with USFS to survey land in Caldwell County and Uwharrie National Forest as part of a small contract. The WRC contract is ending in June and NHP hopes to renew it as it has been helpful for entering animal data, and especially helpful for USFWS listings. NHP has been involved in climate change work related to EO 80, specifically how natural and working lands will sequester carbon. NHP will be reviewing the expected impacts to ecosystems and working to use our data from the 2010 report. Another project related to EO 80 was a report with maps of DPS properties of their natural lands and how they can protect natural resources and sequester carbon. There was a meeting last week to review results of analysis and discuss management of natural areas. NHP will be working with DPS to survey some of their lands and develop proposals for dedication.

Scott discussed logistics for the field trip to Big Woods Road Upland Forest Registered Heritage Area.

Marvel Welch made the motion to adjourn at 2:25pm. The motion was seconded by Alan Weakley, all approved.

Exhibit A Map
McIntosh Bay Plant Conservation Preserve
Dedicated Nature Preserve



Scale 1:9,000

0 460 920 1,380 1,840 Feet

N

NC Natural Heritage Program
January 2020

Legend

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

ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Commissioner Steven Troxler
Department of Agriculture and Consumer Services
1001 Mail Service Center
Raleigh, North Carolina 27699-1011

Subject: Dedication of the **McIntosh Bays Plant Conservation Preserve Nature Preserve**, Scotland County

Secretary Hamilton and Commissioner Troxler:

Pursuant to Part 42 of Article 2 of Chapter 143B 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 Plant Industry Division, N.C. Department of Agriculture and Consumer Services, and consists of approximately 211 acres located in Scotland County which are specifically described in Exhibit A, attached hereto and by reference made a part hereof. The dedicated lands shall be known collectively as the **McIntosh Bays Plant Conservation Preserve Dedicated Nature Preserve**.

The terms of the grant agreement between the North Carolina Department of Agriculture and Consumer Services and the North Carolina Clean Water Management Trust Fund require dedication of the qualified portions of the tract acquired as state lands with grants from the Fund.

THIS DEDICATION OF THE MCINTOSH BAYS PLANT CONSERVATION PRESERVE DEDICATED NATURE PRESERVE IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **Definitions:** 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 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statute 143B-135.264, all State-owned lands lying within the above designated area are hereby dedicated as a nature preserve to be known collectively as the McIntosh Bays Plant Conservation Preserve 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. A portion of the property was previously dedicated through a conservation easement recorded in Scotland County, NC, Register of Deeds, August 16, 1995, Deed Book 383, pages 161-166. The terms of the conservation easement are compatible with those of this letter of allocation.
3. **Primary Custodian:** The primary custodian of the McIntosh Bays Plant Conservation Preserve Nature Preserve will be the **North Carolina Plant Conservation Program, Department of Agriculture and Consumer Services**, which will be responsible for managing the preserve in accordance with State Administrative Code 07 NCAC 13H.0300 and .0400.
4. **Primary Classification:** The primary classification and purpose of the preserve will be natural area and rare plant conservation. Other compatible uses of the preserve may be authorized by the Primary Custodian, and may include scientific research, nature education, and low-impact passive recreation. 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 167 acres, including a restoration area of 157 acres), and a Buffer Area (44 acres), as more particularly described in Exhibit A, attached hereto and by this reference made a part hereof. The Primary Area consists of the high-quality natural communities and areas currently known to encompass rare plant and animal populations.

The Primary Areas--composed of the natural area as described above--is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves the public purposes for a dedicated preserve as stated in G.S. 143B-135.252.

6. **Rules for Management of the Primary Areas:**
 - A. **Character of Visitor Activity:** The principal visitor activities in the preserve may include nature observation, education, scientific research, and low-impact passive recreation. These activities shall be regulated by the Custodian to prevent significant disturbance of the preserve. 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, for wildfire hazard reduction to the surrounding community, or in conjunction with supervised educational activities of the Custodian, or further excepted as herein provided or otherwise expressly permitted.

- B. Orientation and Guidance of Visitors: The Custodian reserves the right to orient and guide visitors for educational programs, 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.

- C. 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 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 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 restoration of the portion of the property that is not currently high quality but contains rare species populations (identified as a Primary (Restoration) Area in the Exhibit A map). The intent of restoration will be to restore natural habitat for the rare plant and animal populations, in consultation with the Natural Heritage Program.

- D. Wild Fire Control: 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.

- E. Water Control: The purpose of water control shall be to maintain the preserve's natural water regime. Hydrology that has been altered by man may be changed if necessary and practicable to restore the preserve to its natural condition.
- F. 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.
- G. 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 essential to some ecosystems and may be used where natural wildfire historically kept understories open and promoted herbaceous diversity.
- H. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the Preserves. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program.
- 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. 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. Any reintroduction or augmentation of animals will be of species native to the natural community and shall be done according to an approved management plan.
- 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: Construction and maintenance of roads, trails, and other access structures within the Primary Area of the preserve will be limited to the level necessary to appropriately manage the preserve. New roads shall not be constructed in the Primary Area. 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. Access management and construction will be part of the overall management planning process and will include consultation with the North Carolina Natural Heritage Program.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: US Highway 401.

- 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 Department of Agriculture and Consumer Services, Plant Industry Division, as Primary Custodian of the preserve, shall be required to prepare and submit for approval to the Secretary of the Department of Natural and Cultural Resources a management plan for the preserve. 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 07 NCAC 13H.0300 and .0400 and such other regulations as may be established from time to time by the Secretary of the Department of Natural and Cultural 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 Plant Conservation Program, in addition to providing for the buffer functions in relation to the Primary Area(s).

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. (Naturally vegetated riparian zones 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 Commissioner of the Department of Agriculture and Consumer Services and the Secretary of the Department of Natural and Cultural 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 Statute 143B-135.264.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the **MCINTOSH BAYS PLANT CONSERVATION PRESERVE 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 (City Name), North Carolina, on the _____ of _____, (YEAR). (TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

Commissioner Steven Troxler
Department of Agriculture

EXHIBIT A

MCINTOSH BAYS PLANT CONSERVATION PRESERVE DEDICATED NATURE PRESERVE

DESCRIPTION

COUNTY: Scotland

PHYSIOGRAPHIC PROVINCE: Coastal Plain (Sandhills Region)

TOPO QUAD: Laurinburg

SIZE OF AREA: ca. 211 acres total (primary 167 acres, including a restoration area of 157 acres; 44 acres buffer)

OWNER/ADMINISTRATOR: State of North Carolina
Plant Conservation Program, NC Department of
Agriculture and Consumer Services

DESCRIPTION: The McIntosh Bays Plant Conservation Preserve contains a significant portion of the McIntosh Bay Complex natural area. This natural area includes a series of Carolina Bays of high biological importance to North Carolina. Tunstall Bay and Big Cypress Meadow are of special significance, as around 20 rare plants and animals are known from these two bays. Tunstall Bay is a treeless bay classified as a Small Depression Pond (Cutgrass Prairie Subtype), and is much wetter than the other bays. It lacks a canopy, and Maidencane (*Panicum hemitomom*) is dominant in the herb layer. Big Cypress Meadow is classified as a Cypress Savanna (Typic Subtype) natural community; a canopy of Pond Cypress (*Taxodium ascendens*) occurs throughout much of the bay with drawdown margins containing a rich herb layer.

Numerous rare plant species are known to occur in the bays, most notably the state's only known historical location of Canby's Dropwort (*Oxypolis canbyi*), a federally and state Endangered species. Some of the other state protected plants include Bog Bluestem (*Andropogon mohrii*), Shrubby Seedbox (*Ludwigia suffruticosa*), Mudbank Crown Grass (*Paspalum dissectum*), Awned Meadow-beauty (*Rhexia aristosa*), Tracy's Beaksedge (*Rhynchospora tracyi*), Small-headed Marsh Elder (*Iva microcephala*), and Dwarf-burhead (*Helanthis tenellum*), which is only known from four locations in North Carolina.

Over a dozen species of frogs and salamanders breed in these bays, including state Threatened Eastern Tiger Salamander (*Ambystoma tigrinum*) and Mabee's Salamander (*Ambystoma mabeei*), and state Endangered Ornate Chorus Frog (*Pseudacris ornata*). Other rare species include Southern Chorus Frog (*Pseudacris nigrita*), Chicken Turtle (*Deirochelys reticularia reticularia*),

and Dwarf Salamander (*Eurycea quadridigitata*). The state Endangered Gopher Frog (*Lithobates capito*) historically occurred here. Additionally, the McIntosh Bay Complex provides nesting habitat for several species of birds which are rare in the Inner Coastal Plain. When water levels are high enough in summer in Tunstall Bay, Common Gallinules (*Gallinula galeata*) and Pied-billed Grebes (*Podilymbus podiceps*) have nested in the bay on several occasions. Anhingas (*Anhinga anhinga*) can occasionally be observed at this site but are not known to nest there.


BOUNDARY JUSTIFICATION: The portions of this tract with good quality natural communities are designated as Primary Area. Currently, the Small Depression Pond (Cutgrass Prairie Subtype) natural community is designated as a Primary Area, while Tunstall Bay, Big Cypress Meadow, and the remaining sandhill uplands are designated as Primary (Restoration) Areas. Big Cypress Meadow is designated as Primary (Restoration) due to the current condition of that natural community, and the fact that restoration activities outside of normal management may be required to manage this bay. It should be noted that numerous rare species occur in the Primary (Restoration) Area. Much of the old farm field and forested areas in low ecological condition are designated as Buffer Area. However, Primary Restoration area extends north of the pond to encourage a more naturally vegetated upland habitat zone for wetland-associated species, particularly reptiles and amphibians, as per NC Wildlife Resource Commission recommendations.

MANAGEMENT AND USE: Regular prescribed burning is essential to maintaining and restoring the natural communities within the uplands and bays. Treating or managing weedy species like Red Maple (*Acer rubrum*) and Sweetgum (*Liquidambar styraciflua*) within the recently restored bays is important. Very few exotic plant species are noted on the tract; however, given the aggressive restoration that has been conducted on this tract, monitoring and treating any invasive plants should be a priority. In addition to managing the Buffer Area for its buffer function, the area could also be managed to restore natural forest conditions, and in the future be considered an area of land that is reestablishing its natural character, and qualify as part of the Primary Area.


Management actions that replace lost ecological processes or restore more natural conditions are appropriate. The Plant Conservation Program plans to install permanent fire breaks which will allow for active management without damaging the integrity of this wetland. Significant actions of this kind – including timber harvest and prescribed fire -- will be planned in consultation with the Natural Heritage Program.


(September 2019, NCNHP)

South Mountain State Park Dedicated Nature Preserve


 Property Boundary

Dedicated


 Primary

 Excluded

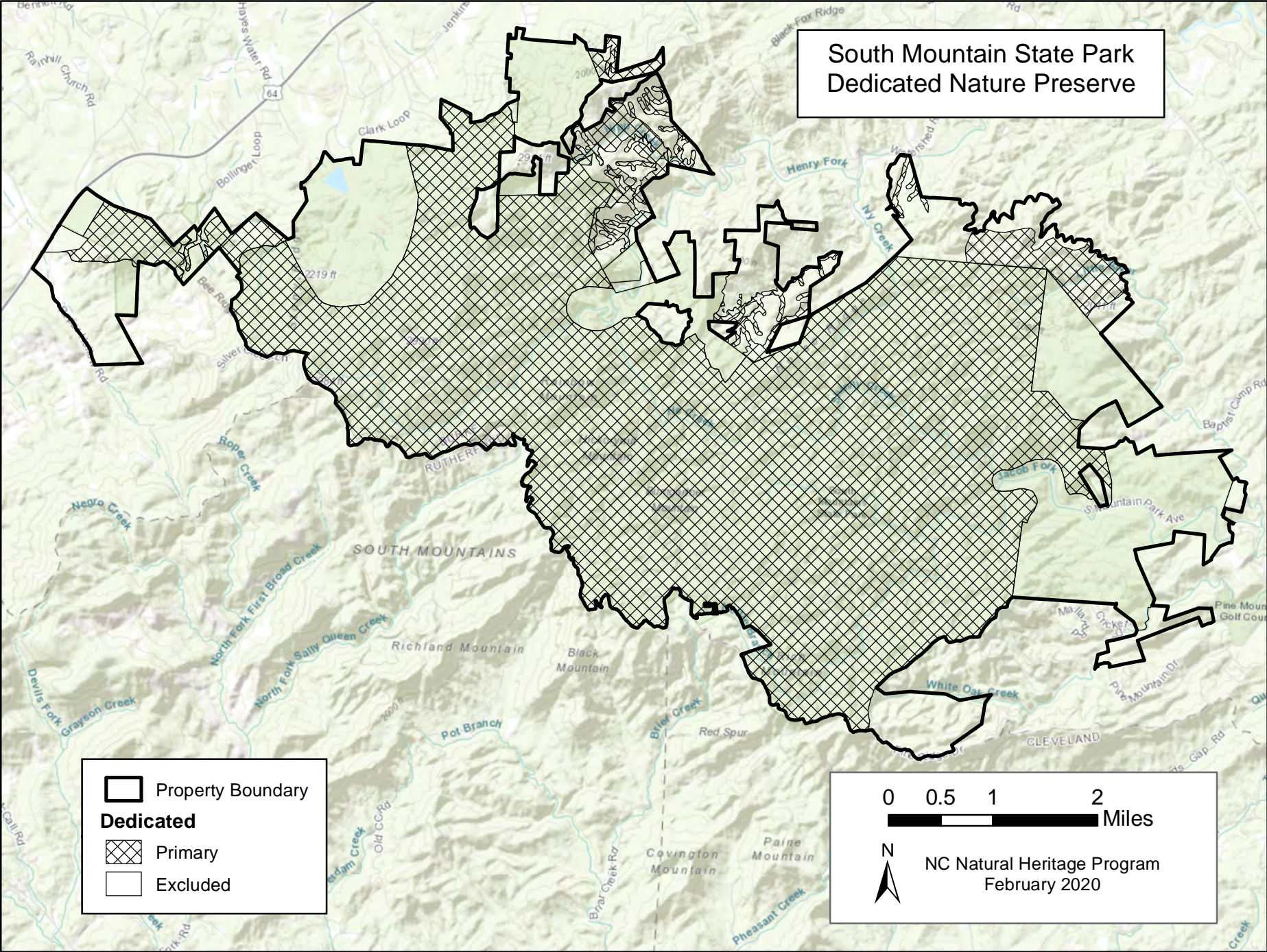
0 0.5 1 2 Miles



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NC Natural Heritage Program
February 2020



(INSERT DATE)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Re: Dedication of Areas within the State Park System

Dear Secretary Hamilton:

Pursuant to Part 42 of Article 2 of Chapter 143B 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. These Articles of Dedication replace the Articles of Dedication dated September 24, 2019. The articles were amended to reflect additions of property to the preserve and ownership boundary corrections.

Those real properties are allocated to the Department of Natural and Cultural Resources and currently managed by the Division of Parks and Recreation, briefly described below and more specifically described in Exhibit A.

<u>Site Name</u>	<u>Approximate Total Acreage</u>
A. South Mountains State Park	15,079 acres

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

1. **Definitions:** As used in this allocation, the terms "natural area," and "nature preserve" have the same meaning as contained in North Carolina General Statutes 143B-135-254.
2. **Dedication:** The Preserve, as described in this Allocation, is hereby dedicated as a **nature preserve** for the purposes provided in the Nature Preserves Act.
3. **Primary Custodian:** The primary Custodian of the Preserves will be the Department of Natural and Cultural Resources, Division of Parks and Recreation.
4. **Primary Classification:** The primary classification and purpose of the Preserves will be conservation, scientific research, passive recreation, and nature education.
5. **Rules for Management:**

- A. **Character of Visitor Activity:** The principal activities in the Preserves shall be non-consumptive outdoor recreation and education in designated areas. These activities may 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 provided in this Dedication or unless necessary to carry out the purposes of the Preserves. Prohibited activities include, but are not limited to, commercial development, commercial silviculture, agriculture and grazing, gathering of plants or plant products for purposes other than approved research, the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources, and those activities specifically restricted in this Dedication.

- B. **Orientation and Guidance of Visitors:** The Custodian reserves the right to orient and guide visitors for educational programs, scientific research, and preserve management. Exhibits, programs, and printed materials may be provided by the Custodian. The Custodian may create and maintain nature trails, overlooks, boardwalks, and primitive campsites adequate to promote the permitted use of the preserve. Guardrails, fences, steps, bridges, and boardwalks may be provided when appropriate. The Custodian reserves the right to erect structures necessary to protect the preserve from unwanted or excessive visitor traffic and structures to restrict visitor access to sensitive environmental resources.

When constructing new natural surface trails within the nature preserve for the purpose of hiking and non-motorized bicycling, all new trail construction and realignment requiring soil disturbance must follow best practices for sustainable trail design and construction. The Custodian may construct and maintain bridges or other stream crossings up to ten (10) feet wide across streams in the nature preserve, provided such crossings are connected to trails permitted herein, constructed in a way as to maximize water quality protection, and permitted by all applicable regulatory authorities. The number of stream crossings must be minimized.

- C. **Roads and Trails:** The Custodian may construct and maintain service roads for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may

maintain roads presently existing within the preserve. Otherwise, the construction of roads will be prohibited.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: S.R. 1957, S.R. 1919.

- D. Other Structures and Improvements: Buildings or facilities other than those defined above shall not be erected by the Custodian within the preserve, and they must be consistent with the purposes of the preserve as stated herein.
- E. Research and Collecting Permits: Any person wishing to engage in scientific research or collecting shall first secure written permission from the Custodian.
- F. Vehicles: There will be no horseback riding or bicycling except on trails designated for these purposes and no use of any motorized vehicles except boats. The Custodian may use vehicles as necessary for the management of the Preserve.
- G. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the Preserve.
- H. Water Level Control: The purpose of water level control shall be to maintain the Preserve’s natural water regimes. Water levels that have been altered by human activities 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. Millponds are an example of situations in which water levels have been historically managed.
- I. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the Preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- J. Fire: Use of prescribed burning is permitted as necessary for the biological management of the Preserves. Any prescribed burning must be done according to an approved fire management plan for the park unit in question. Fires are also permitted in conjunction with supervised activities of the Custodian, or in designated areas within primitive campsites.

- K. Disturbance of Natural Features: The disturbance of other natural features is prohibited except for control of disease that would damage or reduce the significance of the Preserves, reduction of fire fuel load after severe storm damage, or for purposes of ecological management as stipulated in the Park unit's approved management plan and that which is consistent with the purposes of this Dedication.
 - L. Control of Populations (natural and exotic): Any control of animal or plant populations, other than fishing, shall be only to correct situations where populations have been significantly altered from natural conditions. The Custodian may, in accordance with an approved resource management plan, 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 Preserves.
 - M. Control of Natural Processes: Natural processes will be managed according to the policy of the North Carolina State Parks Natural Resource Management Policy. Generally, natural resources will be managed by allowing natural environments to evolve through natural processes with minimal influence from human activities. Exceptions are enumerated in the Policy Statement.
 - N. Management Plan: These rules for management constitute a management plan within the meaning of NCAC T07A:13H.0400 until detailed plans for each park are prepared. The dedicated nature preserves will continue to be subject to other applicable regulations within NCAC Title T07A, Chapter 13. Where contradictions may arise between this instrument of dedication and other management regulations, the terms of this Dedication shall take precedence.
6. **Amendment, Modification, and Termination**: Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands described by this document at a meeting in (City Name), North Carolina on (DATE).

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

EXHIBIT A

SOUTH MOUNTAINS STATE PARK DEDICATED NATURE PRESERVE

DESCRIPTION

COUNTY: Burke

PHYSIOGRAPHIC PROVINCE: Piedmont

TOPOGRAPHIC QUAD: Morganton South, Glen Alpine
Dysartsville, Benn Knob, Casar, and Valdese

SIZE OF AREA: ca. 15,079 acres

OWNER/ADMINISTRATOR: State of North Carolina/Division of Parks and Recreation

DESCRIPTION: The South Mountains are a rugged foothill range in the upper Piedmont. Though separated from the Blue Ridge by a fairly flat valley, they reach elevations of nearly 3,000 feet and are as rugged as most of the land in the Blue Ridge Mountains. Geology is composed of large areas of gneiss and schist and small bodies of amphibolite. The South Mountains are known for large areas of unbroken forest, wildlife, and numerous rare and unusual plants. The park protects a large part of the contiguous and wildest portion of the South Mountains. The dedicated area includes five Natural Heritage natural areas: Jacob Fork Watershed, Henry Fork Watershed, South Mountains North Slope, Simms Hills/Little River Uplands, and Hall Knob. It adjoins dedicated lands on South Mountains Game Land to the south.

Within the dedicated area are extensive examples of natural communities typical of the Mountain region and nearly absent in the Piedmont. Most of the forests are maturing after past timber harvest and reflect the forestry treatment in their composition, but their large extent combined with their degree of maturity makes them highly significant. Small pockets of forest are more mature, and some old-growth is present on the steep upper slopes of Clear Creek watershed. Chestnut Oak Forest covers the largest overall land area, covering most ridge tops and upper to mid slopes throughout the park. As is typical, chestnut oak (*Quercus montana*) and sometimes scarlet oak (*Quercus coccinea*) dominate the canopy. Small numbers of pines are present. Some areas represent the Dry Heath Subtype, with well-developed shrub layers of heath species. Some areas are the Herb Subtype, lacking a significant shrub layer. Other areas are the White Pine subtype, with a significant component of white pine (*Pinus strobus*) in the canopy, while some are the Mesic Subtype.

Acidic Cove Forest also is widespread and occupies many stream corridors, lower slopes, and valley bottoms. Pine-Oak/Heath occurs in patches on narrow ridgetops, and may have been more abundant in the past when fire was more frequent. Montane Oak-Hickory Forest, with white oak (*Quercus alba*) as well as scarlet oak and chestnut oak, is more limited but still extensive, occurring on some gentler slopes and in areas with richer soils. Most areas have shrub layers dominated by heath shrubs and represent the Acidic Subtype or White Pine Subtype, but the Henry Fork Watershed has several areas of the rarer Basic Subtype, with a diverse herbaceous layer of species associated with richer soils. Rich Cove Forest occurs

in small patches, notably near High Shoal Falls, along upper Clear Creek, and in several parts of Henry Fork Watershed.

Several rare community types are present: An excellent Spray Cliff community occurs at High Shoal Falls and Montane Cliffs also occur nearby. Exceptional Low Elevation Basic Glade communities are arrayed along the ridge around Walker Top and Krunckleton Knob, as are Carolina Hemlock Forests. Smaller examples of Low Elevation Rocky Summit communities are found scattered throughout the park on numerous peaks.

There are numerous occurrences of rare plant species. Most are associated with the rock outcrops or with the rich soils in the Henry Fork and Clear Creek watersheds. The rarest are populations of the federally endangered small whorled pogonia (*Isotria medeoloides*) and white irisette (*Sisyrinchium dichotomum*). Also notable is the population of bear oak (*Quercus ilicifolia*) in the Jacob Fork Watershed and the Little River watershed at and near Simms Hill, one of the best of only seven in the state. Other rare plants include multiple populations of Bradley's spleenwort (*Asplenium bradleyi*), large witch-alder (*Fothergilla major*), smooth sunflower (*Helianthus laevigatus*), sweet white trillium (*Trillium simile*), lance-leaf moonwort (*Botrychium lanceolatum* var. *angustisegmentum*), daisy-leaf moonwort (*Botrychium matricariifolium*), ash-leaved golden-banner (*Thermopsis fraxinifolia*), Appalachian golden-banner (*Thermopsis mollis*), shale-barren blazing star (*Liatris turgida*), Carolina saxifrage (*Micranthes caroliniana*) and sweet pinesap (*Monotropsis odorata*). Besides these species there are a number of North Carolina Watch List plants and plants that are very rare for the Piedmont. Some occur here below their normally expected elevation range in the South Mountains.

Several rare animal species are known. Northern big-eared bat (*Myotis septentrionalis*) and Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) occur in both Jacobs Fork and Henry Fork watersheds. The South Mountain gray-cheek Salamander (*Plethodon meridianus*) is known from the Hall Knob area. The golden-banded skipper (*Autochton cellus*) has been found from one site. Besides known rare animals, the large forested area supports black bears and presumably other wide-ranging wildlife. The streams in the park have excellent water quality, and the Jacob Fork has been designated as Outstanding Resource Waters.

BOUNDARY JUSTIFICATION: Because part of the significance of this natural area is the large expanse of forest, the dedication includes most of the park. The Dedicated Nature Preserve includes the contiguous mature and maturing forests as well as the rare species occurrences. It excludes large areas of young forest regeneration and old-field successional forests, as well as the larger old water supply reservoirs. The newer homesite on Hipp Creek is also excluded. Small areas of more disturbed land, such as wildlife fields, old home sites, and small reservoirs are included where they are important to the continuity of the site. One larger area of more recently cut forest in the Henry Fork Watershed is included because it contains rare plant occurrences. Areas along the Little River near Simms Hill that contain rare plant occurrences are included in the Primary Area while the immature areas without rare plant occurrences are excluded. Likewise, a portion of Clear Creek and a narrow buffer through successional forest is included to protect an uncommon caddisfly, (*Psilotreta frontalis*). In some portions of the South Mountains State Park dedicated area, Primary Areas also include the riparian zones of streams; these Primary Areas are designated based on the extent of the 100-foot stream zones required by the Clean Water Management Trust Fund when state agency lands are dedicated. Flowlines from the NC Stream Mapping Project were utilized to delineate these Primary Areas. Areas of maturing forest northeast of Hall Creek/Roper Hollow Road and southwest of Bee Ridge were excluded, as they contain no known rare plant, animals, or natural communities. Successional and recently logged forests in the Hipp Creek valley are excluded while more mature forest patches are included.

MANAGEMENT AND USE: The dedicated nature preserve will be managed as a State Park, for public recreation and natural resource protection. Recreational use can be expected to continue to range from light to locally moderate or heavy. Small backcountry campsites and an extensive trail network are present within the dedicated area in Jacobs Fork Watershed and may be expanded in other parts of the dedicated area. The dedicated area is appropriate for low-impact trails and other backcountry recreation.

The South Mountains have a relatively dry climate and are naturally subject to fire. Prescribed burning is recommended as a management practice in most parts of the natural area. Burning is particularly important in the bear oak area. Because the trees are not that old in much of the forest, fires should be kept at low intensity when possible, to avoid killing excessive numbers of trees at one time. As the forests mature, the larger trees should be more resistant to fire, and fire-tolerant species can be expected to increase.

(INSERT DATE)

Secretary Susi Hamilton
Department of Natural and Cultural Resources
Mail Service Center 4601
Raleigh, North Carolina 27699-4061

Re: Dedication of Areas within the State Park System

Dear Secretary Hamilton:

Pursuant to Part 42 of Article 2 of Chapter 143B 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.

Those real properties are allocated to the Department of Natural and Cultural Resources and currently managed by the Division of Parks and Recreation, briefly described below and more specifically described in Exhibit A.

<u>Site Name</u>	<u>Approximate Total Acreage</u>
A. Grandfather Mountain State Park	2,817 acres

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

These articles of dedication replace the articles of dedication for Grandfather Mountain State Park dated April 11, 2016. The articles reflect additions of property to the preserve and provide more accurate boundaries.

THIS ALLOCATION IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **Definitions:** As used in this allocation, the terms “natural area,” and “nature preserve” have the same meaning as contained in North Carolina General Statutes 143B-135.254.
2. **Dedication:** The preserve, as described in this Allocation, is hereby dedicated as a **nature preserve** for the purposes provided in the Nature Preserves Act. A portion of the property was previously dedicated through a conservation easement recorded in Avery County, NC, Register of Deeds, November 17, 1998, Deed Book 312, pages 925-943. The terms of the conservation easement are compatible with those of this letter of allocation.
3. **Primary Custodian:** The primary Custodian of the preserve will be the Department of Natural and Cultural Resources, Division of Parks and Recreation.
4. **Primary Classification:** The primary classification and purpose of the preserve will be conservation, scientific research, passive recreation, and nature education.
5. **Rules for Management:**

- A. **Character of Visitor Activity:** The principal activities in the preserve shall be non-consumptive outdoor recreation and education in designated areas. These activities may 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 provided in this Dedication or unless necessary to carry out the purposes of the preserve. Prohibited activities include, but are not limited to, commercial development; commercial silviculture; agriculture and grazing; gathering of plants or plant products for purposes other than approved research; the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources; and those activities specifically restricted in this Dedication.

- B. **Orientation and Guidance of Visitors:** The Custodian reserves the right to orient and guide visitors for educational programs, scientific research, and preserve management. Exhibits, programs and printed materials may be provided by the Custodian. The Custodian may create and maintain nature trails, overlooks, boardwalks, and primitive campsites adequate to promote the permitted use of the preserve. Guardrails, fences, steps, bridges, and boardwalks may be provided when appropriate. The Custodian reserves the right to erect structures necessary to protect the preserve from unwanted or excessive visitor traffic and structures to restrict visitor access to sensitive environmental resources.
- C. **Roads and Trails:** The Custodian may construct and maintain service roads for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may maintain roads presently existing within the preserve. Otherwise, the construction of roads will be prohibited.

- D. Other Structures and Improvements: Buildings or facilities other than those defined above shall not be erected by the Custodian within the preserve, and they must be consistent with the purposes of the preserve as stated herein.
- D. Research and Collecting Permits: Any person wishing to engage in scientific research or collecting shall first secure written permission from the Custodian.
- E. Vehicles: There will be no horseback riding or bicycling except on trails designated for these purposes and no use of any motorized vehicles except boats. The Custodian may use vehicles as necessary for the management of the preserve.
- F. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program.
- G. Water Level Control: The purpose of water level control shall be to maintain the preserve's natural water regimes. Water levels that have been altered by human activities 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. Millponds are an example of situations in which water levels have been historically managed.
- H. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- I. Fire: Use of prescribed burning is permitted as necessary for the biological management of the preserve. Any prescribed burning must be done according to an approved fire management plan for the park unit in question. Fires are also permitted in conjunction with supervised activities of the Custodian, or in designated areas within primitive campsites.
- J. Disturbance of Natural Features: The disturbance of other natural features is prohibited except for control of disease that would damage or reduce the significance of the preserve, reduction of fire fuel load after severe storm damage, or for purposes of ecological management as stipulated in the Park unit's approved management plan and that which is consistent with the purposes of this Dedication.
- K. Control of Populations (natural and exotic): Any control of animal or plant populations, other than fishing, shall be only to correct situations where populations have been significantly altered from natural conditions. The Custodian may, in accordance with an approved resource management plan, 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.

- L. Control of Natural Processes: Natural processes will be managed according to the policy of the North Carolina State Parks Natural Resource Management Policy. Generally, natural resources will be managed by allowing natural environments to evolve through natural processes with minimal influence from human activities. Exceptions are enumerated in the Policy Statement.
 - M. Management Plan: These rules for management constitute a management plan within the meaning of 07 NCAC 13H.0300 until detailed plans for each park are prepared. The dedicated nature preserve will continue to be subject to other applicable regulations within NCAC Title 07, Chapter 13. Where contradictions may arise between this instrument of dedication and other management regulations, the terms of this Dedication shall take precedence.
6. **Amendment, Modification, and Termination**: Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands described by this document at a meeting in (City Name), North Carolina on (DATE).

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

EXHIBIT A

GRANDFATHER MOUNTAIN STATE PARK DEDICATED NATURE PRESERVE

COUNTY: Avery, Caldwell, and Watauga

PHYSIOGRAPHIC PROVINCE: Northern Mountains

TOPOGRAPHIC QUAD: Grandfather Mountain

SIZE OF AREA: ca. 2,817 acres (all primary)

OWNER/ADMINISTRATOR: State of North Carolina, Division of Parks and Recreation

LOCATION: Grandfather Mountain State Park is located northeast of Linville, generally bounded by the Blue Ridge Parkway on the south and east, and private lands and The Nature Conservancy on the north and west. The park protects headwaters and streams in two river basins: Green Ridge Branch, Shanty Spring Branch, and the Watauga River in the Watauga River Basin and Dixon Creek, Green Mountain Creek, Linn Cove Branch, Stack Rock Creek, Little Wilson Creek, and Wilson Creek in the Upper Catawba River Basin.

The Grandfather Mountain State Park Dedicated Nature Preserve contains one of the largest concentrations of rare species in North Carolina. These are listed in Table 1 and Table 2 (there is a good probability that additional rare species, not listed here, which have been found in the Grandfather Mountain area on lands owned by The Nature Conservancy, Grandfather Mountain, Inc, US Forest Service, and the Blue Ridge Parkway may also be present within Grandfather Mountain State Park). In 1992 Grandfather Mountain was recognized as an International Biosphere Preserve. At 5,964 feet, Grandfather Mountain is the highest peak on the Blue Ridge Escarpment. The mountain is home to many rare Southern Appalachian endemic species and northern disjuncts, including a handful of species that are known from five or fewer populations in the world.

Defined by sharp, rocky peaks, Grandfather Mountain supports excellent occurrences of many rare high elevation community types and an exemplary assemblage of rare plant and animal species. Federally Endangered plant species include spreading avens (*Geum radiatum*) and Roan Mountain bluet (*Houstonia montana*). Federally Threatened plant species include Heller's blazing-star (*Liatris helleri*) and Blue Ridge goldenrod (*Solidago spithamea*). Other rare plants include mountain bittercress (*Cardamine clematitis*), tall larkspur (*Delphinium exaltatum*), Carolina saxifrage (*Micranthes caroliniana*), Gray's lily (*Lilium grayi*), the liverworts *Sphenolobopsis pearsonii* and *Plagiochila sullivantii* var. *sullivantii*, and numerous others. Federally Endangered animal species include Virginia big-eared bat (*Corynorhinus townsendii virginianus*), Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*), and spruce-fir moss spider (*Microhexura montivaga*). Other rare animal species include eastern smallfooted myotis (*Myotis leibii*), Alleghany woodrat (*Neotoma magister*), southern water shrew (*Sorex palustris punctulatus*), Southern Appalachian northern saw-whet owl (*Aegolius acadicus*), and Southern Appalachian black-capped chickadee (*Poecile atricapillus practica*).

Grandfather Mountain supports excellent examples of eleven known natural community types. Rare types include High Elevation Rocky Summit, Fraser Fir Forest, Boulderfield Forest, Red Spruce-Fraser Fir Forest, and Montane Calcareous Cliff. The High Elevation Rocky Summit natural communities on the mountain are widely considered the best-known examples. Between the rocky crags and summits along the summit ridge at the highest elevations, good quality Fraser Fir Forests and Red Spruce-Fraser Fir Forest grow. The northwest flanks of the mountain support extensive Boulderfield Forest natural communities. Excellent examples of Northern Hardwood Forest grow on much of the mountain. Mid to lower slopes support High Elevation Red

Oak Forests. Rich Cove Forests of good quality grow at the mid to lower elevations. Generally, these coves and drainages also support numerous High Elevation Seep natural communities. Acidic Cove Forest, Heath Bald, and Montane Calcareous Cliff natural communities are scattered on the mountain.

Table 1. Rare plant species at Grandfather Mountain State Park Dedicated Nature Preserve

Scientific Name	Common Name	State Status	Federal Status
<i>Aconitum reclinatum</i>	Trailing Wolfsbane	Significantly Rare	
<i>Bazzania nudicaulis</i>	A Liverwort	Significantly Rare	
<i>Brachyelytrum aristosum</i> *	Northern Shorthusk	Significantly Rare	
<i>Brachythecium populeum</i> *	Matted Feather Moss	Significantly Rare	
<i>Brachythecium rotaeantum</i> *	Rota's Feather Moss	Significantly Rare	
<i>Calamagrostis canadensis</i> var. <i>canadensis</i>	Canada Reed Grass	Significantly Rare	
<i>Cardamine clematitis</i>	Mountain Bittercress	Significantly Rare	
<i>Cetraria arenaria</i>	Sand-loving Iceland Lichen	Special Concern-Vulnerable	
<i>Chamerion platyphyllum</i>	Fireweed	Endangered	
<i>Conioselinum chinense</i>	Hemlock-parsley	Threatened	
<i>Cystopteris fragilis</i>	Fragile Fern	Significantly Rare	
<i>Delphinium exaltatum</i> *	Tall Larkspur	Endangered	
<i>Geum geniculatum</i>	Bent Avens	Special Concern-Vulnerable	
<i>Geum radiatum</i>	Spreading Avens	Endangered	Endangered
<i>Gymnoderma lineare</i>	Rock Gnome Lichen	Endangered	Endangered
<i>Homalia trichomanoides</i>	Lime Homalia	Significantly Rare	
<i>Houstonia montana</i>	Roan Mountain Bluet	Endangered	Endangered
<i>Leptodontium excelsum</i>	Grandfather Mountain Leptodontium	Significantly Rare	
<i>Leptodontium flexifolium</i>	Pale-margined Leptodontium	Significantly Rare	
<i>Liatris helleri</i>	Heller's Blazing-star	Threatened	Threatened
<i>Lilium grayi</i>	Gray's Lily	Threatened	
<i>Melanelia stygia</i>	Alpine Camouflage Lichen	Significantly Rare	
<i>Metzgeria temperata</i>	A Liverwort	Significantly Rare	
<i>Micranthes caroliniana</i>	Carolina Saxifrage	Significantly Rare	
<i>Mylia taylorii</i>	A Liverwort	Significantly Rare	

Scientific Name	Common Name	State Status	Federal Status
<i>Packera paupercula</i> var. <i>paupercula</i> *	Balsam Ragwort	Significantly Rare	
<i>Plagiochila austinii</i>	A Liverwort	Significantly Rare	
<i>Plagiochila corniculata</i>	A Liverwort	Significantly Rare	
<i>Plagiochila sullivantii</i> var. <i>sullivantii</i>	A Liverwort	Significantly Rare	
<i>Rhodiola rosea</i> *	Roseroot	Endangered	
<i>Rhododendron vaseyi</i>	Pink-shell Azalea	Significantly Rare	
<i>Solidago spithamaea</i>	Blue Ridge Goldenrod	Threatened	Threatened
<i>Sphagnum capillifolium</i> *	Northern Peatmoss	Significantly Rare	
<i>Sphenolobopsis pearsonii</i>	A Liverwort	Significantly Rare	
<i>Stenanthium leimanthoides</i>	Pinebarren Death-camas	Threatened	
<i>Trichophorum cespitosum</i>	Deerhair Bulrush	Significantly Rare	

* indicates historical records not relocated in the past 20 years.

Table 2. Rare animal species at Grandfather Mountain State Park Dedicated Nature Preserve

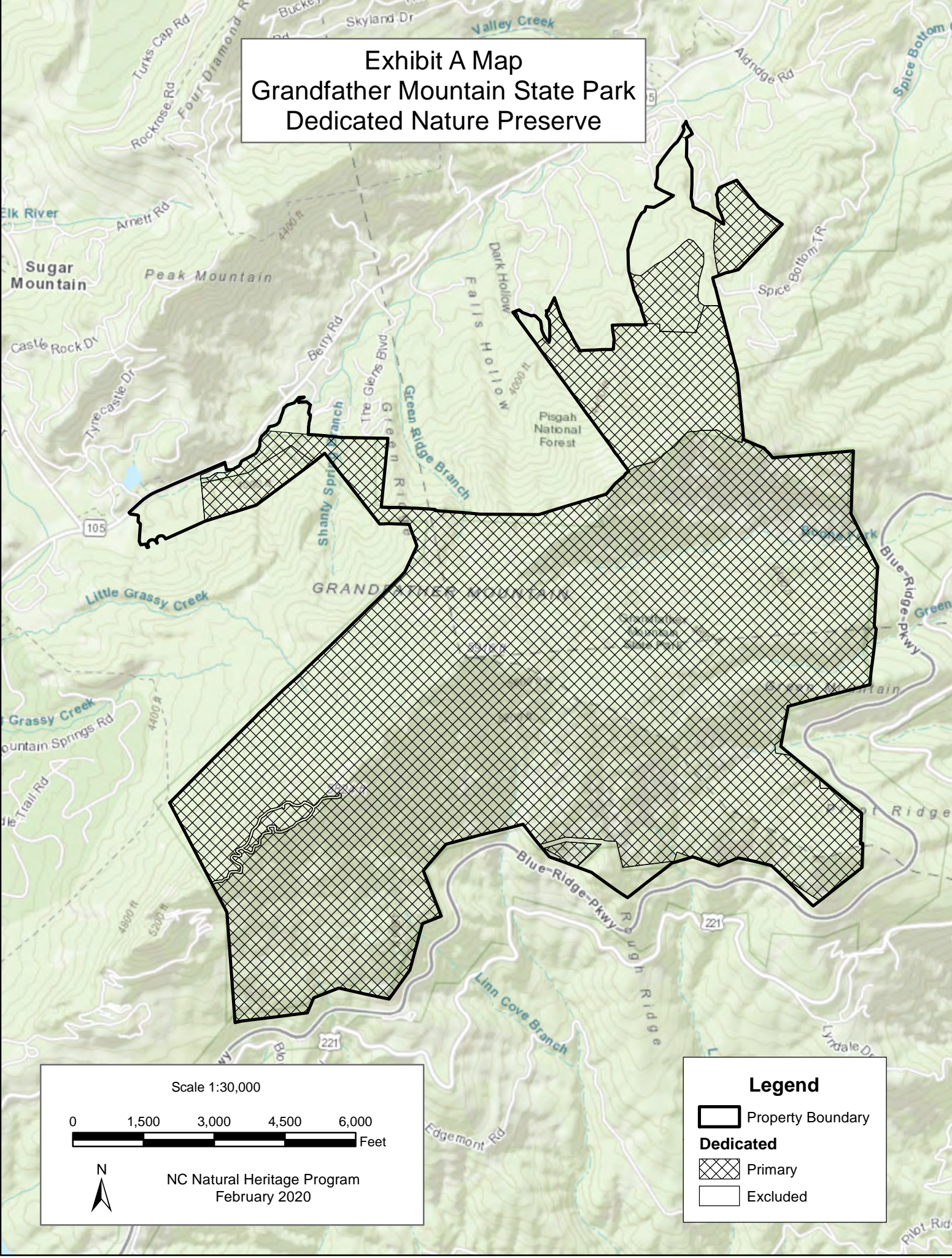
Scientific Name	Common Name	State Status	Federal Status
<i>Accipiter striatus</i>	Sharp-shinned Hawk	Significantly Rare	
<i>Aegolius acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	Threatened	
<i>Catharus guttatus</i>	Hermit Thrush	Significantly Rare	
<i>Certhia americana</i>	Brown Creeper	Special Concern	
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo	Significantly Rare	
<i>Corynorhinus townsendii</i> <i>virginianus</i>	Virginia Big-eared Bat	Endangered	Endangered
<i>Desmognathus organi</i>	Northern Pigmy Salamander	Significantly Rare	
<i>Falco peregrinus</i>	Peregrine Falcon	Endangered	
<i>Glaucomys sabrinus coloratus</i>	Carolina Northern Flying Squirrel	Endangered	Endangered
<i>Inflectarius subpalliatius</i>	Velvet Covert	Special Concern	
<i>Loxia curvirostra</i> pop. 1	Southern Appalachian Red Crossbill	Special Concern	
<i>Microhexura montivaga</i>	Spruce-fir Moss Spider	Significantly Rare	Endangered

Scientific Name	Common Name	State Status	Federal Status
<i>Myotis leibii</i>	Eastern Small-footed Myotis	Special Concern	
<i>Myotis septentrionalis</i>	Northern Myotis	Significantly Rare	
<i>Neotoma magister</i>	Appalachian Woodrat	Special Concern	
<i>Paravitrea andrewsae</i>	High Mountain Supercoil	Special Concern	
<i>Plethodon welleri</i>	Weller's Salamander	Special Concern	
<i>Poecile atricapillus practica</i>	Southern Appalachian Black-capped Chickadee	Special Concern	
<i>Polygonia faunus smythi</i>	Smyth's Green Comma	Significantly Rare	
<i>Setophaga magnolia</i>	Magnolia Warbler	Significantly Rare	
<i>Sorex dispar blitchi</i>	Long-tailed Shrew	Significantly Rare	
<i>Sorex palustris punctulatus</i>	Southern Water Shrew	Significantly Rare	
<i>Sylvilagus obscurus</i>	Appalachian cottontail	Significantly Rare	

BOUNDARY JUSTIFICATION: The dedicated area includes most of the land owned by NC Division of Parks and Recreation at Grandfather Mountain, except the Profile Trail parking area at NC 105, the trail easements retained by Grandfather Mountain Stewardship Foundation including the ladders and cables from the summit parking area to McCrae Gap, the easements along the Blue Ridge Parkway held by the National Park Service, and parts of small tracts about 1.3 mile east of NC Highway 105 at the Avery-Watauga County line.

MANAGEMENT AND USE: The Dedicated Nature Preserve is the majority of the Grandfather Mountain State Park owned by the State and used for public recreation and conservation. The most important management needs will be to protect the fragile rare species habitat from trampling along the trail system. The high elevation rocky natural communities are particularly vulnerable to human impacts, and the need to limit human disturbance is ongoing. Any proposed activities within the protected species habitat should be planned with care to minimize impacts. Creation of any new trails, including rock climbing routes, should be carefully planned to avoid any rare species habitat. Regulatory agencies (US Fish and Wildlife Service, NC Plant Conservation Program, and NC Wildlife Resource Commission) and the NC Natural Heritage Program should be consulted when planning and installing any features within the protected species habitat. Much of the mountain's Canada hemlock (*Tsuga canadensis*) populations are under attack from the hemlock woolly adelgid (*Adelges tsugae*). This non-native insect pest threatens the survival of both the Canada hemlock and the Carolina hemlock (*T. carolinensis*) throughout their respective ranges. Resources at Grandfather Mountain may be among the most vulnerable to the effects of climate change of any in the state. Rare species and natural communities should be monitored for changes related to climate, and interventions may be necessary if populations are found to be declining.

Exhibit A Map Grandfather Mountain State Park Dedicated Nature Preserve



Scale 1:30,000

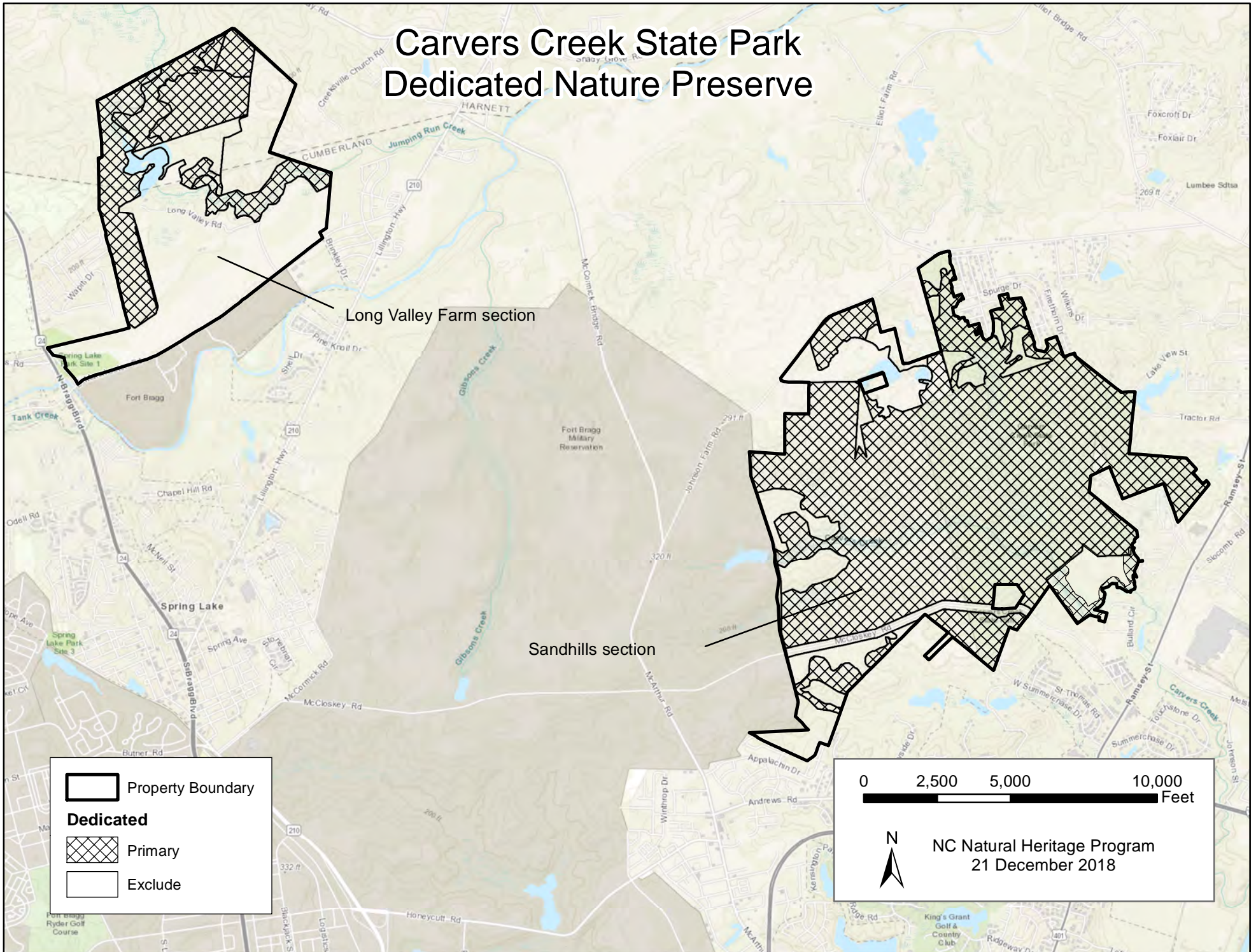
0 1,500 3,000 4,500 6,000 Feet

NC Natural Heritage Program
February 2020

Legend

- Property Boundary
- Dedicated**
 - Primary
 - Excluded

Carvers Creek State Park Dedicated Nature Preserve



Long Valley Farm section

Sandhills section

Property Boundary

Dedicated

- Primary
- Exclude

0 2,500 5,000 10,000 Feet

N

NC Natural Heritage Program
21 December 2018

(INSERT DATE)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Re: Dedication of Areas within the State Park System

Dear Secretary Hamilton:

Pursuant to Part 42 of Article 2 of Chapter 143B 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. These articles of dedication replace the articles of dedication dated September 29, 2017. The articles of dedication were amended to reflect additions of property and ownership boundary corrections.

This real property is allocated to the Department of Natural and Cultural Resources and currently managed by the Division of Parks and Recreation, briefly described below and more specifically described in Exhibit A.

<u>Site Name</u>	<u>Approximate Total Acreage</u>
A. Carvers Creek State Park	2,942 acres

Dedication of the qualified portions of the tracts fulfill the terms of any prior grant agreements, including those of the Natural Heritage Trust Fund [2010 09501, 2008 10502, 2004 03504, 2009 08502, 2010 04505], and the Clean Water Management Trust Fund [2004B-036, 2016-052].

THIS ALLOCATION IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **Definitions:** As used in this allocation, the terms “natural area,” and “nature preserve” have the same meaning as contained in North Carolina General Statutes 143B-135-254.

2. **Dedication:** The preserve, as described in this Allocation, is hereby dedicated as a **nature preserve** for the purposes provided in the Nature Preserves Act.

3. **Primary Custodian:** The primary Custodian of the preserve will be the Department of Natural and Cultural Resources, Division of Parks and Recreation.

4. **Primary Classification:** The primary classification and purpose of the preserve will be conservation, scientific research, passive recreation, and nature education.

5. **Rules for Management:**

- A. **Character of Visitor Activity:** The principal activities in the preserve shall be non-consumptive outdoor recreation and education in designated areas. These activities may 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 provided in this Dedication or unless necessary to carry out the purposes of the preserve. Prohibited activities include, but are not limited to, commercial development; commercial silviculture; agriculture and grazing; gathering of plants or plant products for purposes other than approved research; the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources; and those activities specifically restricted in this Dedication.

- B. **Visitors and Visitor Facilities:** The Custodian reserves the right to orient and guide visitors for educational programs, scientific research, and preserve management. Exhibits, programs and printed materials may be provided by the Custodian. The Custodian may create and maintain nature trails, overlooks, boardwalks, and primitive campsites adequate to promote the permitted use of the preserve. Guardrails, fences, steps, bridges, and boardwalks may be provided when appropriate. The Custodian reserves the right to erect structures necessary to protect the preserve from unwanted or excessive visitor traffic and structures to restrict visitor access to sensitive environmental resources.

The Custodian may construct and maintain service roads for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may maintain roads presently existing within the preserve. The construction of roads for purposes other than those described in this document will be prohibited.

- C. **Other Structures and Improvements:** Buildings or facilities other than those defined above shall not be erected by the Custodian within the preserve.

- D. **Research and Collecting Permits:** Any person wishing to engage in scientific research or collecting shall first secure written permission from the Custodian.

- E. Vehicles: There will be no horseback riding or bicycling except on trails designated for these purposes and no use of any motorized vehicles except boats. The Custodian may use vehicles as necessary for the management of the preserve.
- F. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve.
- G. Water Level Control: The purpose of water level control shall be to maintain the preserve natural water regimes. Water levels that have been altered by human activities 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. Millponds are an example of situations in which water levels have been historically managed.
- H. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- I. Fire: Use of prescribed burning is permitted as necessary for the biological management of the preserve. Any prescribed burning must be done according to an approved fire management plan for the park unit in question. Fires are also permitted in conjunction with supervised activities of the Custodian, or in designated areas within primitive campsites.
- J. Disturbance of Natural Features: The disturbance of other natural features is prohibited except for control of disease that would damage or reduce the significance of the preserve, reduction of fire fuel load after severe storm damage, or for purposes of ecological management as stipulated in the Park unit's approved management plan and that which is consistent with the purposes of this Dedication.
- K. Control of Populations (natural and exotic): Any control of animal or plant populations, other than fishing, shall be only to correct situations where populations have been significantly altered from natural conditions. The Custodian may, in accordance with an approved resource management plan, 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.
- L. Control of Natural Processes: Natural processes will be managed according to the policy of the North Carolina State Parks Natural Resource Management Policy. Generally, natural resources will be managed by allowing natural environments to evolve through natural processes with minimal influence from human activities. Exceptions are enumerated in the Policy Statement.
- M. Management Plan: These rules for management constitute a management plan within the meaning of 07 NCAC 13H.0300 and .0400 until detailed plans for each park are prepared. The dedicated nature preserve will continue to be subject to other applicable regulations within NCAC Title 07, Chapter 13. Where contradictions may arise between this instrument of dedication and other management regulations, the terms of this Dedication shall take precedence.

6. **Amendment, Modification, and Termination:** Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands described by this document at a meeting in (City Name), North Carolina on (DATE).

Sincerely,

Machelle Sanders

BD

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

EXHIBIT A

CARVERS CREEK STATE PARK DEDICATED NATURE PRESERVE SANDHILLS SECTION

DESCRIPTION

COUNTIES: Cumberland

PHYSIOGRAPHIC PROVINCE: Coastal Plain
(Sandhills region)

TOPOGRAPHIC MAPS: Manchester, Slocomb

SIZE OF AREA: about 2,395 acres

OWNER/ADMINISTRATION: State of North Carolina, Division of Parks and Recreation

LOCATION: The Sandhills section is located in the eastern unit of Carvers Creek State Park, just west of US 401. Fort Bragg forms the western boundary and Johnson Farm Road (SR 1605) forms the northern boundary. McCloskey Road (SR 1610) runs through the southern part of the section.

DESCRIPTION: Carvers Creek State Park contains one of the state's larger expanses of sandhills vegetation outside of Fort Bragg and the Sandhills Game Land. The uplands in the Sandhills Section contain high quality examples of Pine/Scrub Oak Sandhill natural communities, along with smaller areas of Xeric Sandhill Scrub. Longleaf pine (*Pinus palustris*) dominates these upland woodlands. The longleaf pine canopy is mature, though not old, in most portions. Some areas have canopy that is denser than typical, other areas have been recently thinned, and some areas of young canopy are included where they contain rare species. Turkey oak (*Quercus laevis*) is common in both communities, while blackjack oak (*Q. marilandica*) is abundant in the Pine/Scrub Oak Sandhill. Where there has been fire for some years, the oaks are sparse; where fire frequency has been lower, the oaks are sometimes dense. Wiregrass (*Aristida stricta*) dominates the herb layer, and a diversity of other grasses and forbs is present where the communities are in good condition.

The rare sandhills pyxie-moss (*Pyxidantha brevifolia*), is present in several places within these communities, and lady lupine (*Lupinus villosus*) occurs in one place. A number of rare animals are also known, including; the federally endangered red-cockaded woodpecker (*Picoides borealis*); state special concern Bachman's sparrow (*Peucaea aestivalis*); the rare butterflies frosted elfin (*Callophrys irus*) and Edwards's hairstreak (*Satyrrium edwardsii*); and two rare moths, the dart moth (*Agrotis carolina*), and Amorpha angle moth (*Digrammia ordinata*).

Wetland natural communities are laced through the site. Most of the drainages are Sandhill Streamhead Swamp, dominated by swamp black gum (*Nyssa biflora*), with red maple (*Acer rubrum*), and sometimes Atlantic white cedar (*Chamaecyparis thyoides*). Streamhead Pocosin is less extensive, dominated by pond pine (*Pinus serotina*), sometimes with tulip poplar (*Liriodendron tulipifera*) or Atlantic white cedar as a component. Both communities often have dense shrub layers dominated by species such as fetterbush (*Lyonia lucida*) and gallberry holly (*Ilex glabra*). Several beaver ponds – the Coastal Plain Semipermanent Impoundment natural community – are also present and provide important wildlife habitat. An example of the Cypress-Gum subtype is found on the downstream end of Carvers Creek at an old mill pond. The

canopy is uniform with Pond Cypress (*Taxodium ascendens*). Titi (*Cyrilla racemiflora*), Swamp Doghobble (*Eubotrys racemosa*) and Highbush Blueberry (*Vaccinium fuscatum/formosum*) make up the shrub layer which grows along tree bases and stumps. The herb layer is sparse and includes an unknown *Carex* species and Soft Rush (*Juncus effusus*). Aquatic Bladderworts (*Utricularia species*) were observed in the water. A large and well-established pond with extensive open water is present on Carvers Creek in the middle of the unit.

Sandhill Seep communities occur in several places, where water emerges from the sand to produce saturated soils. At some seeps, pond pine (*P. serotina*) occurs over cane (*Arundinaria tecta*) and a variety of herbaceous species not found elsewhere in the preserve.

The wetland communities harbor a number of rare species. Rare wetland plants include sandhills lily (*Lilium pyrophilum*), bog oatgrass (*Danthonia epilis*), pine barren boneset (*Eupatorium resinosum*), bog spicebush (*Lindera subcoriacea*), and Canby's bulrush (*Schoenoplectus etuberculatus*). Rare animals include pine barrens tree frog (*Hyla andersonii*), oak toad (*Anaxyrus quercicus*), nubile short-wing grasshopper (*Melanoplus nubilis*), four-lined chocolate moth (*Argyrostromis quadrifilaris*), Hessel's Hairstreak (*Callophrys hesseli*) and Reversed Roadside-Skipper (*Amblyscirtes reversa*).

BOUNDARY JUSTIFICATION: The dedicated area incorporates the areas containing rare species and natural communities in good condition. Some patches of recently harvested forest, with no remaining wiregrass, are excluded, as are young forest areas without substantial wiregrass. Some excluded areas contain old fields, old artificial ponds, and buildings. A couple of ponds which are smaller and more resemble natural ponds are included. In some portions, Primary Areas also include the riparian zones of streams; these Primary Areas are designated based on the extent of the 100-foot stream zones required by the Clean Water Management Trust Fund when state agency lands are dedicated. Flowlines from the NC Stream Mapping Project were utilized to delineate these Primary Areas

MANAGEMENT AND USE: The dedicated area will be managed as part of Carvers Creek State Park. It will be used for conservation and public recreation, particularly hiking and other trail uses.

The primary management need is prescribed burning in all of the upland communities, the seeps, and, if possible, the streamheads.

**CARVERS CREEK STATE PARK
DEDICATED NATURE PRESERVE
LONG VALLEY FARM SECTION**

DESCRIPTION

COUNTIES: Harnett, Cumberland

PHYSIOGRAPHIC PROVINCE: Coastal Plain
(Sandhills region)

TOPOGRAPHIC MAPS: Manchester

SIZE OF AREA: about 547 acres

OWNER/ADMINISTRATION: State of North Carolina, Division of Parks and Recreation

LOCATION: The Long Valley Farm section is located along the Cumberland – Harnett county line, just east of Fort Bragg, about 3.25 miles to the west-northwest of the Sandhills Section. It lies north of the Little River and is bounded on the south by Manchester Road (SR1451 - Cumberland); Fort Bragg lies immediately to the west and northwest.

DESCRIPTION: Long Valley Farm was previously a family estate, used for private recreation and agriculture. The dedicated area includes sloping uplands typical of the Sandhills region as well as flatter areas on the high terrace of the Little River. Along Jumping Run Creek is a narrow terrace close to the level of the Little River terrace. Terraces such as these are unusual features in the Sandhills.

Most of the area is Pine/Scrub Oak Sandhill, dominated by longleaf pine (*Pinus palustris*), with a scrub oak understory consisting primarily of turkey oak (*Quercus laevis*) and blackjack oak (*Q. marilandica*). The pines are mature in most parts. However, one area had substantial loblolly pine (*Pinus taeda*), which was removed in a logging operation aimed at restoring longleaf pine. This area now has sparse mature pines. Wiregrass (*Aristida stricta*) dominates ground cover in these communities, with a diversity of other grasses and forbs. The Little River and Jumping Run Creek terrace areas are primarily Pine/Scrub Oak Sandhill also, though some areas are Mesic Pine Flatwoods. The flatwoods area has a similar canopy of longleaf pine, mixed with some loblolly pine, but lacks the scrub oak understory. Its ground cover is similarly dominated by wiregrass but includes other species less tolerant of dry conditions, such as bracken fern (*Pteridium aquilinum*), Indian grass (*Sorghastrum nutans*), and shrubs such as dangleberry (*Gaylussacia frondosa*).

The drainage of Jumping Run Creek is broken by an artificial pond, which is excluded from the dedication. The creek floodplain contains Cypress—Gum Swamp, dominated by pond cypress (*Taxodium ascendens*) and swamp black gum (*Nyssa biflora*). It includes some large old trees in parts. Loblolly pine is abundant near the floodplain edges. The upper end of the pond affects the swamp to some degree near it. The smaller drainages contain Streamhead Pocosin and Sandhill Streamhead Swamp.

Several rare species are known from the Long Valley Farm section. State special concern Bachman's sparrow (*Peucaea aestivalis*) have been found in the sandhills and flatwoods, and endangered red-cockaded woodpeckers (*Picoides borealis*), though not known to be nesting, forage in the area. Cuthbert's turtlehead (*Chelone cuthbertii*), normally a mountain species, is present in a wet area along a creek west of the lake and the yellow flannel moth (*Lagoa pyxidifera*) has been found near the flatwoods in the southern part.

Suitable habitat for several other rare species known from the park may be present in this unit: bog oat-grass (*Danthonia epilis*), oak toad (*Anaxyrus quercicus*), four-lined chocolate (*Argyrostrotis quadrifilaris*), Edwards' hairstreak (*Satyrium edwardsii*), and reversed roadside-skipper (*Amblyscirtes reversa*).

BOUNDARY JUSTIFICATIONS: The dedicated area incorporates the areas containing rare species and the less altered natural communities, as well as communities that have been partially restored by recent management and those that have substantial natural ground cover. Some patches where timber has been harvested, with no remaining wiregrass, are excluded, as are loblolly pine plantations and successional stands. The large area of former agricultural fields that has been planted in young longleaf pine and grasses is also excluded because it was so heavily altered by long-term cultivation. Also excluded are the lake, the areas with buildings, and other cleared areas.

MANAGEMENT AND USE: The dedicated area will be managed as part of Carvers Creek State Park. It will be used for conservation and public recreation, particularly hiking and other trail uses.

The primary management need is prescribed burning in all of the upland communities, the seeps, and, if possible, the streamheads.

(ON DEPARTMENT OF ADMINISTRATION STATIONARY)

(DATE)(LINE 6)(NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

(Addresses of other recipients)

Subject: Dedication of Portions of the **Bentonville Battlefield State Historic Site**, Johnston County

Dear Secretary Hamilton:

Pursuant to Part 42 of Article 2 of Chapter 143B 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. These articles of dedication replace the articles of dedication dated August 16, 2018. The articles were amended to reflect ownership boundary corrections and additions of property to the preserve.

This real property is currently administered by the **North Carolina Department of Natural and Cultural Resources** and consists of approximately 226 acres located in Johnston County which are specifically described in Exhibit A, attached hereto and by reference made a part hereof. The dedicated lands shall be known collectively as the **BENTONVILLE BATTLEFIELD STATE HISTORIC SITE NATURE PRESERVE**.

Dedication of the qualified portions of certain tracts fulfills the terms of any prior grant agreements, including those of the Natural Heritage Trust Fund and the Clean Water Management Trust Fund (CWMTF #2006B-005, #2014-040 and #2016-050).

THIS ALLOCATION IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **Definitions:** As used in this Letter, the terms “natural area” and “nature preserve” have the same meaning as contained in North Carolina General Statutes 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135.264, all State-owned lands lying within the above designated area are hereby dedicated as a nature preserve for the purposes provided in the 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 Department of Natural and Cultural Resources, which will be responsible for managing the preserve in accordance with State Administrative Code 07 NCAC 13H.0300 and .0400.
4. **Primary Classification:** The primary classification and purpose of the preserve will be conservation, scientific research, passive recreation, and nature education.
5. **Management Areas:** For the purposes of management, the preserve shall be considered to consist of a Primary Area (226 acres) as more particularly described in Exhibit A, attached hereto and by this reference made a part hereof. The Primary Area is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves the public purposes for a dedicated preserve as stated in G.S. 143B-135.252.
6. **Rules for Management:**
 - a. **Character of Visitor Activity:** The principal activities in the preserve shall be walking, research, and observation in designated areas, along with some historical reenactment activity. These activities may 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 provided in this Dedication or unless necessary to carry out the purposes of the preserve. Prohibited activities include, but are not limited to, commercial development; commercial silviculture; agriculture and grazing; gathering of plants or plant products for purposes other than approved research; the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources; and those activities specifically restricted in this Dedication. There shall be no fires, except as necessary for ecological management of the preserve, for wildfire hazard reduction to the surrounding community, or in conjunction with supervised educational activities of the Custodian, or further excepted as herein provided or otherwise expressly permitted.
 - b. **Consumptive Wildlife Uses:** No hunting will be allowed. Fishing may be allowed if regulated by the Custodian to protect and conserve the natural values of the preserve.

- c. Orientation and Guidance of Visitors: The Custodian reserves the right to orient and guide visitors for educational programs, scientific research, and preserve management. Exhibits, programs, and printed materials may be provided by the Custodian. The Custodian may create and maintain nature trails, overlooks, boardwalks, and primitive campsites adequate to promote the permitted use of the preserve. Guardrails, fences, steps, bridges, and boardwalks may be provided when appropriate. The Custodian reserves the right to erect structures necessary to protect the preserve from unwanted or excessive visitor traffic and structures to restrict visitor access to sensitive environmental resources.
- d. Roads and Trails. New roads shall not be constructed in the Primary Area. When necessary, the Custodian may construct and maintain access limited to staff for management purposes, such as service paths for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may maintain roads presently existing within the preserve. 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. Access management and construction will be part of the overall management planning process and will include consultation with the North Carolina Natural Heritage Program.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: SR 1009, SR 1188, and SR 1197.

- e. Other Structures and Improvements: Buildings or facilities other than those defined in this document shall not be erected by the Custodian within the preserve, except as may be consistent with the purposes of the preserve as stated herein. Site selection shall be consistent with this Dedication.
- f. Research and Collecting Permits: Any person wishing to engage in scientific research or collecting shall first secure written permission from the Custodian.
- 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. Pollutants may not be added to surface or ground waters within the preserve.

- h. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions may be made for archaeological research or for ecological restoration to more natural conditions, in consultation with the North Carolina Natural Heritage Program.
- i. Water Level Control: The purpose of water level control shall be to maintain the preserve's natural water regimes. Water levels that have been altered by human activities 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. Millponds are an example of situations in which water levels have been historically managed.
- j. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, hunting dogs as permitted in game lands, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- k. Wildfire Control: Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures, it may be allowed to burn with minimal control. If wildfire control is necessary, firebreaks may need to be established; when possible, existing roads and firebreaks will be utilized. When new firebreaks need to be created, environmentally sensitive areas will be avoided when possible. Old firebreaks that 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.
- l. Disturbance of Natural Features: The cutting or removal of trees, dead or alive, or the disturbance of other natural resources is prohibited except for removal of hazards to visitors, control of disease that would damage or reduce the significance of the preserve, reduction of fire fuel load after severe storm damage, trail clearance or 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 this Dedication. Salvage timber cuts which may be necessary due to natural catastrophe will be allowed, 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.
- m. Control of Populations (natural and exotic): Any control of animal or plant populations, other than fishing, shall be only to correct situations where populations have been significantly altered from natural conditions. The Custodian may, in accordance with an approved resource management plan and 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.

- n. 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 essential to some ecosystems and may be used where natural wildfire historically kept understories open and promoted herbaceous diversity. A preexisting gas line and telephone right-of-way predate the dedication and will continue to be maintained.
 - o. Management Plan: The Primary Custodian shall be required to prepare and submit for approval to the Secretary of the Department of Natural and Cultural Resources a management plan for the preserve. 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 07 NCAC 13H.0300 and .0400. The dedicated nature preserve will continue to be subject to other applicable regulations within NCAC Title 07, Chapter 13. Where contradictions may arise between this instrument of Dedication and other management regulations, the terms of this Dedication shall take precedence.
7. **Amendment, Modification, and Termination**: Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the **BENTONVILLE BATTLEFIELD STATE HISTORIC SITE 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 _____, North Carolina, on the _____ of _____, (YEAR). (TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL.)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

EXHIBIT A

BENTONVILLE BATTLEFIELD STATE HISTORIC SITE DEDICATED NATURE PRESERVE

DESCRIPTION

COUNTY: Johnston

TOPOGRAPHIC QUAD: Newton Grove North

PHYSIOGRAPHIC PROVINCE: Coastal Plain

SIZE OF AREA: approximately 226 acres (all Primary, including 9 acres Primary Restoration)

OWNER/ADMINISTRATOR: State of North Carolina
Department of Natural and Cultural Resources

LOCATION: Southeastern Johnston County, with two disjunct areas; the northern area lies about one mile northeast of the community of Bentonville, and the other area is about three miles south-southwest of Bentonville.

DESCRIPTION: The main unit of the Bentonville Battlefield State Historic Site lies on dry and sandy uplands, in the southern part of Johnston County. The unit contains mowed grasslands, croplands, and forested areas. The forested areas contain a number of hiking trails, historical artifacts, and other features for the visiting public. Battle re-enactments are held annually in a portion of the natural area. The Dedicated Nature Preserve encompasses several distinct parcels, which protect portions of two different natural areas, Bentonville Battlefield Natural Area (south of SR 1190 and north of SR 1008), and Mill Creek Aquatic Habitat (north of SR 1009, in several patches along Mill Creek and its tributaries).

The Bentonville Battlefield Natural Area supports a collection of natural communities associated with sandy soils and wetlands of the Sandhills and inner Coastal Plain. All of the forests have been altered by fire suppression and now have little herbaceous vegetation. This natural area lies west of a large field, and a gas line clearing bisects the northern part of the site. Within the site is a dirt road leading off SR 1188 to a small parking area. Middle-aged to mature examples of Pine/Scrub Oak Sandhill are present, particularly near the parking area. A scattering of longleaf pines (*Pinus palustris*) is present, along with the more common loblolly pine (*P. taeda*). Hardwoods such as southern red oak (*Quercus falcata*), scrub post oak (*Q. margaretta*), and sand hickory (*Carya pallida*) are common. Some individual trees of the latter two species are very large. Other trees typical of Sandhills, such as turkey oak (*Q. laevis*) and bluejack oak (*Q. incana*), are also present. Portions of the forest, particularly the southern half, are less sandy and are classified as Dry Oak-Hickory Forests. Sandhills species are scarce, and the southern red oak (*Q. falcata*) is the dominant tree, along with water oak (*Q. nigra*), white oak (*Q. alba*), loblolly pine (*P. taeda*), and sand hickory (*Carya pallida*). A common shrub across the entire forest is sweetleaf (*Symplocos tinctoria*). Locally common shrubs include dwarf azalea (*Rhododendron atlanticum*), chinquapin (*Castanea pumila*), and sparkleberry (*Vaccinium arboreum*). Several old Longleaf Pine (*P. palustris*) stumps with catface scars exist in this forested area, showing that most forested patches were once Pine/Scrub Oak Sandhill communities.

Several small streams originate in the natural area east of SR 1188, and dense evergreen vegetation lies along them; these are Streamhead Pocosin natural communities. Johnston County has numerous, small examples, but the best developed examples of this community type are in the Sandhills region of the state. The most significant Streamhead Pocosin lies in the northern portion

and adjoins the gasline clearing. Though no pond pine (*Pinus serotina*) appears to be present, the midstory and shrub layers contain characteristic Pocosin species. Small trees include sweetbay (*Magnolia virginiana*) and redbay (*Persea borbonia*). The dense shrub zone is dominated by big gallberry (*Ilex coriacea*). Smooth wintergreen (*Ilex laevigata*), red chokeberry (*Sorbus arbutifolia*), maleberry (*Lyonia ligustrina*), coastal fetterbush (*Eubotrys racemosa*), coastal doghobble (*Leucothoe axillaris*), inkberry (*Ilex glabra*), and sweet pepperbush (*Clethra alnifolia*) are also present. Several species rare in the county are found here, including coastal witch-alder (*Fothergilla gardenii*) and poison-sumac (*Toxicodendron vernix*).

Just north of the gas line clearing, within the Streamhead Pocosin immediately inside the property boundary, is a small population of the Significantly Rare and Federal Species of Concern bog spicebush (*Lindera subcoriacea*). This population lies east of other known populations, which are primarily limited to the Sandhills region.

Animals in the natural area are not well known. The gasline clearing provides habitat for a wide array of butterfly species, including the locally scarce Hayhurst's scalloping (*Staphylus hayhurstii*) and the dion skipper (*Euphyes dion*). Large numbers of butterflies nectar on the abundant flowers of sweetleaf in the spring, and at this season a good array of dragonflies are also present.

A portion of the dedicated area west of SR 1188 lies along a stream which flows northward to Mill Creek. Most of its floodplain is occupied by a large beaver pond. It contains a Coastal Plain Semipermanent Impoundment (Typic Marsh Subtype) community. It is dominated by broad-leaf cattail (*Typha latifolia*), many species of smartweed (*Persicaria punctata*, *P. pensylvanica*, *P. sagittata*, etc.), rush (*Juncus effusus*), jewelweed (*Impatiens capensis*), and several grasses, such as American cupscale (*Sacciolepis striata*).

The Mill Creek Aquatic Habitat natural area lies at the far northern end of the State Historic Site, and segments near the creek and its tributaries are dedicated. Mill Creek harbors several rare aquatic species. Neuse River waterdog (*Necturus lewisii*), an aquatic salamander endemic to North Carolina, is known to occur upstream of the dedicated area and likely occurs here. Rare mussels, including State-Endangered yellow lance (*Elliptio lanceolata*), State-Threatened triangle floater (*Alasmidonta undulata*) and Roanoke slabshell (*Elliptio roanokensis*), and rare fish, including Significantly Rare ironcolor shiner (*Notropis chalybaeus*) and State-Threatened Carolina madtom (*Noturus furiosus*), are known a short way downstream.

The eastern area of Mill Creek frontage has intact and mature floodplain forest. Most of the area is Blackwater Bottomland Hardwoods, dominated by laurel oak (*Quercus laurifolia*), with a mix of loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), and other species. Lower areas along the creek and in sloughs are Cypress—Gum Swamp (Blackwater Subtype), dominated by swamp black gum (*Nyssa biflora*), with some cypress (*Taxodium distichum*). These forests are mature, with many trees 14-18" in diameter. Several canopy gaps, presumably caused by hurricanes, are now occupied by young trees and create a varied forest structure. The small patches of these natural communities within the Preserve are part of extensive examples across Mill Creek.

BOUNDARY JUSTIFICATIONS: The northern dedicated areas along Mill Creek include the mature floodplain natural communities and all areas within 300 feet of Mill Creek, regardless of condition, to protect the significant aquatic habitat of the creek itself, and 200 feet of riparian zone for tributary streams to Mill Creek. Younger and more altered forests more distant from the creek are excluded. Primary Areas are designated based on the extent of the stream riparian zones required by the Clean Water Management Trust Fund when state agency lands are dedicated. Flowlines from the NC Stream Mapping Project were utilized to delineate these Primary Areas.

The portion of the dedicated area associated primarily with the Bentonville Battlefield natural area encompasses the relatively mature hardwood-pine forests and Streamhead wetlands, as well as the noncontiguous beaver pond. A portion of this area was excluded from the dedication because it has been harvested in recent years. Less mature forests, agricultural fields, and mowed or developed areas were excluded from the dedication.

A gas line crosses the western portion of the dedicated area. Though considered a part of the preserve, it is understood that routine management of the corridor, such as mowing or bush-hogging, will be conducted to maintain the gas line.

A telephone line right-of-way runs just east of SR 1188 and a parking lot is located along the road. The right-of-way and parking lot are included within the boundary of the dedicated area, so that the road can be used to delineate the boundary. The right-of-way may continue to be maintained by the telephone company, and the lot may be maintained for parking.

MANAGEMENT AND USE: Bentonville Battlefield State Historic Site is the site of the last major Confederate offensive of the Civil War. The state-owned land protects much of the battlefield, and a series of trails and road markers provide education and interpretation of the history of this battle. A visitor center just south of the Bentonville Battlefield natural area provides much additional information to the public about the significance of this important piece of North Carolina history.

Within the natural area are straw-covered areas, which signify sites where battle re-enactments take place in the spring. Although this is not a standard practice within dedicated nature preserves, because of the importance of these re-enactments, they may be permitted to continue. Seeds from non-native species may unintentionally be introduced with the straw. Campsite areas should be monitored and any non-native species that become established should be removed to minimize impacts to the vegetation in the natural area. In addition, some trails have been constructed through parts of the dedicated nature preserve.

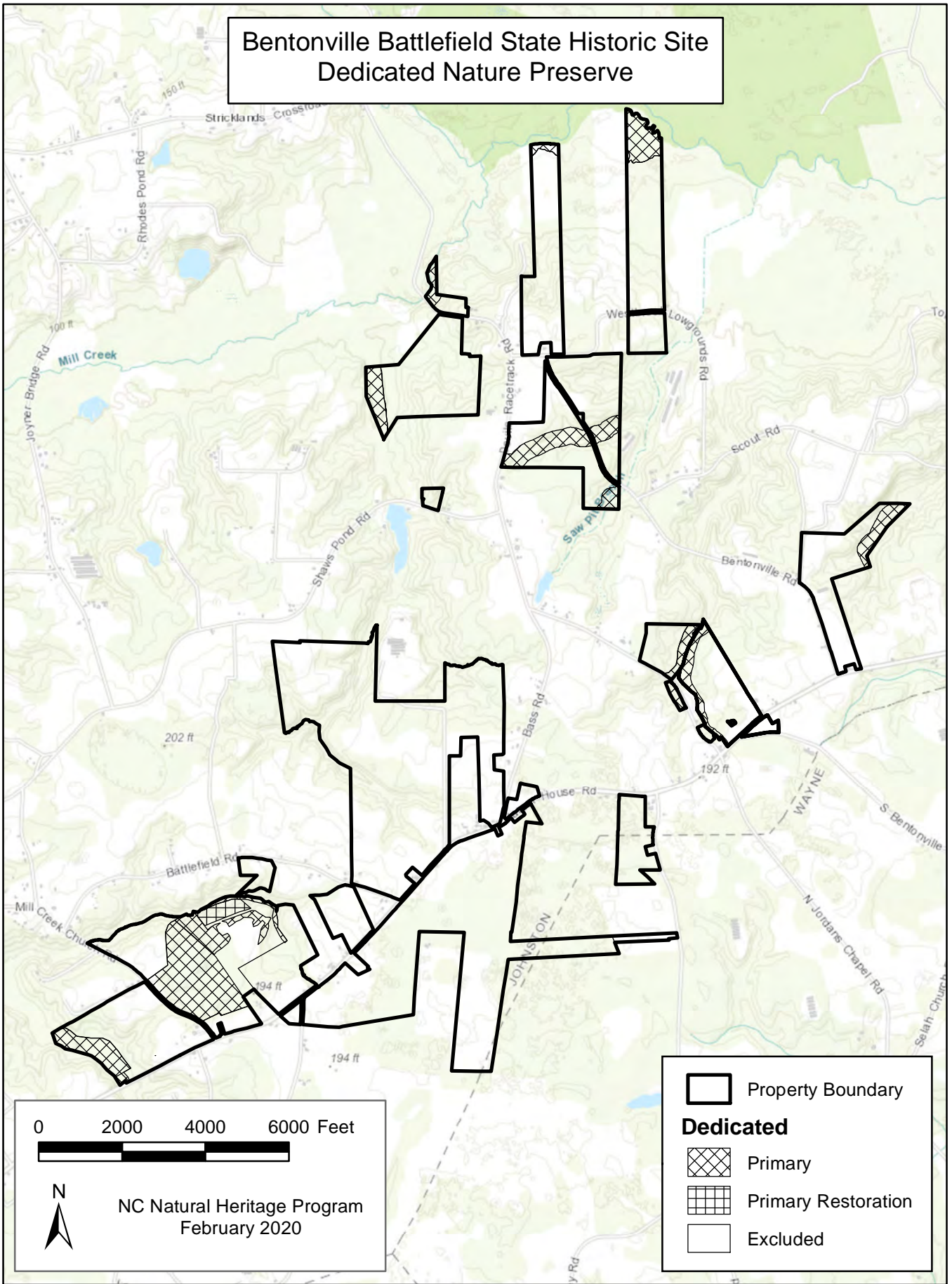
The Primary Restoration area includes nine acres of young Dry Oak-Hickory Forest (Coastal Plain Subtype) natural community that is poor in condition. Prescribed fire help could improve the condition of this natural community and may lead to longleaf pine recruitment. Along edges of the Mill Creek tributary adjacent to the Primary Restoration area, invasive species control is another management strategy that could improve the forest condition over time.

Natural communities on Sandhills historically were maintained by natural wildfires. Fire has been excluded from the natural area for many decades, and this has altered the vegetation structure and composition. Prescribed burning is recommended, to maintain the ecological condition of the area. In addition, fire will help the vegetation appear more historically realistic. With continued application of prescribed fire, areas classified as Dry Oak-Hickory Forest (Coastal Plain Subtype) may more closely resemble the Pine/Scrub Oak Sandhill (Mixed Oak Subtype) community over time.

The floodplain areas along Mill Creek are at high risk for invasion by non-native invasive plants. Asian dayflower (*Murdannia keisak*), a species which can smother the herbaceous layer and young trees in swamps, is abundant along the creek in places. Control of this species is encouraged, using means that are carefully targeted to avoid damage to native vegetation in the area as well as to avoid harm to the creek waters. Japanese Stiltgrass (*Microstegium vimineum*) is also abundant along stream corridors. Additionally, other invasive species found within the dedicated nature

preserve or adjacent include Chinaberry (*Melia azedarach*), Tree of Heaven (*Ailanthus altissima*), and Sericea (*Lespedeza cuneata*).

Bentonville Battlefield State Historic Site Dedicated Nature Preserve



0 2000 4000 6000 Feet



NC Natural Heritage Program
February 2020

Property Boundary

Dedicated



Primary

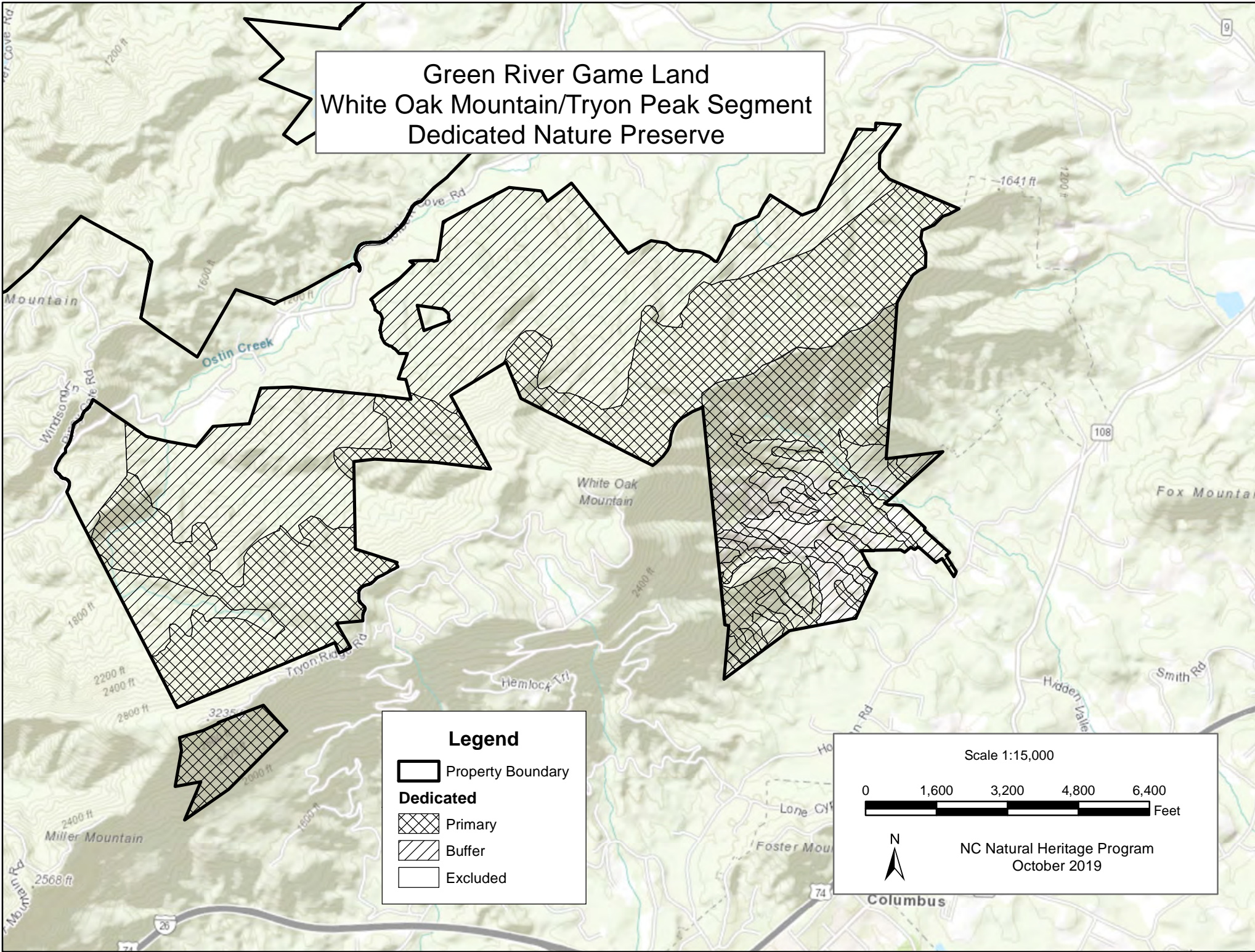


Primary Restoration



Excluded

Green River Game Land
White Oak Mountain/Tryon Peak Segment
Dedicated Nature Preserve



(ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Mr. Gordon S. Myers, Executive Director
N.C. Wildlife Resources Commission
Mail Service Center 1701
Raleigh, North Carolina 27699-1701

Subject: Dedication of Portions of the **Green River Game Land**, Henderson and Polk Counties

Dear Secretary Hamilton and Mr. Myers:

Pursuant to Part 42 of Article 2 of Chapter 143B 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. These articles of dedication replace the articles of dedication dated May 16, 2016. The articles were amended to reflect additions of property and correct ownership boundaries.

These real properties are currently administered by the North Carolina Wildlife Resources Commission as a portion of the Green River Game Land and consist of approximately 4,621 acres located in Henderson and Polk Counties, and composed of:

- | | | |
|----|--|-------------|
| 1. | Green River Gorge Segment (Primary Area) | 1,961 acres |
| 2. | Green River Gorge Segment (Buffer Area) | 108 acres |
| 3. | White Oak Mountain/Tryon Peak Segment (Primary Area) | 1,318 acres |
| 4. | White Oak Mountain/Tryon Peak Segment (Buffer Area) | 1,234 acres |

which are shown in an overview map in Exhibit A, attached hereto and by reference made a part hereof. The Green River Gorge Segment is described in Exhibit B and a detailed map is provided as part of that exhibit. The description and detailed map for the White Oak Mountain/Tryon Peak Segment is provided in Exhibit C. The dedicated land shall be known collectively as the **Green River Game Land Nature Preserve**.

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 Clean Water Management Trust.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the Green River 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 (City Name), North Carolina, on the _____ of _____, (YEAR). (TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

Gordon S. Myers, Executive Director
Wildlife Resources Commission

EXHIBIT A

**OVERVIEW MAP SHOWING LOCATION OF
GREEN RIVER GAME LAND DEDICATED NATURE PRESERVE
GREEN RIVER GORGE AND WHITE OAK MOUNTAIN/TRYON PEAK SEGMENTS**

EXHIBIT B

GREEN RIVER GAME LAND DEDICATED NATURE PRESERVE GREEN RIVER GORGE SEGMENT

COUNTY: Polk, Henderson

TOPOGRAPHIC QUADS: Clifffield Mountain, Mill Spring

PHYSIOGRAPHIC PROVINCE: Blue Ridge

SIZE OF AREA: ca. 2,069 acres total (1,961 acres primary; 108 acres buffer)

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

DESCRIPTION: Green River Gorge is a deep gorge cut as the river descends the Blue Ridge escarpment. The upper portion is very deep and narrow, culminating in the part known as The Narrows, where the river is squeezed between steep cliffs. The site also includes smaller narrow gorges of major tributaries, Hungry River and Cove Creek with its well-known waterfall. The gorge walls include small to large rock outcrops, narrow ravines, spur ridges, and steep side slopes. Downstream the gorge widens somewhat and there is a band of floodplain along the river below steep mountain slopes.

The site supports an outstanding collection of natural communities of the Blue Ridge escarpment. Most are forest communities, including Acidic Cove Forest, Rich Cove Forest, Canada Hemlock Forest, Chestnut Oak Forest, and Montane Oak–Hickory Forest. Much of the forest area shows the effects of past logging but has matured and is of approximately natural composition. At least one area of old-growth Chestnut Oak Forest is present.

A number of rare species are known from scattered places within the gorge, including multiple populations of French Broad heartleaf (*Hexastylis rhombiformis*), longstalk sedge (*Carex pedunculata*), and whorled horsebalm (*Collinsonia verticillata*). The area has also been noted for its interesting combinations of more common plants, including a mixture of species more typically found in the Piedmont and Mountain. The area has a diversity of wildlife, including abundant neotropical migrant birds. One rare species, the cerulean warbler (*Dendroica cerulea*) has been reported.

Rare and less extensive communities are scattered in the site. The floodplain in the lower Green River valley supports a good example of Montane Alluvial Forest community; intact examples of this community type are very rare in the state. The Green River bed, especially in the narrow parts of the gorge, supports well-developed Rocky Bar and Shore communities. These communities range from gravel and cobble bars to bare bedrock, with sparse to denser herbaceous vegetation kept free of trees by the scouring of floods. Higher up the gorge walls are Montane Acidic Cliff communities on open rock outcrops. A small, but very good, example of the rarer Montane Mafic Cliff community is also present.

BOUNDARY JUSTIFICATION: The boundaries of the Primary Area are drawn to include the most significant areas in the gorge, and are mostly based on the extent of the exemplary communities, which

correspond to the steeper topography. Buffer Areas are designated on the newest additions to the preserve. These lower quality areas help buffer a small Primary Area and provide additional protection to habitat.

MANAGEMENT AND USE: The Green River Game Land is managed primarily to provide public hunting opportunities. The Green River is heavily used for boating and other water-based recreation. There is a system of public hiking trails in parts of the site, while other parts are quite remote. The Green River is controlled by hydroelectric dams upstream of the Game Land.

All of the forests should be allowed to mature without cutting. Prescribed burning, starting on an experimental basis, would be appropriate. Study of river hydrology and the effects of the operation of upstream dams would be appropriate. Monitoring of visitor impacts in the most popular areas is recommended. Invasive exotic plant species, including tree-of-heaven (*Ailanthus altissima*), princess tree (*Paulownia tomentosa*), Japanese stilt grass (*Microstegium vimineum*), and Japanese honeysuckle (*Lonicera japonica*) represent a threat to the natural composition of the forests. Monitoring and control are recommended, especially for the tree species, which show great potential for spreading in this region of the state.

EXHIBIT C

GREEN RIVER GAME LAND DEDICATED NATURE PRESERVE WHITE OAK MOUNTAIN/TRYON PEAK SEGMENT

COUNTY: Polk

TOPOGRAPHIC QUADS: Clifffield Mountain, Mill Spring

PHYSIOGRAPHIC PROVINCE: Blue Ridge

SIZE OF AREA: ca. 2,552 acres total (1,318 acres primary and 1,234 acres buffer)

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

DESCRIPTION: White Oak Mountain and Tryon Peak form a high ridge that extends eastward from the Blue Ridge escarpment. Extensive areas of basic or non-acid soil formed over amphibolite rock create unusual conditions for plant growth. The upper part of the area is a band of very steep slopes on the mountain face, broken by prominent spur ridges and narrow coves. At lower elevations the slopes are gentler, and broad coves reach up into the area. The small south-facing tract is very steep, with extensive cliffs and glade-like ledges and outcrops covering much of it. There are a few rock outcrops on the north slope.

Except for the rock outcrops, the primary area is covered by forest communities. All but the most inaccessible patches show the effects of past logging, but have retained natural composition and are mature. The most extensive forests are of the Montane Oak–Hickory Forest type. Several distinct subtypes are present, including the large expanses of the uncommon one influenced by basic soils, as well as the more typical acidic subtype. Chestnut Oak Forest also is extensive on the steeper acidic slopes, and includes some local areas with old-growth character. Rich Cove Forests are present in small patches in the primary area. Several populations of the rare broadleaf coreopsis (*Coreopsis latifolia*) are present, including one of the largest in the state. The very rare white irisette (*Sisyrinchium dichotomum*) is known from near the Game Land on Tryon Peak, and may extend into it. Several uncommon plants of rich soils are also present. The extensive forests offer habitat for forest interior animals, including neotropical migrant birds. Two rare animals, cerulean warbler (*Dendroica cerulea*) and timber rattlesnake (*Crotalus horridus*), are known from the mountain and probably occur on the Game Land.

The large rock outcrop on the south side of Tryon Peak is one of the best developed Montane Mafic Cliff communities in the state, and is perhaps the largest in the state. It has a great diversity of physical types, including vertical cliffs, narrow ledges, and sloping glades. Vegetation ranges from sparse to moderate, with denser patches in soil pockets. A number of rare plant species are known from it, including the globally rare divided-leaf ragwort (*Packera millefolium*) and the Biltmore sedge (*Carex biltmoreana*).

Numerous High Elevation Rocky Summits (Acidic Subtype) are found in higher elevations of the Game Land, primarily down slope and east of Little White Oak Mountain. These small patch communities are globally uncommon and support numerous rare species including three-flowered melic (*Melica nitens*), which is known from only three locations in North Carolina.

The Buffer Area has mostly young forests that were clearcut in recent years. Most are heavily altered in composition, with successional species predominating. These areas have extensive populations of the invasive exotic tree-of-heaven (*Ailanthus altissima*) and princess tree (*Paulownia tomentosa*) which have reached canopy size.

BOUNDARY JUSTIFICATION: The Primary Area boundaries are drawn based on the extent of the older mature forests. Small areas of younger forest are included in the Primary Area where they contain rare plants or where they are needed for continuity. Other Primary Areas include the small tract on the south side of Tryon Peak which consists entirely of rock outcrop and closely associated forests, and 100-foot riparian zones in the southeastern portion of the Game Land, meeting a Clean Water Management Trust Fund requirement for the Foster Preserve acquisition. The Buffer Area includes most of the remaining downslope portions of the White Oak Mountain/Tryon Peak segment of the Green River Game Land. This area increases the habitat area for wide-ranging forest animals and nearly completes a connection to other portions of the Green River Game Land. It also has influence on the Primary Area as a source of exotic plant invasion.

MANAGEMENT AND USE: The Green River Game Land is managed primarily to provide public hunting opportunities.

All of the forests in the Primary Area should be allowed to mature. Prescribed burning, starting on an experimental basis, would be appropriate. The well-established invasive exotic plant populations, especially tree-of-heaven and princess tree, represent a threat to the natural character of the preserve. These species have demonstrated the ability to establish in natural canopy gaps as well as in logged areas, and to grow into the canopy. Consideration should be given to removing both the scattered individuals in the Primary Area and the extensive populations in the Buffer Area, and to establishing ongoing control and monitoring.

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

1. **Definitions:** 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 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135-264, all State-owned lands lying within the above designated area(s) are hereby dedicated as a nature preserve to be known collectively as the Green River 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 07A NCAC 13H.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 Exhibits B (Green River Gorge Segment) and C (White Oak Mountain/Tryon Peak Segment).
5. **Management Areas:** For the purposes of management, the preserve shall be considered to consist of a Primary Area (approximately 3,272 acres) and a Buffer Area (approximately 1,349 acres), as more particularly described in Exhibits A, B, and C, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of the Acidic Cove Forest, Rich Cove Forest, Canada Hemlock Forest, Chestnut Oak Forest, Montane Oak-Hickory Forest, and Rocky Bar and Shore communities, as well as four rare communities: High Elevation Rocky Summit, Montane Acidic Cliff, Montane Alluvial Forest, and Montane Mafic Cliff. The Primary Area also includes associated rare species populations, and riparian zones in properties funded by the Clean Water Management Trust Fund.

The Primary Area is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (143B-135.260) and further serves all of the public purposes for a dedicated preserve as stated in G.S. 143B-135.252.

The Buffer Area, which contributes to the management and protection of the Primary Area, consists of less mature, lower quality hardwood forests downslope from the Primary Area.

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, boating, trapping, walking, research, and observation. These activities shall be regulated by the Custodian to prevent significant disturbance of the preserve. 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, scientific research, and preserve management. Exhibits, programs, and printed materials may be provided by the Custodian. The Custodian may create and maintain nature trails, overlooks, boardwalks, and primitive campsites adequate to promote the permitted use of the preserve. Guardrails, fences, steps, bridges, and boardwalks may be provided when appropriate. The Custodian reserves the right to erect structures necessary to protect the preserve from unwanted or excessive visitor traffic and structures to restrict visitor access to sensitive environmental resources.
- D. Roads and Trails: New roads shall not be constructed in the Primary. 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.
- E. 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.
- F. 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.
- 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. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program
- I. Water Level Control: The purpose of water control shall be to maintain the preserve's natural water regimes. Water levels that have been altered by human activities 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.
- J. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, hunting dogs as permitted in game lands, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- K. Wildfire Control: Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures, it may be allowed to burn with minimal control. If wildfire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wildfire control. When new firebreaks need to be established, environmentally sensitive areas will be avoided when possible. Old firebreaks that affect the natural hydrology of wetlands may be filled and allowed to revegetate. Planning of firebreak restoration should occur in consultation with the North Carolina Natural Heritage Program.
- L. Disturbance of Natural Features: 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, reduction of fuel load after severe storm damage, trail clearance and maintenance, or for purposes of maintenance or restoration of natural communities or rare species populations where they historically occurred and 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.
- M. Control of Populations (natural and exotic): Any control of animal or plant populations on the preserve shall be only to correct situations where 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.

N. 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 essential to some ecosystems and may be used where natural wild-fire historically kept understories open and promoted herbaceous diversity.

M. Management Plan: The **Wildlife Resources Commission**, as Primary Custodian, shall develop a management plan for the broader managed area, including the preserve. This management 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 07 NCAC 13H.0300 and .0400. 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 enhancement 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) Managing 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) Maintaining habitat connectivity and continuity among Primary Areas.
- 3) Providing for habitat diversity.
- 4) Managing the needs of rare animal and plant species populations occurring within the Buffer Area; and

- 5) Protecting soil and hydrologic resources and processes within the Primary Area and extending into the Buffer Area. (Naturally vegetated riparian zones will be retained along streams, and watersheds of Primary Areas will be protected from hydrologic alteration.)
8. **Amendment and Modification:** Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.







Stones Creek Game Land Dedicated Nature Preserve

Hicks Creek segment

Stones Creek segment

Turkey Creek/Kings Creek segment

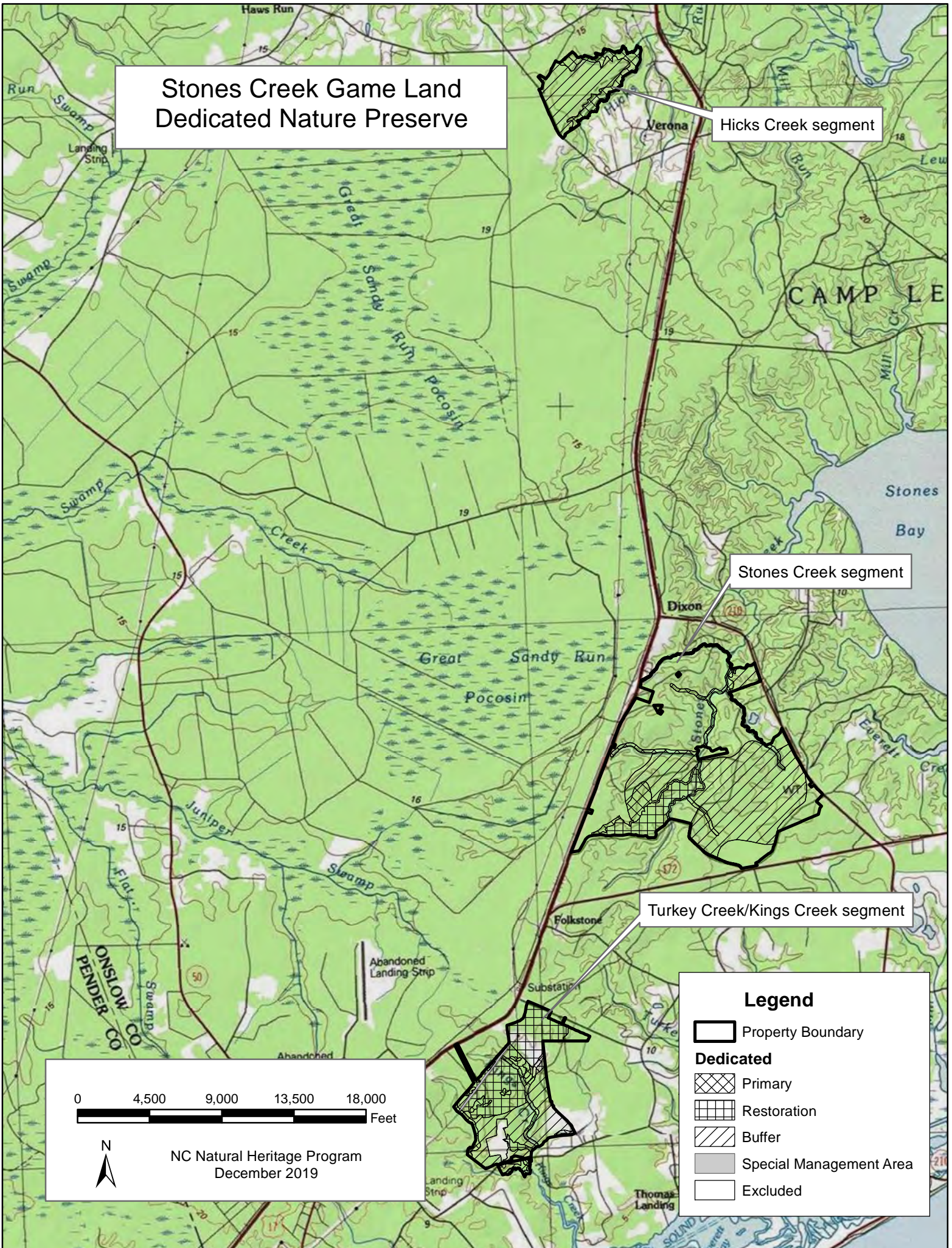
Legend

-  Property Boundary
- Dedicated**
-  Primary
-  Restoration
-  Buffer
-  Special Management Area
-  Excluded

0 4,500 9,000 13,500 18,000 Feet



NC Natural Heritage Program
December 2019



(ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Mr. Gordon S. Myers, Executive Director
N.C. Wildlife Resources Commission
Mail Service Center 1701
Raleigh, North Carolina 27699-1701

Subject: Dedication of Portions of the **Stones Creek Game Land**, Onslow County

Dear Secretary Hamilton and Mr. Myers:

Pursuant to Part 42 of Chapter 143B 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. These articles of dedication replace the articles of dedication dated November 7, 2012. The articles were amended to reflect ownership boundary corrections and additions of property to the preserve.

This real property is currently administered by the North Carolina Wildlife Resources Commission as a portion of the **Stones Creek Game Land** and consists of approximately 3,146 acres located in Onslow County, composed of:

- | | |
|--|-------------|
| 1. Stones Creek Game Land tract (Primary Area) | 1,081 acres |
| 2. Stones Creek Game Land tract (Buffer Area) | 2,065 acres |

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 **Stones Creek Game Land Dedicated Nature Preserve**.

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.

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

1. **Definitions:** 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 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135.264, all State-owned lands lying within the above designated area are hereby dedicated as a nature preserve to be known collectively as the **Stones Creek 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 07 NCAC 13H.0300 and .0400.
4. **Primary Classification:** The primary classifications and purposes of the preserve will be conservation, nature education, wildlife management, hunting, fishing, trapping, scientific research, passive recreation, 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 1,081 acres) and a Buffer Area (approximately 2,065 acres), as more particularly described in Exhibit A, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of the core natural area encompassing the rare Sandhill Seep, Mesic Mixed Hardwood Forest, Pine Savanna, Wet Pine Flatwoods, Pond Pine Woodland, Tidal Cypress-Gum Swamp, Coastal Plain Small Stream Swamp, Pine/Scrub Oak Sandhill, Xeric Sandhill Scrub, and Coastal Fringe Sandhill natural community types and their associated rare species, and the riparian zones necessary to protect water quality.

The Primary Area is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves all of the public purposes for a dedicated preserve as stated in G.S. 143B-135.252.

The Buffer Area, which contributes to the management and protection of the Primary Area, consists of pine forests, some of which have high restoration potential based on the quality of the herbaceous layer.

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 protect and preserve the natural values of the Preserve. Activities and uses unrelated to those listed above are prohibited except as provided in this Dedication or unless necessary to carry out the purposes of the Preserves. Prohibited activities include, but are not limited to, commercial development; commercial silviculture; agriculture and grazing; gathering of plants or

plant products for purposes other than approved research; the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources; and those activities specifically restricted in this Dedication. There shall be no fires, except as necessary for ecological management of the preserve, for wild-fire hazard reduction to the surrounding community, 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. Roads and Trails: New roads shall not be constructed in the Primary Area. When necessary, the Custodian may construct and maintain access limited to staff for management purposes, such as service paths for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may maintain roads presently existing within the preserve. 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.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: US 17, SR 1532, SR 1535, and SR 1534.

- E. Other Structures and Improvements: Buildings or facilities other than those defined in this document shall not be erected by the Custodian within the preserve, except as may be consistent with the purposes of the preserve as stated herein. Site

selection shall be consistent with this dedication.

- F. 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.
- 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. Pollutants may not be added to surface or ground waters within the Preserve.
- H. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program.
- I. Water Level Control: The purpose of water level control shall be to maintain the Preserves' natural water regimes. Water levels that have been altered by human activities 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. Millponds are an example of situations in which water levels have been historically managed.
- J. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, hunting dogs as permitted in game lands, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- K. Wildfire Control: Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures, it may be allowed to burn with minimal control. If wildfire control is necessary, firebreaks may need to be established; when possible, existing roads and firebreaks will be utilized. When new firebreaks need to be created, environmentally sensitive areas will be avoided when possible. Old firebreaks that 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.
- L. Disturbance of Natural Features: 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 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. Specifically, a component of management planning will address restoration of areas (identified as Primary (Restoration) Areas in the Exhibit A map). Longleaf

restoration will minimally focus on removal of unnatural canopy components and thinning of dense longleaf to enhance the condition of the ground layer. Site-specific modifications of longleaf restoration plans will be addressed through consultation between Wildlife Resources Commission and Natural Heritage Program staff. 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.

The following language is being included in this letter of allocation because the dedicated preserve contains habitat types which may be managed for maintenance or recruitment of groups of the Federally Endangered red-cockaded woodpecker (*Picoides borealis*). In the Recovery Plan for the Red-cockaded Woodpecker (*Picoides borealis*): Second Revision (US Fish and Wildlife Service 2003: Southeast Region, Atlanta, GA; Recovery Plan), a range of management actions is prescribed for this purpose. The Recovery Plan recognizes that a correlation exists between the overall biological health of the natural communities that comprise RCW foraging and nesting habitat and the fitness of red-cockaded woodpecker groups occupying that habitat. This connection between the birds and the natural characteristics of their environment is not limited to the tree species on which they forage but extends to all forest strata including the forest floor. Group size, composition and reproduction benefit from management strategies that favor diverse and abundant ground cover. Therefore, primary areas should be managed to promote the full range of natural characteristics. Management should focus on prescribed burning. If canopy thinning is needed to meet guidelines, it should be done to the minimum degree possible, unless it is agreed that other treatments would better promote the natural multi-aged, patchy character of longleaf pine communities. Canopy and midstory treatments should be done in ways that minimize disturbance to the ground cover vegetation and soil.

- M. Control of Populations (natural and exotic): 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.

- N. 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 wildfire historically suppressed woody vegetation and promoted herbaceous diversity.

Additionally, a transmission line right-of-way containing the same or similar special elements of natural diversity representative of the preserve generally is designated as a Spe-

cial Management Area (See Exhibit A map). The Department of Natural and Cultural Resources and the Wildlife Resources Commission, by and through the Natural Heritage Program and Wildlife Resources Commission, respectively, may enter into agreement(s) with the party or parties responsible for managing the right-of-way in order to ensure that the management practices of such party or parties are consistent with the conservation values associated with the Special Management Area.

- O. **Management Plan:** The **Wildlife Resources Commission**, as Primary Custodian of the preserve, shall develop a management plan for the broader managed area, including the preserve. This management plan should be subject to all the provisions of this dedication and with the management principles set forth in the North Carolina Administrative Code 07 NCAC 13H.0300 and .0400. 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 enhancement 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.
- 5) Protection of soil and hydrologic resources and processes within the Primary Area and extending into the Buffer. (Naturally vegetated riparian zones will be retained along streams, and watersheds of Primary Areas will be protected from hydrologic alteration.)

8. **Amendment, Modification, and Termination:** Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the **Stones Creek Game Land 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 (City Name), North Carolina, on the _____ of _____, (YEAR). (TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

Gordon S. Myers, Executive Director
Wildlife Resources Commission

EXHIBIT A

STONES CREEK GAME LAND DEDICATED NATURE PRESERVE STONES CREEK SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Sneads Ferry, Folkstone, Holly Ridge

SIZE OF AREA: ca. 1,412 acres (Primary area 384 acres, including a 165-acre Restoration area; Buffer area 1,028 acres)

OWNER/ADMINISTRATOR: State of North Carolina/Wildlife Resources Commission

DESCRIPTION: The Stones Creek Segment consists of an upland plateau dissected by Stones Creek and its headwater tributaries, with the dissections producing prominent slopes. The most significant natural feature is the Sandhill Seep natural community located along a headwater tributary of Stones Creek. This community is characterized by a low-shrub-dominated open slope with a strong herb component and is very rare on the outer Coastal Plain. The dominant shrub is fetterbush (*Lyonia lucida*), with rush-featherling (*Pleea tenuifolia*) and Walter's sedge (*Carex striata*) forming patches. Substantial ground water seepage keeps the slope perpetually saturated. The Sandhill Seep community supports three rare plant species: Leconte's flatsedge (*Cyperus lecontei*), Venus flytrap (*Dionaea muscipula*), and Carolina goldenrod (*Solidago pulchra*). This is one of only a few extant occurrences of the Sandhill Seep natural community known to occur on the outer Coastal Plain of North Carolina. It occurs as one large complex, with a smaller patch near the southern site boundary. A drainage connects the seeps but is interrupted in one place by a borrow pit.

A prominent swampy floodplain lies along Stones Creek in the downstream part of this site. The muck soil appears to be permanently saturated and to flood for long periods. The swamp forest is dominated by swamp black gum (*Nyssa biflora*) and green ash (*Fraxinus pennsylvanica*), with abundant bald cypress (*Taxodium distichum*) in places. The understory, shrub, and herb layers contain a diverse collection of species tolerant of very wet conditions, including swamp dogwood (*Cornus stricta*), alder (*Alnus serrulata*), and numerous sedges (*Carex* spp.).

The steep slopes above the floodplain support a narrow band of Mesic Mixed Hardwood Forest. The variable canopy includes water oak (*Quercus nigra*), white oak (*Quercus alba*), swamp chestnut oak (*Quercus michauxii*) and sweetgum (*Liquidambar styraciflua*), among other species. Characteristic understory species of mesic hardwood forests include American holly (*Ilex opaca*), witch-hazel (*Hamelis virginiana*), and silky camellia (*Stewartia malacodendron*).

Much of the Buffer Area is pine plantation, dominated by planted loblolly pine (*Pinus taeda*) and slash pine (*P. elliottii*). Most of this area formerly was longleaf pine communities. Within the Buffer Areas in this segment are areas that support a mosaic of longleaf pine and pocosin habitat that has been altered by timber management, but contains large areas that continue to support important natural community components, particularly Carolina wiregrass (*Aristida stricta*) in the longleaf pine habitat ground layer. Longleaf pine (*P. palustris*) persists around the edges of former habitat and is locally dominant. These areas have moderate to good restoration potential for Xeric Sandhill Scrub, Wet Pine Flatwoods, and possibly Pine/Scrub Oak Sandhill communities in the upland areas. Intervening low flats and broad drains

support a mix of Pond Pine Woodland pocosin habitat and overgrown flatwoods and savanna associations. Populations of three rare plant species occur in these areas: scale-leaf gerardia (*Agalinis aphylla*), Venus flytrap, and Carolina goldenrod.

The preserve is an important corridor between natural habitat in the main base of Camp Lejeune to the east, and Great Sandy Run Pocosin to the west, although that corridor is interrupted by NC 210 and US 17.

BOUNDARY JUSTIFICATION: The Primary Area includes the rare Sandhill Seep community and its associated rare plant species. It includes the mature swamp forest and bluff hardwood forest along the downstream portion of Stones Creek, as well as other riparian areas. The Primary (Restoration) Area includes the area between stream channels that is in altered condition. The Buffer Area includes habitat which may be suitable for restoration of longleaf communities, based on patches of wiregrass and other species typically occurring in this habitat type, and areas which have been more intensively altered, but are still potentially restorable. Some isolated rare species occurrences are included in the Buffer Area.

MANAGEMENT AND USE: The upland areas and the Sandhill Seeps are in need of prescribed burning. A 3-year burn rotation is recommended for both. Large areas will require active management for restoration of longleaf pine communities, including canopy thinning and fuel reduction in some areas prior to burning. No special management needs are known for the mesic slopes or riparian areas, but these areas should be monitored for invasion of non-native species.

EXHIBIT A

STONES CREEK GAME LAND DEDICATED NATURE PRESERVE HICKS CREEK SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Haws Run, Jacksonville South

SIZE OF AREA: ca. 432 acres (Primary area ca. 127 acres, Buffer area ca. 305 acres)

OWNER/ADMINISTRATOR: State of North Carolina/Wildlife Resources Commission

DESCRIPTION: The Hicks Creek Segment is an interstream terrace that lies between Hicks Creek and an unnamed tributary west of the community of Verona. The narrow floodplains and much of the adjacent low slopes of these streams support Mesic Mixed Hardwood Forest natural communities, dominated by hardwoods such as American beech (*Fagus grandifolia*) and tuliptree (*Liriodendron tulipifera*). These forests are quite mature, with trees reaching 2.5 feet in diameter at breast height, despite impacts from recent hurricanes.

The majority of the terrace between the stream slopes, and including the upper slopes, has been altered by timber management. These alterations include maturing pine plantations, regenerating clearings, and ditches. No remnant longleaf pine communities have been documented, although vegetation associated with longleaf flatwoods and savannas occurs in patches along roadbeds, including Carolina wiregrass (*Aristida stricta*). This area is dedicated as buffer.

The Hicks Creek Segment is a strategic part of the corridor linking natural habitat in the main base of Camp Lejeune lying 0.35 mile to the northeast, and the Marine Corps' Great Sandy Run Area immediately to the southwest.

BOUNDARY JUSTIFICATION: The Primary Area includes the floodplains and slopes associated with Hicks Creek and its tributary that form the north and southeast borders of the tract. It includes altered areas, primarily in the upper portions of the slopes, where management for restoration will protect and enhance the slope and floodplain forests, with the potential for restoring longleaf pine habitat and ecotone within the upper slope and adjacent terrace. The Buffer Area includes most of the altered terrace between the stream slopes. This habitat provides buffer for the slope and floodplain communities and is an important corridor for animal migration between the Camp Lejeune main base and the Great Sandy Run Area.

MANAGEMENT AND USE: Prescribed burning with a 3-5-year burn rotation will benefit longleaf pine community restoration on the terrace and upper slopes and should improve the tract's function as a wildlife corridor. No special management needs are known for the mesic slopes or riparian areas, but these areas should be monitored for invasion of non-native species.

EXHIBIT A

STONES CREEK GAME LAND DEDICATED NATURE PRESERVE TURKEY CREEK/KINGS CREEK SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Folkstone

SIZE OF AREA: ca. 913 acres (Primary area 554 acres, including a Restoration area of 430 acres, and a special management area of 13 acres; Buffer area 359 acres)

OWNER/ADMINISTRATOR: State of North Carolina/Wildlife Resources Commission

DESCRIPTION: The Stones Creek segment is an area of rolling uplands, with slightly dissected land near creeks along the edges. Most of the upland is poorly drained and supports an intricate mosaic that includes extensive Pine Savanna, Wet Pine Flatwoods, and Pond Pine Woodland communities. Patches of Pine/Scrub Oak Sandhill (Coastal Fringe Subtype) are present on drier areas. Most of the communities have been altered by recent logging and planting of pines; however, the characteristic ground cover vegetation of the longleaf pine communities remains in good condition. This area has excellent potential for restoration to good natural condition. The herbaceous layer is shrubby in places but has large expanses with natural density of Carolina wiregrass (*Aristida stricta*) and associated plants.

The Pine Savanna areas have a diversity of herbaceous plants. They support the rare Venus flytrap (*Dionaea muscipula*), along with a number of other insectivorous plants such as pitcher plants (*Sarracenia flava*, *Sarracenia purpurea*, and *Sarracenia rubra*). Among the Pine Savannas is a small amount of the rare type dominated by rush featherling (*Pleea tenuifolia*), here at its northeastern most occurrence.

The Wet Pine Flatwoods (Typic Subtype) is characteristically lower in plant diversity, but all the typical herb and low shrub species are present with wiregrass (*Aristida stricta*) and creeping blueberry (*Vaccinium crassifolium*) co-dominant in the herbaceous layer. The Pine/Scrub Oak Sandhill (Coastal Fringe Subtype) community also has all of the characteristic species of scrub oaks, low shrubs, and herbs. In this community, turkey oak (*Quercus laevis*) is dominant in the shrub layer but sand live oak (*Quercus geminata*) can be dominant in the mid-story in some areas.

The Pond Pine Woodland community occurs in upland swales where muck has accumulated. The canopy is less altered, with pond pine (*Pinus serotina*) dominant in many areas. The shrub layer is characteristically dense and tall, with sweet gallberry (*Ilex coriacea*) and fetterbush (*Lyonia lucida*) dominant. Fire suppression has made this community thick and dense in some areas.

Narrow areas of Coastal Plain Small Stream Swamp are present along drainages. These areas have young canopy dominated by red maple (*Acer rubrum*) and swamp black gum (*Nyssa biflora*). The shrub layer is dense and shares many species with the Pond Pine Woodland, although additional species such as coastal fetterbush (*Eubotrys racemosa*) and possumhaw (*Viburnum nudum*) are present.

A powerline right-of-way bisects through the property on the northwestern end and contains a diverse herbaceous community, with many characteristic Sandy Pine Savanna species such as venus flytraps (*Dionaea muscipula*), carolina goldenrod (*Solidago pulchra*), white screwstem (*Bartonia verna*), pine lily

(*Lilium catesbaei*), and many other community specialists.

BOUNDARY JUSTIFICATION: The Primary Area includes 100-foot riparian areas needed to protect water quality in Turkey Creek, Kings Creek, and other drainages. The Primary Area also includes high-quality upland natural communities in good condition. Pine/Scrub Oak Sandhill (Costal Fringe Subtype) and Wet Pine Flatwoods (Typic Subtype) both occur in the Primary Area. The Primary (Restoration) Area includes the areas with excellent natural community restoration potential, and those with intact natural ground cover over most of the area. Some Primary (Restoration) areas include loblolly pine plantations that have an intact herb layer and potential for restoration through forest management, including prescribed fire and removal of off-site loblolly pines. There is also a stream corridor that mostly follows a mapped Muckalee Loam soil unit that is identified as Primary (Restoration) for its wetland and water quality potential. The Buffer Area includes additional areas that provide additional buffering for the creeks and that link the riparian areas to the restoration area. Additionally, the Buffer Areas include areas with planted pine that may require more management and lack many natural vegetation characteristics. A special management area is assigned to the transmission line right-of-way in order to keep the diverse herb layer intact and allow populations of Venus flytraps (*Dionaea muscipula*) and Carolina goldenrod (*Solidago pulchra*) to thrive. The area excluded from the dedication includes managed working fields.

MANAGEMENT AND USE: The Primary (Restoration) area in the uplands needs prescribed fire. A 3-year burn rotation is recommended for longleaf pine communities, including Sandy Pine Savannas which are currently dominated by encroaching pocosin shrubs. More frequent prescribed fire could be appropriate initially. Much of the restoration area may need planting of longleaf pine. Within parts of the Primary (Restoration) Area some removal of loblolly pine is recommended and will be needed to restore the area to a longleaf pine community. The stream corridor/wetland area of Primary (Restoration) will most likely regenerate to a Coastal Plain Small Stream Swamp natural community. No special management needs are recommended for the riparian areas (Primary area), but these areas should be monitored for invasive species. It is recommended that the special management area along the transmission line right-of-way receives a special mowing treatment, or potentially a 3-year prescribed fire rotation if possible, to help maintain this diverse herbaceous community and conserve the rare plant populations. No chemical treatments should be used in this special management area due to the sensitivity of native plants. An access may be necessary that largely follows the alignment of an existing road, but veers off state land close to a Primary Area. The existing road footprint would be utilized to the extent possible, and planning for design and construction of any potential future access road will be in consultation with NCNHP.

(November 2018, NCNHP)

EXHIBIT A

STONES CREEK GAME LAND DEDICATED NATURE PRESERVE HORSE SWAMP/RUCKY RUN SEGMENT

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPOGRAPHIC QUAD: Camp Lejeune

SIZE OF AREA: ca. 389 acres (Primary area ca. 16 acres, Buffer area ca. 373 acres)

OWNER/ADMINISTRATOR: State of North Carolina/Wildlife Resources Commission

DESCRIPTION: The Horse Swamp/Rocky Run Segment lies at the headwaters of a tributary to Buck Run and Little Northeast Creek. Most of this segment consists of pine plantation. A shallow basin in the middle of the tract contains a distinctive swamp forest community. The forest is dominated by a mature canopy of swamp black gum (*Nyssa biflora*), with an understory dominated by red bay (*Persea palustris*).

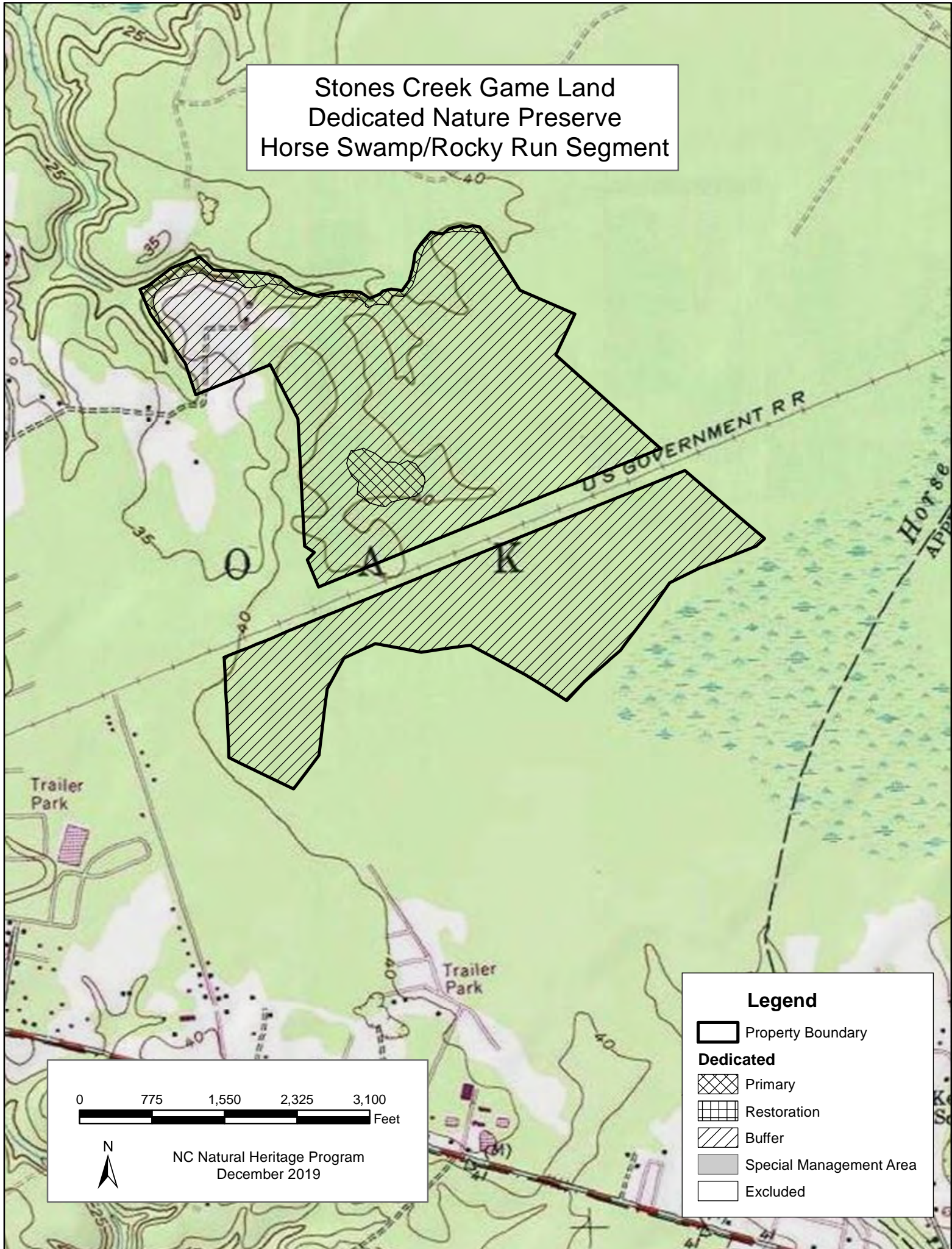
Along the northern edge of the tract is a creek with a narrow floodplain. This area supports a small area of Coastal Plain Small Stream Swamp (Blackwater Subtype), dominated by swamp black gum (*Nyssa biflora*). Much of this community was logged recently and is young, though a small part is mature. This area serves as a riparian buffer for this creek, a tributary of Little Northeast Creek.

This segment is a part of a corridor that has been identified as an important landscape connection between the extensive wild lands of Camp Lejeune and those at Hoffman Forest. Protection of this connection would help promote the survival of black bears and other wide-ranging wildlife as the surrounding area becomes more fragmented.

BOUNDARY JUSTIFICATION: The Primary Area includes the intact swamp community in the basin and the floodplain along the creek. The rest of the tract is dedicated as Buffer. Part of this area helps buffer the Primary Areas. All of this area serves as part of the larger landscape connection.

MANAGEMENT AND USE: No special management is needed in the swamp forests. They should be allowed to mature to old-growth condition. The outlet channel from the swamp basin appears to have been deepened in the past. While this increased drainage does not appear to have degraded the swamp community, ideally more natural hydrology should be restored.

Stones Creek Game Land
Dedicated Nature Preserve
Horse Swamp/Rocky Run Segment



Legend

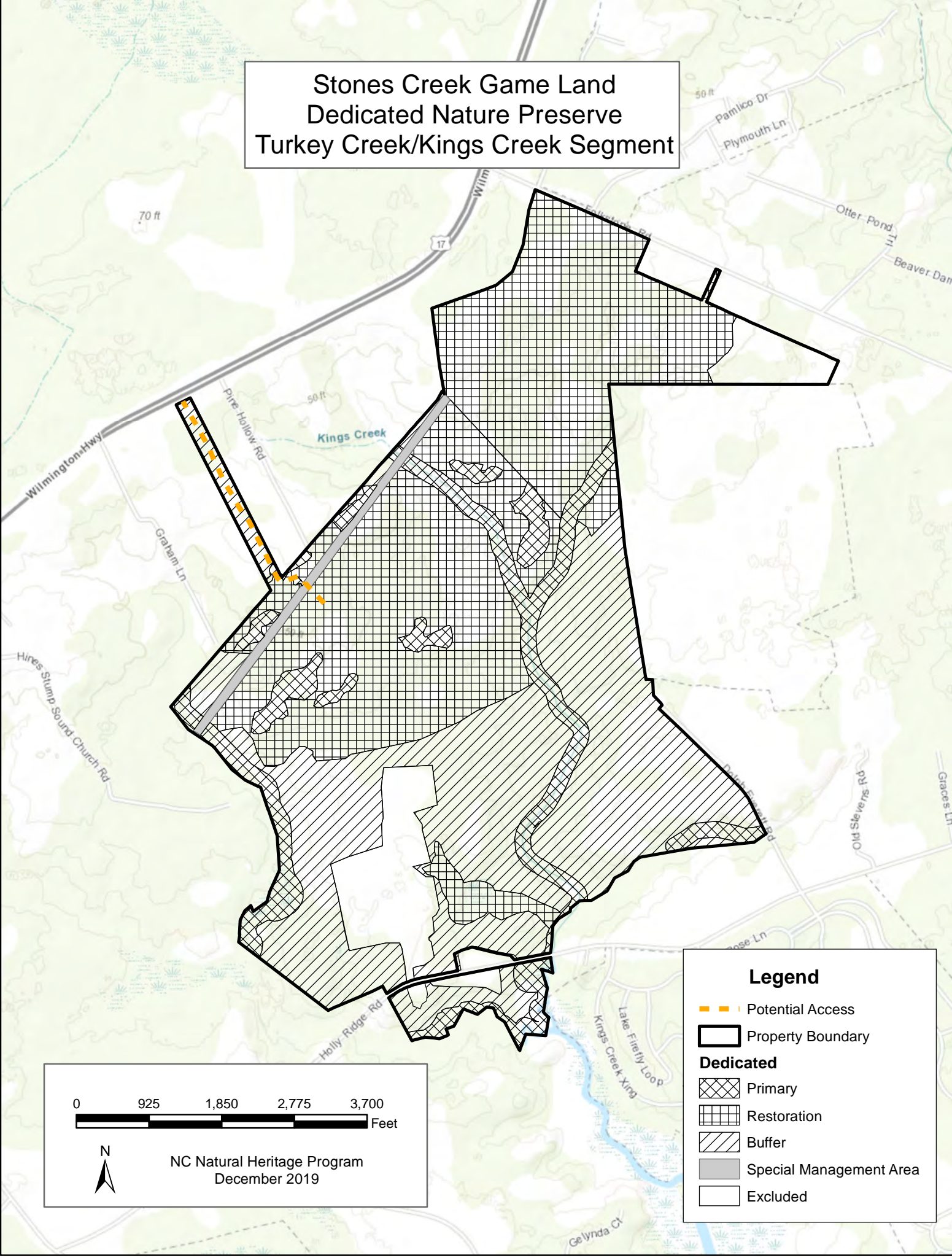
- Property Boundary
- Dedicated**
 - Primary
 - Restoration
 - Buffer
 - Special Management Area
 - Excluded

0 775 1,550 2,325 3,100 Feet

N

NC Natural Heritage Program
December 2019

Stones Creek Game Land
 Dedicated Nature Preserve
 Turkey Creek/Kings Creek Segment



Legend

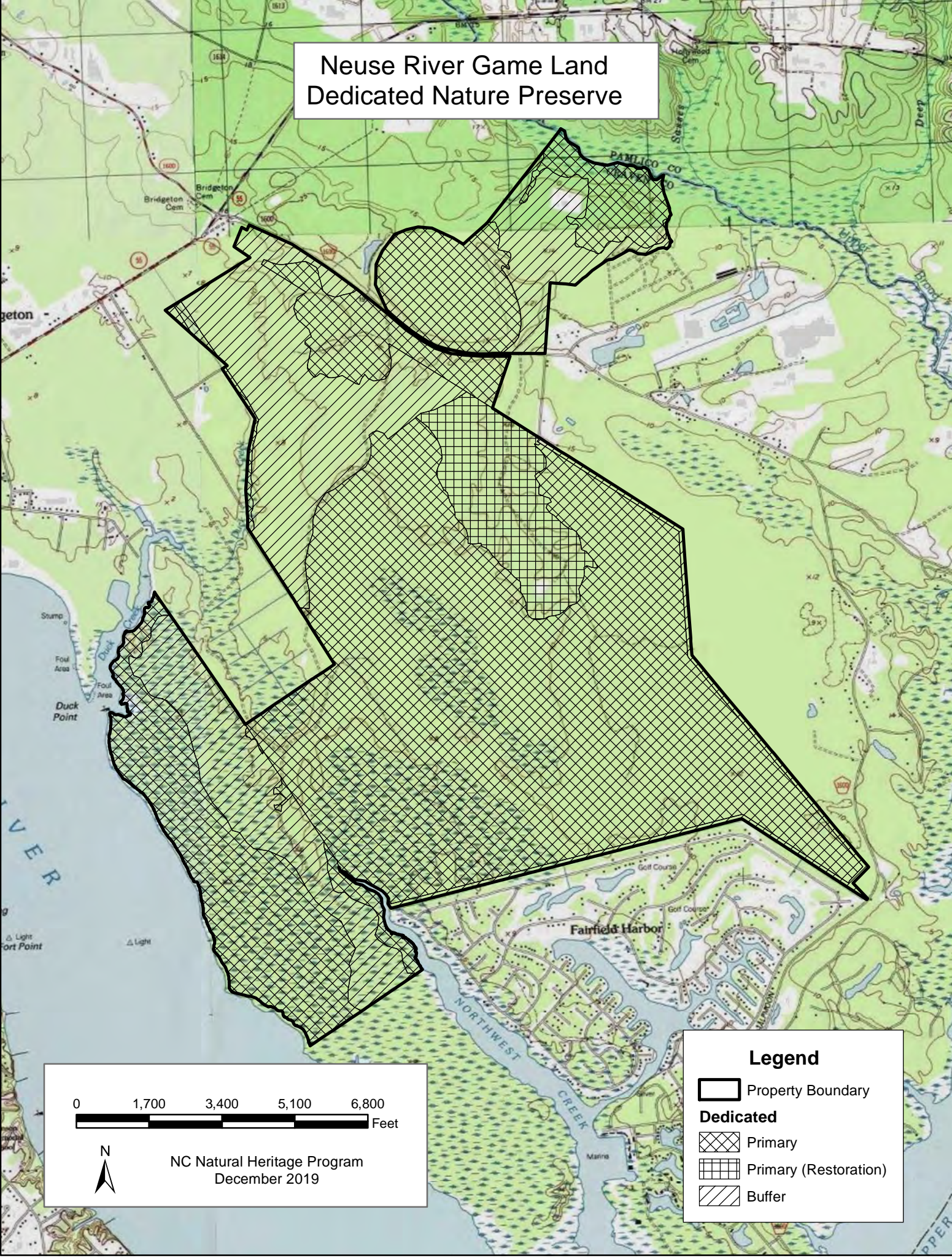
- Potential Access
- Property Boundary
- Dedicated**
- Primary
- Restoration
- Buffer
- Special Management Area
- Excluded

0 925 1,850 2,775 3,700 Feet

N

NC Natural Heritage Program
 December 2019

Neuse River Game Land Dedicated Nature Preserve



Legend

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

0 1,700 3,400 5,100 6,800 Feet

N

NC Natural Heritage Program
December 2019

(ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Mr. Gordon S. Myers, Executive Director
N.C. Wildlife Resources Commission
Mail Service Center 1701
Raleigh, North Carolina 27699-1701

Subject: Dedication of Portions of the **Neuse River Game Land**, Craven County

Dear Secretary Hamilton and Mr. Myers:

Pursuant to Part 42 or Chapter 143B 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. These articles of dedication replace the articles of dedication dated February 20, 2012.

This real property is currently administered by the North Carolina Wildlife Resources Commission as a portion of the **Neuse River Game Land** and consists of approximately 3,966 acres located in Craven County, composed of:

- | | |
|-------------------------------------|-------------|
| 1. Neuse River tract (Primary Area) | 3,041 acres |
| 2. Neuse River tract (Buffer Area) | 925 acres |

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 **Neuse River Game Land Nature Preserve**.

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.

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

1. **Definitions:** 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 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135.264, all State-owned lands lying within the above designated area(s) are hereby dedicated as a nature preserve to be known collectively as the **Neuse River 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 07 NCAC 13H.300 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 3,041 acres, including a restoration area of 236 acres) and a Buffer Area (approximately 925 acres), as more particularly described in Exhibit A, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of the Wet Pine Flatwoods, Pine/Scrub Oak Sandhill, Pond Pine Woodland, Dry-Mesic Oak-Hickory Forest, Mesic Mixed Hardwood Forest, Coastal Plain Small Stream Swamp, Tidal Cypress-Gum Swamp, and Tidal Freshwater Marsh natural community types. The Primary Area also includes associated rare species populations.

The Primary Area is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves all of the public purposes for a dedicated preserve as stated in G.S. 143B-135.252

The Buffer Area, which contributes to the management and protection of the Primary Area, consists of disturbed areas – including longleaf pine forest communities -- with lower potential for recovery, based on the condition of the canopy and herbaceous layer.

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 protect and preserve 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. **Roads and Trails:** Construction and maintenance of roads, trails, and other access structures within Primary and Buffer Areas of the preserve will be limited to the level necessary to appropriately manage the preserve. New roads shall not be constructed in the Primary Area. 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.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: S.R. 1600.

- E. Other Structures and Improvements: Structures or facilities shall not be erected within the preserve, except as may be consistent with the purposes of the preserve as stated in these Articles. Site selection shall be consistent with these Articles.
- F. 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.
- 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. Pollutants may not be added to surface or ground waters within the Preserve.
- H. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program.
- I. Water Level Control: The purpose of water level control shall be to maintain the Preserves’ natural water regime. Water levels that have been altered by human activities 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. 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.

- J. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, hunting dogs as permitted in game lands, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- K. Wildfire Control: Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures, it may be allowed to burn with minimal control. If wildfire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wildfire 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.
- L. Disturbance of Natural Features: 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 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.

Specifically, a component of the management plan, the longleaf restoration plan, will address restoration of areas (identified as Primary (Restoration) Areas in Exhibit A map) which have retained the herbaceous component of longleaf pine communities, but has little longleaf in the canopy. Longleaf restoration will focus on restoring the structure and composition of natural longleaf pine communities. The longleaf restoration plan will be submitted to the Natural Heritage Program for review and approval. Subsequent modification of the longleaf restoration plan may occur through mutual consent of Wildlife Resources Commission and Natural Heritage Program staff, as additional areas in need of restoration or new methods of restoration are determined. 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.

- M. Control of Populations (natural and exotic): 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.

- N. 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 wildfire historically suppressed woody vegetation and promoted herbaceous diversity.

- O. 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 Natural and Cultural Resources a management plan for the preserve. The management plan will be part of the larger management plan developed for the Game Lands. 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 07 NCAC 13H.0300 and .0400. 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. 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 enhancement 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. (Naturally vegetated riparian zones will be retained along streams, and watersheds of Primary Areas will be protected from hydrologic alteration.)
8. **Amendment, Modification, and Termination:** Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the **Neuse River Game Land 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 (City Name), North Carolina, on the _____ of _____, (YEAR).
(TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

Gordon S. Myers, Executive Director
Wildlife Resources Commission

EXHIBIT A

NEUSE RIVER GAME LAND DEDICATED NATURE PRESERVE

COUNTY: Craven

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPO QUAD: Upper Broad Creek, Reelsboro, New Bern

SIZE OF AREA: ca. 3,966 acres (primary area 3,041 acres, including a restoration area of 236 acres; buffer area 925 acres)

OWNER/ADMINISTRATOR: North Carolina Wildlife Resources Commission

DESCRIPTION: The dedicated area includes areas that have been known as Duck Creek Flatwoods, Duck Creek Wetlands, and Devil's Garden Sand Ridge. It is a low-lying landscape of gentle sandy ridges and muck-filled swales, with several Carolina bays. It lies along the estuarine lower portion of the Neuse River, and borders several tidal creeks. The natural area supports a mosaic of Coastal Plain natural communities in fair to very good condition, interspersed with areas more altered by timber harvest and other disturbances.

The most extensive communities are Pond Pine Woodland (Typic Subtype) and Wet Pine Flatwoods (Typic Subtype). The Pond Pine Woodland communities of the swales and Carolina bays have open to nearly closed canopies of pond pine (*Pinus serotina*), with a tall and very dense shrub layer beneath. Sweet gallberry (*Ilex coriacea*) and fetterbush (*Lyonia lucida*) typically dominate the shrub layer. Some of these communities in the Primary Area have been thinned but have not been pushed beyond the natural range of density, while substantial areas have not had recent disturbance. Most of the Pond Pine Woodlands in the Buffer Area have been clear-cut or heavily thinned.

Wet Pine Flatwoods (Typic Subtype), occurring on the low sand ridges, have open canopies of longleaf pine (*Pinus palustris*) and pond pine (*Pinus serotina*). There is little subcanopy, and the ground cover is a dense bed of wiregrass (*Aristida stricta*), bracken fern (*Pteridium aquilinum*), and a variety of low shrubs. Most of this community has been logged fairly recently, leaving a remnant canopy of young trees depleted in longleaf pine. Areas consisting of the Wet Pine Flatwoods (Typic Subtype) community that occur within the Primary Area have substantial amounts of wiregrass that have survived past fire suppression and the disturbance of timber harvest, so that the potential for recovery over time is good. Those in the Buffer Area are more heavily disturbed or degraded by fire suppression and have little wiregrass or longleaf pine remaining. One rare plant species, northern white beaksedge (*Rhynchospora alba*), has been reported from this part of the site, but has not been relocated recently.

A few of the highest sandy hummocks and Carolina bay rims support Pine/Scrub Oak Sandhill communities, which are dominated by longleaf pine but have an understory of scrub oaks. The ground cover is naturally dominated by wiregrass. It has an increased component of shrubs, primarily dangleberry (*Gaylussacia frondosa*), due to lack of fire. Smaller areas of the even drier Xeric Sandhill Scrub also occur on the site.

The northern portion of the site has a mosaic of upland hardwood forest communities on slightly more dissected land above Upper Broad Creek. Dry-Mesic Oak–Hickory Forest, dominated by white oak (*Quercus alba*), is the most abundant. Water oak (*Quercus nigra*), other oaks, loblolly pine (*Pinus taeda*), and hickory (*Carya alba*) also occur in these forests. Lower portions of the upland mosaic are Mesic Mixed Hardwood Forests, with beech (*Fagus grandifolia*), white oak, and swamp chestnut oak (*Quercus michauxii*) making up the canopy. A few small areas are Dry Oak–Hickory Forest, with white oak co-dominating with southern red oak (*Quercus falcata*) and post oak (*Quercus stellata*). Along the small intermittent streams that drain through this area are Coastal Plain Small Stream Swamp forests dominated by swamp black gum (*Nyssa biflora*), sweetgum (*Liquidambar styraciflua*), and water oak. All of these forests are mature, with trees averaging over 12 inches in diameter. The occurrence of these communities is unusual this far east in the Coastal Plain.

The creek floodplains support communities that are influenced by the freshwater or oligohaline tidal waters from the Neuse River. Along the northern edge of the site, on Upper Broad Creek, is a Tidal Cypress–Gum Swamp. This community is dominated by swamp black gum with abundant bald-cypress (*Taxodium distichum*) and red maple (*Acer rubrum* var. *trilobum*). Wax myrtle (*Morella cerifera*) and switch cane (*Arundinaria tecta*) form a patchy shrub layer. This community has a diverse and well-developed herbaceous layer. Though there are numerous canopy gaps created by recent storms, the forest is otherwise mature.

Along tidal creeks and the Neuse River, Tidal Freshwater Marsh (Giant Cordgrass Subtype) and Estuarine Fringe Pine Forest (Loblolly Pine Subtype) natural communities occur. The dominance of giant cordgrass (*Spartina cynosuroides*) separates the Tidal Freshwater Marsh (Giant Cordgrass Subtype) from others occurring on this property. The Estuarine Fringe Pine Forest (Loblolly Pine Subtype) is present along Neuse River and Tidal Freshwater Marsh communities. This community is patchy but present along most the eastern edge of this property. Loblolly pine trees (*Pinus taeda*) are dominant in the canopy with an abundance of wax-myrtle (*Morella cerifera*) along with other pocosin species at less densities, such as titi (*Cyrilla racemiflora*) and shinning fetterbush (*Lyonia lucida*).

The head of a small tidal creek occurs on the game land at its southwest corner. It has a small area of Tidal Freshwater Marsh dominated by sawgrass (*Cladium jamaicense*). Also, of note here is a beaver pond created by damming the tidal creek within the marsh. This is the only example in the Natural Heritage Program database of a beaver pond in a tidal marsh.

BOUNDARY JUSTIFICATION: The Primary Area boundary is drawn to include the areas of

natural communities that are free of recent disturbance and the areas of Wet Pine Flatwoods and Pine/Scrub Oak Sandhill that retain some longleaf pine component and some wiregrass. These are the portions of these communities that can be expected to readily recover to natural condition with time and fire management. An area with intact ground cover but little longleaf pine component is designated as a Primary (restoration) area.

The Buffer Area includes more disturbed areas that will not recover to natural conditions without a much longer time or substantial restoration effort, but which provide additional habitat for many of the species characteristic of these communities. The Buffer Area also includes a band of about 100 feet wide where the Pond Pine Woodland community adjoins adjacent properties, to facilitate creation of fire breaks needed to burn this community.

MANAGEMENT AND USE: Neuse River Game Land is managed for wildlife conservation and public hunting.

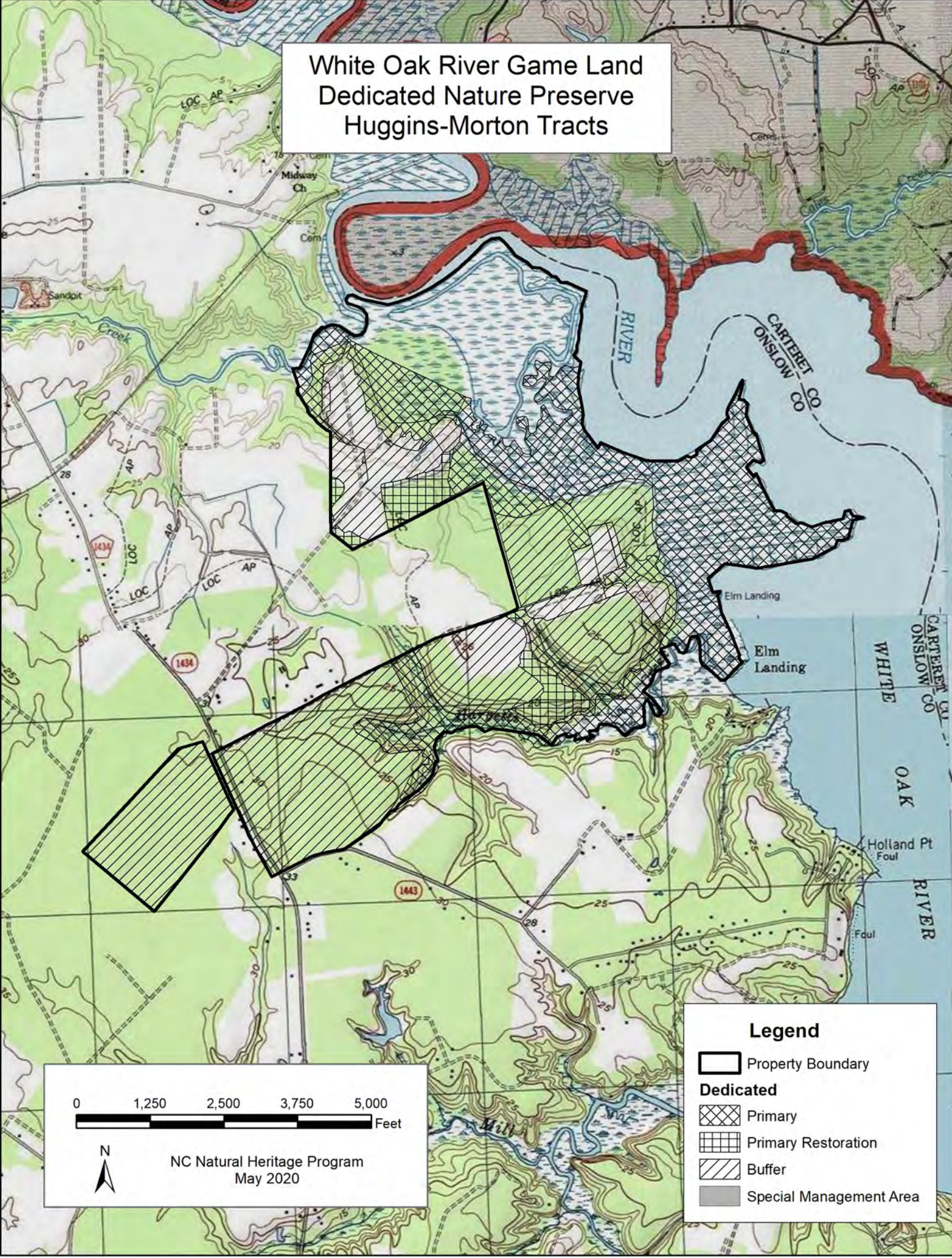
The most important management activity needed in the dedicated area is prescribed fire. The Wet Pine Flatwoods, Pine/Scrub Oak Sandhill, and Xeric Sandhill Scrub communities depend on frequent fire to retain their natural character and species composition. All have deteriorated to some degree because of past lack of fire. Within the Primary Areas, much of this damage is likely to be reversible with several fires. In areas with greatly reduced numbers of longleaf pine, planting of longleaf pine seedlings may be appropriate to speed recovery of natural canopy composition. Planting will also be important if the longleaf pine communities in the Buffer Areas are ever to be restored.

The Pond Pine Woodland communities also need fire. Appropriate intervals and fire intensities are not yet well known but initial experimental burning is encouraged. Though more subtle, some deterioration due to lack of fire is visible in these communities. For example, red maple is present in some portions of them.

The upland hardwood forests are not well known to depend on fire, but fire may be important for the long-term health of the oak communities. While fire does not appear to be urgent at present, allowing prescribed fires to spread into them under mild conditions may be beneficial.

The wetter communities along the tidal creeks do not have any known special management needs, and provide a good example of natural response to rising sea level. Rising sea level will gradually change these communities, with the Tidal Cypress–Gum Swamp eventually thinning and transitioning into Tidal Freshwater Marsh. The tidal areas should be monitored for invasion by common reed (*Phragmites australis*), which represents a threat to the development of native marsh communities.

White Oak River Game Land
Dedicated Nature Preserve
Huggins-Morton Tracts



Legend

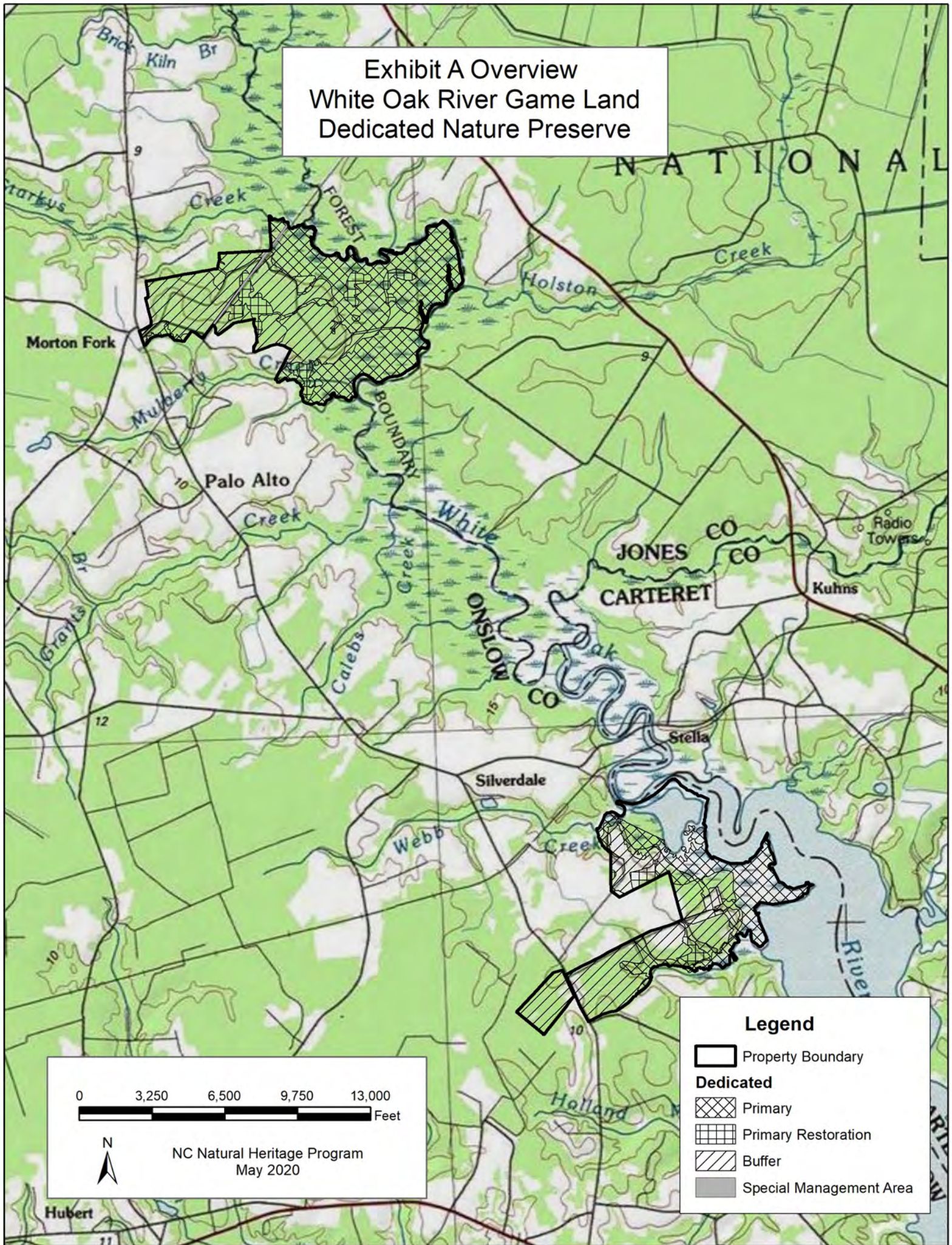
- Property Boundary
- Dedicated**
 - Primary
 - Primary Restoration
 - Buffer
 - Special Management Area

0 1,250 2,500 3,750 5,000 Feet






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NC Natural Heritage Program
May 2020

Exhibit A Overview
 White Oak River Game Land
 Dedicated Nature Preserve



Legend

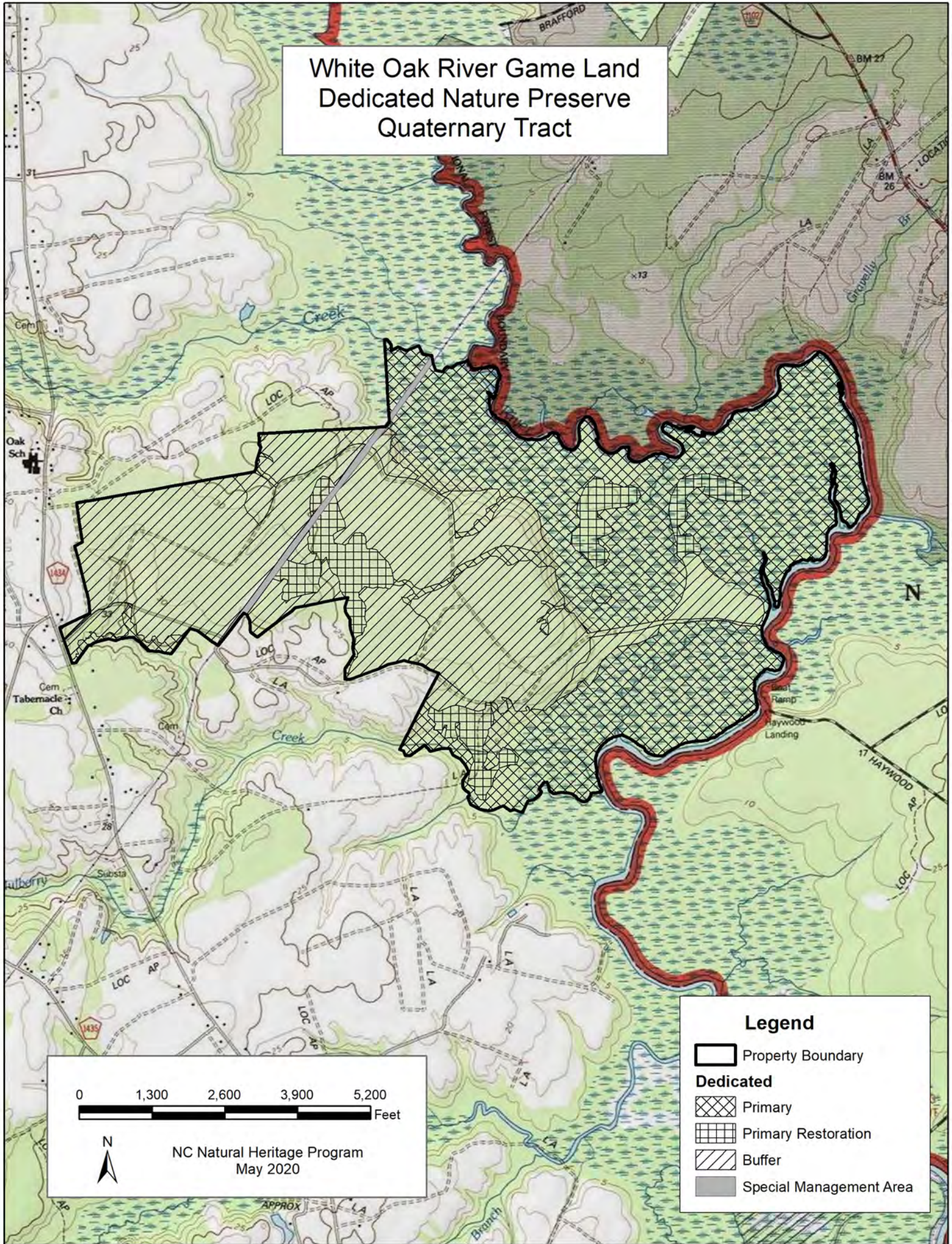
-  Property Boundary
- Dedicated**
-  Primary
-  Primary Restoration
-  Buffer
-  Special Management Area

0 3,250 6,500 9,750 13,000 Feet

N

NC Natural Heritage Program
 May 2020

White Oak River Game Land
Dedicated Nature Preserve
Quaternary Tract



Legend

- Property Boundary
- Dedicated**
 - Primary
 - Primary Restoration
 - Buffer
- Special Management Area

0 1,300 2,600 3,900 5,200 Feet

N

NC Natural Heritage Program
May 2020

(ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Mr. Gordon S. Myers, Executive Director
N.C. Wildlife Resources Commission
Mail Service Center 1701
Raleigh, North Carolina 27699-1701

Subject: Dedication of Portions of the **White Oak River Game Land**, Onslow County

Dear Secretary Hamilton and Mr. Myers:

Pursuant to Part 42 or Chapter 143B 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 **White Oak River Game Land** and consists of approximately 2,429 acres located in Onslow County, composed of:

- | | |
|--|--------------|
| 1. White Oak River Game Land Nature Preserve (Primary Areas) | 1,269* acres |
| 2. White Oak River Game Land Nature Preserve (Buffer Areas) | 1,160 acres |

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 **White Oak River Game Land Nature Preserve**.

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

*All acre figures are subject to change pending dedication inventory

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

1. **Definitions:** 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 143B-135.254.
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135.264, all State-owned lands lying within the above designated area(s) are hereby dedicated as a nature preserve to be known collectively as the **White Oak River 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 07 NCAC 13H.300 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 ___ acres, including a restoration area of ___ acres) and a Buffer Area (approximately ___ acres, including a special management area of 14 acres), as more particularly described in Exhibit A, attached thereto and by this reference made a part hereof. The Primary Area consists essentially of the portions in more natural condition and includes associated rare species populations, as well as riparian zones to maintain aquatic habitats associated with the White Oak River.

The Primary Area is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves all of the public purposes for a dedicated preserve as stated in G.S. 143B-135.252

The Buffer Area, which contributes to the management and protection of the Primary Area, consists of disturbed areas – including longleaf pine forest communities -- with lower potential for recovery, based on the condition of the canopy and herbaceous layer.

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 protect and preserve 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. Roads and Trails: Construction and maintenance of roads, trails, and other access structures within Primary and Buffer Areas of the preserve will be limited to the level necessary to appropriately manage the preserve. New roads shall not be constructed in the Primary Area. 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.

If an existing North Carolina Department of Transportation (“NCDOT”) road runs within or along a boundary of the Primary Area and NCDOT demonstrates a compelling need to do so, then subject to the written approval of both the Primary Custodian and the Natural Heritage Program, NCDOT may within the Primary Area use a strip of land up to fifty feet (50’) wide outside and adjacent to the road’s existing NCDOT right-of-way for the purpose of improving the NCDOT road. A strip of land approved under this provision shall not be longer than 1,000 feet long. The Primary Custodian and the Natural Heritage Program shall concur only if the proposed improvements and the associated activities will not cause significant impacts to rare species, small-patch natural communities, adjacent streams, or other Natural Heritage resource values. The existing NCDOT roads that run within or along a boundary of the Primary Area at the time of the issuance of this letter of allocation are as follows: S.R. 1434.

- E. Other Structures and Improvements: Structures or facilities shall not be erected within the preserve, except as may be consistent with the purposes of the preserve as stated in these Articles. Site selection shall be consistent with these Articles.
- F. 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.
- 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. Pollutants may not be added to surface or ground waters within the Preserve.
- H. Excavation: There will be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve. Exceptions for ecological restoration to more natural conditions, consistent with the Management Plan, may be made in consultation with the North Carolina Natural Heritage Program.
- I. Water Level Control: The purpose of water level control shall be to maintain the Preserve’s natural water regime. Water levels that have been altered by human activities 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. 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.

- J. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, hunting dogs as permitted in game lands, horses on trails designated for horseback riding, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be done according to an approved resource management plan.
- K. Wildfire Control: Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures, it may be allowed to burn with minimal control. If wildfire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wildfire 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.
- L. Disturbance of Natural Features: 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 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.

Specifically, a component of the management plan, the longleaf pine restoration plan, will address restoration of areas (identified as Primary (Restoration) Areas in Exhibit A map) which have retained the herbaceous component of longleaf pine communities, but has little longleaf in the canopy. Longleaf restoration will focus on restoring the structure and composition of natural longleaf pine communities. The longleaf restoration plan will be submitted to the Natural Heritage Program for review and approval. Subsequent modification of the longleaf restoration plan may occur through mutual consent of Wildlife Resources Commission and Natural Heritage Program staff, as additional areas in need of restoration or new methods of restoration are determined. 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.

- M. Control of Populations (natural and exotic): 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.
- N. 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 wildfire historically suppressed woody vegetation and promoted herbaceous diversity.

Additionally, a transmission line right-of-way containing the same or similar special elements of natural diversity representative of the preserve generally is designated as a Special Management Area (See Exhibit A map). The Department of Natural and Cultural Resources, by and through the Natural Heritage Program, and the Wildlife Resources Commission may enter into agreement(s) with the party or parties responsible for managing the right-of-way in order to ensure that the management practices of such party or parties are consistent with the conservation values associated with the Special Management Area.

- O. 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 Natural and Cultural Resources a management plan for the preserve. The management plan will be part of the larger management plan developed for the Game Lands. 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 07 NCAC 13H.0300 and .0400. 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. 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 enhancement 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. (Naturally vegetated riparian zones will be retained along streams, and watersheds of Primary Areas will be protected from hydrologic alteration.)
8. **Amendment, Modification, and Termination:** Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands hereinabove described as the **White Oak River Game Land 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 (City Name), North Carolina, on the _____ of _____, (YEAR). (TYPE IN DATE AFTER COUNCIL OF STATE APPROVAL)

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources

Gordon S. Myers, Executive Director
Wildlife Resources Commission

EXHIBIT A

WHITE OAK RIVER GAME LAND DEDICATED NATURE PRESERVE

COUNTY: Onslow

PHYSIOGRAPHIC PROVINCE: Coastal Plain

TOPO QUAD: Stella, Hubert

SIZE OF AREA: ca. 2,429 acres (primary area 1,269* acres, including a restoration area of 152 acres; buffer area 1,160 acres, including special management area of 14 acres)

OWNER/ADMINISTRATOR: North Carolina Wildlife Resources Commission

DESCRIPTION: The dedicated nature preserve consists of two areas located some 4 miles apart along the west side of the White Oak River. The upstream Quaternary tract lies along a portion of the river that rises and falls regularly with the tides but has fresh or minimally salty water. The river floodplain supports good examples of freshwater tidal wetland. Tidal Swamp (Cypress—Gum Subtype), dominated by swamp black gum (*Nyssa biflora*) and bald cypress (*Taxodium distichum*) occupies much of the area. Much of this swamp, particularly in the downstream portion, shows the stress caused by rising sea level and by recent hurricanes, and is developed into Tidal Freshwater Marsh community. Portions of the downstream end have been well-developed Tidal Freshwater Marsh of several subtypes for at least several years. Small areas of relict Blackwater Bottomland Hardwoods have also been found on higher ridges in the inland parts of the floodplain.

The low upland terraces of the Quaternary tract have largely been converted to pine plantation. These areas are included in the buffer part of the dedication. The Primary (Restoration) Area consists of a broad natural basin or drainage on the upland, in which hardwoods dominate, as well as ridges that supported Blackwater Bottomland Hardwoods but which are altered by recent logging.

The downstream portion, consisting of the Morton and Huggins tracts, lies along the portion of the White Oak River that is a broad estuary, with brackish to salty tidal water. Most of the area along the river here is Brackish Marsh. The marsh was cut with a series of parallel ditches in the past, which have caused some alteration, but it retains substantial ecological significance. Tidal Freshwater Marsh communities occur upstream along Webbs Creek and Hargett Creek. These areas have remnant cypress trees standing in the marsh, suggesting they developed from Tidal Swamp relatively recently.

The low upland terraces on these tracts include recently cultivated fields and successional pine

stands which are treated as Buffer. The Restoration Area is a sandy area that contains remnants of the native wiregrass (*Aristida stricta*)-dominated ground cover characteristic of longleaf pine (*Pinus palustris*) communities.

BOUNDARY JUSTIFICATION: The Primary Area boundary is drawn to include the areas of natural communities that are free of recent disturbance or alteration, along with areas that retain some longleaf pine and some wiregrass. These are the portions of these communities that can be expected to readily recover to natural condition with time and fire management. Riparian zones of 100 feet are included as Primary Area, consistent with the Clean Water Management Trust Fund standards for dedication. Some areas with appropriate soil types and intact ground cover but little longleaf pine component are designated as a Primary (restoration) area. Also designated as Primary (restoration) are recently cleared areas of bottomland hardwoods within the White Oak River floodplain.

The Buffer Area includes more altered areas, primarily pine plantations and successional pine stands, that will not recover to natural conditions without a much longer time or substantial restoration effort, but which provide additional habitat for many of the species characteristic of these communities. Some fields that are presently open are included in the Buffer Area; they may be maintained as wildlife openings. A transmission line right-of-way is designated as a special management area.

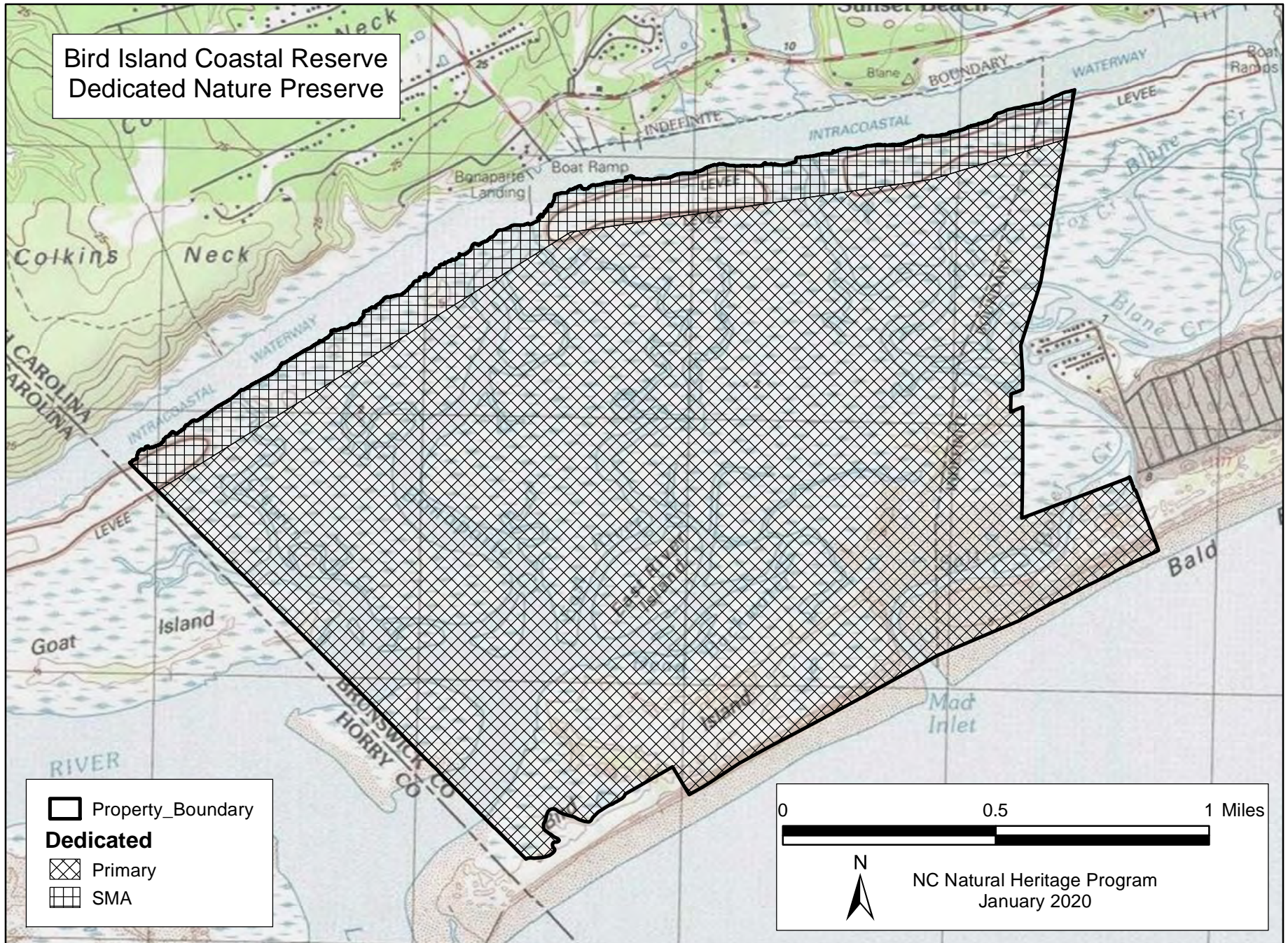
MANAGEMENT AND USE: White Oak River Game Land is managed for wildlife conservation and public hunting.

The wetter communities along the White Oak River and tidal creeks need little management. These areas provide a good example of natural response to rising sea level. Rising sea level will gradually change these communities, with the Tidal Swamp eventually thinning and transitioning into Tidal Freshwater Marsh. The tidal areas should be monitored for invasion by common reed (*Phragmites australis*), which represents a threat to the development of native marsh communities.

Longleaf pine communities depend on frequent fire to retain their natural character and species composition. Within the Primary (restoration) Areas with remnant longleaf pine vegetation, the most important management activity needed in the dedicated area is prescribed fire. In areas with greatly reduced numbers of longleaf pine, planting of longleaf pine seedlings may be appropriate to speed recovery of natural canopy composition. Planting will also be important if the longleaf pine communities in the Buffer Areas are to be restored. It may also be needed in some of the bottomland hardwood natural communities.

*Acre figures subject to change upon completion of dedication inventory

Bird Island Coastal Reserve
Dedicated Nature Preserve



Property_Boundary

Dedicated

Primary

SMA

0 0.5 1 Miles

N

NC Natural Heritage Program
January 2020

(ON DEPARTMENT OF ADMINISTRATION STATIONERY)

(DATE) (LINE 6) (NOT IN BOLD)

Secretary Susi H. Hamilton
Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Secretary Michael S. Regan
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

Re: Allocation of Property to the Department of Environmental Quality: Dedication of Areas within the **Bird Island Coastal Reserve, Brunswick County**

Dear Secretary Hamilton and Secretary Regan:

Pursuant to Part 42 of Articles 2 of Chapter 143B 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. These articles of dedication replace the articles of dedication dated October 4, 2002. The articles were amended to reflect additions of property to the preserve, and to improve boundary accuracy.

Those real properties are allocated to the Department of Environmental Quality and currently managed by the Division of Coastal Management, briefly described below and more specifically described in Exhibit A, attached hereto and by reference made a part hereof. The dedicated lands shall be known collectively as the **Bird Island Coastal Reserve Dedicated Nature Preserve**.

Site Name

Approximate Acreage

Bird Island Coastal Reserve

1,523 acres

THIS ALLOCATION IS MADE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

1. **Definitions:** As used in the Letter of Allocation, the terms “natural area,” and “nature preserve” have the same meaning as contained in the North Carolina General Statutes 143B-135.254
2. **Dedication:** Pursuant to North Carolina General Statutes 143B-135.264, all state owned lands lying within the above-designated areas as described in this Allocation are hereby dedicated as a nature preserve to be known as the Bird Island Coastal Reserve (herein after the "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 Department of Environmental Quality, Division of Coastal Management, Coastal Reserve Program which will be responsible for managing the preserve in accordance with the regulations set forth in 07 NCAC 13H .0300 and .0400 and 07 NCAC 7O .0100 and .0200.
4. **Primary Classification:** The primary classification and purpose of the preserve shall be protection of coastal and estuarine ecosystems for research, education and such compatible traditional uses as are allowed by law and authorized by the Custodian and the terms of this allocation.
5. **Management Areas:** For the purposes of management, the preserve shall be considered to consist of a Primary Area of 1,523 acres, including a 143-acre special management area, as more particularly described in Exhibit A, attached hereto and by this reference made a part hereof. The Primary Area consists essentially of the natural area encompassing natural communities and the rare plant and animal populations.

The Primary and Special Management Areas--composed of the natural area as described above and in Exhibit A--is deemed by the Secretary of the North Carolina Department of Natural and Cultural Resources to qualify as an outstanding natural area under statutory criteria for nature preserve dedication (G.S. 143B-135.260) and further serves all of the public purposes for a dedicated preserve as stated in G.S. 143B-135.252.

6. **Rules for Management:**
 - A. **Character of Visitor Activity:** The principal visitor activities in the preserve shall be research, educational programs, hunting and fishing, walking, canoeing/kayaking, observation, and other low impact nature-based recreation activities. These activities shall be regulated to protect and conserve the natural features of the preserve.

Activities and uses unrelated to those listed above are prohibited except as provided in this Dedication or unless necessary to carry out the purposes of the preserve. Prohibited activities include, but are not limited to, construction not compatible with the preserve, development, commercial silviculture, agriculture and grazing of domestic animals, gathering of plants or plant products for purposes other than approved research or restoration, the removal, disturbance, molestation, or defacement of minerals, archaeological and natural resources or natural features, or changes in topography except by existing easements or for restoration purposes, and those activities specifically restricted in this dedication. Commercial activities other than those in support of visitor activities listed above are prohibited.

There will be no fires, except as specifically permitted by the Custodian for approved fire management activities or as described in the site management plan. There shall be no littering. Camping shall be allowed only as permitted for research purposes by the site management plan and in relevant 15A NCAC sections.

- B. Visitors and Visitor Facilities: The Custodian reserves the right to orient and guide visitors for educational programs, scientific research, and preserve management. The Custodian may maintain existing primitive boating access areas to allow for safe, permitted use of the preserve. The Custodian may create and maintain nature trails, signage or kiosks, overlooks, fences, guardrails, steps and boardwalks adequate to promote the safe, permitted use of the preserve while protecting the preserve from unwanted or excessive visitor traffic and restricting visitor access to protect sensitive environmental resources.
- C. Roads, Structures and other Construction: New roads shall not be constructed in the preserve. When necessary, the Custodian may construct and maintain access limited to staff use for management purposes, such as service paths for patrol, fire control, right-of-way maintenance, and other management activities. The Custodian may maintain existing roads by grading of the roadbed, replacing culverts, or adding stone, as needed to maintain the integrity of the road for vehicular use and maintaining associated ditched areas using the most compatible methods available. Fences, barriers and other structures consistent with the purposes of the preserve as stated in this dedication may be installed. The Custodian shall locate, build and maintain trails and visitor control structures in a manner consistent with this dedication and in consultation with the North Carolina Natural Heritage Program.
- D. Vehicles: Motorized vehicles will be allowed as necessary for law enforcement and emergency, for research by permit only and to provide for the management of the preserve as consistent with this dedication.
- E. Disturbance of Natural Features: The cutting or removal of trees, dead or alive, or the disturbance of other natural features is prohibited except that which is consistent with this dedication or as required under the terms of certain existing right-of-way easements/permits between the State and public utility companies and other government agencies, restoration of natural conditions or is necessary for public safety. There is an existing easement between the State of North Carolina and the Army Corps of Engineers providing for disposal of dredge spoil materials in select areas, or disposal cells, along the western boundary of the Reserve, recorded 16 June 1931 in Brunswick County Deed Book 54, page 225. There will otherwise be no mining, drilling, removal of topsoil, sand, gravel, rock, minerals, or other material, nor any change in topography or surface hydrology of the preserve other than for purposes of approved restoration.
- F. Hydrologic Alteration: The purpose of water level control shall be to maintain natural water regimes. Water levels that have been altered by human activities may be changed by the Custodian to restore the preserve to its natural condition. Removal of groundwater is allowable only as described through existing easements. Hydrologic alteration may temporarily occur to assist in road maintenance or as needed to perform fire or restoration activities. Hydrologic restoration activities should accommodate drainage easements where they exist. The specific conditions and limitations of existing easements shall be considered part of this dedication agreement.

- 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 materials 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. Dredge material deposits sometimes support rare species, and in such situations there may be ecological benefit in periodic new deposition. Such activity is permissible if the Primary Custodian and North Carolina Natural Heritage Program deem it to be beneficial.

Additionally, a dredge material easement containing the same or similar special elements of natural diversity representative of the preserve generally is designated as a Special Management Area (See Exhibit map). The Department of Natural and Cultural Resources and the Department of Environmental Quality, by and through the Natural Heritage Program and Division of Coastal Management, respectively, may enter into agreement(s) with the party or parties responsible for managing the easement area in order to ensure that the management practices of such party or parties are consistent with the conservation values associated with the Special Management Area.

- H. Control of Natural Processes: Natural processes will generally be managed by allowing natural environments to evolve through natural processes with minimal influence from human activities. Control of natural processes may be undertaken if necessary to maintain or restore an ecosystem for the preservation of threatened, rare, endangered or unusual species and habitats. 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 essential to some ecosystems and may be used where natural wildfire historically kept understories open and promoted herbaceous diversity.
- I. Control of Populations (natural and exotic): Any control of animal or plant populations, other than permitted hunting and fishing activities, shall be only to correct situations where populations have been significantly altered from natural conditions. The Custodian may, using scientifically sound natural resource management practices implemented by appropriately trained staff, 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.
- J. Hunting and Fishing: Hunting and fishing shall be permitted subject to regulation and management by the Wildlife Resources Commission or Division of Marine Fisheries and applicable local, county and township ordinances. Regulation and management of hunting shall be consistent with protection of the natural diversity and primitive character of the preserve. The Custodian reserves the right to change hunting policy in the future should it be deemed necessary to ensure long-term protection of wildlife and habitats.
- K. Bringing in Flora and Fauna: No exotic flora and no animals except leashed dogs and cats, or animals being reintroduced shall be brought into the preserve. Any reintroduction will be of species native to the natural community and shall be conducted by the Custodian or its agents according to an approved resource management plan.
- L. Fire: Wildfire management will ensure maintenance and protection of natural resources. Wildfires may mimic natural processes historically occurring in an ecosystem on a landscape level. When the extent of a wildfire does not threaten human life or structures,

it may be allowed to burn with no direct suppression. If wildfire control is necessary, firebreaks may need to be established. When possible, existing roads and firebreaks will be utilized for wildfire control. When new firebreaks need to be established, environmentally sensitive areas will be avoided whenever possible. Any prescribed burning will be conducted in accordance with an approved fire management plan and in consultation with the North Carolina Natural Heritage Program.

M. Research and Collecting Permits: Any person wishing to engage in scientific research or collecting shall first secure written permission from the Custodian.

N. Management Plan: The Department of Environmental Quality, Division of Coastal Management, as Primary Custodian of the preserve, shall develop a management plan for the preserve as prescribed in NCAC 7O.0201. This management plan should be subject to all the provisions of this dedication and with the management principles set forth in the North Carolina Administrative Code 07 NCAC 13H.0300 and .0400. 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. Amendment, Modification, and Termination: Any changes to this Dedication must be made in accordance with the provisions of North Carolina General Statutes 143B-135.264, which require the approval of the Governor and the Council of State. The lands dedicated to the preserve pursuant to this instrument may be removed from dedication upon approval of the Governor and the Council of State.

The Governor and Council of State have approved the dedication of the State-owned lands described by this document as the **Bird Island Coastal Reserve Nature Preserve** to be held in trust by the Custodian for the uses and purposes expressed in the Nature Preserves Act at a meeting in Raleigh, North Carolina on _____, 20_____.

Sincerely,

Machelle Sanders

MS

CONSENTED AND AGREED TO:

Susi H. Hamilton, Secretary
Department of Natural and Cultural Resources

Michael S. Regan, Secretary

Department of Environmental Quality

EXHIBIT A
THE BIRD ISLAND COASTAL RESERVE
DEDICATED NATURE PRESERVE

COUNTY: Brunswick County TOPOGRAPHIC QUADS: Little River and Calabash

SIZE OF AREA ca. 1,523 acres total (all primary area, including a 143-acre special management area)

OWNER/ADMINISTRATOR: State of North Carolina, Division of Coastal Management, Coastal Reserve Program

LOCATION: The preserve is located on the west end of Sunset Beach, NC along the Atlantic Ocean. It is bounded to the north by the Atlantic Intracoastal Waterway, to the south by the Atlantic Ocean, to the east by the Town of Sunset Beach and to the west by the South Carolina State Line. Primary access from Sunset Beach is via the ocean beach. The preserve may also be accessed on the sound side from the waterway. A site map (Figure 1) is attached.

DESCRIPTION: Bird Island is a narrow barrier island that represents a complete transect from the ocean to the sound in largely unaltered natural condition. The once separate island has been joined to Sunset Beach by closure of the separating inlet. The site contains a characteristic suite of coastal natural communities. In the dynamic barrier island environment, dunes may erode or grow, overwash may carry sand across the island to create slightly higher patches on the back side, and tidal channels may change course. The patterns and locations of natural communities may change in response to changes in the landscape but represent the result of natural processes.

On the seaward side of the island, a narrow band of sparsely vegetated Upper Beach receives the greatest intensity of wave action. Behind it, foredunes form a fairly continuous line, supporting an extensive Dune Grass (Southern Subtype) community, with sparse to moderately dense vegetation dominated by sea oats (*Uniola paniculata*). Dune Grass patches also occur on lower, irregular dunes in the island interior. Lower sandy areas created by overwash support scattered patches of Maritime Dry Grassland (Typic Subtype), dominated by saltmeadow cordgrass (*Sporobolus pumilus*) in sparse to moderately dense stands. Patches of Maritime Wet Grassland are also present in dune swales of the interior and sometimes on the lower back side of the island. They too are dominated by saltmeadow cordgrass but the saturated soils contain a more diverse mixture of plants. Species such as marsh fimbry (*Fimbristylis castanea*) and bushy broomsedge (*Andropogon glomeratus*) are usually present.

Interspersed in the interior and back of the island are Maritime Shrub patches, ranging from small to extensive. They are generally dominated by wax-myrtle (*Morella cerifera*) and yaupon (*Ilex vomitoria*). A few coastal red cedar (*Juniperus silicola*) and very stunted loblolly pine (*Pinus taeda*) are present, but the community appears to consist largely of the Shrub Subtype rather than the Stunted

Tree Subtype. A small area of Maritime Evergreen Forest may be present on a ridge farther from the beach. Its tree canopy is broken and it is not entirely clear if it will recover as a forest or develop into Maritime Shrub.

Most of the acreage of the preserve, a band about 1 mile wide behind the island, is Salt Marsh (Carolinian Subtype), dominated by saltmarsh cordgrass (*Sporobolus alterniflorus*). A complex mosaic of communities is present between the uplands of the island and the Salt Marsh. Salt Shrub (Low Subtype) is unusually extensive, occurring in narrow bands along the edges of higher areas but also in some larger patches. Sea oxeye (*Borrchia frutescens*) dominates these patches, often mixed with substantial saltmeadow cordgrass. Brackish Marsh (Saltmeadow Cordgrass Subtype), dominated by dense stands of saltmeadow cordgrass, forms part of the mosaic in places. Sizeable patches of Salt Flat community occur in salt pannes, where salt water enters at high tide but is trapped to evaporate instead of draining off when the tide falls. These areas of concentrated salt are dominated by salt grass (*Distichlis spicata*). Glassworts (*Salicornia* spp.), often dominant in Salt Flats, are a minority component here.

The preserve provides habitat for several rare animals and plants. The federally listed loggerhead sea turtle (*Caretta caretta*) nests on the beaches, while the marshes contain diamondback terrapins (*Malaclemys terrapin*). Wilson's plover (*Charadrius wilsonia*) and least tern (*Sternula antillarum*) may nest on sand flats within the preserve. Painted buntings (*Passerina ciris*) nest in the shrub thickets, and the giant swallowtail butterfly (*Papilio cresphontes*) has also been found there. American oystercatcher (*Haematopus palliatus*) use the marsh area along the north side. Common ground dove (*Columbina passerine*) and black skimmer (*Rhynchops niger*) have been found here in the recent past and may return. The federally listed seabeach amaranth (*Amaranthus pumilus*) has occurred on the island. Its population was augmented by planting additional plants in 2003. It was scarce or absent at the time of the dedication but appropriate habitat remains. Three additional rare plants are also known here: Moundlily yucca (*Yucca gloriosa*) and beach morning-glory (*Ipomoea imperati*) on the dunes and slender sea-purslane (*Sesuvium maritimum*) in a wet grassland area.

In addition, the preserve provides seasonal feeding and resting habitat for numerous birds, including two listed species -- piping plovers and wood storks -- although no nesting has been documented. The estuarine waters off Bird Island (except for Blane Creek on the east side) have been designated as primary nursery area by the N.C. Division of Marine Fisheries.

On the landward (north) side of the preserve, adjacent to the Intracoastal Waterway, are several dredge spoil deposit cells. These areas are heavily altered but potentially provide habitat for some species, including some of the rare species.

BOUNDARY JUSTIFICATION: The Primary Area includes almost the entire state-owned portion of the island and adjacent salt marshes. The Special Management Area is delineated based on the extent of the 143 acres encumbered by the dredge material easement.

MANAGEMENT AND USE: The dedicated nature preserve is owned by the State. The site will be used for research, education and compatible recreational uses according to State Statutes (G.S. 113A-

129.1-.3 et seq.) and departmental regulations (15 NCAC 70.0100-.0202) for the Coastal Reserve Program within the Division of Coastal Management.

No special management needs are identified beyond avoiding human disturbance and allowing natural forces to operate. The environment is dynamic, and both natural community patterns and species populations may shift or change over time without detracting from the ecological significance of the site. As noted, some elements of biodiversity may be sensitive, and monitoring would be recommended.

The north side of the preserve is subject to an easement allowing deposition of dredge spoil. Where spoil has not been deposited, the marshes should be left in natural condition. It may be appropriate to seek deposition on existing islands or to manage the vegetation to improve habitat for rare species.

NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, lands bordering the natural area known as the Neuse River Basin Crabtree Creek Aquatic Habitat, contributing to its protection, and containing other natural heritage resources, consisting of 10 acres owned by City of Oaks Foundation. [Exhibit A]

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The Neuse River Basin Crabtree Creek Aquatic Habitat supports several rare aquatic species, including the freshwater mussels Atlantic Pigtoe (*Fusconaia masoni*), Triangle Floater (*Alasmidonta undulata*), Creeper (*Strophitis undulatus*), and Notched Rainbow (*Villosa constricta*). Crabtree Creek also provides habitat for North Carolina Spiny Crayfish (*Orconectes carolinensis*). Historically, other rare aquatic species were known from Crabtree Creek, including Neuse River Waterdog (*Necturus lewisi*), an aquatic salamander endemic to the Neuse and Tar River basins in North Carolina, and Mimic Shiner (*Notropis volucellus*).

The registered area consists of land in the floodplain and 300-foot riparian zone of Crabtree Creek, as well as 200-foot riparian zone buffers on a tributary to Crabtree Creek. The existing natural character of the registered area provides protection for the aquatic habitat by having stable forested soil which limits erosion, filtering water that flows through, and providing shade and organic material input to the stream. Additionally, the registered area contains high-quality, but not extensive, examples of Mesic Mixed Hardwood Forest and Piedmont/Coastal Plain Heath Bluff natural communities.

AGREEMENT

The Registry Agreement is a mutual understanding between City of Oaks Foundation and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The registered area should be managed for the protection of the aquatic habitat and its riparian zone, and for the protection of intact natural communities, rare species, wildlife, and natural conditions. Intact forest communities should generally be allowed to mature and eventually to remain as old-growth with uneven-aged structure.

Control of non-native invasive plants is encouraged, including the English Ivy (*Hedera helix*) along the access point. Control measures should include only those that will not harm water quality or associated native plants. The existing gas line that runs along a portion of the property parallel to Crabtree Creek is a potential vector for invasive species.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Neuse River Basin Crabtree Creek Aquatic Habitat Natural Area owned by City of Oaks Foundation be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor City of Oaks Foundation offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

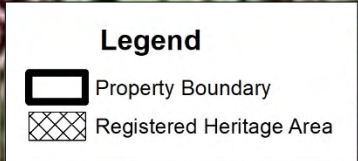
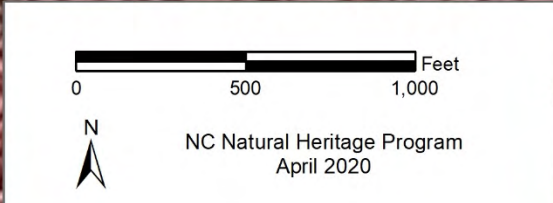
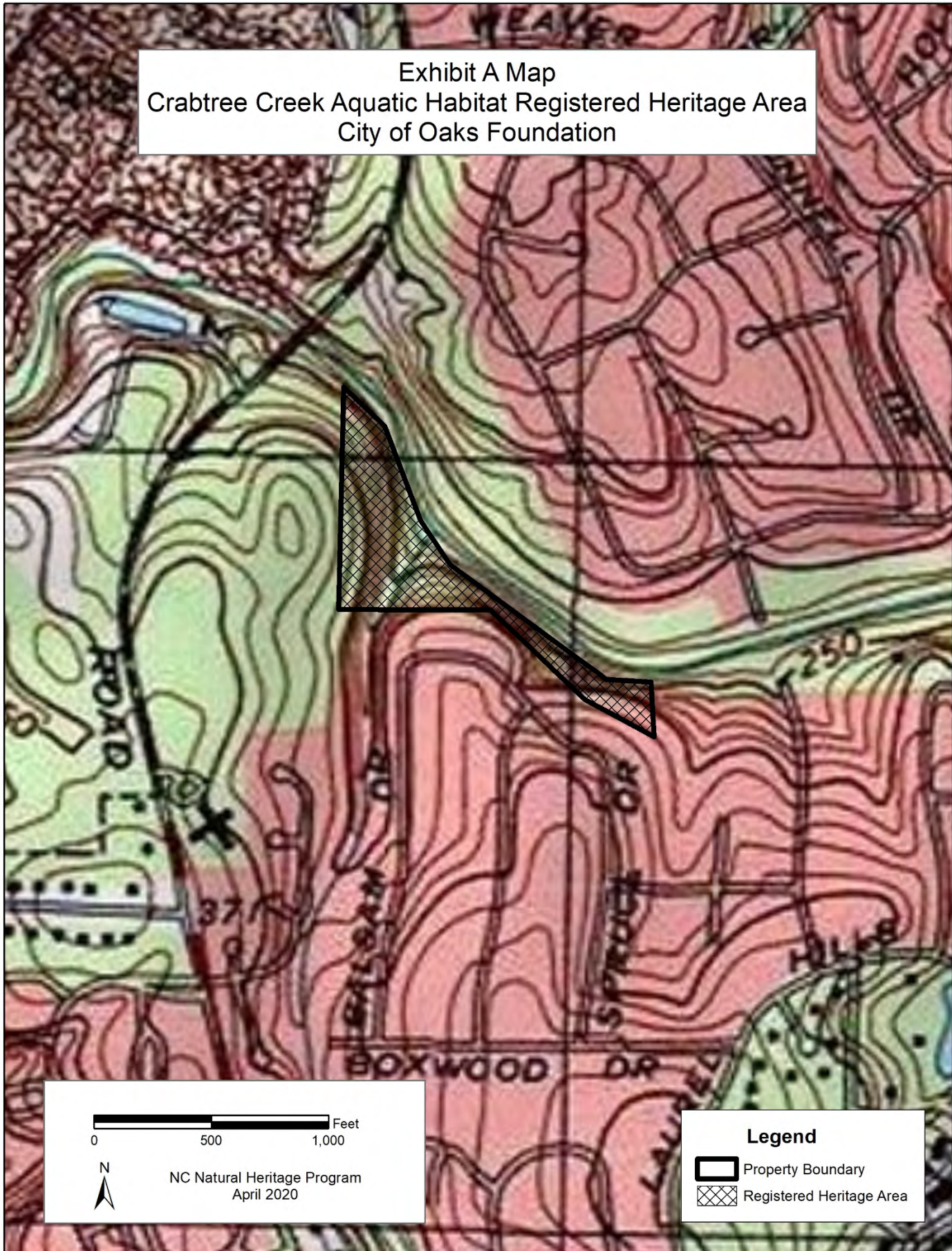
By _____
Chris Heagarty, Director
City of Oaks Foundation
222 W. Hargett Street, Suite 608
Raleigh, NC 27601

By _____
Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Date: _____

Date: _____

Exhibit A Map
Crabtree Creek Aquatic Habitat Registered Heritage Area
City of Oaks Foundation



NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural area known as Bennett Hardpan and Bennett longleaf pine restoration area, consisting of approximately 4133 acres (10 acres primary and 4123 acres restoration area), is owned by 130 of Chatham, LLC. [Exhibit A]

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The Bennett Hardpan natural area is a small, gently sloping area along a headwater creek. Unusual clay-rich acidic soils in the area support rare natural communities. Most of the natural area supports a Xeric Hardpan Forest (Acidic Subtype). This community has the characteristic canopy dominated by post oak (*Quercus stellata*). Small areas of Mixed Moisture Hardpan Forest and Piedmont Headwater Stream Forest (Hardpan Subtype), both rare communities, make up the rest of the Primary Area.

The Bennett Longleaf Pine Restoration Area, making up most of the Registered Area, was converted to loblolly pine plantation prior to 130 of Chatham's ownership. Though evidence is somewhat uncertain, the flora and unusual soils in this area suggest the rare Dry Piedmont Longleaf Pine Forest was the predominant natural community here. A few remnant longleaf pine (*Pinus palustris*) individuals have been found. Since acquisition, 130 of Chatham has been managing the land to restore more natural conditions, removing the planted loblolly pines, planting longleaf pine, and conducting prescribed burning. The boundary of the Dry Piedmont Longleaf Pine Forest and its transition to other natural communities is uncertain. Some areas of loblolly pine and of young hardwood forest remain around the periphery of the tract.

In addition to rare natural communities, the several streams present in the Registered Area are tributaries of Brush Creek and the Deep River to the west and south. The Deep River Above High Falls Aquatic Habitat, encompassing much of Brush Creek as well as the river, supports a diverse collection of mussels and fishes with at least eight rare species; it has been recognized as an aquatic site of exceptional significance. Naturally forested riparian zones along creeks in the Registered Area contribute to protection of its water quality.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to

maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Area of the Registered Area, which is comprised of the natural area identified as Bennett Hardpan described above and shown in the map below, should be managed for protection of intact natural communities and natural conditions, as well as for protection of the riparian corridor and of water quality in the stream. The intact forest communities should generally be allowed to mature and to remain as old-growth with uneven-aged structure. Prescribed burning would be particularly beneficial for the Xeric Hardpan Forest and is encouraged. Though not known to be as crucial, fire is unlikely to be harmful in the moister forest and riparian areas that make up the rest of the Primary Area.

The Restoration Area should be managed to encourage a return to more natural vegetation. Over most of the tract, this is believed to be longleaf pine forest. Prescribed burning at least every few years is crucial for this restoration. Additional treatments may possibly be needed in the future, including removal of undesired plants or plantings of native species which have not returned.

In peripheral portions of the site, restoration targets may be Xeric Hardpan Forest, Dry Oak—Hickory Forest, or other communities. Removal of loblolly pine may be appropriate but should be done in ways that encourage regeneration of appropriate hardwoods rather than a new stand of loblolly pine. Prescribed burning will generally be beneficial.

Given the significance of nearby aquatic areas, particular care should be given to riparian zones, and allowing the forests to mature to natural composition and structure. In general, areas within 200 feet of streams are recommended for no disturbance other than prescribed fire.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Bennett Hardpan and Bennett longleaf pine restoration area owned by 130 of Chatham, LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 of Chatham, LCC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

By _____

Tim Sweeney
Managing Member
130 of Chatham, LLC
3409 Birk Bluff Ct.
Cary, NC 27518

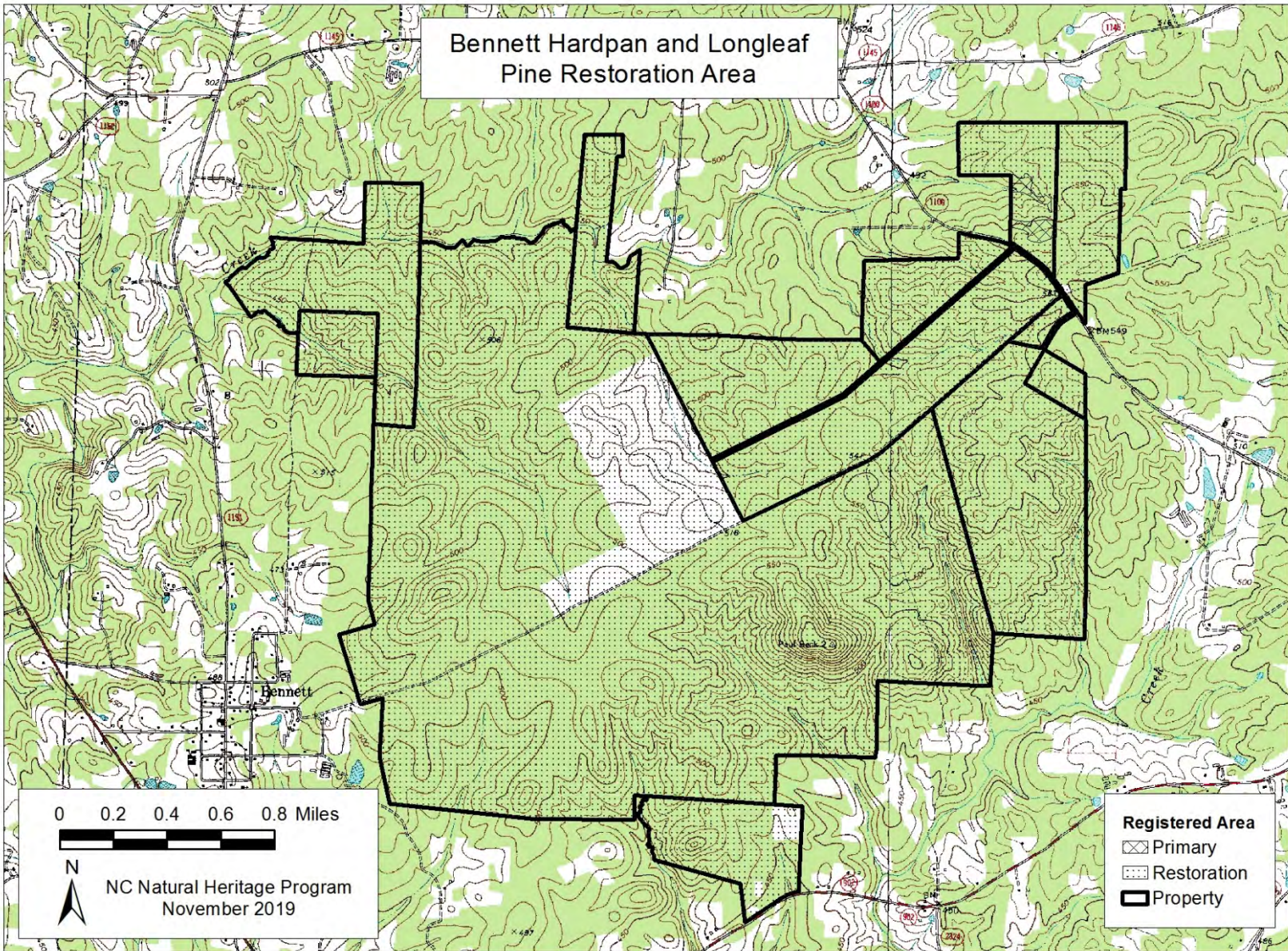
By _____

Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-1601

Date: _____

Date: _____

Bennett Hardpan and Longleaf Pine Restoration Area



NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Amendment Four to Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, portions of the natural areas known as Box Creek Wilderness, Camel Knob, Lone Mountain, Bob's Creek Pocket Wilderness, and Rockhouse Creek Forests, consisting of 11,207 acres (4848 acres primary and 6359 acres buffer) in McDowell and Rutherford Counties, are owned by 130 of Chatham, LLC. [Exhibit A];

WHEREAS, 130 of Chatham, LLC registered the 13,706 acre Box Creek Wilderness Area on March 24, 2016 (by amendment to the previous registry agreements of January 10, 2013, June 7, 2012, and March 25, 2014);

WHEREAS, 130 of Chatham, LLC transferred ownership of a portion of this previously registered area to the State of North Carolina, requiring its removal from the registry agreement;

WHEREAS, 130 of Chatham, LLC has subsequently acquired properties adjacent to the existing registered heritage area, forming an addition to the Rockhouse Creek Forests natural area;

WHEREAS new and ongoing biological inventory has identified additional areas of ecological significance;

WHEREAS it is the intent to include these habitats in one Registry Agreement, so that this registry agreement will supersede the March 24, 2016 Registry Agreement;

WHEREAS, this area contains outstanding natural and scientific values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina, as follows:

The complex of **Box Creek Wilderness, Camel Knob, Bob's Creek Pocket Wilderness, Lone Mountain and Rockhouse Creek Forests** natural areas contains a remarkable diversity of natural communities and rare species. An extensive collection of Low Elevation Basic Glade communities, of unusual character that may represent an undefined variant or subtype, occurs on several of the peaks. Other rock outcrop communities include Low Elevation Rocky Summit (Basic Subtype), Montane Cliff (Basic Subtype), and Montane Cliff (Acidic Subtype). The diverse collection of forest communities includes the rare Montane Oak--Hickory Forest (Low Dry Subtype), Montane Oak--Hickory Forest (Basic Subtype), Southern Mountain Pine--Oak Forest, and Montane Alluvial Forest (Small River Subtype), Montane Alluvial Forest (Large River Subtype), as well as more typical communities of the Blue Ridge and of the South Mountains, such as Montane Oak--Hickory Forest (Acidic Subtype), Chestnut Oak Forest, Pine-Oak/Heath, Rich Cove Forest, and Canada Hemlock Forest. Much of the forest is mature, and a small portion has old-growth character. Several notable waterfalls are present. The Buffer Areas contain recently logged areas that are either naturally

regenerating or are planted in pines, and which contribute to the ecological function of the primary area by protecting it from edge effects and by providing connections to other primary areas.

The site supports a large collection of rare plant and animal species. Some of the rare plants include: lobed spleenwort (*Asplenium pinnatifidum*), divided-leaf ragwort (*Packera millefolium*), Sullivant's maned-moss (*Macrocoma sullivantii*), Alabama grape-fern (*Sceptridium jenmanii*), lance-leaf moonwort (*Botrychium lanceolatum*), American barberry (*Berberis canadensis*), Appalachian golden-banner (*Thermopsis mollis*), Piedmont indigo-bush (*Amorpha schwerinii*), and a number of mosses and liverworts. Globally rare bryophytes include *Frullania appalachiana*, *Campylopus oerstedianus*, *Oxyrrhynchrium pringlei*, and *Annia californica*. While the rock outcrop communities support the largest number of rare species, the diversity of habitat affinities among the rare plants is remarkable. Rare plants include species of acidic as well as basic soils, of rock outcrops, of the lower Piedmont (such as smooth sunflower -- *Helianthus laevigatus*), and some species normally of higher elevations in the Blue Ridge. Also of note here is hill cane (*Arundinaria appalachiana*), a newly described species that is unusually abundant here, and a number of watch list species.

Several rare aquatic animals are present in Box Creek, including the globally rare Broad River stream crayfish (*Cambarus lenati*), Carolina foothills crayfish (*Cambarus johni*), and Piedmont shiner (*Notropus cf. chlorocephalus*). Other rare animals have been found on the site, including: the globally rare South Mountains gray-cheeked salamander (*Plethodon meridanus*); Southern Appalachian eastern woodrat (*Neotoma floridana haematoreia*); mole salamander (*Ambystoma talpoideum*), which has been found in the floodplain of the Second Broad River; and, spotted skunks (*Spilogale putorius*) which have been found in Rockhouse Creek.

Besides the rare species and exemplary natural communities which are concentrated in the Box Creek area, the registered area is an important part of the South Mountains landscape. Both the mature forest communities and the embedded younger forests and recently logged areas are included in the registry because they contribute to this landscape. This large expanse of continuous forest is capable of supporting populations of many forest interior animal species and of providing habitat for some species that need large areas of forest. In combination with state-owned lands to the east, it provides an expanse of forest land more than 20 miles long. In addition, it lies between the extensive conservation lands in the eastern South Mountains (South Mountains Game Land and South Mountains State Park) and in Hickorynut Gorge (Chimney Rock State Park and The Nature Conservancy preserves). Box Creek Wilderness, Camel Knob, and Lone Mountain together form a significant part of the chain of forested mountainous land that forms the crucial biological link between these two major conservation areas.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 Of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Areas of the registered area should be managed for protection of natural communities, rare species, wildlife, and natural conditions. Activities that would degrade natural communities, harm rare species, or fragment the contiguous natural area should be avoided.

Management actions that replace lost ecological processes or restore more natural conditions are appropriate. Significant actions of this kind will be planned in consultation with the Natural Heritage Program. Most forest communities should be allowed to mature to old-growth, and to develop uneven-aged structure through natural gap formation.

Naturally open woodlands, barrens, and rock outcrop communities may have become inappropriately dense, and may benefit from more active management. Prescribed burning is encouraged in the drier parts of the site, including the oak forests and glades, but particularly in the pine forests. Fire was an important natural process in the South Mountains, and is now largely missing because of modern fire suppression.

Some streams and riparian areas show impacts of past gold mining and other early land use, and might benefit from other restoration activities, but most of the primary area is in good condition.

ATV trails and timber roads exhibit erosion in some areas, and the site would benefit from repair, and in some instances, closure and remediation.

Most of the site is remarkably free from non-native, invasive plants at present. Some floodplain and riparian zones, and some more heavily disturbed areas, however, have more extensive invasion and would benefit from targeted efforts to control them. The rest of the area should be monitored for the appearance of invasive non-native species, and prompt treatment is encouraged for any that may appear. The creation of new openings or artificial edges would increase the risk of invasive plant establishment and is discouraged.

The owner has already treated some hemlocks for hemlock woolly adelgid, and continuation of adelgid treatment is encouraged.

Young forests and planted pines in the Buffer Area function mainly for connections between Primary Areas, and for buffering the Primary Areas from edge effects, but could ideally be restored to their appropriate natural communities, following the recommendations above.

THEREFORE, it is agreed between the parties whose names are affixed below that the Box Creek Wilderness, Camel Knob, Bob's Creek Pocket Wilderness, and Rockhouse Creek Forests Natural Areas be entered on the official North Carolina Registry of Natural Heritage Areas on the ____ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 Of Chatham, LLC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

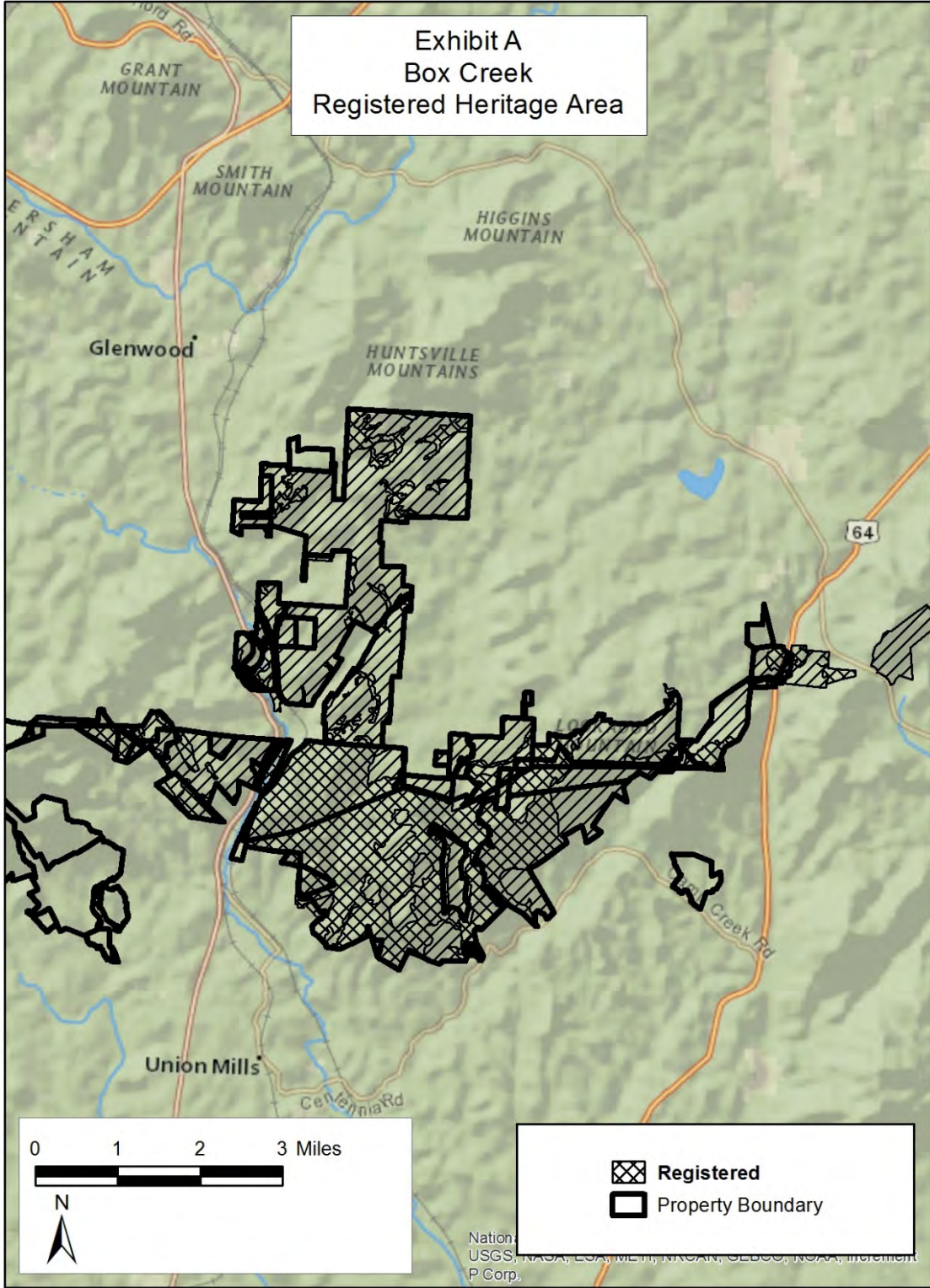
By _____
Tim Sweeney, Managing Member
130 of Chatham LLC
3409 Birk Bluffs Ct.
Cary, NC 27518

By _____
Susi H. Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Date: _____

Date: _____

Exhibit A
Box Creek
Registered Heritage Area



NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural area known as Hickorynut Mountain, consisting of approximately 7,779 acres (6,286 acres primary, 1,493 acres buffer), are owned by 130 of Chatham, LLC. [Exhibit A]

WHEREAS, 130 of Chatham, LLC amended the registry agreement for the Hickorynut Mountain natural area on December 9, 2018, having initially registered a portion of it on June 26, 2018;

WHEREAS, 130 of Chatham, LLC has subsequently acquired properties adjacent to the existing registered heritage area;

WHEREAS new and ongoing biological inventory has identified additional areas of ecological significance;

WHEREAS it is the intent to include these habitats in one Registry Agreement, so that this registry agreement will supersede the December 9, 2018 Registry Agreement;

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The rugged mountainous land on and around Hickorynut Mountain supports a diverse mosaic of natural communities, varying in condition but with large acreage of mature to old forest. Extensive rock outcrops on the higher peaks support rare natural communities that include Low Elevation Granitic Dome, Low Elevation Basic Glade (Montane Subtype), and Low Elevation Acidic Glade (Biltmore Sedge Subtype), interspersed with Carolina Hemlock Forest and other communities. Rare natural communities elsewhere in the site include Low Elevation Seep (Bedrock Subtype), Low Elevation Seep (Montane Subtype), Montane Cliff (Acidic Subtype), and Low Mountain Pine Forest (Montane Pine Subtype). Small areas of apparent Rich Cove Forest (Red Oak Subtype) and Low Mountain Red Oak Forest are present. Several rare plant and animal species are also present, including Greenland sandwort (*Mononeuria groenlandica*), bleeding heart (*Dicentra eximia*), sweet pinesap (*Monotropsis odorata*), Appalachian golden-banner (*Thermopsis mollis*), crevice salamander (*Plethodon yonahlossee* pop. 1), and the lampshade weaver spider (*Hypochilius coylei*). The forested landscape of the site is a mosaic of characteristic natural communities. Montane Oak—Hickory Forest (Acidic Subtype), Chestnut Oak Forest (Dry Heath Subtype), Acidic Cove Forest (Typic Subtype), and Rich Cove Forest (Foothills Intermediate and Foothills Rich subtypes) make up most of the landscape. Chestnut Oak Forest (Herb Subtype) and Chestnut Oak Forest (Mesic Subtype) are also widespread.

Buffer areas include young forests and open fields which serve to connect and buffer the primary areas. The registered area is part of an important landscape linkage, connecting the extensive conservation lands in the South Mountains with those in Hickorynut Gorge. This connection is believed to be important to wide-ranging animals such as black bears.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Areas of the registered area should be managed for protection of natural communities, rare species, wildlife, and natural conditions. Forests should generally be allowed to mature to old-growth, and to develop uneven-aged structure. Prescribed burning would be appropriate on most portions of the site. Fire may be crucial in the long run for the pine communities and drier oak forests. While fire is not believed crucial for the moist communities, it is appropriate to include them in burn units.

Encroachment of invasive non-native species should be monitored, and populations should be controlled or eradicated to the degree feasible. Treatment of Canada hemlocks for hemlock woolly adelgid is encouraged.

Buffer Areas should be managed to reduce or avoid impact to the Primary Areas and to maintain their function as landscape connectors. Forest management in these Buffer Areas may include timber production, restoration to more natural composition through silviculture, or allowing the forest to mature and undergo natural succession.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Hickorynut Mountain natural area owned by 130 of Chatham, LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 of Chatham, LCC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon.

Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

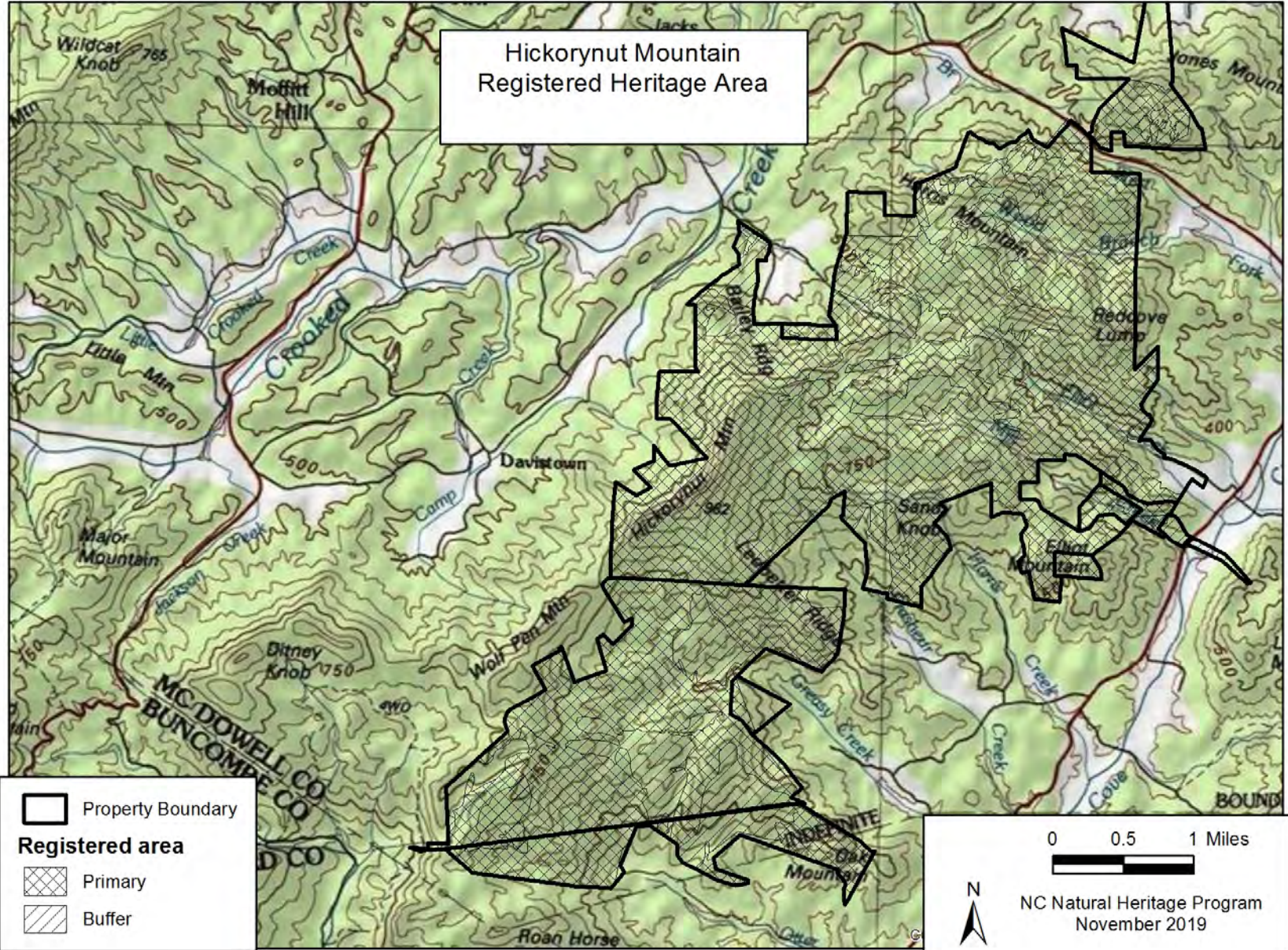
By _____
Tim Sweeney
Managing Member
130 of Chatham, LLC
3409 Birk Bluff Ct.
Cary, NC 27518

By _____
Susi H. Hamilton, Secretary
NC Department of Natural & Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Date: _____

Date: _____

Hickorynut Mountain
Registered Heritage Area



Property Boundary

Registered area

- Primary
- Buffer

0 0.5 1 Miles

N

NC Natural Heritage Program
November 2019

NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural areas known as Landrum Creek Forests and Rocky River Subbasin Aquatic Habitat, consisting of approximately 660 acres (484 acres primary and 176 acres buffer), is owned by 130 of Chatham, LLC. [Exhibit A]

WHEREAS, 130 of Chatham, LLC amended the registry agreement for Landrum Creek Forests natural area on December 9, 2018, having initially registered a portion of it on March 24, 2016)

WHEREAS, 130 of Chatham, LLC has subsequently acquired properties adjacent to the existing registered heritage area;

WHEREAS new and ongoing biological inventory has identified additional areas of ecological significance;

WHEREAS it is the intent to include these habitats in one Registry Agreement, so that this registry agreement will supersede the December 9, 2018 Registry Agreement;

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

Landrum Creek Forests consists of a segment of the Rocky River valley, including narrow to moderate floodplain areas, steep bluffs, dissected uplands, and tributary creek floodplains. It supports an excellent mosaic of characteristic Piedmont natural communities, all in unusually mature, good to excellent condition. Unusually extensive Dry Oak—Hickory Forest is present, along with Dry-Mesic Oak—Hickory Forest, Mesic Mixed Hardwood Forest, Piedmont Alluvial Forest, and Piedmont Headwater Stream Forest. Small patches of several rarer natural communities are also present, including an Upland Depression Swamp Forest, Xeric Hardpan Forest, and several Piedmont/Coastal Plain Heath Bluff patches. Patches of successional pine and hardwood forest are interspersed and are included as Buffer Areas.

The site forms part of the riparian corridor for the Rocky River Subbasin Aquatic Habitat and protects riparian areas on several of its tributaries. The river harbors a population of the Endangered Cape Fear shiner (*Notropis mekistocholas*) and of several rare mussels and dragonflies.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the

natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Areas of the registered area should be managed for protection of the riparian corridor and of water quality in the rivers and streams, and for the protection of intact natural communities, rare species, wildlife, and natural conditions. Intact forest communities should generally be allowed to mature and to remain as old-growth with uneven-aged structure. Prescribed burning would be beneficial for the extensive upland oak forests included in the registry. Fire is unlikely to be harmful in the moist and riparian areas if intensity is not high.

Control of non-native invasive plants is encouraged. Populations of them are locally dense in some areas and could become more widespread if not controlled. Control measures should include only those that will not harm water quality or native plants that occur with the non-native plants. Such measures might include hand cutting, pulling, treating of cut stumps or carefully targeted spray with herbicides labeled for aquatic use.

Buffer Areas may be left to recover more natural conditions through natural succession or may be more actively restored through silviculture. Any timber harvest or other significant treatments should be done in consultation with the Natural Heritage Program, and should be planned to ensure regeneration of the desired species, to protect the natural components that have already become established, and to avoid impact to the Primary Areas. In particular, Buffer Areas within 300 feet of the Rocky River and its tributaries may be best left undisturbed, to protect water quality and aquatic habitats.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Landrum Creek Forests natural area owned by 130 of Chatham, LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 of Chatham, LCC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

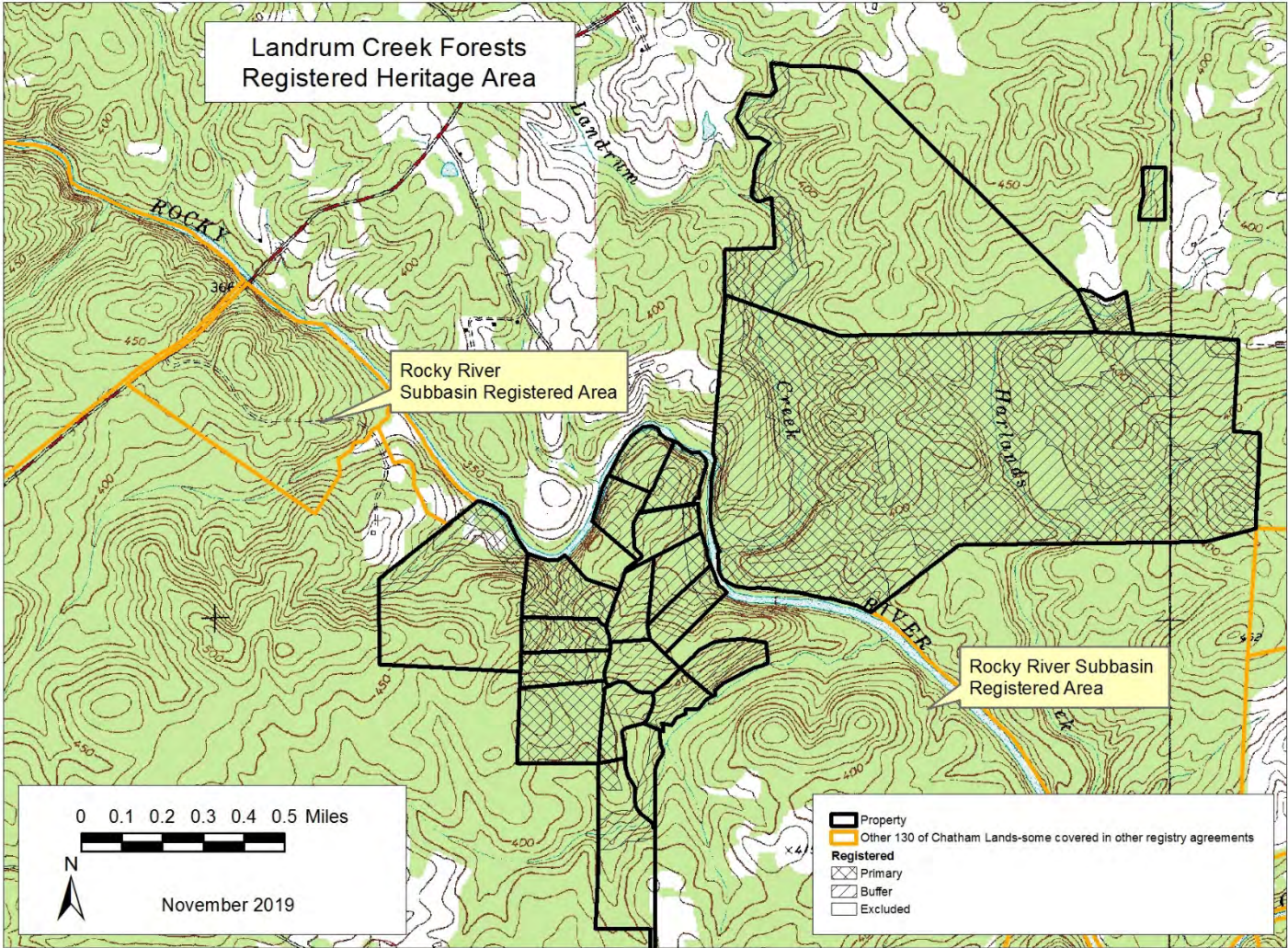
These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

By _____
Tim Sweeney
Managing Member
130 of Chatham, LLC
3409 Birk Bluff Ct.
Cary, NC 27518

By _____
Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-1601

Date: _____

Date: _____



NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Amendment Two to Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural areas known as Lower Bear Creek Slopes and Rocky River Subbasin Aquatic Habitat, consisting of approximately 360 acres (205 acres primary and 155 acres buffer), is owned by 130 of Chatham, LLC. [Exhibit A]

WHEREAS, 130 of Chatham, LLC amended the registry agreement for Lower Bear Creek Slopes natural area on June 26, 2018, having initially registered a portion of it on March 24, 2016);

WHEREAS, 130 of Chatham, LLC has subsequently acquired additional properties within the Lower Bear Creek Slopes natural area;

WHEREAS, it is the intent to include these habitats in one Registry Agreement, so that this agreement will supersede the June 26, 2018 registry agreement;

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

Lower Bear Creek Slopes consists of narrow floodplains, bluffs, and upland slopes along both the Rocky River and Bear Creek, near their confluence. It includes frontage on the Rocky River both above and below Woody Dam. The site contains a diverse collection of typical natural communities of the Piedmont, including Piedmont Alluvial Forest, Mesic Mixed Hardwood Forest, Dry-Mesic Oak—Hickory Forest, Dry Oak—Hickory Forest, Basic Mesic Forest, and Dry-Mesic Basic Oak—Hickory Forest, all with mature canopies. There are also patches of other, less common communities, including Piedmont/Coastal Plain Heath Bluff, a small Floodplain Pool, Rocky Bar and Shore (Mixed Bar Subtype), Rocky Bar and Shore (Water Willow Subtype), and narrow bands of Piedmont Headwater Stream Forest.

Lower Bear Creek Slopes is part of the larger Rocky River corridor landscape. With this revision, it connects to the Rocky River Dragonfly Riffles natural area and registered area downstream. Additional lands that are registered as part of the Rocky River Subbasin riparian registered area are a short distance upstream.

The site also forms part of the riparian corridor for the Rocky River Subbasin Aquatic Habitat, which includes Bear Creek. These tracts have about 16,000 feet of frontage on the Rocky River above Woody Dam, 3,700 feet on the Rocky River below Woody Dam, and 4,000 feet of frontage on Bear Creek, as well as several headwater streams. This stretch of the Rocky River, and Bear Creek itself, harbor a population of the federally listed Cape Fear shiner (*Notropis mekistocholas*). Other rare aquatic species include several rare mussels, such as creeper (*Strophitus undulatus*), Carolina creekshell (*Villosa*

vaughaniana), Eastern creekshell (*Villosa delumbis*), and notched rainbow (*Villosa constricta*).

AGREEMENT

The Registry Agreement is a mutual understanding between 130 of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Areas of the registered area should be managed for protection of natural communities, rare species, wildlife, and natural conditions, and for protection of the Rocky River aquatic ecosystem. Forests in the 201-acre primary area include natural communities in good condition. They should generally be allowed to mature and remain as old-growth, and to develop and retain uneven-aged structure. Prescribed burning would be beneficial to the oak--hickory forests. Mesic and floodplain forests do not need prescribed burning, but do not need to be excluded from burn units if fires are planned to have low intensity in these areas. Control of invasive non-native plants, already begun, is encouraged, using methods that will not harm associated native vegetation, and that will not harm the aquatic life in the river. Invasive plants are extensive in the Piedmont Alluvial Forest, and are present in many of the upland communities as well.

The 109 acres of Buffer Areas indicated on the map might be left to succeed naturally or may be more actively restored through silviculture. Any logging or other significant treatments should be done in consultation with the Natural Heritage Program, and should be planned to ensure regeneration of the desired species, to protect the natural components that have already become established, and to avoid impact to the primary areas. In particular, buffer areas within 300 feet of the Rocky River and Bear Creek, and within 200 feet of its tributaries, may be best left undisturbed, to protect water quality and aquatic habitats.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Lower Bear Creek Slopes natural area and Rocky River Subbasin Aquatic Habitats owned by 130 of Chatham, LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 of Chatham, LCC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

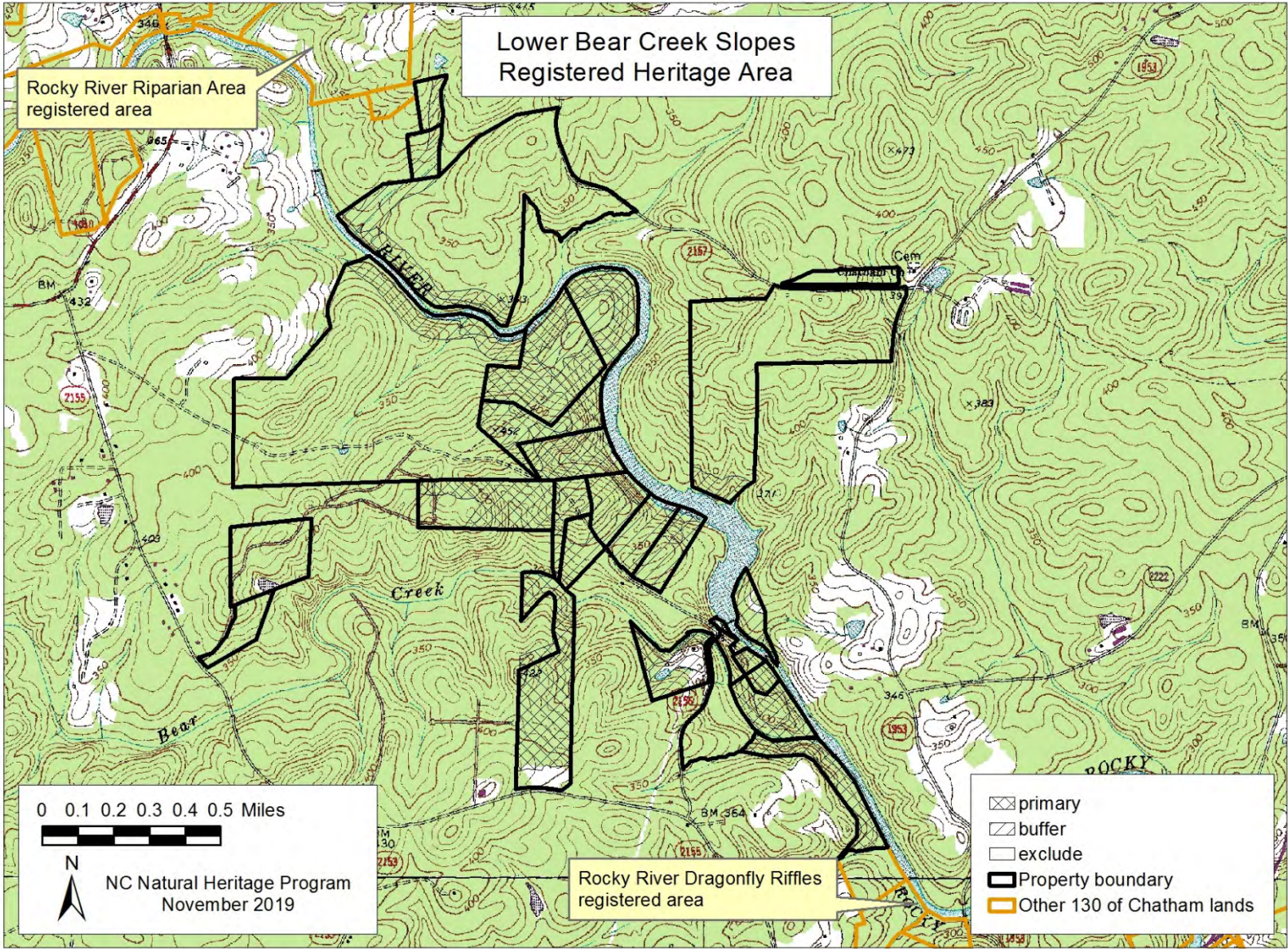
These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

By _____
Tim Sweeney
Managing Member
130 of Chatham, LLC
3409 Birk Bluff Ct.
Cary, NC 27518

By _____
Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Date: _____

Date: _____



Rocky River Riparian Area registered area

Lower Bear Creek Slopes Registered Heritage Area

0 0.1 0.2 0.3 0.4 0.5 Miles

N

NC Natural Heritage Program
November 2019

Rocky River Dragonfly Riffles registered area

- primary
- buffer
- exclude
- Property boundary
- Other 130 of Chatham lands

NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, lands bordering the natural area known as Rocky River Subbasin Aquatic Habitat, contributing to its protection, and containing other significant natural heritage resources, consisting of 525 acres altogether (211 acres primary and 314 buffer), are owned by 130 Of Chatham, LLC. [Exhibit A-D]

WHEREAS, 130 of Chatham, LLC amended the registry agreement for Rocky River subbasin Aquatic Habitat on December 9, 2018, having initially registered a portion of it on March 24, 2016;

WHEREAS, 130 of Chatham, LLC has subsequently acquired additional properties along the Rocky River Subbasin Aquatic Habitat natural area;

WHEREAS, it is the intent to include these habitats in one Registry Agreement, so that this agreement will supersede the December 9, 2018 registry agreement;

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The Rocky River Subbasin Aquatic Habitat is an exceptionally significant stretch of rivers and streams, encompassing the Rocky River, Tick Creek, and Bear Creek. It supports one of the few remaining populations of the federally endangered Cape Fear Shiner (*Notropis mekistocholas*), and portions have been designated as Critical Habitat for this species. It also supports numerous other rare aquatic species, including the mussels Brook Floater (*Alasmidonta varicosa*), Creeper (*Strophitis undulatus*), Atlantic Pigtoe (*Fusconaia masoni*), Eastern Creekshell (*Villosa delumbis*), and Carolina Creekshell (*Villosa vaughaniana*), as well as the dragonfly Septima's Clubtail (*Gomphus septima*).

The registered area consists of lands in the floodplain and 300-foot riparian zone of the Rocky River and Tick Creek, as well as 200-foot riparian zone buffers on several tributaries, along with small additional areas of upland. These lands are outside of other, terrestrial natural areas and are not covered by or included in other registry agreements with 130 of Chatham, LLC. The existing and recovering natural character of these lands provides protection for the aquatic habitat by having stable forested soil which limits erosion, filtering water that flows through them, and providing shade and organic material input to the streams. Some of these lands additionally support significant examples of terrestrial natural communities, including several patches of good quality Piedmont Alluvial Forest, Rocky Bar and Shore, Mesic Mixed Hardwood Forest, Basic Mesic Forest, Dry-Mesic Basic Oak—Hickory Forest, Dry Oak—Hickory Forest, and other upland communities.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 Of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Area of the registered area should be managed for the protection of the aquatic habitat and its riparian zone, and for the protection of intact natural communities, rare species, wildlife, and natural conditions. Intact forest communities in the 211 acres of Primary Areas should generally be allowed to mature and eventually to remain as old-growth with uneven-aged structure. Prescribed burning would be beneficial for the limited upland oak forests included in the registry. Fire is unlikely to be harmful in the riparian areas if intensity is kept low.

Control of non-native invasive plants is encouraged. Populations of them are dense in some areas, and could become more widespread if not controlled. Control measures should include only those that will not harm water quality or associated native plants.

The 314 acres of Buffer Area might be left to recover to more natural conditions through natural succession or may be more actively restored. Any restoration should be done in consultation with the Natural Heritage Program, and should be planned to ensure regeneration of the desired species, to protect the natural components that have already become established, and to avoid impact to the primary areas and to aquatic habitat. Existing clearings in the floodplain ideally should be allowed to succeed to forest.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Rocky River Subbasin Aquatic Habitat Natural Area owned by 130 of Chatham LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 Of Chatham, LLC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

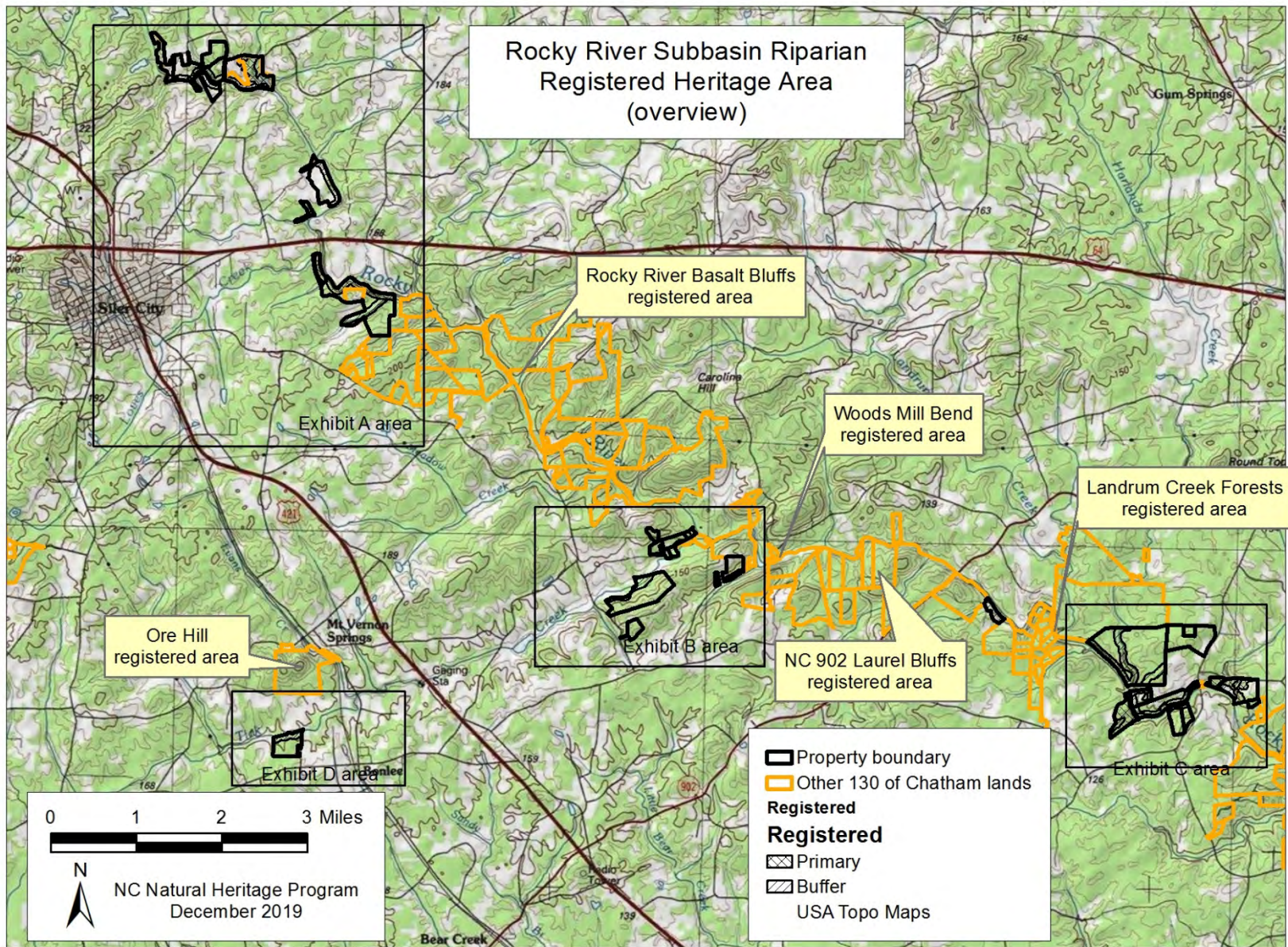
These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

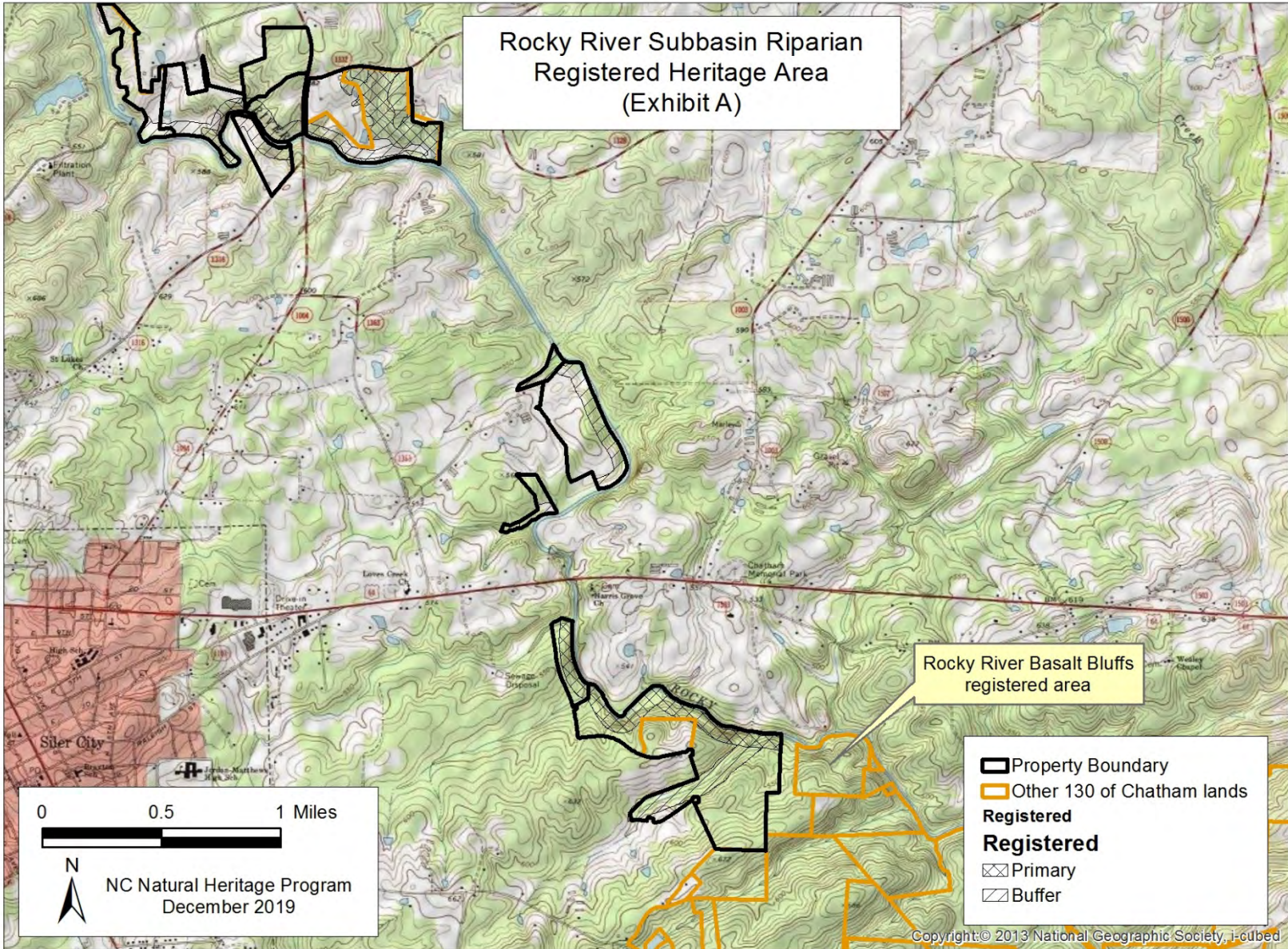
By _____
Tim Sweeney, Managing Member
130 of Chatham LLC
3409 Birk Bluffs Ct.
Cary, NC 27518

By _____
Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-4601

Date: _____

Date: _____





Rocky River Subbasin Riparian
Registered Heritage Area
(Exhibit A)

Rocky River Basalt Bluffs
registered area

0 0.5 1 Miles

N

NC Natural Heritage Program
December 2019

Property Boundary

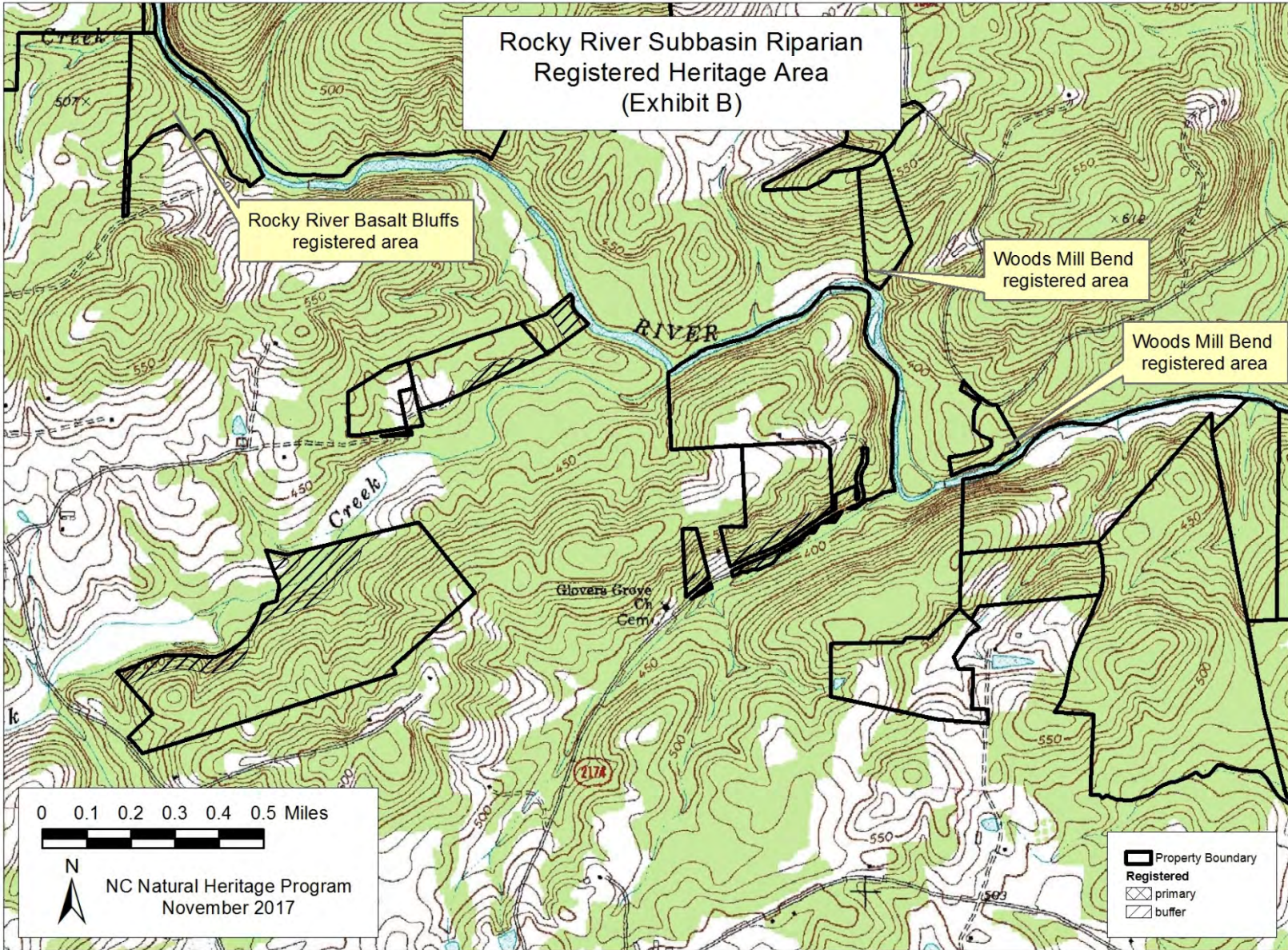
Other 130 of Chatham lands

Registered

Registered

Primary

Buffer



Rocky River Subbasin Riparian
Registered Heritage Area
(Exhibit B)

Rocky River Basalt Bluffs
registered area

Woods Mill Bend
registered area

Woods Mill Bend
registered area

0 0.1 0.2 0.3 0.4 0.5 Miles

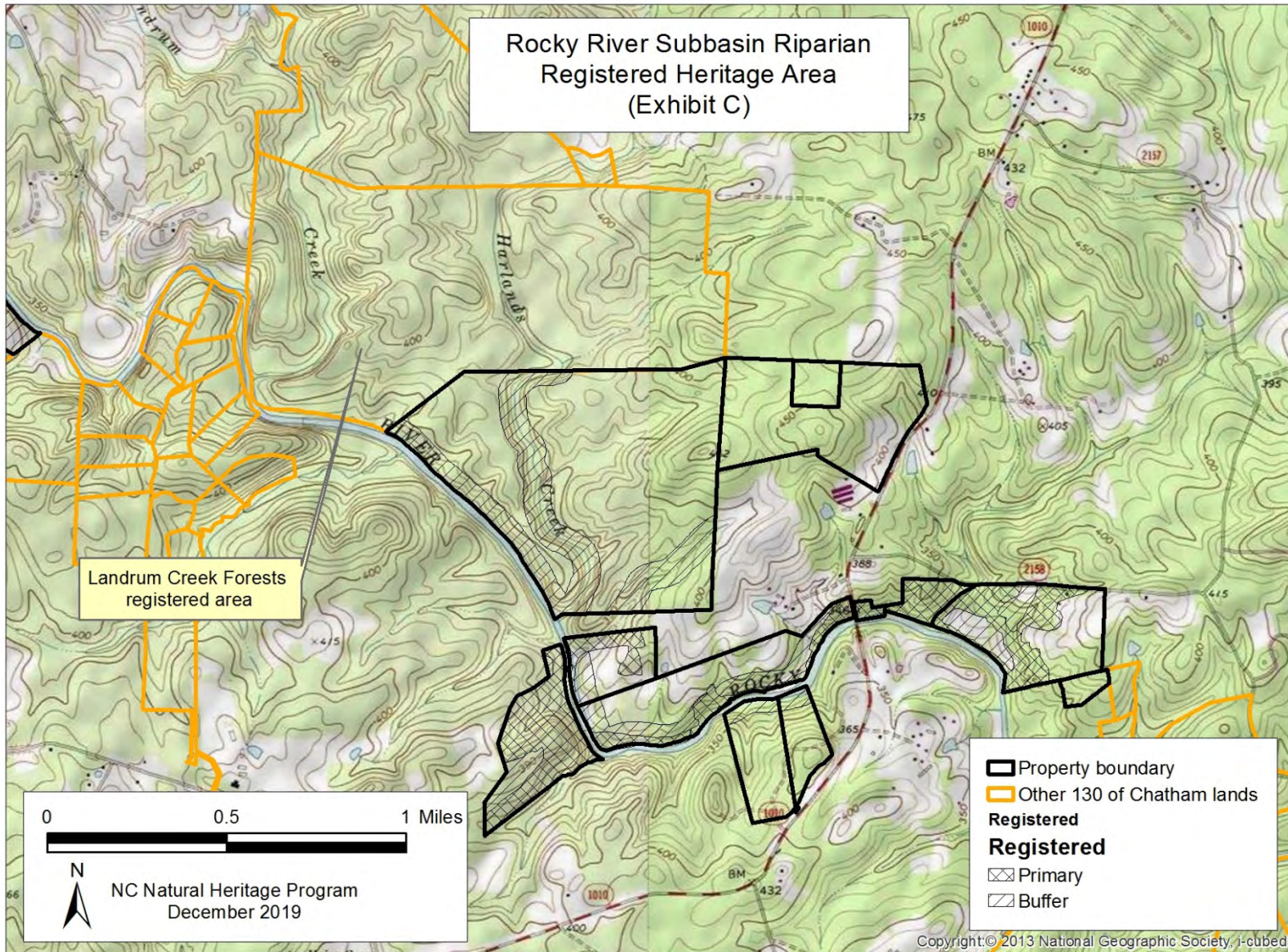
N

NC Natural Heritage Program
November 2017

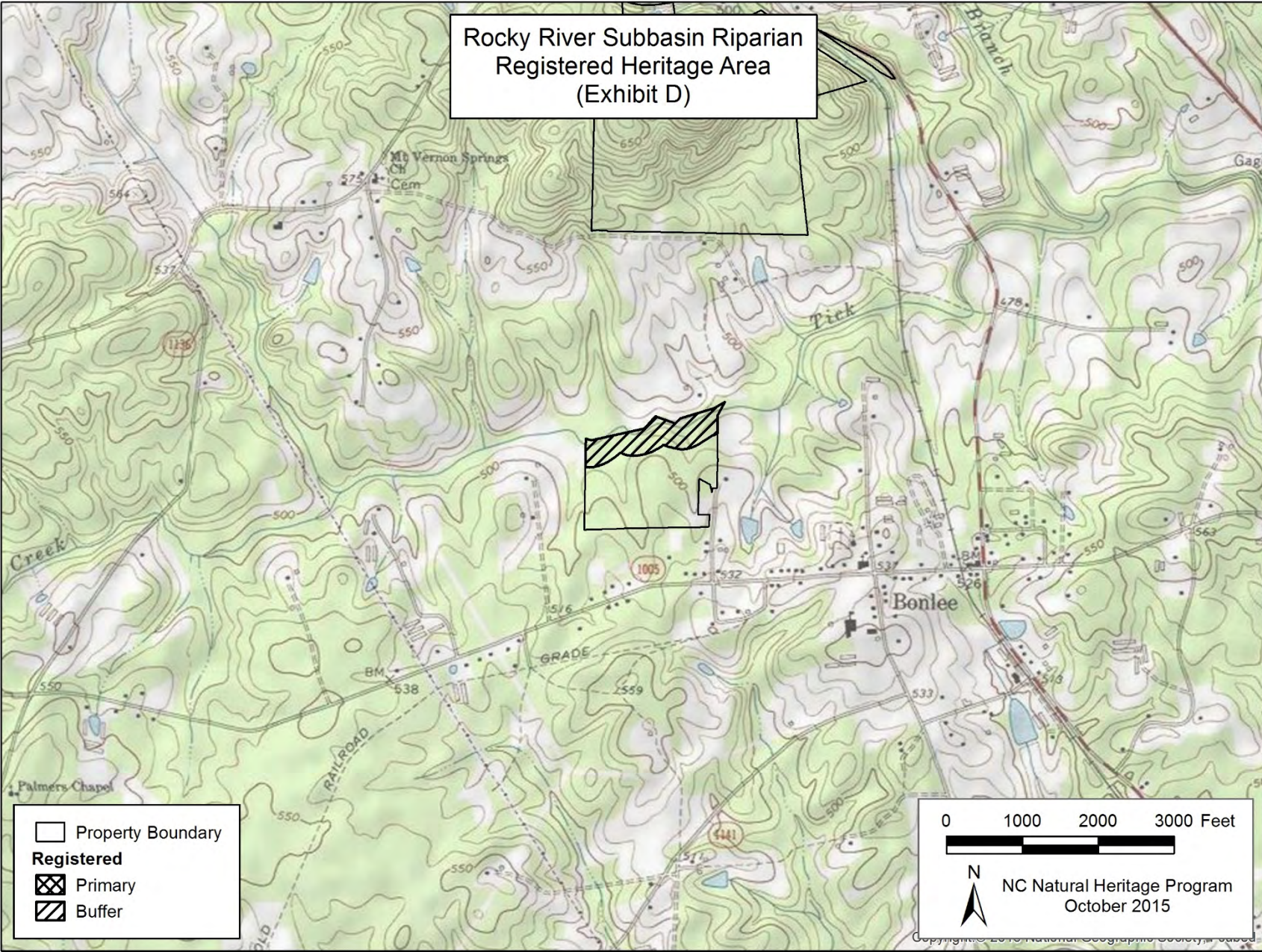
Property Boundary

Registered

- primary
- buffer



Rocky River Subbasin Riparian
Registered Heritage Area
(Exhibit D)



- Property Boundary
- Registered**
- Primary
- Buffer

0 1000 2000 3000 Feet

N
NC Natural Heritage Program
October 2015

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NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Amendment Three to Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural area known as Rocky River Basalt Bluffs and Levees, and lands bordering the natural area known as Rocky River Subbasin Aquatic Habitat and contributing to its protection, consisting of approximately 1,770 acres (699 acres primary and 1,071 acres buffer), are owned by 130 Of Chatham, LLC. [Exhibit A]

WHEREAS, 130 of Chatham, LLC registered the Rocky River Basalt Bluffs and Levees natural area on June 26, 2018; (by amendment to the previous registry agreements of March 24, 2016);

WHEREAS, 130 of Chatham, LLC has subsequently acquired properties adjacent to the existing registered heritage area;

WHEREAS new and ongoing biological inventory has identified additional areas of ecological significance;

WHEREAS it is the intent to include these habitats in one Registry Agreement, so that this registry agreement will supersede the June 26, 2018 Registry Agreement;

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The Rocky River Subbasin Aquatic Habitat is a nationally significant stretch of river supporting several rare aquatic animals, including the mussels brook floater (*Alasmidonta varicosa*), creeper (*Strophitis undulatus*), and eastern creekshell (*Villosa delumbis*), as well as Septima's clubtail dragonfly (*Gomphus septima*). This stretch of Rocky River formerly supported a population of the Cape Fear shiner (*Notropis mekistocholas*) and may potentially be a site for reintroduction of this species. The registered area protects forested lands along about 3 1/2 miles of the river, as well as along several headwater tributaries.

The Rocky River Basalt Bluffs natural area contains exemplary natural communities of the Piedmont region. These include extensive Piedmont Alluvial Forest and Rocky Bar and Shore on the narrow floodplain of the Rocky River and its tributaries. The site includes extensive Dry-Mesic Basic Oak--Hickory Forest which is in very good condition and is one of the best examples in the region. Other significant natural communities include Dry Basic Oak--Hickory Forest, Basic Mesic Forest, Mesic Mixed Hardwood Forest, Piedmont/Coastal Plain Heath Bluff, Low Elevation Seep, Floodplain Pool, Rocky Bar and Shore (Water Willow Subtype), and Rocky Bar and Shore (Mixed Bar Subtype). Some areas of more altered vegetation, young forests and forests with altered tree composition,

are included in the registry as buffer areas. These include all areas within 300 feet of the Rocky River and 200 feet of tributaries, as well as additional areas that serve to buffer and connect the primary areas.

AGREEMENT

The Registry Agreement is a mutual understanding between 130 Of Chatham, LLC and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Primary Areas of the registered area should be managed for protection of natural communities, rare species, wildlife, natural conditions, and for protection of the Rocky River. Forests in the 699 acres of primary area include natural communities in good condition and should generally be allowed to mature and remain as old-growth, and to develop and retain uneven-aged structure. Prescribed burning would be beneficial to the oak--hickory forests. Mesic and floodplain forests do not need prescribed burning, but do not need to be excluded from burn units if fires are planned to have low intensity in these areas. Control of invasive non-native plants, already begun, is encouraged, using methods that will not harm associated native vegetation, and that will not harm the river. Invasive plants are extensive in the Piedmont Alluvial Forest and are present in many of the upland communities as well.

The 1,071 acres of buffer might be left to succeed naturally or may be more actively restored through silviculture. Any logging or other significant treatments should be done in consultation with the Natural Heritage Program and should be planned to ensure regeneration of the desired species, to protect the natural components that have already become established, and to avoid impact to the primary areas. In particular, buffer areas within 300 feet of the Rocky River and 200 feet of its tributaries may be best left undisturbed, to protect water quality and aquatic habitats.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Rocky River Basalt Bluffs and Rocky River Subbasin Aquatic Habitat Natural Areas owned by 130 of Chatham LLC be entered on the official North Carolina Registry of Natural Heritage Areas on the ___ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor 130 Of Chatham, LLC offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

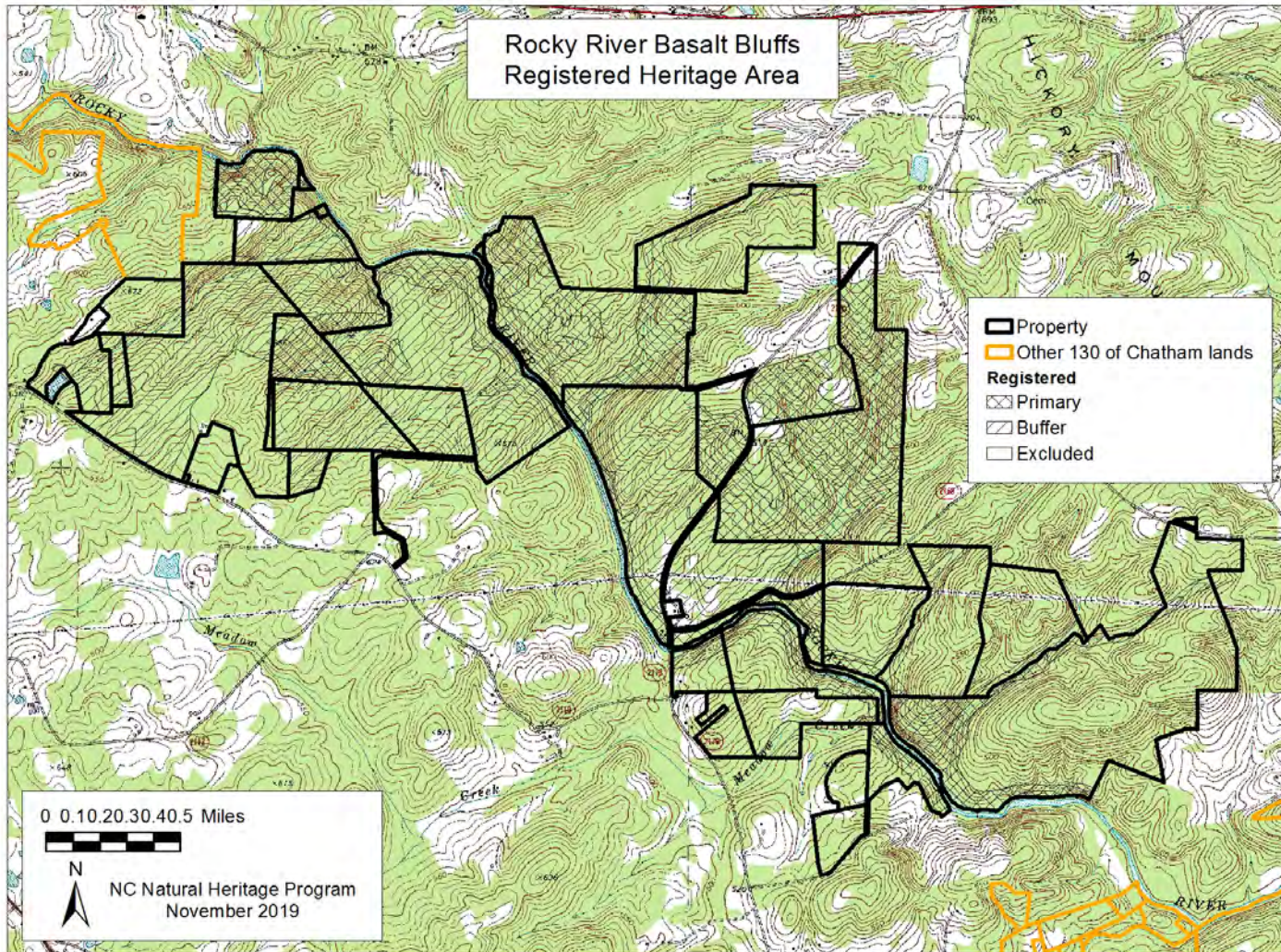
By _____
Tim Sweeney, Managing Member
130 of Chatham LLC
3409 Birk Bluffs Ct.
Cary, NC 27518

By _____
Susi Hamilton, Secretary
NC Department Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-1601

Date: _____

Date: _____

Exhibit A.



NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

AMENDMENT ONE TO LETTER OF INTENT AND AGREEMENT TO
REGISTER AND PROTECT NATURAL HERITAGE AREAS

Whereas the North Carolina Nature Preserves Act (Chapter 143B, Article 2, Part 42.) calls for voluntary protection of natural areas through a State Registry;

Whereas the registry is maintained by the North Carolina Natural Heritage Program of the Department of Natural and Cultural Resources;

Whereas **Duke University** is the owner and land manager of natural areas (as described and mapped in Exhibit A), totaling ca. 1,263 acres;

Whereas Duke University registered the natural areas on June 8, 2004;

Whereas Duke University has subsequently acquired property adjacent to an existing registered heritage area, and biological inventory has identified additional areas of ecological significance;

Whereas Duke University has expressed the intention to register these areas as significant Natural Heritage Areas;

And whereas these areas possess natural resources justifying their recognition by the State as an important part of the natural heritage of North Carolina.

It is therefore agreed between the parties whose names are affixed below that the natural areas shall be included on the official North Carolina Registry of Natural Heritage Areas.

It is understood that this agreement involves no change of title, or loss of ownership rights, but simply expresses the sincere intention of Duke University to maintain the natural areas contained within the Duke Forest for the perpetuation of natural processes, natural communities and rare species populations. To the best of its ability Duke will protect these natural areas from artificial disturbances to vegetation, fauna, and soil, and will avoid direct and indirect alteration of the hydrology. Active management such as trail construction, erosion control, prevention of species decline, removal of non-native species, implementation of research projects, and forest management activities should be accomplished according to guidelines set forth in the Duke Forest Management Plan. The Management Plan will be reviewed by the Natural Heritage Program to determine whether there is any need for consultation.

It is further understood that neither the Department nor Duke University offer any assurances as to the safety conditions on the tract involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or their property while on the registered site.

The significant natural areas (as described and mapped in Exhibit A) are hereby registered as protected Natural Heritage Areas for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

DUKE UNIVERSITY NATURAL AREAS REGISTRY AGREEMENT SIGNATURES:

By _____
Vice President, Real Estate Administration
Duke University
402 Oregon Street
Cary, NC 27518

By _____
Susi Hamilton, Secretary
NC Department Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-1601

Date: _____

Date: _____

EXHIBIT A
DUKE UNIVERSITY
REGISTERED NATURAL HERITAGE AREAS

Bald Mountain (Orange County) (ca. 69 acres): The natural area contains a distinct monadnock composed of rhyolite flows. Large rock outcrops occur near the top of the mountain and in other scattered locations. The monadnock supports an extensive, very mature Piedmont Monadnock Forest dominated by chestnut oak (*Quercus prinus*) with an understory of sourwood (*Oxydendrum arboreum*), red maple (*Acer rubrum*), and black gum (*Nyssa sylvatica*). On the northeastern slopes, northern red oak (*Quercus rubra*) and red maple (*Acer rubrum*) are codominants. The shrub layer includes early lowbush blueberry (*Vaccinium pallidum*) and downy arrowwood (*Viburnum rafinesquianum*). The natural community here represents one of the best examples of its type in the state. Muscadine grape (*Vitis rotundifolia*) vines are abundant, but the herb layer is otherwise sparse.

Blackwood Mountain (Orange County) (2 tracts, ca. 52 acres and ca. 46 acres): The natural area contains a good quality Piedmont Monadnock Forest dominated by chestnut oak (*Quercus prinus*), with post oak (*Q. stellata*), black oak (*Q. velutina*), black gum (*Nyssa sylvatica*), pignut hickory (*Carya glabra*), sweet pignut hickory (*C. ovalis*), and mockernut hickory (*C. tomentosa*) also present in the canopy.

Couch Mountain (Orange County) (ca. 114 acres): The natural area contains an extensive mature example of the Dry-Mesic Oak-Hickory Forest natural community type. At least parts of the forest are probably old-growth, with trees over 300 years old and in excess of 24 inches dbh. Its canopy is dominated by white oak (*Quercus alba*), with northern red oak (*Q. rubra*), black oak (*Q. velutina*), mockernut hickory (*Carya tomentosa*), and sweet pignut hickory (*C. ovalis*) also present. The understory includes black gum (*Nyssa sylvatica*), sourwood (*Oxydendrum arboreum*), and flowering dogwood (*Cornus florida*). A population of the rare crested coralroot (*Hexalectris spicata*) occurs in the natural area.

Duke Forest Oak-Hickory Upland (Durham County) (ca. 63 acres): The natural area's rolling uplands support an excellent, mature example of the Dry-Mesic Oak-Hickory Forest natural community type, dominated by white oak (*Quercus alba*), red oak (*Q. rubra*), and hickories (*Carya* spp.). The shrub layer contains mostly blueberries (*Vaccinium* spp.) and the herb layer is very sparse. The forest is or approaches old-growth, with trees over 20 inches dbh common and some reaching 30 inches.

Duke Forest Post Oak/Blackjack Oak Site (Orange County) (ca. 4 acres): The natural area contains a fair quality Xeric Hardpan Forest (Basic Hardpan Variant), significant as the only example of this community type in Duke Forest. The canopy is dominated by post oak (*Quercus stellata*) and blackjack oak (*Q. marilandica*) with some other oak species (*Q. alba* and *Q. phellos*), hickories (*Carya* spp.), and pines (*Pinus* spp.). Eastern red cedar (*Juniperus virginiana*), sourwood (*Oxydendrum arboreum*), and black gum (*Nyssa sylvatica*) form the understory. The site is the type locality for Oosting's study of the community and is of considerable interest for research purposes.

Eno River Duke Forest Mesic Slopes (Orange County) (ca. 78 acres): The natural area contains an unbroken stretch of forest that extends almost two miles along the west slopes of the Eno River. Piedmont/Low Mountain Alluvial Forest occurs in the bottomlands, with Mesic Mixed Hardwood Forest on the bluffs and some Dry-Mesic Oak-Hickory Forest further upslope. It is the first large undeveloped tract that the river flows through downstream from its headwaters, providing the most significant wildlife habitat along the Eno upstream from Hillsborough. Several rare animals occur within the river here: a mussel, the notched rainbow (*Villosa constricta*), and a fish, the Carolina darter (*Etheostoma collis*). A river species that requires healthy fish and mussel populations, the river otter (*Lutra canadensis*), testifies to the habitat quality of this section of the Eno. Breeding birds include the red-shouldered hawk (*Buteo*

lineatus), typical of mature bottomlands, and the cedar waxwing (*Bombycilla cedrorum*), a species that commonly nests in the mountains but only rarely in the Piedmont.

Gate 4 Mafic Forests (Durham County) (2 tracts, ca. 12 acres and ca. 8 acres): The natural area is quite mafic, with a number of gabbro or diabase rocks on the surface. The western portion of the natural area is mesic to rich, supporting a high quality example of the Basic Oak-Hickory Forest natural community type, with smaller inclusions of Basic Mesic Forest. Southern shagbark hickory (*Carya carolinae-septentrionalis*) is abundant in this section. The eastern portion is dry, with post oak (*Quercus stellata*) and eastern red cedar (*Juniperus virginiana*) more common. Several rare plant species grow along the edge of the dry eastern forest, including prairie dock (*Silphium terebinthinaceum*), Earle's blazing star (*Liatris squarrulosa*), and glade wild quinine (*Parthenium auriculatum*).

Gate 9 Pond (Durham County) (ca. 12 acres): The natural area contains two rare natural community types: an Upland Depression Swamp Forest dominated by willow oak (*Quercus phellos*) and an Upland Pool with a breeding population of the rare four-toed salamander (*Hemidactylium scutatum*). The Upland Pool is a slightly deeper depression within the swamp forest, dominated by fetterbush (*Leucothoe racemosa*) with a patch of buttonbush (*Cephalanthus occidentalis*) in the middle. Sedges (*Carex* spp.) dominate the herb layer.

Henry J. Oosting Natural Area (Orange County) (ca. 153 acres): The natural area contains a good example of the Mesic Mixed Hardwood Forest natural community type, dominated by beech (*Fagus grandifolia*), with bottomland forest occurring on the lower slopes. Two rare plant species, Lewis's heartleaf (*Hexastylis lewisii*) and Bush's sedge (*Carex bushii*), are associated with the natural area. The rare four-toed salamander (*Hemidactylium scutatum*) also occurs here.

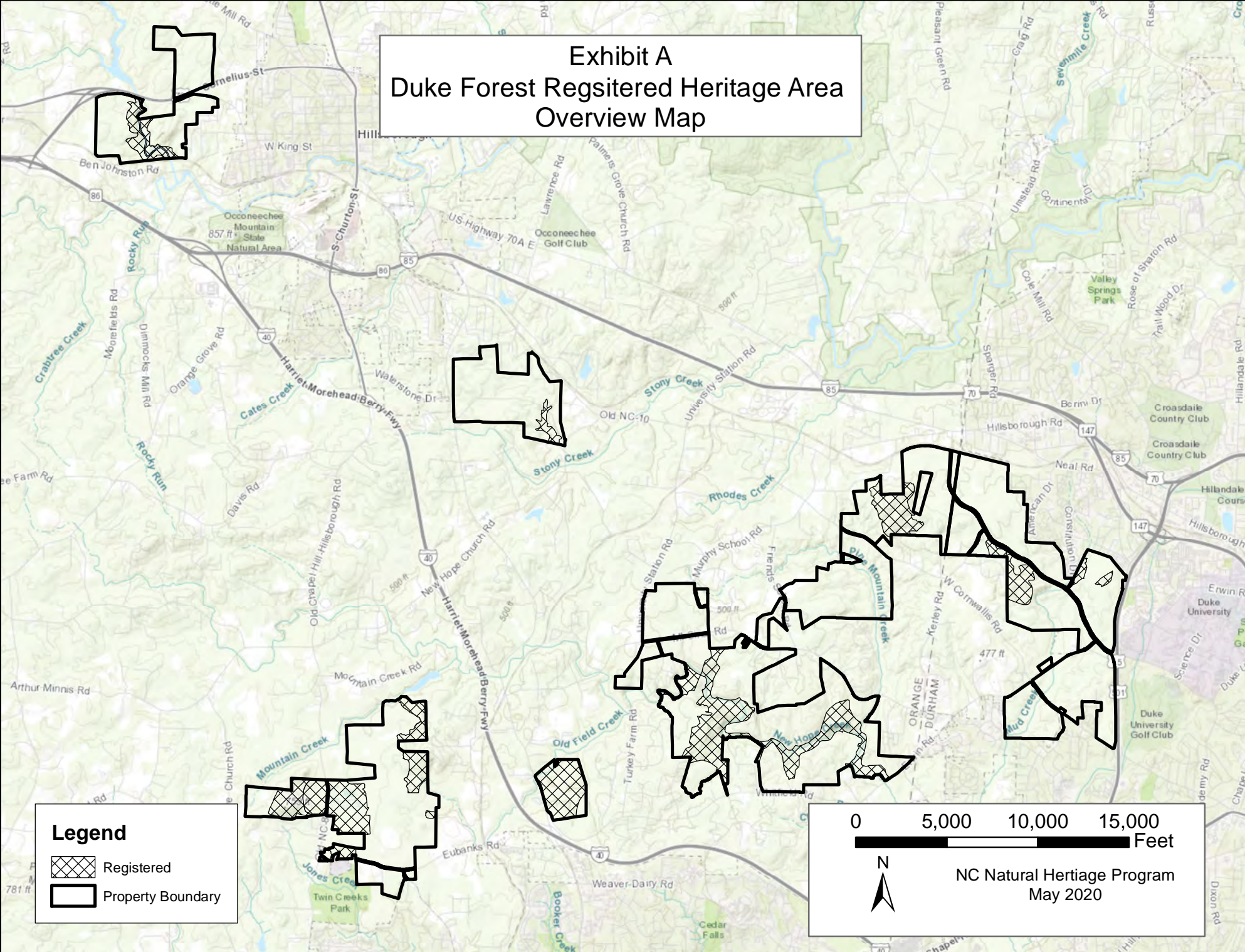
Meadow Flats (Orange County) (ca. 206 acres): The natural area, located on very flat uplands on Iredell soils, contains a very extensive, excellent quality Upland Depression Swamp Forest natural community dominated by willow oak (*Quercus phellos*) and swamp chestnut oak (*Quercus michauxii*), with sweetgum (*Liquidambar styraciflua*), shag-bark hickory (*Carya ovata*), and slippery elm (*Ulmus rubra*) common. The understory is dominated by ironwood (*Carpinus caroliniana*), with red maple (*Acer rubrum*) and deciduous holly (*Ilex decidua*) common. Poison ivy (*Toxicodendron radicans*) and common greenbrier (*Smilax rotundifolia*) are dense in places, but the herb layer is mostly sparse. An excellent quality Basic Oak-Hickory Forest is also present within the natural area. A small deeper depression is located in the eastern portion of the natural area. The rare four-toed salamander (*Hemidactylium scutatum*) is known from this location. An occurrence of the federally listed small-whorled pogonia (*Isotria medeoloides*), found in 1971 near the eastern margin of the natural area, has not been relocated.

New Hope Creek Slopes (Orange County) (ca. 422 acres): The natural area on either side of New Hope Creek contains a variety of distinct habitats on the north- and south-facing rocky bluffs, alluvial terraces and adjacent slopes, and flooded depressions. Included are several excellent examples of the Piedmont/Coastal Plain Heath Bluff, with dense Catawba rhododendron (*Rhododendron catawbiense*) under a canopy of beech (*Fagus grandifolia*), white oak (*Quercus alba*), and northern red oak (*Q. rubra*). An unusual south-facing, xeric example of the Piedmont/Coastal Plain Acidic Cliff natural community is present along the creek. The narrow floodplain supports examples of the Piedmont/Low Mountain Alluvial Forest and Piedmont/Mountain Bottomland natural community types, with a canopy of sycamore (*Platanus occidentalis*), river birch (*Betula nigra*), sweetgum (*Liquidambar styraciflua*), ironwood (*Carpinus caroliniana*), and other alluvial species over a dense herb layer. On the slope of a small spur ridge with clay hardpan is an example of the Xeric Hardpan Forest (Basic Hardpan Variant), with an open canopy dominated by post oak (*Quercus stellata*) and an understory of white ash (*Fraxinus americana*) and eastern red cedar (*Juniperus virginiana*), and an abundant shrub layer of downy arrowwood (*Viburnum rafinesquianum*). Rare plant species associated with the natural area include

federal species of concern sweet pinesap (*Monotropsis odorata*), and Indian physic (*Porteranthus stipulatus*).

Stony Creek Spring (Orange County) (ca. 24 acres): The natural area includes a ravine bottom along Stony Creek containing an unusually large, well-developed seep spring with a Low Elevation Seep community. Red maple (*Acer rubrum*) and sweetgum (*Liquidambar styraciflua*) form the canopy. The herb layer is diverse, including royal fern (*Osmunda regalis*), cinnamon fern (*O. cinnamomea*), lizard's tail (*Saururus cernuus*), clearweed (*Pilea pumila*), marginal woodfern (*Dryopteris marginalis*), and abundant sphagnum. The seep provides habitat for a couple of unusual animal species, including the uncommon gray petaltail (*Tachopteryx thoreyi*) and the rare four-toed salamander (*Hemidactylium scutatum*).

Exhibit A Duke Forest Registered Heritage Area Overview Map



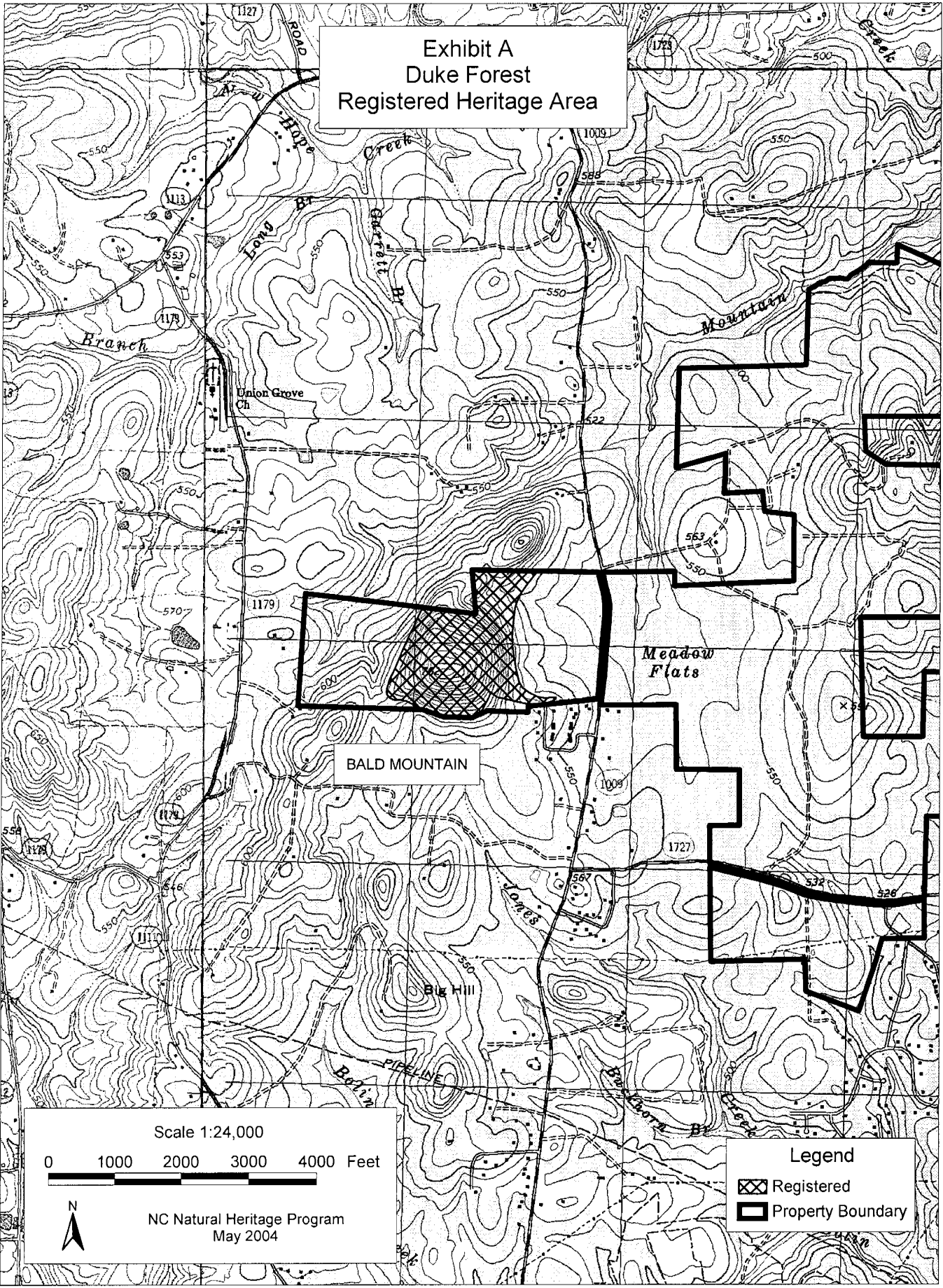
Legend

- Registered
- Property Boundary

0 5,000 10,000 15,000 Feet

NC Natural Heritage Program
May 2020

Exhibit A
Duke Forest
Registered Heritage Area



BALD MOUNTAIN

Meadow Flats

Big Hill

Scale 1:24,000

0 1000 2000 3000 4000 Feet

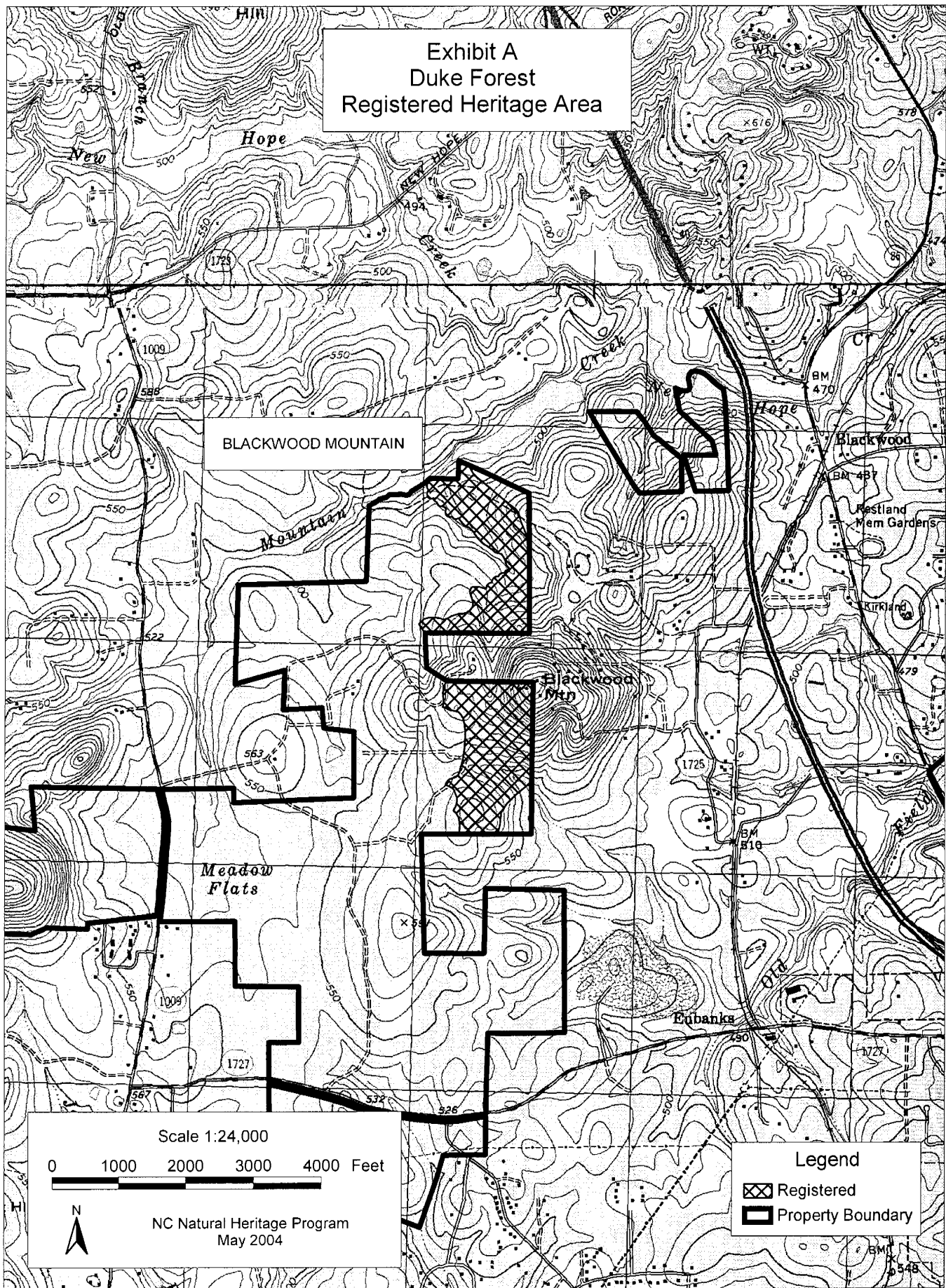


NC Natural Heritage Program
May 2004

Legend

- Registered
- Property Boundary

Exhibit A
Duke Forest
Registered Heritage Area



BLACKWOOD MOUNTAIN

Scale 1:24,000

0 1000 2000 3000 4000 Feet



NC Natural Heritage Program
May 2004

Legend

 Registered


 Property Boundary

Exhibit A
Duke Forest
Registered Heritage Area

COUCH MOUNTAIN



Scale 1:24,000

0 1000 2000 3000 4000 Feet



NC Natural Heritage Program
May 2004

Legend

-  Registered
-  Property Boundary

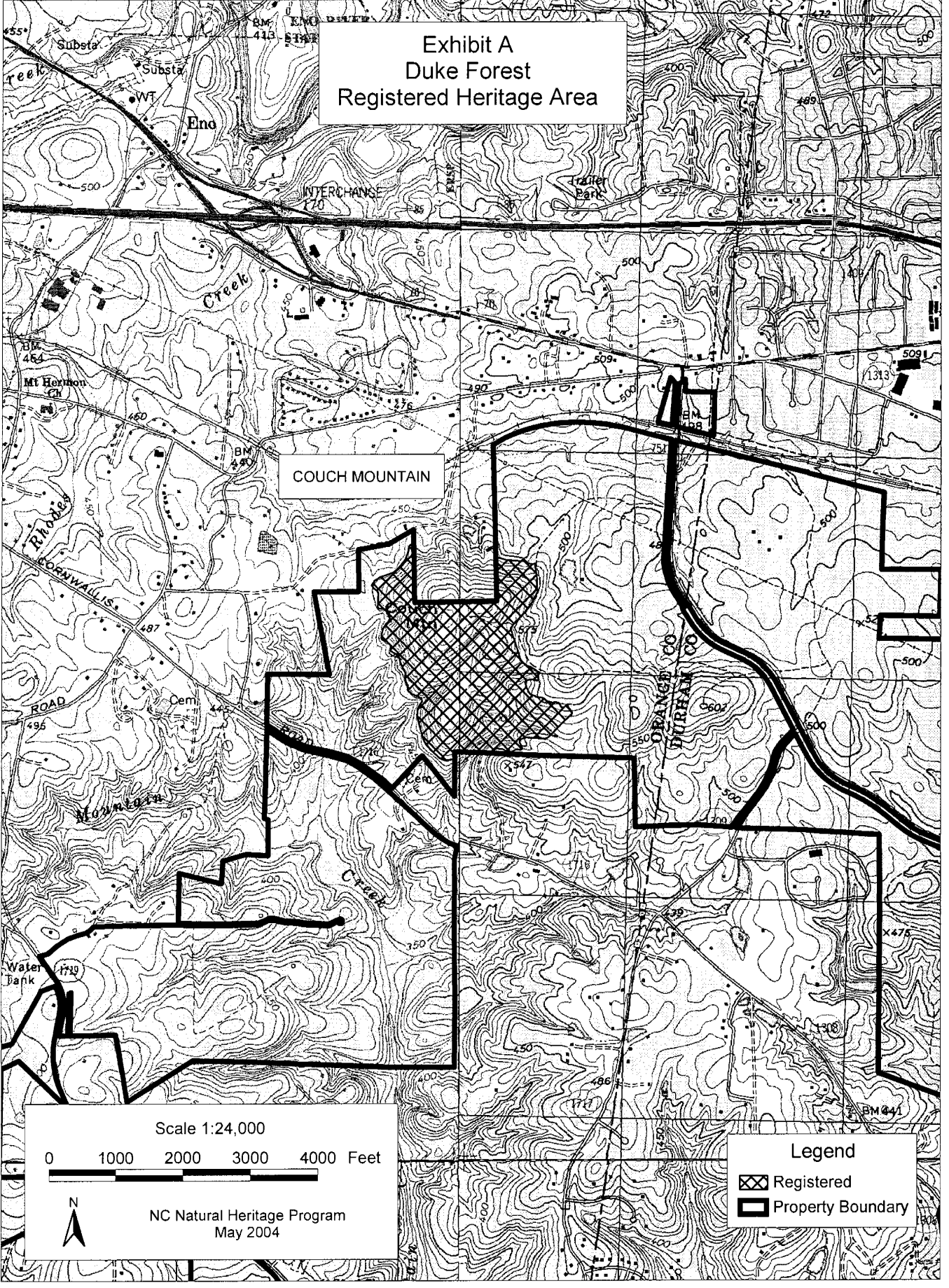
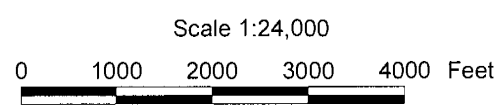


Exhibit A
Duke Forest
Registered Heritage Area

DUKE FOREST OAK-HICKORY UPLAND



NC Natural Heritage Program
May 2004

Legend

- Registered
- Property Boundary

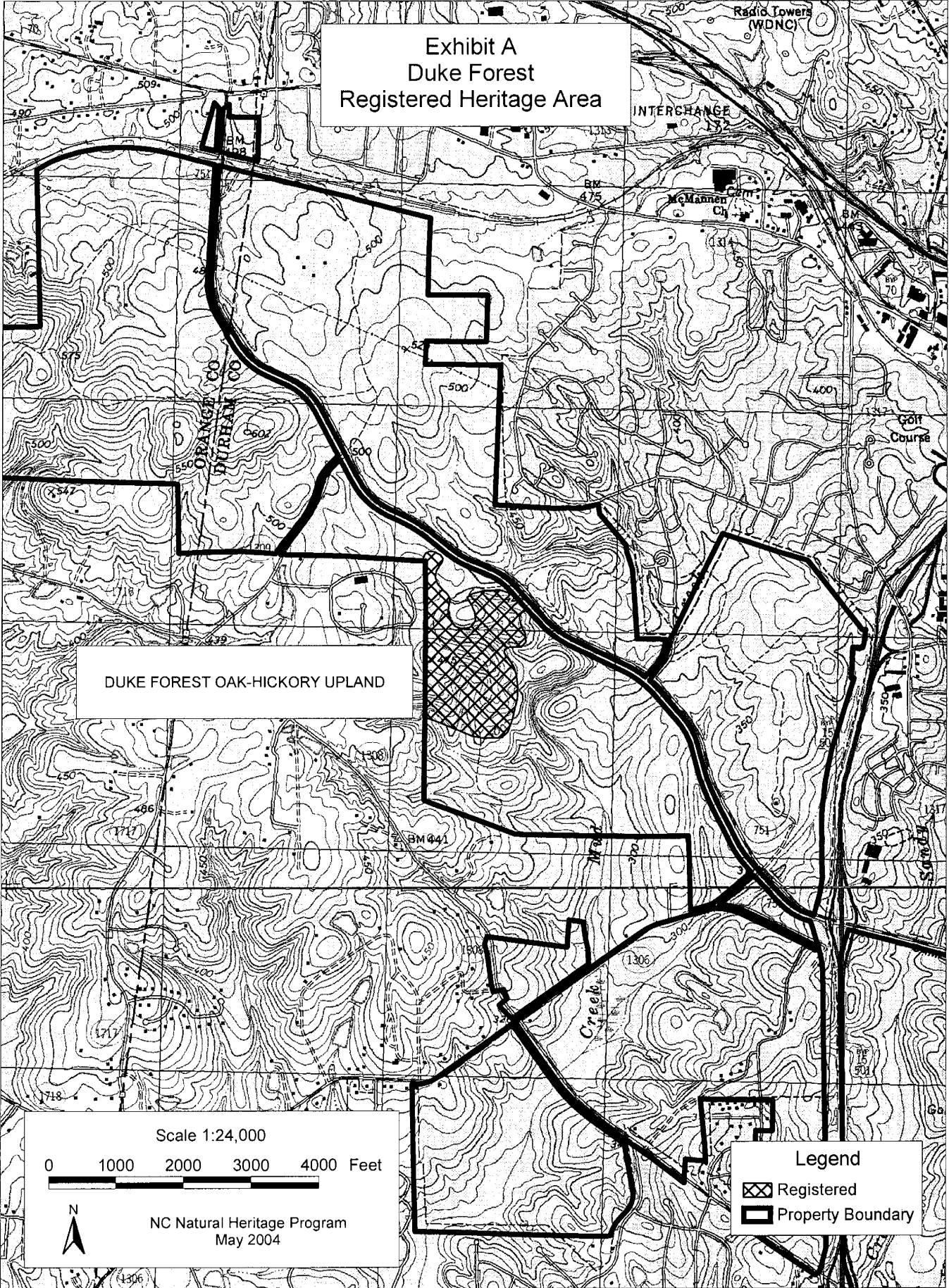



Exhibit A
Duke Forest
Registered Heritage Area

DUKE FOREST POST OAK/BLACKJACK OAK SITE



Scale 1:24,000

0 1000 2000 3000 4000 Feet



NC Natural Heritage Program
May 2004

Legend

-  Registered
-  Property Boundary

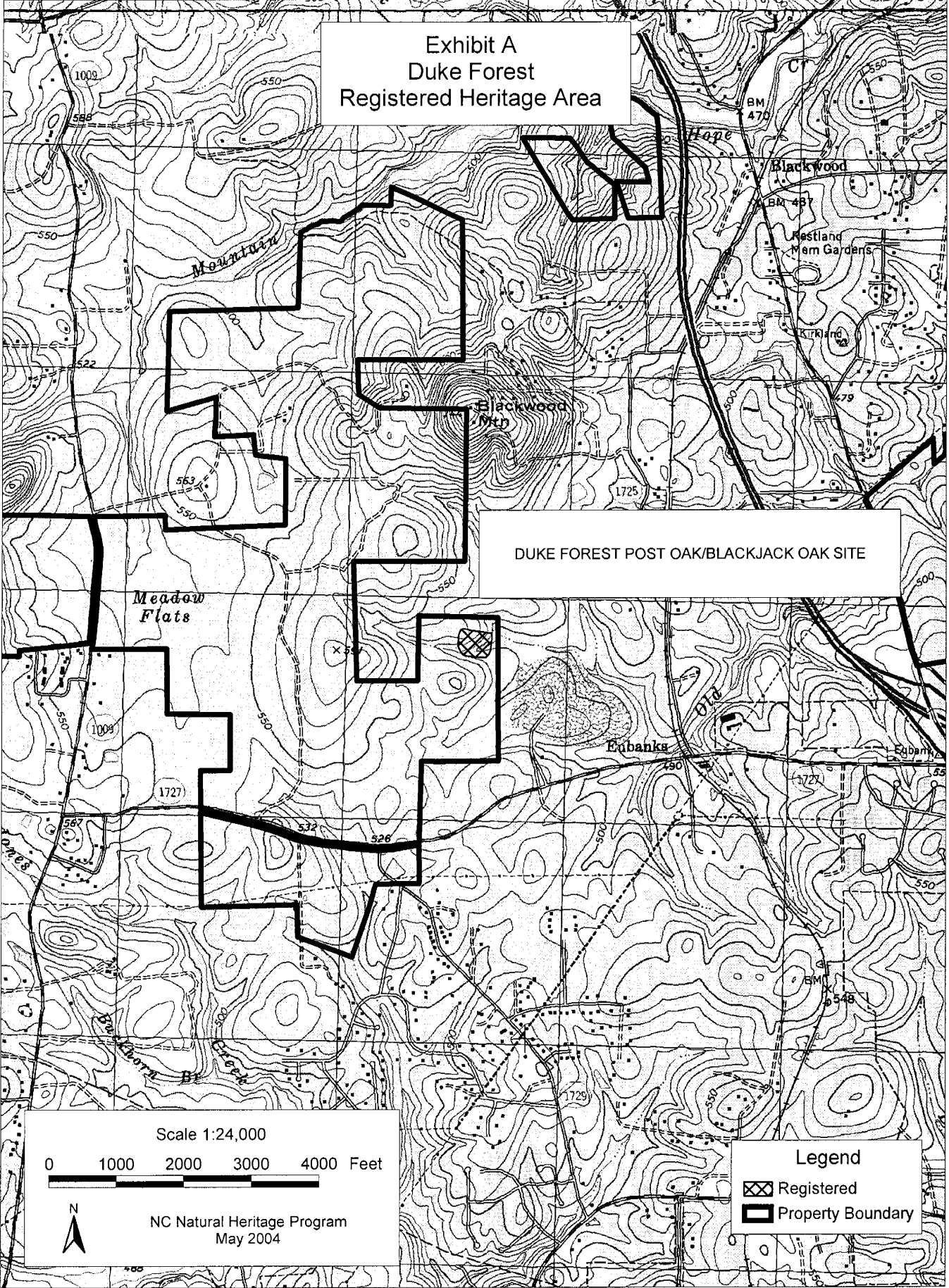
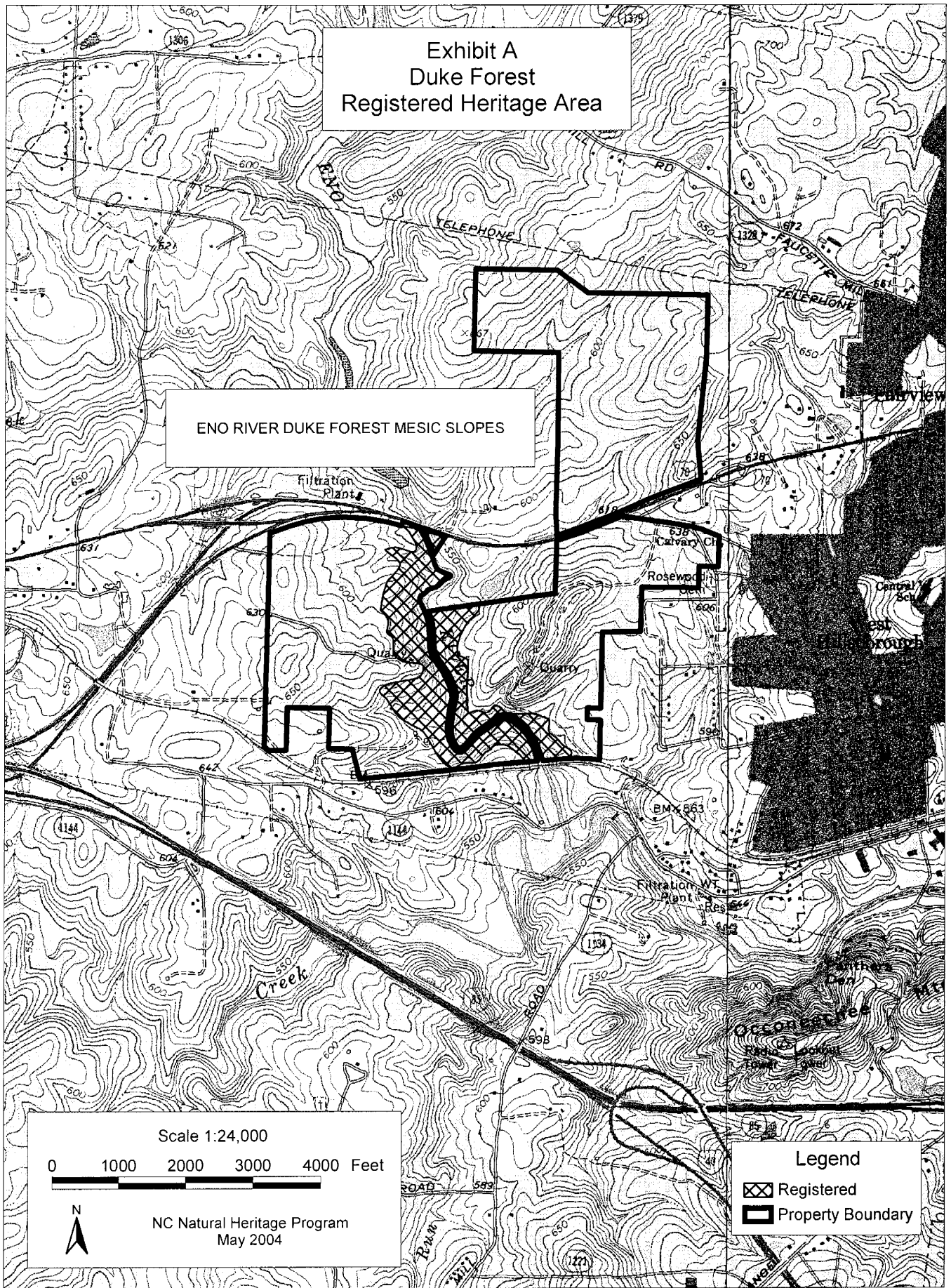


Exhibit A
Duke Forest
Registered Heritage Area

ENO RIVER DUKE FOREST MESIC SLOPES



Scale 1:24,000
0 1000 2000 3000 4000 Feet

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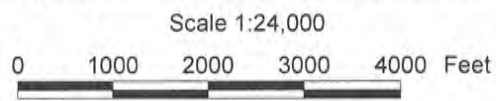
NC Natural Heritage Program
May 2004

Legend

- Registered
- Property Boundary

Exhibit A
Duke Forest
Registered Heritage Area

GATE 4 MAFIC FORESTS



NC Natural Heritage Program
May 2004

Legend

- Registered
- Property Boundary

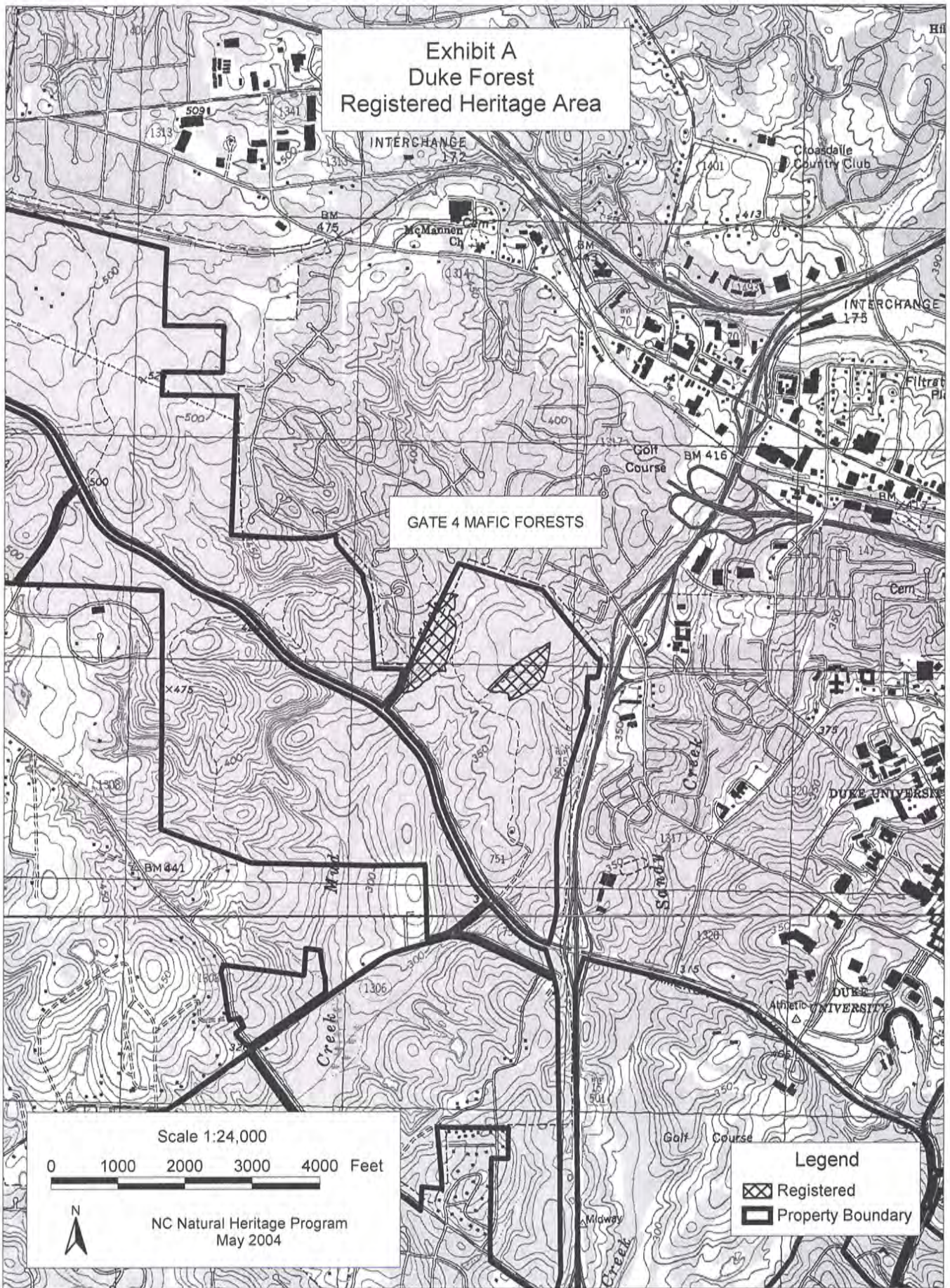
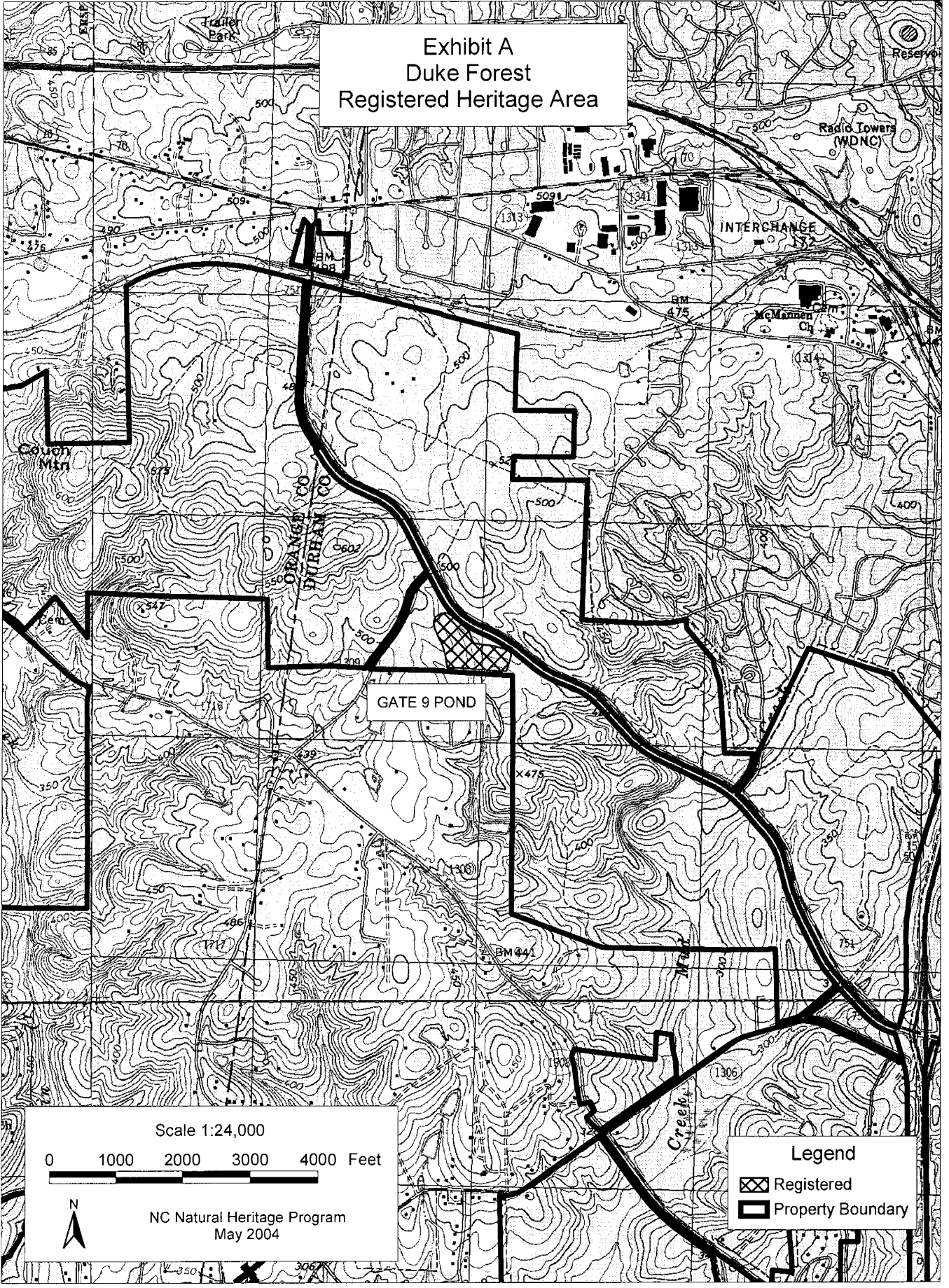


Exhibit A
Duke Forest
Registered Heritage Area



Scale 1:24,000
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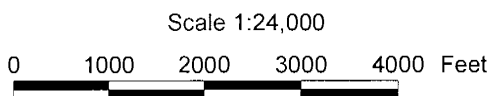


NC Natural Heritage Program
May 2004

Legend
Registered
Property Boundary

Exhibit A
Duke Forest
Registered Heritage Area

HENRY J OOSTING NATURAL AREA



NC Natural Heritage Program
May 2004

Legend

- Registered
- Property Boundary

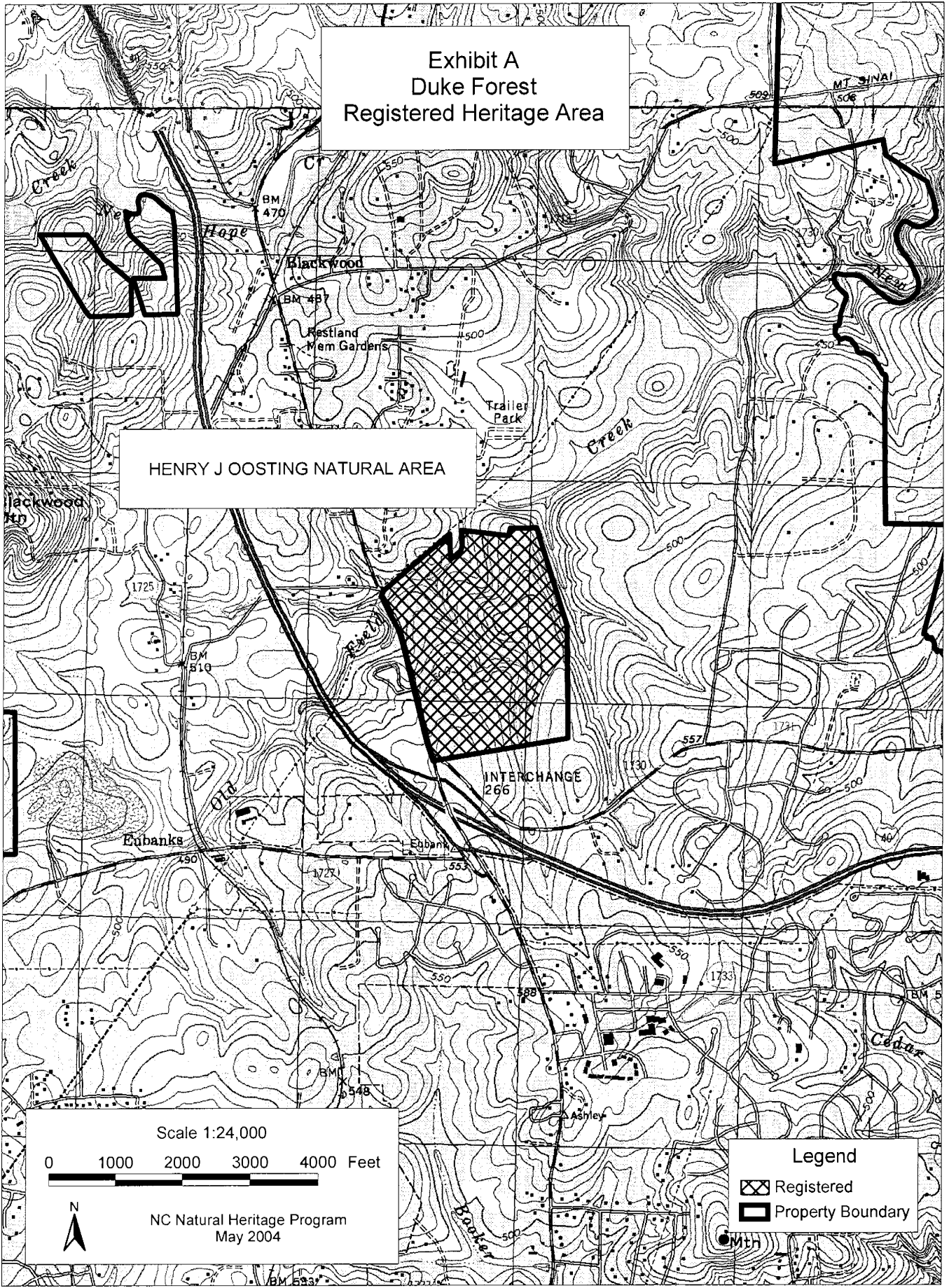
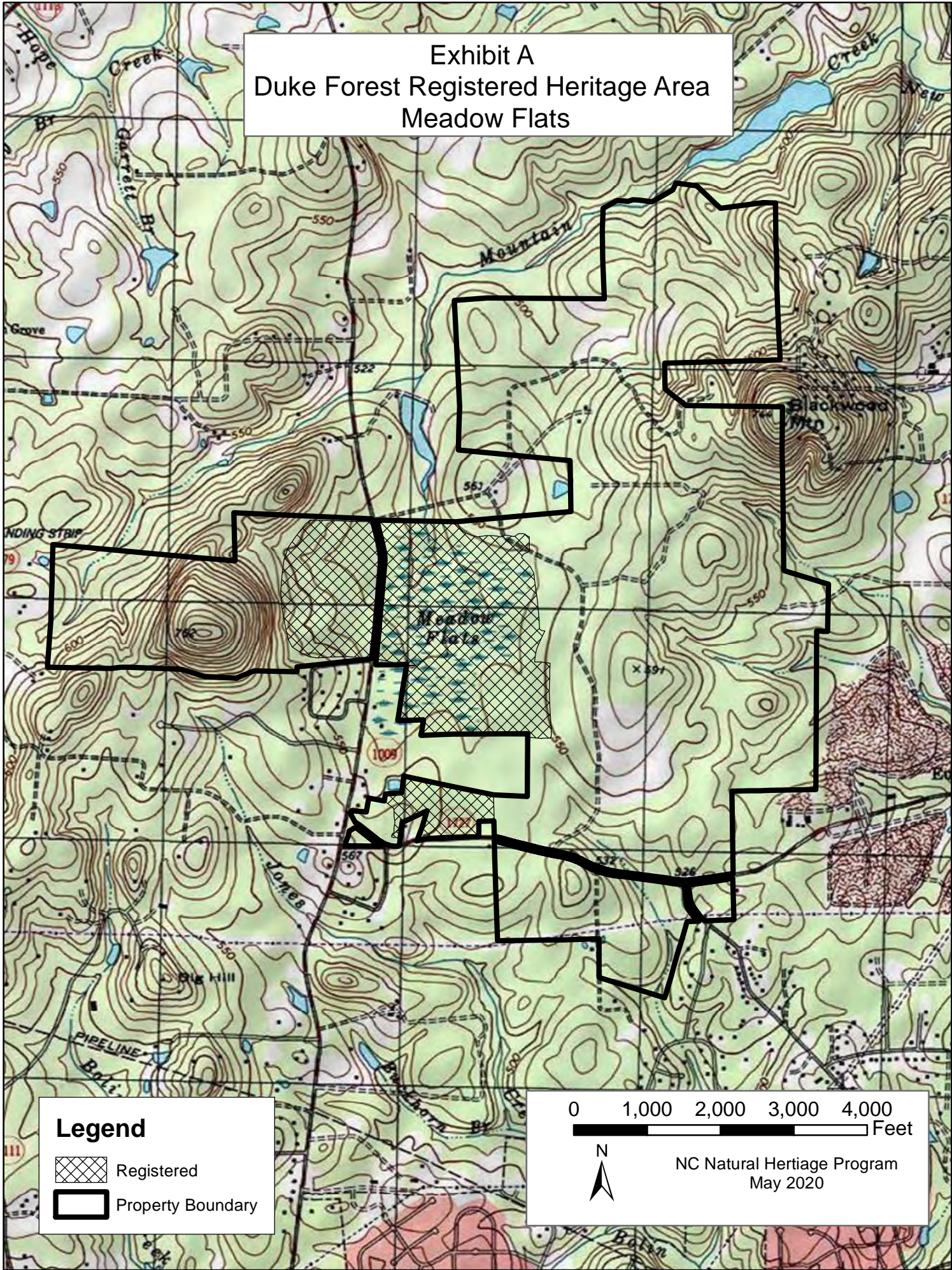




Exhibit A
Duke Forest Registered Heritage Area
Meadow Flats



Legend

-  Registered
-  Property Boundary

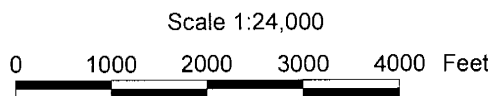
0 1,000 2,000 3,000 4,000 Feet



NC Natural Heritage Program
May 2020



Exhibit A
Duke Forest
Registered Heritage Area

NEW HOPE CREEK SLOPES



NC Natural Heritage Program
May 2004

Legend

-  Registered
-  Property Boundary

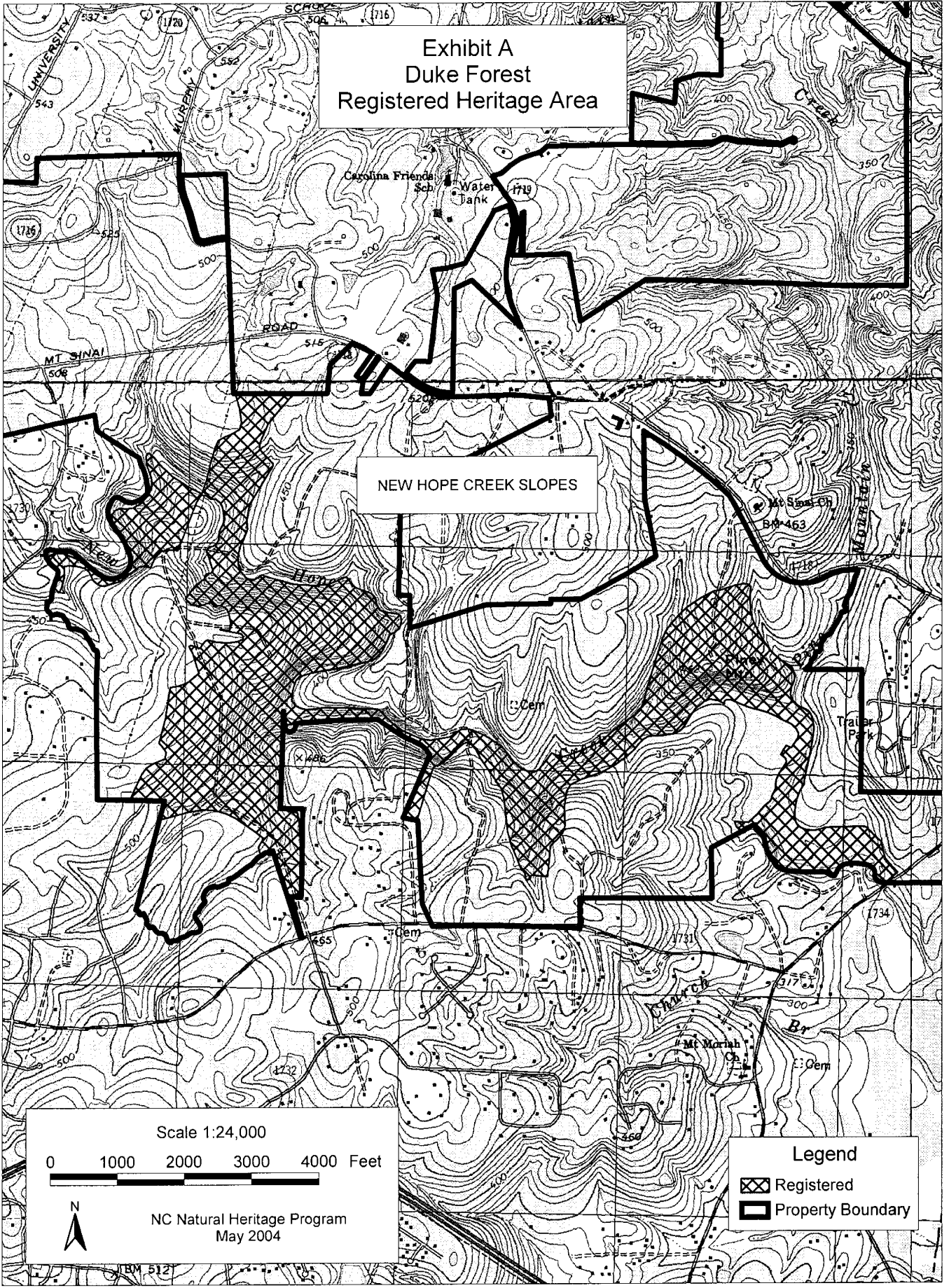
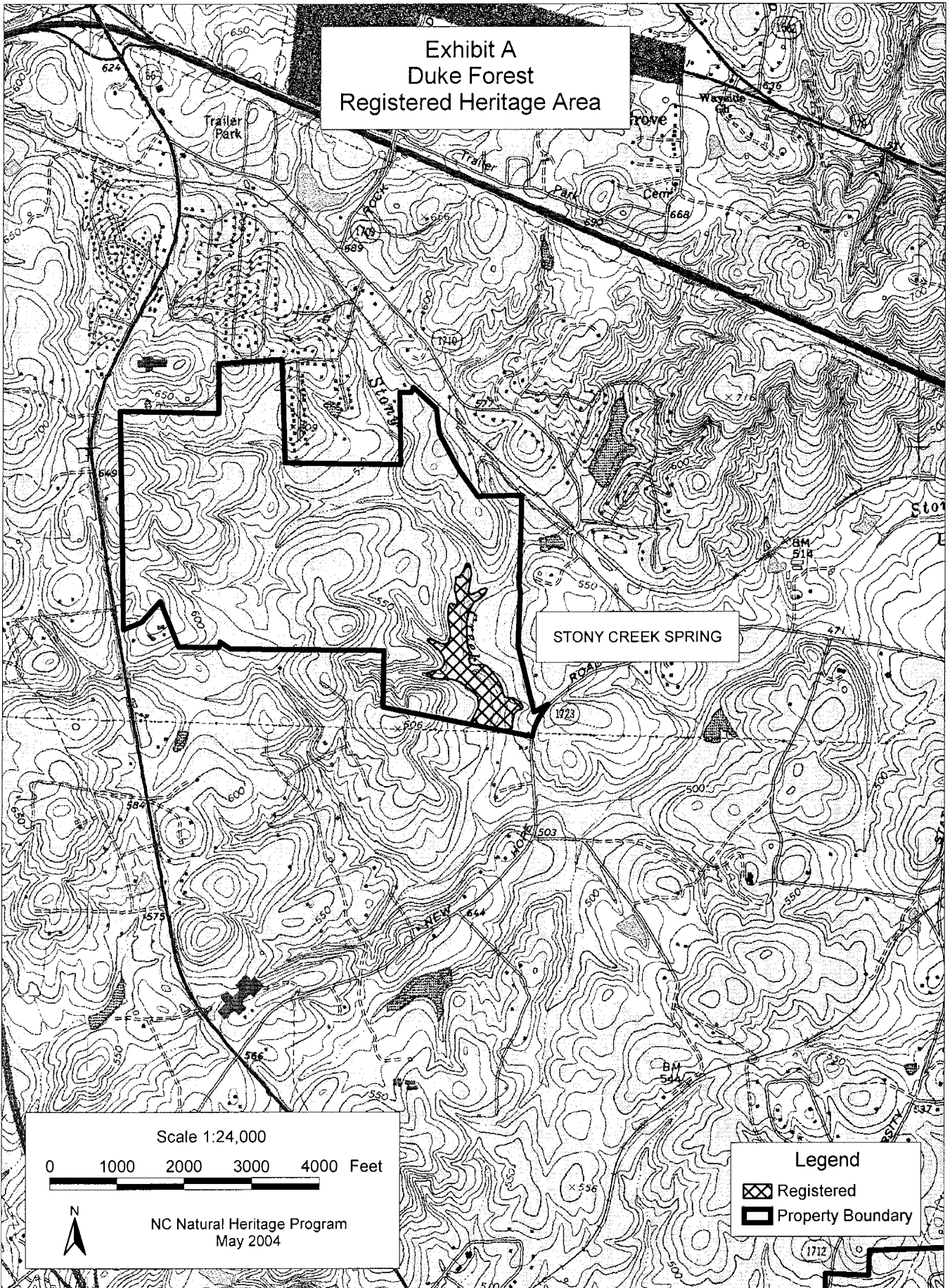


Exhibit A
Duke Forest
Registered Heritage Area



STONY CREEK SPRING

Scale 1:24,000

0 1000 2000 3000 4000 Feet



NC Natural Heritage Program
May 2004

Legend

 Registered

 Property Boundary

NORTH CAROLINA REGISTRY OF NATURAL HERITAGE AREAS

Letter of Intent and Agreement to Register and Protect Natural Areas

WHEREAS, a portion of the natural area known as Stancils Chapel Pine Flatwoods consisting of approximately 41 acres is owned by Vann Stancil [Exhibit A]

WHEREAS, this area possesses the following natural values, justifying its recognition by the State as an outstanding part of the natural heritage of North Carolina:

The Stancils Chapel Pine Flatwoods natural area is one of only a handful of remaining sites in the northern half of the state that can be recognized as a remnant of a longleaf pine natural community. The forest is now dominated by loblolly pine (*Pinus taeda*); however, more than 100 individuals of longleaf pine (*Pinus palustris*) and a comparable number of pond pine (*Pinus serotina*) are present. In addition, numerous other herb and shrub species characteristic of longleaf pine communities are present in small numbers on the edges of the forest. These include a few clumps of wiregrass (*Aristida stricta*). In shallow basins on the tract, a wetland community dominated by laurel oak (*Quercus laurifolia*), swamp black gum (*Nyssa biflora*), red maple (*Acer rubrum*), and other species is present. This community, tentatively classified as Nonriverine Wet Hardwood Forest (Oak-Gum Slough Subtype), is not otherwise known to remain in this region of the Coastal Plain. Though heavily altered, this site represents one of the best opportunities for restoring more natural examples of both communities.

AGREEMENT

The Registry Agreement is a mutual understanding between Vann Stancil and the North Carolina Department of Natural and Cultural Resources to protect outstanding examples of the natural diversity occurring in North Carolina and preserve unique and unusual natural features. In addition to an approach by landowners and managers that follows these principles and strives to maintain natural character and integrity, the North Carolina Natural Heritage Program submits the following site-specific management recommendations:

The Registered Area should be managed for protection of the remaining characteristic biota and for restoration of more natural vegetation composition and structure. Thinning of the canopy in the uplands to encourage regeneration of longleaf pine and growth of characteristic herbs is planned. Prescribed burning on a frequent schedule is crucial to success of the restoration. Further removal of loblolly pine and other undesired trees will likely be needed in the future. Additional restoration treatments may be needed and should be done in consultation with the Natural Heritage Program. This may include propagation and planting of plants at the site or introduction of plants from other locations. The most appropriate management for the wetland basins is unclear. No management is recommended for them at present, other than including them in burn units if

practical and allowing fire to spread into them. They appear to be naturally forested wetlands that would not benefit from thinning, but further study may reveal restoration treatments that may be beneficial.

THEREFORE, it is agreed between the parties whose names are affixed below that the portions of Stancils Chapel Pine Flatwoods owned by Vann Stancil be entered on the official North Carolina Registry of Natural Heritage Areas on the ____ day of _____, 2020.

It is understood that this agreement involves no change of title or loss of ownership rights, but simply expresses the sincere intentions of the landowner to refrain from making or permitting changes that alter the natural values for which this area was registered within the boundaries outlined on the attached maps and/or survey descriptions.

It is further understood that neither the Department nor Van Stancil offers any assurances as to the conditions on the tracts involved or for the safety of persons thereon. Neither party shall incur any liability for any injury to persons or property on the land as a result of this agreement.

These areas are hereby registered for an indefinite period until terminated in writing by either party to the other upon thirty (30) days notice.

By _____
Vann Stancil

By _____
Susi Hamilton, Secretary
NC Department of Natural and Cultural Resources
4601 Mail Service Center
Raleigh, North Carolina 27699-1601

Date: _____

Date: _____

Exhibit A Map
Stancils Chapel Pine Flatwoods
Registered Heritage Area



0 400 800 1,200 Feet



NC Natural Heritage Program
December 2019

Legend




- Property Boundary
- Registered Area**
 - Primary (Restoration)
 - Excluded

Exhibit A Map
Stancils Chapel Pine Flatwoods
Registered Heritage Area



NC Natural Heritage Program
December 2019

Legend

-  Property Boundary
- Registered Area**
-  Primary (Restoration)
-  Excluded